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INTERVENTO

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

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

LOTTO **3053/PN_1**

PROGETTO ESECUTIVO

TAV.	OGGETTO	DATA
TAB_10	TABULATI DI CALCOLO CIVICO 47 STATO DI PROGETTO	Settembre 2022
SCALA		N. DISEGNO

VERSIONE	DESCRIZIONE	DATA	REDATTO	VERIFICATO		APPROVATO
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TABULATI DI CALCOLO
CIVICO 47
STATO DI PROGETTO

Sommario

1 Risultati numerici 3
1.1 Sollecitazioni 3
1.1.1 Sollecitazioni aste 3
1.1.1.1 Convenzioni di segno aste 3
1.1.1.2 Sollecitazioni estreme aste 5
1.1.2 Sollecitazioni gusci 6
1.1.2.1 Convenzioni di segno gusci 6
1.1.2.2 Sollecitazioni estreme gusci 8
1.1.2.3 Sollecitazioni estreme gusci non verticali 9
1.1.2.4 Sollecitazioni estreme gusci verticali 11
1.1.3 Sollecitazioni gusci armati 12
1.1.3.1 Convenzioni di segno gusci 12
1.1.4 Sollecitazioni gusci muratura 14
1.1.4.1 Convenzioni di segno gusci muratura 14
1.1.5 Sollecitazioni aste in muratura 16
1.1.5.1 Convenzioni di segno aste 16
1.1.6 Sollecitazioni aste in muratura FRCM 18
1.1.6.1 Convenzioni di segno aste 18
1.1.7 Sollecitazioni aste in muratura armata 21
1.1.7.1 Convenzioni di segno aste 21
1.2 Reazioni nodali 23
1.2.1 Reazioni nodali estreme 23
1.2.2 Reazioni nodali in combinazioni di carico 24
1.3 Pressioni massime sul terreno 930
1.4 Cedimenti fondazioni superficiali 938
1.5 Baricentri delle rigidezze 946
1.6 Risposta modale 946
1.7 Equilibrio globale forze 947
1.8 Risposta di spettro 948
1.9 Annotazioni solutore 949
1.10 Statistiche soluzione 949

1 Risultati numerici

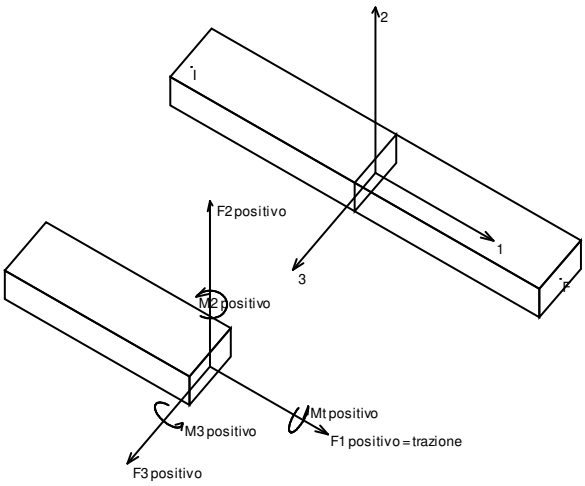
1.1 Sollecitazioni

1.1.1 Sollecitazioni aste

1.1.1.1 Convenzioni di segno aste

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

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



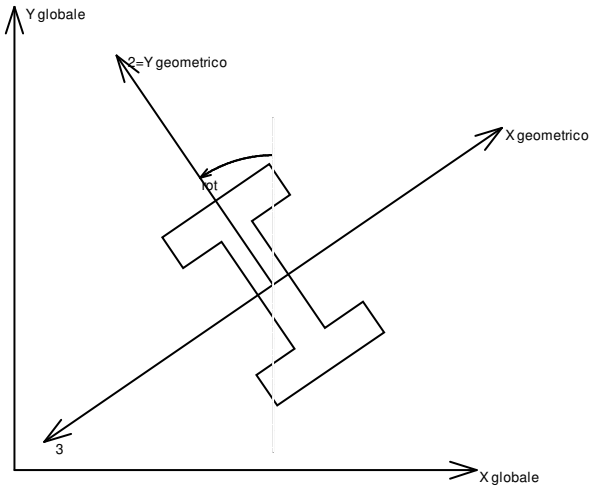
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando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

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

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

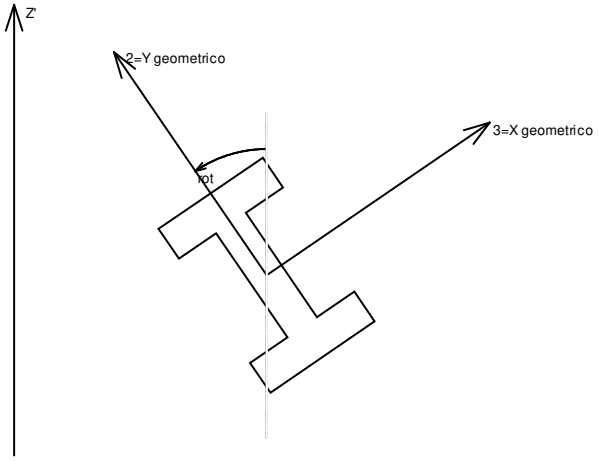
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



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

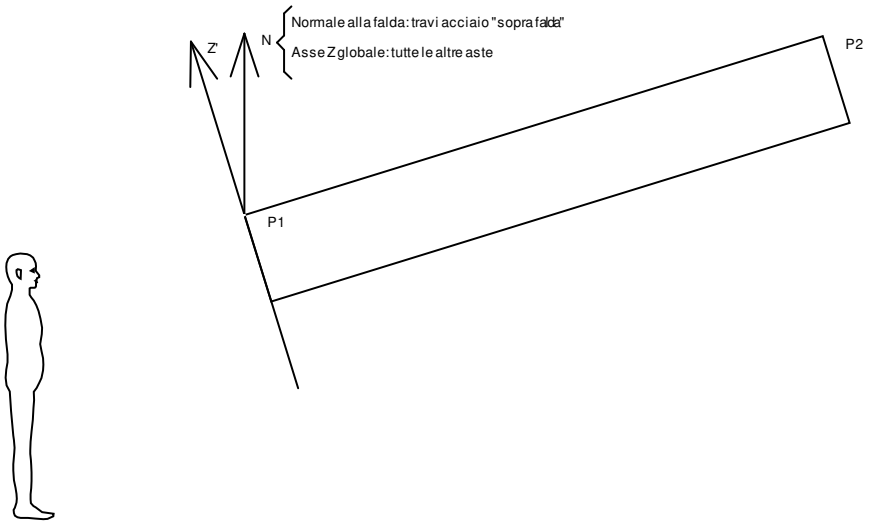
Sistema locale aste non verticali



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

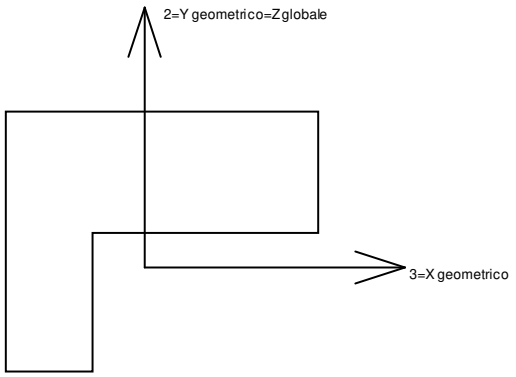
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



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

1.1.1.2 Sollecitazioni estreme aste

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

Sollecitazioni con sforzo normale (N) minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
360	SLV FO 15	31	-6.52	-3.28	-1.95	-41909	-314	-8484	7.94	-4828.88	-3098.26
339	SLV FO 11	31	-6.02	0.74	-1.95	-40225	-9095	-3680	10.55	1786.48	-352.89
200	SLV FO 5	1	-18.83	-2.93	-1.95	-36472	-21569	7787	-923.03	5792.52	10750.81
340	SLV FO 15	31	-6.02	0.34	-1.95	-36420	-1933	-3374	5.11	1376.63	-1528.44
498	SLV FO 12	1	-10.18	6.23	-1.95	-36304	-16942	-4462	993.11	335.12	7480.44

Sollecitazioni con sforzo normale (N) massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
349	SLV FO 15	1	-6.02	-2.88	-1.95	23665	4189	-7770	-3.99	-1561.69	-2404.11
222	SLV X	31	-18.2	-3.28	-1.95	19694	-499	-4550	-6.73	-2301.77	795.89
200	SLV Y	1	-18.83	-2.93	-1.95	18287	9277	-6040	386.25	-4671	-5309.34
360	SLV FO 2	31	-6.52	-3.28	-1.95	18248	-10611	5952	15.17	2905.75	-1510.23
199	SLV Y	1	-19.22	-2.93	-1.95	16365	7333	-5386	320.56	-3197.36	-2399.33

Sollecitazioni con momento M2 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
326	SLV FO 6	31	-17.06	-2.93	-1.95	-28322	-1135	-25657	46.73	-21548.12	2467.23
297	SLV FO 12	1	-5.41	6.58	-1.95	-5748	-12705	31605	-13.56	-16252.68	-8598.11
327	SLV FO 6	1	-17.06	-2.93	-1.95	-10259	6306	6455	-189.05	-14918.72	2249.84
325	SLV FO 6	31	-17.4	-2.93	-1.95	-27125	3408	-26157	212.65	-12153.95	3201.01
574	SLV FO 15	1	-6.02	0.89	-1.95	-9319	10355	24077	75.36	-11291.08	-1.33

Sollecitazioni con momento M2 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
299	SLV FO 11	31	-5.41	5.53	-1.95	-4723	-29855	31621	784.69	16459.11	13866.67
790	SLV FO 13	1	-13.11	-0.26	-1.95	-9683	-1497	-6131	-5.72	14844.15	-450.81
323	SLV FO 2	1	-18.45	-2.93	-1.95	-33879	13281	-28493	154.82	14840.54	10658.1
780	SLV FO 13	31	-7.72	-2.93	-1.95	-17658	-1283	25605	44.31	13991.28	2449.3
588	SLV FO 7	1	-11.36	1.14	-1.95	-11707	13102	-6433	-87.38	12583.87	9982.95

Sollecitazioni con momento M3 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
552	SLV FO 12	1	-14.81	1.39	-1.95	-7648	-28852	-7992	-59.03	3012.32	-16110.18
265	SLV FO 8	26	-15.31	6.07	-1.95	-1255	138	-192	-616.15	-188.81	-14341.35
511	SLV FO 11	31	-0.47	4.86	-1.95	63	1048	2858	-1055.83	-2656.97	-14108.79
337	SLV FO 9	20	-14.11	-1.27	-1.95	10609	115	-3002	-8.14	-1264.4	-14025.3
512	SLV FO 11	20	-0.47	4.6	-1.95	948	55	2811	-419.77	-2440.6	-13508.24

Sollecitazioni con momento M3 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
531	SLU 83	1	-0.47	1.14	-1.95	-3097	30734	-727	-468.52	3322.88	23278.06
520	SLU 84	31	-0.47	1.14	-1.95	-3362	-30919	668	495.33	3127.61	23208.46
200	SLV FO 5	31	-18.45	-2.93	-1.95	-36383	-28738	8445	-557.31	8917.42	20422.39
361	SLV FO 10	1	-6.02	-2.93	-1.95	-27904	27253	-6699	1193.83	5806.63	19124.42
445	SLV FO 8	31	-15.06	6.23	-1.95	-34057	-27632	-5818	434.54	-2854.35	18289.11

1.1.2 Sollecitazioni gusci

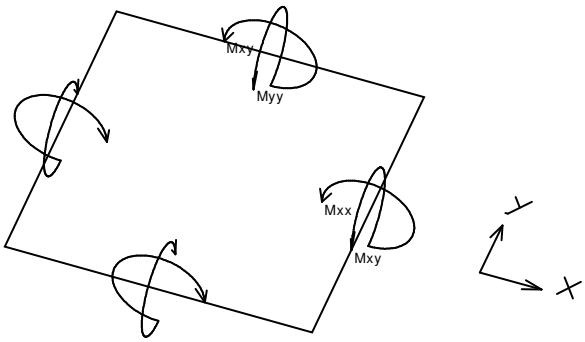
1.1.2.1 Convenzioni di segno gusci

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

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

Convenzione di segno per gusci non verticali

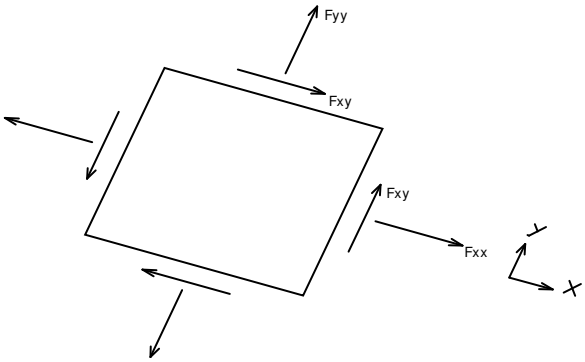
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione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



Si definiscono:

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

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



Si definiscono:

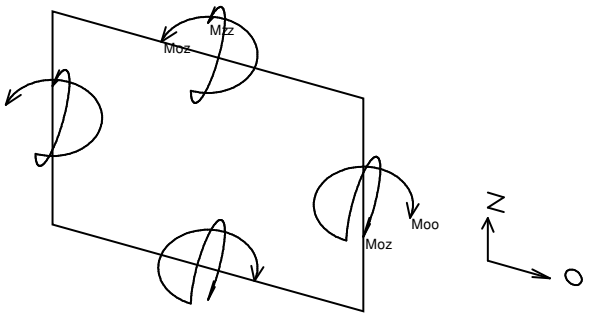
- Fxx: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette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

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

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

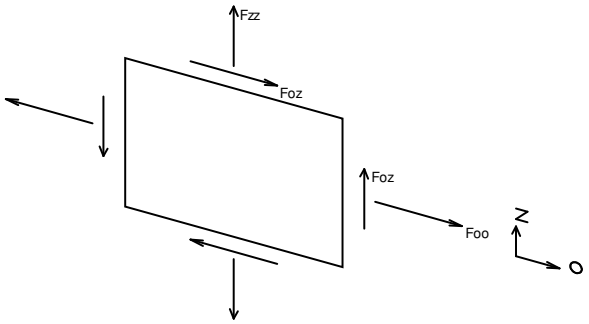
Convenzione di segno per gusci verticali

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



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

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



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

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

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

1.1.2.2 Sollecitazioni estreme gusci

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

Sollecitazioni con momento M11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
11088	SLV FO 9	160	-99233	11826	84803	5319	7248	9737	259705	-195725
10216	SLV FO 10	256	-20742	-4754	4904	-3665	9455	-13572	-81806	338
10225	SLV FO 6	211	-20212	-4099	7084	10047	867	-22191	-84564	-1617
10198	SLV FO 10	329	-17749	-3625	-8479	-16201	-1699	2957	-99163	-70629
11087	SLV FO 9	207	-16849	1402	10245	9000	45	2683	-125888	-35807

Sollecitazioni con momento M11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
11088	SLV Y	160	45929	-5045	-39035	-3414	398	19277	-119601	90263
11052	SLV FO 9	327	37228	367	1983	8142	4175	-19786	59658	-42591
11087	SLV FO 9	159	23195	1600	-1819	3738	-1802	-4673	-122694	6029
10198	SLV FO 10	279	19975	-3716	10687	-16684	-276	-2519	-104638	25761
11044	SLV FO 9	316	19222	-298	9362	-150883	-48666	-89869	35467	53867

Sollecitazioni con momento M22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
11088	SLV Y	160	45929	-5045	-39035	-3414	398	19277	-119601	90263
11079	SLV FO 9	208	-5293	14512	-17449	6262	-2028	-3870	16071	82968
10200	SLV FO 10	360	-2081	-3688	-17236	-238	2858	-10977	-4523	-62939
10201	SLV FO 10	361	-1991	-2104	-16790	1285	3963	-10411	-1505	-43633
11051	SLU 84	324	3044	-3054	-16458	2254	-2310	-5463	-13570	-61162

Sollecitazioni con momento M22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
11088	SLV FO 9	160	-99233	11826	84803	5319	7248	9737	259705	-195725
10198	SLV FO 10	331	7347	-5105	22601	-8111	-1254	1555	39807	-61786
11044	SLU 83	316	18160	2415	17885	-118800	-37975	-59385	29279	107966
11079	SLV FO 9	207	-13210	14976	16435	2799	-7799	-12781	40154	84316
10206	SLU 83	335	13510	-2412	16265	-69039	19525	-37318	19952	-97967

Sollecitazioni con sforzo F11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
11044	SLV FO 6	282	9164	-2114	2167	-235094	-73890	-16697	32972	8999
10206	SLV FO 13	277	5030	325	9	-162733	42179	-4989	14050	2590
10510	SLV FO 2	8065	0	0	22	-110188	18	-3346	0	-69
9635	SLV FO 7	645	-721	610	910	-103025	58996	33953	-328	-5032
17852	SLV FO 15	3380	-57	-16	-49	-99775	-22123	-78605	-121	-295

Sollecitazioni con sforzo F11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
8048	SLV FO 7	150	-539	229	-537	165629	29081	37001	2303	2099
10510	SLV FO 15	8065	0	0	44	119895	-17	-17824	0	-156
11044	SLV Y	282	-1577	1857	-1934	97616	35068	8712	-15118	-12290
9196	SLV FO 3	11942	0	0	1	94416	1	13701	0	-42
3853	SLV FO 5	3819	-340	-26	-82	78686	54870	-4854	1775	-460

Sollecitazioni con sforzo F22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
17792	SLV FO 10	4193	54	9	216	-7732	-26519	-177255	-77	-932
17838	SLU 83	679	-14	50	-55	5358	76700	-170439	395	252
956	SLV FO 11	3678	1170	-83	1057	-2563	-29452	-170217	-4160	6866
10744	SLV FO 16	12514	16	0	24	-35395	48	-169200	174	-65
945	SLV FO 11	4418	-279	-254	-1114	1044	46728	-167670	916	6442

Sollecitazioni con sforzo F22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10744	SLV FO 1	12514	-6	0	-11	34647	-45	154177	-90	48
9279	SLV FO 4	15022	78	0	92	23093	-83	147912	163	73
9211	SLV FO 4	11037	49	0	75	15837	-65	108381	122	94
17792	SLV Y	4193	-32	10	-128	3851	12371	106196	-84	446
1263	SLV FO 5	3190	26	36	19	60770	24651	104852	-203	204

1.1.2.3 Sollecitazioni estreme gusci non verticali

***Shell**: elemento guscio a cui si riferiscono le sollecitazioni.*

Ind: indice del guscio.
Cont.: contesto a cui si riferiscono le sollecitazioni.
N.br.: nome breve della condizione o combinazione di carico.
Nodo: nodo su cui si basa il guscio a cui si riferisce la sollecitazione.
Ind: indice del nodo.
Sollecitazione: valori della sollecitazione.
*Mxx: componente Mxx della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
*Mxy: componente Mxy della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
*Myy: componente Myy della sollecitazione del guscio nel nodo indicato. [daN*m/m]*
Fxx: componente Fxx della sollecitazione del guscio nel nodo indicato. [daN/m]
Fxy: componente Fxy della sollecitazione del guscio nel nodo indicato. [daN/m]
Fyy: componente Fyy della sollecitazione del guscio nel nodo indicato. [daN/m]
Vx: componente Vo della sollecitazione del guscio nel nodo indicato. [daN/m]
Vy: componente Vz della sollecitazione del guscio nel nodo indicato. [daN/m]

Sollecitazioni con momento Mxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
11088	SLV Y	160	-39179	3630	46074	19284	-21	-3421	88263	121085
11048	SLV FO 9	321	-16957	1614	-783	-11647	-1602	6290	-19470	4462
11079	SLV FO 9	208	-16937	-14716	-5805	-3938	1850	6330	83237	-14616
11051	SLU 84	324	-16905	630	3491	-5904	1318	2695	-62353	6091
10200	SLV FO 10	360	-16412	5041	-2904	-11417	-1803	201	-62235	10417

Sollecitazioni con momento Mxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
11088	SLV FO 9	160	85146	-8761	-99575	9977	-7170	5079	-191381	-262922
10198	SLV FO 10	331	23162	4145	6785	1671	660	-8227	-64083	-35992
11044	SLU 83	316	18158	-2415	17887	-63846	41076	-114340	109444	-23150
11079	SLV FO 9	207	16950	-14448	-13726	-13049	7521	3067	85007	-38671
10206	SLU 83	335	16494	2266	13282	-39298	-20979	-67059	-98824	-15146

Sollecitazioni con momento Myy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
11088	SLV FO 9	160	85146	-8761	-99575	9977	-7170	5079	-191381	-262922
10216	SLV FO 10	256	5077	4260	-20914	-13930	-9259	-3307	1902	81784
10225	SLV FO 6	211	7219	3619	-20347	-22212	-302	10068	-138	84579
10198	SLV FO 10	329	-8075	3038	-18153	3092	528	-16336	-64493	103258
11087	SLV FO 9	207	10317	-127	-16921	2701	-340	8982	-41670	124071

Sollecitazioni con momento Myy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
11088	SLV Y	160	-39179	3630	46074	19284	-21	-3421	88263	121085
11052	SLV FO 9	327	2215	-2874	36996	-19048	-6122	7405	-38221	-62548
11087	SLV FO 9	159	-1614	-2765	22990	-4823	1400	3888	269	122841
10198	SLV FO 10	279	11171	4251	19492	-2537	-582	-16665	32051	102886
11044	SLV FO 9	316	9359	-259	19224	-95537	51789	-145215	55779	-32376

Sollecitazioni con sforzo Fxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
11044	SLV FO 6	316	10246	-417	18693	-122772	69250	-202503	63567	-30374
11045	SLV FO 6	318	3359	225	12237	-101226	22093	-19597	31094	-19400
10206	SLV FO 9	335	10065	647	14006	-79396	-35925	-117796	-61625	-20744
1706	SLV FO 6	4061	27	-3	-27	-72051	-20606	43783	-29	13
17096	SLV FO 9	4763	140	8	-60	-70739	-36695	-58317	-1489	-692

Sollecitazioni con sforzo Fxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
11088	SLV FO 15	160	36867	-4999	-37737	70805	-15717	10951	-83903	-98600
11044	SLV Y	316	2210	-1180	-6350	59497	-29503	87153	12747	14542
11045	SLV Y	318	3372	-688	-3327	47787	-12876	2306	11489	6918
17096	SLV FO 13	4059	-139	-24	5	45733	24032	33647	-1701	-1196
11087	SLV FO 15	158	1762	-1957	-1984	41320	-9445	5631	4576	-14139

Sollecitazioni con sforzo Fyy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
11044	SLV FO 6	282	1951	1707	9380	-25703	85705	-226089	10842	-32413
11221	SLV FO 6	3782	-55	-38	-48	1872	14673	-197011	58	304
10206	SLV FO 13	277	-10	-78	5049	-9479	-49670	-158244	1901	-14160
11220	SLV FO 6	3704	-9	0	27	-19579	-36773	-77401	213	-121
9623	SLV FO 11	148	1245	279	2531	13494	-10072	-75135	-5766	-27919

Sollecitazioni con sforzo Fyy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
11221	SLV FO 6	3935	47	-17	1	-22644	-18756	151162	257	11
11044	SLV Y	282	-1724	-1866	-1787	12939	-39846	93389	-13122	14401
17067	SLV FO 9	4763	101	-95	223	-10283	-20234	69389	-856	567
10206	SLV FO 4	277	-1016	1189	5380	4302	16570	56528	11839	-9505
1706	SLV FO 6	4061	27	-3	-27	-72051	-20606	43783	-29	13

1.1.2.4 Sollecitazioni estreme gusci verticali

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

Sollecitazioni con momento Moo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
330	SLV FO 6	3826	-4940	-1389	-1390	-36703	-40968	-23065	365731	-159285
8064	SLV FO 6	513	-3133	517	-3074	-22339	6021	-52849	-13635	8944
321	SLV FO 6	3174	-2024	-1278	1008	17126	19564	-34897	-126689	-13811
8043	SLV FO 11	518	-1382	177	-153	-8976	1366	-5448	-2987	757
8068	SLV FO 11	518	-1142	301	-795	-631	1547	-3692	3533	1712

Sollecitazioni con momento Moo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
330	SLV Y	3826	2208	617	620	25695	20473	12939	-158485	71910
8064	SLV FO 11	513	1959	-264	-2057	-26796	-3117	-3312	3433	1971
9619	SLV FO 11	149	1366	140	947	-4143	-6692	43637	-3088	11695
9614	SLV FO 11	149	1303	390	316	7853	4381	25241	-4337	522
69	SLV FO 5	3819	1192	179	850	-9914	6953	-39143	-4575	-1381

Sollecitazioni con momento Mzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
8064	SLU 84	513	-995	169	-3772	-37145	2595	-43431	-7936	8071
9619	SLV FO 11	690	-307	-214	-3332	-60713	13864	49335	3803	11630
9622	SLV FO 7	126	-843	135	-2753	-5691	5248	-8587	3003	-19063
330	SLV FO 6	3825	-3090	-2178	-2634	-24991	-21838	-68606	266263	-313362
9615	SLV X	513	-137	-201	-2301	-11106	4237	-7117	-549	6079

Sollecitazioni con momento Mzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9615	SLV FO 2	513	733	-304	8298	36725	23949	1489	3705	-22373
9627	SLV FO 7	648	-287	742	4875	70306	-54564	-19317	809	-6133
9622	SLV FO 7	148	-640	179	4448	-14838	22252	-19490	3093	-19033
9631	SLV FO 11	647	-159	865	2700	14969	-48496	-15172	2111	-3517
9630	SLV FO 7	146	455	207	1866	-5854	11697	-5217	-1530	-4494

Sollecitazioni con sforzo Foo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
10510	SLV FO 2	8065	0	0	22	-110188	18	-3346	0	-69
9635	SLV FO 7	645	721	610	-910	-103025	-58996	33953	-328	5032
17852	SLV FO 15	3380	57	-16	49	-99775	22123	-78605	-121	295
1074	SLV FO 9	366	-13	-8	3	-92423	-43805	-11428	17	37
9196	SLV FO 14	11942	0	0	-24	-88637	4	-32566	0	149

Sollecitazioni con sforzo Foo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
10510	SLV FO 15	8065	0	0	44	119895	-17	-17824	0	-156
9196	SLV FO 3	11942	0	0	-1	94416	-1	13701	0	42
3853	SLV FO 5	3819	340	-26	82	78686	-54870	-4854	1775	460
10735	SLV FO 15	16019	0	0	23	76872	-19	3693	0	-48
9627	SLV FO 11	648	-355	664	4708	72843	-50379	-15652	1141	-5701

Sollecitazioni con sforzo Fzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
17792	SLV FO 10	4193	-54	9	-216	-7732	26519	-177255	-77	932
17838	SLU 83	679	14	50	55	5358	-76700	-170439	395	-252
956	SLV FO 11	3678	1170	-83	1057	-2563	-29452	-170217	-4160	6866
10744	SLV FO 16	12514	16	0	24	-35395	48	-169200	174	-65
945	SLV FO 11	4418	-279	-254	-1114	1044	46728	-167670	916	6442

Sollecitazioni con sforzo Fzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
8048	SLV FO 7	150	537	-229	539	37001	29081	165629	-2099	-2303
10744	SLV FO 1	12514	-6	0	-11	34647	-45	154177	-90	48
9279	SLV FO 4	15022	-78	0	-92	23093	83	147912	163	-73
9211	SLV FO 4	11037	-49	0	-75	15837	65	108381	122	-94
17792	SLV Y	4193	32	10	128	3851	-12371	106196	-84	-446

1.1.3 Sollecitazioni gusci armati

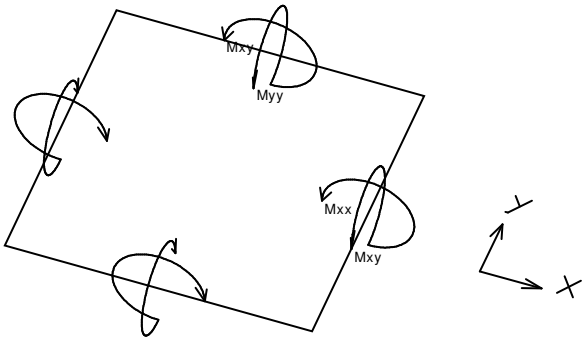
1.1.3.1 Convenzioni di segno gusci

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

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

Convenzione di segno per gusci non verticali

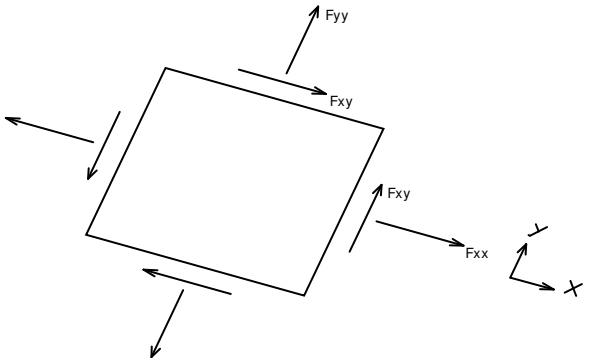
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione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



Si definiscono:

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

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



Si definiscono:

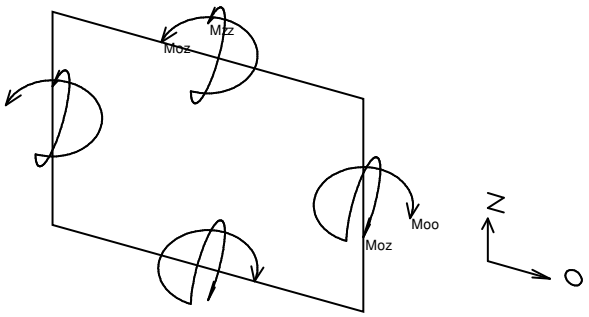
- Fxx: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette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

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

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

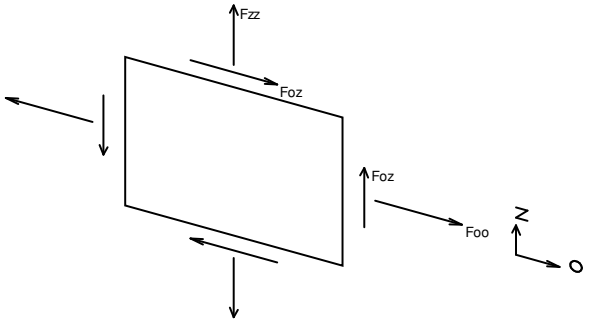
Convenzione di segno per gusci verticali

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



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

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



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

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

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

1.1.4 Sollecitazioni gusci muratura

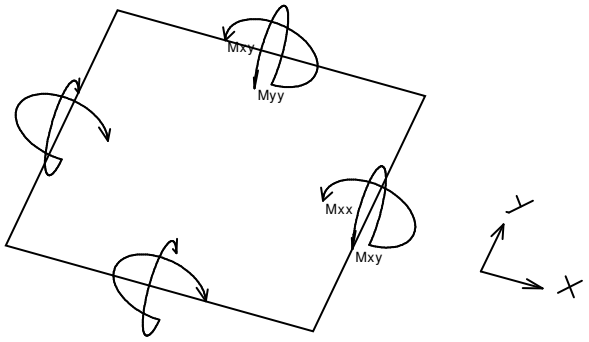
1.1.4.1 Convenzioni di segno gusci muratura

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

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

Convenzione di segno per gusci non verticali

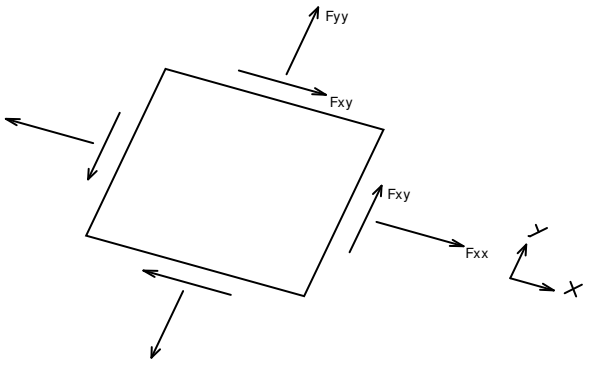
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione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



Si definiscono:

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

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

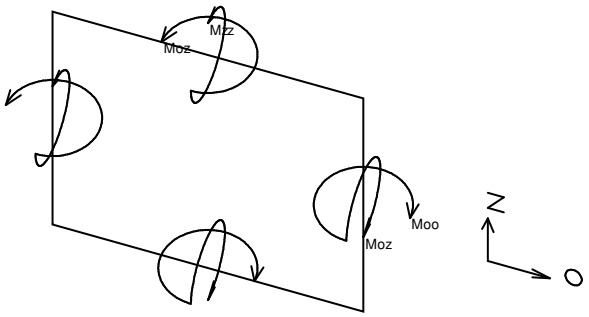


Si definiscono:

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

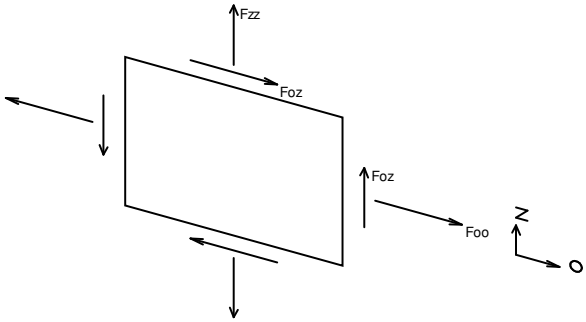
Convenzione di segno per gusci verticali

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



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

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



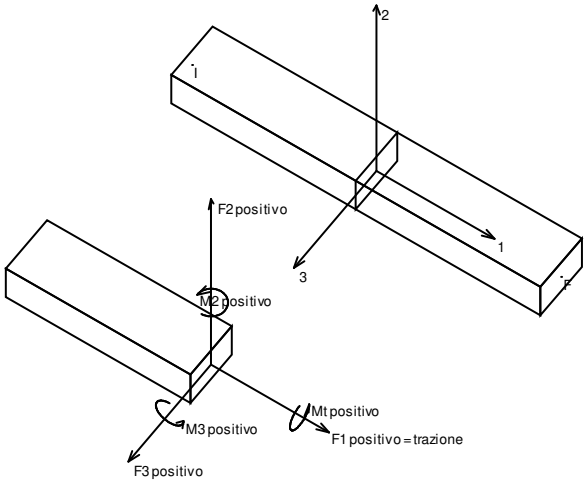
- Fzz: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foo: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso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

1.1.5 Sollecitazioni aste in muratura

1.1.5.1 Convenzioni di segno aste

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

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



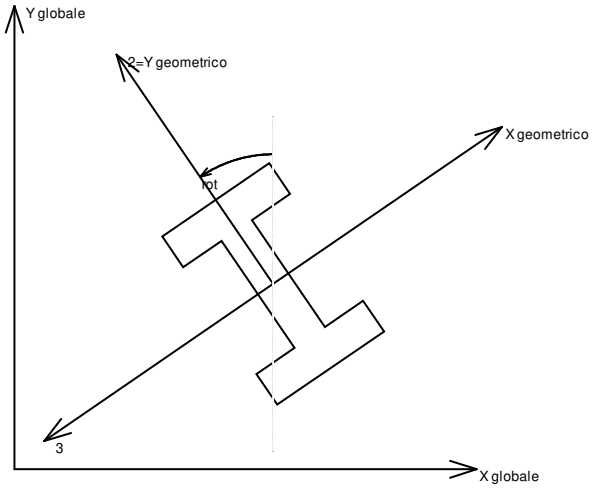
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando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

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

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

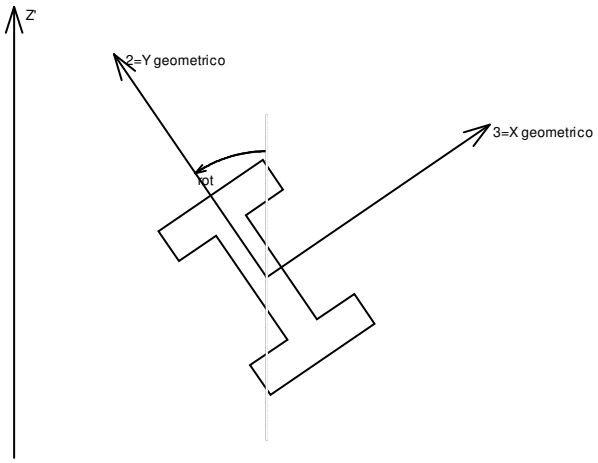
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



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

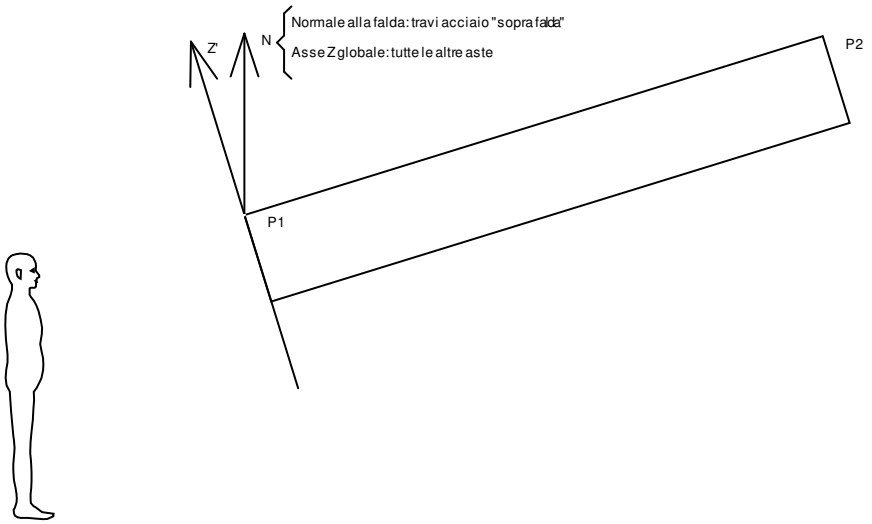
Sistema locale aste non verticali



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

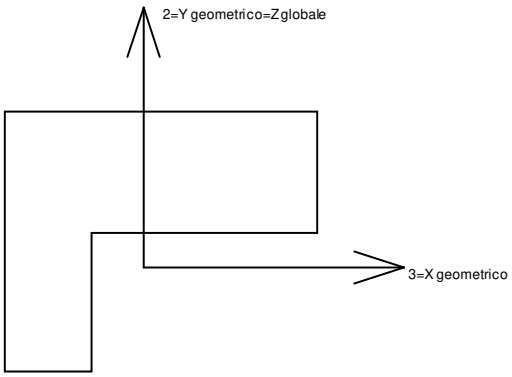
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



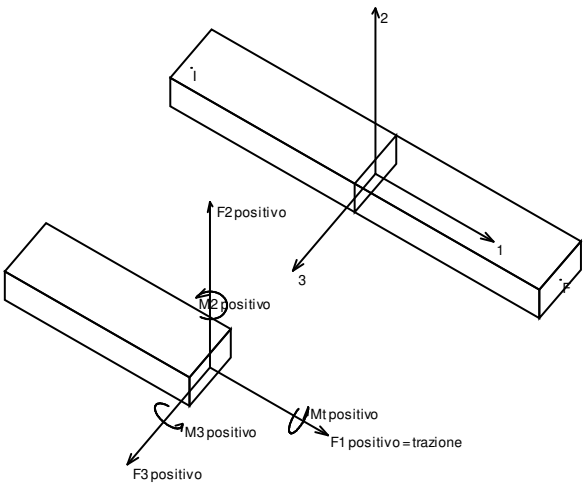
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli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

1.1.6 Sollecitazioni aste in muratura FRCM

1.1.6.1 Convenzioni di segno aste

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

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



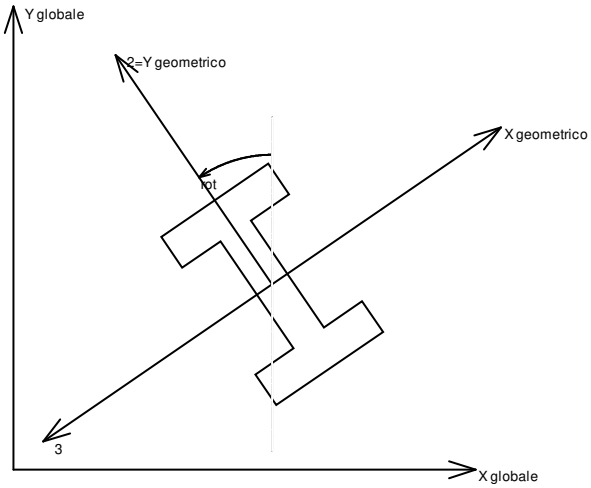
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando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

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

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

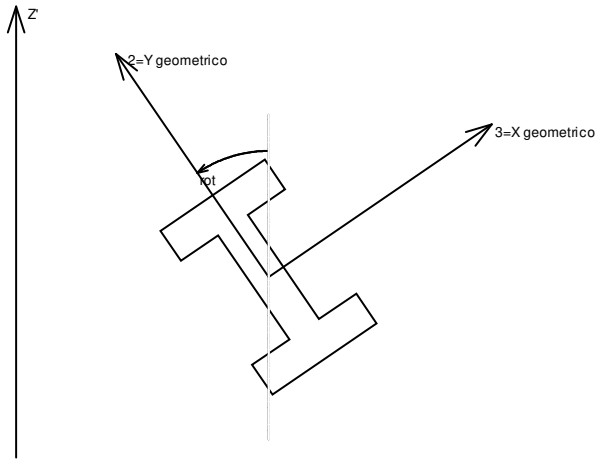
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



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

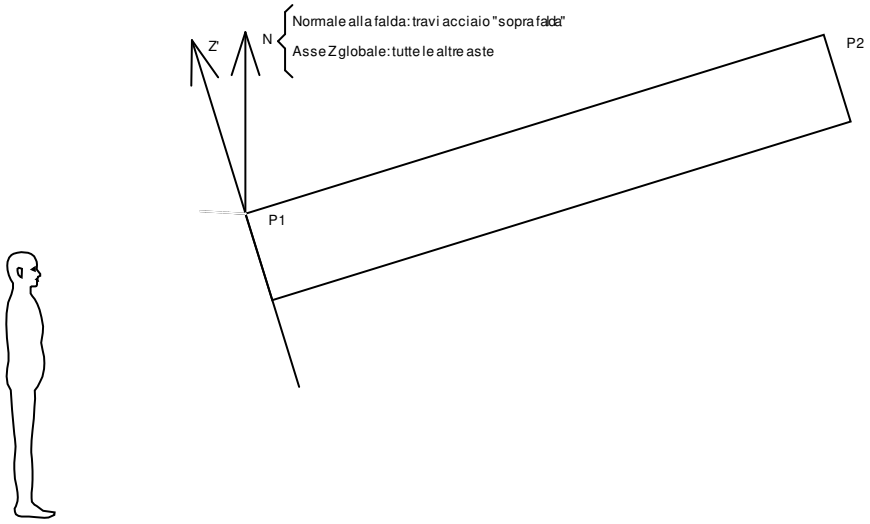
Sistema locale aste non verticali



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

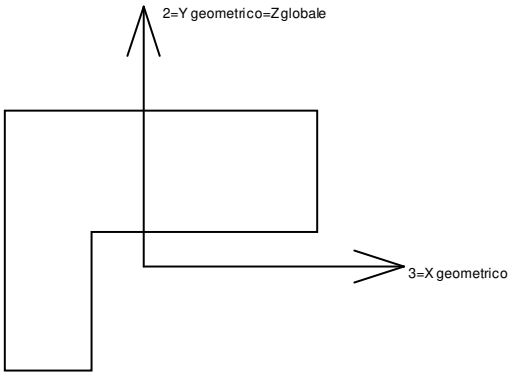
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



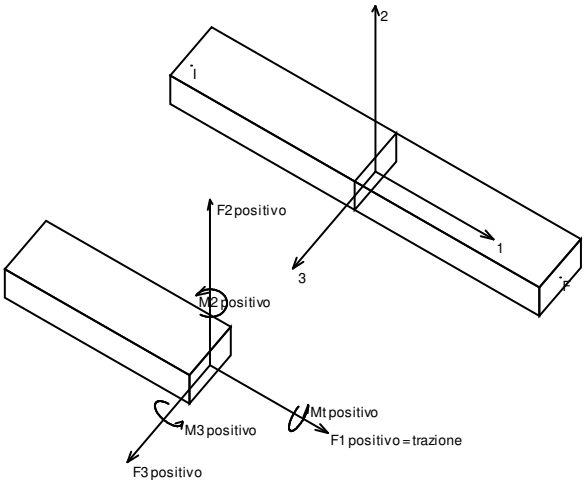
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli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

1.1.7 Sollecitazioni aste in muratura armata

1.1.7.1 Convenzioni di segno aste

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

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



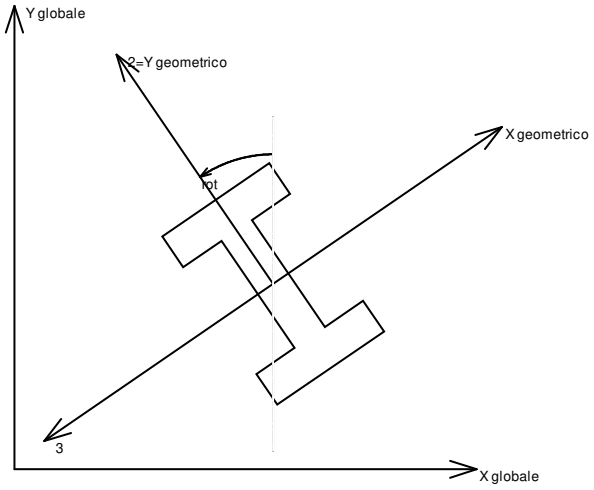
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando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

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

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

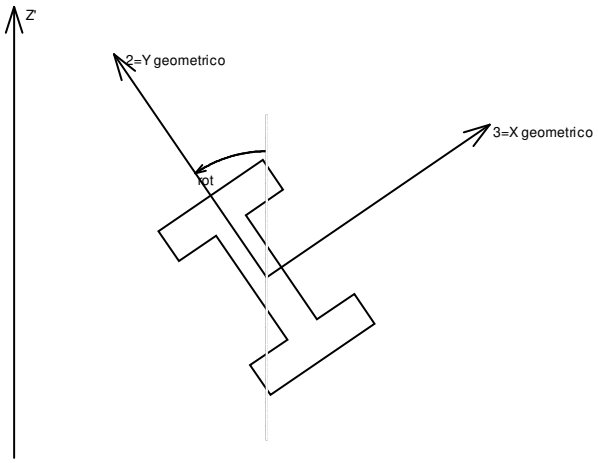
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



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

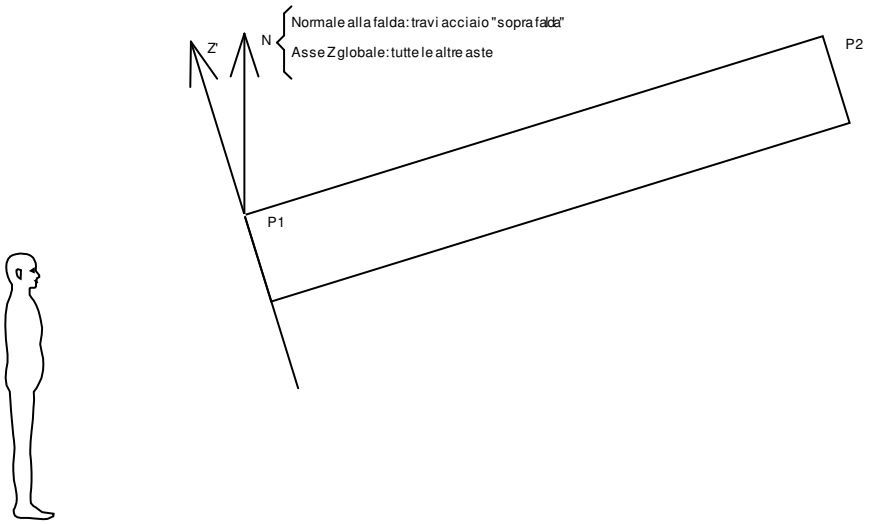
Sistema locale aste non verticali



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

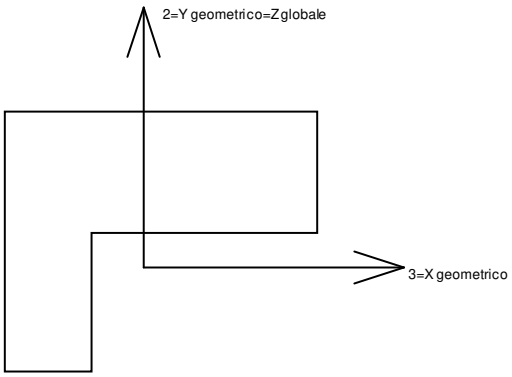
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



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

1.2 Reazioni nodali

1.2.1 Reazioni nodali estreme

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

Reazioni Fx minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1093	SLV FO 16	-3001	-892	17549	-5686.11	-1251.87	-1113.93
470	SLV FO 13	-2866	802	13543	-175.7	-45.44	20.93
677	SLV FO 16	-2849	-1274	20987	1823.93	-378.16	223.01
325	SLV FO 13	-2773	702	16041	5509.8	-1292.62	1066.68
1008	SLV FO 16	-2638	-1165	14862	-3891.54	-26.43	-691.9

Reazioni Fx massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
707	SLV FO 3	2863	-695	17278	2551.73	3193.33	-247.95
1093	SLV FO 1	2741	1186	11686	-3902.53	-801.25	1042.81
677	SLV FO 1	2607	1506	18382	1787.53	-47.67	-233.13
853	SLV FO 1	2575	1343	13048	1426.12	1782.22	-545.51
680	SLV FO 2	2339	1120	15108	-2517.57	344.23	396.28

Reazioni Fy minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
677	SLV FO 12	-1047	-3802	21709	1967.24	-343.05	-0.03
680	SLV FO 12	-992	-3663	19674	-3315.69	287.48	-131.59
707	SLV FO 11	-342	-3365	20671	3276.35	3899.1	678.03
853	SLV FO 12	-944	-3308	15492	2005.96	2117.19	601.59
470	SLV FO 12	-554	-2909	6453	621.62	-6.96	36.85

Reazioni Fy massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
677	SLV FO 5	805	4034	17660	1644.22	-82.77	-10.09
680	SLV FO 5	703	3610	14497	-2485.46	364.3	36.37
853	SLV FO 5	979	3573	10727	883.16	1507.43	-641.86
707	SLV FO 6	1013	3448	18032	2353.3	3104.63	-773.77
1093	SLV FO 5	1040	3061	561	-449.63	-86.03	585.7

Reazioni Fz minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
325	SLV Y	326	-2266	-8774	-2804.1	702.02	-282.92
311	SLV Y	296	-1417	-7301	-1493.19	-42.66	-60.23
329	SLV Y	-191	-1481	-5835	-498.46	-1092.95	285.85
189	SLV Y	-53	-876	-5758	-1051.94	-1273.12	203.21
293	SLV Y	223	-948	-5328	-1117.41	904.17	-224.44

Reazioni Fz massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1093	SLV FO 8	222	-2690	29563	-9422.79	-2006.39	-118.76
677	SLU 83	-161	163	29385	2692.43	-317.62	-8.48
1008	SLV FO 8	-262	-2355	28738	-7401.87	-8.05	-61.27
707	SLU 83	480	63	28712	4179.44	5196.35	-69.27
680	SLU 83	-197	-42	25498	-4325.73	485.96	-66.53

1.2.2 Reazioni nodali in combinazioni di carico

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

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLU 1	12	-10	325	0	0	0
11	SLU 2	12	-9	326	0	0	0
11	SLU 3	12	-10	331	0	0	0
11	SLU 4	12	-9	332	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLU 5	12	-9	330	0	0	0
11	SLU 6	12	-10	335	0	0	0
11	SLU 7	12	-9	336	0	0	0
11	SLU 8	12	-10	333	0	0	0
11	SLU 9	12	-9	334	0	0	0
11	SLU 10	13	-10	368	0	0	0
11	SLU 11	13	-11	373	0	0	0
11	SLU 12	13	-10	374	0	0	0
11	SLU 13	13	-10	372	0	0	0
11	SLU 14	13	-11	377	0	0	0
11	SLU 15	13	-10	378	0	0	0
11	SLU 16	13	-11	375	0	0	0
11	SLU 17	13	-10	376	0	0	0
11	SLU 18	13	-11	385	0	0	0
11	SLU 19	13	-11	386	0	0	0
11	SLU 20	13	-11	389	0	0	0
11	SLU 21	13	-11	390	0	0	0
11	SLU 22	13	-10	369	0	0	0
11	SLU 23	14	-9	371	0	0	0
11	SLU 24	14	-10	376	0	0	0
11	SLU 25	14	-9	377	0	0	0
11	SLU 26	14	-9	375	0	0	0
11	SLU 27	14	-9	380	0	0	0
11	SLU 28	14	-9	381	0	0	0
11	SLU 29	13	-9	377	0	0	0
11	SLU 30	14	-9	378	0	0	0
11	SLU 31	14	-10	413	0	0	0
11	SLU 32	14	-10	418	0	0	0
11	SLU 33	14	-10	419	0	0	0
11	SLU 34	14	-10	417	0	0	0
11	SLU 35	14	-10	422	0	0	0
11	SLU 36	14	-10	423	0	0	0
11	SLU 37	14	-10	420	0	0	0
11	SLU 38	14	-10	421	0	0	0
11	SLU 39	14	-11	430	0	0	0
11	SLU 40	15	-10	431	0	0	0
11	SLU 41	15	-11	434	0	0	0
11	SLU 42	15	-10	435	0	0	0
11	SLU 43	15	-13	407	0	0	0
11	SLU 44	15	-13	408	0	0	0
11	SLU 45	15	-13	413	0	0	0
11	SLU 46	15	-13	414	0	0	0
11	SLU 47	15	-12	412	0	0	0
11	SLU 48	15	-13	417	0	0	0
11	SLU 49	15	-12	418	0	0	0
11	SLU 50	15	-13	415	0	0	0
11	SLU 51	15	-13	416	0	0	0
11	SLU 52	16	-13	451	0	0	0
11	SLU 53	16	-14	455	0	0	0
11	SLU 54	16	-13	456	0	0	0
11	SLU 55	16	-13	454	0	0	0
11	SLU 56	16	-14	459	0	0	0
11	SLU 57	16	-13	460	0	0	0
11	SLU 58	16	-14	457	0	0	0
11	SLU 59	16	-13	458	0	0	0
11	SLU 60	16	-15	467	0	0	0
11	SLU 61	16	-14	468	0	0	0
11	SLU 62	16	-14	471	0	0	0
11	SLU 63	16	-14	472	0	0	0
11	SLU 64	17	-13	451	0	0	0
11	SLU 65	17	-12	453	0	0	0
11	SLU 66	17	-13	458	0	0	0
11	SLU 67	17	-12	459	0	0	0
11	SLU 68	17	-12	457	0	0	0
11	SLU 69	17	-13	462	0	0	0
11	SLU 70	17	-12	463	0	0	0
11	SLU 71	17	-13	459	0	0	0
11	SLU 72	17	-12	460	0	0	0
11	SLU 73	17	-13	495	0	0	0
11	SLU 74	17	-14	500	0	0	0
11	SLU 75	17	-13	501	0	0	0
11	SLU 76	17	-13	499	0	0	0
11	SLU 77	17	-13	504	0	0	0
11	SLU 78	17	-13	505	0	0	0
11	SLU 79	17	-13	502	0	0	0
11	SLU 80	17	-13	503	0	0	0
11	SLU 81	18	-14	512	0	0	0
11	SLU 82	18	-14	513	0	0	0
11	SLU 83	18	-14	516	0	0	0
11	SLU 84	18	-13	517	0	0	0
11	SLE RA 1	12	-10	337	0	0	0
11	SLE RA 2	12	-10	338	0	0	0
11	SLE RA 3	12	-10	342	0	0	0
11	SLE RA 4	13	-10	342	0	0	0
11	SLE RA 5	12	-9	341	0	0	0
11	SLE RA 6	12	-10	344	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLE RA 7	13	-9	345	0	0	0
11	SLE RA 8	12	-10	343	0	0	0
11	SLE RA 9	12	-10	343	0	0	0
11	SLE RA 10	13	-10	367	0	0	0
11	SLE RA 11	13	-11	370	0	0	0
11	SLE RA 12	13	-10	370	0	0	0
11	SLE RA 13	13	-10	369	0	0	0
11	SLE RA 14	13	-10	372	0	0	0
11	SLE RA 15	13	-10	373	0	0	0
11	SLE RA 16	13	-10	371	0	0	0
11	SLE RA 17	13	-10	371	0	0	0
11	SLE RA 18	13	-11	378	0	0	0
11	SLE RA 19	13	-11	378	0	0	0
11	SLE RA 20	13	-11	380	0	0	0
11	SLE RA 21	13	-10	381	0	0	0
11	SLE FR 1	12	-10	337	0	0	0
11	SLE FR 2	12	-10	338	0	0	0
11	SLE FR 3	12	-10	338	0	0	0
11	SLE FR 4	13	-10	350	0	0	0
11	SLE FR 5	13	-10	350	0	0	0
11	SLE FR 6	13	-11	357	0	0	0
11	SLE QP 1	12	-10	337	0	0	0
11	SLE QP 2	13	-10	349	0	0	0
11	SLD 1	32	-6	359	0	0	0
11	SLD 2	34	-6	360	0	0	0
11	SLD 3	30	-16	333	0	0	0
11	SLD 4	32	-16	334	0	0	0
11	SLD 5	21	6	392	0	0	0
11	SLD 6	22	6	392	0	0	0
11	SLD 7	15	-27	305	0	0	0
11	SLD 8	16	-27	305	0	0	0
11	SLD 9	9	6	394	0	0	0
11	SLD 10	11	6	394	0	0	0
11	SLD 11	3	-27	307	0	0	0
11	SLD 12	5	-27	307	0	0	0
11	SLD 13	-7	-5	365	0	0	0
11	SLD 14	-5	-5	366	0	0	0
11	SLD 15	-9	-15	339	0	0	0
11	SLD 16	-7	-15	340	0	0	0
11	SLV 1	43	-3	366	0	0	0
11	SLV 2	47	-3	367	0	0	0
11	SLV 3	40	-20	322	0	0	0
11	SLV 4	44	-20	323	0	0	0
11	SLV 5	26	17	422	0	0	0
11	SLV 6	28	18	422	0	0	0
11	SLV 7	15	-39	274	0	0	0
11	SLV 8	18	-39	274	0	0	0
11	SLV 9	7	18	425	0	0	0
11	SLV 10	10	18	425	0	0	0
11	SLV 11	-3	-38	277	0	0	0
11	SLV 12	0	-38	277	0	0	0
11	SLV 13	-18	-1	376	0	0	0
11	SLV 14	-15	-1	377	0	0	0
11	SLV 15	-21	-18	332	0	0	0
11	SLV 16	-18	-18	333	0	0	0
11	SLV FO 1	46	-2	368	0	0	0
11	SLV FO 2	50	-2	369	0	0	0
11	SLV FO 3	42	-21	319	0	0	0
11	SLV FO 4	47	-21	320	0	0	0
11	SLV FO 5	27	20	429	0	0	0
11	SLV FO 6	30	20	429	0	0	0
11	SLV FO 7	16	-42	266	0	0	0
11	SLV FO 8	18	-42	267	0	0	0
11	SLV FO 9	7	21	432	0	0	0
11	SLV FO 10	10	21	433	0	0	0
11	SLV FO 11	-5	-41	269	0	0	0
11	SLV FO 12	-2	-41	270	0	0	0
11	SLV FO 13	-21	0	379	0	0	0
11	SLV FO 14	-17	0	380	0	0	0
11	SLV FO 15	-25	-19	330	0	0	0
11	SLV FO 16	-21	-18	331	0	0	0
12	SLU 1	19	-15	536	0	0	0
12	SLU 2	20	-14	539	0	0	0
12	SLU 3	20	-15	546	0	0	0
12	SLU 4	20	-14	548	0	0	0
12	SLU 5	20	-14	545	0	0	0
12	SLU 6	20	-15	552	0	0	0
12	SLU 7	20	-14	554	0	0	0
12	SLU 8	19	-15	549	0	0	0
12	SLU 9	20	-14	550	0	0	0
12	SLU 10	21	-15	608	0	0	0
12	SLU 11	21	-16	615	0	0	0
12	SLU 12	21	-15	617	0	0	0
12	SLU 13	21	-15	614	0	0	0
12	SLU 14	21	-16	621	0	0	0
12	SLU 15	21	-15	623	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLU 16	21	-16	618	0	0	0
12	SLU 17	21	-15	619	0	0	0
12	SLU 18	21	-17	634	0	0	0
12	SLU 19	21	-16	636	0	0	0
12	SLU 20	21	-17	641	0	0	0
12	SLU 21	21	-16	643	0	0	0
12	SLU 22	22	-15	610	0	0	0
12	SLU 23	22	-13	612	0	0	0
12	SLU 24	22	-14	620	0	0	0
12	SLU 25	22	-13	621	0	0	0
12	SLU 26	22	-13	619	0	0	0
12	SLU 27	22	-14	626	0	0	0
12	SLU 28	22	-13	628	0	0	0
12	SLU 29	22	-14	622	0	0	0
12	SLU 30	22	-13	624	0	0	0
12	SLU 31	23	-14	681	0	0	0
12	SLU 32	23	-15	689	0	0	0
12	SLU 33	23	-15	691	0	0	0
12	SLU 34	23	-14	688	0	0	0
12	SLU 35	23	-15	695	0	0	0
12	SLU 36	23	-14	697	0	0	0
12	SLU 37	23	-15	692	0	0	0
12	SLU 38	23	-14	693	0	0	0
12	SLU 39	23	-16	708	0	0	0
12	SLU 40	24	-15	710	0	0	0
12	SLU 41	24	-16	715	0	0	0
12	SLU 42	24	-15	716	0	0	0
12	SLU 43	24	-20	671	0	0	0
12	SLU 44	25	-19	674	0	0	0
12	SLU 45	25	-20	681	0	0	0
12	SLU 46	25	-19	683	0	0	0
12	SLU 47	25	-18	680	0	0	0
12	SLU 48	25	-19	688	0	0	0
12	SLU 49	25	-19	689	0	0	0
12	SLU 50	24	-20	684	0	0	0
12	SLU 51	25	-19	686	0	0	0
12	SLU 52	26	-20	743	0	0	0
12	SLU 53	26	-21	750	0	0	0
12	SLU 54	26	-20	752	0	0	0
12	SLU 55	26	-20	749	0	0	0
12	SLU 56	26	-21	757	0	0	0
12	SLU 57	26	-20	758	0	0	0
12	SLU 58	26	-21	753	0	0	0
12	SLU 59	26	-20	755	0	0	0
12	SLU 60	26	-22	770	0	0	0
12	SLU 61	26	-21	771	0	0	0
12	SLU 62	26	-22	776	0	0	0
12	SLU 63	26	-21	778	0	0	0
12	SLU 64	27	-19	745	0	0	0
12	SLU 65	27	-18	748	0	0	0
12	SLU 66	27	-19	755	0	0	0
12	SLU 67	27	-18	757	0	0	0
12	SLU 68	27	-18	754	0	0	0
12	SLU 69	27	-19	762	0	0	0
12	SLU 70	27	-18	763	0	0	0
12	SLU 71	27	-19	758	0	0	0
12	SLU 72	27	-18	760	0	0	0
12	SLU 73	28	-19	817	0	0	0
12	SLU 74	28	-20	824	0	0	0
12	SLU 75	28	-19	826	0	0	0
12	SLU 76	28	-19	823	0	0	0
12	SLU 77	28	-20	831	0	0	0
12	SLU 78	28	-19	832	0	0	0
12	SLU 79	28	-20	827	0	0	0
12	SLU 80	28	-19	829	0	0	0
12	SLU 81	28	-21	844	0	0	0
12	SLU 82	29	-20	845	0	0	0
12	SLU 83	29	-21	850	0	0	0
12	SLU 84	29	-20	852	0	0	0
12	SLE RA 1	20	-15	557	0	0	0
12	SLE RA 2	20	-14	559	0	0	0
12	SLE RA 3	20	-15	564	0	0	0
12	SLE RA 4	20	-14	565	0	0	0
12	SLE RA 5	20	-14	563	0	0	0
12	SLE RA 6	20	-15	568	0	0	0
12	SLE RA 7	20	-14	569	0	0	0
12	SLE RA 8	20	-15	565	0	0	0
12	SLE RA 9	20	-14	567	0	0	0
12	SLE RA 10	21	-15	605	0	0	0
12	SLE RA 11	21	-16	610	0	0	0
12	SLE RA 12	21	-15	611	0	0	0
12	SLE RA 13	21	-15	609	0	0	0
12	SLE RA 14	21	-15	614	0	0	0
12	SLE RA 15	21	-15	615	0	0	0
12	SLE RA 16	21	-16	611	0	0	0
12	SLE RA 17	21	-15	613	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLE RA 18	21	-16	623	0	0	0
12	SLE RA 19	21	-16	624	0	0	0
12	SLE RA 20	21	-16	627	0	0	0
12	SLE RA 21	21	-15	628	0	0	0
12	SLE FR 1	20	-15	557	0	0	0
12	SLE FR 2	20	-15	557	0	0	0
12	SLE FR 3	20	-15	558	0	0	0
12	SLE FR 4	20	-15	577	0	0	0
12	SLE FR 5	20	-15	578	0	0	0
12	SLE FR 6	21	-16	590	0	0	0
12	SLE QP 1	20	-15	557	0	0	0
12	SLE QP 2	20	-15	576	0	0	0
12	SLD 1	52	-9	590	0	0	0
12	SLD 2	56	-9	590	0	0	0
12	SLD 3	49	-25	546	0	0	0
12	SLD 4	53	-24	546	0	0	0
12	SLD 5	34	10	647	0	0	0
12	SLD 6	36	10	648	0	0	0
12	SLD 7	24	-42	500	0	0	0
12	SLD 8	26	-41	501	0	0	0
12	SLD 9	15	10	652	0	0	0
12	SLD 10	17	11	653	0	0	0
12	SLD 11	5	-41	505	0	0	0
12	SLD 12	7	-41	506	0	0	0
12	SLD 13	-12	-7	607	0	0	0
12	SLD 14	-8	-6	607	0	0	0
12	SLD 15	-15	-22	563	0	0	0
12	SLD 16	-11	-21	563	0	0	0
12	SLV 1	69	-5	600	0	0	0
12	SLV 2	76	-4	601	0	0	0
12	SLV 3	64	-32	525	0	0	0
12	SLV 4	71	-30	526	0	0	0
12	SLV 5	41	28	697	0	0	0
12	SLV 6	46	29	698	0	0	0
12	SLV 7	25	-61	447	0	0	0
12	SLV 8	29	-60	448	0	0	0
12	SLV 9	12	29	705	0	0	0
12	SLV 10	16	30	706	0	0	0
12	SLV 11	-5	-59	455	0	0	0
12	SLV 12	-1	-58	456	0	0	0
12	SLV 13	-30	-1	627	0	0	0
12	SLV 14	-24	1	628	0	0	0
12	SLV 15	-35	-27	552	0	0	0
12	SLV 16	-29	-26	553	0	0	0
12	SLV FO 1	74	-4	602	0	0	0
12	SLV FO 2	81	-2	603	0	0	0
12	SLV FO 3	69	-33	520	0	0	0
12	SLV FO 4	76	-32	521	0	0	0
12	SLV FO 5	44	32	709	0	0	0
12	SLV FO 6	48	33	710	0	0	0
12	SLV FO 7	25	-65	434	0	0	0
12	SLV FO 8	30	-64	435	0	0	0
12	SLV FO 9	11	33	718	0	0	0
12	SLV FO 10	15	34	719	0	0	0
12	SLV FO 11	-7	-64	443	0	0	0
12	SLV FO 12	-3	-63	444	0	0	0
12	SLV FO 13	-35	1	632	0	0	0
12	SLV FO 14	-28	2	633	0	0	0
12	SLV FO 15	-40	-29	550	0	0	0
12	SLV FO 16	-33	-27	551	0	0	0
13	SLU 1	15	-11	415	0	0	0
13	SLU 2	15	-10	417	0	0	0
13	SLU 3	15	-11	423	0	0	0
13	SLU 4	15	-10	424	0	0	0
13	SLU 5	15	-10	422	0	0	0
13	SLU 6	15	-11	428	0	0	0
13	SLU 7	15	-10	429	0	0	0
13	SLU 8	15	-11	425	0	0	0
13	SLU 9	15	-10	426	0	0	0
13	SLU 10	16	-11	470	0	0	0
13	SLU 11	16	-12	476	0	0	0
13	SLU 12	16	-11	477	0	0	0
13	SLU 13	16	-11	475	0	0	0
13	SLU 14	16	-12	481	0	0	0
13	SLU 15	16	-11	482	0	0	0
13	SLU 16	16	-12	478	0	0	0
13	SLU 17	16	-11	479	0	0	0
13	SLU 18	16	-12	491	0	0	0
13	SLU 19	16	-12	492	0	0	0
13	SLU 20	16	-12	496	0	0	0
13	SLU 21	16	-12	497	0	0	0
13	SLU 22	17	-11	472	0	0	0
13	SLU 23	17	-10	474	0	0	0
13	SLU 24	17	-10	480	0	0	0
13	SLU 25	17	-10	481	0	0	0
13	SLU 26	17	-9	479	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLU 27	17	-10	485	0	0	0
13	SLU 28	17	-9	486	0	0	0
13	SLU 29	17	-10	482	0	0	0
13	SLU 30	17	-9	483	0	0	0
13	SLU 31	18	-10	527	0	0	0
13	SLU 32	18	-11	533	0	0	0
13	SLU 33	18	-11	534	0	0	0
13	SLU 34	18	-10	532	0	0	0
13	SLU 35	18	-11	538	0	0	0
13	SLU 36	18	-10	539	0	0	0
13	SLU 37	18	-11	535	0	0	0
13	SLU 38	18	-10	536	0	0	0
13	SLU 39	18	-12	548	0	0	0
13	SLU 40	18	-11	549	0	0	0
13	SLU 41	18	-12	553	0	0	0
13	SLU 42	18	-11	554	0	0	0
13	SLU 43	19	-15	520	0	0	0
13	SLU 44	19	-14	522	0	0	0
13	SLU 45	19	-14	528	0	0	0
13	SLU 46	19	-14	529	0	0	0
13	SLU 47	19	-13	527	0	0	0
13	SLU 48	19	-14	532	0	0	0
13	SLU 49	19	-14	534	0	0	0
13	SLU 50	19	-14	530	0	0	0
13	SLU 51	19	-14	531	0	0	0
13	SLU 52	20	-14	575	0	0	0
13	SLU 53	20	-15	581	0	0	0
13	SLU 54	20	-15	582	0	0	0
13	SLU 55	20	-14	580	0	0	0
13	SLU 56	20	-15	586	0	0	0
13	SLU 57	20	-14	587	0	0	0
13	SLU 58	20	-15	583	0	0	0
13	SLU 59	20	-14	584	0	0	0
13	SLU 60	20	-16	596	0	0	0
13	SLU 61	20	-15	597	0	0	0
13	SLU 62	20	-16	601	0	0	0
13	SLU 63	20	-15	602	0	0	0
13	SLU 64	21	-14	577	0	0	0
13	SLU 65	21	-13	579	0	0	0
13	SLU 66	21	-14	585	0	0	0
13	SLU 67	21	-13	586	0	0	0
13	SLU 68	21	-13	584	0	0	0
13	SLU 69	21	-14	590	0	0	0
13	SLU 70	21	-13	591	0	0	0
13	SLU 71	21	-14	587	0	0	0
13	SLU 72	21	-13	588	0	0	0
13	SLU 73	22	-14	632	0	0	0
13	SLU 74	22	-15	638	0	0	0
13	SLU 75	22	-14	639	0	0	0
13	SLU 76	22	-14	637	0	0	0
13	SLU 77	22	-14	643	0	0	0
13	SLU 78	22	-14	644	0	0	0
13	SLU 79	21	-15	640	0	0	0
13	SLU 80	22	-14	641	0	0	0
13	SLU 81	22	-15	653	0	0	0
13	SLU 82	22	-15	654	0	0	0
13	SLU 83	22	-15	658	0	0	0
13	SLU 84	22	-14	659	0	0	0
13	SLE RA 1	15	-11	431	0	0	0
13	SLE RA 2	15	-10	433	0	0	0
13	SLE RA 3	15	-11	436	0	0	0
13	SLE RA 4	16	-10	437	0	0	0
13	SLE RA 5	16	-10	436	0	0	0
13	SLE RA 6	15	-11	440	0	0	0
13	SLE RA 7	16	-10	441	0	0	0
13	SLE RA 8	15	-11	438	0	0	0
13	SLE RA 9	15	-10	439	0	0	0
13	SLE RA 10	16	-11	468	0	0	0
13	SLE RA 11	16	-11	472	0	0	0
13	SLE RA 12	16	-11	473	0	0	0
13	SLE RA 13	16	-11	471	0	0	0
13	SLE RA 14	16	-11	475	0	0	0
13	SLE RA 15	16	-11	476	0	0	0
13	SLE RA 16	16	-11	473	0	0	0
13	SLE RA 17	16	-11	474	0	0	0
13	SLE RA 18	16	-12	482	0	0	0
13	SLE RA 19	16	-11	483	0	0	0
13	SLE RA 20	16	-12	485	0	0	0
13	SLE RA 21	16	-11	486	0	0	0
13	SLE FR 1	15	-11	431	0	0	0
13	SLE FR 2	15	-11	431	0	0	0
13	SLE FR 3	15	-11	432	0	0	0
13	SLE FR 4	16	-11	447	0	0	0
13	SLE FR 5	16	-11	448	0	0	0
13	SLE FR 6	16	-11	456	0	0	0
13	SLE QP 1	15	-11	431	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLE QP 2	16	-11	446	0	0	0
13	SLD 1	40	-7	453	0	0	0
13	SLD 2	43	-6	454	0	0	0
13	SLD 3	37	-19	419	0	0	0
13	SLD 4	40	-18	419	0	0	0
13	SLD 5	26	7	501	0	0	0
13	SLD 6	28	8	501	0	0	0
13	SLD 7	18	-31	386	0	0	0
13	SLD 8	20	-31	386	0	0	0
13	SLD 9	11	8	507	0	0	0
13	SLD 10	13	9	507	0	0	0
13	SLD 11	4	-31	392	0	0	0
13	SLD 12	6	-30	392	0	0	0
13	SLD 13	-9	-5	473	0	0	0
13	SLD 14	-6	-4	474	0	0	0
13	SLD 15	-11	-16	439	0	0	0
13	SLD 16	-8	-15	439	0	0	0
13	SLV 1	53	-4	460	0	0	0
13	SLV 2	58	-2	460	0	0	0
13	SLV 3	49	-24	401	0	0	0
13	SLV 4	54	-22	402	0	0	0
13	SLV 5	32	21	540	0	0	0
13	SLV 6	35	22	540	0	0	0
13	SLV 7	19	-45	343	0	0	0
13	SLV 8	22	-44	344	0	0	0
13	SLV 9	9	22	549	0	0	0
13	SLV 10	12	23	549	0	0	0
13	SLV 11	-4	-44	353	0	0	0
13	SLV 12	-1	-43	353	0	0	0
13	SLV 13	-23	0	491	0	0	0
13	SLV 14	-18	1	492	0	0	0
13	SLV 15	-27	-20	432	0	0	0
13	SLV 16	-22	-18	433	0	0	0
13	SLV FO 1	57	-3	461	0	0	0
13	SLV FO 2	62	-1	462	0	0	0
13	SLV FO 3	53	-25	396	0	0	0
13	SLV FO 4	58	-23	397	0	0	0
13	SLV FO 5	33	24	549	0	0	0
13	SLV FO 6	37	25	549	0	0	0
13	SLV FO 7	19	-49	333	0	0	0
13	SLV FO 8	23	-48	334	0	0	0
13	SLV FO 9	8	25	559	0	0	0
13	SLV FO 10	12	26	560	0	0	0
13	SLV FO 11	-6	-48	343	0	0	0
13	SLV FO 12	-2	-46	344	0	0	0
13	SLV FO 13	-27	1	496	0	0	0
13	SLV FO 14	-21	3	496	0	0	0
13	SLV FO 15	-31	-21	431	0	0	0
13	SLV FO 16	-26	-19	432	0	0	0
14	SLU 1	15	-11	418	0	0	0
14	SLU 2	15	-9	421	0	0	0
14	SLU 3	15	-10	426	0	0	0
14	SLU 4	15	-10	428	0	0	0
14	SLU 5	15	-9	426	0	0	0
14	SLU 6	15	-10	431	0	0	0
14	SLU 7	15	-9	433	0	0	0
14	SLU 8	15	-10	428	0	0	0
14	SLU 9	15	-9	430	0	0	0
14	SLU 10	16	-10	474	0	0	0
14	SLU 11	16	-11	480	0	0	0
14	SLU 12	16	-10	481	0	0	0
14	SLU 13	16	-10	479	0	0	0
14	SLU 14	16	-11	485	0	0	0
14	SLU 15	16	-10	486	0	0	0
14	SLU 16	16	-11	482	0	0	0
14	SLU 17	16	-10	483	0	0	0
14	SLU 18	16	-12	495	0	0	0
14	SLU 19	16	-11	496	0	0	0
14	SLU 20	16	-11	500	0	0	0
14	SLU 21	16	-11	501	0	0	0
14	SLU 22	17	-10	476	0	0	0
14	SLU 23	17	-9	478	0	0	0
14	SLU 24	17	-10	484	0	0	0
14	SLU 25	17	-9	485	0	0	0
14	SLU 26	17	-9	483	0	0	0
14	SLU 27	17	-9	489	0	0	0
14	SLU 28	17	-9	490	0	0	0
14	SLU 29	17	-9	486	0	0	0
14	SLU 30	17	-9	487	0	0	0
14	SLU 31	18	-10	532	0	0	0
14	SLU 32	18	-10	537	0	0	0
14	SLU 33	18	-10	539	0	0	0
14	SLU 34	18	-9	537	0	0	0
14	SLU 35	18	-10	542	0	0	0
14	SLU 36	18	-10	544	0	0	0
14	SLU 37	18	-10	539	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
14	SLU 38	18	-10	541	0	0	0
14	SLU 39	18	-11	552	0	0	0
14	SLU 40	18	-10	554	0	0	0
14	SLU 41	18	-11	557	0	0	0
14	SLU 42	18	-10	559	0	0	0
14	SLU 43	19	-14	524	0	0	0
14	SLU 44	19	-13	526	0	0	0
14	SLU 45	19	-14	532	0	0	0
14	SLU 46	19	-13	533	0	0	0
14	SLU 47	19	-13	531	0	0	0
14	SLU 48	19	-13	537	0	0	0
14	SLU 49	19	-13	538	0	0	0
14	SLU 50	19	-13	534	0	0	0
14	SLU 51	19	-13	535	0	0	0
14	SLU 52	20	-14	580	0	0	0
14	SLU 53	20	-14	585	0	0	0
14	SLU 54	20	-14	587	0	0	0
14	SLU 55	20	-13	585	0	0	0
14	SLU 56	20	-14	590	0	0	0
14	SLU 57	20	-14	592	0	0	0
14	SLU 58	20	-14	587	0	0	0
14	SLU 59	20	-14	589	0	0	0
14	SLU 60	20	-15	600	0	0	0
14	SLU 61	20	-14	602	0	0	0
14	SLU 62	20	-15	605	0	0	0
14	SLU 63	20	-14	607	0	0	0
14	SLU 64	21	-13	582	0	0	0
14	SLU 65	21	-12	584	0	0	0
14	SLU 66	21	-13	590	0	0	0
14	SLU 67	21	-12	591	0	0	0
14	SLU 68	21	-12	589	0	0	0
14	SLU 69	21	-13	595	0	0	0
14	SLU 70	21	-12	596	0	0	0
14	SLU 71	21	-13	592	0	0	0
14	SLU 72	21	-12	593	0	0	0
14	SLU 73	22	-13	637	0	0	0
14	SLU 74	22	-14	643	0	0	0
14	SLU 75	22	-13	644	0	0	0
14	SLU 76	22	-13	642	0	0	0
14	SLU 77	22	-14	648	0	0	0
14	SLU 78	22	-13	649	0	0	0
14	SLU 79	21	-14	645	0	0	0
14	SLU 80	22	-13	646	0	0	0
14	SLU 81	22	-14	658	0	0	0
14	SLU 82	22	-14	659	0	0	0
14	SLU 83	22	-14	663	0	0	0
14	SLU 84	22	-14	664	0	0	0
14	SLE RA 1	15	-10	435	0	0	0
14	SLE RA 2	15	-10	436	0	0	0
14	SLE RA 3	15	-10	440	0	0	0
14	SLE RA 4	16	-10	441	0	0	0
14	SLE RA 5	16	-9	440	0	0	0
14	SLE RA 6	15	-10	443	0	0	0
14	SLE RA 7	16	-10	444	0	0	0
14	SLE RA 8	15	-10	441	0	0	0
14	SLE RA 9	15	-10	442	0	0	0
14	SLE RA 10	16	-10	472	0	0	0
14	SLE RA 11	16	-11	476	0	0	0
14	SLE RA 12	16	-10	477	0	0	0
14	SLE RA 13	16	-10	475	0	0	0
14	SLE RA 14	16	-11	479	0	0	0
14	SLE RA 15	16	-10	480	0	0	0
14	SLE RA 16	16	-11	477	0	0	0
14	SLE RA 17	16	-10	478	0	0	0
14	SLE RA 18	16	-11	486	0	0	0
14	SLE RA 19	16	-11	487	0	0	0
14	SLE RA 20	16	-11	489	0	0	0
14	SLE RA 21	16	-11	490	0	0	0
14	SLE FR 1	15	-10	435	0	0	0
14	SLE FR 2	15	-10	435	0	0	0
14	SLE FR 3	15	-10	436	0	0	0
14	SLE FR 4	16	-10	450	0	0	0
14	SLE FR 5	16	-11	451	0	0	0
14	SLE FR 6	16	-11	460	0	0	0
14	SLE QP 1	15	-10	435	0	0	0
14	SLE QP 2	16	-11	450	0	0	0
14	SLD 1	40	-7	454	0	0	0
14	SLD 2	43	-6	454	0	0	0
14	SLD 3	37	-18	419	0	0	0
14	SLD 4	40	-17	419	0	0	0
14	SLD 5	26	7	504	0	0	0
14	SLD 6	28	8	504	0	0	0
14	SLD 7	18	-30	388	0	0	0
14	SLD 8	20	-29	388	0	0	0
14	SLD 9	11	8	513	0	0	0
14	SLD 10	13	9	513	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
14	SLD 11	4	-30	396	0	0	0
14	SLD 12	6	-29	396	0	0	0
14	SLD 13	-9	-4	481	0	0	0
14	SLD 14	-6	-3	481	0	0	0
14	SLD 15	-11	-16	446	0	0	0
14	SLD 16	-8	-14	446	0	0	0
14	SLV 1	53	-4	459	0	0	0
14	SLV 2	58	-2	459	0	0	0
14	SLV 3	49	-23	399	0	0	0
14	SLV 4	54	-21	399	0	0	0
14	SLV 5	32	20	543	0	0	0
14	SLV 6	35	22	543	0	0	0
14	SLV 7	19	-44	344	0	0	0
14	SLV 8	22	-43	344	0	0	0
14	SLV 9	9	22	556	0	0	0
14	SLV 10	12	23	556	0	0	0
14	SLV 11	-4	-43	357	0	0	0
14	SLV 12	-1	-41	357	0	0	0
14	SLV 13	-23	0	501	0	0	0
14	SLV 14	-18	2	502	0	0	0
14	SLV 15	-27	-19	441	0	0	0
14	SLV 16	-22	-17	442	0	0	0
14	SLV FO 1	57	-4	459	0	0	0
14	SLV FO 2	62	-1	460	0	0	0
14	SLV FO 3	53	-25	394	0	0	0
14	SLV FO 4	58	-22	394	0	0	0
14	SLV FO 5	33	23	553	0	0	0
14	SLV FO 6	37	25	553	0	0	0
14	SLV FO 7	19	-48	333	0	0	0
14	SLV FO 8	23	-46	334	0	0	0
14	SLV FO 9	8	25	567	0	0	0
14	SLV FO 10	12	26	567	0	0	0
14	SLV FO 11	-6	-46	347	0	0	0
14	SLV FO 12	-2	-44	348	0	0	0
14	SLV FO 13	-27	1	506	0	0	0
14	SLV FO 14	-21	4	507	0	0	0
14	SLV FO 15	-31	-20	441	0	0	0
14	SLV FO 16	-26	-18	441	0	0	0
15	SLU 1	15	-10	422	0	0	0
15	SLU 2	15	-9	424	0	0	0
15	SLU 3	15	-10	430	0	0	0
15	SLU 4	15	-9	431	0	0	0
15	SLU 5	15	-9	429	0	0	0
15	SLU 6	15	-9	435	0	0	0
15	SLU 7	15	-9	436	0	0	0
15	SLU 8	15	-9	432	0	0	0
15	SLU 9	15	-9	433	0	0	0
15	SLU 10	16	-10	478	0	0	0
15	SLU 11	16	-10	483	0	0	0
15	SLU 12	16	-10	484	0	0	0
15	SLU 13	16	-9	482	0	0	0
15	SLU 14	16	-10	488	0	0	0
15	SLU 15	16	-10	489	0	0	0
15	SLU 16	16	-10	485	0	0	0
15	SLU 17	16	-10	486	0	0	0
15	SLU 18	16	-11	498	0	0	0
15	SLU 19	16	-10	499	0	0	0
15	SLU 20	16	-11	503	0	0	0
15	SLU 21	16	-10	504	0	0	0
15	SLU 22	17	-9	480	0	0	0
15	SLU 23	17	-8	482	0	0	0
15	SLU 24	17	-9	488	0	0	0
15	SLU 25	17	-8	489	0	0	0
15	SLU 26	17	-8	487	0	0	0
15	SLU 27	17	-9	493	0	0	0
15	SLU 28	17	-8	494	0	0	0
15	SLU 29	17	-9	490	0	0	0
15	SLU 30	17	-8	491	0	0	0
15	SLU 31	18	-9	536	0	0	0
15	SLU 32	18	-10	541	0	0	0
15	SLU 33	18	-9	542	0	0	0
15	SLU 34	18	-9	540	0	0	0
15	SLU 35	18	-10	546	0	0	0
15	SLU 36	18	-9	547	0	0	0
15	SLU 37	18	-10	543	0	0	0
15	SLU 38	18	-9	544	0	0	0
15	SLU 39	18	-10	556	0	0	0
15	SLU 40	18	-10	557	0	0	0
15	SLU 41	18	-10	561	0	0	0
15	SLU 42	18	-10	562	0	0	0
15	SLU 43	19	-13	528	0	0	0
15	SLU 44	19	-12	531	0	0	0
15	SLU 45	19	-13	536	0	0	0
15	SLU 46	19	-12	538	0	0	0
15	SLU 47	19	-12	536	0	0	0
15	SLU 48	19	-13	541	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLU 49	19	-12	543	0	0	0
15	SLU 50	19	-13	538	0	0	0
15	SLU 51	19	-12	540	0	0	0
15	SLU 52	20	-13	584	0	0	0
15	SLU 53	20	-14	590	0	0	0
15	SLU 54	20	-13	591	0	0	0
15	SLU 55	20	-13	589	0	0	0
15	SLU 56	20	-13	595	0	0	0
15	SLU 57	20	-13	596	0	0	0
15	SLU 58	20	-13	592	0	0	0
15	SLU 59	20	-13	593	0	0	0
15	SLU 60	20	-14	605	0	0	0
15	SLU 61	20	-14	606	0	0	0
15	SLU 62	20	-14	610	0	0	0
15	SLU 63	20	-13	611	0	0	0
15	SLU 64	21	-12	586	0	0	0
15	SLU 65	21	-11	589	0	0	0
15	SLU 66	21	-12	594	0	0	0
15	SLU 67	21	-12	596	0	0	0
15	SLU 68	21	-11	594	0	0	0
15	SLU 69	21	-12	599	0	0	0
15	SLU 70	21	-11	601	0	0	0
15	SLU 71	21	-12	596	0	0	0
15	SLU 72	21	-11	598	0	0	0
15	SLU 73	22	-12	642	0	0	0
15	SLU 74	22	-13	648	0	0	0
15	SLU 75	22	-12	649	0	0	0
15	SLU 76	22	-12	647	0	0	0
15	SLU 77	22	-13	653	0	0	0
15	SLU 78	22	-12	654	0	0	0
15	SLU 79	21	-13	650	0	0	0
15	SLU 80	22	-12	651	0	0	0
15	SLU 81	22	-14	663	0	0	0
15	SLU 82	22	-13	664	0	0	0
15	SLU 83	22	-13	668	0	0	0
15	SLU 84	22	-13	669	0	0	0
15	SLE RA 1	15	-10	438	0	0	0
15	SLE RA 2	15	-9	440	0	0	0
15	SLE RA 3	15	-10	444	0	0	0
15	SLE RA 4	16	-9	445	0	0	0
15	SLE RA 5	15	-9	443	0	0	0
15	SLE RA 6	15	-9	447	0	0	0
15	SLE RA 7	16	-9	448	0	0	0
15	SLE RA 8	15	-9	445	0	0	0
15	SLE RA 9	15	-9	446	0	0	0
15	SLE RA 10	16	-10	476	0	0	0
15	SLE RA 11	16	-10	479	0	0	0
15	SLE RA 12	16	-10	480	0	0	0
15	SLE RA 13	16	-9	479	0	0	0
15	SLE RA 14	16	-10	483	0	0	0
15	SLE RA 15	16	-9	483	0	0	0
15	SLE RA 16	16	-10	481	0	0	0
15	SLE RA 17	16	-10	481	0	0	0
15	SLE RA 18	16	-10	489	0	0	0
15	SLE RA 19	16	-10	490	0	0	0
15	SLE RA 20	16	-10	493	0	0	0
15	SLE RA 21	16	-10	493	0	0	0
15	SLE FR 1	15	-10	438	0	0	0
15	SLE FR 2	15	-10	439	0	0	0
15	SLE FR 3	15	-10	440	0	0	0
15	SLE FR 4	16	-10	454	0	0	0
15	SLE FR 5	16	-10	455	0	0	0
15	SLE FR 6	16	-10	464	0	0	0
15	SLE QP 1	15	-10	438	0	0	0
15	SLE QP 2	16	-10	454	0	0	0
15	SLD 1	40	-7	454	0	0	0
15	SLD 2	43	-5	454	0	0	0
15	SLD 3	37	-18	418	0	0	0
15	SLD 4	40	-16	418	0	0	0
15	SLD 5	26	7	508	0	0	0
15	SLD 6	28	9	508	0	0	0
15	SLD 7	18	-29	389	0	0	0
15	SLD 8	20	-28	389	0	0	0
15	SLD 9	11	8	518	0	0	0
15	SLD 10	13	9	518	0	0	0
15	SLD 11	4	-28	400	0	0	0
15	SLD 12	6	-27	400	0	0	0
15	SLD 13	-9	-4	489	0	0	0
15	SLD 14	-6	-2	489	0	0	0
15	SLD 15	-11	-15	453	0	0	0
15	SLD 16	-8	-13	453	0	0	0
15	SLV 1	53	-4	457	0	0	0
15	SLV 2	58	-2	457	0	0	0
15	SLV 3	49	-23	396	0	0	0
15	SLV 4	54	-20	396	0	0	0
15	SLV 5	32	20	546	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLV 6	35	22	546	0	0	0
15	SLV 7	19	-43	345	0	0	0
15	SLV 8	22	-41	345	0	0	0
15	SLV 9	9	21	563	0	0	0
15	SLV 10	12	23	563	0	0	0
15	SLV 11	-4	-41	361	0	0	0
15	SLV 12	-1	-40	361	0	0	0
15	SLV 13	-23	1	511	0	0	0
15	SLV 14	-18	3	511	0	0	0
15	SLV 15	-27	-18	450	0	0	0
15	SLV 16	-22	-16	451	0	0	0
15	SLV FO 1	57	-4	457	0	0	0
15	SLV FO 2	62	-1	457	0	0	0
15	SLV FO 3	53	-25	390	0	0	0
15	SLV FO 4	58	-22	390	0	0	0
15	SLV FO 5	33	23	556	0	0	0
15	SLV FO 6	37	25	556	0	0	0
15	SLV FO 7	19	-46	334	0	0	0
15	SLV FO 8	23	-44	334	0	0	0
15	SLV FO 9	8	24	574	0	0	0
15	SLV FO 10	12	26	574	0	0	0
15	SLV FO 11	-6	-45	352	0	0	0
15	SLV FO 12	-2	-43	352	0	0	0
15	SLV FO 13	-27	2	517	0	0	0
15	SLV FO 14	-22	5	517	0	0	0
15	SLV FO 15	-31	-19	450	0	0	0
15	SLV FO 16	-26	-16	450	0	0	0
16	SLU 1	15	-9	425	0	0	0
16	SLU 2	15	-8	427	0	0	0
16	SLU 3	15	-9	433	0	0	0
16	SLU 4	15	-8	434	0	0	0
16	SLU 5	15	-8	432	0	0	0
16	SLU 6	15	-9	438	0	0	0
16	SLU 7	15	-8	439	0	0	0
16	SLU 8	15	-9	435	0	0	0
16	SLU 9	15	-8	436	0	0	0
16	SLU 10	16	-9	481	0	0	0
16	SLU 11	16	-10	486	0	0	0
16	SLU 12	16	-9	488	0	0	0
16	SLU 13	16	-9	486	0	0	0
16	SLU 14	16	-10	491	0	0	0
16	SLU 15	16	-9	492	0	0	0
16	SLU 16	16	-10	488	0	0	0
16	SLU 17	16	-9	490	0	0	0
16	SLU 18	16	-10	501	0	0	0
16	SLU 19	16	-10	503	0	0	0
16	SLU 20	16	-10	506	0	0	0
16	SLU 21	16	-9	507	0	0	0
16	SLU 22	17	-9	483	0	0	0
16	SLU 23	17	-8	486	0	0	0
16	SLU 24	17	-8	491	0	0	0
16	SLU 25	17	-8	492	0	0	0
16	SLU 26	17	-7	490	0	0	0
16	SLU 27	17	-8	496	0	0	0
16	SLU 28	17	-8	497	0	0	0
16	SLU 29	17	-8	493	0	0	0
16	SLU 30	17	-8	494	0	0	0
16	SLU 31	18	-8	539	0	0	0
16	SLU 32	18	-9	545	0	0	0
16	SLU 33	18	-8	546	0	0	0
16	SLU 34	18	-8	544	0	0	0
16	SLU 35	18	-9	549	0	0	0
16	SLU 36	18	-8	551	0	0	0
16	SLU 37	18	-9	546	0	0	0
16	SLU 38	18	-8	548	0	0	0
16	SLU 39	18	-10	560	0	0	0
16	SLU 40	18	-9	561	0	0	0
16	SLU 41	18	-9	564	0	0	0
16	SLU 42	18	-9	566	0	0	0
16	SLU 43	19	-12	532	0	0	0
16	SLU 44	19	-11	535	0	0	0
16	SLU 45	19	-12	540	0	0	0
16	SLU 46	19	-11	542	0	0	0
16	SLU 47	19	-11	540	0	0	0
16	SLU 48	19	-12	545	0	0	0
16	SLU 49	19	-11	546	0	0	0
16	SLU 50	19	-12	542	0	0	0
16	SLU 51	19	-11	544	0	0	0
16	SLU 52	20	-12	588	0	0	0
16	SLU 53	20	-13	594	0	0	0
16	SLU 54	20	-12	595	0	0	0
16	SLU 55	20	-12	593	0	0	0
16	SLU 56	20	-13	599	0	0	0
16	SLU 57	20	-12	600	0	0	0
16	SLU 58	20	-13	596	0	0	0
16	SLU 59	20	-12	597	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
16	SLU 60	20	-13	609	0	0	0
16	SLU 61	20	-13	610	0	0	0
16	SLU 62	20	-13	614	0	0	0
16	SLU 63	20	-12	615	0	0	0
16	SLU 64	20	-12	591	0	0	0
16	SLU 65	21	-11	593	0	0	0
16	SLU 66	21	-11	599	0	0	0
16	SLU 67	21	-11	600	0	0	0
16	SLU 68	21	-10	598	0	0	0
16	SLU 69	21	-11	603	0	0	0
16	SLU 70	21	-11	605	0	0	0
16	SLU 71	21	-11	600	0	0	0
16	SLU 72	21	-11	602	0	0	0
16	SLU 73	22	-11	646	0	0	0
16	SLU 74	22	-12	652	0	0	0
16	SLU 75	22	-11	653	0	0	0
16	SLU 76	22	-11	651	0	0	0
16	SLU 77	22	-12	657	0	0	0
16	SLU 78	22	-11	658	0	0	0
16	SLU 79	21	-12	654	0	0	0
16	SLU 80	22	-11	655	0	0	0
16	SLU 81	22	-13	667	0	0	0
16	SLU 82	22	-12	668	0	0	0
16	SLU 83	22	-12	672	0	0	0
16	SLU 84	22	-12	673	0	0	0
16	SLE RA 1	15	-9	441	0	0	0
16	SLE RA 2	15	-8	443	0	0	0
16	SLE RA 3	15	-9	447	0	0	0
16	SLE RA 4	16	-8	448	0	0	0
16	SLE RA 5	15	-8	446	0	0	0
16	SLE RA 6	15	-9	450	0	0	0
16	SLE RA 7	16	-8	451	0	0	0
16	SLE RA 8	15	-9	448	0	0	0
16	SLE RA 9	15	-8	449	0	0	0
16	SLE RA 10	16	-9	479	0	0	0
16	SLE RA 11	16	-9	482	0	0	0
16	SLE RA 12	16	-9	483	0	0	0
16	SLE RA 13	16	-9	482	0	0	0
16	SLE RA 14	16	-9	486	0	0	0
16	SLE RA 15	16	-9	487	0	0	0
16	SLE RA 16	16	-9	484	0	0	0
16	SLE RA 17	16	-9	485	0	0	0
16	SLE RA 18	16	-10	492	0	0	0
16	SLE RA 19	16	-9	493	0	0	0
16	SLE RA 20	16	-10	496	0	0	0
16	SLE RA 21	16	-9	497	0	0	0
16	SLE FR 1	15	-9	441	0	0	0
16	SLE FR 2	15	-9	442	0	0	0
16	SLE FR 3	15	-9	443	0	0	0
16	SLE FR 4	16	-9	457	0	0	0
16	SLE FR 5	16	-9	458	0	0	0
16	SLE FR 6	16	-9	467	0	0	0
16	SLE QP 1	15	-9	441	0	0	0
16	SLE QP 2	16	-9	457	0	0	0
16	SLD 1	40	-7	454	0	0	0
16	SLD 2	43	-5	454	0	0	0
16	SLD 3	37	-17	418	0	0	0
16	SLD 4	40	-15	418	0	0	0
16	SLD 5	26	7	510	0	0	0
16	SLD 6	28	9	510	0	0	0
16	SLD 7	18	-28	391	0	0	0
16	SLD 8	20	-27	390	0	0	0
16	SLD 9	11	8	523	0	0	0
16	SLD 10	13	10	523	0	0	0
16	SLD 11	4	-27	403	0	0	0
16	SLD 12	6	-26	403	0	0	0
16	SLD 13	-9	-3	496	0	0	0
16	SLD 14	-6	-1	496	0	0	0
16	SLD 15	-11	-14	460	0	0	0
16	SLD 16	-8	-12	460	0	0	0
16	SLV 1	53	-5	455	0	0	0
16	SLV 2	58	-1	454	0	0	0
16	SLV 3	49	-23	393	0	0	0
16	SLV 4	54	-20	393	0	0	0
16	SLV 5	32	19	549	0	0	0
16	SLV 6	35	22	549	0	0	0
16	SLV 7	19	-42	345	0	0	0
16	SLV 8	22	-40	345	0	0	0
16	SLV 9	9	21	569	0	0	0
16	SLV 10	12	23	569	0	0	0
16	SLV 11	-4	-40	364	0	0	0
16	SLV 12	-1	-38	364	0	0	0
16	SLV 13	-23	1	521	0	0	0
16	SLV 14	-18	4	520	0	0	0
16	SLV 15	-27	-17	459	0	0	0
16	SLV 16	-22	-14	459	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
16	SLV FO 1	57	-4	454	0	0	0
16	SLV FO 2	62	-1	454	0	0	0
16	SLV FO 3	53	-24	387	0	0	0
16	SLV FO 4	58	-21	387	0	0	0
16	SLV FO 5	33	22	558	0	0	0
16	SLV FO 6	37	25	558	0	0	0
16	SLV FO 7	19	-45	333	0	0	0
16	SLV FO 8	23	-43	333	0	0	0
16	SLV FO 9	8	24	580	0	0	0
16	SLV FO 10	12	26	580	0	0	0
16	SLV FO 11	-6	-43	355	0	0	0
16	SLV FO 12	-2	-41	355	0	0	0
16	SLV FO 13	-27	2	527	0	0	0
16	SLV FO 14	-22	6	527	0	0	0
16	SLV FO 15	-31	-18	459	0	0	0
16	SLV FO 16	-26	-14	459	0	0	0
17	SLU 1	19	-11	557	0	0	0
17	SLU 2	20	-10	560	0	0	0
17	SLU 3	19	-11	567	0	0	0
17	SLU 4	20	-10	569	0	0	0
17	SLU 5	20	-10	567	0	0	0
17	SLU 6	20	-11	574	0	0	0
17	SLU 7	20	-10	576	0	0	0
17	SLU 8	19	-11	570	0	0	0
17	SLU 9	19	-10	572	0	0	0
17	SLU 10	21	-11	630	0	0	0
17	SLU 11	21	-12	637	0	0	0
17	SLU 12	21	-11	639	0	0	0
17	SLU 13	21	-11	636	0	0	0
17	SLU 14	21	-12	643	0	0	0
17	SLU 15	21	-11	645	0	0	0
17	SLU 16	21	-12	639	0	0	0
17	SLU 17	21	-11	641	0	0	0
17	SLU 18	21	-13	657	0	0	0
17	SLU 19	21	-12	658	0	0	0
17	SLU 20	21	-12	663	0	0	0
17	SLU 21	21	-11	665	0	0	0
17	SLU 22	22	-10	633	0	0	0
17	SLU 23	22	-9	637	0	0	0
17	SLU 24	22	-10	644	0	0	0
17	SLU 25	22	-9	646	0	0	0
17	SLU 26	22	-9	643	0	0	0
17	SLU 27	22	-10	650	0	0	0
17	SLU 28	22	-9	652	0	0	0
17	SLU 29	22	-10	646	0	0	0
17	SLU 30	22	-9	648	0	0	0
17	SLU 31	23	-10	706	0	0	0
17	SLU 32	23	-11	713	0	0	0
17	SLU 33	23	-10	715	0	0	0
17	SLU 34	23	-10	713	0	0	0
17	SLU 35	23	-11	720	0	0	0
17	SLU 36	23	-10	722	0	0	0
17	SLU 37	23	-11	716	0	0	0
17	SLU 38	23	-10	718	0	0	0
17	SLU 39	23	-12	733	0	0	0
17	SLU 40	23	-11	735	0	0	0
17	SLU 41	23	-11	739	0	0	0
17	SLU 42	23	-11	741	0	0	0
17	SLU 43	24	-15	698	0	0	0
17	SLU 44	24	-14	701	0	0	0
17	SLU 45	24	-15	708	0	0	0
17	SLU 46	25	-14	710	0	0	0
17	SLU 47	25	-13	707	0	0	0
17	SLU 48	24	-14	715	0	0	0
17	SLU 49	25	-14	717	0	0	0
17	SLU 50	24	-14	711	0	0	0
17	SLU 51	24	-14	713	0	0	0
17	SLU 52	26	-15	771	0	0	0
17	SLU 53	26	-16	778	0	0	0
17	SLU 54	26	-15	780	0	0	0
17	SLU 55	26	-14	777	0	0	0
17	SLU 56	26	-15	784	0	0	0
17	SLU 57	26	-14	786	0	0	0
17	SLU 58	25	-15	780	0	0	0
17	SLU 59	26	-15	782	0	0	0
17	SLU 60	26	-16	797	0	0	0
17	SLU 61	26	-15	799	0	0	0
17	SLU 62	26	-16	804	0	0	0
17	SLU 63	26	-15	806	0	0	0
17	SLU 64	27	-14	774	0	0	0
17	SLU 65	27	-13	777	0	0	0
17	SLU 66	27	-14	785	0	0	0
17	SLU 67	27	-13	787	0	0	0
17	SLU 68	27	-12	784	0	0	0
17	SLU 69	27	-13	791	0	0	0
17	SLU 70	27	-13	793	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
17	SLU 71	27	-13	787	0	0	0
17	SLU 72	27	-13	789	0	0	0
17	SLU 73	28	-14	847	0	0	0
17	SLU 74	28	-15	854	0	0	0
17	SLU 75	28	-14	856	0	0	0
17	SLU 76	28	-13	854	0	0	0
17	SLU 77	28	-14	861	0	0	0
17	SLU 78	28	-14	863	0	0	0
17	SLU 79	28	-14	857	0	0	0
17	SLU 80	28	-14	859	0	0	0
17	SLU 81	28	-15	874	0	0	0
17	SLU 82	28	-15	876	0	0	0
17	SLU 83	28	-15	880	0	0	0
17	SLU 84	28	-14	882	0	0	0
17	SLE RA 1	20	-11	579	0	0	0
17	SLE RA 2	20	-10	581	0	0	0
17	SLE RA 3	20	-11	586	0	0	0
17	SLE RA 4	20	-10	587	0	0	0
17	SLE RA 5	20	-10	585	0	0	0
17	SLE RA 6	20	-11	590	0	0	0
17	SLE RA 7	20	-10	591	0	0	0
17	SLE RA 8	20	-11	587	0	0	0
17	SLE RA 9	20	-10	589	0	0	0
17	SLE RA 10	21	-11	627	0	0	0
17	SLE RA 11	21	-11	632	0	0	0
17	SLE RA 12	21	-11	633	0	0	0
17	SLE RA 13	21	-11	632	0	0	0
17	SLE RA 14	21	-11	636	0	0	0
17	SLE RA 15	21	-11	638	0	0	0
17	SLE RA 16	21	-11	634	0	0	0
17	SLE RA 17	21	-11	635	0	0	0
17	SLE RA 18	21	-12	645	0	0	0
17	SLE RA 19	21	-11	646	0	0	0
17	SLE RA 20	21	-12	649	0	0	0
17	SLE RA 21	21	-11	651	0	0	0
17	SLE FR 1	20	-11	579	0	0	0
17	SLE FR 2	20	-11	579	0	0	0
17	SLE FR 3	20	-11	581	0	0	0
17	SLE FR 4	20	-11	599	0	0	0
17	SLE FR 5	20	-11	600	0	0	0
17	SLE FR 6	21	-11	612	0	0	0
17	SLE QP 1	20	-11	579	0	0	0
17	SLE QP 2	20	-11	599	0	0	0
17	SLD 1	52	-9	590	0	0	0
17	SLD 2	55	-6	590	0	0	0
17	SLD 3	49	-22	543	0	0	0
17	SLD 4	53	-19	542	0	0	0
17	SLD 5	33	10	668	0	0	0
17	SLD 6	36	12	668	0	0	0
17	SLD 7	24	-36	510	0	0	0
17	SLD 8	26	-34	510	0	0	0
17	SLD 9	14	11	688	0	0	0
17	SLD 10	17	13	688	0	0	0
17	SLD 11	5	-34	529	0	0	0
17	SLD 12	7	-32	529	0	0	0
17	SLD 13	-12	-3	655	0	0	0
17	SLD 14	-8	0	655	0	0	0
17	SLD 15	-15	-17	608	0	0	0
17	SLD 16	-11	-14	607	0	0	0
17	SLV 1	69	-6	589	0	0	0
17	SLV 2	75	-1	589	0	0	0
17	SLV 3	64	-30	508	0	0	0
17	SLV 4	71	-25	507	0	0	0
17	SLV 5	41	25	719	0	0	0
17	SLV 6	46	28	719	0	0	0
17	SLV 7	25	-53	449	0	0	0
17	SLV 8	29	-50	448	0	0	0
17	SLV 9	12	27	749	0	0	0
17	SLV 10	16	30	749	0	0	0
17	SLV 11	-5	-50	479	0	0	0
17	SLV 12	-1	-47	479	0	0	0
17	SLV 13	-30	2	690	0	0	0
17	SLV 14	-24	7	690	0	0	0
17	SLV 15	-35	-21	609	0	0	0
17	SLV 16	-29	-16	608	0	0	0
17	SLV FO 1	74	-6	588	0	0	0
17	SLV FO 2	81	0	588	0	0	0
17	SLV FO 3	69	-31	499	0	0	0
17	SLV FO 4	76	-26	498	0	0	0
17	SLV FO 5	43	28	731	0	0	0
17	SLV FO 6	48	32	731	0	0	0
17	SLV FO 7	25	-57	434	0	0	0
17	SLV FO 8	30	-53	433	0	0	0
17	SLV FO 9	11	31	764	0	0	0
17	SLV FO 10	15	35	764	0	0	0
17	SLV FO 11	-7	-54	467	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
17	SLV FO 12	-3	-51	467	0	0	0
17	SLV FO 13	-35	3	699	0	0	0
17	SLV FO 14	-28	9	699	0	0	0
17	SLV FO 15	-40	-22	610	0	0	0
17	SLV FO 16	-34	-17	609	0	0	0
18	SLU 1	12	-6	346	0	0	0
18	SLU 2	12	-5	348	0	0	0
18	SLU 3	12	-6	352	0	0	0
18	SLU 4	12	-5	353	0	0	0
18	SLU 5	12	-5	352	0	0	0
18	SLU 6	12	-6	356	0	0	0
18	SLU 7	12	-5	357	0	0	0
18	SLU 8	12	-6	354	0	0	0
18	SLU 9	12	-5	355	0	0	0
18	SLU 10	13	-6	390	0	0	0
18	SLU 11	13	-6	395	0	0	0
18	SLU 12	13	-6	396	0	0	0
18	SLU 13	13	-6	394	0	0	0
18	SLU 14	13	-6	399	0	0	0
18	SLU 15	13	-6	400	0	0	0
18	SLU 16	13	-6	396	0	0	0
18	SLU 17	13	-6	398	0	0	0
18	SLU 18	13	-7	407	0	0	0
18	SLU 19	13	-6	408	0	0	0
18	SLU 20	13	-7	411	0	0	0
18	SLU 21	13	-6	412	0	0	0
18	SLU 22	13	-6	393	0	0	0
18	SLU 23	13	-5	395	0	0	0
18	SLU 24	13	-5	399	0	0	0
18	SLU 25	14	-5	401	0	0	0
18	SLU 26	13	-5	399	0	0	0
18	SLU 27	13	-5	403	0	0	0
18	SLU 28	14	-5	405	0	0	0
18	SLU 29	13	-5	401	0	0	0
18	SLU 30	13	-5	402	0	0	0
18	SLU 31	14	-5	438	0	0	0
18	SLU 32	14	-6	442	0	0	0
18	SLU 33	14	-5	443	0	0	0
18	SLU 34	14	-5	442	0	0	0
18	SLU 35	14	-6	446	0	0	0
18	SLU 36	14	-5	447	0	0	0
18	SLU 37	14	-6	444	0	0	0
18	SLU 38	14	-5	445	0	0	0
18	SLU 39	14	-6	454	0	0	0
18	SLU 40	14	-6	455	0	0	0
18	SLU 41	14	-6	458	0	0	0
18	SLU 42	14	-6	459	0	0	0
18	SLU 43	15	-8	433	0	0	0
18	SLU 44	15	-7	435	0	0	0
18	SLU 45	15	-8	440	0	0	0
18	SLU 46	15	-8	441	0	0	0
18	SLU 47	15	-7	439	0	0	0
18	SLU 48	15	-8	443	0	0	0
18	SLU 49	15	-7	445	0	0	0
18	SLU 50	15	-8	441	0	0	0
18	SLU 51	15	-7	442	0	0	0
18	SLU 52	16	-8	478	0	0	0
18	SLU 53	16	-9	482	0	0	0
18	SLU 54	16	-8	484	0	0	0
18	SLU 55	16	-8	482	0	0	0
18	SLU 56	16	-8	486	0	0	0
18	SLU 57	16	-8	487	0	0	0
18	SLU 58	16	-8	484	0	0	0
18	SLU 59	16	-8	485	0	0	0
18	SLU 60	16	-9	494	0	0	0
18	SLU 61	16	-8	496	0	0	0
18	SLU 62	16	-9	498	0	0	0
18	SLU 63	16	-8	499	0	0	0
18	SLU 64	16	-8	481	0	0	0
18	SLU 65	17	-7	483	0	0	0
18	SLU 66	17	-7	487	0	0	0
18	SLU 67	17	-7	488	0	0	0
18	SLU 68	17	-7	486	0	0	0
18	SLU 69	17	-7	491	0	0	0
18	SLU 70	17	-7	492	0	0	0
18	SLU 71	16	-7	488	0	0	0
18	SLU 72	17	-7	490	0	0	0
18	SLU 73	17	-7	525	0	0	0
18	SLU 74	17	-8	530	0	0	0
18	SLU 75	17	-7	531	0	0	0
18	SLU 76	17	-7	529	0	0	0
18	SLU 77	17	-8	534	0	0	0
18	SLU 78	17	-7	535	0	0	0
18	SLU 79	17	-8	531	0	0	0
18	SLU 80	17	-7	532	0	0	0
18	SLU 81	17	-8	542	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
18	SLU 82	18	-8	543	0	0	0
18	SLU 83	17	-8	546	0	0	0
18	SLU 84	18	-8	547	0	0	0
18	SLE RA 1	12	-6	359	0	0	0
18	SLE RA 2	12	-5	361	0	0	0
18	SLE RA 3	12	-6	363	0	0	0
18	SLE RA 4	12	-6	364	0	0	0
18	SLE RA 5	12	-5	363	0	0	0
18	SLE RA 6	12	-6	366	0	0	0
18	SLE RA 7	12	-5	367	0	0	0
18	SLE RA 8	12	-6	364	0	0	0
18	SLE RA 9	12	-5	365	0	0	0
18	SLE RA 10	13	-6	389	0	0	0
18	SLE RA 11	13	-6	392	0	0	0
18	SLE RA 12	13	-6	393	0	0	0
18	SLE RA 13	13	-6	392	0	0	0
18	SLE RA 14	13	-6	395	0	0	0
18	SLE RA 15	13	-6	395	0	0	0
18	SLE RA 16	13	-6	393	0	0	0
18	SLE RA 17	13	-6	394	0	0	0
18	SLE RA 18	13	-6	400	0	0	0
18	SLE RA 19	13	-6	401	0	0	0
18	SLE RA 20	13	-6	403	0	0	0
18	SLE RA 21	13	-6	403	0	0	0
18	SLE FR 1	12	-6	359	0	0	0
18	SLE FR 2	12	-6	360	0	0	0
18	SLE FR 3	12	-6	360	0	0	0
18	SLE FR 4	13	-6	372	0	0	0
18	SLE FR 5	13	-6	373	0	0	0
18	SLE FR 6	13	-6	380	0	0	0
18	SLE QP 1	12	-6	359	0	0	0
18	SLE QP 2	13	-6	371	0	0	0
18	SLD 1	32	-5	362	0	0	0
18	SLD 2	34	-3	362	0	0	0
18	SLD 3	30	-13	332	0	0	0
18	SLD 4	32	-11	332	0	0	0
18	SLD 5	21	6	414	0	0	0
18	SLD 6	22	7	414	0	0	0
18	SLD 7	15	-21	314	0	0	0
18	SLD 8	16	-19	314	0	0	0
18	SLD 9	9	7	429	0	0	0
18	SLD 10	10	9	429	0	0	0
18	SLD 11	3	-20	329	0	0	0
18	SLD 12	4	-18	329	0	0	0
18	SLD 13	-7	-1	411	0	0	0
18	SLD 14	-5	1	411	0	0	0
18	SLD 15	-9	-9	381	0	0	0
18	SLD 16	-7	-7	381	0	0	0
18	SLV 1	43	-4	359	0	0	0
18	SLV 2	47	-1	358	0	0	0
18	SLV 3	40	-18	308	0	0	0
18	SLV 4	43	-14	307	0	0	0
18	SLV 5	25	14	446	0	0	0
18	SLV 6	28	17	445	0	0	0
18	SLV 7	15	-31	275	0	0	0
18	SLV 8	18	-29	274	0	0	0
18	SLV 9	7	16	469	0	0	0
18	SLV 10	10	19	468	0	0	0
18	SLV 11	-3	-29	298	0	0	0
18	SLV 12	0	-27	297	0	0	0
18	SLV 13	-18	2	436	0	0	0
18	SLV 14	-15	6	435	0	0	0
18	SLV 15	-21	-12	385	0	0	0
18	SLV 16	-18	-8	384	0	0	0
18	SLV FO 1	46	-4	358	0	0	0
18	SLV FO 2	50	0	357	0	0	0
18	SLV FO 3	42	-19	301	0	0	0
18	SLV FO 4	47	-15	301	0	0	0
18	SLV FO 5	27	17	453	0	0	0
18	SLV FO 6	30	19	453	0	0	0
18	SLV FO 7	16	-34	265	0	0	0
18	SLV FO 8	18	-31	264	0	0	0
18	SLV FO 9	7	19	479	0	0	0
18	SLV FO 10	9	21	478	0	0	0
18	SLV FO 11	-5	-32	290	0	0	0
18	SLV FO 12	-2	-29	290	0	0	0
18	SLV FO 13	-22	3	442	0	0	0
18	SLV FO 14	-17	7	442	0	0	0
18	SLV FO 15	-25	-12	386	0	0	0
18	SLV FO 16	-21	-8	385	0	0	0
19	SLU 1	22	-20	626	0	0	0
19	SLU 2	22	-18	628	0	0	0
19	SLU 3	22	-19	638	0	0	0
19	SLU 4	22	-18	639	0	0	0
19	SLU 5	22	-18	636	0	0	0
19	SLU 6	22	-19	646	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
19	SLU 7	22	-18	647	0	0	0
19	SLU 8	22	-19	642	0	0	0
19	SLU 9	22	-18	643	0	0	0
19	SLU 10	24	-20	710	0	0	0
19	SLU 11	23	-21	720	0	0	0
19	SLU 12	24	-20	721	0	0	0
19	SLU 13	24	-19	718	0	0	0
19	SLU 14	23	-21	728	0	0	0
19	SLU 15	24	-20	729	0	0	0
19	SLU 16	23	-21	723	0	0	0
19	SLU 17	23	-20	725	0	0	0
19	SLU 18	24	-22	743	0	0	0
19	SLU 19	24	-21	744	0	0	0
19	SLU 20	24	-22	751	0	0	0
19	SLU 21	24	-21	752	0	0	0
19	SLU 22	25	-19	714	0	0	0
19	SLU 23	25	-17	716	0	0	0
19	SLU 24	25	-19	726	0	0	0
19	SLU 25	25	-18	727	0	0	0
19	SLU 26	25	-17	724	0	0	0
19	SLU 27	25	-18	734	0	0	0
19	SLU 28	25	-17	735	0	0	0
19	SLU 29	25	-18	730	0	0	0
19	SLU 30	25	-17	731	0	0	0
19	SLU 31	26	-19	798	0	0	0
19	SLU 32	26	-20	808	0	0	0
19	SLU 33	26	-19	809	0	0	0
19	SLU 34	26	-19	806	0	0	0
19	SLU 35	26	-20	816	0	0	0
19	SLU 36	26	-19	817	0	0	0
19	SLU 37	26	-20	811	0	0	0
19	SLU 38	26	-19	813	0	0	0
19	SLU 39	27	-21	831	0	0	0
19	SLU 40	27	-20	832	0	0	0
19	SLU 41	27	-21	839	0	0	0
19	SLU 42	27	-20	840	0	0	0
19	SLU 43	28	-26	783	0	0	0
19	SLU 44	28	-24	785	0	0	0
19	SLU 45	28	-26	795	0	0	0
19	SLU 46	28	-25	797	0	0	0
19	SLU 47	28	-24	793	0	0	0
19	SLU 48	28	-25	804	0	0	0
19	SLU 49	28	-24	805	0	0	0
19	SLU 50	28	-25	799	0	0	0
19	SLU 51	28	-24	801	0	0	0
19	SLU 52	29	-26	867	0	0	0
19	SLU 53	29	-27	877	0	0	0
19	SLU 54	29	-26	879	0	0	0
19	SLU 55	29	-25	875	0	0	0
19	SLU 56	29	-27	885	0	0	0
19	SLU 57	29	-26	887	0	0	0
19	SLU 58	29	-27	881	0	0	0
19	SLU 59	29	-26	882	0	0	0
19	SLU 60	29	-28	900	0	0	0
19	SLU 61	30	-27	901	0	0	0
19	SLU 62	29	-28	908	0	0	0
19	SLU 63	30	-27	909	0	0	0
19	SLU 64	30	-25	871	0	0	0
19	SLU 65	31	-24	873	0	0	0
19	SLU 66	31	-25	883	0	0	0
19	SLU 67	31	-24	885	0	0	0
19	SLU 68	31	-23	881	0	0	0
19	SLU 69	31	-25	891	0	0	0
19	SLU 70	31	-24	893	0	0	0
19	SLU 71	30	-25	887	0	0	0
19	SLU 72	31	-24	888	0	0	0
19	SLU 73	32	-25	955	0	0	0
19	SLU 74	32	-27	965	0	0	0
19	SLU 75	32	-25	967	0	0	0
19	SLU 76	32	-25	963	0	0	0
19	SLU 77	32	-26	973	0	0	0
19	SLU 78	32	-25	975	0	0	0
19	SLU 79	32	-26	969	0	0	0
19	SLU 80	32	-25	970	0	0	0
19	SLU 81	32	-28	988	0	0	0
19	SLU 82	32	-27	989	0	0	0
19	SLU 83	32	-27	996	0	0	0
19	SLU 84	32	-26	997	0	0	0
19	SLE RA 1	23	-20	651	0	0	0
19	SLE RA 2	23	-19	652	0	0	0
19	SLE RA 3	23	-19	659	0	0	0
19	SLE RA 4	23	-19	660	0	0	0
19	SLE RA 5	23	-18	658	0	0	0
19	SLE RA 6	23	-19	664	0	0	0
19	SLE RA 7	23	-18	665	0	0	0
19	SLE RA 8	23	-19	661	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
19	SLE RA 9	23	-18	662	0	0	0
19	SLE RA 10	24	-20	707	0	0	0
19	SLE RA 11	24	-20	714	0	0	0
19	SLE RA 12	24	-20	715	0	0	0
19	SLE RA 13	24	-19	712	0	0	0
19	SLE RA 14	24	-20	719	0	0	0
19	SLE RA 15	24	-19	720	0	0	0
19	SLE RA 16	24	-20	716	0	0	0
19	SLE RA 17	24	-19	717	0	0	0
19	SLE RA 18	24	-21	729	0	0	0
19	SLE RA 19	24	-20	730	0	0	0
19	SLE RA 20	24	-21	734	0	0	0
19	SLE RA 21	24	-20	735	0	0	0
19	SLE FR 1	23	-20	651	0	0	0
19	SLE FR 2	23	-19	651	0	0	0
19	SLE FR 3	23	-20	653	0	0	0
19	SLE FR 4	23	-20	674	0	0	0
19	SLE FR 5	23	-20	676	0	0	0
19	SLE FR 6	23	-20	690	0	0	0
19	SLE QP 1	23	-20	651	0	0	0
19	SLE QP 2	23	-20	674	0	0	0
19	SLD 1	61	-12	687	0	0	0
19	SLD 2	65	-12	688	0	0	0
19	SLD 3	57	-31	649	0	0	0
19	SLD 4	61	-31	649	0	0	0
19	SLD 5	40	12	736	0	0	0
19	SLD 6	42	12	737	0	0	0
19	SLD 7	26	-53	608	0	0	0
19	SLD 8	29	-53	608	0	0	0
19	SLD 9	17	12	740	0	0	0
19	SLD 10	20	13	740	0	0	0
19	SLD 11	4	-52	611	0	0	0
19	SLD 12	6	-52	612	0	0	0
19	SLD 13	-15	-9	699	0	0	0
19	SLD 14	-11	-9	700	0	0	0
19	SLD 15	-19	-29	660	0	0	0
19	SLD 16	-15	-28	661	0	0	0
19	SLV 1	82	-6	697	0	0	0
19	SLV 2	89	-6	698	0	0	0
19	SLV 3	75	-39	631	0	0	0
19	SLV 4	82	-39	632	0	0	0
19	SLV 5	50	34	781	0	0	0
19	SLV 6	54	34	782	0	0	0
19	SLV 7	27	-76	561	0	0	0
19	SLV 8	31	-76	562	0	0	0
19	SLV 9	15	35	786	0	0	0
19	SLV 10	19	36	787	0	0	0
19	SLV 11	-8	-74	567	0	0	0
19	SLV 12	-4	-74	568	0	0	0
19	SLV 13	-35	-2	716	0	0	0
19	SLV 14	-29	-1	717	0	0	0
19	SLV 15	-42	-34	650	0	0	0
19	SLV 16	-36	-34	651	0	0	0
19	SLV FO 1	88	-5	699	0	0	0
19	SLV FO 2	95	-4	701	0	0	0
19	SLV FO 3	81	-41	627	0	0	0
19	SLV FO 4	88	-41	628	0	0	0
19	SLV FO 5	53	39	791	0	0	0
19	SLV FO 6	58	40	792	0	0	0
19	SLV FO 7	28	-81	550	0	0	0
19	SLV FO 8	32	-81	551	0	0	0
19	SLV FO 9	14	41	797	0	0	0
19	SLV FO 10	19	41	798	0	0	0
19	SLV FO 11	-11	-80	556	0	0	0
19	SLV FO 12	-7	-80	557	0	0	0
19	SLV FO 13	-41	0	720	0	0	0
19	SLV FO 14	-34	1	721	0	0	0
19	SLV FO 15	-49	-36	647	0	0	0
19	SLV FO 16	-42	-35	649	0	0	0
20	SLU 1	36	-30	1030	0	0	0
20	SLU 2	36	-27	1034	0	0	0
20	SLU 3	36	-29	1050	0	0	0
20	SLU 4	36	-27	1053	0	0	0
20	SLU 5	36	-26	1047	0	0	0
20	SLU 6	36	-28	1063	0	0	0
20	SLU 7	36	-27	1066	0	0	0
20	SLU 8	36	-28	1056	0	0	0
20	SLU 9	36	-27	1059	0	0	0
20	SLU 10	38	-29	1168	0	0	0
20	SLU 11	38	-31	1184	0	0	0
20	SLU 12	38	-30	1187	0	0	0
20	SLU 13	38	-29	1181	0	0	0
20	SLU 14	38	-31	1197	0	0	0
20	SLU 15	38	-29	1200	0	0	0
20	SLU 16	38	-31	1190	0	0	0
20	SLU 17	38	-29	1192	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
20	SLU 18	39	-33	1221	0	0	0
20	SLU 19	39	-31	1223	0	0	0
20	SLU 20	39	-32	1234	0	0	0
20	SLU 21	39	-31	1236	0	0	0
20	SLU 22	40	-28	1175	0	0	0
20	SLU 23	41	-26	1179	0	0	0
20	SLU 24	40	-28	1195	0	0	0
20	SLU 25	41	-26	1198	0	0	0
20	SLU 26	41	-25	1192	0	0	0
20	SLU 27	40	-27	1208	0	0	0
20	SLU 28	41	-25	1211	0	0	0
20	SLU 29	40	-27	1201	0	0	0
20	SLU 30	40	-26	1203	0	0	0
20	SLU 31	43	-28	1313	0	0	0
20	SLU 32	43	-30	1329	0	0	0
20	SLU 33	43	-28	1331	0	0	0
20	SLU 34	43	-27	1326	0	0	0
20	SLU 35	43	-29	1342	0	0	0
20	SLU 36	43	-28	1344	0	0	0
20	SLU 37	42	-30	1335	0	0	0
20	SLU 38	43	-28	1337	0	0	0
20	SLU 39	43	-32	1366	0	0	0
20	SLU 40	43	-30	1368	0	0	0
20	SLU 41	43	-31	1379	0	0	0
20	SLU 42	43	-29	1381	0	0	0
20	SLU 43	45	-39	1289	0	0	0
20	SLU 44	45	-36	1294	0	0	0
20	SLU 45	45	-38	1310	0	0	0
20	SLU 46	45	-37	1312	0	0	0
20	SLU 47	45	-36	1307	0	0	0
20	SLU 48	45	-38	1323	0	0	0
20	SLU 49	45	-36	1325	0	0	0
20	SLU 50	45	-38	1315	0	0	0
20	SLU 51	45	-36	1318	0	0	0
20	SLU 52	47	-39	1427	0	0	0
20	SLU 53	47	-41	1443	0	0	0
20	SLU 54	47	-39	1446	0	0	0
20	SLU 55	47	-38	1440	0	0	0
20	SLU 56	47	-40	1456	0	0	0
20	SLU 57	47	-38	1459	0	0	0
20	SLU 58	47	-40	1449	0	0	0
20	SLU 59	47	-38	1452	0	0	0
20	SLU 60	48	-42	1480	0	0	0
20	SLU 61	48	-41	1483	0	0	0
20	SLU 62	48	-42	1493	0	0	0
20	SLU 63	48	-40	1496	0	0	0
20	SLU 64	49	-38	1434	0	0	0
20	SLU 65	50	-35	1438	0	0	0
20	SLU 66	50	-37	1455	0	0	0
20	SLU 67	50	-35	1457	0	0	0
20	SLU 68	50	-34	1451	0	0	0
20	SLU 69	50	-36	1468	0	0	0
20	SLU 70	50	-35	1470	0	0	0
20	SLU 71	49	-37	1460	0	0	0
20	SLU 72	50	-35	1463	0	0	0
20	SLU 73	52	-37	1572	0	0	0
20	SLU 74	52	-39	1588	0	0	0
20	SLU 75	52	-38	1591	0	0	0
20	SLU 76	52	-37	1585	0	0	0
20	SLU 77	52	-39	1601	0	0	0
20	SLU 78	52	-37	1604	0	0	0
20	SLU 79	51	-39	1594	0	0	0
20	SLU 80	52	-37	1596	0	0	0
20	SLU 81	52	-41	1625	0	0	0
20	SLU 82	53	-39	1628	0	0	0
20	SLU 83	52	-40	1638	0	0	0
20	SLU 84	53	-39	1641	0	0	0
20	SLE RA 1	37	-29	1071	0	0	0
20	SLE RA 2	37	-27	1074	0	0	0
20	SLE RA 3	37	-29	1085	0	0	0
20	SLE RA 4	37	-28	1087	0	0	0
20	SLE RA 5	37	-27	1083	0	0	0
20	SLE RA 6	37	-28	1094	0	0	0
20	SLE RA 7	37	-27	1095	0	0	0
20	SLE RA 8	37	-29	1089	0	0	0
20	SLE RA 9	37	-27	1090	0	0	0
20	SLE RA 10	39	-29	1163	0	0	0
20	SLE RA 11	38	-30	1174	0	0	0
20	SLE RA 12	39	-29	1176	0	0	0
20	SLE RA 13	39	-29	1172	0	0	0
20	SLE RA 14	39	-30	1183	0	0	0
20	SLE RA 15	39	-29	1184	0	0	0
20	SLE RA 16	38	-30	1178	0	0	0
20	SLE RA 17	39	-29	1180	0	0	0
20	SLE RA 18	39	-32	1199	0	0	0
20	SLE RA 19	39	-30	1200	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
20	SLE RA 20	39	-31	1207	0	0	0
20	SLE RA 21	39	-30	1209	0	0	0
20	SLE FR 1	37	-29	1071	0	0	0
20	SLE FR 2	37	-29	1072	0	0	0
20	SLE FR 3	37	-29	1075	0	0	0
20	SLE FR 4	38	-30	1110	0	0	0
20	SLE FR 5	37	-30	1113	0	0	0
20	SLE FR 6	38	-30	1135	0	0	0
20	SLE QP 1	37	-29	1071	0	0	0
20	SLE QP 2	37	-30	1110	0	0	0
20	SLD 1	98	-18	1127	0	0	0
20	SLD 2	105	-17	1128	0	0	0
20	SLD 3	92	-48	1060	0	0	0
20	SLD 4	98	-47	1061	0	0	0
20	SLD 5	65	19	1216	0	0	0
20	SLD 6	69	20	1216	0	0	0
20	SLD 7	43	-81	994	0	0	0
20	SLD 8	47	-80	994	0	0	0
20	SLD 9	28	20	1225	0	0	0
20	SLD 10	32	21	1225	0	0	0
20	SLD 11	6	-80	1003	0	0	0
20	SLD 12	10	-79	1004	0	0	0
20	SLD 13	-23	-13	1158	0	0	0
20	SLD 14	-17	-12	1159	0	0	0
20	SLD 15	-30	-43	1091	0	0	0
20	SLD 16	-24	-42	1092	0	0	0
20	SLV 1	133	-10	1141	0	0	0
20	SLV 2	144	-7	1143	0	0	0
20	SLV 3	122	-61	1028	0	0	0
20	SLV 4	132	-58	1029	0	0	0
20	SLV 5	81	53	1291	0	0	0
20	SLV 6	88	55	1292	0	0	0
20	SLV 7	44	-118	913	0	0	0
20	SLV 8	51	-116	914	0	0	0
20	SLV 9	24	56	1306	0	0	0
20	SLV 10	31	58	1307	0	0	0
20	SLV 11	-13	-115	927	0	0	0
20	SLV 12	-6	-113	928	0	0	0
20	SLV 13	-57	-2	1190	0	0	0
20	SLV 14	-47	1	1192	0	0	0
20	SLV 15	-69	-53	1076	0	0	0
20	SLV 16	-58	-50	1078	0	0	0
20	SLV FO 1	143	-8	1144	0	0	0
20	SLV FO 2	154	-5	1146	0	0	0
20	SLV FO 3	131	-64	1020	0	0	0
20	SLV FO 4	142	-61	1021	0	0	0
20	SLV FO 5	86	62	1309	0	0	0
20	SLV FO 6	93	64	1310	0	0	0
20	SLV FO 7	45	-126	893	0	0	0
20	SLV FO 8	52	-124	894	0	0	0
20	SLV FO 9	23	64	1325	0	0	0
20	SLV FO 10	30	66	1326	0	0	0
20	SLV FO 11	-18	-124	909	0	0	0
20	SLV FO 12	-11	-122	910	0	0	0
20	SLV FO 13	-67	1	1198	0	0	0
20	SLV FO 14	-56	4	1200	0	0	0
20	SLV FO 15	-79	-55	1073	0	0	0
20	SLV FO 16	-68	-52	1075	0	0	0
21	SLU 1	27	-21	794	0	0	0
21	SLU 2	27	-19	797	0	0	0
21	SLU 3	27	-21	809	0	0	0
21	SLU 4	28	-20	811	0	0	0
21	SLU 5	28	-19	807	0	0	0
21	SLU 6	27	-21	819	0	0	0
21	SLU 7	28	-19	821	0	0	0
21	SLU 8	27	-21	814	0	0	0
21	SLU 9	27	-19	816	0	0	0
21	SLU 10	29	-21	899	0	0	0
21	SLU 11	29	-23	912	0	0	0
21	SLU 12	29	-21	914	0	0	0
21	SLU 13	29	-21	909	0	0	0
21	SLU 14	29	-22	922	0	0	0
21	SLU 15	29	-21	924	0	0	0
21	SLU 16	29	-22	916	0	0	0
21	SLU 17	29	-21	918	0	0	0
21	SLU 18	29	-24	940	0	0	0
21	SLU 19	30	-23	942	0	0	0
21	SLU 20	30	-23	950	0	0	0
21	SLU 21	30	-22	952	0	0	0
21	SLU 22	31	-20	905	0	0	0
21	SLU 23	31	-18	909	0	0	0
21	SLU 24	31	-20	921	0	0	0
21	SLU 25	31	-19	923	0	0	0
21	SLU 26	31	-18	918	0	0	0
21	SLU 27	31	-19	931	0	0	0
21	SLU 28	31	-18	933	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	SLU 29	31	-20	925	0	0	0
21	SLU 30	31	-18	927	0	0	0
21	SLU 31	33	-20	1011	0	0	0
21	SLU 32	33	-22	1023	0	0	0
21	SLU 33	33	-20	1025	0	0	0
21	SLU 34	33	-20	1021	0	0	0
21	SLU 35	33	-21	1033	0	0	0
21	SLU 36	33	-20	1035	0	0	0
21	SLU 37	32	-21	1027	0	0	0
21	SLU 38	33	-20	1029	0	0	0
21	SLU 39	33	-23	1051	0	0	0
21	SLU 40	33	-22	1053	0	0	0
21	SLU 41	33	-22	1061	0	0	0
21	SLU 42	33	-21	1063	0	0	0
21	SLU 43	34	-28	994	0	0	0
21	SLU 44	34	-26	997	0	0	0
21	SLU 45	34	-28	1009	0	0	0
21	SLU 46	35	-27	1011	0	0	0
21	SLU 47	34	-26	1007	0	0	0
21	SLU 48	34	-27	1019	0	0	0
21	SLU 49	35	-26	1021	0	0	0
21	SLU 50	34	-27	1014	0	0	0
21	SLU 51	34	-26	1016	0	0	0
21	SLU 52	36	-28	1099	0	0	0
21	SLU 53	36	-29	1112	0	0	0
21	SLU 54	36	-28	1114	0	0	0
21	SLU 55	36	-27	1109	0	0	0
21	SLU 56	36	-29	1122	0	0	0
21	SLU 57	36	-28	1124	0	0	0
21	SLU 58	36	-29	1116	0	0	0
21	SLU 59	36	-28	1118	0	0	0
21	SLU 60	36	-31	1140	0	0	0
21	SLU 61	37	-29	1142	0	0	0
21	SLU 62	36	-30	1150	0	0	0
21	SLU 63	37	-29	1152	0	0	0
21	SLU 64	38	-27	1105	0	0	0
21	SLU 65	38	-25	1108	0	0	0
21	SLU 66	38	-27	1121	0	0	0
21	SLU 67	38	-25	1123	0	0	0
21	SLU 68	38	-25	1118	0	0	0
21	SLU 69	38	-26	1131	0	0	0
21	SLU 70	38	-25	1133	0	0	0
21	SLU 71	38	-26	1125	0	0	0
21	SLU 72	38	-25	1127	0	0	0
21	SLU 73	40	-27	1211	0	0	0
21	SLU 74	39	-28	1223	0	0	0
21	SLU 75	40	-27	1225	0	0	0
21	SLU 76	40	-26	1221	0	0	0
21	SLU 77	40	-28	1233	0	0	0
21	SLU 78	40	-27	1235	0	0	0
21	SLU 79	39	-28	1227	0	0	0
21	SLU 80	39	-27	1229	0	0	0
21	SLU 81	40	-30	1251	0	0	0
21	SLU 82	40	-28	1253	0	0	0
21	SLU 83	40	-29	1261	0	0	0
21	SLU 84	40	-28	1263	0	0	0
21	SLE RA 1	28	-21	826	0	0	0
21	SLE RA 2	28	-20	828	0	0	0
21	SLE RA 3	28	-21	836	0	0	0
21	SLE RA 4	28	-20	837	0	0	0
21	SLE RA 5	28	-19	834	0	0	0
21	SLE RA 6	28	-21	843	0	0	0
21	SLE RA 7	28	-20	844	0	0	0
21	SLE RA 8	28	-21	839	0	0	0
21	SLE RA 9	28	-20	840	0	0	0
21	SLE RA 10	29	-21	896	0	0	0
21	SLE RA 11	29	-22	904	0	0	0
21	SLE RA 12	30	-21	906	0	0	0
21	SLE RA 13	29	-21	903	0	0	0
21	SLE RA 14	29	-22	911	0	0	0
21	SLE RA 15	30	-21	912	0	0	0
21	SLE RA 16	29	-22	907	0	0	0
21	SLE RA 17	29	-21	908	0	0	0
21	SLE RA 18	30	-23	923	0	0	0
21	SLE RA 19	30	-22	924	0	0	0
21	SLE RA 20	30	-22	930	0	0	0
21	SLE RA 21	30	-22	931	0	0	0
21	SLE FR 1	28	-21	826	0	0	0
21	SLE FR 2	28	-21	826	0	0	0
21	SLE FR 3	28	-21	828	0	0	0
21	SLE FR 4	29	-21	855	0	0	0
21	SLE FR 5	29	-22	858	0	0	0
21	SLE FR 6	29	-22	874	0	0	0
21	SLE QP 1	28	-21	826	0	0	0
21	SLE QP 2	29	-22	855	0	0	0
21	SLD 1	75	-14	862	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	SLD 2	80	-12	863	0	0	0
21	SLD 3	70	-36	810	0	0	0
21	SLD 4	75	-34	811	0	0	0
21	SLD 5	49	14	936	0	0	0
21	SLD 6	53	16	937	0	0	0
21	SLD 7	33	-60	762	0	0	0
21	SLD 8	36	-59	762	0	0	0
21	SLD 9	21	16	947	0	0	0
21	SLD 10	25	17	948	0	0	0
21	SLD 11	5	-59	773	0	0	0
21	SLD 12	8	-58	773	0	0	0
21	SLD 13	-18	-9	899	0	0	0
21	SLD 14	-13	-7	900	0	0	0
21	SLD 15	-23	-32	847	0	0	0
21	SLD 16	-18	-30	847	0	0	0
21	SLV 1	102	-8	870	0	0	0
21	SLV 2	110	-5	871	0	0	0
21	SLV 3	93	-46	781	0	0	0
21	SLV 4	101	-43	782	0	0	0
21	SLV 5	62	40	995	0	0	0
21	SLV 6	67	42	995	0	0	0
21	SLV 7	34	-88	697	0	0	0
21	SLV 8	39	-85	698	0	0	0
21	SLV 9	18	42	1012	0	0	0
21	SLV 10	24	44	1013	0	0	0
21	SLV 11	-10	-85	714	0	0	0
21	SLV 12	-5	-83	715	0	0	0
21	SLV 13	-44	-1	928	0	0	0
21	SLV 14	-36	3	929	0	0	0
21	SLV 15	-52	-39	838	0	0	0
21	SLV 16	-45	-36	839	0	0	0
21	SLV FO 1	109	-6	872	0	0	0
21	SLV FO 2	118	-3	873	0	0	0
21	SLV FO 3	100	-48	774	0	0	0
21	SLV FO 4	108	-45	775	0	0	0
21	SLV FO 5	65	46	1009	0	0	0
21	SLV FO 6	71	48	1010	0	0	0
21	SLV FO 7	34	-94	681	0	0	0
21	SLV FO 8	40	-92	682	0	0	0
21	SLV FO 9	17	48	1028	0	0	0
21	SLV FO 10	23	51	1028	0	0	0
21	SLV FO 11	-14	-92	700	0	0	0
21	SLV FO 12	-8	-89	701	0	0	0
21	SLV FO 13	-51	2	935	0	0	0
21	SLV FO 14	-43	5	936	0	0	0
21	SLV FO 15	-61	-41	837	0	0	0
21	SLV FO 16	-52	-37	838	0	0	0
22	SLU 1	27	-20	796	0	0	0
22	SLU 2	27	-18	799	0	0	0
22	SLU 3	27	-20	811	0	0	0
22	SLU 4	27	-18	813	0	0	0
22	SLU 5	27	-18	809	0	0	0
22	SLU 6	27	-19	821	0	0	0
22	SLU 7	27	-18	823	0	0	0
22	SLU 8	27	-19	816	0	0	0
22	SLU 9	27	-18	818	0	0	0
22	SLU 10	29	-20	901	0	0	0
22	SLU 11	29	-21	913	0	0	0
22	SLU 12	29	-20	915	0	0	0
22	SLU 13	29	-19	911	0	0	0
22	SLU 14	29	-21	923	0	0	0
22	SLU 15	29	-20	925	0	0	0
22	SLU 16	29	-21	918	0	0	0
22	SLU 17	29	-20	920	0	0	0
22	SLU 18	29	-22	942	0	0	0
22	SLU 19	29	-21	944	0	0	0
22	SLU 20	29	-22	951	0	0	0
22	SLU 21	30	-21	953	0	0	0
22	SLU 22	30	-19	908	0	0	0
22	SLU 23	31	-17	911	0	0	0
22	SLU 24	31	-19	923	0	0	0
22	SLU 25	31	-17	925	0	0	0
22	SLU 26	31	-17	921	0	0	0
22	SLU 27	31	-18	933	0	0	0
22	SLU 28	31	-17	935	0	0	0
22	SLU 29	30	-18	927	0	0	0
22	SLU 30	31	-17	929	0	0	0
22	SLU 31	32	-19	1013	0	0	0
22	SLU 32	32	-20	1025	0	0	0
22	SLU 33	32	-19	1027	0	0	0
22	SLU 34	32	-18	1023	0	0	0
22	SLU 35	32	-20	1035	0	0	0
22	SLU 36	33	-18	1037	0	0	0
22	SLU 37	32	-20	1029	0	0	0
22	SLU 38	32	-19	1031	0	0	0
22	SLU 39	33	-21	1053	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
22	SLU 40	33	-20	1055	0	0	0
22	SLU 41	33	-21	1063	0	0	0
22	SLU 42	33	-20	1065	0	0	0
22	SLU 43	34	-27	996	0	0	0
22	SLU 44	34	-25	1000	0	0	0
22	SLU 45	34	-26	1012	0	0	0
22	SLU 46	34	-25	1014	0	0	0
22	SLU 47	34	-24	1010	0	0	0
22	SLU 48	34	-26	1022	0	0	0
22	SLU 49	34	-24	1024	0	0	0
22	SLU 50	34	-26	1016	0	0	0
22	SLU 51	34	-24	1018	0	0	0
22	SLU 52	36	-26	1102	0	0	0
22	SLU 53	36	-28	1114	0	0	0
22	SLU 54	36	-26	1116	0	0	0
22	SLU 55	36	-26	1112	0	0	0
22	SLU 56	36	-27	1124	0	0	0
22	SLU 57	36	-26	1126	0	0	0
22	SLU 58	36	-27	1118	0	0	0
22	SLU 59	36	-26	1120	0	0	0
22	SLU 60	36	-29	1142	0	0	0
22	SLU 61	36	-28	1144	0	0	0
22	SLU 62	36	-28	1152	0	0	0
22	SLU 63	36	-27	1154	0	0	0
22	SLU 64	37	-25	1108	0	0	0
22	SLU 65	38	-23	1111	0	0	0
22	SLU 66	38	-25	1123	0	0	0
22	SLU 67	38	-24	1126	0	0	0
22	SLU 68	38	-23	1121	0	0	0
22	SLU 69	38	-25	1133	0	0	0
22	SLU 70	38	-23	1135	0	0	0
22	SLU 71	37	-25	1128	0	0	0
22	SLU 72	38	-23	1130	0	0	0
22	SLU 73	39	-25	1213	0	0	0
22	SLU 74	39	-27	1225	0	0	0
22	SLU 75	39	-25	1228	0	0	0
22	SLU 76	39	-25	1223	0	0	0
22	SLU 77	39	-26	1235	0	0	0
22	SLU 78	39	-25	1237	0	0	0
22	SLU 79	39	-26	1230	0	0	0
22	SLU 80	39	-25	1232	0	0	0
22	SLU 81	40	-28	1254	0	0	0
22	SLU 82	40	-27	1256	0	0	0
22	SLU 83	40	-27	1264	0	0	0
22	SLU 84	40	-26	1266	0	0	0
22	SLE RA 1	28	-20	828	0	0	0
22	SLE RA 2	28	-19	830	0	0	0
22	SLE RA 3	28	-20	838	0	0	0
22	SLE RA 4	28	-19	839	0	0	0
22	SLE RA 5	28	-18	837	0	0	0
22	SLE RA 6	28	-19	845	0	0	0
22	SLE RA 7	28	-18	846	0	0	0
22	SLE RA 8	28	-19	841	0	0	0
22	SLE RA 9	28	-18	842	0	0	0
22	SLE RA 10	29	-20	898	0	0	0
22	SLE RA 11	29	-21	906	0	0	0
22	SLE RA 12	29	-20	907	0	0	0
22	SLE RA 13	29	-19	905	0	0	0
22	SLE RA 14	29	-20	913	0	0	0
22	SLE RA 15	29	-19	914	0	0	0
22	SLE RA 16	29	-20	909	0	0	0
22	SLE RA 17	29	-20	910	0	0	0
22	SLE RA 18	29	-21	925	0	0	0
22	SLE RA 19	30	-21	926	0	0	0
22	SLE RA 20	29	-21	931	0	0	0
22	SLE RA 21	30	-20	933	0	0	0
22	SLE FR 1	28	-20	828	0	0	0
22	SLE FR 2	28	-20	828	0	0	0
22	SLE FR 3	28	-20	830	0	0	0
22	SLE FR 4	28	-20	857	0	0	0
22	SLE FR 5	28	-20	860	0	0	0
22	SLE FR 6	29	-21	876	0	0	0
22	SLE QP 1	28	-20	828	0	0	0
22	SLE QP 2	28	-20	857	0	0	0
22	SLD 1	75	-13	858	0	0	0
22	SLD 2	80	-11	859	0	0	0
22	SLD 3	70	-35	805	0	0	0
22	SLD 4	75	-32	805	0	0	0
22	SLD 5	49	14	938	0	0	0
22	SLD 6	52	16	938	0	0	0
22	SLD 7	32	-58	760	0	0	0
22	SLD 8	36	-56	760	0	0	0
22	SLD 9	21	16	953	0	0	0
22	SLD 10	24	18	954	0	0	0
22	SLD 11	5	-57	775	0	0	0
22	SLD 12	8	-55	776	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
22	SLD 13	-18	-8	909	0	0	0
22	SLD 14	-13	-6	909	0	0	0
22	SLD 15	-23	-30	855	0	0	0
22	SLD 16	-18	-27	856	0	0	0
22	SLV 1	101	-8	863	0	0	0
22	SLV 2	109	-4	863	0	0	0
22	SLV 3	93	-45	772	0	0	0
22	SLV 4	101	-41	772	0	0	0
22	SLV 5	62	39	997	0	0	0
22	SLV 6	67	42	997	0	0	0
22	SLV 7	33	-85	693	0	0	0
22	SLV 8	39	-82	693	0	0	0
22	SLV 9	18	41	1020	0	0	0
22	SLV 10	23	44	1021	0	0	0
22	SLV 11	-10	-82	717	0	0	0
22	SLV 12	-5	-79	717	0	0	0
22	SLV 13	-44	0	942	0	0	0
22	SLV 14	-36	4	942	0	0	0
22	SLV 15	-52	-37	850	0	0	0
22	SLV 16	-45	-33	851	0	0	0
22	SLV FO 1	109	-7	864	0	0	0
22	SLV FO 2	117	-2	864	0	0	0
22	SLV FO 3	99	-48	763	0	0	0
22	SLV FO 4	108	-43	764	0	0	0
22	SLV FO 5	65	45	1011	0	0	0
22	SLV FO 6	71	48	1011	0	0	0
22	SLV FO 7	34	-91	677	0	0	0
22	SLV FO 8	40	-88	677	0	0	0
22	SLV FO 9	17	47	1037	0	0	0
22	SLV FO 10	23	51	1037	0	0	0
22	SLV FO 11	-14	-89	703	0	0	0
22	SLV FO 12	-8	-85	703	0	0	0
22	SLV FO 13	-51	2	950	0	0	0
22	SLV FO 14	-42	7	951	0	0	0
22	SLV FO 15	-60	-39	850	0	0	0
22	SLV FO 16	-52	-34	850	0	0	0
23	SLU 1	27	-19	798	0	0	0
23	SLU 2	27	-17	801	0	0	0
23	SLU 3	27	-18	813	0	0	0
23	SLU 4	27	-17	815	0	0	0
23	SLU 5	27	-16	811	0	0	0
23	SLU 6	27	-18	823	0	0	0
23	SLU 7	27	-17	825	0	0	0
23	SLU 8	27	-18	817	0	0	0
23	SLU 9	27	-17	820	0	0	0
23	SLU 10	29	-18	903	0	0	0
23	SLU 11	29	-20	915	0	0	0
23	SLU 12	29	-19	917	0	0	0
23	SLU 13	29	-18	913	0	0	0
23	SLU 14	29	-19	925	0	0	0
23	SLU 15	29	-18	927	0	0	0
23	SLU 16	28	-19	919	0	0	0
23	SLU 17	29	-18	921	0	0	0
23	SLU 18	29	-21	943	0	0	0
23	SLU 19	29	-20	945	0	0	0
23	SLU 20	29	-21	953	0	0	0
23	SLU 21	29	-19	955	0	0	0
23	SLU 22	30	-18	910	0	0	0
23	SLU 23	31	-16	913	0	0	0
23	SLU 24	30	-17	925	0	0	0
23	SLU 25	31	-16	927	0	0	0
23	SLU 26	31	-15	923	0	0	0
23	SLU 27	30	-17	935	0	0	0
23	SLU 28	31	-16	937	0	0	0
23	SLU 29	30	-17	929	0	0	0
23	SLU 30	30	-16	931	0	0	0
23	SLU 31	32	-17	1015	0	0	0
23	SLU 32	32	-19	1027	0	0	0
23	SLU 33	32	-17	1029	0	0	0
23	SLU 34	32	-17	1025	0	0	0
23	SLU 35	32	-18	1037	0	0	0
23	SLU 36	32	-17	1039	0	0	0
23	SLU 37	32	-18	1031	0	0	0
23	SLU 38	32	-17	1033	0	0	0
23	SLU 39	32	-20	1055	0	0	0
23	SLU 40	33	-19	1057	0	0	0
23	SLU 41	33	-19	1065	0	0	0
23	SLU 42	33	-18	1067	0	0	0
23	SLU 43	34	-25	999	0	0	0
23	SLU 44	34	-23	1002	0	0	0
23	SLU 45	34	-24	1014	0	0	0
23	SLU 46	34	-23	1017	0	0	0
23	SLU 47	34	-23	1012	0	0	0
23	SLU 48	34	-24	1024	0	0	0
23	SLU 49	34	-23	1026	0	0	0
23	SLU 50	34	-24	1019	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	SLU 51	34	-23	1021	0	0	0
23	SLU 52	36	-24	1104	0	0	0
23	SLU 53	36	-26	1116	0	0	0
23	SLU 54	36	-25	1118	0	0	0
23	SLU 55	36	-24	1114	0	0	0
23	SLU 56	36	-25	1126	0	0	0
23	SLU 57	36	-24	1128	0	0	0
23	SLU 58	35	-26	1120	0	0	0
23	SLU 59	36	-24	1122	0	0	0
23	SLU 60	36	-27	1144	0	0	0
23	SLU 61	36	-26	1146	0	0	0
23	SLU 62	36	-27	1154	0	0	0
23	SLU 63	36	-25	1156	0	0	0
23	SLU 64	37	-24	1111	0	0	0
23	SLU 65	37	-22	1114	0	0	0
23	SLU 66	37	-23	1126	0	0	0
23	SLU 67	38	-22	1128	0	0	0
23	SLU 68	37	-21	1124	0	0	0
23	SLU 69	37	-23	1136	0	0	0
23	SLU 70	38	-22	1138	0	0	0
23	SLU 71	37	-23	1130	0	0	0
23	SLU 72	37	-22	1132	0	0	0
23	SLU 73	39	-23	1216	0	0	0
23	SLU 74	39	-25	1228	0	0	0
23	SLU 75	39	-24	1230	0	0	0
23	SLU 76	39	-23	1226	0	0	0
23	SLU 77	39	-24	1238	0	0	0
23	SLU 78	39	-23	1240	0	0	0
23	SLU 79	39	-24	1232	0	0	0
23	SLU 80	39	-23	1234	0	0	0
23	SLU 81	39	-26	1256	0	0	0
23	SLU 82	40	-25	1258	0	0	0
23	SLU 83	39	-25	1266	0	0	0
23	SLU 84	40	-24	1268	0	0	0
23	SLE RA 1	28	-19	830	0	0	0
23	SLE RA 2	28	-17	832	0	0	0
23	SLE RA 3	28	-18	840	0	0	0
23	SLE RA 4	28	-17	842	0	0	0
23	SLE RA 5	28	-17	839	0	0	0
23	SLE RA 6	28	-18	847	0	0	0
23	SLE RA 7	28	-17	848	0	0	0
23	SLE RA 8	28	-18	843	0	0	0
23	SLE RA 9	28	-17	844	0	0	0
23	SLE RA 10	29	-18	900	0	0	0
23	SLE RA 11	29	-19	908	0	0	0
23	SLE RA 12	29	-18	909	0	0	0
23	SLE RA 13	29	-18	906	0	0	0
23	SLE RA 14	29	-19	914	0	0	0
23	SLE RA 15	29	-18	916	0	0	0
23	SLE RA 16	29	-19	911	0	0	0
23	SLE RA 17	29	-18	912	0	0	0
23	SLE RA 18	29	-20	927	0	0	0
23	SLE RA 19	29	-19	928	0	0	0
23	SLE RA 20	29	-20	933	0	0	0
23	SLE RA 21	29	-19	935	0	0	0
23	SLE FR 1	28	-19	830	0	0	0
23	SLE FR 2	28	-18	830	0	0	0
23	SLE FR 3	28	-18	832	0	0	0
23	SLE FR 4	28	-19	859	0	0	0
23	SLE FR 5	28	-19	862	0	0	0
23	SLE FR 6	29	-19	878	0	0	0
23	SLE QP 1	28	-19	830	0	0	0
23	SLE QP 2	28	-19	859	0	0	0
23	SLD 1	74	-13	854	0	0	0
23	SLD 2	79	-10	854	0	0	0
23	SLD 3	69	-34	800	0	0	0
23	SLD 4	74	-31	800	0	0	0
23	SLD 5	49	14	940	0	0	0
23	SLD 6	52	16	940	0	0	0
23	SLD 7	32	-56	759	0	0	0
23	SLD 8	35	-54	759	0	0	0
23	SLD 9	21	16	959	0	0	0
23	SLD 10	24	18	959	0	0	0
23	SLD 11	5	-54	778	0	0	0
23	SLD 12	8	-52	778	0	0	0
23	SLD 13	-18	-7	918	0	0	0
23	SLD 14	-13	-4	918	0	0	0
23	SLD 15	-23	-28	864	0	0	0
23	SLD 16	-18	-25	864	0	0	0
23	SLV 1	101	-8	855	0	0	0
23	SLV 2	108	-3	855	0	0	0
23	SLV 3	92	-44	762	0	0	0
23	SLV 4	100	-39	763	0	0	0
23	SLV 5	61	38	998	0	0	0
23	SLV 6	66	41	999	0	0	0
23	SLV 7	33	-82	689	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	SLV 8	38	-79	689	0	0	0
23	SLV 9	18	41	1029	0	0	0
23	SLV 10	23	44	1029	0	0	0
23	SLV 11	-10	-79	719	0	0	0
23	SLV 12	-5	-76	719	0	0	0
23	SLV 13	-44	1	955	0	0	0
23	SLV 14	-36	6	955	0	0	0
23	SLV 15	-52	-35	863	0	0	0
23	SLV 16	-44	-30	863	0	0	0
23	SLV FO 1	108	-7	855	0	0	0
23	SLV FO 2	116	-2	855	0	0	0
23	SLV FO 3	99	-47	753	0	0	0
23	SLV FO 4	107	-41	753	0	0	0
23	SLV FO 5	65	43	1012	0	0	0
23	SLV FO 6	70	47	1013	0	0	0
23	SLV FO 7	34	-88	672	0	0	0
23	SLV FO 8	39	-85	672	0	0	0
23	SLV FO 9	17	47	1045	0	0	0
23	SLV FO 10	23	50	1046	0	0	0
23	SLV FO 11	-14	-85	705	0	0	0
23	SLV FO 12	-8	-81	705	0	0	0
23	SLV FO 13	-51	3	965	0	0	0
23	SLV FO 14	-42	9	965	0	0	0
23	SLV FO 15	-60	-36	863	0	0	0
23	SLV FO 16	-52	-31	863	0	0	0
24	SLU 1	27	-18	798	0	0	0
24	SLU 2	27	-16	802	0	0	0
24	SLU 3	27	-17	813	0	0	0
24	SLU 4	27	-16	816	0	0	0
24	SLU 5	27	-15	811	0	0	0
24	SLU 6	27	-17	823	0	0	0
24	SLU 7	27	-15	825	0	0	0
24	SLU 8	27	-17	817	0	0	0
24	SLU 9	27	-16	820	0	0	0
24	SLU 10	28	-17	903	0	0	0
24	SLU 11	28	-18	914	0	0	0
24	SLU 12	29	-17	917	0	0	0
24	SLU 13	28	-17	912	0	0	0
24	SLU 14	28	-18	924	0	0	0
24	SLU 15	29	-17	926	0	0	0
24	SLU 16	28	-18	918	0	0	0
24	SLU 17	28	-17	921	0	0	0
24	SLU 18	29	-20	942	0	0	0
24	SLU 19	29	-18	944	0	0	0
24	SLU 20	29	-19	952	0	0	0
24	SLU 21	29	-18	954	0	0	0
24	SLU 22	30	-16	910	0	0	0
24	SLU 23	30	-14	913	0	0	0
24	SLU 24	30	-16	925	0	0	0
24	SLU 25	30	-15	927	0	0	0
24	SLU 26	30	-14	923	0	0	0
24	SLU 27	30	-15	935	0	0	0
24	SLU 28	30	-14	937	0	0	0
24	SLU 29	30	-15	929	0	0	0
24	SLU 30	30	-14	931	0	0	0
24	SLU 31	32	-16	1014	0	0	0
24	SLU 32	32	-17	1026	0	0	0
24	SLU 33	32	-16	1028	0	0	0
24	SLU 34	32	-15	1024	0	0	0
24	SLU 35	32	-17	1036	0	0	0
24	SLU 36	32	-16	1038	0	0	0
24	SLU 37	32	-17	1030	0	0	0
24	SLU 38	32	-16	1032	0	0	0
24	SLU 39	32	-18	1054	0	0	0
24	SLU 40	32	-17	1056	0	0	0
24	SLU 41	32	-18	1064	0	0	0
24	SLU 42	32	-17	1066	0	0	0
24	SLU 43	33	-23	999	0	0	0
24	SLU 44	34	-21	1003	0	0	0
24	SLU 45	34	-23	1015	0	0	0
24	SLU 46	34	-22	1017	0	0	0
24	SLU 47	34	-21	1012	0	0	0
24	SLU 48	34	-22	1024	0	0	0
24	SLU 49	34	-21	1026	0	0	0
24	SLU 50	33	-22	1018	0	0	0
24	SLU 51	34	-21	1021	0	0	0
24	SLU 52	35	-23	1104	0	0	0
24	SLU 53	35	-24	1116	0	0	0
24	SLU 54	35	-23	1118	0	0	0
24	SLU 55	35	-22	1113	0	0	0
24	SLU 56	35	-24	1125	0	0	0
24	SLU 57	35	-23	1127	0	0	0
24	SLU 58	35	-24	1119	0	0	0
24	SLU 59	35	-23	1122	0	0	0
24	SLU 60	36	-25	1143	0	0	0
24	SLU 61	36	-24	1146	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
24	SLU 62	36	-25	1153	0	0	0
24	SLU 63	36	-24	1155	0	0	0
24	SLU 64	37	-22	1111	0	0	0
24	SLU 65	37	-20	1114	0	0	0
24	SLU 66	37	-22	1126	0	0	0
24	SLU 67	37	-20	1128	0	0	0
24	SLU 68	37	-20	1124	0	0	0
24	SLU 69	37	-21	1136	0	0	0
24	SLU 70	37	-20	1138	0	0	0
24	SLU 71	37	-21	1130	0	0	0
24	SLU 72	37	-20	1132	0	0	0
24	SLU 73	39	-21	1215	0	0	0
24	SLU 74	39	-23	1227	0	0	0
24	SLU 75	39	-22	1229	0	0	0
24	SLU 76	39	-21	1225	0	0	0
24	SLU 77	39	-22	1237	0	0	0
24	SLU 78	39	-21	1239	0	0	0
24	SLU 79	38	-23	1231	0	0	0
24	SLU 80	39	-21	1233	0	0	0
24	SLU 81	39	-24	1255	0	0	0
24	SLU 82	39	-23	1257	0	0	0
24	SLU 83	39	-24	1265	0	0	0
24	SLU 84	39	-22	1267	0	0	0
24	SLE RA 1	27	-17	830	0	0	0
24	SLE RA 2	28	-16	832	0	0	0
24	SLE RA 3	28	-17	840	0	0	0
24	SLE RA 4	28	-16	842	0	0	0
24	SLE RA 5	28	-16	839	0	0	0
24	SLE RA 6	28	-17	847	0	0	0
24	SLE RA 7	28	-16	848	0	0	0
24	SLE RA 8	28	-17	843	0	0	0
24	SLE RA 9	28	-16	844	0	0	0
24	SLE RA 10	29	-17	900	0	0	0
24	SLE RA 11	29	-18	908	0	0	0
24	SLE RA 12	29	-17	909	0	0	0
24	SLE RA 13	29	-17	906	0	0	0
24	SLE RA 14	29	-18	914	0	0	0
24	SLE RA 15	29	-17	915	0	0	0
24	SLE RA 16	29	-18	910	0	0	0
24	SLE RA 17	29	-17	912	0	0	0
24	SLE RA 18	29	-19	926	0	0	0
24	SLE RA 19	29	-18	928	0	0	0
24	SLE RA 20	29	-18	933	0	0	0
24	SLE RA 21	29	-17	934	0	0	0
24	SLE FR 1	27	-17	830	0	0	0
24	SLE FR 2	28	-17	830	0	0	0
24	SLE FR 3	27	-17	833	0	0	0
24	SLE FR 4	28	-17	859	0	0	0
24	SLE FR 5	28	-17	861	0	0	0
24	SLE FR 6	28	-18	878	0	0	0
24	SLE QP 1	27	-17	830	0	0	0
24	SLE QP 2	28	-18	859	0	0	0
24	SLD 1	74	-13	848	0	0	0
24	SLD 2	79	-9	847	0	0	0
24	SLD 3	69	-33	792	0	0	0
24	SLD 4	74	-29	792	0	0	0
24	SLD 5	48	14	939	0	0	0
24	SLD 6	51	17	939	0	0	0
24	SLD 7	32	-54	755	0	0	0
24	SLD 8	35	-51	755	0	0	0
24	SLD 9	21	16	962	0	0	0
24	SLD 10	24	19	962	0	0	0
24	SLD 11	4	-52	779	0	0	0
24	SLD 12	8	-49	778	0	0	0
24	SLD 13	-18	-6	925	0	0	0
24	SLD 14	-13	-2	925	0	0	0
24	SLD 15	-23	-26	870	0	0	0
24	SLD 16	-18	-22	870	0	0	0
24	SLV 1	100	-9	845	0	0	0
24	SLV 2	108	-3	845	0	0	0
24	SLV 3	92	-43	751	0	0	0
24	SLV 4	99	-37	751	0	0	0
24	SLV 5	61	37	998	0	0	0
24	SLV 6	66	41	997	0	0	0
24	SLV 7	33	-79	684	0	0	0
24	SLV 8	38	-75	684	0	0	0
24	SLV 9	18	40	1034	0	0	0
24	SLV 10	23	44	1034	0	0	0
24	SLV 11	-10	-76	720	0	0	0
24	SLV 12	-5	-72	720	0	0	0
24	SLV 13	-43	2	967	0	0	0
24	SLV 14	-36	8	966	0	0	0
24	SLV 15	-52	-33	873	0	0	0
24	SLV 16	-44	-27	872	0	0	0
24	SLV FO 1	107	-8	844	0	0	0
24	SLV FO 2	116	-1	844	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
24	SLV FO 3	98	-46	740	0	0	0
24	SLV FO 4	106	-39	740	0	0	0
24	SLV FO 5	64	42	1012	0	0	0
24	SLV FO 6	70	47	1011	0	0	0
24	SLV FO 7	33	-85	666	0	0	0
24	SLV FO 8	39	-81	666	0	0	0
24	SLV FO 9	17	46	1052	0	0	0
24	SLV FO 10	22	50	1051	0	0	0
24	SLV FO 11	-14	-82	706	0	0	0
24	SLV FO 12	-8	-77	706	0	0	0
24	SLV FO 13	-50	4	977	0	0	0
24	SLV FO 14	-42	11	977	0	0	0
24	SLV FO 15	-60	-34	874	0	0	0
24	SLV FO 16	-51	-27	874	0	0	0
25	SLU 1	34	-21	1044	0	0	0
25	SLU 2	35	-19	1048	0	0	0
25	SLU 3	35	-21	1064	0	0	0
25	SLU 4	35	-19	1067	0	0	0
25	SLU 5	35	-18	1061	0	0	0
25	SLU 6	35	-20	1076	0	0	0
25	SLU 7	35	-19	1079	0	0	0
25	SLU 8	35	-20	1069	0	0	0
25	SLU 9	35	-19	1072	0	0	0
25	SLU 10	37	-21	1180	0	0	0
25	SLU 11	37	-22	1195	0	0	0
25	SLU 12	37	-21	1198	0	0	0
25	SLU 13	37	-20	1192	0	0	0
25	SLU 14	37	-22	1208	0	0	0
25	SLU 15	37	-20	1210	0	0	0
25	SLU 16	37	-22	1200	0	0	0
25	SLU 17	37	-20	1203	0	0	0
25	SLU 18	37	-24	1231	0	0	0
25	SLU 19	38	-22	1234	0	0	0
25	SLU 20	37	-23	1244	0	0	0
25	SLU 21	38	-22	1247	0	0	0
25	SLU 22	39	-20	1190	0	0	0
25	SLU 23	39	-17	1194	0	0	0
25	SLU 24	39	-19	1210	0	0	0
25	SLU 25	39	-17	1213	0	0	0
25	SLU 26	39	-17	1207	0	0	0
25	SLU 27	39	-18	1222	0	0	0
25	SLU 28	39	-17	1225	0	0	0
25	SLU 29	39	-18	1215	0	0	0
25	SLU 30	39	-17	1218	0	0	0
25	SLU 31	41	-19	1326	0	0	0
25	SLU 32	41	-21	1341	0	0	0
25	SLU 33	41	-19	1344	0	0	0
25	SLU 34	41	-18	1338	0	0	0
25	SLU 35	41	-20	1354	0	0	0
25	SLU 36	42	-19	1356	0	0	0
25	SLU 37	41	-20	1346	0	0	0
25	SLU 38	41	-19	1349	0	0	0
25	SLU 39	42	-22	1377	0	0	0
25	SLU 40	42	-21	1380	0	0	0
25	SLU 41	42	-21	1390	0	0	0
25	SLU 42	42	-20	1393	0	0	0
25	SLU 43	43	-28	1307	0	0	0
25	SLU 44	44	-26	1312	0	0	0
25	SLU 45	44	-28	1327	0	0	0
25	SLU 46	44	-26	1330	0	0	0
25	SLU 47	44	-25	1324	0	0	0
25	SLU 48	44	-27	1339	0	0	0
25	SLU 49	44	-26	1342	0	0	0
25	SLU 50	43	-27	1332	0	0	0
25	SLU 51	44	-26	1335	0	0	0
25	SLU 52	46	-28	1443	0	0	0
25	SLU 53	46	-29	1458	0	0	0
25	SLU 54	46	-28	1461	0	0	0
25	SLU 55	46	-27	1455	0	0	0
25	SLU 56	46	-29	1471	0	0	0
25	SLU 57	46	-27	1473	0	0	0
25	SLU 58	45	-29	1463	0	0	0
25	SLU 59	46	-27	1466	0	0	0
25	SLU 60	46	-31	1494	0	0	0
25	SLU 61	46	-29	1497	0	0	0
25	SLU 62	46	-30	1507	0	0	0
25	SLU 63	46	-29	1510	0	0	0
25	SLU 64	48	-27	1453	0	0	0
25	SLU 65	48	-24	1458	0	0	0
25	SLU 66	48	-26	1473	0	0	0
25	SLU 67	48	-24	1476	0	0	0
25	SLU 68	48	-24	1470	0	0	0
25	SLU 69	48	-25	1485	0	0	0
25	SLU 70	48	-24	1488	0	0	0
25	SLU 71	48	-25	1478	0	0	0
25	SLU 72	48	-24	1481	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
25	SLU 73	50	-26	1589	0	0	0
25	SLU 74	50	-28	1604	0	0	0
25	SLU 75	50	-26	1607	0	0	0
25	SLU 76	50	-25	1601	0	0	0
25	SLU 77	50	-27	1617	0	0	0
25	SLU 78	50	-26	1619	0	0	0
25	SLU 79	50	-27	1609	0	0	0
25	SLU 80	50	-26	1612	0	0	0
25	SLU 81	51	-29	1640	0	0	0
25	SLU 82	51	-28	1643	0	0	0
25	SLU 83	51	-28	1653	0	0	0
25	SLU 84	51	-27	1656	0	0	0
25	SLE RA 1	36	-21	1085	0	0	0
25	SLE RA 2	36	-19	1089	0	0	0
25	SLE RA 3	36	-20	1099	0	0	0
25	SLE RA 4	36	-19	1101	0	0	0
25	SLE RA 5	36	-19	1097	0	0	0
25	SLE RA 6	36	-20	1107	0	0	0
25	SLE RA 7	36	-19	1109	0	0	0
25	SLE RA 8	36	-20	1102	0	0	0
25	SLE RA 9	36	-19	1104	0	0	0
25	SLE RA 10	37	-20	1176	0	0	0
25	SLE RA 11	37	-21	1186	0	0	0
25	SLE RA 12	37	-21	1188	0	0	0
25	SLE RA 13	37	-20	1184	0	0	0
25	SLE RA 14	37	-21	1195	0	0	0
25	SLE RA 15	37	-20	1197	0	0	0
25	SLE RA 16	37	-21	1190	0	0	0
25	SLE RA 17	37	-20	1192	0	0	0
25	SLE RA 18	38	-22	1210	0	0	0
25	SLE RA 19	38	-21	1212	0	0	0
25	SLE RA 20	38	-22	1219	0	0	0
25	SLE RA 21	38	-21	1221	0	0	0
25	SLE FR 1	36	-21	1085	0	0	0
25	SLE FR 2	36	-20	1086	0	0	0
25	SLE FR 3	36	-21	1089	0	0	0
25	SLE FR 4	36	-21	1124	0	0	0
25	SLE FR 5	36	-21	1126	0	0	0
25	SLE FR 6	37	-22	1148	0	0	0
25	SLE QP 1	36	-21	1085	0	0	0
25	SLE QP 2	36	-21	1123	0	0	0
25	SLD 1	96	-16	1100	0	0	0
25	SLD 2	102	-11	1100	0	0	0
25	SLD 3	89	-42	1027	0	0	0
25	SLD 4	96	-36	1026	0	0	0
25	SLD 5	63	18	1227	0	0	0
25	SLD 6	67	22	1227	0	0	0
25	SLD 7	41	-68	983	0	0	0
25	SLD 8	45	-64	983	0	0	0
25	SLD 9	27	21	1263	0	0	0
25	SLD 10	31	25	1263	0	0	0
25	SLD 11	6	-65	1019	0	0	0
25	SLD 12	10	-61	1018	0	0	0
25	SLD 13	-23	-6	1219	0	0	0
25	SLD 14	-17	0	1219	0	0	0
25	SLD 15	-30	-32	1146	0	0	0
25	SLD 16	-23	-26	1146	0	0	0
25	SLV 1	130	-12	1093	0	0	0
25	SLV 2	140	-3	1092	0	0	0
25	SLV 3	119	-56	968	0	0	0
25	SLV 4	129	-47	967	0	0	0
25	SLV 5	79	46	1304	0	0	0
25	SLV 6	86	53	1303	0	0	0
25	SLV 7	43	-100	887	0	0	0
25	SLV 8	49	-94	886	0	0	0
25	SLV 9	23	51	1360	0	0	0
25	SLV 10	30	57	1359	0	0	0
25	SLV 11	-13	-95	943	0	0	0
25	SLV 12	-6	-89	942	0	0	0
25	SLV 13	-56	4	1279	0	0	0
25	SLV 14	-46	13	1278	0	0	0
25	SLV 15	-67	-40	1154	0	0	0
25	SLV 16	-57	-31	1153	0	0	0
25	SLV FO 1	139	-11	1090	0	0	0
25	SLV FO 2	150	-1	1089	0	0	0
25	SLV FO 3	127	-59	952	0	0	0
25	SLV FO 4	138	-49	951	0	0	0
25	SLV FO 5	83	53	1322	0	0	0
25	SLV FO 6	91	60	1321	0	0	0
25	SLV FO 7	43	-108	863	0	0	0
25	SLV FO 8	51	-101	863	0	0	0
25	SLV FO 9	22	58	1383	0	0	0
25	SLV FO 10	29	65	1383	0	0	0
25	SLV FO 11	-18	-103	925	0	0	0
25	SLV FO 12	-11	-96	924	0	0	0
25	SLV FO 13	-66	6	1294	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
25	SLV FO 14	-55	17	1294	0	0	0
25	SLV FO 15	-78	-42	1157	0	0	0
25	SLV FO 16	-67	-32	1156	0	0	0
25	CRTFP Uy+	0	0	0	0	0	0
25	CRTFP Uy-	0	0	0	0	0	0
26	SLU 1	21	-12	648	0	0	0
26	SLU 2	21	-10	651	0	0	0
26	SLU 3	21	-11	660	0	0	0
26	SLU 4	22	-10	662	0	0	0
26	SLU 5	22	-10	658	0	0	0
26	SLU 6	21	-11	668	0	0	0
26	SLU 7	22	-10	669	0	0	0
26	SLU 8	21	-11	663	0	0	0
26	SLU 9	21	-10	665	0	0	0
26	SLU 10	23	-11	731	0	0	0
26	SLU 11	23	-12	741	0	0	0
26	SLU 12	23	-11	742	0	0	0
26	SLU 13	23	-11	739	0	0	0
26	SLU 14	23	-12	748	0	0	0
26	SLU 15	23	-11	750	0	0	0
26	SLU 16	23	-12	744	0	0	0
26	SLU 17	23	-11	745	0	0	0
26	SLU 18	23	-13	763	0	0	0
26	SLU 19	23	-12	765	0	0	0
26	SLU 20	23	-13	771	0	0	0
26	SLU 21	23	-12	772	0	0	0
26	SLU 22	24	-11	738	0	0	0
26	SLU 23	24	-9	741	0	0	0
26	SLU 24	24	-10	750	0	0	0
26	SLU 25	24	-9	752	0	0	0
26	SLU 26	24	-9	749	0	0	0
26	SLU 27	24	-10	758	0	0	0
26	SLU 28	24	-9	760	0	0	0
26	SLU 29	24	-10	753	0	0	0
26	SLU 30	24	-9	755	0	0	0
26	SLU 31	25	-10	822	0	0	0
26	SLU 32	25	-11	831	0	0	0
26	SLU 33	26	-10	833	0	0	0
26	SLU 34	26	-10	829	0	0	0
26	SLU 35	25	-11	839	0	0	0
26	SLU 36	26	-10	841	0	0	0
26	SLU 37	25	-11	834	0	0	0
26	SLU 38	25	-10	836	0	0	0
26	SLU 39	26	-12	853	0	0	0
26	SLU 40	26	-11	855	0	0	0
26	SLU 41	26	-12	861	0	0	0
26	SLU 42	26	-11	863	0	0	0
26	SLU 43	27	-16	811	0	0	0
26	SLU 44	27	-14	814	0	0	0
26	SLU 45	27	-15	823	0	0	0
26	SLU 46	27	-14	825	0	0	0
26	SLU 47	27	-14	822	0	0	0
26	SLU 48	27	-15	831	0	0	0
26	SLU 49	27	-14	833	0	0	0
26	SLU 50	27	-15	826	0	0	0
26	SLU 51	27	-14	828	0	0	0
26	SLU 52	28	-15	895	0	0	0
26	SLU 53	28	-16	904	0	0	0
26	SLU 54	28	-15	906	0	0	0
26	SLU 55	28	-15	902	0	0	0
26	SLU 56	28	-16	912	0	0	0
26	SLU 57	28	-15	913	0	0	0
26	SLU 58	28	-16	907	0	0	0
26	SLU 59	28	-15	909	0	0	0
26	SLU 60	28	-17	926	0	0	0
26	SLU 61	29	-16	928	0	0	0
26	SLU 62	29	-17	934	0	0	0
26	SLU 63	29	-16	936	0	0	0
26	SLU 64	29	-14	901	0	0	0
26	SLU 65	30	-13	904	0	0	0
26	SLU 66	30	-14	914	0	0	0
26	SLU 67	30	-13	916	0	0	0
26	SLU 68	30	-13	912	0	0	0
26	SLU 69	30	-14	921	0	0	0
26	SLU 70	30	-13	923	0	0	0
26	SLU 71	29	-14	917	0	0	0
26	SLU 72	30	-13	919	0	0	0
26	SLU 73	31	-14	985	0	0	0
26	SLU 74	31	-15	994	0	0	0
26	SLU 75	31	-14	996	0	0	0
26	SLU 76	31	-14	993	0	0	0
26	SLU 77	31	-15	1002	0	0	0
26	SLU 78	31	-14	1004	0	0	0
26	SLU 79	31	-15	997	0	0	0
26	SLU 80	31	-14	999	0	0	0
26	SLU 81	31	-16	1017	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
26	SLU 82	31	-15	1018	0	0	0
26	SLU 83	31	-15	1024	0	0	0
26	SLU 84	31	-15	1026	0	0	0
26	SLE RA 1	22	-11	674	0	0	0
26	SLE RA 2	22	-10	676	0	0	0
26	SLE RA 3	22	-11	682	0	0	0
26	SLE RA 4	22	-10	683	0	0	0
26	SLE RA 5	22	-10	681	0	0	0
26	SLE RA 6	22	-11	687	0	0	0
26	SLE RA 7	22	-10	688	0	0	0
26	SLE RA 8	22	-11	684	0	0	0
26	SLE RA 9	22	-10	685	0	0	0
26	SLE RA 10	23	-11	729	0	0	0
26	SLE RA 11	23	-12	736	0	0	0
26	SLE RA 12	23	-11	737	0	0	0
26	SLE RA 13	23	-11	734	0	0	0
26	SLE RA 14	23	-11	741	0	0	0
26	SLE RA 15	23	-11	742	0	0	0
26	SLE RA 16	23	-12	738	0	0	0
26	SLE RA 17	23	-11	739	0	0	0
26	SLE RA 18	23	-12	750	0	0	0
26	SLE RA 19	23	-12	752	0	0	0
26	SLE RA 20	23	-12	755	0	0	0
26	SLE RA 21	23	-11	757	0	0	0
26	SLE FR 1	22	-11	674	0	0	0
26	SLE FR 2	22	-11	674	0	0	0
26	SLE FR 3	22	-11	676	0	0	0
26	SLE FR 4	22	-11	697	0	0	0
26	SLE FR 5	22	-12	699	0	0	0
26	SLE FR 6	23	-12	712	0	0	0
26	SLE QP 1	22	-11	674	0	0	0
26	SLE QP 2	22	-12	697	0	0	0
26	SLD 1	59	-10	675	0	0	0
26	SLD 2	63	-6	674	0	0	0
26	SLD 3	55	-25	628	0	0	0
26	SLD 4	59	-21	627	0	0	0
26	SLD 5	39	11	761	0	0	0
26	SLD 6	41	14	761	0	0	0
26	SLD 7	26	-39	605	0	0	0
26	SLD 8	28	-37	605	0	0	0
26	SLD 9	17	13	789	0	0	0
26	SLD 10	19	16	788	0	0	0
26	SLD 11	4	-37	632	0	0	0
26	SLD 12	6	-34	632	0	0	0
26	SLD 13	-14	-3	766	0	0	0
26	SLD 14	-10	2	765	0	0	0
26	SLD 15	-18	-18	719	0	0	0
26	SLD 16	-14	-13	718	0	0	0
26	SLV 1	80	-8	666	0	0	0
26	SLV 2	86	-1	665	0	0	0
26	SLV 3	73	-34	586	0	0	0
26	SLV 4	79	-27	585	0	0	0
26	SLV 5	49	27	809	0	0	0
26	SLV 6	53	32	808	0	0	0
26	SLV 7	26	-59	542	0	0	0
26	SLV 8	30	-54	542	0	0	0
26	SLV 9	14	31	852	0	0	0
26	SLV 10	18	36	851	0	0	0
26	SLV 11	-8	-55	585	0	0	0
26	SLV 12	-4	-51	584	0	0	0
26	SLV 13	-35	4	808	0	0	0
26	SLV 14	-29	11	807	0	0	0
26	SLV 15	-41	-22	728	0	0	0
26	SLV 16	-35	-15	727	0	0	0
26	SLV FO 1	86	-8	663	0	0	0
26	SLV FO 2	92	0	662	0	0	0
26	SLV FO 3	78	-36	575	0	0	0
26	SLV FO 4	85	-28	574	0	0	0
26	SLV FO 5	51	31	820	0	0	0
26	SLV FO 6	56	36	820	0	0	0
26	SLV FO 7	27	-64	527	0	0	0
26	SLV FO 8	31	-58	526	0	0	0
26	SLV FO 9	13	35	867	0	0	0
26	SLV FO 10	18	40	866	0	0	0
26	SLV FO 11	-11	-60	574	0	0	0
26	SLV FO 12	-7	-54	573	0	0	0
26	SLV FO 13	-40	5	819	0	0	0
26	SLV FO 14	-34	13	818	0	0	0
26	SLV FO 15	-48	-23	731	0	0	0
26	SLV FO 16	-41	-16	730	0	0	0
27	SLU 1	31	-20	972	0	0	0
27	SLU 2	31	-18	975	0	0	0
27	SLU 3	31	-19	991	0	0	0
27	SLU 4	31	-18	993	0	0	0
27	SLU 5	31	-17	987	0	0	0
27	SLU 6	31	-19	1003	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
27	SLU 7	31	-18	1005	0	0	0
27	SLU 8	31	-19	996	0	0	0
27	SLU 9	31	-18	998	0	0	0
27	SLU 10	33	-19	1098	0	0	0
27	SLU 11	33	-21	1114	0	0	0
27	SLU 12	33	-20	1116	0	0	0
27	SLU 13	33	-19	1110	0	0	0
27	SLU 14	33	-21	1126	0	0	0
27	SLU 15	33	-19	1128	0	0	0
27	SLU 16	33	-21	1119	0	0	0
27	SLU 17	33	-19	1121	0	0	0
27	SLU 18	33	-22	1147	0	0	0
27	SLU 19	34	-21	1150	0	0	0
27	SLU 20	33	-22	1160	0	0	0
27	SLU 21	34	-20	1162	0	0	0
27	SLU 22	35	-18	1110	0	0	0
27	SLU 23	35	-16	1114	0	0	0
27	SLU 24	35	-18	1129	0	0	0
27	SLU 25	35	-16	1131	0	0	0
27	SLU 26	35	-16	1126	0	0	0
27	SLU 27	35	-17	1142	0	0	0
27	SLU 28	35	-16	1144	0	0	0
27	SLU 29	35	-17	1134	0	0	0
27	SLU 30	35	-16	1137	0	0	0
27	SLU 31	37	-18	1237	0	0	0
27	SLU 32	37	-19	1252	0	0	0
27	SLU 33	37	-18	1254	0	0	0
27	SLU 34	37	-17	1249	0	0	0
27	SLU 35	37	-19	1264	0	0	0
27	SLU 36	37	-18	1267	0	0	0
27	SLU 37	37	-19	1257	0	0	0
27	SLU 38	37	-18	1259	0	0	0
27	SLU 39	37	-21	1286	0	0	0
27	SLU 40	38	-19	1288	0	0	0
27	SLU 41	37	-20	1298	0	0	0
27	SLU 42	38	-19	1300	0	0	0
27	SLU 43	39	-27	1216	0	0	0
27	SLU 44	39	-24	1219	0	0	0
27	SLU 45	39	-26	1235	0	0	0
27	SLU 46	39	-25	1237	0	0	0
27	SLU 47	39	-24	1232	0	0	0
27	SLU 48	39	-25	1247	0	0	0
27	SLU 49	39	-24	1249	0	0	0
27	SLU 50	39	-26	1240	0	0	0
27	SLU 51	39	-24	1242	0	0	0
27	SLU 52	41	-26	1342	0	0	0
27	SLU 53	41	-28	1358	0	0	0
27	SLU 54	41	-26	1360	0	0	0
27	SLU 55	41	-25	1355	0	0	0
27	SLU 56	41	-27	1370	0	0	0
27	SLU 57	41	-26	1372	0	0	0
27	SLU 58	40	-27	1363	0	0	0
27	SLU 59	41	-26	1365	0	0	0
27	SLU 60	41	-29	1392	0	0	0
27	SLU 61	41	-28	1394	0	0	0
27	SLU 62	41	-28	1404	0	0	0
27	SLU 63	41	-27	1406	0	0	0
27	SLU 64	43	-25	1354	0	0	0
27	SLU 65	43	-23	1358	0	0	0
27	SLU 66	43	-24	1374	0	0	0
27	SLU 67	43	-23	1376	0	0	0
27	SLU 68	43	-22	1370	0	0	0
27	SLU 69	43	-24	1386	0	0	0
27	SLU 70	43	-22	1388	0	0	0
27	SLU 71	43	-24	1379	0	0	0
27	SLU 72	43	-23	1381	0	0	0
27	SLU 73	45	-24	1481	0	0	0
27	SLU 74	45	-26	1496	0	0	0
27	SLU 75	45	-25	1499	0	0	0
27	SLU 76	45	-24	1493	0	0	0
27	SLU 77	45	-25	1509	0	0	0
27	SLU 78	45	-24	1511	0	0	0
27	SLU 79	45	-26	1502	0	0	0
27	SLU 80	45	-24	1504	0	0	0
27	SLU 81	45	-27	1530	0	0	0
27	SLU 82	45	-26	1532	0	0	0
27	SLU 83	45	-27	1542	0	0	0
27	SLU 84	46	-25	1544	0	0	0
27	SLE RA 1	32	-20	1011	0	0	0
27	SLE RA 2	32	-18	1014	0	0	0
27	SLE RA 3	32	-19	1024	0	0	0
27	SLE RA 4	32	-18	1026	0	0	0
27	SLE RA 5	32	-18	1022	0	0	0
27	SLE RA 6	32	-19	1032	0	0	0
27	SLE RA 7	32	-18	1034	0	0	0
27	SLE RA 8	32	-19	1028	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
27	SLE RA 9	32	-18	1029	0	0	0
27	SLE RA 10	33	-19	1096	0	0	0
27	SLE RA 11	33	-20	1106	0	0	0
27	SLE RA 12	33	-19	1108	0	0	0
27	SLE RA 13	33	-19	1104	0	0	0
27	SLE RA 14	33	-20	1114	0	0	0
27	SLE RA 15	34	-19	1116	0	0	0
27	SLE RA 16	33	-20	1110	0	0	0
27	SLE RA 17	33	-19	1111	0	0	0
27	SLE RA 18	34	-21	1128	0	0	0
27	SLE RA 19	34	-20	1130	0	0	0
27	SLE RA 20	34	-21	1137	0	0	0
27	SLE RA 21	34	-20	1138	0	0	0
27	SLE FR 1	32	-20	1011	0	0	0
27	SLE FR 2	32	-19	1012	0	0	0
27	SLE FR 3	32	-19	1015	0	0	0
27	SLE FR 4	32	-20	1047	0	0	0
27	SLE FR 5	32	-20	1050	0	0	0
27	SLE FR 6	33	-20	1070	0	0	0
27	SLE QP 1	32	-20	1011	0	0	0
27	SLE QP 2	32	-20	1046	0	0	0
27	SLD 1	89	-15	1020	0	0	0
27	SLD 2	94	-10	1020	0	0	0
27	SLD 3	82	-40	965	0	0	0
27	SLD 4	87	-34	964	0	0	0
27	SLD 5	59	17	1122	0	0	0
27	SLD 6	62	21	1122	0	0	0
27	SLD 7	36	-64	938	0	0	0
27	SLD 8	39	-60	938	0	0	0
27	SLD 9	25	20	1155	0	0	0
27	SLD 10	29	24	1155	0	0	0
27	SLD 11	3	-61	971	0	0	0
27	SLD 12	6	-57	971	0	0	0
27	SLD 13	-22	-6	1129	0	0	0
27	SLD 14	-17	0	1128	0	0	0
27	SLD 15	-29	-30	1073	0	0	0
27	SLD 16	-24	-25	1073	0	0	0
27	SLV 1	121	-11	1009	0	0	0
27	SLV 2	129	-2	1008	0	0	0
27	SLV 3	110	-53	915	0	0	0
27	SLV 4	117	-44	914	0	0	0
27	SLV 5	75	44	1178	0	0	0
27	SLV 6	80	50	1178	0	0	0
27	SLV 7	37	-94	864	0	0	0
27	SLV 8	42	-88	864	0	0	0
27	SLV 9	23	48	1229	0	0	0
27	SLV 10	28	54	1229	0	0	0
27	SLV 11	-16	-90	915	0	0	0
27	SLV 12	-10	-84	915	0	0	0
27	SLV 13	-53	4	1179	0	0	0
27	SLV 14	-45	12	1178	0	0	0
27	SLV 15	-64	-38	1085	0	0	0
27	SLV 16	-56	-29	1084	0	0	0
27	SLV FO 1	130	-10	1005	0	0	0
27	SLV FO 2	139	-1	1005	0	0	0
27	SLV FO 3	117	-56	901	0	0	0
27	SLV FO 4	126	-46	901	0	0	0
27	SLV FO 5	79	50	1192	0	0	0
27	SLV FO 6	85	56	1191	0	0	0
27	SLV FO 7	37	-101	846	0	0	0
27	SLV FO 8	43	-95	845	0	0	0
27	SLV FO 9	22	55	1248	0	0	0
27	SLV FO 10	28	61	1247	0	0	0
27	SLV FO 11	-20	-97	902	0	0	0
27	SLV FO 12	-15	-90	901	0	0	0
27	SLV FO 13	-61	6	1192	0	0	0
27	SLV FO 14	-53	16	1192	0	0	0
27	SLV FO 15	-74	-39	1088	0	0	0
27	SLV FO 16	-65	-30	1088	0	0	0
28	SLU 1	19	-11	604	0	0	0
28	SLU 2	19	-10	607	0	0	0
28	SLU 3	19	-11	616	0	0	0
28	SLU 4	19	-10	618	0	0	0
28	SLU 5	19	-9	614	0	0	0
28	SLU 6	19	-10	624	0	0	0
28	SLU 7	19	-9	625	0	0	0
28	SLU 8	19	-10	619	0	0	0
28	SLU 9	19	-10	621	0	0	0
28	SLU 10	20	-11	683	0	0	0
28	SLU 11	20	-12	692	0	0	0
28	SLU 12	20	-11	693	0	0	0
28	SLU 13	20	-10	690	0	0	0
28	SLU 14	20	-11	700	0	0	0
28	SLU 15	20	-10	701	0	0	0
28	SLU 16	20	-11	695	0	0	0
28	SLU 17	20	-10	697	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
28	SLU 18	21	-12	713	0	0	0
28	SLU 19	21	-11	714	0	0	0
28	SLU 20	21	-12	720	0	0	0
28	SLU 21	21	-11	722	0	0	0
28	SLU 22	21	-10	690	0	0	0
28	SLU 23	22	-9	693	0	0	0
28	SLU 24	22	-10	702	0	0	0
28	SLU 25	22	-9	704	0	0	0
28	SLU 26	22	-8	700	0	0	0
28	SLU 27	22	-9	710	0	0	0
28	SLU 28	22	-8	711	0	0	0
28	SLU 29	22	-9	705	0	0	0
28	SLU 30	22	-9	707	0	0	0
28	SLU 31	23	-9	768	0	0	0
28	SLU 32	23	-10	778	0	0	0
28	SLU 33	23	-10	779	0	0	0
28	SLU 34	23	-9	776	0	0	0
28	SLU 35	23	-10	785	0	0	0
28	SLU 36	23	-9	787	0	0	0
28	SLU 37	23	-10	781	0	0	0
28	SLU 38	23	-9	782	0	0	0
28	SLU 39	23	-11	799	0	0	0
28	SLU 40	23	-10	800	0	0	0
28	SLU 41	23	-11	806	0	0	0
28	SLU 42	23	-10	807	0	0	0
28	SLU 43	24	-15	756	0	0	0
28	SLU 44	24	-13	759	0	0	0
28	SLU 45	24	-14	768	0	0	0
28	SLU 46	24	-13	770	0	0	0
28	SLU 47	24	-13	766	0	0	0
28	SLU 48	24	-14	776	0	0	0
28	SLU 49	24	-13	777	0	0	0
28	SLU 50	24	-14	771	0	0	0
28	SLU 51	24	-13	773	0	0	0
28	SLU 52	25	-14	834	0	0	0
28	SLU 53	25	-15	844	0	0	0
28	SLU 54	25	-14	845	0	0	0
28	SLU 55	25	-14	842	0	0	0
28	SLU 56	25	-15	851	0	0	0
28	SLU 57	25	-14	853	0	0	0
28	SLU 58	25	-15	847	0	0	0
28	SLU 59	25	-14	848	0	0	0
28	SLU 60	25	-16	865	0	0	0
28	SLU 61	26	-15	866	0	0	0
28	SLU 62	25	-16	872	0	0	0
28	SLU 63	26	-15	873	0	0	0
28	SLU 64	26	-14	842	0	0	0
28	SLU 65	27	-12	845	0	0	0
28	SLU 66	26	-13	854	0	0	0
28	SLU 67	27	-12	856	0	0	0
28	SLU 68	27	-12	852	0	0	0
28	SLU 69	27	-13	862	0	0	0
28	SLU 70	27	-12	863	0	0	0
28	SLU 71	26	-13	857	0	0	0
28	SLU 72	27	-12	859	0	0	0
28	SLU 73	28	-13	920	0	0	0
28	SLU 74	28	-14	930	0	0	0
28	SLU 75	28	-13	931	0	0	0
28	SLU 76	28	-13	928	0	0	0
28	SLU 77	28	-14	937	0	0	0
28	SLU 78	28	-13	939	0	0	0
28	SLU 79	27	-14	933	0	0	0
28	SLU 80	28	-13	934	0	0	0
28	SLU 81	28	-15	950	0	0	0
28	SLU 82	28	-14	952	0	0	0
28	SLU 83	28	-15	958	0	0	0
28	SLU 84	28	-14	959	0	0	0
28	SLE RA 1	20	-11	629	0	0	0
28	SLE RA 2	20	-10	631	0	0	0
28	SLE RA 3	20	-10	637	0	0	0
28	SLE RA 4	20	-10	638	0	0	0
28	SLE RA 5	20	-10	636	0	0	0
28	SLE RA 6	20	-10	642	0	0	0
28	SLE RA 7	20	-10	643	0	0	0
28	SLE RA 8	20	-10	639	0	0	0
28	SLE RA 9	20	-10	640	0	0	0
28	SLE RA 10	21	-10	681	0	0	0
28	SLE RA 11	21	-11	687	0	0	0
28	SLE RA 12	21	-10	688	0	0	0
28	SLE RA 13	21	-10	686	0	0	0
28	SLE RA 14	21	-11	692	0	0	0
28	SLE RA 15	21	-10	693	0	0	0
28	SLE RA 16	20	-11	689	0	0	0
28	SLE RA 17	21	-10	690	0	0	0
28	SLE RA 18	21	-12	701	0	0	0
28	SLE RA 19	21	-11	702	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
28	SLE RA 20	21	-11	706	0	0	0
28	SLE RA 21	21	-11	707	0	0	0
28	SLE FR 1	20	-11	629	0	0	0
28	SLE FR 2	20	-11	629	0	0	0
28	SLE FR 3	20	-11	631	0	0	0
28	SLE FR 4	20	-11	651	0	0	0
28	SLE FR 5	20	-11	653	0	0	0
28	SLE FR 6	20	-11	665	0	0	0
28	SLE QP 1	20	-11	629	0	0	0
28	SLE QP 2	20	-11	651	0	0	0
28	SLD 1	55	-9	627	0	0	0
28	SLD 2	58	-5	627	0	0	0
28	SLD 3	51	-24	591	0	0	0
28	SLD 4	54	-20	591	0	0	0
28	SLD 5	36	10	698	0	0	0
28	SLD 6	38	13	698	0	0	0
28	SLD 7	22	-37	578	0	0	0
28	SLD 8	24	-34	578	0	0	0
28	SLD 9	16	13	723	0	0	0
28	SLD 10	18	15	723	0	0	0
28	SLD 11	2	-35	603	0	0	0
28	SLD 12	4	-32	603	0	0	0
28	SLD 13	-14	-2	711	0	0	0
28	SLD 14	-11	2	710	0	0	0
28	SLD 15	-18	-17	675	0	0	0
28	SLD 16	-15	-12	674	0	0	0
28	SLV 1	75	-8	616	0	0	0
28	SLV 2	80	-1	616	0	0	0
28	SLV 3	68	-32	555	0	0	0
28	SLV 4	72	-25	554	0	0	0
28	SLV 5	46	26	733	0	0	0
28	SLV 6	50	30	733	0	0	0
28	SLV 7	23	-55	529	0	0	0
28	SLV 8	26	-51	529	0	0	0
28	SLV 9	14	29	773	0	0	0
28	SLV 10	17	33	772	0	0	0
28	SLV 11	-10	-52	568	0	0	0
28	SLV 12	-6	-48	568	0	0	0
28	SLV 13	-32	3	747	0	0	0
28	SLV 14	-28	10	746	0	0	0
28	SLV 15	-40	-21	686	0	0	0
28	SLV 16	-35	-14	685	0	0	0
28	SLV FO 1	80	-7	613	0	0	0
28	SLV FO 2	86	0	612	0	0	0
28	SLV FO 3	72	-34	545	0	0	0
28	SLV FO 4	78	-27	545	0	0	0
28	SLV FO 5	49	29	742	0	0	0
28	SLV FO 6	53	34	741	0	0	0
28	SLV FO 7	23	-60	517	0	0	0
28	SLV FO 8	26	-55	516	0	0	0
28	SLV FO 9	14	33	785	0	0	0
28	SLV FO 10	17	38	784	0	0	0
28	SLV FO 11	-13	-56	560	0	0	0
28	SLV FO 12	-9	-51	560	0	0	0
28	SLV FO 13	-38	5	757	0	0	0
28	SLV FO 14	-32	12	756	0	0	0
28	SLV FO 15	-46	-22	689	0	0	0
28	SLV FO 16	-40	-15	688	0	0	0
29	SLU 1	24	-17	747	0	0	0
29	SLU 2	24	-15	750	0	0	0
29	SLU 3	24	-16	762	0	0	0
29	SLU 4	24	-15	764	0	0	0
29	SLU 5	24	-14	759	0	0	0
29	SLU 6	24	-16	772	0	0	0
29	SLU 7	24	-15	773	0	0	0
29	SLU 8	24	-16	766	0	0	0
29	SLU 9	24	-15	768	0	0	0
29	SLU 10	26	-16	845	0	0	0
29	SLU 11	25	-17	857	0	0	0
29	SLU 12	26	-16	859	0	0	0
29	SLU 13	26	-16	855	0	0	0
29	SLU 14	25	-17	867	0	0	0
29	SLU 15	26	-16	868	0	0	0
29	SLU 16	25	-17	861	0	0	0
29	SLU 17	26	-16	863	0	0	0
29	SLU 18	26	-19	883	0	0	0
29	SLU 19	26	-17	885	0	0	0
29	SLU 20	26	-18	893	0	0	0
29	SLU 21	26	-17	894	0	0	0
29	SLU 22	27	-15	854	0	0	0
29	SLU 23	27	-14	856	0	0	0
29	SLU 24	27	-15	869	0	0	0
29	SLU 25	27	-14	870	0	0	0
29	SLU 26	27	-13	866	0	0	0
29	SLU 27	27	-15	878	0	0	0
29	SLU 28	27	-13	880	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
29	SLU 29	27	-15	873	0	0	0
29	SLU 30	27	-14	874	0	0	0
29	SLU 31	29	-15	952	0	0	0
29	SLU 32	29	-16	964	0	0	0
29	SLU 33	29	-15	965	0	0	0
29	SLU 34	29	-15	961	0	0	0
29	SLU 35	29	-16	973	0	0	0
29	SLU 36	29	-15	975	0	0	0
29	SLU 37	28	-16	968	0	0	0
29	SLU 38	29	-15	969	0	0	0
29	SLU 39	29	-17	990	0	0	0
29	SLU 40	29	-16	991	0	0	0
29	SLU 41	29	-17	999	0	0	0
29	SLU 42	29	-16	1001	0	0	0
29	SLU 43	30	-22	935	0	0	0
29	SLU 44	30	-20	938	0	0	0
29	SLU 45	30	-22	950	0	0	0
29	SLU 46	30	-20	952	0	0	0
29	SLU 47	30	-20	947	0	0	0
29	SLU 48	30	-21	959	0	0	0
29	SLU 49	30	-20	961	0	0	0
29	SLU 50	30	-21	954	0	0	0
29	SLU 51	30	-20	956	0	0	0
29	SLU 52	32	-22	1033	0	0	0
29	SLU 53	32	-23	1045	0	0	0
29	SLU 54	32	-22	1047	0	0	0
29	SLU 55	32	-21	1042	0	0	0
29	SLU 56	32	-22	1055	0	0	0
29	SLU 57	32	-21	1056	0	0	0
29	SLU 58	31	-23	1049	0	0	0
29	SLU 59	32	-21	1051	0	0	0
29	SLU 60	32	-24	1071	0	0	0
29	SLU 61	32	-23	1073	0	0	0
29	SLU 62	32	-24	1080	0	0	0
29	SLU 63	32	-22	1082	0	0	0
29	SLU 64	33	-21	1042	0	0	0
29	SLU 65	33	-19	1044	0	0	0
29	SLU 66	33	-20	1056	0	0	0
29	SLU 67	33	-19	1058	0	0	0
29	SLU 68	33	-19	1054	0	0	0
29	SLU 69	33	-20	1066	0	0	0
29	SLU 70	33	-19	1067	0	0	0
29	SLU 71	33	-20	1060	0	0	0
29	SLU 72	33	-19	1062	0	0	0
29	SLU 73	35	-20	1139	0	0	0
29	SLU 74	35	-22	1152	0	0	0
29	SLU 75	35	-21	1153	0	0	0
29	SLU 76	35	-20	1149	0	0	0
29	SLU 77	35	-21	1161	0	0	0
29	SLU 78	35	-20	1163	0	0	0
29	SLU 79	34	-21	1156	0	0	0
29	SLU 80	35	-20	1157	0	0	0
29	SLU 81	35	-23	1177	0	0	0
29	SLU 82	35	-22	1179	0	0	0
29	SLU 83	35	-22	1187	0	0	0
29	SLU 84	35	-21	1188	0	0	0
29	SLE RA 1	25	-16	778	0	0	0
29	SLE RA 2	25	-15	780	0	0	0
29	SLE RA 3	25	-16	788	0	0	0
29	SLE RA 4	25	-15	789	0	0	0
29	SLE RA 5	25	-15	786	0	0	0
29	SLE RA 6	25	-16	794	0	0	0
29	SLE RA 7	25	-15	795	0	0	0
29	SLE RA 8	25	-16	790	0	0	0
29	SLE RA 9	25	-15	791	0	0	0
29	SLE RA 10	26	-16	843	0	0	0
29	SLE RA 11	26	-17	851	0	0	0
29	SLE RA 12	26	-16	852	0	0	0
29	SLE RA 13	26	-16	849	0	0	0
29	SLE RA 14	26	-17	857	0	0	0
29	SLE RA 15	26	-16	858	0	0	0
29	SLE RA 16	26	-17	854	0	0	0
29	SLE RA 17	26	-16	855	0	0	0
29	SLE RA 18	26	-18	868	0	0	0
29	SLE RA 19	26	-17	869	0	0	0
29	SLE RA 20	26	-17	875	0	0	0
29	SLE RA 21	26	-17	876	0	0	0
29	SLE FR 1	25	-16	778	0	0	0
29	SLE FR 2	25	-16	778	0	0	0
29	SLE FR 3	25	-16	780	0	0	0
29	SLE FR 4	25	-16	805	0	0	0
29	SLE FR 5	25	-17	808	0	0	0
29	SLE FR 6	25	-17	823	0	0	0
29	SLE QP 1	25	-16	778	0	0	0
29	SLE QP 2	25	-17	805	0	0	0
29	SLD 1	69	-12	790	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
29	SLD 2	73	-8	790	0	0	0
29	SLD 3	64	-31	749	0	0	0
29	SLD 4	67	-28	749	0	0	0
29	SLD 5	45	13	863	0	0	0
29	SLD 6	48	16	863	0	0	0
29	SLD 7	28	-51	726	0	0	0
29	SLD 8	30	-49	726	0	0	0
29	SLD 9	20	15	884	0	0	0
29	SLD 10	22	18	884	0	0	0
29	SLD 11	2	-49	747	0	0	0
29	SLD 12	5	-47	747	0	0	0
29	SLD 13	-17	-6	861	0	0	0
29	SLD 14	-13	-2	861	0	0	0
29	SLD 15	-22	-25	820	0	0	0
29	SLD 16	-19	-21	820	0	0	0
29	SLV 1	94	-8	785	0	0	0
29	SLV 2	100	-2	784	0	0	0
29	SLV 3	85	-41	714	0	0	0
29	SLV 4	91	-35	714	0	0	0
29	SLV 5	58	35	905	0	0	0
29	SLV 6	62	39	905	0	0	0
29	SLV 7	28	-75	671	0	0	0
29	SLV 8	32	-71	671	0	0	0
29	SLV 9	18	38	939	0	0	0
29	SLV 10	22	42	939	0	0	0
29	SLV 11	-12	-72	705	0	0	0
29	SLV 12	-8	-68	705	0	0	0
29	SLV 13	-41	2	896	0	0	0
29	SLV 14	-35	8	896	0	0	0
29	SLV 15	-50	-31	826	0	0	0
29	SLV 16	-44	-25	825	0	0	0
29	SLV FO 1	101	-7	783	0	0	0
29	SLV FO 2	107	-1	782	0	0	0
29	SLV FO 3	91	-44	705	0	0	0
29	SLV FO 4	98	-37	705	0	0	0
29	SLV FO 5	61	40	915	0	0	0
29	SLV FO 6	66	44	915	0	0	0
29	SLV FO 7	29	-81	658	0	0	0
29	SLV FO 8	33	-77	658	0	0	0
29	SLV FO 9	17	43	952	0	0	0
29	SLV FO 10	22	47	952	0	0	0
29	SLV FO 11	-16	-77	695	0	0	0
29	SLV FO 12	-11	-73	695	0	0	0
29	SLV FO 13	-47	4	905	0	0	0
29	SLV FO 14	-41	10	905	0	0	0
29	SLV FO 15	-57	-32	828	0	0	0
29	SLV FO 16	-51	-26	827	0	0	0
30	SLU 1	24	-18	751	0	0	0
30	SLU 2	24	-16	754	0	0	0
30	SLU 3	24	-17	766	0	0	0
30	SLU 4	25	-16	768	0	0	0
30	SLU 5	25	-16	763	0	0	0
30	SLU 6	24	-17	776	0	0	0
30	SLU 7	25	-16	777	0	0	0
30	SLU 8	24	-17	770	0	0	0
30	SLU 9	24	-16	772	0	0	0
30	SLU 10	26	-18	850	0	0	0
30	SLU 11	26	-19	862	0	0	0
30	SLU 12	26	-18	864	0	0	0
30	SLU 13	26	-17	859	0	0	0
30	SLU 14	26	-18	872	0	0	0
30	SLU 15	26	-17	873	0	0	0
30	SLU 16	26	-19	867	0	0	0
30	SLU 17	26	-17	868	0	0	0
30	SLU 18	26	-20	889	0	0	0
30	SLU 19	26	-19	890	0	0	0
30	SLU 20	26	-20	898	0	0	0
30	SLU 21	26	-18	900	0	0	0
30	SLU 22	27	-17	858	0	0	0
30	SLU 23	28	-15	861	0	0	0
30	SLU 24	28	-16	873	0	0	0
30	SLU 25	28	-15	875	0	0	0
30	SLU 26	28	-15	870	0	0	0
30	SLU 27	28	-16	883	0	0	0
30	SLU 28	28	-15	884	0	0	0
30	SLU 29	27	-16	878	0	0	0
30	SLU 30	28	-15	879	0	0	0
30	SLU 31	29	-16	957	0	0	0
30	SLU 32	29	-18	970	0	0	0
30	SLU 33	29	-17	971	0	0	0
30	SLU 34	29	-16	967	0	0	0
30	SLU 35	29	-17	979	0	0	0
30	SLU 36	29	-16	981	0	0	0
30	SLU 37	29	-17	974	0	0	0
30	SLU 38	29	-16	975	0	0	0
30	SLU 39	29	-19	996	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
30	SLU 40	30	-18	997	0	0	0
30	SLU 41	29	-18	1005	0	0	0
30	SLU 42	30	-17	1007	0	0	0
30	SLU 43	30	-24	940	0	0	0
30	SLU 44	31	-22	942	0	0	0
30	SLU 45	30	-23	955	0	0	0
30	SLU 46	31	-22	956	0	0	0
30	SLU 47	31	-21	952	0	0	0
30	SLU 48	31	-23	964	0	0	0
30	SLU 49	31	-22	966	0	0	0
30	SLU 50	30	-23	959	0	0	0
30	SLU 51	31	-22	961	0	0	0
30	SLU 52	32	-23	1039	0	0	0
30	SLU 53	32	-25	1051	0	0	0
30	SLU 54	32	-24	1053	0	0	0
30	SLU 55	32	-23	1048	0	0	0
30	SLU 56	32	-24	1061	0	0	0
30	SLU 57	32	-23	1062	0	0	0
30	SLU 58	32	-24	1055	0	0	0
30	SLU 59	32	-23	1057	0	0	0
30	SLU 60	32	-26	1077	0	0	0
30	SLU 61	33	-25	1079	0	0	0
30	SLU 62	32	-25	1087	0	0	0
30	SLU 63	33	-24	1088	0	0	0
30	SLU 64	33	-23	1047	0	0	0
30	SLU 65	34	-21	1049	0	0	0
30	SLU 66	34	-22	1062	0	0	0
30	SLU 67	34	-21	1064	0	0	0
30	SLU 68	34	-20	1059	0	0	0
30	SLU 69	34	-22	1072	0	0	0
30	SLU 70	34	-21	1073	0	0	0
30	SLU 71	34	-22	1066	0	0	0
30	SLU 72	34	-21	1068	0	0	0
30	SLU 73	35	-22	1146	0	0	0
30	SLU 74	35	-24	1158	0	0	0
30	SLU 75	35	-22	1160	0	0	0
30	SLU 76	35	-22	1155	0	0	0
30	SLU 77	35	-23	1168	0	0	0
30	SLU 78	35	-22	1169	0	0	0
30	SLU 79	35	-23	1162	0	0	0
30	SLU 80	35	-22	1164	0	0	0
30	SLU 81	35	-25	1184	0	0	0
30	SLU 82	36	-24	1186	0	0	0
30	SLU 83	36	-24	1194	0	0	0
30	SLU 84	36	-23	1195	0	0	0
30	SLE RA 1	25	-18	782	0	0	0
30	SLE RA 2	25	-16	783	0	0	0
30	SLE RA 3	25	-17	792	0	0	0
30	SLE RA 4	25	-17	793	0	0	0
30	SLE RA 5	25	-16	790	0	0	0
30	SLE RA 6	25	-17	798	0	0	0
30	SLE RA 7	25	-16	799	0	0	0
30	SLE RA 8	25	-17	795	0	0	0
30	SLE RA 9	25	-16	796	0	0	0
30	SLE RA 10	26	-17	848	0	0	0
30	SLE RA 11	26	-18	856	0	0	0
30	SLE RA 12	26	-18	857	0	0	0
30	SLE RA 13	26	-17	854	0	0	0
30	SLE RA 14	26	-18	862	0	0	0
30	SLE RA 15	26	-17	863	0	0	0
30	SLE RA 16	26	-18	859	0	0	0
30	SLE RA 17	26	-17	860	0	0	0
30	SLE RA 18	26	-19	873	0	0	0
30	SLE RA 19	27	-18	874	0	0	0
30	SLE RA 20	26	-19	880	0	0	0
30	SLE RA 21	27	-18	881	0	0	0
30	SLE FR 1	25	-18	782	0	0	0
30	SLE FR 2	25	-17	782	0	0	0
30	SLE FR 3	25	-18	784	0	0	0
30	SLE FR 4	25	-18	810	0	0	0
30	SLE FR 5	25	-18	812	0	0	0
30	SLE FR 6	26	-18	828	0	0	0
30	SLE QP 1	25	-18	782	0	0	0
30	SLE QP 2	25	-18	809	0	0	0
30	SLD 1	70	-12	800	0	0	0
30	SLD 2	74	-9	800	0	0	0
30	SLD 3	64	-33	760	0	0	0
30	SLD 4	68	-29	760	0	0	0
30	SLD 5	46	14	867	0	0	0
30	SLD 6	49	16	867	0	0	0
30	SLD 7	28	-53	734	0	0	0
30	SLD 8	31	-51	734	0	0	0
30	SLD 9	20	15	885	0	0	0
30	SLD 10	22	17	885	0	0	0
30	SLD 11	2	-52	751	0	0	0
30	SLD 12	5	-50	751	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
30	SLD 13	-17	-7	859	0	0	0
30	SLD 14	-14	-4	859	0	0	0
30	SLD 15	-23	-27	819	0	0	0
30	SLD 16	-19	-24	819	0	0	0
30	SLV 1	95	-8	797	0	0	0
30	SLV 2	101	-3	798	0	0	0
30	SLV 3	86	-42	729	0	0	0
30	SLV 4	92	-37	729	0	0	0
30	SLV 5	59	36	909	0	0	0
30	SLV 6	63	39	909	0	0	0
30	SLV 7	29	-78	682	0	0	0
30	SLV 8	33	-75	682	0	0	0
30	SLV 9	18	39	937	0	0	0
30	SLV 10	22	42	937	0	0	0
30	SLV 11	-12	-75	709	0	0	0
30	SLV 12	-8	-72	709	0	0	0
30	SLV 13	-41	1	889	0	0	0
30	SLV 14	-35	6	890	0	0	0
30	SLV 15	-50	-33	821	0	0	0
30	SLV 16	-44	-28	821	0	0	0
30	SLV FO 1	102	-7	796	0	0	0
30	SLV FO 2	109	-1	796	0	0	0
30	SLV FO 3	92	-45	721	0	0	0
30	SLV FO 4	99	-39	721	0	0	0
30	SLV FO 5	62	41	919	0	0	0
30	SLV FO 6	67	45	919	0	0	0
30	SLV FO 7	29	-84	669	0	0	0
30	SLV FO 8	34	-80	669	0	0	0
30	SLV FO 9	17	44	950	0	0	0
30	SLV FO 10	22	48	950	0	0	0
30	SLV FO 11	-16	-81	699	0	0	0
30	SLV FO 12	-12	-78	699	0	0	0
30	SLV FO 13	-48	3	897	0	0	0
30	SLV FO 14	-41	8	898	0	0	0
30	SLV FO 15	-58	-35	822	0	0	0
30	SLV FO 16	-51	-29	822	0	0	0
31	SLU 1	24	-19	753	0	0	0
31	SLU 2	25	-17	756	0	0	0
31	SLU 3	25	-19	769	0	0	0
31	SLU 4	25	-18	770	0	0	0
31	SLU 5	25	-17	766	0	0	0
31	SLU 6	25	-18	778	0	0	0
31	SLU 7	25	-17	780	0	0	0
31	SLU 8	24	-18	773	0	0	0
31	SLU 9	25	-17	774	0	0	0
31	SLU 10	26	-19	853	0	0	0
31	SLU 11	26	-20	866	0	0	0
31	SLU 12	26	-19	867	0	0	0
31	SLU 13	26	-18	863	0	0	0
31	SLU 14	26	-20	875	0	0	0
31	SLU 15	26	-19	877	0	0	0
31	SLU 16	26	-20	870	0	0	0
31	SLU 17	26	-19	871	0	0	0
31	SLU 18	26	-21	892	0	0	0
31	SLU 19	27	-20	894	0	0	0
31	SLU 20	27	-21	902	0	0	0
31	SLU 21	27	-20	903	0	0	0
31	SLU 22	28	-18	861	0	0	0
31	SLU 23	28	-16	863	0	0	0
31	SLU 24	28	-18	876	0	0	0
31	SLU 25	28	-17	878	0	0	0
31	SLU 26	28	-16	873	0	0	0
31	SLU 27	28	-17	886	0	0	0
31	SLU 28	28	-16	887	0	0	0
31	SLU 29	28	-17	880	0	0	0
31	SLU 30	28	-16	882	0	0	0
31	SLU 31	29	-18	960	0	0	0
31	SLU 32	29	-19	973	0	0	0
31	SLU 33	30	-18	975	0	0	0
31	SLU 34	29	-17	970	0	0	0
31	SLU 35	29	-19	983	0	0	0
31	SLU 36	30	-18	984	0	0	0
31	SLU 37	29	-19	977	0	0	0
31	SLU 38	29	-18	979	0	0	0
31	SLU 39	30	-20	1000	0	0	0
31	SLU 40	30	-19	1001	0	0	0
31	SLU 41	30	-20	1009	0	0	0
31	SLU 42	30	-19	1011	0	0	0
31	SLU 43	31	-25	943	0	0	0
31	SLU 44	31	-24	945	0	0	0
31	SLU 45	31	-25	958	0	0	0
31	SLU 46	31	-24	959	0	0	0
31	SLU 47	31	-23	955	0	0	0
31	SLU 48	31	-25	967	0	0	0
31	SLU 49	31	-23	969	0	0	0
31	SLU 50	31	-25	962	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLU 51	31	-23	963	0	0	0
31	SLU 52	32	-25	1042	0	0	0
31	SLU 53	32	-26	1055	0	0	0
31	SLU 54	33	-25	1056	0	0	0
31	SLU 55	32	-25	1052	0	0	0
31	SLU 56	32	-26	1065	0	0	0
31	SLU 57	33	-25	1066	0	0	0
31	SLU 58	32	-26	1059	0	0	0
31	SLU 59	32	-25	1060	0	0	0
31	SLU 60	33	-28	1081	0	0	0
31	SLU 61	33	-26	1083	0	0	0
31	SLU 62	33	-27	1091	0	0	0
31	SLU 63	33	-26	1092	0	0	0
31	SLU 64	34	-24	1050	0	0	0
31	SLU 65	34	-22	1053	0	0	0
31	SLU 66	34	-24	1065	0	0	0
31	SLU 67	34	-23	1067	0	0	0
31	SLU 68	34	-22	1062	0	0	0
31	SLU 69	34	-23	1075	0	0	0
31	SLU 70	34	-22	1076	0	0	0
31	SLU 71	34	-24	1070	0	0	0
31	SLU 72	34	-22	1071	0	0	0
31	SLU 73	36	-24	1150	0	0	0
31	SLU 74	36	-25	1162	0	0	0
31	SLU 75	36	-24	1164	0	0	0
31	SLU 76	36	-24	1159	0	0	0
31	SLU 77	36	-25	1172	0	0	0
31	SLU 78	36	-24	1173	0	0	0
31	SLU 79	35	-25	1167	0	0	0
31	SLU 80	36	-24	1168	0	0	0
31	SLU 81	36	-27	1189	0	0	0
31	SLU 82	36	-25	1190	0	0	0
31	SLU 83	36	-26	1199	0	0	0
31	SLU 84	36	-25	1200	0	0	0
31	SLE RA 1	25	-19	784	0	0	0
31	SLE RA 2	26	-18	786	0	0	0
31	SLE RA 3	25	-19	794	0	0	0
31	SLE RA 4	26	-18	795	0	0	0
31	SLE RA 5	26	-17	792	0	0	0
31	SLE RA 6	25	-18	801	0	0	0
31	SLE RA 7	26	-18	802	0	0	0
31	SLE RA 8	25	-18	797	0	0	0
31	SLE RA 9	26	-18	798	0	0	0
31	SLE RA 10	27	-19	850	0	0	0
31	SLE RA 11	26	-20	859	0	0	0
31	SLE RA 12	27	-19	860	0	0	0
31	SLE RA 13	27	-18	857	0	0	0
31	SLE RA 14	26	-19	865	0	0	0
31	SLE RA 15	27	-19	866	0	0	0
31	SLE RA 16	26	-19	862	0	0	0
31	SLE RA 17	26	-19	863	0	0	0
31	SLE RA 18	27	-20	877	0	0	0
31	SLE RA 19	27	-20	878	0	0	0
31	SLE RA 20	27	-20	883	0	0	0
31	SLE RA 21	27	-19	884	0	0	0
31	SLE FR 1	25	-19	784	0	0	0
31	SLE FR 2	25	-19	785	0	0	0
31	SLE FR 3	25	-19	787	0	0	0
31	SLE FR 4	26	-19	812	0	0	0
31	SLE FR 5	26	-19	814	0	0	0
31	SLE FR 6	26	-20	830	0	0	0
31	SLE QP 1	25	-19	784	0	0	0
31	SLE QP 2	26	-19	812	0	0	0
31	SLD 1	71	-13	808	0	0	0
31	SLD 2	74	-10	808	0	0	0
31	SLD 3	65	-34	769	0	0	0
31	SLD 4	69	-31	769	0	0	0
31	SLD 5	47	14	870	0	0	0
31	SLD 6	49	15	870	0	0	0
31	SLD 7	29	-56	740	0	0	0
31	SLD 8	31	-54	740	0	0	0
31	SLD 9	20	15	883	0	0	0
31	SLD 10	23	17	884	0	0	0
31	SLD 11	2	-54	754	0	0	0
31	SLD 12	5	-53	754	0	0	0
31	SLD 13	-18	-8	854	0	0	0
31	SLD 14	-14	-5	855	0	0	0
31	SLD 15	-23	-29	816	0	0	0
31	SLD 16	-19	-26	816	0	0	0
31	SLV 1	96	-8	809	0	0	0
31	SLV 2	102	-4	809	0	0	0
31	SLV 3	87	-43	743	0	0	0
31	SLV 4	93	-39	743	0	0	0
31	SLV 5	60	37	911	0	0	0
31	SLV 6	64	40	911	0	0	0
31	SLV 7	29	-81	691	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLV 8	33	-78	691	0	0	0
31	SLV 9	18	40	933	0	0	0
31	SLV 10	22	42	933	0	0	0
31	SLV 11	-12	-79	712	0	0	0
31	SLV 12	-8	-76	713	0	0	0
31	SLV 13	-42	0	881	0	0	0
31	SLV 14	-36	4	881	0	0	0
31	SLV 15	-51	-35	815	0	0	0
31	SLV 16	-45	-31	815	0	0	0
31	SLV FO 1	103	-6	808	0	0	0
31	SLV FO 2	110	-2	809	0	0	0
31	SLV FO 3	93	-46	736	0	0	0
31	SLV FO 4	100	-41	736	0	0	0
31	SLV FO 5	63	43	921	0	0	0
31	SLV FO 6	68	46	921	0	0	0
31	SLV FO 7	29	-87	679	0	0	0
31	SLV FO 8	34	-84	679	0	0	0
31	SLV FO 9	18	45	945	0	0	0
31	SLV FO 10	22	48	945	0	0	0
31	SLV FO 11	-16	-85	702	0	0	0
31	SLV FO 12	-12	-82	703	0	0	0
31	SLV FO 13	-48	2	888	0	0	0
31	SLV FO 14	-42	7	888	0	0	0
31	SLV FO 15	-59	-37	815	0	0	0
31	SLV FO 16	-52	-32	815	0	0	0
32	SLU 1	25	-21	757	0	0	0
32	SLU 2	25	-19	759	0	0	0
32	SLU 3	25	-20	772	0	0	0
32	SLU 4	25	-19	773	0	0	0
32	SLU 5	25	-18	769	0	0	0
32	SLU 6	25	-20	782	0	0	0
32	SLU 7	25	-19	783	0	0	0
32	SLU 8	25	-20	776	0	0	0
32	SLU 9	25	-19	778	0	0	0
32	SLU 10	27	-20	857	0	0	0
32	SLU 11	26	-22	870	0	0	0
32	SLU 12	27	-21	871	0	0	0
32	SLU 13	27	-20	867	0	0	0
32	SLU 14	26	-21	880	0	0	0
32	SLU 15	27	-20	881	0	0	0
32	SLU 16	26	-21	875	0	0	0
32	SLU 17	26	-20	876	0	0	0
32	SLU 18	27	-23	897	0	0	0
32	SLU 19	27	-22	898	0	0	0
32	SLU 20	27	-23	907	0	0	0
32	SLU 21	27	-21	908	0	0	0
32	SLU 22	28	-20	865	0	0	0
32	SLU 23	28	-18	867	0	0	0
32	SLU 24	28	-19	880	0	0	0
32	SLU 25	28	-18	882	0	0	0
32	SLU 26	28	-17	877	0	0	0
32	SLU 27	28	-19	890	0	0	0
32	SLU 28	28	-18	891	0	0	0
32	SLU 29	28	-19	885	0	0	0
32	SLU 30	28	-18	886	0	0	0
32	SLU 31	30	-19	965	0	0	0
32	SLU 32	30	-21	978	0	0	0
32	SLU 33	30	-20	980	0	0	0
32	SLU 34	30	-19	975	0	0	0
32	SLU 35	30	-20	988	0	0	0
32	SLU 36	30	-19	989	0	0	0
32	SLU 37	29	-20	983	0	0	0
32	SLU 38	30	-19	984	0	0	0
32	SLU 39	30	-22	1005	0	0	0
32	SLU 40	30	-21	1006	0	0	0
32	SLU 41	30	-22	1015	0	0	0
32	SLU 42	30	-20	1016	0	0	0
32	SLU 43	31	-27	947	0	0	0
32	SLU 44	31	-25	949	0	0	0
32	SLU 45	31	-27	962	0	0	0
32	SLU 46	31	-26	963	0	0	0
32	SLU 47	31	-25	959	0	0	0
32	SLU 48	31	-26	972	0	0	0
32	SLU 49	31	-25	973	0	0	0
32	SLU 50	31	-26	966	0	0	0
32	SLU 51	31	-25	968	0	0	0
32	SLU 52	33	-27	1047	0	0	0
32	SLU 53	33	-28	1060	0	0	0
32	SLU 54	33	-27	1061	0	0	0
32	SLU 55	33	-26	1057	0	0	0
32	SLU 56	33	-28	1070	0	0	0
32	SLU 57	33	-27	1071	0	0	0
32	SLU 58	33	-28	1064	0	0	0
32	SLU 59	33	-27	1066	0	0	0
32	SLU 60	33	-30	1087	0	0	0
32	SLU 61	33	-28	1088	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLU 62	33	-29	1097	0	0	0
32	SLU 63	33	-28	1098	0	0	0
32	SLU 64	34	-26	1055	0	0	0
32	SLU 65	35	-24	1057	0	0	0
32	SLU 66	34	-26	1070	0	0	0
32	SLU 67	35	-25	1072	0	0	0
32	SLU 68	35	-24	1067	0	0	0
32	SLU 69	34	-25	1080	0	0	0
32	SLU 70	35	-24	1081	0	0	0
32	SLU 71	34	-25	1075	0	0	0
32	SLU 72	35	-24	1076	0	0	0
32	SLU 73	36	-26	1155	0	0	0
32	SLU 74	36	-27	1168	0	0	0
32	SLU 75	36	-26	1170	0	0	0
32	SLU 76	36	-25	1165	0	0	0
32	SLU 77	36	-27	1178	0	0	0
32	SLU 78	36	-26	1179	0	0	0
32	SLU 79	36	-27	1173	0	0	0
32	SLU 80	36	-26	1174	0	0	0
32	SLU 81	36	-29	1195	0	0	0
32	SLU 82	37	-27	1196	0	0	0
32	SLU 83	36	-28	1205	0	0	0
32	SLU 84	37	-27	1206	0	0	0
32	SLE RA 1	26	-20	788	0	0	0
32	SLE RA 2	26	-19	789	0	0	0
32	SLE RA 3	26	-20	798	0	0	0
32	SLE RA 4	26	-19	799	0	0	0
32	SLE RA 5	26	-19	796	0	0	0
32	SLE RA 6	26	-20	804	0	0	0
32	SLE RA 7	26	-19	805	0	0	0
32	SLE RA 8	26	-20	801	0	0	0
32	SLE RA 9	26	-19	802	0	0	0
32	SLE RA 10	27	-20	855	0	0	0
32	SLE RA 11	27	-21	863	0	0	0
32	SLE RA 12	27	-20	864	0	0	0
32	SLE RA 13	27	-20	861	0	0	0
32	SLE RA 14	27	-21	870	0	0	0
32	SLE RA 15	27	-20	871	0	0	0
32	SLE RA 16	27	-21	866	0	0	0
32	SLE RA 17	27	-20	867	0	0	0
32	SLE RA 18	27	-22	881	0	0	0
32	SLE RA 19	27	-21	882	0	0	0
32	SLE RA 20	27	-22	888	0	0	0
32	SLE RA 21	27	-21	889	0	0	0
32	SLE FR 1	26	-20	788	0	0	0
32	SLE FR 2	26	-20	788	0	0	0
32	SLE FR 3	26	-20	790	0	0	0
32	SLE FR 4	26	-21	816	0	0	0
32	SLE FR 5	26	-21	818	0	0	0
32	SLE FR 6	26	-21	834	0	0	0
32	SLE QP 1	26	-20	788	0	0	0
32	SLE QP 2	26	-21	816	0	0	0
32	SLD 1	71	-13	817	0	0	0
32	SLD 2	75	-11	818	0	0	0
32	SLD 3	66	-35	780	0	0	0
32	SLD 4	70	-33	780	0	0	0
32	SLD 5	47	14	873	0	0	0
32	SLD 6	50	15	873	0	0	0
32	SLD 7	29	-58	748	0	0	0
32	SLD 8	32	-57	748	0	0	0
32	SLD 9	20	15	883	0	0	0
32	SLD 10	23	16	883	0	0	0
32	SLD 11	2	-57	758	0	0	0
32	SLD 12	5	-56	758	0	0	0
32	SLD 13	-18	-9	851	0	0	0
32	SLD 14	-14	-7	851	0	0	0
32	SLD 15	-23	-31	814	0	0	0
32	SLD 16	-19	-29	814	0	0	0
32	SLV 1	97	-7	821	0	0	0
32	SLV 2	104	-4	822	0	0	0
32	SLV 3	88	-44	757	0	0	0
32	SLV 4	94	-41	758	0	0	0
32	SLV 5	60	38	914	0	0	0
32	SLV 6	65	41	914	0	0	0
32	SLV 7	29	-84	701	0	0	0
32	SLV 8	33	-82	702	0	0	0
32	SLV 9	19	41	930	0	0	0
32	SLV 10	23	43	930	0	0	0
32	SLV 11	-13	-82	717	0	0	0
32	SLV 12	-8	-80	717	0	0	0
32	SLV 13	-42	-1	874	0	0	0
32	SLV 14	-36	3	874	0	0	0
32	SLV 15	-52	-37	810	0	0	0
32	SLV 16	-45	-34	810	0	0	0
32	SLV FO 1	104	-6	822	0	0	0
32	SLV FO 2	111	-3	822	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLV FO 3	94	-47	751	0	0	0
32	SLV FO 4	101	-43	752	0	0	0
32	SLV FO 5	64	44	924	0	0	0
32	SLV FO 6	68	47	924	0	0	0
32	SLV FO 7	30	-91	690	0	0	0
32	SLV FO 8	34	-88	690	0	0	0
32	SLV FO 9	18	47	941	0	0	0
32	SLV FO 10	22	49	942	0	0	0
32	SLV FO 11	-16	-88	707	0	0	0
32	SLV FO 12	-12	-86	707	0	0	0
32	SLV FO 13	-49	1	879	0	0	0
32	SLV FO 14	-42	5	880	0	0	0
32	SLV FO 15	-59	-39	809	0	0	0
32	SLV FO 16	-52	-36	810	0	0	0
33	SLU 1	20	-19	602	0	0	0
33	SLU 2	20	-18	604	0	0	0
33	SLU 3	20	-19	615	0	0	0
33	SLU 4	20	-18	616	0	0	0
33	SLU 5	20	-17	612	0	0	0
33	SLU 6	20	-18	623	0	0	0
33	SLU 7	21	-17	624	0	0	0
33	SLU 8	20	-19	618	0	0	0
33	SLU 9	20	-18	619	0	0	0
33	SLU 10	22	-19	683	0	0	0
33	SLU 11	21	-20	694	0	0	0
33	SLU 12	22	-19	695	0	0	0
33	SLU 13	22	-19	691	0	0	0
33	SLU 14	22	-20	702	0	0	0
33	SLU 15	22	-19	703	0	0	0
33	SLU 16	21	-20	698	0	0	0
33	SLU 17	22	-19	699	0	0	0
33	SLU 18	22	-21	716	0	0	0
33	SLU 19	22	-20	716	0	0	0
33	SLU 20	22	-21	724	0	0	0
33	SLU 21	22	-20	724	0	0	0
33	SLU 22	23	-19	689	0	0	0
33	SLU 23	23	-17	690	0	0	0
33	SLU 24	23	-18	701	0	0	0
33	SLU 25	23	-17	702	0	0	0
33	SLU 26	23	-17	698	0	0	0
33	SLU 27	23	-18	709	0	0	0
33	SLU 28	23	-17	710	0	0	0
33	SLU 29	23	-18	705	0	0	0
33	SLU 30	23	-17	706	0	0	0
33	SLU 31	24	-18	769	0	0	0
33	SLU 32	24	-20	780	0	0	0
33	SLU 33	24	-19	781	0	0	0
33	SLU 34	24	-18	777	0	0	0
33	SLU 35	24	-19	788	0	0	0
33	SLU 36	24	-18	789	0	0	0
33	SLU 37	24	-19	784	0	0	0
33	SLU 38	24	-18	785	0	0	0
33	SLU 39	24	-21	802	0	0	0
33	SLU 40	25	-20	803	0	0	0
33	SLU 41	24	-20	810	0	0	0
33	SLU 42	25	-19	811	0	0	0
33	SLU 43	25	-25	753	0	0	0
33	SLU 44	25	-24	755	0	0	0
33	SLU 45	25	-25	766	0	0	0
33	SLU 46	26	-24	767	0	0	0
33	SLU 47	26	-23	763	0	0	0
33	SLU 48	25	-25	774	0	0	0
33	SLU 49	26	-23	775	0	0	0
33	SLU 50	25	-25	770	0	0	0
33	SLU 51	25	-24	770	0	0	0
33	SLU 52	27	-25	834	0	0	0
33	SLU 53	27	-26	845	0	0	0
33	SLU 54	27	-25	846	0	0	0
33	SLU 55	27	-25	842	0	0	0
33	SLU 56	27	-26	853	0	0	0
33	SLU 57	27	-25	854	0	0	0
33	SLU 58	26	-26	849	0	0	0
33	SLU 59	27	-25	850	0	0	0
33	SLU 60	27	-27	867	0	0	0
33	SLU 61	27	-26	868	0	0	0
33	SLU 62	27	-27	875	0	0	0
33	SLU 63	27	-26	876	0	0	0
33	SLU 64	28	-25	840	0	0	0
33	SLU 65	28	-23	841	0	0	0
33	SLU 66	28	-24	852	0	0	0
33	SLU 67	28	-23	853	0	0	0
33	SLU 68	28	-23	849	0	0	0
33	SLU 69	28	-24	860	0	0	0
33	SLU 70	28	-23	861	0	0	0
33	SLU 71	28	-24	856	0	0	0
33	SLU 72	28	-23	857	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
33	SLU 73	29	-24	920	0	0	0
33	SLU 74	29	-26	931	0	0	0
33	SLU 75	29	-25	932	0	0	0
33	SLU 76	29	-24	928	0	0	0
33	SLU 77	29	-25	939	0	0	0
33	SLU 78	29	-24	940	0	0	0
33	SLU 79	29	-25	935	0	0	0
33	SLU 80	29	-24	936	0	0	0
33	SLU 81	30	-27	953	0	0	0
33	SLU 82	30	-26	954	0	0	0
33	SLU 83	30	-26	961	0	0	0
33	SLU 84	30	-25	962	0	0	0
33	SLE RA 1	21	-19	627	0	0	0
33	SLE RA 2	21	-18	628	0	0	0
33	SLE RA 3	21	-19	635	0	0	0
33	SLE RA 4	21	-18	636	0	0	0
33	SLE RA 5	21	-18	633	0	0	0
33	SLE RA 6	21	-19	641	0	0	0
33	SLE RA 7	21	-18	641	0	0	0
33	SLE RA 8	21	-19	638	0	0	0
33	SLE RA 9	21	-18	638	0	0	0
33	SLE RA 10	22	-19	681	0	0	0
33	SLE RA 11	22	-20	688	0	0	0
33	SLE RA 12	22	-19	689	0	0	0
33	SLE RA 13	22	-19	686	0	0	0
33	SLE RA 14	22	-20	693	0	0	0
33	SLE RA 15	22	-19	694	0	0	0
33	SLE RA 16	22	-20	691	0	0	0
33	SLE RA 17	22	-19	691	0	0	0
33	SLE RA 18	22	-21	702	0	0	0
33	SLE RA 19	22	-20	703	0	0	0
33	SLE RA 20	22	-20	708	0	0	0
33	SLE RA 21	22	-20	708	0	0	0
33	SLE FR 1	21	-19	627	0	0	0
33	SLE FR 2	21	-19	627	0	0	0
33	SLE FR 3	21	-19	629	0	0	0
33	SLE FR 4	21	-19	650	0	0	0
33	SLE FR 5	21	-19	652	0	0	0
33	SLE FR 6	21	-20	665	0	0	0
33	SLE QP 1	21	-19	627	0	0	0
33	SLE QP 2	21	-20	650	0	0	0
33	SLD 1	58	-12	657	0	0	0
33	SLD 2	61	-11	658	0	0	0
33	SLD 3	54	-30	631	0	0	0
33	SLD 4	57	-30	631	0	0	0
33	SLD 5	38	11	692	0	0	0
33	SLD 6	41	11	692	0	0	0
33	SLD 7	24	-51	604	0	0	0
33	SLD 8	26	-51	604	0	0	0
33	SLD 9	17	12	695	0	0	0
33	SLD 10	19	12	695	0	0	0
33	SLD 11	2	-50	607	0	0	0
33	SLD 12	4	-50	608	0	0	0
33	SLD 13	-14	-9	668	0	0	0
33	SLD 14	-11	-9	669	0	0	0
33	SLD 15	-19	-28	642	0	0	0
33	SLD 16	-16	-27	642	0	0	0
33	SLV 1	79	-6	663	0	0	0
33	SLV 2	84	-6	664	0	0	0
33	SLV 3	72	-38	618	0	0	0
33	SLV 4	77	-38	619	0	0	0
33	SLV 5	49	33	722	0	0	0
33	SLV 6	53	33	722	0	0	0
33	SLV 7	24	-74	572	0	0	0
33	SLV 8	27	-73	572	0	0	0
33	SLV 9	15	34	727	0	0	0
33	SLV 10	19	35	728	0	0	0
33	SLV 11	-10	-72	577	0	0	0
33	SLV 12	-7	-72	578	0	0	0
33	SLV 13	-34	-1	681	0	0	0
33	SLV 14	-29	-1	681	0	0	0
33	SLV 15	-42	-33	636	0	0	0
33	SLV 16	-37	-33	636	0	0	0
33	SLV FO 1	85	-5	664	0	0	0
33	SLV FO 2	91	-4	665	0	0	0
33	SLV FO 3	77	-40	615	0	0	0
33	SLV FO 4	82	-39	616	0	0	0
33	SLV FO 5	52	38	729	0	0	0
33	SLV FO 6	56	39	729	0	0	0
33	SLV FO 7	24	-79	564	0	0	0
33	SLV FO 8	28	-79	565	0	0	0
33	SLV FO 9	15	40	735	0	0	0
33	SLV FO 10	18	40	735	0	0	0
33	SLV FO 11	-13	-78	570	0	0	0
33	SLV FO 12	-10	-77	570	0	0	0
33	SLV FO 13	-40	0	684	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
33	SLV FO 14	-34	1	685	0	0	0
33	SLV FO 15	-48	-35	634	0	0	0
33	SLV FO 16	-43	-34	635	0	0	0
35	SLU 1	32	-29	989	-43.52	0.01	1.43
35	SLU 2	33	-26	992	-43.65	0.01	1.45
35	SLU 3	33	-28	1009	-44.41	0.01	1.44
35	SLU 4	33	-27	1011	-44.48	0.01	1.46
35	SLU 5	33	-26	1005	-44.22	0.01	1.45
35	SLU 6	33	-28	1022	-44.98	0.02	1.45
35	SLU 7	33	-26	1024	-45.05	0.02	1.46
35	SLU 8	33	-28	1015	-44.67	0.01	1.43
35	SLU 9	33	-26	1017	-44.74	0.01	1.45
35	SLU 10	35	-28	1121	-49.32	0.02	1.54
35	SLU 11	35	-30	1138	-50.08	0.02	1.53
35	SLU 12	35	-29	1140	-50.16	0.02	1.54
35	SLU 13	35	-28	1134	-49.89	0.02	1.54
35	SLU 14	35	-30	1151	-50.65	0.02	1.53
35	SLU 15	35	-28	1153	-50.73	0.02	1.55
35	SLU 16	35	-30	1144	-50.34	0.02	1.52
35	SLU 17	35	-28	1146	-50.41	0.02	1.53
35	SLU 18	35	-32	1173	-51.63	0.02	1.55
35	SLU 19	36	-30	1175	-51.7	0.02	1.56
35	SLU 20	35	-31	1186	-52.2	0.02	1.55
35	SLU 21	36	-30	1188	-52.27	0.02	1.57
35	SLU 22	37	-28	1131	-49.75	0.02	1.62
35	SLU 23	37	-25	1133	-49.87	0.02	1.64
35	SLU 24	37	-27	1151	-50.64	0.02	1.63
35	SLU 25	37	-25	1152	-50.71	0.02	1.65
35	SLU 26	37	-24	1146	-50.44	0.02	1.64
35	SLU 27	37	-26	1164	-51.21	0.02	1.63
35	SLU 28	37	-25	1165	-51.28	0.02	1.65
35	SLU 29	37	-26	1157	-50.89	0.02	1.62
35	SLU 30	37	-25	1158	-50.97	0.02	1.64
35	SLU 31	39	-27	1262	-55.55	0.02	1.73
35	SLU 32	39	-29	1280	-56.31	0.02	1.72
35	SLU 33	39	-28	1281	-56.38	0.02	1.73
35	SLU 34	39	-27	1275	-56.12	0.02	1.73
35	SLU 35	39	-29	1293	-56.88	0.02	1.72
35	SLU 36	39	-27	1294	-56.95	0.02	1.73
35	SLU 37	39	-29	1286	-56.57	0.02	1.71
35	SLU 38	39	-27	1287	-56.64	0.02	1.72
35	SLU 39	40	-31	1315	-57.86	0.02	1.74
35	SLU 40	40	-29	1317	-57.93	0.02	1.75
35	SLU 41	40	-30	1328	-58.43	0.02	1.74
35	SLU 42	40	-29	1330	-58.5	0.02	1.76
35	SLU 43	41	-38	1237	-54.45	0.02	1.79
35	SLU 44	41	-35	1240	-54.57	0.02	1.81
35	SLU 45	41	-37	1258	-55.33	0.02	1.81
35	SLU 46	41	-36	1259	-55.4	0.02	1.82
35	SLU 47	41	-35	1253	-55.14	0.02	1.82
35	SLU 48	41	-37	1271	-55.9	0.02	1.81
35	SLU 49	41	-35	1272	-55.98	0.02	1.82
35	SLU 50	41	-37	1263	-55.59	0.02	1.8
35	SLU 51	41	-35	1265	-55.66	0.02	1.81
35	SLU 52	43	-37	1369	-60.24	0.02	1.9
35	SLU 53	43	-39	1386	-61.01	0.02	1.89
35	SLU 54	43	-38	1388	-61.08	0.02	1.91
35	SLU 55	43	-37	1382	-60.81	0.02	1.9
35	SLU 56	43	-39	1399	-61.58	0.02	1.9
35	SLU 57	43	-37	1401	-61.65	0.02	1.91
35	SLU 58	43	-39	1392	-61.26	0.02	1.88
35	SLU 59	43	-37	1394	-61.34	0.02	1.9
35	SLU 60	44	-41	1422	-62.55	0.02	1.91
35	SLU 61	44	-39	1423	-62.62	0.02	1.93
35	SLU 62	44	-40	1435	-63.12	0.02	1.92
35	SLU 63	44	-39	1436	-63.2	0.02	1.93
35	SLU 64	45	-37	1379	-60.67	0.02	1.98
35	SLU 65	46	-34	1382	-60.79	0.02	2
35	SLU 66	45	-36	1399	-61.56	0.02	2
35	SLU 67	46	-34	1401	-61.63	0.02	2.01
35	SLU 68	46	-33	1395	-61.37	0.02	2.01
35	SLU 69	45	-35	1412	-62.13	0.02	2
35	SLU 70	46	-34	1414	-62.2	0.02	2.01
35	SLU 71	45	-35	1405	-61.82	0.02	1.99
35	SLU 72	45	-34	1407	-61.89	0.02	2
35	SLU 73	47	-36	1511	-66.47	0.02	2.09
35	SLU 74	47	-38	1528	-67.23	0.02	2.08
35	SLU 75	48	-37	1530	-67.31	0.02	2.09
35	SLU 76	48	-36	1524	-67.04	0.02	2.09
35	SLU 77	47	-38	1541	-67.8	0.02	2.08
35	SLU 78	48	-36	1543	-67.88	0.02	2.1
35	SLU 79	47	-38	1534	-67.49	0.02	2.07
35	SLU 80	47	-36	1536	-67.56	0.02	2.09
35	SLU 81	48	-40	1563	-68.78	0.02	2.1
35	SLU 82	48	-38	1565	-68.85	0.02	2.12
35	SLU 83	48	-39	1576	-69.35	0.02	2.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
35	SLU 84	48	-38	1578	-69.42	0.02	2.12
35	SLE RA 1	34	-28	1030	-45.3	0.02	1.48
35	SLE RA 2	34	-27	1031	-45.38	0.02	1.5
35	SLE RA 3	34	-28	1043	-45.89	0.02	1.49
35	SLE RA 4	34	-27	1044	-45.94	0.02	1.5
35	SLE RA 5	34	-26	1040	-45.76	0.02	1.5
35	SLE RA 6	34	-28	1052	-46.27	0.02	1.49
35	SLE RA 7	34	-27	1053	-46.32	0.02	1.5
35	SLE RA 8	34	-28	1047	-46.06	0.02	1.49
35	SLE RA 9	34	-27	1048	-46.11	0.02	1.5
35	SLE RA 10	35	-28	1117	-49.17	0.02	1.55
35	SLE RA 11	35	-30	1129	-49.68	0.02	1.55
35	SLE RA 12	35	-28	1130	-49.72	0.02	1.56
35	SLE RA 13	35	-28	1126	-49.55	0.02	1.56
35	SLE RA 14	35	-29	1138	-50.06	0.02	1.55
35	SLE RA 15	35	-28	1139	-50.11	0.02	1.56
35	SLE RA 16	35	-29	1133	-49.85	0.02	1.54
35	SLE RA 17	35	-28	1134	-49.9	0.02	1.55
35	SLE RA 18	36	-31	1152	-50.71	0.02	1.56
35	SLE RA 19	36	-30	1154	-50.75	0.02	1.57
35	SLE RA 20	36	-30	1161	-51.09	0.02	1.57
35	SLE RA 21	36	-29	1162	-51.14	0.02	1.57
35	SLE FR 1	34	-28	1030	-45.3	0.02	1.48
35	SLE FR 2	34	-28	1030	-45.32	0.02	1.49
35	SLE FR 3	34	-28	1033	-45.45	0.02	1.48
35	SLE FR 4	34	-29	1067	-46.94	0.02	1.51
35	SLE FR 5	34	-29	1070	-47.08	0.02	1.51
35	SLE FR 6	35	-30	1091	-48	0.02	1.52
35	SLE QP 1	34	-28	1030	-45.3	0.02	1.48
35	SLE QP 2	34	-29	1066	-46.92	0.02	1.51
35	SLD 1	94	-18	1075	-47.32	0.02	4.13
35	SLD 2	99	-16	1076	-47.35	0.02	4.36
35	SLD 3	87	-47	1029	-45.26	0.02	3.82
35	SLD 4	92	-45	1029	-45.29	0.02	4.04
35	SLD 5	62	18	1140	-50.16	0.02	2.74
35	SLD 6	66	19	1140	-50.18	0.02	2.88
35	SLD 7	38	-79	984	-43.3	0.01	1.68
35	SLD 8	41	-78	985	-43.32	0.01	1.83
35	SLD 9	27	20	1148	-50.53	0.02	1.19
35	SLD 10	30	21	1149	-50.55	0.02	1.33
35	SLD 11	3	-77	992	-43.67	0.01	0.13
35	SLD 12	6	-76	993	-43.69	0.01	0.28
35	SLD 13	-23	-13	1103	-48.55	0.02	-1.03
35	SLD 14	-18	-11	1104	-48.58	0.02	-0.8
35	SLD 15	-31	-42	1057	-46.49	0.02	-1.35
35	SLD 16	-25	-40	1057	-46.52	0.02	-1.12
35	SLV 1	128	-10	1084	-47.69	0.02	5.64
35	SLV 2	136	-7	1085	-47.74	0.02	6
35	SLV 3	116	-59	1004	-44.18	0.01	5.1
35	SLV 4	124	-57	1005	-44.22	0.01	5.46
35	SLV 5	80	52	1193	-52.47	0.02	3.5
35	SLV 6	85	53	1193	-52.5	0.02	3.74
35	SLV 7	38	-114	926	-40.76	0.01	1.7
35	SLV 8	44	-112	927	-40.8	0.01	1.94
35	SLV 9	24	54	1206	-53.05	0.02	1.08
35	SLV 10	30	56	1206	-53.08	0.02	1.32
35	SLV 11	-17	-112	940	-41.34	0.01	-0.73
35	SLV 12	-11	-110	940	-41.38	0.01	-0.49
35	SLV 13	-56	-2	1128	-49.62	0.02	-2.44
35	SLV 14	-47	1	1129	-49.67	0.02	-2.08
35	SLV 15	-68	-51	1048	-46.11	0.02	-2.98
35	SLV 16	-60	-49	1049	-46.16	0.02	-2.62
35	SLV FO 1	138	-8	1086	-47.76	0.02	6.05
35	SLV FO 2	147	-5	1087	-47.82	0.02	6.45
35	SLV FO 3	124	-62	998	-43.9	0.01	5.46
35	SLV FO 4	133	-59	999	-43.95	0.01	5.85
35	SLV FO 5	84	60	1205	-53.02	0.02	3.7
35	SLV FO 6	90	62	1206	-53.06	0.02	3.97
35	SLV FO 7	39	-123	912	-40.15	0.01	1.71
35	SLV FO 8	45	-120	913	-40.18	0.01	1.98
35	SLV FO 9	23	62	1220	-53.66	0.02	1.03
35	SLV FO 10	30	64	1220	-53.7	0.02	1.3
35	SLV FO 11	-22	-120	927	-40.79	0.01	-0.95
35	SLV FO 12	-16	-118	928	-40.82	0.01	-0.69
35	SLV FO 13	-65	1	1134	-49.89	0.02	-2.84
35	SLV FO 14	-56	4	1135	-49.94	0.02	-2.44
35	SLV FO 15	-78	-54	1046	-46.03	0.02	-3.43
35	SLV FO 16	-69	-51	1047	-46.08	0.02	-3.04
35	CRTFP Ux+	0	0	0	0	0	0
35	CRTFP Ux-	0	0	0	0	0	0
35	CRTFP Uy+	0	0	0	0	0	0
35	CRTFP Uy-	0	0	0	0	0	0
36	SLU 1	29	-20	961	0	0	0
36	SLU 2	30	-18	964	0	0	0
36	SLU 3	29	-19	981	0	0	0
36	SLU 4	30	-18	982	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
36	SLU 5	30	-17	976	0	0	0
36	SLU 6	29	-19	993	0	0	0
36	SLU 7	30	-18	995	0	0	0
36	SLU 8	29	-19	986	0	0	0
36	SLU 9	30	-18	988	0	0	0
36	SLU 10	31	-19	1086	0	0	0
36	SLU 11	31	-21	1103	0	0	0
36	SLU 12	31	-20	1105	0	0	0
36	SLU 13	31	-19	1099	0	0	0
36	SLU 14	31	-21	1116	0	0	0
36	SLU 15	31	-19	1117	0	0	0
36	SLU 16	31	-21	1109	0	0	0
36	SLU 17	31	-19	1110	0	0	0
36	SLU 18	32	-22	1136	0	0	0
36	SLU 19	32	-21	1138	0	0	0
36	SLU 20	32	-22	1149	0	0	0
36	SLU 21	32	-20	1150	0	0	0
36	SLU 22	33	-19	1101	0	0	0
36	SLU 23	34	-16	1103	0	0	0
36	SLU 24	33	-18	1120	0	0	0
36	SLU 25	34	-17	1122	0	0	0
36	SLU 26	34	-16	1116	0	0	0
36	SLU 27	33	-17	1133	0	0	0
36	SLU 28	34	-16	1134	0	0	0
36	SLU 29	33	-17	1126	0	0	0
36	SLU 30	33	-16	1127	0	0	0
36	SLU 31	35	-18	1225	0	0	0
36	SLU 32	35	-20	1242	0	0	0
36	SLU 33	35	-18	1244	0	0	0
36	SLU 34	35	-17	1238	0	0	0
36	SLU 35	35	-19	1255	0	0	0
36	SLU 36	35	-18	1256	0	0	0
36	SLU 37	35	-19	1248	0	0	0
36	SLU 38	35	-18	1249	0	0	0
36	SLU 39	35	-21	1275	0	0	0
36	SLU 40	36	-19	1277	0	0	0
36	SLU 41	36	-20	1288	0	0	0
36	SLU 42	36	-19	1289	0	0	0
36	SLU 43	36	-27	1202	0	0	0
36	SLU 44	37	-24	1205	0	0	0
36	SLU 45	37	-26	1222	0	0	0
36	SLU 46	37	-25	1223	0	0	0
36	SLU 47	37	-24	1217	0	0	0
36	SLU 48	37	-26	1234	0	0	0
36	SLU 49	37	-24	1236	0	0	0
36	SLU 50	37	-26	1227	0	0	0
36	SLU 51	37	-24	1229	0	0	0
36	SLU 52	39	-26	1327	0	0	0
36	SLU 53	38	-28	1344	0	0	0
36	SLU 54	39	-26	1345	0	0	0
36	SLU 55	39	-25	1339	0	0	0
36	SLU 56	39	-27	1356	0	0	0
36	SLU 57	39	-26	1358	0	0	0
36	SLU 58	38	-27	1349	0	0	0
36	SLU 59	39	-26	1351	0	0	0
36	SLU 60	39	-29	1377	0	0	0
36	SLU 61	39	-28	1378	0	0	0
36	SLU 62	39	-28	1389	0	0	0
36	SLU 63	39	-27	1391	0	0	0
36	SLU 64	40	-25	1341	0	0	0
36	SLU 65	41	-23	1344	0	0	0
36	SLU 66	41	-24	1361	0	0	0
36	SLU 67	41	-23	1362	0	0	0
36	SLU 68	41	-22	1356	0	0	0
36	SLU 69	41	-24	1373	0	0	0
36	SLU 70	41	-23	1375	0	0	0
36	SLU 71	41	-24	1366	0	0	0
36	SLU 72	41	-23	1368	0	0	0
36	SLU 73	43	-24	1466	0	0	0
36	SLU 74	42	-26	1483	0	0	0
36	SLU 75	43	-25	1485	0	0	0
36	SLU 76	43	-24	1479	0	0	0
36	SLU 77	42	-26	1496	0	0	0
36	SLU 78	43	-24	1497	0	0	0
36	SLU 79	42	-26	1489	0	0	0
36	SLU 80	43	-24	1490	0	0	0
36	SLU 81	43	-27	1516	0	0	0
36	SLU 82	43	-26	1517	0	0	0
36	SLU 83	43	-27	1528	0	0	0
36	SLU 84	43	-25	1530	0	0	0
36	SLE RA 1	30	-20	1001	0	0	0
36	SLE RA 2	31	-18	1003	0	0	0
36	SLE RA 3	30	-19	1014	0	0	0
36	SLE RA 4	31	-18	1015	0	0	0
36	SLE RA 5	31	-18	1011	0	0	0
36	SLE RA 6	30	-19	1023	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
36	SLE RA 7	31	-18	1024	0	0	0
36	SLE RA 8	30	-19	1018	0	0	0
36	SLE RA 9	30	-18	1019	0	0	0
36	SLE RA 10	32	-19	1084	0	0	0
36	SLE RA 11	32	-20	1096	0	0	0
36	SLE RA 12	32	-19	1097	0	0	0
36	SLE RA 13	32	-19	1093	0	0	0
36	SLE RA 14	32	-20	1104	0	0	0
36	SLE RA 15	32	-19	1105	0	0	0
36	SLE RA 16	31	-20	1099	0	0	0
36	SLE RA 17	32	-19	1100	0	0	0
36	SLE RA 18	32	-21	1118	0	0	0
36	SLE RA 19	32	-20	1119	0	0	0
36	SLE RA 20	32	-21	1126	0	0	0
36	SLE RA 21	32	-20	1127	0	0	0
36	SLE FR 1	30	-20	1001	0	0	0
36	SLE FR 2	30	-19	1001	0	0	0
36	SLE FR 3	30	-20	1004	0	0	0
36	SLE FR 4	31	-20	1036	0	0	0
36	SLE FR 5	31	-20	1039	0	0	0
36	SLE FR 6	31	-20	1059	0	0	0
36	SLE QP 1	30	-20	1001	0	0	0
36	SLE QP 2	31	-20	1036	0	0	0
36	SLD 1	88	-16	1004	0	0	0
36	SLD 2	92	-10	1004	0	0	0
36	SLD 3	80	-40	962	0	0	0
36	SLD 4	84	-34	962	0	0	0
36	SLD 5	58	17	1090	0	0	0
36	SLD 6	61	21	1090	0	0	0
36	SLD 7	33	-64	951	0	0	0
36	SLD 8	36	-60	950	0	0	0
36	SLD 9	25	20	1122	0	0	0
36	SLD 10	28	23	1122	0	0	0
36	SLD 11	0	-61	982	0	0	0
36	SLD 12	3	-57	982	0	0	0
36	SLD 13	-23	-6	1110	0	0	0
36	SLD 14	-19	0	1110	0	0	0
36	SLD 15	-30	-30	1068	0	0	0
36	SLD 16	-26	-25	1068	0	0	0
36	SLV 1	120	-11	989	0	0	0
36	SLV 2	127	-3	989	0	0	0
36	SLV 3	107	-53	918	0	0	0
36	SLV 4	114	-44	918	0	0	0
36	SLV 5	76	44	1130	0	0	0
36	SLV 6	80	49	1130	0	0	0
36	SLV 7	33	-94	892	0	0	0
36	SLV 8	37	-88	892	0	0	0
36	SLV 9	24	48	1180	0	0	0
36	SLV 10	28	54	1180	0	0	0
36	SLV 11	-19	-90	942	0	0	0
36	SLV 12	-14	-84	942	0	0	0
36	SLV 13	-52	4	1154	0	0	0
36	SLV 14	-46	12	1154	0	0	0
36	SLV 15	-65	-38	1083	0	0	0
36	SLV 16	-59	-29	1083	0	0	0
36	SLV FO 1	129	-10	985	0	0	0
36	SLV FO 2	136	-1	984	0	0	0
36	SLV FO 3	115	-56	906	0	0	0
36	SLV FO 4	122	-46	906	0	0	0
36	SLV FO 5	80	50	1140	0	0	0
36	SLV FO 6	85	56	1140	0	0	0
36	SLV FO 7	33	-102	878	0	0	0
36	SLV FO 8	38	-95	878	0	0	0
36	SLV FO 9	23	55	1194	0	0	0
36	SLV FO 10	28	61	1194	0	0	0
36	SLV FO 11	-24	-97	932	0	0	0
36	SLV FO 12	-19	-90	932	0	0	0
36	SLV FO 13	-61	6	1166	0	0	0
36	SLV FO 14	-54	16	1166	0	0	0
36	SLV FO 15	-75	-39	1088	0	0	0
36	SLV FO 16	-68	-30	1087	0	0	0
37	SLU 1	18	-11	599	0	0	0
37	SLU 2	18	-10	601	0	0	0
37	SLU 3	18	-11	611	0	0	0
37	SLU 4	18	-10	612	0	0	0
37	SLU 5	18	-9	608	0	0	0
37	SLU 6	18	-10	619	0	0	0
37	SLU 7	18	-9	620	0	0	0
37	SLU 8	18	-10	614	0	0	0
37	SLU 9	18	-10	615	0	0	0
37	SLU 10	19	-11	676	0	0	0
37	SLU 11	19	-12	686	0	0	0
37	SLU 12	19	-11	687	0	0	0
37	SLU 13	19	-10	684	0	0	0
37	SLU 14	19	-11	694	0	0	0
37	SLU 15	19	-10	695	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
37	SLU 16	19	-11	690	0	0	0
37	SLU 17	19	-10	691	0	0	0
37	SLU 18	19	-12	707	0	0	0
37	SLU 19	20	-11	708	0	0	0
37	SLU 20	19	-12	714	0	0	0
37	SLU 21	20	-11	715	0	0	0
37	SLU 22	20	-10	685	0	0	0
37	SLU 23	21	-9	687	0	0	0
37	SLU 24	21	-10	698	0	0	0
37	SLU 25	21	-9	699	0	0	0
37	SLU 26	21	-8	695	0	0	0
37	SLU 27	21	-9	705	0	0	0
37	SLU 28	21	-8	706	0	0	0
37	SLU 29	20	-9	701	0	0	0
37	SLU 30	21	-9	702	0	0	0
37	SLU 31	22	-9	763	0	0	0
37	SLU 32	22	-10	773	0	0	0
37	SLU 33	22	-10	774	0	0	0
37	SLU 34	22	-9	770	0	0	0
37	SLU 35	22	-10	781	0	0	0
37	SLU 36	22	-9	782	0	0	0
37	SLU 37	22	-10	776	0	0	0
37	SLU 38	22	-9	777	0	0	0
37	SLU 39	22	-11	793	0	0	0
37	SLU 40	22	-10	794	0	0	0
37	SLU 41	22	-11	801	0	0	0
37	SLU 42	22	-10	802	0	0	0
37	SLU 43	22	-15	749	0	0	0
37	SLU 44	23	-13	750	0	0	0
37	SLU 45	23	-14	761	0	0	0
37	SLU 46	23	-13	762	0	0	0
37	SLU 47	23	-13	758	0	0	0
37	SLU 48	23	-14	769	0	0	0
37	SLU 49	23	-13	770	0	0	0
37	SLU 50	23	-14	764	0	0	0
37	SLU 51	23	-13	765	0	0	0
37	SLU 52	24	-14	826	0	0	0
37	SLU 53	24	-15	836	0	0	0
37	SLU 54	24	-14	837	0	0	0
37	SLU 55	24	-14	834	0	0	0
37	SLU 56	24	-15	844	0	0	0
37	SLU 57	24	-14	845	0	0	0
37	SLU 58	24	-15	840	0	0	0
37	SLU 59	24	-14	841	0	0	0
37	SLU 60	24	-16	857	0	0	0
37	SLU 61	24	-15	858	0	0	0
37	SLU 62	24	-16	864	0	0	0
37	SLU 63	24	-15	865	0	0	0
37	SLU 64	25	-14	835	0	0	0
37	SLU 65	25	-12	837	0	0	0
37	SLU 66	25	-13	848	0	0	0
37	SLU 67	25	-12	849	0	0	0
37	SLU 68	25	-12	845	0	0	0
37	SLU 69	25	-13	855	0	0	0
37	SLU 70	25	-12	856	0	0	0
37	SLU 71	25	-13	851	0	0	0
37	SLU 72	25	-12	852	0	0	0
37	SLU 73	26	-13	913	0	0	0
37	SLU 74	26	-14	923	0	0	0
37	SLU 75	26	-13	924	0	0	0
37	SLU 76	26	-13	920	0	0	0
37	SLU 77	26	-14	931	0	0	0
37	SLU 78	26	-13	932	0	0	0
37	SLU 79	26	-14	926	0	0	0
37	SLU 80	26	-13	927	0	0	0
37	SLU 81	26	-15	943	0	0	0
37	SLU 82	27	-14	944	0	0	0
37	SLU 83	26	-15	951	0	0	0
37	SLU 84	27	-14	952	0	0	0
37	SLE RA 1	19	-11	624	0	0	0
37	SLE RA 2	19	-10	625	0	0	0
37	SLE RA 3	19	-10	632	0	0	0
37	SLE RA 4	19	-10	632	0	0	0
37	SLE RA 5	19	-10	630	0	0	0
37	SLE RA 6	19	-10	637	0	0	0
37	SLE RA 7	19	-10	637	0	0	0
37	SLE RA 8	19	-10	634	0	0	0
37	SLE RA 9	19	-10	635	0	0	0
37	SLE RA 10	20	-10	675	0	0	0
37	SLE RA 11	19	-11	682	0	0	0
37	SLE RA 12	20	-10	683	0	0	0
37	SLE RA 13	20	-10	680	0	0	0
37	SLE RA 14	19	-11	687	0	0	0
37	SLE RA 15	20	-10	688	0	0	0
37	SLE RA 16	19	-11	684	0	0	0
37	SLE RA 17	20	-10	685	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
37	SLE RA 18	20	-12	695	0	0	0
37	SLE RA 19	20	-11	696	0	0	0
37	SLE RA 20	20	-11	701	0	0	0
37	SLE RA 21	20	-11	701	0	0	0
37	SLE FR 1	19	-11	624	0	0	0
37	SLE FR 2	19	-11	624	0	0	0
37	SLE FR 3	19	-11	626	0	0	0
37	SLE FR 4	19	-11	645	0	0	0
37	SLE FR 5	19	-11	647	0	0	0
37	SLE FR 6	19	-11	660	0	0	0
37	SLE QP 1	19	-11	624	0	0	0
37	SLE QP 2	19	-11	645	0	0	0
37	SLD 1	54	-9	618	0	0	0
37	SLD 2	57	-5	618	0	0	0
37	SLD 3	49	-24	590	0	0	0
37	SLD 4	52	-20	590	0	0	0
37	SLD 5	36	10	679	0	0	0
37	SLD 6	38	13	679	0	0	0
37	SLD 7	21	-37	586	0	0	0
37	SLD 8	22	-34	586	0	0	0
37	SLD 9	16	13	704	0	0	0
37	SLD 10	17	15	704	0	0	0
37	SLD 11	0	-35	611	0	0	0
37	SLD 12	2	-32	611	0	0	0
37	SLD 13	-14	-2	700	0	0	0
37	SLD 14	-12	2	700	0	0	0
37	SLD 15	-19	-17	672	0	0	0
37	SLD 16	-16	-12	672	0	0	0
37	SLV 1	74	-8	605	0	0	0
37	SLV 2	78	-1	605	0	0	0
37	SLV 3	66	-32	558	0	0	0
37	SLV 4	70	-25	557	0	0	0
37	SLV 5	47	26	706	0	0	0
37	SLV 6	49	30	705	0	0	0
37	SLV 7	20	-55	547	0	0	0
37	SLV 8	23	-51	547	0	0	0
37	SLV 9	15	29	744	0	0	0
37	SLV 10	18	33	744	0	0	0
37	SLV 11	-12	-52	585	0	0	0
37	SLV 12	-9	-48	585	0	0	0
37	SLV 13	-32	3	733	0	0	0
37	SLV 14	-28	10	733	0	0	0
37	SLV 15	-40	-21	685	0	0	0
37	SLV 16	-36	-14	685	0	0	0
37	SLV FO 1	80	-7	601	0	0	0
37	SLV FO 2	84	0	601	0	0	0
37	SLV FO 3	71	-34	549	0	0	0
37	SLV FO 4	75	-27	549	0	0	0
37	SLV FO 5	50	29	712	0	0	0
37	SLV FO 6	53	34	711	0	0	0
37	SLV FO 7	20	-60	537	0	0	0
37	SLV FO 8	23	-55	537	0	0	0
37	SLV FO 9	14	33	754	0	0	0
37	SLV FO 10	17	38	753	0	0	0
37	SLV FO 11	-15	-56	579	0	0	0
37	SLV FO 12	-12	-51	579	0	0	0
37	SLV FO 13	-37	5	742	0	0	0
37	SLV FO 14	-33	12	741	0	0	0
37	SLV FO 15	-46	-22	689	0	0	0
37	SLV FO 16	-42	-15	689	0	0	0
38	SLU 1	22	-17	738	0	0	0
38	SLU 2	23	-15	739	0	0	0
38	SLU 3	23	-16	753	0	0	0
38	SLU 4	23	-15	754	0	0	0
38	SLU 5	23	-14	749	0	0	0
38	SLU 6	23	-16	762	0	0	0
38	SLU 7	23	-15	763	0	0	0
38	SLU 8	23	-16	757	0	0	0
38	SLU 9	23	-15	758	0	0	0
38	SLU 10	24	-16	834	0	0	0
38	SLU 11	24	-17	847	0	0	0
38	SLU 12	24	-16	848	0	0	0
38	SLU 13	24	-16	843	0	0	0
38	SLU 14	24	-17	857	0	0	0
38	SLU 15	24	-16	858	0	0	0
38	SLU 16	24	-17	851	0	0	0
38	SLU 17	24	-16	852	0	0	0
38	SLU 18	24	-19	872	0	0	0
38	SLU 19	25	-17	873	0	0	0
38	SLU 20	24	-18	882	0	0	0
38	SLU 21	25	-17	883	0	0	0
38	SLU 22	25	-15	844	0	0	0
38	SLU 23	26	-14	846	0	0	0
38	SLU 24	26	-15	860	0	0	0
38	SLU 25	26	-14	861	0	0	0
38	SLU 26	26	-13	856	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLU 27	26	-15	869	0	0	0
38	SLU 28	26	-13	870	0	0	0
38	SLU 29	26	-15	864	0	0	0
38	SLU 30	26	-14	865	0	0	0
38	SLU 31	27	-15	941	0	0	0
38	SLU 32	27	-16	954	0	0	0
38	SLU 33	27	-15	955	0	0	0
38	SLU 34	27	-15	950	0	0	0
38	SLU 35	27	-16	964	0	0	0
38	SLU 36	27	-15	965	0	0	0
38	SLU 37	27	-16	958	0	0	0
38	SLU 38	27	-15	959	0	0	0
38	SLU 39	27	-17	979	0	0	0
38	SLU 40	28	-16	980	0	0	0
38	SLU 41	27	-17	989	0	0	0
38	SLU 42	28	-16	990	0	0	0
38	SLU 43	28	-22	922	0	0	0
38	SLU 44	29	-20	924	0	0	0
38	SLU 45	28	-22	937	0	0	0
38	SLU 46	29	-20	938	0	0	0
38	SLU 47	29	-20	934	0	0	0
38	SLU 48	28	-21	947	0	0	0
38	SLU 49	29	-20	948	0	0	0
38	SLU 50	28	-21	941	0	0	0
38	SLU 51	28	-20	943	0	0	0
38	SLU 52	30	-22	1018	0	0	0
38	SLU 53	30	-23	1032	0	0	0
38	SLU 54	30	-22	1033	0	0	0
38	SLU 55	30	-21	1028	0	0	0
38	SLU 56	30	-22	1041	0	0	0
38	SLU 57	30	-21	1042	0	0	0
38	SLU 58	30	-23	1036	0	0	0
38	SLU 59	30	-21	1037	0	0	0
38	SLU 60	30	-24	1057	0	0	0
38	SLU 61	30	-23	1058	0	0	0
38	SLU 62	30	-23	1067	0	0	0
38	SLU 63	30	-22	1068	0	0	0
38	SLU 64	31	-21	1029	0	0	0
38	SLU 65	32	-19	1031	0	0	0
38	SLU 66	31	-20	1044	0	0	0
38	SLU 67	32	-19	1045	0	0	0
38	SLU 68	32	-19	1040	0	0	0
38	SLU 69	31	-20	1054	0	0	0
38	SLU 70	32	-19	1055	0	0	0
38	SLU 71	31	-20	1048	0	0	0
38	SLU 72	32	-19	1049	0	0	0
38	SLU 73	33	-20	1125	0	0	0
38	SLU 74	33	-22	1139	0	0	0
38	SLU 75	33	-21	1140	0	0	0
38	SLU 76	33	-20	1135	0	0	0
38	SLU 77	33	-21	1148	0	0	0
38	SLU 78	33	-20	1149	0	0	0
38	SLU 79	33	-21	1143	0	0	0
38	SLU 80	33	-20	1144	0	0	0
38	SLU 81	33	-23	1164	0	0	0
38	SLU 82	33	-22	1165	0	0	0
38	SLU 83	33	-22	1174	0	0	0
38	SLU 84	33	-21	1175	0	0	0
38	SLE RA 1	23	-16	768	0	0	0
38	SLE RA 2	24	-15	769	0	0	0
38	SLE RA 3	23	-16	778	0	0	0
38	SLE RA 4	24	-15	779	0	0	0
38	SLE RA 5	24	-15	776	0	0	0
38	SLE RA 6	24	-16	785	0	0	0
38	SLE RA 7	24	-15	785	0	0	0
38	SLE RA 8	23	-16	781	0	0	0
38	SLE RA 9	24	-15	782	0	0	0
38	SLE RA 10	24	-16	832	0	0	0
38	SLE RA 11	24	-17	841	0	0	0
38	SLE RA 12	25	-16	842	0	0	0
38	SLE RA 13	25	-16	839	0	0	0
38	SLE RA 14	24	-17	848	0	0	0
38	SLE RA 15	25	-16	848	0	0	0
38	SLE RA 16	24	-17	844	0	0	0
38	SLE RA 17	24	-16	845	0	0	0
38	SLE RA 18	25	-18	858	0	0	0
38	SLE RA 19	25	-17	859	0	0	0
38	SLE RA 20	25	-17	864	0	0	0
38	SLE RA 21	25	-17	865	0	0	0
38	SLE FR 1	23	-16	768	0	0	0
38	SLE FR 2	23	-16	768	0	0	0
38	SLE FR 3	23	-16	771	0	0	0
38	SLE FR 4	24	-16	795	0	0	0
38	SLE FR 5	24	-17	798	0	0	0
38	SLE FR 6	24	-17	813	0	0	0
38	SLE QP 1	23	-16	768	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLE QP 2	24	-17	795	0	0	0
38	SLD 1	68	-12	776	0	0	0
38	SLD 2	71	-8	776	0	0	0
38	SLD 3	62	-31	746	0	0	0
38	SLD 4	65	-28	746	0	0	0
38	SLD 5	45	13	835	0	0	0
38	SLD 6	47	16	835	0	0	0
38	SLD 7	26	-51	735	0	0	0
38	SLD 8	28	-49	735	0	0	0
38	SLD 9	20	15	855	0	0	0
38	SLD 10	22	18	855	0	0	0
38	SLD 11	0	-49	755	0	0	0
38	SLD 12	2	-47	755	0	0	0
38	SLD 13	-18	-6	844	0	0	0
38	SLD 14	-14	-2	844	0	0	0
38	SLD 15	-23	-25	814	0	0	0
38	SLD 16	-20	-21	814	0	0	0
38	SLV 1	93	-8	767	0	0	0
38	SLV 2	98	-2	767	0	0	0
38	SLV 3	83	-41	716	0	0	0
38	SLV 4	88	-35	716	0	0	0
38	SLV 5	59	35	865	0	0	0
38	SLV 6	62	39	865	0	0	0
38	SLV 7	25	-75	693	0	0	0
38	SLV 8	29	-71	693	0	0	0
38	SLV 9	19	38	897	0	0	0
38	SLV 10	22	42	897	0	0	0
38	SLV 11	-15	-72	726	0	0	0
38	SLV 12	-11	-68	725	0	0	0
38	SLV 13	-41	2	874	0	0	0
38	SLV 14	-36	8	874	0	0	0
38	SLV 15	-51	-31	823	0	0	0
38	SLV 16	-46	-25	823	0	0	0
38	SLV FO 1	100	-7	764	0	0	0
38	SLV FO 2	105	-1	764	0	0	0
38	SLV FO 3	89	-44	708	0	0	0
38	SLV FO 4	94	-37	708	0	0	0
38	SLV FO 5	62	40	871	0	0	0
38	SLV FO 6	66	44	871	0	0	0
38	SLV FO 7	26	-81	683	0	0	0
38	SLV FO 8	29	-76	683	0	0	0
38	SLV FO 9	18	43	907	0	0	0
38	SLV FO 10	22	47	907	0	0	0
38	SLV FO 11	-18	-77	719	0	0	0
38	SLV FO 12	-15	-73	719	0	0	0
38	SLV FO 13	-47	4	882	0	0	0
38	SLV FO 14	-42	10	882	0	0	0
38	SLV FO 15	-58	-32	826	0	0	0
38	SLV FO 16	-53	-26	826	0	0	0
39	SLU 1	23	-18	740	0	0	0
39	SLU 2	23	-16	741	0	0	0
39	SLU 3	23	-17	755	0	0	0
39	SLU 4	23	-16	756	0	0	0
39	SLU 5	23	-16	751	0	0	0
39	SLU 6	23	-17	765	0	0	0
39	SLU 7	23	-16	766	0	0	0
39	SLU 8	23	-17	759	0	0	0
39	SLU 9	23	-16	760	0	0	0
39	SLU 10	24	-17	836	0	0	0
39	SLU 11	24	-19	850	0	0	0
39	SLU 12	25	-18	851	0	0	0
39	SLU 13	24	-17	846	0	0	0
39	SLU 14	24	-18	860	0	0	0
39	SLU 15	25	-17	861	0	0	0
39	SLU 16	24	-19	854	0	0	0
39	SLU 17	24	-17	855	0	0	0
39	SLU 18	25	-20	876	0	0	0
39	SLU 19	25	-19	876	0	0	0
39	SLU 20	25	-20	885	0	0	0
39	SLU 21	25	-18	886	0	0	0
39	SLU 22	26	-17	847	0	0	0
39	SLU 23	26	-15	848	0	0	0
39	SLU 24	26	-16	862	0	0	0
39	SLU 25	26	-15	863	0	0	0
39	SLU 26	26	-15	858	0	0	0
39	SLU 27	26	-16	872	0	0	0
39	SLU 28	26	-15	873	0	0	0
39	SLU 29	26	-16	866	0	0	0
39	SLU 30	26	-15	867	0	0	0
39	SLU 31	28	-16	944	0	0	0
39	SLU 32	27	-18	957	0	0	0
39	SLU 33	28	-17	958	0	0	0
39	SLU 34	28	-16	953	0	0	0
39	SLU 35	27	-17	967	0	0	0
39	SLU 36	28	-16	968	0	0	0
39	SLU 37	27	-17	962	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
39	SLU 38	27	-16	963	0	0	0
39	SLU 39	28	-19	983	0	0	0
39	SLU 40	28	-18	984	0	0	0
39	SLU 41	28	-18	993	0	0	0
39	SLU 42	28	-17	994	0	0	0
39	SLU 43	28	-24	925	0	0	0
39	SLU 44	29	-22	926	0	0	0
39	SLU 45	29	-23	940	0	0	0
39	SLU 46	29	-22	941	0	0	0
39	SLU 47	29	-21	936	0	0	0
39	SLU 48	29	-23	950	0	0	0
39	SLU 49	29	-22	951	0	0	0
39	SLU 50	29	-23	944	0	0	0
39	SLU 51	29	-22	945	0	0	0
39	SLU 52	30	-23	1021	0	0	0
39	SLU 53	30	-25	1035	0	0	0
39	SLU 54	30	-23	1036	0	0	0
39	SLU 55	30	-23	1031	0	0	0
39	SLU 56	30	-24	1045	0	0	0
39	SLU 57	30	-23	1046	0	0	0
39	SLU 58	30	-24	1039	0	0	0
39	SLU 59	30	-23	1040	0	0	0
39	SLU 60	30	-26	1061	0	0	0
39	SLU 61	31	-25	1062	0	0	0
39	SLU 62	30	-25	1070	0	0	0
39	SLU 63	31	-24	1071	0	0	0
39	SLU 64	32	-23	1032	0	0	0
39	SLU 65	32	-21	1034	0	0	0
39	SLU 66	32	-22	1047	0	0	0
39	SLU 67	32	-21	1048	0	0	0
39	SLU 68	32	-20	1043	0	0	0
39	SLU 69	32	-22	1057	0	0	0
39	SLU 70	32	-21	1058	0	0	0
39	SLU 71	32	-22	1052	0	0	0
39	SLU 72	32	-21	1052	0	0	0
39	SLU 73	33	-22	1129	0	0	0
39	SLU 74	33	-24	1142	0	0	0
39	SLU 75	33	-22	1143	0	0	0
39	SLU 76	33	-22	1139	0	0	0
39	SLU 77	33	-23	1152	0	0	0
39	SLU 78	33	-22	1153	0	0	0
39	SLU 79	33	-23	1147	0	0	0
39	SLU 80	33	-22	1148	0	0	0
39	SLU 81	33	-25	1168	0	0	0
39	SLU 82	34	-23	1169	0	0	0
39	SLU 83	33	-24	1178	0	0	0
39	SLU 84	34	-23	1179	0	0	0
39	SLE RA 1	24	-18	770	0	0	0
39	SLE RA 2	24	-16	771	0	0	0
39	SLE RA 3	24	-17	780	0	0	0
39	SLE RA 4	24	-17	781	0	0	0
39	SLE RA 5	24	-16	778	0	0	0
39	SLE RA 6	24	-17	787	0	0	0
39	SLE RA 7	24	-16	788	0	0	0
39	SLE RA 8	24	-17	783	0	0	0
39	SLE RA 9	24	-16	784	0	0	0
39	SLE RA 10	25	-17	835	0	0	0
39	SLE RA 11	25	-18	844	0	0	0
39	SLE RA 12	25	-17	844	0	0	0
39	SLE RA 13	25	-17	841	0	0	0
39	SLE RA 14	25	-18	850	0	0	0
39	SLE RA 15	25	-17	851	0	0	0
39	SLE RA 16	25	-18	847	0	0	0
39	SLE RA 17	25	-17	847	0	0	0
39	SLE RA 18	25	-19	861	0	0	0
39	SLE RA 19	25	-18	861	0	0	0
39	SLE RA 20	25	-19	867	0	0	0
39	SLE RA 21	25	-18	868	0	0	0
39	SLE FR 1	24	-18	770	0	0	0
39	SLE FR 2	24	-17	770	0	0	0
39	SLE FR 3	24	-17	773	0	0	0
39	SLE FR 4	24	-18	798	0	0	0
39	SLE FR 5	24	-18	800	0	0	0
39	SLE FR 6	24	-18	816	0	0	0
39	SLE QP 1	24	-18	770	0	0	0
39	SLE QP 2	24	-18	797	0	0	0
39	SLD 1	68	-12	783	0	0	0
39	SLD 2	72	-9	783	0	0	0
39	SLD 3	63	-32	755	0	0	0
39	SLD 4	66	-29	755	0	0	0
39	SLD 5	46	13	836	0	0	0
39	SLD 6	48	15	836	0	0	0
39	SLD 7	26	-53	742	0	0	0
39	SLD 8	28	-51	742	0	0	0
39	SLD 9	20	15	853	0	0	0
39	SLD 10	22	17	853	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
39	SLD 11	0	-52	759	0	0	0
39	SLD 12	2	-49	759	0	0	0
39	SLD 13	-18	-7	840	0	0	0
39	SLD 14	-15	-4	840	0	0	0
39	SLD 15	-24	-27	811	0	0	0
39	SLD 16	-21	-24	812	0	0	0
39	SLV 1	94	-8	777	0	0	0
39	SLV 2	99	-3	777	0	0	0
39	SLV 3	84	-42	729	0	0	0
39	SLV 4	89	-37	729	0	0	0
39	SLV 5	59	36	865	0	0	0
39	SLV 6	63	39	865	0	0	0
39	SLV 7	26	-78	704	0	0	0
39	SLV 8	29	-75	704	0	0	0
39	SLV 9	19	39	891	0	0	0
39	SLV 10	22	42	891	0	0	0
39	SLV 11	-15	-75	730	0	0	0
39	SLV 12	-12	-72	730	0	0	0
39	SLV 13	-41	1	866	0	0	0
39	SLV 14	-36	6	866	0	0	0
39	SLV 15	-51	-33	817	0	0	0
39	SLV 16	-46	-28	817	0	0	0
39	SLV FO 1	101	-7	775	0	0	0
39	SLV FO 2	107	-1	775	0	0	0
39	SLV FO 3	90	-44	722	0	0	0
39	SLV FO 4	95	-39	722	0	0	0
39	SLV FO 5	63	41	871	0	0	0
39	SLV FO 6	67	45	871	0	0	0
39	SLV FO 7	26	-84	694	0	0	0
39	SLV FO 8	29	-80	694	0	0	0
39	SLV FO 9	18	44	900	0	0	0
39	SLV FO 10	22	48	900	0	0	0
39	SLV FO 11	-19	-81	723	0	0	0
39	SLV FO 12	-15	-77	724	0	0	0
39	SLV FO 13	-47	3	872	0	0	0
39	SLV FO 14	-42	8	872	0	0	0
39	SLV FO 15	-59	-35	819	0	0	0
39	SLV FO 16	-53	-29	819	0	0	0
40	SLU 1	23	-19	741	0	0	0
40	SLU 2	23	-17	743	0	0	0
40	SLU 3	23	-19	757	0	0	0
40	SLU 4	23	-18	758	0	0	0
40	SLU 5	23	-17	753	0	0	0
40	SLU 6	23	-18	767	0	0	0
40	SLU 7	23	-17	768	0	0	0
40	SLU 8	23	-18	761	0	0	0
40	SLU 9	23	-17	762	0	0	0
40	SLU 10	25	-19	839	0	0	0
40	SLU 11	24	-20	853	0	0	0
40	SLU 12	25	-19	854	0	0	0
40	SLU 13	25	-18	849	0	0	0
40	SLU 14	25	-20	863	0	0	0
40	SLU 15	25	-19	864	0	0	0
40	SLU 16	24	-20	857	0	0	0
40	SLU 17	25	-19	858	0	0	0
40	SLU 18	25	-21	878	0	0	0
40	SLU 19	25	-20	879	0	0	0
40	SLU 20	25	-21	888	0	0	0
40	SLU 21	25	-20	889	0	0	0
40	SLU 22	26	-18	849	0	0	0
40	SLU 23	26	-16	850	0	0	0
40	SLU 24	26	-18	864	0	0	0
40	SLU 25	27	-17	865	0	0	0
40	SLU 26	26	-16	860	0	0	0
40	SLU 27	26	-17	874	0	0	0
40	SLU 28	27	-16	875	0	0	0
40	SLU 29	26	-17	869	0	0	0
40	SLU 30	26	-16	870	0	0	0
40	SLU 31	28	-18	946	0	0	0
40	SLU 32	28	-19	960	0	0	0
40	SLU 33	28	-18	961	0	0	0
40	SLU 34	28	-17	956	0	0	0
40	SLU 35	28	-19	970	0	0	0
40	SLU 36	28	-18	971	0	0	0
40	SLU 37	27	-19	965	0	0	0
40	SLU 38	28	-18	966	0	0	0
40	SLU 39	28	-20	986	0	0	0
40	SLU 40	28	-19	987	0	0	0
40	SLU 41	28	-20	996	0	0	0
40	SLU 42	28	-19	997	0	0	0
40	SLU 43	29	-25	927	0	0	0
40	SLU 44	29	-23	928	0	0	0
40	SLU 45	29	-25	942	0	0	0
40	SLU 46	29	-24	943	0	0	0
40	SLU 47	29	-23	938	0	0	0
40	SLU 48	29	-24	952	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
40	SLU 49	29	-23	953	0	0	0
40	SLU 50	29	-25	947	0	0	0
40	SLU 51	29	-23	948	0	0	0
40	SLU 52	30	-25	1024	0	0	0
40	SLU 53	30	-26	1038	0	0	0
40	SLU 54	31	-25	1039	0	0	0
40	SLU 55	31	-25	1034	0	0	0
40	SLU 56	30	-26	1048	0	0	0
40	SLU 57	31	-25	1049	0	0	0
40	SLU 58	30	-26	1043	0	0	0
40	SLU 59	30	-25	1044	0	0	0
40	SLU 60	31	-28	1064	0	0	0
40	SLU 61	31	-26	1065	0	0	0
40	SLU 62	31	-27	1074	0	0	0
40	SLU 63	31	-26	1075	0	0	0
40	SLU 64	32	-24	1034	0	0	0
40	SLU 65	32	-22	1036	0	0	0
40	SLU 66	32	-24	1050	0	0	0
40	SLU 67	32	-23	1051	0	0	0
40	SLU 68	32	-22	1046	0	0	0
40	SLU 69	32	-23	1060	0	0	0
40	SLU 70	32	-22	1061	0	0	0
40	SLU 71	32	-23	1054	0	0	0
40	SLU 72	32	-22	1055	0	0	0
40	SLU 73	34	-24	1132	0	0	0
40	SLU 74	33	-25	1146	0	0	0
40	SLU 75	34	-24	1147	0	0	0
40	SLU 76	34	-23	1142	0	0	0
40	SLU 77	33	-25	1156	0	0	0
40	SLU 78	34	-24	1157	0	0	0
40	SLU 79	33	-25	1150	0	0	0
40	SLU 80	34	-24	1151	0	0	0
40	SLU 81	34	-26	1172	0	0	0
40	SLU 82	34	-25	1172	0	0	0
40	SLU 83	34	-26	1182	0	0	0
40	SLU 84	34	-25	1182	0	0	0
40	SLE RA 1	24	-19	772	0	0	0
40	SLE RA 2	24	-18	773	0	0	0
40	SLE RA 3	24	-19	782	0	0	0
40	SLE RA 4	24	-18	783	0	0	0
40	SLE RA 5	24	-17	780	0	0	0
40	SLE RA 6	24	-18	789	0	0	0
40	SLE RA 7	24	-18	790	0	0	0
40	SLE RA 8	24	-18	785	0	0	0
40	SLE RA 9	24	-18	786	0	0	0
40	SLE RA 10	25	-19	837	0	0	0
40	SLE RA 11	25	-20	846	0	0	0
40	SLE RA 12	25	-19	847	0	0	0
40	SLE RA 13	25	-18	844	0	0	0
40	SLE RA 14	25	-19	853	0	0	0
40	SLE RA 15	25	-19	854	0	0	0
40	SLE RA 16	25	-19	849	0	0	0
40	SLE RA 17	25	-19	850	0	0	0
40	SLE RA 18	25	-20	864	0	0	0
40	SLE RA 19	25	-20	864	0	0	0
40	SLE RA 20	25	-20	870	0	0	0
40	SLE RA 21	25	-19	871	0	0	0
40	SLE FR 1	24	-19	772	0	0	0
40	SLE FR 2	24	-19	772	0	0	0
40	SLE FR 3	24	-19	775	0	0	0
40	SLE FR 4	24	-19	800	0	0	0
40	SLE FR 5	24	-19	802	0	0	0
40	SLE FR 6	24	-20	818	0	0	0
40	SLE QP 1	24	-19	772	0	0	0
40	SLE QP 2	24	-19	800	0	0	0
40	SLD 1	69	-13	791	0	0	0
40	SLD 2	72	-10	791	0	0	0
40	SLD 3	63	-33	764	0	0	0
40	SLD 4	66	-31	764	0	0	0
40	SLD 5	46	14	837	0	0	0
40	SLD 6	48	15	837	0	0	0
40	SLD 7	26	-55	749	0	0	0
40	SLD 8	28	-54	749	0	0	0
40	SLD 9	20	15	850	0	0	0
40	SLD 10	22	17	850	0	0	0
40	SLD 11	0	-54	762	0	0	0
40	SLD 12	2	-52	762	0	0	0
40	SLD 13	-18	-8	835	0	0	0
40	SLD 14	-15	-5	835	0	0	0
40	SLD 15	-24	-29	808	0	0	0
40	SLD 16	-21	-26	809	0	0	0
40	SLV 1	95	-8	787	0	0	0
40	SLV 2	100	-4	788	0	0	0
40	SLV 3	85	-43	742	0	0	0
40	SLV 4	90	-39	743	0	0	0
40	SLV 5	60	37	864	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
40	SLV 6	63	40	864	0	0	0
40	SLV 7	26	-81	714	0	0	0
40	SLV 8	29	-78	714	0	0	0
40	SLV 9	19	39	885	0	0	0
40	SLV 10	22	42	885	0	0	0
40	SLV 11	-15	-78	735	0	0	0
40	SLV 12	-12	-76	735	0	0	0
40	SLV 13	-41	0	856	0	0	0
40	SLV 14	-36	4	857	0	0	0
40	SLV 15	-52	-35	811	0	0	0
40	SLV 16	-47	-31	812	0	0	0
40	SLV FO 1	102	-6	786	0	0	0
40	SLV FO 2	108	-2	786	0	0	0
40	SLV FO 3	91	-45	737	0	0	0
40	SLV FO 4	96	-41	737	0	0	0
40	SLV FO 5	64	43	870	0	0	0
40	SLV FO 6	67	46	871	0	0	0
40	SLV FO 7	26	-87	706	0	0	0
40	SLV FO 8	30	-84	706	0	0	0
40	SLV FO 9	19	45	893	0	0	0
40	SLV FO 10	22	48	893	0	0	0
40	SLV FO 11	-19	-84	729	0	0	0
40	SLV FO 12	-15	-81	729	0	0	0
40	SLV FO 13	-48	2	862	0	0	0
40	SLV FO 14	-43	7	862	0	0	0
40	SLV FO 15	-59	-37	813	0	0	0
40	SLV FO 16	-54	-32	813	0	0	0
41	SLU 1	23	-21	746	0	0	0
41	SLU 2	24	-19	747	0	0	0
41	SLU 3	23	-20	762	0	0	0
41	SLU 4	24	-19	763	0	0	0
41	SLU 5	24	-18	758	0	0	0
41	SLU 6	23	-20	772	0	0	0
41	SLU 7	24	-18	773	0	0	0
41	SLU 8	23	-20	766	0	0	0
41	SLU 9	24	-19	767	0	0	0
41	SLU 10	25	-20	845	0	0	0
41	SLU 11	25	-22	859	0	0	0
41	SLU 12	25	-21	860	0	0	0
41	SLU 13	25	-20	855	0	0	0
41	SLU 14	25	-21	869	0	0	0
41	SLU 15	25	-20	870	0	0	0
41	SLU 16	25	-21	864	0	0	0
41	SLU 17	25	-20	864	0	0	0
41	SLU 18	25	-23	885	0	0	0
41	SLU 19	25	-22	886	0	0	0
41	SLU 20	25	-23	895	0	0	0
41	SLU 21	25	-21	896	0	0	0
41	SLU 22	26	-20	855	0	0	0
41	SLU 23	27	-18	856	0	0	0
41	SLU 24	27	-19	870	0	0	0
41	SLU 25	27	-18	871	0	0	0
41	SLU 26	27	-17	866	0	0	0
41	SLU 27	27	-19	880	0	0	0
41	SLU 28	27	-17	881	0	0	0
41	SLU 29	26	-19	875	0	0	0
41	SLU 30	27	-18	876	0	0	0
41	SLU 31	28	-19	953	0	0	0
41	SLU 32	28	-21	967	0	0	0
41	SLU 33	28	-20	968	0	0	0
41	SLU 34	28	-19	963	0	0	0
41	SLU 35	28	-20	978	0	0	0
41	SLU 36	28	-19	978	0	0	0
41	SLU 37	28	-20	972	0	0	0
41	SLU 38	28	-19	973	0	0	0
41	SLU 39	28	-22	994	0	0	0
41	SLU 40	29	-21	994	0	0	0
41	SLU 41	28	-21	1004	0	0	0
41	SLU 42	29	-20	1004	0	0	0
41	SLU 43	29	-27	933	0	0	0
41	SLU 44	29	-25	934	0	0	0
41	SLU 45	29	-27	948	0	0	0
41	SLU 46	30	-25	949	0	0	0
41	SLU 47	29	-25	944	0	0	0
41	SLU 48	29	-26	958	0	0	0
41	SLU 49	30	-25	959	0	0	0
41	SLU 50	29	-26	953	0	0	0
41	SLU 51	29	-25	954	0	0	0
41	SLU 52	31	-27	1031	0	0	0
41	SLU 53	31	-28	1046	0	0	0
41	SLU 54	31	-27	1046	0	0	0
41	SLU 55	31	-26	1041	0	0	0
41	SLU 56	31	-28	1056	0	0	0
41	SLU 57	31	-27	1056	0	0	0
41	SLU 58	30	-28	1050	0	0	0
41	SLU 59	31	-27	1051	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
41	SLU 60	31	-29	1072	0	0	0
41	SLU 61	31	-28	1072	0	0	0
41	SLU 62	31	-29	1082	0	0	0
41	SLU 63	31	-28	1083	0	0	0
41	SLU 64	32	-26	1041	0	0	0
41	SLU 65	33	-24	1043	0	0	0
41	SLU 66	32	-26	1057	0	0	0
41	SLU 67	33	-24	1058	0	0	0
41	SLU 68	33	-24	1053	0	0	0
41	SLU 69	32	-25	1067	0	0	0
41	SLU 70	33	-24	1068	0	0	0
41	SLU 71	32	-25	1061	0	0	0
41	SLU 72	33	-24	1062	0	0	0
41	SLU 73	34	-26	1140	0	0	0
41	SLU 74	34	-27	1154	0	0	0
41	SLU 75	34	-26	1155	0	0	0
41	SLU 76	34	-25	1150	0	0	0
41	SLU 77	34	-27	1164	0	0	0
41	SLU 78	34	-26	1165	0	0	0
41	SLU 79	34	-27	1159	0	0	0
41	SLU 80	34	-26	1159	0	0	0
41	SLU 81	34	-28	1180	0	0	0
41	SLU 82	34	-27	1181	0	0	0
41	SLU 83	34	-28	1190	0	0	0
41	SLU 84	34	-27	1191	0	0	0
41	SLE RA 1	24	-20	777	0	0	0
41	SLE RA 2	24	-19	778	0	0	0
41	SLE RA 3	24	-20	788	0	0	0
41	SLE RA 4	24	-19	788	0	0	0
41	SLE RA 5	24	-19	785	0	0	0
41	SLE RA 6	24	-20	794	0	0	0
41	SLE RA 7	24	-19	795	0	0	0
41	SLE RA 8	24	-20	791	0	0	0
41	SLE RA 9	24	-19	791	0	0	0
41	SLE RA 10	25	-20	843	0	0	0
41	SLE RA 11	25	-21	852	0	0	0
41	SLE RA 12	25	-20	853	0	0	0
41	SLE RA 13	25	-20	850	0	0	0
41	SLE RA 14	25	-21	859	0	0	0
41	SLE RA 15	25	-20	860	0	0	0
41	SLE RA 16	25	-21	855	0	0	0
41	SLE RA 17	25	-20	856	0	0	0
41	SLE RA 18	25	-22	870	0	0	0
41	SLE RA 19	26	-21	870	0	0	0
41	SLE RA 20	25	-22	876	0	0	0
41	SLE RA 21	26	-21	877	0	0	0
41	SLE FR 1	24	-20	777	0	0	0
41	SLE FR 2	24	-20	777	0	0	0
41	SLE FR 3	24	-20	780	0	0	0
41	SLE FR 4	24	-21	805	0	0	0
41	SLE FR 5	24	-21	808	0	0	0
41	SLE FR 6	25	-21	823	0	0	0
41	SLE QP 1	24	-20	777	0	0	0
41	SLE QP 2	24	-21	805	0	0	0
41	SLD 1	70	-13	801	0	0	0
41	SLD 2	73	-11	801	0	0	0
41	SLD 3	64	-35	777	0	0	0
41	SLD 4	67	-33	777	0	0	0
41	SLD 5	47	14	841	0	0	0
41	SLD 6	49	15	841	0	0	0
41	SLD 7	26	-58	760	0	0	0
41	SLD 8	29	-57	760	0	0	0
41	SLD 9	20	15	850	0	0	0
41	SLD 10	22	16	850	0	0	0
41	SLD 11	0	-57	769	0	0	0
41	SLD 12	2	-55	769	0	0	0
41	SLD 13	-18	-9	833	0	0	0
41	SLD 14	-15	-7	833	0	0	0
41	SLD 15	-24	-30	809	0	0	0
41	SLD 16	-21	-28	809	0	0	0
41	SLV 1	96	-7	801	0	0	0
41	SLV 2	101	-4	801	0	0	0
41	SLV 3	86	-44	759	0	0	0
41	SLV 4	91	-41	759	0	0	0
41	SLV 5	61	38	866	0	0	0
41	SLV 6	64	40	867	0	0	0
41	SLV 7	26	-84	728	0	0	0
41	SLV 8	29	-82	728	0	0	0
41	SLV 9	19	40	881	0	0	0
41	SLV 10	23	42	882	0	0	0
41	SLV 11	-15	-82	743	0	0	0
41	SLV 12	-12	-80	743	0	0	0
41	SLV 13	-42	-1	850	0	0	0
41	SLV 14	-37	3	851	0	0	0
41	SLV 15	-52	-37	809	0	0	0
41	SLV 16	-47	-34	809	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
41	SLV FO 1	103	-6	800	0	0	0
41	SLV FO 2	109	-3	801	0	0	0
41	SLV FO 3	92	-46	755	0	0	0
41	SLV FO 4	97	-43	755	0	0	0
41	SLV FO 5	64	44	873	0	0	0
41	SLV FO 6	68	47	873	0	0	0
41	SLV FO 7	26	-90	721	0	0	0
41	SLV FO 8	30	-88	721	0	0	0
41	SLV FO 9	19	47	889	0	0	0
41	SLV FO 10	23	49	889	0	0	0
41	SLV FO 11	-19	-88	737	0	0	0
41	SLV FO 12	-16	-86	737	0	0	0
41	SLV FO 13	-49	1	855	0	0	0
41	SLV FO 14	-43	5	855	0	0	0
41	SLV FO 15	-60	-39	809	0	0	0
41	SLV FO 16	-55	-36	810	0	0	0
42	SLU 1	19	-19	598	0	0	0
42	SLU 2	19	-18	598	0	0	0
42	SLU 3	19	-19	610	0	0	0
42	SLU 4	19	-18	611	0	0	0
42	SLU 5	19	-17	607	0	0	0
42	SLU 6	19	-18	619	0	0	0
42	SLU 7	19	-17	619	0	0	0
42	SLU 8	19	-19	614	0	0	0
42	SLU 9	19	-17	615	0	0	0
42	SLU 10	20	-19	677	0	0	0
42	SLU 11	20	-20	689	0	0	0
42	SLU 12	20	-19	690	0	0	0
42	SLU 13	20	-19	686	0	0	0
42	SLU 14	20	-20	698	0	0	0
42	SLU 15	21	-19	698	0	0	0
42	SLU 16	20	-20	693	0	0	0
42	SLU 17	20	-19	694	0	0	0
42	SLU 18	21	-21	711	0	0	0
42	SLU 19	21	-20	711	0	0	0
42	SLU 20	21	-21	719	0	0	0
42	SLU 21	21	-20	719	0	0	0
42	SLU 22	21	-19	685	0	0	0
42	SLU 23	22	-17	686	0	0	0
42	SLU 24	22	-18	698	0	0	0
42	SLU 25	22	-17	698	0	0	0
42	SLU 26	22	-16	694	0	0	0
42	SLU 27	22	-18	706	0	0	0
42	SLU 28	22	-17	706	0	0	0
42	SLU 29	22	-18	701	0	0	0
42	SLU 30	22	-17	702	0	0	0
42	SLU 31	23	-18	765	0	0	0
42	SLU 32	23	-20	777	0	0	0
42	SLU 33	23	-19	777	0	0	0
42	SLU 34	23	-18	773	0	0	0
42	SLU 35	23	-19	785	0	0	0
42	SLU 36	23	-18	785	0	0	0
42	SLU 37	23	-19	780	0	0	0
42	SLU 38	23	-18	781	0	0	0
42	SLU 39	23	-21	798	0	0	0
42	SLU 40	23	-20	798	0	0	0
42	SLU 41	23	-20	806	0	0	0
42	SLU 42	23	-19	806	0	0	0
42	SLU 43	24	-25	747	0	0	0
42	SLU 44	24	-24	748	0	0	0
42	SLU 45	24	-25	760	0	0	0
42	SLU 46	24	-24	760	0	0	0
42	SLU 47	24	-23	756	0	0	0
42	SLU 48	24	-25	768	0	0	0
42	SLU 49	24	-23	769	0	0	0
42	SLU 50	24	-25	764	0	0	0
42	SLU 51	24	-24	764	0	0	0
42	SLU 52	25	-25	827	0	0	0
42	SLU 53	25	-26	839	0	0	0
42	SLU 54	25	-25	839	0	0	0
42	SLU 55	25	-25	835	0	0	0
42	SLU 56	25	-26	847	0	0	0
42	SLU 57	25	-25	848	0	0	0
42	SLU 58	25	-26	843	0	0	0
42	SLU 59	25	-25	843	0	0	0
42	SLU 60	25	-27	860	0	0	0
42	SLU 61	25	-26	861	0	0	0
42	SLU 62	25	-27	868	0	0	0
42	SLU 63	26	-26	869	0	0	0
42	SLU 64	26	-25	834	0	0	0
42	SLU 65	27	-23	835	0	0	0
42	SLU 66	26	-24	847	0	0	0
42	SLU 67	27	-23	847	0	0	0
42	SLU 68	27	-23	843	0	0	0
42	SLU 69	27	-24	855	0	0	0
42	SLU 70	27	-23	856	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
42	SLU 71	26	-24	851	0	0	0
42	SLU 72	27	-23	851	0	0	0
42	SLU 73	28	-24	914	0	0	0
42	SLU 74	28	-26	926	0	0	0
42	SLU 75	28	-25	926	0	0	0
42	SLU 76	28	-24	922	0	0	0
42	SLU 77	28	-25	934	0	0	0
42	SLU 78	28	-24	935	0	0	0
42	SLU 79	27	-25	930	0	0	0
42	SLU 80	28	-24	930	0	0	0
42	SLU 81	28	-27	947	0	0	0
42	SLU 82	28	-26	948	0	0	0
42	SLU 83	28	-26	955	0	0	0
42	SLU 84	28	-25	956	0	0	0
42	SLE RA 1	20	-19	623	0	0	0
42	SLE RA 2	20	-18	623	0	0	0
42	SLE RA 3	20	-19	631	0	0	0
42	SLE RA 4	20	-18	631	0	0	0
42	SLE RA 5	20	-18	629	0	0	0
42	SLE RA 6	20	-19	637	0	0	0
42	SLE RA 7	20	-18	637	0	0	0
42	SLE RA 8	20	-19	634	0	0	0
42	SLE RA 9	20	-18	634	0	0	0
42	SLE RA 10	21	-19	676	0	0	0
42	SLE RA 11	21	-20	684	0	0	0
42	SLE RA 12	21	-19	684	0	0	0
42	SLE RA 13	21	-19	681	0	0	0
42	SLE RA 14	21	-20	689	0	0	0
42	SLE RA 15	21	-19	690	0	0	0
42	SLE RA 16	20	-20	686	0	0	0
42	SLE RA 17	21	-19	687	0	0	0
42	SLE RA 18	21	-20	698	0	0	0
42	SLE RA 19	21	-20	698	0	0	0
42	SLE RA 20	21	-20	703	0	0	0
42	SLE RA 21	21	-20	704	0	0	0
42	SLE FR 1	20	-19	623	0	0	0
42	SLE FR 2	20	-19	623	0	0	0
42	SLE FR 3	20	-19	625	0	0	0
42	SLE FR 4	20	-19	645	0	0	0
42	SLE FR 5	20	-19	647	0	0	0
42	SLE FR 6	20	-20	660	0	0	0
42	SLE QP 1	20	-19	623	0	0	0
42	SLE QP 2	20	-19	645	0	0	0
42	SLD 1	57	-12	647	0	0	0
42	SLD 2	60	-11	648	0	0	0
42	SLD 3	52	-30	632	0	0	0
42	SLD 4	55	-30	633	0	0	0
42	SLD 5	38	11	669	0	0	0
42	SLD 6	40	11	669	0	0	0
42	SLD 7	22	-51	618	0	0	0
42	SLD 8	23	-51	619	0	0	0
42	SLD 9	17	12	672	0	0	0
42	SLD 10	18	12	672	0	0	0
42	SLD 11	0	-50	622	0	0	0
42	SLD 12	2	-50	622	0	0	0
42	SLD 13	-15	-9	658	0	0	0
42	SLD 14	-12	-9	658	0	0	0
42	SLD 15	-20	-28	643	0	0	0
42	SLD 16	-17	-27	643	0	0	0
42	SLV 1	79	-6	649	0	0	0
42	SLV 2	83	-6	650	0	0	0
42	SLV 3	70	-38	623	0	0	0
42	SLV 4	74	-38	624	0	0	0
42	SLV 5	50	33	685	0	0	0
42	SLV 6	53	33	686	0	0	0
42	SLV 7	21	-74	600	0	0	0
42	SLV 8	24	-73	600	0	0	0
42	SLV 9	16	34	691	0	0	0
42	SLV 10	19	35	691	0	0	0
42	SLV 11	-13	-72	605	0	0	0
42	SLV 12	-10	-72	605	0	0	0
42	SLV 13	-34	-1	667	0	0	0
42	SLV 14	-30	-1	667	0	0	0
42	SLV 15	-43	-33	641	0	0	0
42	SLV 16	-39	-33	641	0	0	0
42	SLV FO 1	85	-5	649	0	0	0
42	SLV FO 2	89	-4	650	0	0	0
42	SLV FO 3	75	-40	621	0	0	0
42	SLV FO 4	80	-39	622	0	0	0
42	SLV FO 5	53	38	689	0	0	0
42	SLV FO 6	56	39	690	0	0	0
42	SLV FO 7	21	-79	595	0	0	0
42	SLV FO 8	24	-79	595	0	0	0
42	SLV FO 9	15	40	695	0	0	0
42	SLV FO 10	19	40	695	0	0	0
42	SLV FO 11	-16	-78	601	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
42	SLV FO 12	-13	-77	601	0	0	0
42	SLV FO 13	-40	0	669	0	0	0
42	SLV FO 14	-35	1	669	0	0	0
42	SLV FO 15	-49	-35	640	0	0	0
42	SLV FO 16	-45	-34	641	0	0	0
44	SLU 1	30	-29	979	-86.12	0.03	2.68
44	SLU 2	31	-26	980	-86.25	0.03	2.73
44	SLU 3	31	-28	999	-87.92	0.03	2.71
44	SLU 4	31	-26	1000	-88	0.03	2.74
44	SLU 5	31	-25	993	-87.42	0.03	2.74
44	SLU 6	31	-27	1013	-89.1	0.03	2.72
44	SLU 7	31	-26	1013	-89.18	0.03	2.75
44	SLU 8	31	-28	1005	-88.47	0.03	2.7
44	SLU 9	31	-26	1006	-88.55	0.03	2.73
44	SLU 10	33	-28	1108	-97.53	0.03	2.89
44	SLU 11	33	-30	1127	-99.21	0.03	2.87
44	SLU 12	33	-29	1128	-99.29	0.03	2.91
44	SLU 13	33	-28	1122	-98.71	0.03	2.9
44	SLU 14	33	-30	1141	-100.38	0.03	2.88
44	SLU 15	33	-28	1142	-100.46	0.03	2.91
44	SLU 16	32	-30	1134	-99.75	0.03	2.86
44	SLU 17	33	-28	1134	-99.83	0.03	2.89
44	SLU 18	33	-32	1162	-102.23	0.03	2.91
44	SLU 19	33	-30	1163	-102.31	0.03	2.94
44	SLU 20	33	-31	1175	-103.41	0.03	2.92
44	SLU 21	34	-30	1176	-103.49	0.03	2.95
44	SLU 22	35	-27	1121	-98.65	0.03	3.05
44	SLU 23	35	-25	1123	-98.78	0.03	3.1
44	SLU 24	35	-27	1142	-100.46	0.03	3.08
44	SLU 25	35	-25	1143	-100.54	0.03	3.11
44	SLU 26	35	-24	1136	-99.96	0.03	3.11
44	SLU 27	35	-26	1155	-101.64	0.03	3.09
44	SLU 28	35	-25	1156	-101.72	0.03	3.12
44	SLU 29	35	-26	1148	-101.01	0.03	3.07
44	SLU 30	35	-25	1149	-101.08	0.03	3.1
44	SLU 31	37	-27	1251	-110.07	0.04	3.26
44	SLU 32	37	-29	1270	-111.75	0.04	3.24
44	SLU 33	37	-27	1271	-111.82	0.04	3.27
44	SLU 34	37	-26	1264	-111.24	0.04	3.27
44	SLU 35	37	-28	1283	-112.92	0.04	3.25
44	SLU 36	37	-27	1284	-113	0.04	3.28
44	SLU 37	37	-29	1276	-112.29	0.04	3.23
44	SLU 38	37	-27	1277	-112.37	0.04	3.26
44	SLU 39	37	-31	1304	-114.77	0.04	3.28
44	SLU 40	38	-29	1305	-114.85	0.04	3.31
44	SLU 41	37	-30	1318	-115.95	0.04	3.29
44	SLU 42	38	-28	1318	-116.03	0.04	3.32
44	SLU 43	38	-38	1223	-107.65	0.04	3.36
44	SLU 44	39	-35	1225	-107.78	0.04	3.41
44	SLU 45	39	-37	1244	-109.46	0.04	3.39
44	SLU 46	39	-35	1245	-109.54	0.04	3.42
44	SLU 47	39	-34	1238	-108.96	0.04	3.42
44	SLU 48	39	-37	1257	-110.64	0.04	3.4
44	SLU 49	39	-35	1258	-110.71	0.04	3.43
44	SLU 50	38	-37	1250	-110	0.04	3.38
44	SLU 51	39	-35	1251	-110.08	0.04	3.41
44	SLU 52	41	-37	1353	-119.07	0.04	3.57
44	SLU 53	40	-39	1372	-120.74	0.04	3.55
44	SLU 54	41	-38	1373	-120.82	0.04	3.58
44	SLU 55	41	-37	1366	-120.24	0.04	3.58
44	SLU 56	40	-39	1385	-121.92	0.04	3.56
44	SLU 57	41	-37	1386	-122	0.04	3.59
44	SLU 58	40	-39	1378	-121.29	0.04	3.54
44	SLU 59	41	-37	1379	-121.37	0.04	3.57
44	SLU 60	41	-41	1406	-123.77	0.04	3.59
44	SLU 61	41	-39	1407	-123.85	0.04	3.62
44	SLU 62	41	-40	1420	-124.95	0.04	3.6
44	SLU 63	41	-39	1421	-125.02	0.04	3.63
44	SLU 64	42	-37	1366	-120.19	0.04	3.73
44	SLU 65	43	-34	1367	-120.32	0.04	3.78
44	SLU 66	43	-36	1386	-122	0.04	3.76
44	SLU 67	43	-34	1387	-122.08	0.04	3.79
44	SLU 68	43	-33	1381	-121.5	0.04	3.79
44	SLU 69	43	-35	1400	-123.17	0.04	3.77
44	SLU 70	43	-34	1401	-123.25	0.04	3.8
44	SLU 71	43	-35	1393	-122.54	0.04	3.75
44	SLU 72	43	-34	1393	-122.62	0.04	3.78
44	SLU 73	45	-36	1495	-131.6	0.04	3.94
44	SLU 74	45	-38	1515	-133.28	0.04	3.92
44	SLU 75	45	-37	1515	-133.36	0.04	3.95
44	SLU 76	45	-36	1509	-132.78	0.04	3.95
44	SLU 77	45	-38	1528	-134.46	0.04	3.93
44	SLU 78	45	-36	1529	-134.54	0.05	3.96
44	SLU 79	44	-38	1521	-133.83	0.04	3.91
44	SLU 80	45	-36	1522	-133.9	0.04	3.94
44	SLU 81	45	-40	1549	-136.31	0.05	3.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
44	SLU 82	45	-38	1550	-136.39	0.05	3.99
44	SLU 83	45	-39	1562	-137.49	0.05	3.97
44	SLU 84	45	-38	1563	-137.56	0.05	4
44	SLE RA 1	32	-28	1019	-89.7	0.03	2.79
44	SLE RA 2	32	-27	1020	-89.79	0.03	2.82
44	SLE RA 3	32	-28	1033	-90.9	0.03	2.81
44	SLE RA 4	32	-27	1034	-90.96	0.03	2.83
44	SLE RA 5	32	-26	1029	-90.57	0.03	2.83
44	SLE RA 6	32	-28	1042	-91.69	0.03	2.81
44	SLE RA 7	32	-26	1043	-91.74	0.03	2.83
44	SLE RA 8	32	-28	1037	-91.27	0.03	2.8
44	SLE RA 9	32	-27	1038	-91.32	0.03	2.82
44	SLE RA 10	33	-28	1106	-97.31	0.03	2.93
44	SLE RA 11	33	-29	1118	-98.43	0.03	2.92
44	SLE RA 12	33	-28	1119	-98.48	0.03	2.94
44	SLE RA 13	33	-28	1115	-98.09	0.03	2.93
44	SLE RA 14	33	-29	1127	-99.21	0.03	2.92
44	SLE RA 15	33	-28	1128	-99.26	0.03	2.94
44	SLE RA 16	33	-29	1123	-98.79	0.03	2.91
44	SLE RA 17	33	-28	1123	-98.84	0.03	2.93
44	SLE RA 18	33	-31	1141	-100.44	0.03	2.94
44	SLE RA 19	34	-29	1142	-100.5	0.03	2.96
44	SLE RA 20	33	-30	1150	-101.23	0.03	2.95
44	SLE RA 21	34	-29	1151	-101.28	0.03	2.97
44	SLE FR 1	32	-28	1019	-89.7	0.03	2.79
44	SLE FR 2	32	-28	1019	-89.72	0.03	2.8
44	SLE FR 3	32	-28	1023	-90.01	0.03	2.79
44	SLE FR 4	32	-29	1056	-92.94	0.03	2.84
44	SLE FR 5	32	-29	1059	-93.24	0.03	2.84
44	SLE FR 6	33	-29	1080	-95.07	0.03	2.87
44	SLE QP 1	32	-28	1019	-89.7	0.03	2.79
44	SLE QP 2	32	-29	1056	-92.92	0.03	2.84
44	SLD 1	92	-18	1057	-93.04	0.03	8.13
44	SLD 2	97	-16	1058	-93.07	0.03	8.5
44	SLD 3	84	-47	1028	-90.5	0.03	7.42
44	SLD 4	88	-45	1029	-90.53	0.03	7.79
44	SLD 5	62	18	1100	-96.8	0.03	5.44
44	SLD 6	64	19	1100	-96.82	0.03	5.67
44	SLD 7	35	-79	1004	-88.34	0.03	3.07
44	SLD 8	38	-78	1004	-88.36	0.03	3.31
44	SLD 9	27	20	1108	-97.48	0.03	2.36
44	SLD 10	30	21	1108	-97.51	0.03	2.6
44	SLD 11	0	-77	1012	-89.02	0.03	0
44	SLD 12	3	-76	1012	-89.04	0.03	0.23
44	SLD 13	-24	-13	1083	-95.31	0.03	-2.12
44	SLD 14	-20	-11	1083	-95.34	0.03	-1.75
44	SLD 15	-32	-42	1054	-92.77	0.03	-2.83
44	SLD 16	-28	-40	1055	-92.81	0.03	-2.46
44	SLV 1	127	-10	1060	-93.27	0.03	11.18
44	SLV 2	134	-7	1061	-93.33	0.03	11.75
44	SLV 3	113	-59	1011	-88.94	0.03	9.96
44	SLV 4	120	-56	1011	-88.99	0.03	10.54
44	SLV 5	80	52	1132	-99.59	0.03	7.07
44	SLV 6	85	54	1132	-99.63	0.03	7.46
44	SLV 7	34	-114	968	-85.14	0.03	3.03
44	SLV 8	39	-112	968	-85.18	0.03	3.42
44	SLV 9	26	54	1144	-100.67	0.03	2.26
44	SLV 10	30	56	1144	-100.7	0.03	2.64
44	SLV 11	-20	-112	980	-86.21	0.03	-1.79
44	SLV 12	-16	-110	980	-86.25	0.03	-1.4
44	SLV 13	-55	-2	1101	-96.85	0.03	-4.87
44	SLV 14	-49	1	1101	-96.91	0.03	-4.29
44	SLV 15	-69	-51	1051	-92.52	0.03	-6.08
44	SLV 16	-63	-48	1052	-92.57	0.03	-5.51
44	SLV FO 1	136	-8	1060	-93.31	0.03	12.01
44	SLV FO 2	144	-5	1061	-93.37	0.03	12.64
44	SLV FO 3	121	-62	1006	-88.54	0.03	10.68
44	SLV FO 4	129	-59	1007	-88.6	0.03	11.31
44	SLV FO 5	85	60	1139	-100.26	0.03	7.49
44	SLV FO 6	90	62	1140	-100.3	0.03	7.92
44	SLV FO 7	35	-122	959	-84.36	0.03	3.05
44	SLV FO 8	39	-120	959	-84.4	0.03	3.47
44	SLV FO 9	25	62	1153	-101.44	0.03	2.2
44	SLV FO 10	30	64	1153	-101.48	0.03	2.62
44	SLV FO 11	-26	-120	972	-85.54	0.03	-2.25
44	SLV FO 12	-21	-118	973	-85.58	0.03	-1.82
44	SLV FO 13	-64	1	1105	-97.25	0.03	-5.64
44	SLV FO 14	-57	4	1106	-97.31	0.03	-5.01
44	SLV FO 15	-79	-53	1051	-92.48	0.03	-6.97
44	SLV FO 16	-72	-50	1052	-92.54	0.03	-6.34
44	CRTFP Ux+	0	0	0	0	0	0
44	CRTFP Ux-	0	0	0	0	0	0
44	CRTFP Uy+	0	0	0	0	0	0
44	CRTFP Uy-	0	0	0	0	0	0
46	SLU 1	27	-20	950	0	0	0
46	SLU 2	28	-18	952	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
46	SLU 3	28	-19	970	0	0	0
46	SLU 4	28	-18	971	0	0	0
46	SLU 5	28	-17	965	0	0	0
46	SLU 6	28	-19	983	0	0	0
46	SLU 7	28	-18	984	0	0	0
46	SLU 8	28	-19	976	0	0	0
46	SLU 9	28	-18	977	0	0	0
46	SLU 10	30	-19	1074	0	0	0
46	SLU 11	29	-21	1092	0	0	0
46	SLU 12	30	-20	1093	0	0	0
46	SLU 13	30	-19	1086	0	0	0
46	SLU 14	29	-21	1105	0	0	0
46	SLU 15	30	-19	1106	0	0	0
46	SLU 16	29	-21	1098	0	0	0
46	SLU 17	29	-19	1099	0	0	0
46	SLU 18	30	-22	1124	0	0	0
46	SLU 19	30	-21	1125	0	0	0
46	SLU 20	30	-22	1137	0	0	0
46	SLU 21	30	-20	1138	0	0	0
46	SLU 22	31	-19	1090	0	0	0
46	SLU 23	32	-16	1092	0	0	0
46	SLU 24	32	-18	1110	0	0	0
46	SLU 25	32	-17	1111	0	0	0
46	SLU 26	32	-16	1105	0	0	0
46	SLU 27	32	-17	1123	0	0	0
46	SLU 28	32	-16	1124	0	0	0
46	SLU 29	31	-17	1116	0	0	0
46	SLU 30	32	-16	1117	0	0	0
46	SLU 31	33	-18	1214	0	0	0
46	SLU 32	33	-20	1232	0	0	0
46	SLU 33	34	-18	1233	0	0	0
46	SLU 34	34	-17	1227	0	0	0
46	SLU 35	33	-19	1245	0	0	0
46	SLU 36	34	-18	1246	0	0	0
46	SLU 37	33	-19	1238	0	0	0
46	SLU 38	33	-18	1239	0	0	0
46	SLU 39	34	-21	1264	0	0	0
46	SLU 40	34	-19	1265	0	0	0
46	SLU 41	34	-20	1277	0	0	0
46	SLU 42	34	-19	1278	0	0	0
46	SLU 43	34	-27	1187	0	0	0
46	SLU 44	35	-24	1189	0	0	0
46	SLU 45	35	-26	1207	0	0	0
46	SLU 46	35	-25	1208	0	0	0
46	SLU 47	35	-24	1202	0	0	0
46	SLU 48	35	-26	1220	0	0	0
46	SLU 49	35	-24	1221	0	0	0
46	SLU 50	34	-26	1213	0	0	0
46	SLU 51	35	-24	1214	0	0	0
46	SLU 52	36	-26	1311	0	0	0
46	SLU 53	36	-28	1329	0	0	0
46	SLU 54	37	-26	1330	0	0	0
46	SLU 55	37	-25	1324	0	0	0
46	SLU 56	36	-27	1342	0	0	0
46	SLU 57	37	-26	1343	0	0	0
46	SLU 58	36	-27	1335	0	0	0
46	SLU 59	36	-26	1336	0	0	0
46	SLU 60	37	-29	1361	0	0	0
46	SLU 61	37	-28	1362	0	0	0
46	SLU 62	37	-28	1374	0	0	0
46	SLU 63	37	-27	1375	0	0	0
46	SLU 64	38	-25	1327	0	0	0
46	SLU 65	39	-23	1329	0	0	0
46	SLU 66	38	-24	1347	0	0	0
46	SLU 67	39	-23	1348	0	0	0
46	SLU 68	39	-22	1342	0	0	0
46	SLU 69	39	-24	1360	0	0	0
46	SLU 70	39	-23	1361	0	0	0
46	SLU 71	38	-24	1353	0	0	0
46	SLU 72	39	-23	1354	0	0	0
46	SLU 73	40	-24	1451	0	0	0
46	SLU 74	40	-26	1469	0	0	0
46	SLU 75	40	-25	1470	0	0	0
46	SLU 76	40	-24	1464	0	0	0
46	SLU 77	40	-26	1482	0	0	0
46	SLU 78	40	-24	1483	0	0	0
46	SLU 79	40	-26	1475	0	0	0
46	SLU 80	40	-24	1476	0	0	0
46	SLU 81	40	-27	1501	0	0	0
46	SLU 82	41	-26	1502	0	0	0
46	SLU 83	41	-27	1514	0	0	0
46	SLU 84	41	-25	1515	0	0	0
46	SLE RA 1	28	-20	990	0	0	0
46	SLE RA 2	29	-18	991	0	0	0
46	SLE RA 3	29	-19	1004	0	0	0
46	SLE RA 4	29	-18	1004	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
46	SLE RA 5	29	-18	1000	0	0	0
46	SLE RA 6	29	-19	1012	0	0	0
46	SLE RA 7	29	-18	1013	0	0	0
46	SLE RA 8	29	-19	1008	0	0	0
46	SLE RA 9	29	-18	1008	0	0	0
46	SLE RA 10	30	-19	1073	0	0	0
46	SLE RA 11	30	-20	1085	0	0	0
46	SLE RA 12	30	-19	1085	0	0	0
46	SLE RA 13	30	-19	1081	0	0	0
46	SLE RA 14	30	-20	1093	0	0	0
46	SLE RA 15	30	-19	1094	0	0	0
46	SLE RA 16	30	-20	1089	0	0	0
46	SLE RA 17	30	-19	1089	0	0	0
46	SLE RA 18	30	-21	1106	0	0	0
46	SLE RA 19	30	-20	1107	0	0	0
46	SLE RA 20	30	-21	1115	0	0	0
46	SLE RA 21	30	-20	1115	0	0	0
46	SLE FR 1	28	-20	990	0	0	0
46	SLE FR 2	29	-19	991	0	0	0
46	SLE FR 3	28	-20	994	0	0	0
46	SLE FR 4	29	-20	1025	0	0	0
46	SLE FR 5	29	-20	1029	0	0	0
46	SLE FR 6	29	-20	1048	0	0	0
46	SLE QP 1	28	-20	990	0	0	0
46	SLE QP 2	29	-20	1025	0	0	0
46	SLD 1	86	-16	988	0	0	0
46	SLD 2	89	-10	988	0	0	0
46	SLD 3	78	-40	960	0	0	0
46	SLD 4	81	-34	960	0	0	0
46	SLD 5	58	17	1057	0	0	0
46	SLD 6	60	21	1057	0	0	0
46	SLD 7	30	-64	962	0	0	0
46	SLD 8	32	-60	962	0	0	0
46	SLD 9	25	20	1088	0	0	0
46	SLD 10	27	23	1088	0	0	0
46	SLD 11	-2	-61	993	0	0	0
46	SLD 12	0	-57	993	0	0	0
46	SLD 13	-23	-6	1091	0	0	0
46	SLD 14	-20	0	1091	0	0	0
46	SLD 15	-32	-30	1062	0	0	0
46	SLD 16	-28	-25	1062	0	0	0
46	SLV 1	119	-11	969	0	0	0
46	SLV 2	124	-3	970	0	0	0
46	SLV 3	105	-53	921	0	0	0
46	SLV 4	110	-44	921	0	0	0
46	SLV 5	77	44	1082	0	0	0
46	SLV 6	80	49	1082	0	0	0
46	SLV 7	29	-94	920	0	0	0
46	SLV 8	33	-88	920	0	0	0
46	SLV 9	25	48	1130	0	0	0
46	SLV 10	29	54	1130	0	0	0
46	SLV 11	-22	-90	968	0	0	0
46	SLV 12	-19	-84	968	0	0	0
46	SLV 13	-52	4	1129	0	0	0
46	SLV 14	-47	12	1129	0	0	0
46	SLV 15	-66	-38	1081	0	0	0
46	SLV 16	-61	-29	1081	0	0	0
46	SLV FO 1	128	-10	964	0	0	0
46	SLV FO 2	134	-1	964	0	0	0
46	SLV FO 3	113	-56	911	0	0	0
46	SLV FO 4	118	-46	911	0	0	0
46	SLV FO 5	81	50	1088	0	0	0
46	SLV FO 6	85	56	1088	0	0	0
46	SLV FO 7	29	-102	910	0	0	0
46	SLV FO 8	33	-95	910	0	0	0
46	SLV FO 9	25	55	1140	0	0	0
46	SLV FO 10	28	61	1140	0	0	0
46	SLV FO 11	-27	-97	963	0	0	0
46	SLV FO 12	-24	-90	963	0	0	0
46	SLV FO 13	-60	6	1140	0	0	0
46	SLV FO 14	-55	16	1140	0	0	0
46	SLV FO 15	-76	-39	1086	0	0	0
46	SLV FO 16	-70	-30	1086	0	0	0
47	SLU 1	17	-11	593	0	0	0
47	SLU 2	17	-10	594	0	0	0
47	SLU 3	17	-11	605	0	0	0
47	SLU 4	17	-10	606	0	0	0
47	SLU 5	17	-9	602	0	0	0
47	SLU 6	17	-10	613	0	0	0
47	SLU 7	17	-9	614	0	0	0
47	SLU 8	17	-10	609	0	0	0
47	SLU 9	17	-10	610	0	0	0
47	SLU 10	18	-11	669	0	0	0
47	SLU 11	18	-12	681	0	0	0
47	SLU 12	18	-11	681	0	0	0
47	SLU 13	18	-10	677	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
47	SLU 14	18	-11	689	0	0	0
47	SLU 15	18	-10	689	0	0	0
47	SLU 16	18	-11	684	0	0	0
47	SLU 17	18	-10	685	0	0	0
47	SLU 18	18	-12	700	0	0	0
47	SLU 19	19	-11	701	0	0	0
47	SLU 20	18	-12	708	0	0	0
47	SLU 21	19	-11	709	0	0	0
47	SLU 22	19	-10	680	0	0	0
47	SLU 23	20	-9	681	0	0	0
47	SLU 24	19	-10	693	0	0	0
47	SLU 25	20	-9	693	0	0	0
47	SLU 26	20	-8	689	0	0	0
47	SLU 27	20	-9	701	0	0	0
47	SLU 28	20	-8	701	0	0	0
47	SLU 29	19	-9	696	0	0	0
47	SLU 30	20	-9	697	0	0	0
47	SLU 31	21	-9	757	0	0	0
47	SLU 32	20	-10	768	0	0	0
47	SLU 33	21	-10	769	0	0	0
47	SLU 34	21	-9	765	0	0	0
47	SLU 35	21	-10	776	0	0	0
47	SLU 36	21	-9	777	0	0	0
47	SLU 37	20	-10	771	0	0	0
47	SLU 38	21	-9	772	0	0	0
47	SLU 39	21	-11	788	0	0	0
47	SLU 40	21	-10	789	0	0	0
47	SLU 41	21	-11	796	0	0	0
47	SLU 42	21	-10	796	0	0	0
47	SLU 43	21	-15	741	0	0	0
47	SLU 44	21	-13	742	0	0	0
47	SLU 45	21	-14	753	0	0	0
47	SLU 46	22	-13	754	0	0	0
47	SLU 47	22	-13	750	0	0	0
47	SLU 48	21	-14	761	0	0	0
47	SLU 49	22	-13	762	0	0	0
47	SLU 50	21	-14	757	0	0	0
47	SLU 51	21	-13	757	0	0	0
47	SLU 52	22	-14	817	0	0	0
47	SLU 53	22	-15	829	0	0	0
47	SLU 54	23	-14	829	0	0	0
47	SLU 55	23	-14	825	0	0	0
47	SLU 56	22	-15	837	0	0	0
47	SLU 57	23	-14	837	0	0	0
47	SLU 58	22	-15	832	0	0	0
47	SLU 59	22	-14	833	0	0	0
47	SLU 60	23	-16	848	0	0	0
47	SLU 61	23	-15	849	0	0	0
47	SLU 62	23	-16	856	0	0	0
47	SLU 63	23	-15	857	0	0	0
47	SLU 64	24	-14	828	0	0	0
47	SLU 65	24	-12	829	0	0	0
47	SLU 66	24	-13	841	0	0	0
47	SLU 67	24	-12	841	0	0	0
47	SLU 68	24	-12	837	0	0	0
47	SLU 69	24	-13	849	0	0	0
47	SLU 70	24	-12	849	0	0	0
47	SLU 71	24	-13	844	0	0	0
47	SLU 72	24	-12	845	0	0	0
47	SLU 73	25	-13	905	0	0	0
47	SLU 74	25	-14	916	0	0	0
47	SLU 75	25	-13	917	0	0	0
47	SLU 76	25	-13	913	0	0	0
47	SLU 77	25	-14	924	0	0	0
47	SLU 78	25	-13	925	0	0	0
47	SLU 79	25	-14	919	0	0	0
47	SLU 80	25	-13	920	0	0	0
47	SLU 81	25	-15	936	0	0	0
47	SLU 82	25	-14	936	0	0	0
47	SLU 83	25	-15	944	0	0	0
47	SLU 84	25	-14	944	0	0	0
47	SLE RA 1	18	-11	618	0	0	0
47	SLE RA 2	18	-10	619	0	0	0
47	SLE RA 3	18	-10	626	0	0	0
47	SLE RA 4	18	-10	627	0	0	0
47	SLE RA 5	18	-10	624	0	0	0
47	SLE RA 6	18	-10	631	0	0	0
47	SLE RA 7	18	-10	632	0	0	0
47	SLE RA 8	18	-10	628	0	0	0
47	SLE RA 9	18	-10	629	0	0	0
47	SLE RA 10	18	-10	669	0	0	0
47	SLE RA 11	18	-11	676	0	0	0
47	SLE RA 12	19	-11	677	0	0	0
47	SLE RA 13	19	-10	674	0	0	0
47	SLE RA 14	18	-11	682	0	0	0
47	SLE RA 15	19	-10	682	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
47	SLE RA 16	18	-11	679	0	0	0
47	SLE RA 17	18	-10	679	0	0	0
47	SLE RA 18	19	-12	690	0	0	0
47	SLE RA 19	19	-11	690	0	0	0
47	SLE RA 20	19	-11	695	0	0	0
47	SLE RA 21	19	-11	695	0	0	0
47	SLE FR 1	18	-11	618	0	0	0
47	SLE FR 2	18	-11	618	0	0	0
47	SLE FR 3	18	-11	620	0	0	0
47	SLE FR 4	18	-11	640	0	0	0
47	SLE FR 5	18	-11	642	0	0	0
47	SLE FR 6	18	-11	654	0	0	0
47	SLE QP 1	18	-11	618	0	0	0
47	SLE QP 2	18	-11	639	0	0	0
47	SLD 1	53	-9	610	0	0	0
47	SLD 2	55	-5	610	0	0	0
47	SLD 3	48	-24	590	0	0	0
47	SLD 4	50	-20	590	0	0	0
47	SLD 5	36	10	661	0	0	0
47	SLD 6	37	13	661	0	0	0
47	SLD 7	19	-37	594	0	0	0
47	SLD 8	20	-34	594	0	0	0
47	SLD 9	16	13	685	0	0	0
47	SLD 10	17	15	685	0	0	0
47	SLD 11	-1	-35	618	0	0	0
47	SLD 12	0	-32	618	0	0	0
47	SLD 13	-14	-2	689	0	0	0
47	SLD 14	-12	2	689	0	0	0
47	SLD 15	-20	-17	669	0	0	0
47	SLD 16	-18	-12	669	0	0	0
47	SLV 1	74	-8	594	0	0	0
47	SLV 2	77	-1	594	0	0	0
47	SLV 3	65	-32	560	0	0	0
47	SLV 4	68	-25	560	0	0	0
47	SLV 5	47	26	678	0	0	0
47	SLV 6	49	30	677	0	0	0
47	SLV 7	18	-55	564	0	0	0
47	SLV 8	20	-51	564	0	0	0
47	SLV 9	16	29	715	0	0	0
47	SLV 10	18	33	715	0	0	0
47	SLV 11	-14	-52	601	0	0	0
47	SLV 12	-12	-48	601	0	0	0
47	SLV 13	-32	3	719	0	0	0
47	SLV 14	-29	10	719	0	0	0
47	SLV 15	-41	-21	685	0	0	0
47	SLV 16	-38	-14	684	0	0	0
47	SLV FO 1	79	-7	590	0	0	0
47	SLV FO 2	83	0	590	0	0	0
47	SLV FO 3	70	-34	552	0	0	0
47	SLV FO 4	73	-27	552	0	0	0
47	SLV FO 5	50	29	681	0	0	0
47	SLV FO 6	53	34	681	0	0	0
47	SLV FO 7	18	-60	557	0	0	0
47	SLV FO 8	20	-55	557	0	0	0
47	SLV FO 9	15	33	722	0	0	0
47	SLV FO 10	18	38	722	0	0	0
47	SLV FO 11	-17	-56	598	0	0	0
47	SLV FO 12	-15	-51	598	0	0	0
47	SLV FO 13	-37	5	726	0	0	0
47	SLV FO 14	-34	12	726	0	0	0
47	SLV FO 15	-47	-22	689	0	0	0
47	SLV FO 16	-44	-15	689	0	0	0
48	SLU 1	21	-17	726	0	0	0
48	SLU 2	21	-15	727	0	0	0
48	SLU 3	21	-16	742	0	0	0
48	SLU 4	22	-15	742	0	0	0
48	SLU 5	22	-14	737	0	0	0
48	SLU 6	21	-16	752	0	0	0
48	SLU 7	22	-15	752	0	0	0
48	SLU 8	21	-16	746	0	0	0
48	SLU 9	21	-15	747	0	0	0
48	SLU 10	23	-16	821	0	0	0
48	SLU 11	23	-17	835	0	0	0
48	SLU 12	23	-16	836	0	0	0
48	SLU 13	23	-16	831	0	0	0
48	SLU 14	23	-17	845	0	0	0
48	SLU 15	23	-16	846	0	0	0
48	SLU 16	22	-17	840	0	0	0
48	SLU 17	23	-16	840	0	0	0
48	SLU 18	23	-18	860	0	0	0
48	SLU 19	23	-17	860	0	0	0
48	SLU 20	23	-18	870	0	0	0
48	SLU 21	23	-17	870	0	0	0
48	SLU 22	24	-15	833	0	0	0
48	SLU 23	24	-14	834	0	0	0
48	SLU 24	24	-15	849	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
48	SLU 25	25	-14	849	0	0	0
48	SLU 26	25	-13	844	0	0	0
48	SLU 27	24	-15	859	0	0	0
48	SLU 28	25	-13	859	0	0	0
48	SLU 29	24	-15	853	0	0	0
48	SLU 30	24	-14	854	0	0	0
48	SLU 31	26	-15	928	0	0	0
48	SLU 32	26	-16	942	0	0	0
48	SLU 33	26	-15	943	0	0	0
48	SLU 34	26	-15	938	0	0	0
48	SLU 35	26	-16	952	0	0	0
48	SLU 36	26	-15	953	0	0	0
48	SLU 37	25	-16	947	0	0	0
48	SLU 38	26	-15	947	0	0	0
48	SLU 39	26	-17	967	0	0	0
48	SLU 40	26	-16	968	0	0	0
48	SLU 41	26	-17	977	0	0	0
48	SLU 42	26	-16	978	0	0	0
48	SLU 43	26	-22	907	0	0	0
48	SLU 44	27	-20	908	0	0	0
48	SLU 45	27	-21	923	0	0	0
48	SLU 46	27	-20	923	0	0	0
48	SLU 47	27	-20	918	0	0	0
48	SLU 48	27	-21	933	0	0	0
48	SLU 49	27	-20	933	0	0	0
48	SLU 50	26	-21	927	0	0	0
48	SLU 51	27	-20	928	0	0	0
48	SLU 52	28	-21	1002	0	0	0
48	SLU 53	28	-23	1016	0	0	0
48	SLU 54	28	-22	1017	0	0	0
48	SLU 55	28	-21	1012	0	0	0
48	SLU 56	28	-22	1026	0	0	0
48	SLU 57	28	-21	1027	0	0	0
48	SLU 58	28	-22	1021	0	0	0
48	SLU 59	28	-21	1021	0	0	0
48	SLU 60	28	-24	1041	0	0	0
48	SLU 61	28	-23	1042	0	0	0
48	SLU 62	28	-23	1051	0	0	0
48	SLU 63	28	-22	1051	0	0	0
48	SLU 64	29	-21	1015	0	0	0
48	SLU 65	30	-19	1016	0	0	0
48	SLU 66	30	-20	1030	0	0	0
48	SLU 67	30	-19	1031	0	0	0
48	SLU 68	30	-19	1025	0	0	0
48	SLU 69	30	-20	1040	0	0	0
48	SLU 70	30	-19	1040	0	0	0
48	SLU 71	29	-20	1034	0	0	0
48	SLU 72	30	-19	1035	0	0	0
48	SLU 73	31	-20	1109	0	0	0
48	SLU 74	31	-22	1123	0	0	0
48	SLU 75	31	-21	1124	0	0	0
48	SLU 76	31	-20	1119	0	0	0
48	SLU 77	31	-21	1133	0	0	0
48	SLU 78	31	-20	1134	0	0	0
48	SLU 79	31	-21	1128	0	0	0
48	SLU 80	31	-20	1128	0	0	0
48	SLU 81	31	-23	1148	0	0	0
48	SLU 82	31	-22	1149	0	0	0
48	SLU 83	31	-22	1158	0	0	0
48	SLU 84	31	-21	1159	0	0	0
48	SLE RA 1	22	-16	757	0	0	0
48	SLE RA 2	22	-15	758	0	0	0
48	SLE RA 3	22	-16	767	0	0	0
48	SLE RA 4	22	-15	768	0	0	0
48	SLE RA 5	22	-15	764	0	0	0
48	SLE RA 6	22	-16	774	0	0	0
48	SLE RA 7	22	-15	774	0	0	0
48	SLE RA 8	22	-16	770	0	0	0
48	SLE RA 9	22	-15	770	0	0	0
48	SLE RA 10	23	-16	820	0	0	0
48	SLE RA 11	23	-17	829	0	0	0
48	SLE RA 12	23	-16	830	0	0	0
48	SLE RA 13	23	-16	826	0	0	0
48	SLE RA 14	23	-17	836	0	0	0
48	SLE RA 15	23	-16	836	0	0	0
48	SLE RA 16	23	-17	832	0	0	0
48	SLE RA 17	23	-16	833	0	0	0
48	SLE RA 18	23	-18	846	0	0	0
48	SLE RA 19	23	-17	846	0	0	0
48	SLE RA 20	23	-17	853	0	0	0
48	SLE RA 21	23	-17	853	0	0	0
48	SLE FR 1	22	-16	757	0	0	0
48	SLE FR 2	22	-16	757	0	0	0
48	SLE FR 3	22	-16	760	0	0	0
48	SLE FR 4	22	-16	784	0	0	0
48	SLE FR 5	22	-17	786	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
48	SLE FR 6	22	-17	801	0	0	0
48	SLE QP 1	22	-16	757	0	0	0
48	SLE QP 2	22	-17	784	0	0	0
48	SLD 1	66	-12	760	0	0	0
48	SLD 2	69	-8	760	0	0	0
48	SLD 3	60	-31	741	0	0	0
48	SLD 4	62	-28	741	0	0	0
48	SLD 5	45	13	806	0	0	0
48	SLD 6	46	16	806	0	0	0
48	SLD 7	23	-51	742	0	0	0
48	SLD 8	25	-48	742	0	0	0
48	SLD 9	20	15	825	0	0	0
48	SLD 10	21	17	825	0	0	0
48	SLD 11	-2	-49	762	0	0	0
48	SLD 12	0	-46	762	0	0	0
48	SLD 13	-18	-6	826	0	0	0
48	SLD 14	-16	-2	826	0	0	0
48	SLD 15	-24	-25	807	0	0	0
48	SLD 16	-22	-21	807	0	0	0
48	SLV 1	92	-8	748	0	0	0
48	SLV 2	96	-2	748	0	0	0
48	SLV 3	81	-41	716	0	0	0
48	SLV 4	85	-35	716	0	0	0
48	SLV 5	59	34	823	0	0	0
48	SLV 6	62	38	823	0	0	0
48	SLV 7	22	-75	714	0	0	0
48	SLV 8	25	-71	714	0	0	0
48	SLV 9	19	37	853	0	0	0
48	SLV 10	22	41	854	0	0	0
48	SLV 11	-17	-72	745	0	0	0
48	SLV 12	-15	-68	745	0	0	0
48	SLV 13	-40	2	851	0	0	0
48	SLV 14	-36	8	852	0	0	0
48	SLV 15	-51	-31	819	0	0	0
48	SLV 16	-47	-25	819	0	0	0
48	SLV FO 1	99	-7	745	0	0	0
48	SLV FO 2	103	-1	745	0	0	0
48	SLV FO 3	87	-43	709	0	0	0
48	SLV FO 4	91	-37	709	0	0	0
48	SLV FO 5	63	40	826	0	0	0
48	SLV FO 6	66	44	826	0	0	0
48	SLV FO 7	22	-80	707	0	0	0
48	SLV FO 8	25	-76	707	0	0	0
48	SLV FO 9	19	43	860	0	0	0
48	SLV FO 10	22	47	861	0	0	0
48	SLV FO 11	-21	-77	741	0	0	0
48	SLV FO 12	-18	-73	741	0	0	0
48	SLV FO 13	-46	4	858	0	0	0
48	SLV FO 14	-42	10	858	0	0	0
48	SLV FO 15	-59	-32	822	0	0	0
48	SLV FO 16	-54	-26	822	0	0	0
49	SLU 1	21	-18	725	0	0	0
49	SLU 2	22	-16	726	0	0	0
49	SLU 3	21	-17	740	0	0	0
49	SLU 4	22	-16	741	0	0	0
49	SLU 5	22	-16	736	0	0	0
49	SLU 6	21	-17	750	0	0	0
49	SLU 7	22	-16	751	0	0	0
49	SLU 8	21	-17	745	0	0	0
49	SLU 9	22	-16	746	0	0	0
49	SLU 10	23	-17	820	0	0	0
49	SLU 11	23	-19	834	0	0	0
49	SLU 12	23	-18	835	0	0	0
49	SLU 13	23	-17	830	0	0	0
49	SLU 14	23	-18	844	0	0	0
49	SLU 15	23	-17	845	0	0	0
49	SLU 16	23	-18	839	0	0	0
49	SLU 17	23	-17	839	0	0	0
49	SLU 18	23	-20	859	0	0	0
49	SLU 19	23	-19	860	0	0	0
49	SLU 20	23	-19	869	0	0	0
49	SLU 21	23	-18	870	0	0	0
49	SLU 22	24	-17	832	0	0	0
49	SLU 23	25	-15	833	0	0	0
49	SLU 24	24	-16	848	0	0	0
49	SLU 25	25	-15	848	0	0	0
49	SLU 26	25	-14	843	0	0	0
49	SLU 27	24	-16	858	0	0	0
49	SLU 28	25	-15	858	0	0	0
49	SLU 29	24	-16	852	0	0	0
49	SLU 30	25	-15	853	0	0	0
49	SLU 31	26	-16	927	0	0	0
49	SLU 32	26	-18	941	0	0	0
49	SLU 33	26	-17	942	0	0	0
49	SLU 34	26	-16	937	0	0	0
49	SLU 35	26	-17	951	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
49	SLU 36	26	-16	952	0	0	0
49	SLU 37	26	-17	946	0	0	0
49	SLU 38	26	-16	946	0	0	0
49	SLU 39	26	-19	966	0	0	0
49	SLU 40	26	-18	967	0	0	0
49	SLU 41	26	-18	976	0	0	0
49	SLU 42	26	-17	977	0	0	0
49	SLU 43	26	-24	906	0	0	0
49	SLU 44	27	-22	907	0	0	0
49	SLU 45	27	-23	921	0	0	0
49	SLU 46	27	-22	922	0	0	0
49	SLU 47	27	-21	917	0	0	0
49	SLU 48	27	-23	931	0	0	0
49	SLU 49	27	-21	932	0	0	0
49	SLU 50	27	-23	926	0	0	0
49	SLU 51	27	-22	926	0	0	0
49	SLU 52	28	-23	1001	0	0	0
49	SLU 53	28	-24	1015	0	0	0
49	SLU 54	28	-23	1016	0	0	0
49	SLU 55	28	-23	1011	0	0	0
49	SLU 56	28	-24	1025	0	0	0
49	SLU 57	28	-23	1026	0	0	0
49	SLU 58	28	-24	1020	0	0	0
49	SLU 59	28	-23	1020	0	0	0
49	SLU 60	28	-26	1040	0	0	0
49	SLU 61	29	-24	1040	0	0	0
49	SLU 62	28	-25	1050	0	0	0
49	SLU 63	29	-24	1050	0	0	0
49	SLU 64	29	-22	1013	0	0	0
49	SLU 65	30	-21	1014	0	0	0
49	SLU 66	30	-22	1028	0	0	0
49	SLU 67	30	-21	1029	0	0	0
49	SLU 68	30	-20	1024	0	0	0
49	SLU 69	30	-22	1038	0	0	0
49	SLU 70	30	-20	1039	0	0	0
49	SLU 71	30	-22	1033	0	0	0
49	SLU 72	30	-20	1033	0	0	0
49	SLU 73	31	-22	1108	0	0	0
49	SLU 74	31	-23	1122	0	0	0
49	SLU 75	31	-22	1123	0	0	0
49	SLU 76	31	-22	1118	0	0	0
49	SLU 77	31	-23	1132	0	0	0
49	SLU 78	31	-22	1133	0	0	0
49	SLU 79	31	-23	1127	0	0	0
49	SLU 80	31	-22	1127	0	0	0
49	SLU 81	31	-24	1147	0	0	0
49	SLU 82	32	-23	1147	0	0	0
49	SLU 83	31	-24	1157	0	0	0
49	SLU 84	32	-23	1157	0	0	0
49	SLE RA 1	22	-17	756	0	0	0
49	SLE RA 2	22	-16	756	0	0	0
49	SLE RA 3	22	-17	766	0	0	0
49	SLE RA 4	22	-16	766	0	0	0
49	SLE RA 5	22	-16	763	0	0	0
49	SLE RA 6	22	-17	773	0	0	0
49	SLE RA 7	22	-16	773	0	0	0
49	SLE RA 8	22	-17	769	0	0	0
49	SLE RA 9	22	-16	769	0	0	0
49	SLE RA 10	23	-17	819	0	0	0
49	SLE RA 11	23	-18	829	0	0	0
49	SLE RA 12	23	-17	829	0	0	0
49	SLE RA 13	23	-17	825	0	0	0
49	SLE RA 14	23	-18	835	0	0	0
49	SLE RA 15	23	-17	835	0	0	0
49	SLE RA 16	23	-18	832	0	0	0
49	SLE RA 17	23	-17	832	0	0	0
49	SLE RA 18	23	-19	845	0	0	0
49	SLE RA 19	23	-18	845	0	0	0
49	SLE RA 20	23	-19	852	0	0	0
49	SLE RA 21	23	-18	852	0	0	0
49	SLE FR 1	22	-17	756	0	0	0
49	SLE FR 2	22	-17	756	0	0	0
49	SLE FR 3	22	-17	758	0	0	0
49	SLE FR 4	22	-18	783	0	0	0
49	SLE FR 5	22	-18	785	0	0	0
49	SLE FR 6	23	-18	800	0	0	0
49	SLE QP 1	22	-17	756	0	0	0
49	SLE QP 2	22	-18	782	0	0	0
49	SLD 1	67	-12	764	0	0	0
49	SLD 2	69	-9	764	0	0	0
49	SLD 3	60	-32	747	0	0	0
49	SLD 4	63	-29	747	0	0	0
49	SLD 5	45	13	802	0	0	0
49	SLD 6	47	15	802	0	0	0
49	SLD 7	24	-53	747	0	0	0
49	SLD 8	25	-51	747	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
49	SLD 9	20	15	818	0	0	0
49	SLD 10	21	17	818	0	0	0
49	SLD 11	-2	-51	763	0	0	0
49	SLD 12	0	-49	763	0	0	0
49	SLD 13	-18	-7	818	0	0	0
49	SLD 14	-16	-4	818	0	0	0
49	SLD 15	-25	-27	801	0	0	0
49	SLD 16	-22	-23	801	0	0	0
49	SLV 1	93	-8	755	0	0	0
49	SLV 2	96	-3	755	0	0	0
49	SLV 3	82	-42	726	0	0	0
49	SLV 4	85	-37	726	0	0	0
49	SLV 5	60	36	817	0	0	0
49	SLV 6	62	39	817	0	0	0
49	SLV 7	23	-77	722	0	0	0
49	SLV 8	25	-74	722	0	0	0
49	SLV 9	20	38	842	0	0	0
49	SLV 10	22	41	843	0	0	0
49	SLV 11	-17	-75	748	0	0	0
49	SLV 12	-15	-71	748	0	0	0
49	SLV 13	-41	1	839	0	0	0
49	SLV 14	-37	6	839	0	0	0
49	SLV 15	-52	-33	810	0	0	0
49	SLV 16	-48	-28	810	0	0	0
49	SLV FO 1	100	-7	752	0	0	0
49	SLV FO 2	104	-1	752	0	0	0
49	SLV FO 3	87	-44	721	0	0	0
49	SLV FO 4	92	-39	721	0	0	0
49	SLV FO 5	63	41	821	0	0	0
49	SLV FO 6	66	44	821	0	0	0
49	SLV FO 7	23	-83	716	0	0	0
49	SLV FO 8	25	-80	716	0	0	0
49	SLV FO 9	19	44	848	0	0	0
49	SLV FO 10	22	47	849	0	0	0
49	SLV FO 11	-21	-80	744	0	0	0
49	SLV FO 12	-19	-77	744	0	0	0
49	SLV FO 13	-47	3	844	0	0	0
49	SLV FO 14	-43	8	844	0	0	0
49	SLV FO 15	-59	-34	813	0	0	0
49	SLV FO 16	-55	-29	813	0	0	0
50	SLU 1	21	-19	725	0	0	0
50	SLU 2	22	-17	726	0	0	0
50	SLU 3	22	-19	741	0	0	0
50	SLU 4	22	-17	741	0	0	0
50	SLU 5	22	-17	736	0	0	0
50	SLU 6	22	-18	751	0	0	0
50	SLU 7	22	-17	751	0	0	0
50	SLU 8	21	-18	746	0	0	0
50	SLU 9	22	-17	746	0	0	0
50	SLU 10	23	-19	821	0	0	0
50	SLU 11	23	-20	835	0	0	0
50	SLU 12	23	-19	836	0	0	0
50	SLU 13	23	-18	831	0	0	0
50	SLU 14	23	-20	846	0	0	0
50	SLU 15	23	-18	846	0	0	0
50	SLU 16	23	-20	840	0	0	0
50	SLU 17	23	-19	840	0	0	0
50	SLU 18	23	-21	860	0	0	0
50	SLU 19	23	-20	861	0	0	0
50	SLU 20	23	-21	870	0	0	0
50	SLU 21	23	-20	871	0	0	0
50	SLU 22	24	-18	833	0	0	0
50	SLU 23	25	-16	833	0	0	0
50	SLU 24	25	-18	848	0	0	0
50	SLU 25	25	-16	849	0	0	0
50	SLU 26	25	-16	843	0	0	0
50	SLU 27	25	-17	858	0	0	0
50	SLU 28	25	-16	859	0	0	0
50	SLU 29	24	-17	853	0	0	0
50	SLU 30	25	-16	853	0	0	0
50	SLU 31	26	-18	928	0	0	0
50	SLU 32	26	-19	943	0	0	0
50	SLU 33	26	-18	943	0	0	0
50	SLU 34	26	-17	938	0	0	0
50	SLU 35	26	-19	953	0	0	0
50	SLU 36	26	-17	953	0	0	0
50	SLU 37	26	-19	947	0	0	0
50	SLU 38	26	-18	948	0	0	0
50	SLU 39	26	-20	968	0	0	0
50	SLU 40	26	-19	968	0	0	0
50	SLU 41	26	-20	978	0	0	0
50	SLU 42	26	-19	978	0	0	0
50	SLU 43	27	-25	906	0	0	0
50	SLU 44	27	-23	907	0	0	0
50	SLU 45	27	-25	922	0	0	0
50	SLU 46	27	-23	922	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLU 47	27	-23	917	0	0	0
50	SLU 48	27	-24	932	0	0	0
50	SLU 49	27	-23	932	0	0	0
50	SLU 50	27	-24	927	0	0	0
50	SLU 51	27	-23	927	0	0	0
50	SLU 52	28	-25	1001	0	0	0
50	SLU 53	28	-26	1016	0	0	0
50	SLU 54	28	-25	1017	0	0	0
50	SLU 55	28	-24	1011	0	0	0
50	SLU 56	28	-26	1026	0	0	0
50	SLU 57	28	-25	1027	0	0	0
50	SLU 58	28	-26	1021	0	0	0
50	SLU 59	28	-25	1021	0	0	0
50	SLU 60	28	-27	1041	0	0	0
50	SLU 61	29	-26	1042	0	0	0
50	SLU 62	28	-27	1051	0	0	0
50	SLU 63	29	-26	1052	0	0	0
50	SLU 64	30	-24	1014	0	0	0
50	SLU 65	30	-22	1014	0	0	0
50	SLU 66	30	-24	1029	0	0	0
50	SLU 67	30	-22	1029	0	0	0
50	SLU 68	30	-22	1024	0	0	0
50	SLU 69	30	-23	1039	0	0	0
50	SLU 70	30	-22	1040	0	0	0
50	SLU 71	30	-23	1034	0	0	0
50	SLU 72	30	-22	1034	0	0	0
50	SLU 73	31	-24	1109	0	0	0
50	SLU 74	31	-25	1124	0	0	0
50	SLU 75	31	-24	1124	0	0	0
50	SLU 76	31	-23	1119	0	0	0
50	SLU 77	31	-25	1134	0	0	0
50	SLU 78	32	-24	1134	0	0	0
50	SLU 79	31	-25	1128	0	0	0
50	SLU 80	31	-24	1129	0	0	0
50	SLU 81	31	-26	1148	0	0	0
50	SLU 82	32	-25	1149	0	0	0
50	SLU 83	32	-26	1159	0	0	0
50	SLU 84	32	-25	1159	0	0	0
50	SLE RA 1	22	-19	756	0	0	0
50	SLE RA 2	22	-17	757	0	0	0
50	SLE RA 3	22	-18	766	0	0	0
50	SLE RA 4	23	-18	767	0	0	0
50	SLE RA 5	23	-17	763	0	0	0
50	SLE RA 6	22	-18	773	0	0	0
50	SLE RA 7	23	-17	773	0	0	0
50	SLE RA 8	22	-18	770	0	0	0
50	SLE RA 9	22	-17	770	0	0	0
50	SLE RA 10	23	-18	819	0	0	0
50	SLE RA 11	23	-19	829	0	0	0
50	SLE RA 12	23	-19	830	0	0	0
50	SLE RA 13	23	-18	826	0	0	0
50	SLE RA 14	23	-19	836	0	0	0
50	SLE RA 15	23	-18	836	0	0	0
50	SLE RA 16	23	-19	833	0	0	0
50	SLE RA 17	23	-18	833	0	0	0
50	SLE RA 18	23	-20	846	0	0	0
50	SLE RA 19	24	-19	846	0	0	0
50	SLE RA 20	23	-20	853	0	0	0
50	SLE RA 21	24	-19	853	0	0	0
50	SLE FR 1	22	-19	756	0	0	0
50	SLE FR 2	22	-18	756	0	0	0
50	SLE FR 3	22	-19	759	0	0	0
50	SLE FR 4	23	-19	783	0	0	0
50	SLE FR 5	23	-19	786	0	0	0
50	SLE FR 6	23	-19	801	0	0	0
50	SLE QP 1	22	-19	756	0	0	0
50	SLE QP 2	23	-19	783	0	0	0
50	SLD 1	67	-13	769	0	0	0
50	SLD 2	70	-10	769	0	0	0
50	SLD 3	61	-33	755	0	0	0
50	SLD 4	63	-31	755	0	0	0
50	SLD 5	46	13	800	0	0	0
50	SLD 6	47	15	800	0	0	0
50	SLD 7	24	-55	753	0	0	0
50	SLD 8	25	-53	753	0	0	0
50	SLD 9	20	15	813	0	0	0
50	SLD 10	21	17	813	0	0	0
50	SLD 11	-2	-53	766	0	0	0
50	SLD 12	-1	-52	766	0	0	0
50	SLD 13	-18	-8	811	0	0	0
50	SLD 14	-16	-5	811	0	0	0
50	SLD 15	-25	-28	797	0	0	0
50	SLD 16	-22	-26	797	0	0	0
50	SLV 1	93	-8	763	0	0	0
50	SLV 2	97	-4	763	0	0	0
50	SLV 3	82	-43	738	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLV 4	86	-39	739	0	0	0
50	SLV 5	60	37	813	0	0	0
50	SLV 6	63	39	813	0	0	0
50	SLV 7	23	-80	733	0	0	0
50	SLV 8	25	-77	733	0	0	0
50	SLV 9	20	39	833	0	0	0
50	SLV 10	22	42	833	0	0	0
50	SLV 11	-18	-78	753	0	0	0
50	SLV 12	-15	-75	753	0	0	0
50	SLV 13	-41	0	828	0	0	0
50	SLV 14	-37	4	828	0	0	0
50	SLV 15	-52	-35	804	0	0	0
50	SLV 16	-48	-31	804	0	0	0
50	SLV FO 1	100	-6	760	0	0	0
50	SLV FO 2	105	-2	761	0	0	0
50	SLV FO 3	88	-45	734	0	0	0
50	SLV FO 4	92	-41	734	0	0	0
50	SLV FO 5	64	42	816	0	0	0
50	SLV FO 6	67	45	816	0	0	0
50	SLV FO 7	23	-86	728	0	0	0
50	SLV FO 8	25	-83	728	0	0	0
50	SLV FO 9	20	45	838	0	0	0
50	SLV FO 10	22	48	838	0	0	0
50	SLV FO 11	-22	-84	750	0	0	0
50	SLV FO 12	-19	-81	750	0	0	0
50	SLV FO 13	-47	2	832	0	0	0
50	SLV FO 14	-43	7	832	0	0	0
50	SLV FO 15	-60	-36	806	0	0	0
50	SLV FO 16	-55	-32	806	0	0	0
51	SLU 1	22	-20	733	0	0	0
51	SLU 2	22	-18	733	0	0	0
51	SLU 3	22	-20	749	0	0	0
51	SLU 4	22	-19	749	0	0	0
51	SLU 5	22	-18	743	0	0	0
51	SLU 6	22	-20	759	0	0	0
51	SLU 7	22	-18	759	0	0	0
51	SLU 8	22	-20	753	0	0	0
51	SLU 9	22	-18	754	0	0	0
51	SLU 10	23	-20	829	0	0	0
51	SLU 11	23	-22	845	0	0	0
51	SLU 12	23	-20	845	0	0	0
51	SLU 13	23	-20	839	0	0	0
51	SLU 14	23	-21	855	0	0	0
51	SLU 15	23	-20	855	0	0	0
51	SLU 16	23	-21	849	0	0	0
51	SLU 17	23	-20	850	0	0	0
51	SLU 18	23	-23	870	0	0	0
51	SLU 19	24	-22	870	0	0	0
51	SLU 20	23	-22	880	0	0	0
51	SLU 21	24	-21	880	0	0	0
51	SLU 22	25	-19	841	0	0	0
51	SLU 23	25	-17	842	0	0	0
51	SLU 24	25	-19	857	0	0	0
51	SLU 25	25	-18	857	0	0	0
51	SLU 26	25	-17	852	0	0	0
51	SLU 27	25	-19	867	0	0	0
51	SLU 28	25	-17	868	0	0	0
51	SLU 29	25	-19	862	0	0	0
51	SLU 30	25	-17	862	0	0	0
51	SLU 31	26	-19	938	0	0	0
51	SLU 32	26	-21	953	0	0	0
51	SLU 33	26	-19	953	0	0	0
51	SLU 34	26	-19	948	0	0	0
51	SLU 35	26	-20	963	0	0	0
51	SLU 36	27	-19	964	0	0	0
51	SLU 37	26	-20	958	0	0	0
51	SLU 38	26	-19	958	0	0	0
51	SLU 39	26	-22	978	0	0	0
51	SLU 40	27	-21	979	0	0	0
51	SLU 41	27	-21	989	0	0	0
51	SLU 42	27	-20	989	0	0	0
51	SLU 43	27	-27	915	0	0	0
51	SLU 44	27	-25	916	0	0	0
51	SLU 45	27	-26	931	0	0	0
51	SLU 46	28	-25	931	0	0	0
51	SLU 47	28	-25	926	0	0	0
51	SLU 48	27	-26	942	0	0	0
51	SLU 49	28	-25	942	0	0	0
51	SLU 50	27	-26	936	0	0	0
51	SLU 51	27	-25	936	0	0	0
51	SLU 52	29	-27	1012	0	0	0
51	SLU 53	29	-28	1027	0	0	0
51	SLU 54	29	-27	1027	0	0	0
51	SLU 55	29	-26	1022	0	0	0
51	SLU 56	29	-28	1038	0	0	0
51	SLU 57	29	-26	1038	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLU 58	28	-28	1032	0	0	0
51	SLU 59	29	-26	1032	0	0	0
51	SLU 60	29	-29	1053	0	0	0
51	SLU 61	29	-28	1053	0	0	0
51	SLU 62	29	-29	1063	0	0	0
51	SLU 63	29	-28	1063	0	0	0
51	SLU 64	30	-26	1024	0	0	0
51	SLU 65	31	-24	1024	0	0	0
51	SLU 66	30	-25	1040	0	0	0
51	SLU 67	31	-24	1040	0	0	0
51	SLU 68	31	-24	1035	0	0	0
51	SLU 69	30	-25	1050	0	0	0
51	SLU 70	31	-24	1050	0	0	0
51	SLU 71	30	-25	1045	0	0	0
51	SLU 72	30	-24	1045	0	0	0
51	SLU 73	32	-26	1120	0	0	0
51	SLU 74	32	-27	1136	0	0	0
51	SLU 75	32	-26	1136	0	0	0
51	SLU 76	32	-25	1131	0	0	0
51	SLU 77	32	-27	1146	0	0	0
51	SLU 78	32	-25	1146	0	0	0
51	SLU 79	31	-27	1140	0	0	0
51	SLU 80	32	-25	1141	0	0	0
51	SLU 81	32	-28	1161	0	0	0
51	SLU 82	32	-27	1161	0	0	0
51	SLU 83	32	-28	1171	0	0	0
51	SLU 84	32	-27	1172	0	0	0
51	SLE RA 1	22	-20	764	0	0	0
51	SLE RA 2	23	-19	764	0	0	0
51	SLE RA 3	23	-20	774	0	0	0
51	SLE RA 4	23	-19	774	0	0	0
51	SLE RA 5	23	-19	771	0	0	0
51	SLE RA 6	23	-20	781	0	0	0
51	SLE RA 7	23	-19	781	0	0	0
51	SLE RA 8	23	-20	778	0	0	0
51	SLE RA 9	23	-19	778	0	0	0
51	SLE RA 10	24	-20	828	0	0	0
51	SLE RA 11	23	-21	838	0	0	0
51	SLE RA 12	24	-20	838	0	0	0
51	SLE RA 13	24	-20	835	0	0	0
51	SLE RA 14	24	-21	845	0	0	0
51	SLE RA 15	24	-20	845	0	0	0
51	SLE RA 16	23	-21	841	0	0	0
51	SLE RA 17	24	-20	842	0	0	0
51	SLE RA 18	24	-22	855	0	0	0
51	SLE RA 19	24	-21	855	0	0	0
51	SLE RA 20	24	-21	862	0	0	0
51	SLE RA 21	24	-21	862	0	0	0
51	SLE FR 1	22	-20	764	0	0	0
51	SLE FR 2	23	-20	764	0	0	0
51	SLE FR 3	22	-20	767	0	0	0
51	SLE FR 4	23	-20	791	0	0	0
51	SLE FR 5	23	-21	794	0	0	0
51	SLE FR 6	23	-21	809	0	0	0
51	SLE QP 1	22	-20	764	0	0	0
51	SLE QP 2	23	-21	791	0	0	0
51	SLD 1	69	-13	782	0	0	0
51	SLD 2	71	-11	782	0	0	0
51	SLD 3	62	-34	771	0	0	0
51	SLD 4	64	-32	771	0	0	0
51	SLD 5	46	14	806	0	0	0
51	SLD 6	48	15	806	0	0	0
51	SLD 7	24	-58	768	0	0	0
51	SLD 8	25	-56	768	0	0	0
51	SLD 9	20	15	815	0	0	0
51	SLD 10	22	16	815	0	0	0
51	SLD 11	-2	-56	777	0	0	0
51	SLD 12	-1	-55	777	0	0	0
51	SLD 13	-19	-9	812	0	0	0
51	SLD 14	-16	-7	812	0	0	0
51	SLD 15	-25	-30	800	0	0	0
51	SLD 16	-23	-28	800	0	0	0
51	SLV 1	95	-7	778	0	0	0
51	SLV 2	99	-4	778	0	0	0
51	SLV 3	83	-44	758	0	0	0
51	SLV 4	87	-41	758	0	0	0
51	SLV 5	61	38	817	0	0	0
51	SLV 6	64	40	817	0	0	0
51	SLV 7	23	-83	752	0	0	0
51	SLV 8	25	-81	752	0	0	0
51	SLV 9	20	40	831	0	0	0
51	SLV 10	23	42	831	0	0	0
51	SLV 11	-18	-81	766	0	0	0
51	SLV 12	-15	-79	766	0	0	0
51	SLV 13	-41	-1	824	0	0	0
51	SLV 14	-38	3	824	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLV 15	-53	-37	805	0	0	0
51	SLV 16	-49	-34	805	0	0	0
51	SLV FO 1	102	-6	776	0	0	0
51	SLV FO 2	106	-3	776	0	0	0
51	SLV FO 3	89	-46	755	0	0	0
51	SLV FO 4	94	-43	755	0	0	0
51	SLV FO 5	65	44	819	0	0	0
51	SLV FO 6	68	46	819	0	0	0
51	SLV FO 7	23	-90	748	0	0	0
51	SLV FO 8	26	-87	748	0	0	0
51	SLV FO 9	20	46	835	0	0	0
51	SLV FO 10	23	48	835	0	0	0
51	SLV FO 11	-22	-88	763	0	0	0
51	SLV FO 12	-19	-85	763	0	0	0
51	SLV FO 13	-48	1	827	0	0	0
51	SLV FO 14	-44	5	828	0	0	0
51	SLV FO 15	-61	-39	806	0	0	0
51	SLV FO 16	-56	-35	806	0	0	0
52	SLU 1	18	-19	593	0	0	0
52	SLU 2	18	-18	593	0	0	0
52	SLU 3	18	-19	606	0	0	0
52	SLU 4	18	-18	606	0	0	0
52	SLU 5	18	-17	602	0	0	0
52	SLU 6	18	-18	615	0	0	0
52	SLU 7	18	-17	615	0	0	0
52	SLU 8	18	-18	610	0	0	0
52	SLU 9	18	-17	610	0	0	0
52	SLU 10	19	-19	672	0	0	0
52	SLU 11	19	-20	685	0	0	0
52	SLU 12	19	-19	685	0	0	0
52	SLU 13	19	-19	680	0	0	0
52	SLU 14	19	-20	693	0	0	0
52	SLU 15	19	-19	693	0	0	0
52	SLU 16	19	-20	689	0	0	0
52	SLU 17	19	-19	689	0	0	0
52	SLU 18	19	-21	706	0	0	0
52	SLU 19	19	-20	706	0	0	0
52	SLU 20	19	-21	714	0	0	0
52	SLU 21	20	-20	714	0	0	0
52	SLU 22	20	-19	681	0	0	0
52	SLU 23	21	-17	681	0	0	0
52	SLU 24	20	-18	694	0	0	0
52	SLU 25	21	-17	694	0	0	0
52	SLU 26	21	-16	690	0	0	0
52	SLU 27	21	-18	703	0	0	0
52	SLU 28	21	-17	703	0	0	0
52	SLU 29	20	-18	698	0	0	0
52	SLU 30	21	-17	698	0	0	0
52	SLU 31	22	-18	760	0	0	0
52	SLU 32	22	-20	773	0	0	0
52	SLU 33	22	-19	773	0	0	0
52	SLU 34	22	-18	768	0	0	0
52	SLU 35	22	-19	781	0	0	0
52	SLU 36	22	-18	781	0	0	0
52	SLU 37	21	-19	777	0	0	0
52	SLU 38	22	-18	777	0	0	0
52	SLU 39	22	-21	794	0	0	0
52	SLU 40	22	-20	794	0	0	0
52	SLU 41	22	-20	802	0	0	0
52	SLU 42	22	-19	802	0	0	0
52	SLU 43	22	-25	741	0	0	0
52	SLU 44	23	-24	741	0	0	0
52	SLU 45	22	-25	754	0	0	0
52	SLU 46	23	-24	754	0	0	0
52	SLU 47	23	-23	749	0	0	0
52	SLU 48	22	-24	763	0	0	0
52	SLU 49	23	-23	762	0	0	0
52	SLU 50	22	-25	758	0	0	0
52	SLU 51	23	-23	758	0	0	0
52	SLU 52	24	-25	820	0	0	0
52	SLU 53	23	-26	833	0	0	0
52	SLU 54	24	-25	833	0	0	0
52	SLU 55	24	-25	828	0	0	0
52	SLU 56	24	-26	841	0	0	0
52	SLU 57	24	-25	841	0	0	0
52	SLU 58	23	-26	837	0	0	0
52	SLU 59	24	-25	837	0	0	0
52	SLU 60	24	-27	854	0	0	0
52	SLU 61	24	-26	854	0	0	0
52	SLU 62	24	-27	862	0	0	0
52	SLU 63	24	-26	862	0	0	0
52	SLU 64	25	-25	829	0	0	0
52	SLU 65	25	-23	829	0	0	0
52	SLU 66	25	-24	842	0	0	0
52	SLU 67	25	-23	842	0	0	0
52	SLU 68	25	-22	837	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
52	SLU 69	25	-24	850	0	0	0
52	SLU 70	25	-23	850	0	0	0
52	SLU 71	25	-24	846	0	0	0
52	SLU 72	25	-23	846	0	0	0
52	SLU 73	26	-24	908	0	0	0
52	SLU 74	26	-26	921	0	0	0
52	SLU 75	26	-25	921	0	0	0
52	SLU 76	26	-24	916	0	0	0
52	SLU 77	26	-25	929	0	0	0
52	SLU 78	26	-24	929	0	0	0
52	SLU 79	26	-25	925	0	0	0
52	SLU 80	26	-24	925	0	0	0
52	SLU 81	26	-27	942	0	0	0
52	SLU 82	26	-26	942	0	0	0
52	SLU 83	26	-26	950	0	0	0
52	SLU 84	27	-25	950	0	0	0
52	SLE RA 1	18	-19	618	0	0	0
52	SLE RA 2	19	-18	618	0	0	0
52	SLE RA 3	19	-19	627	0	0	0
52	SLE RA 4	19	-18	627	0	0	0
52	SLE RA 5	19	-18	624	0	0	0
52	SLE RA 6	19	-19	633	0	0	0
52	SLE RA 7	19	-18	633	0	0	0
52	SLE RA 8	19	-19	630	0	0	0
52	SLE RA 9	19	-18	630	0	0	0
52	SLE RA 10	19	-19	671	0	0	0
52	SLE RA 11	19	-20	680	0	0	0
52	SLE RA 12	19	-19	679	0	0	0
52	SLE RA 13	19	-19	676	0	0	0
52	SLE RA 14	19	-19	685	0	0	0
52	SLE RA 15	20	-19	685	0	0	0
52	SLE RA 16	19	-20	682	0	0	0
52	SLE RA 17	19	-19	682	0	0	0
52	SLE RA 18	19	-20	693	0	0	0
52	SLE RA 19	20	-20	693	0	0	0
52	SLE RA 20	19	-20	699	0	0	0
52	SLE RA 21	20	-20	699	0	0	0
52	SLE FR 1	18	-19	618	0	0	0
52	SLE FR 2	19	-19	618	0	0	0
52	SLE FR 3	18	-19	621	0	0	0
52	SLE FR 4	19	-19	641	0	0	0
52	SLE FR 5	19	-19	643	0	0	0
52	SLE FR 6	19	-20	656	0	0	0
52	SLE QP 1	18	-19	618	0	0	0
52	SLE QP 2	19	-19	641	0	0	0
52	SLD 1	56	-12	638	0	0	0
52	SLD 2	58	-11	638	0	0	0
52	SLD 3	51	-30	633	0	0	0
52	SLD 4	53	-30	633	0	0	0
52	SLD 5	38	11	646	0	0	0
52	SLD 6	39	12	646	0	0	0
52	SLD 7	20	-51	632	0	0	0
52	SLD 8	21	-51	632	0	0	0
52	SLD 9	17	12	649	0	0	0
52	SLD 10	18	12	649	0	0	0
52	SLD 11	-2	-50	636	0	0	0
52	SLD 12	-1	-50	636	0	0	0
52	SLD 13	-15	-9	648	0	0	0
52	SLD 14	-13	-9	648	0	0	0
52	SLD 15	-21	-28	644	0	0	0
52	SLD 16	-19	-27	644	0	0	0
52	SLV 1	78	-6	635	0	0	0
52	SLV 2	81	-5	636	0	0	0
52	SLV 3	69	-38	628	0	0	0
52	SLV 4	72	-38	629	0	0	0
52	SLV 5	50	33	650	0	0	0
52	SLV 6	52	33	650	0	0	0
52	SLV 7	19	-74	626	0	0	0
52	SLV 8	21	-73	626	0	0	0
52	SLV 9	17	34	655	0	0	0
52	SLV 10	19	35	655	0	0	0
52	SLV 11	-15	-72	632	0	0	0
52	SLV 12	-13	-72	632	0	0	0
52	SLV 13	-34	-1	653	0	0	0
52	SLV 14	-31	-1	653	0	0	0
52	SLV 15	-44	-33	646	0	0	0
52	SLV 16	-41	-33	646	0	0	0
52	SLV FO 1	84	-5	635	0	0	0
52	SLV FO 2	87	-4	635	0	0	0
52	SLV FO 3	74	-40	627	0	0	0
52	SLV FO 4	77	-39	627	0	0	0
52	SLV FO 5	54	38	651	0	0	0
52	SLV FO 6	56	39	651	0	0	0
52	SLV FO 7	19	-79	625	0	0	0
52	SLV FO 8	21	-79	625	0	0	0
52	SLV FO 9	17	40	657	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
52	SLV FO 10	19	40	657	0	0	0
52	SLV FO 11	-18	-78	631	0	0	0
52	SLV FO 12	-16	-77	631	0	0	0
52	SLV FO 13	-39	0	654	0	0	0
52	SLV FO 14	-36	1	655	0	0	0
52	SLV FO 15	-50	-35	647	0	0	0
52	SLV FO 16	-47	-34	647	0	0	0
54	SLU 1	29	-29	967	-127.59	0.04	3.77
54	SLU 2	29	-26	967	-127.62	0.04	3.85
54	SLU 3	29	-28	988	-130.35	0.04	3.81
54	SLU 4	29	-26	988	-130.37	0.04	3.86
54	SLU 5	29	-25	980	-129.43	0.04	3.86
54	SLU 6	29	-27	1001	-132.16	0.04	3.83
54	SLU 7	29	-26	1001	-132.18	0.04	3.88
54	SLU 8	29	-27	994	-131.21	0.04	3.79
54	SLU 9	29	-26	994	-131.23	0.04	3.84
54	SLU 10	31	-28	1094	-144.42	0.05	4.08
54	SLU 11	31	-30	1115	-147.16	0.05	4.04
54	SLU 12	31	-29	1115	-147.17	0.05	4.09
54	SLU 13	31	-28	1108	-146.23	0.05	4.09
54	SLU 14	31	-30	1129	-148.97	0.05	4.05
54	SLU 15	31	-28	1129	-148.98	0.05	4.1
54	SLU 16	30	-30	1121	-148.01	0.05	4.02
54	SLU 17	31	-28	1121	-148.03	0.05	4.07
54	SLU 18	31	-32	1148	-151.59	0.05	4.09
54	SLU 19	31	-30	1149	-151.61	0.05	4.14
54	SLU 20	31	-31	1162	-153.4	0.05	4.1
54	SLU 21	31	-30	1162	-153.42	0.05	4.15
54	SLU 22	33	-27	1110	-146.5	0.05	4.31
54	SLU 23	33	-25	1110	-146.52	0.05	4.39
54	SLU 24	33	-27	1131	-149.26	0.05	4.35
54	SLU 25	33	-25	1131	-149.28	0.05	4.4
54	SLU 26	33	-24	1124	-148.33	0.05	4.4
54	SLU 27	33	-26	1144	-151.07	0.05	4.37
54	SLU 28	33	-25	1145	-151.09	0.05	4.42
54	SLU 29	33	-26	1137	-150.12	0.05	4.33
54	SLU 30	33	-25	1137	-150.13	0.05	4.38
54	SLU 31	35	-27	1237	-163.33	0.05	4.62
54	SLU 32	35	-29	1258	-166.06	0.06	4.58
54	SLU 33	35	-27	1258	-166.08	0.06	4.63
54	SLU 34	35	-26	1251	-165.14	0.06	4.63
54	SLU 35	35	-28	1272	-167.87	0.06	4.59
54	SLU 36	35	-27	1272	-167.89	0.06	4.64
54	SLU 37	35	-28	1265	-166.92	0.06	4.56
54	SLU 38	35	-27	1265	-166.94	0.06	4.61
54	SLU 39	35	-31	1292	-170.5	0.06	4.63
54	SLU 40	35	-29	1292	-170.52	0.06	4.68
54	SLU 41	35	-30	1305	-172.31	0.06	4.64
54	SLU 42	36	-28	1306	-172.33	0.06	4.69
54	SLU 43	36	-38	1207	-159.38	0.05	4.71
54	SLU 44	36	-35	1208	-159.41	0.05	4.8
54	SLU 45	36	-37	1228	-162.15	0.05	4.76
54	SLU 46	36	-35	1229	-162.16	0.05	4.81
54	SLU 47	36	-34	1221	-161.22	0.05	4.81
54	SLU 48	36	-36	1242	-163.96	0.05	4.77
54	SLU 49	37	-35	1242	-163.97	0.05	4.82
54	SLU 50	36	-36	1235	-163	0.05	4.74
54	SLU 51	36	-35	1235	-163.02	0.05	4.79
54	SLU 52	38	-37	1335	-176.21	0.06	5.02
54	SLU 53	38	-39	1356	-178.95	0.06	4.98
54	SLU 54	38	-38	1356	-178.96	0.06	5.03
54	SLU 55	38	-37	1349	-178.02	0.06	5.03
54	SLU 56	38	-39	1369	-180.76	0.06	4.99
54	SLU 57	38	-37	1370	-180.77	0.06	5.05
54	SLU 58	38	-39	1362	-179.81	0.06	4.96
54	SLU 59	38	-37	1362	-179.82	0.06	5.01
54	SLU 60	38	-41	1389	-183.39	0.06	5.03
54	SLU 61	38	-39	1389	-183.4	0.06	5.08
54	SLU 62	38	-40	1403	-185.2	0.06	5.04
54	SLU 63	39	-39	1403	-185.21	0.06	5.1
54	SLU 64	40	-36	1351	-178.29	0.06	5.25
54	SLU 65	40	-34	1351	-178.32	0.06	5.34
54	SLU 66	40	-36	1372	-181.06	0.06	5.3
54	SLU 67	41	-34	1372	-181.07	0.06	5.35
54	SLU 68	41	-33	1365	-180.13	0.06	5.35
54	SLU 69	40	-35	1385	-182.87	0.06	5.31
54	SLU 70	41	-34	1385	-182.88	0.06	5.36
54	SLU 71	40	-35	1378	-181.91	0.06	5.28
54	SLU 72	40	-34	1378	-181.93	0.06	5.33
54	SLU 73	42	-36	1478	-195.12	0.07	5.56
54	SLU 74	42	-38	1499	-197.86	0.07	5.52
54	SLU 75	42	-36	1499	-197.87	0.07	5.57
54	SLU 76	42	-35	1492	-196.93	0.07	5.57
54	SLU 77	42	-37	1513	-199.67	0.07	5.53
54	SLU 78	42	-36	1513	-199.68	0.07	5.59
54	SLU 79	42	-37	1505	-198.71	0.07	5.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
54	SLU 80	42	-36	1506	-198.73	0.07	5.55
54	SLU 81	42	-40	1533	-202.3	0.07	5.57
54	SLU 82	43	-38	1533	-202.31	0.07	5.62
54	SLU 83	42	-39	1546	-204.11	0.07	5.58
54	SLU 84	43	-37	1546	-204.12	0.07	5.64
54	SLE RA 1	30	-28	1008	-132.99	0.04	3.92
54	SLE RA 2	30	-26	1008	-133.01	0.04	3.98
54	SLE RA 3	30	-28	1021	-134.83	0.05	3.95
54	SLE RA 4	30	-27	1022	-134.84	0.05	3.99
54	SLE RA 5	30	-26	1017	-134.22	0.04	3.99
54	SLE RA 6	30	-27	1031	-136.04	0.05	3.96
54	SLE RA 7	30	-26	1031	-136.05	0.05	3.99
54	SLE RA 8	30	-27	1026	-135.41	0.05	3.94
54	SLE RA 9	30	-26	1026	-135.42	0.05	3.97
54	SLE RA 10	31	-28	1093	-144.21	0.05	4.13
54	SLE RA 11	31	-29	1106	-146.04	0.05	4.1
54	SLE RA 12	31	-28	1106	-146.05	0.05	4.14
54	SLE RA 13	31	-28	1102	-145.42	0.05	4.14
54	SLE RA 14	31	-29	1115	-147.24	0.05	4.11
54	SLE RA 15	31	-28	1116	-147.25	0.05	4.14
54	SLE RA 16	31	-29	1111	-146.61	0.05	4.09
54	SLE RA 17	31	-28	1111	-146.62	0.05	4.12
54	SLE RA 18	31	-30	1129	-148.99	0.05	4.13
54	SLE RA 19	32	-29	1129	-149	0.05	4.17
54	SLE RA 20	31	-30	1138	-150.2	0.05	4.14
54	SLE RA 21	32	-29	1138	-150.21	0.05	4.18
54	SLE FR 1	30	-28	1008	-132.99	0.04	3.92
54	SLE FR 2	30	-28	1008	-133	0.04	3.93
54	SLE FR 3	30	-28	1011	-133.47	0.04	3.92
54	SLE FR 4	30	-29	1044	-137.8	0.05	4
54	SLE FR 5	30	-29	1048	-138.28	0.05	3.99
54	SLE FR 6	31	-29	1068	-140.99	0.05	4.03
54	SLE QP 1	30	-28	1008	-132.99	0.04	3.92
54	SLE QP 2	30	-29	1044	-137.79	0.05	3.99
54	SLD 1	91	-18	1038	-136.98	0.05	11.99
54	SLD 2	94	-16	1038	-137	0.05	12.4
54	SLD 3	82	-47	1026	-135.5	0.05	10.81
54	SLD 4	85	-45	1027	-135.51	0.05	11.22
54	SLD 5	61	18	1059	-139.8	0.05	8.1
54	SLD 6	63	19	1059	-139.81	0.05	8.37
54	SLD 7	32	-79	1022	-134.85	0.05	4.18
54	SLD 8	34	-78	1022	-134.85	0.05	4.44
54	SLD 9	27	20	1066	-140.73	0.05	3.53
54	SLD 10	29	21	1066	-140.74	0.05	3.8
54	SLD 11	-3	-77	1029	-135.77	0.05	-0.4
54	SLD 12	-1	-76	1029	-135.78	0.05	-0.13
54	SLD 13	-25	-13	1061	-140.07	0.05	-3.25
54	SLD 14	-22	-11	1061	-140.09	0.05	-2.84
54	SLD 15	-34	-42	1050	-138.59	0.05	-4.43
54	SLD 16	-30	-40	1050	-138.6	0.05	-4.02
54	SLV 1	126	-9	1035	-136.61	0.05	16.6
54	SLV 2	131	-7	1035	-136.63	0.05	17.24
54	SLV 3	110	-59	1016	-134.06	0.04	14.58
54	SLV 4	115	-56	1016	-134.08	0.04	15.23
54	SLV 5	81	52	1070	-141.29	0.05	10.7
54	SLV 6	84	54	1070	-141.3	0.05	11.14
54	SLV 7	30	-114	1006	-132.81	0.04	3.99
54	SLV 8	34	-112	1006	-132.83	0.04	4.43
54	SLV 9	27	54	1082	-142.76	0.05	3.54
54	SLV 10	30	56	1082	-142.77	0.05	3.98
54	SLV 11	-24	-111	1017	-134.28	0.04	-3.17
54	SLV 12	-21	-109	1017	-134.3	0.04	-2.73
54	SLV 13	-55	-2	1072	-141.5	0.05	-7.26
54	SLV 14	-50	1	1072	-141.52	0.05	-6.61
54	SLV 15	-70	-51	1053	-138.96	0.05	-9.27
54	SLV 16	-65	-48	1053	-138.98	0.05	-8.63
54	SLV FO 1	135	-7	1034	-136.49	0.05	17.86
54	SLV FO 2	141	-4	1034	-136.51	0.05	18.57
54	SLV FO 3	119	-62	1013	-133.69	0.04	15.64
54	SLV FO 4	124	-59	1013	-133.71	0.04	16.36
54	SLV FO 5	86	60	1073	-141.64	0.05	11.37
54	SLV FO 6	90	62	1073	-141.66	0.05	11.85
54	SLV FO 7	30	-122	1002	-132.31	0.04	3.99
54	SLV FO 8	34	-120	1002	-132.33	0.04	4.47
54	SLV FO 9	27	62	1085	-143.26	0.05	3.5
54	SLV FO 10	30	64	1085	-143.27	0.05	3.98
54	SLV FO 11	-29	-120	1015	-133.93	0.04	-3.88
54	SLV FO 12	-26	-118	1015	-133.95	0.04	-3.4
54	SLV FO 13	-64	1	1075	-141.87	0.05	-8.39
54	SLV FO 14	-58	4	1075	-141.9	0.05	-7.67
54	SLV FO 15	-80	-53	1054	-139.07	0.05	-10.6
54	SLV FO 16	-75	-50	1054	-139.1	0.05	-9.89
54	CRTFP Ux+	0	0	0	0	0	0
54	CRTFP Ux-	0	0	0	0	0	0
54	CRTFP Uy+	0	0	0	0	0	0
54	CRTFP Uy-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLU 1	26	-20	939	0	0	0
55	SLU 2	26	-18	940	0	0	0
55	SLU 3	26	-19	960	0	0	0
55	SLU 4	26	-18	960	0	0	0
55	SLU 5	26	-17	953	0	0	0
55	SLU 6	26	-19	973	0	0	0
55	SLU 7	26	-18	973	0	0	0
55	SLU 8	26	-19	966	0	0	0
55	SLU 9	26	-18	966	0	0	0
55	SLU 10	28	-19	1061	0	0	0
55	SLU 11	27	-21	1081	0	0	0
55	SLU 12	28	-20	1081	0	0	0
55	SLU 13	28	-19	1074	0	0	0
55	SLU 14	28	-21	1094	0	0	0
55	SLU 15	28	-19	1095	0	0	0
55	SLU 16	27	-21	1087	0	0	0
55	SLU 17	28	-19	1087	0	0	0
55	SLU 18	28	-22	1112	0	0	0
55	SLU 19	28	-21	1113	0	0	0
55	SLU 20	28	-22	1126	0	0	0
55	SLU 21	28	-20	1126	0	0	0
55	SLU 22	29	-19	1080	0	0	0
55	SLU 23	30	-16	1081	0	0	0
55	SLU 24	30	-18	1101	0	0	0
55	SLU 25	30	-17	1101	0	0	0
55	SLU 26	30	-16	1094	0	0	0
55	SLU 27	30	-17	1114	0	0	0
55	SLU 28	30	-16	1114	0	0	0
55	SLU 29	30	-17	1107	0	0	0
55	SLU 30	30	-16	1107	0	0	0
55	SLU 31	32	-18	1202	0	0	0
55	SLU 32	31	-19	1222	0	0	0
55	SLU 33	32	-18	1222	0	0	0
55	SLU 34	32	-17	1215	0	0	0
55	SLU 35	31	-19	1235	0	0	0
55	SLU 36	32	-18	1235	0	0	0
55	SLU 37	31	-19	1228	0	0	0
55	SLU 38	32	-18	1228	0	0	0
55	SLU 39	32	-21	1253	0	0	0
55	SLU 40	32	-19	1254	0	0	0
55	SLU 41	32	-20	1267	0	0	0
55	SLU 42	32	-19	1267	0	0	0
55	SLU 43	32	-27	1173	0	0	0
55	SLU 44	33	-24	1174	0	0	0
55	SLU 45	32	-26	1193	0	0	0
55	SLU 46	33	-25	1194	0	0	0
55	SLU 47	33	-24	1187	0	0	0
55	SLU 48	32	-25	1207	0	0	0
55	SLU 49	33	-24	1207	0	0	0
55	SLU 50	32	-26	1199	0	0	0
55	SLU 51	33	-24	1200	0	0	0
55	SLU 52	34	-26	1295	0	0	0
55	SLU 53	34	-28	1314	0	0	0
55	SLU 54	34	-26	1315	0	0	0
55	SLU 55	34	-25	1308	0	0	0
55	SLU 56	34	-27	1328	0	0	0
55	SLU 57	34	-26	1328	0	0	0
55	SLU 58	34	-27	1320	0	0	0
55	SLU 59	34	-26	1321	0	0	0
55	SLU 60	34	-29	1346	0	0	0
55	SLU 61	35	-28	1346	0	0	0
55	SLU 62	34	-28	1359	0	0	0
55	SLU 63	35	-27	1359	0	0	0
55	SLU 64	36	-25	1314	0	0	0
55	SLU 65	36	-23	1314	0	0	0
55	SLU 66	36	-24	1334	0	0	0
55	SLU 67	37	-23	1335	0	0	0
55	SLU 68	37	-22	1328	0	0	0
55	SLU 69	36	-24	1347	0	0	0
55	SLU 70	37	-23	1348	0	0	0
55	SLU 71	36	-24	1340	0	0	0
55	SLU 72	36	-23	1341	0	0	0
55	SLU 73	38	-24	1436	0	0	0
55	SLU 74	38	-26	1455	0	0	0
55	SLU 75	38	-25	1456	0	0	0
55	SLU 76	38	-24	1449	0	0	0
55	SLU 77	38	-26	1469	0	0	0
55	SLU 78	38	-24	1469	0	0	0
55	SLU 79	38	-26	1461	0	0	0
55	SLU 80	38	-24	1462	0	0	0
55	SLU 81	38	-27	1487	0	0	0
55	SLU 82	38	-26	1487	0	0	0
55	SLU 83	38	-27	1500	0	0	0
55	SLU 84	38	-25	1500	0	0	0
55	SLE RA 1	27	-20	980	0	0	0
55	SLE RA 2	27	-18	980	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLE RA 3	27	-19	993	0	0	0
55	SLE RA 4	27	-18	994	0	0	0
55	SLE RA 5	27	-18	989	0	0	0
55	SLE RA 6	27	-19	1002	0	0	0
55	SLE RA 7	27	-18	1002	0	0	0
55	SLE RA 8	27	-19	997	0	0	0
55	SLE RA 9	27	-18	998	0	0	0
55	SLE RA 10	28	-19	1061	0	0	0
55	SLE RA 11	28	-20	1074	0	0	0
55	SLE RA 12	28	-19	1074	0	0	0
55	SLE RA 13	28	-19	1070	0	0	0
55	SLE RA 14	28	-20	1083	0	0	0
55	SLE RA 15	28	-19	1083	0	0	0
55	SLE RA 16	28	-20	1078	0	0	0
55	SLE RA 17	28	-19	1078	0	0	0
55	SLE RA 18	28	-21	1095	0	0	0
55	SLE RA 19	28	-20	1095	0	0	0
55	SLE RA 20	28	-21	1104	0	0	0
55	SLE RA 21	29	-20	1104	0	0	0
55	SLE FR 1	27	-20	980	0	0	0
55	SLE FR 2	27	-19	980	0	0	0
55	SLE FR 3	27	-19	983	0	0	0
55	SLE FR 4	27	-20	1014	0	0	0
55	SLE FR 5	27	-20	1018	0	0	0
55	SLE FR 6	27	-20	1037	0	0	0
55	SLE QP 1	27	-20	980	0	0	0
55	SLE QP 2	27	-20	1014	0	0	0
55	SLD 1	85	-15	972	0	0	0
55	SLD 2	87	-10	972	0	0	0
55	SLD 3	76	-40	957	0	0	0
55	SLD 4	78	-34	957	0	0	0
55	SLD 5	58	17	1024	0	0	0
55	SLD 6	59	21	1025	0	0	0
55	SLD 7	28	-64	974	0	0	0
55	SLD 8	29	-60	974	0	0	0
55	SLD 9	25	20	1054	0	0	0
55	SLD 10	27	23	1054	0	0	0
55	SLD 11	-5	-61	1004	0	0	0
55	SLD 12	-4	-57	1004	0	0	0
55	SLD 13	-24	-6	1071	0	0	0
55	SLD 14	-22	-1	1071	0	0	0
55	SLD 15	-33	-30	1056	0	0	0
55	SLD 16	-31	-25	1056	0	0	0
55	SLV 1	118	-11	950	0	0	0
55	SLV 2	122	-3	950	0	0	0
55	SLV 3	103	-52	924	0	0	0
55	SLV 4	106	-44	924	0	0	0
55	SLV 5	77	43	1034	0	0	0
55	SLV 6	80	49	1034	0	0	0
55	SLV 7	26	-94	948	0	0	0
55	SLV 8	28	-88	948	0	0	0
55	SLV 9	26	48	1080	0	0	0
55	SLV 10	29	54	1080	0	0	0
55	SLV 11	-25	-90	995	0	0	0
55	SLV 12	-23	-84	995	0	0	0
55	SLV 13	-52	4	1104	0	0	0
55	SLV 14	-48	12	1105	0	0	0
55	SLV 15	-67	-38	1079	0	0	0
55	SLV 16	-64	-29	1079	0	0	0
55	SLV FO 1	127	-10	943	0	0	0
55	SLV FO 2	131	-1	943	0	0	0
55	SLV FO 3	110	-56	915	0	0	0
55	SLV FO 4	114	-46	915	0	0	0
55	SLV FO 5	82	50	1036	0	0	0
55	SLV FO 6	85	56	1036	0	0	0
55	SLV FO 7	26	-101	942	0	0	0
55	SLV FO 8	28	-95	942	0	0	0
55	SLV FO 9	26	55	1087	0	0	0
55	SLV FO 10	29	61	1087	0	0	0
55	SLV FO 11	-31	-96	993	0	0	0
55	SLV FO 12	-28	-90	993	0	0	0
55	SLV FO 13	-60	6	1113	0	0	0
55	SLV FO 14	-56	16	1114	0	0	0
55	SLV FO 15	-77	-39	1085	0	0	0
55	SLV FO 16	-73	-30	1085	0	0	0
56	SLU 1	16	-11	587	0	0	0
56	SLU 2	16	-10	588	0	0	0
56	SLU 3	16	-11	600	0	0	0
56	SLU 4	16	-10	600	0	0	0
56	SLU 5	16	-9	596	0	0	0
56	SLU 6	16	-10	608	0	0	0
56	SLU 7	16	-9	609	0	0	0
56	SLU 8	16	-10	604	0	0	0
56	SLU 9	16	-10	604	0	0	0
56	SLU 10	17	-11	663	0	0	0
56	SLU 11	17	-12	675	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
56	SLU 12	17	-11	675	0	0	0
56	SLU 13	17	-10	671	0	0	0
56	SLU 14	17	-11	683	0	0	0
56	SLU 15	17	-10	684	0	0	0
56	SLU 16	17	-11	679	0	0	0
56	SLU 17	17	-10	679	0	0	0
56	SLU 18	17	-12	695	0	0	0
56	SLU 19	17	-11	695	0	0	0
56	SLU 20	17	-12	703	0	0	0
56	SLU 21	17	-11	703	0	0	0
56	SLU 22	18	-10	675	0	0	0
56	SLU 23	19	-9	676	0	0	0
56	SLU 24	18	-10	688	0	0	0
56	SLU 25	19	-9	688	0	0	0
56	SLU 26	19	-8	684	0	0	0
56	SLU 27	18	-9	696	0	0	0
56	SLU 28	19	-8	697	0	0	0
56	SLU 29	18	-9	692	0	0	0
56	SLU 30	19	-9	692	0	0	0
56	SLU 31	20	-9	751	0	0	0
56	SLU 32	19	-10	763	0	0	0
56	SLU 33	20	-10	764	0	0	0
56	SLU 34	20	-9	759	0	0	0
56	SLU 35	19	-10	771	0	0	0
56	SLU 36	20	-9	772	0	0	0
56	SLU 37	19	-10	767	0	0	0
56	SLU 38	19	-9	767	0	0	0
56	SLU 39	20	-11	783	0	0	0
56	SLU 40	20	-10	783	0	0	0
56	SLU 41	20	-11	791	0	0	0
56	SLU 42	20	-10	791	0	0	0
56	SLU 43	20	-15	733	0	0	0
56	SLU 44	20	-13	734	0	0	0
56	SLU 45	20	-14	746	0	0	0
56	SLU 46	20	-13	746	0	0	0
56	SLU 47	20	-13	742	0	0	0
56	SLU 48	20	-14	754	0	0	0
56	SLU 49	20	-13	754	0	0	0
56	SLU 50	20	-14	750	0	0	0
56	SLU 51	20	-13	750	0	0	0
56	SLU 52	21	-14	809	0	0	0
56	SLU 53	21	-15	821	0	0	0
56	SLU 54	21	-14	821	0	0	0
56	SLU 55	21	-14	817	0	0	0
56	SLU 56	21	-15	829	0	0	0
56	SLU 57	21	-14	830	0	0	0
56	SLU 58	21	-15	825	0	0	0
56	SLU 59	21	-14	825	0	0	0
56	SLU 60	21	-16	841	0	0	0
56	SLU 61	21	-15	841	0	0	0
56	SLU 62	21	-16	849	0	0	0
56	SLU 63	21	-15	849	0	0	0
56	SLU 64	22	-14	821	0	0	0
56	SLU 65	23	-12	822	0	0	0
56	SLU 66	22	-13	834	0	0	0
56	SLU 67	23	-12	834	0	0	0
56	SLU 68	23	-12	830	0	0	0
56	SLU 69	22	-13	842	0	0	0
56	SLU 70	23	-12	843	0	0	0
56	SLU 71	22	-13	838	0	0	0
56	SLU 72	22	-12	838	0	0	0
56	SLU 73	23	-13	897	0	0	0
56	SLU 74	23	-14	909	0	0	0
56	SLU 75	23	-13	909	0	0	0
56	SLU 76	24	-13	905	0	0	0
56	SLU 77	23	-14	917	0	0	0
56	SLU 78	24	-13	918	0	0	0
56	SLU 79	23	-14	913	0	0	0
56	SLU 80	23	-13	913	0	0	0
56	SLU 81	23	-15	929	0	0	0
56	SLU 82	24	-14	929	0	0	0
56	SLU 83	24	-15	937	0	0	0
56	SLU 84	24	-14	937	0	0	0
56	SLE RA 1	16	-11	612	0	0	0
56	SLE RA 2	17	-10	613	0	0	0
56	SLE RA 3	17	-10	621	0	0	0
56	SLE RA 4	17	-10	621	0	0	0
56	SLE RA 5	17	-10	618	0	0	0
56	SLE RA 6	17	-10	626	0	0	0
56	SLE RA 7	17	-10	627	0	0	0
56	SLE RA 8	17	-10	623	0	0	0
56	SLE RA 9	17	-10	624	0	0	0
56	SLE RA 10	17	-10	663	0	0	0
56	SLE RA 11	17	-11	671	0	0	0
56	SLE RA 12	17	-10	671	0	0	0
56	SLE RA 13	17	-10	668	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
56	SLE RA 14	17	-11	676	0	0	0
56	SLE RA 15	17	-10	677	0	0	0
56	SLE RA 16	17	-11	673	0	0	0
56	SLE RA 17	17	-10	674	0	0	0
56	SLE RA 18	17	-12	684	0	0	0
56	SLE RA 19	18	-11	684	0	0	0
56	SLE RA 20	17	-11	689	0	0	0
56	SLE RA 21	18	-11	690	0	0	0
56	SLE FR 1	16	-11	612	0	0	0
56	SLE FR 2	17	-11	613	0	0	0
56	SLE FR 3	17	-11	615	0	0	0
56	SLE FR 4	17	-11	634	0	0	0
56	SLE FR 5	17	-11	636	0	0	0
56	SLE FR 6	17	-11	648	0	0	0
56	SLE QP 1	16	-11	612	0	0	0
56	SLE QP 2	17	-11	634	0	0	0
56	SLD 1	53	-9	601	0	0	0
56	SLD 2	54	-5	601	0	0	0
56	SLD 3	47	-24	589	0	0	0
56	SLD 4	48	-20	589	0	0	0
56	SLD 5	36	10	642	0	0	0
56	SLD 6	37	13	642	0	0	0
56	SLD 7	17	-37	602	0	0	0
56	SLD 8	18	-34	602	0	0	0
56	SLD 9	16	13	665	0	0	0
56	SLD 10	17	15	665	0	0	0
56	SLD 11	-3	-35	626	0	0	0
56	SLD 12	-2	-32	626	0	0	0
56	SLD 13	-15	-2	679	0	0	0
56	SLD 14	-13	2	679	0	0	0
56	SLD 15	-20	-17	667	0	0	0
56	SLD 16	-19	-12	667	0	0	0
56	SLV 1	73	-8	583	0	0	0
56	SLV 2	75	-1	584	0	0	0
56	SLV 3	64	-32	563	0	0	0
56	SLV 4	66	-25	563	0	0	0
56	SLV 5	48	26	650	0	0	0
56	SLV 6	49	30	650	0	0	0
56	SLV 7	16	-55	582	0	0	0
56	SLV 8	17	-51	582	0	0	0
56	SLV 9	16	29	686	0	0	0
56	SLV 10	18	33	686	0	0	0
56	SLV 11	-16	-52	618	0	0	0
56	SLV 12	-14	-48	618	0	0	0
56	SLV 13	-32	3	705	0	0	0
56	SLV 14	-30	10	705	0	0	0
56	SLV 15	-42	-21	684	0	0	0
56	SLV 16	-40	-14	684	0	0	0
56	SLV FO 1	79	-7	578	0	0	0
56	SLV FO 2	81	0	579	0	0	0
56	SLV FO 3	68	-34	556	0	0	0
56	SLV FO 4	71	-27	556	0	0	0
56	SLV FO 5	51	29	651	0	0	0
56	SLV FO 6	53	34	651	0	0	0
56	SLV FO 7	16	-60	577	0	0	0
56	SLV FO 8	17	-55	577	0	0	0
56	SLV FO 9	16	33	691	0	0	0
56	SLV FO 10	18	38	691	0	0	0
56	SLV FO 11	-19	-56	617	0	0	0
56	SLV FO 12	-18	-51	617	0	0	0
56	SLV FO 13	-37	5	712	0	0	0
56	SLV FO 14	-35	12	712	0	0	0
56	SLV FO 15	-48	-22	689	0	0	0
56	SLV FO 16	-45	-15	689	0	0	0
57	SLU 1	20	-16	714	0	0	0
57	SLU 2	20	-15	714	0	0	0
57	SLU 3	20	-16	729	0	0	0
57	SLU 4	20	-15	729	0	0	0
57	SLU 5	20	-14	724	0	0	0
57	SLU 6	20	-16	739	0	0	0
57	SLU 7	20	-15	740	0	0	0
57	SLU 8	20	-16	734	0	0	0
57	SLU 9	20	-15	734	0	0	0
57	SLU 10	21	-16	806	0	0	0
57	SLU 11	21	-17	822	0	0	0
57	SLU 12	21	-16	822	0	0	0
57	SLU 13	21	-16	816	0	0	0
57	SLU 14	21	-17	832	0	0	0
57	SLU 15	21	-16	832	0	0	0
57	SLU 16	21	-17	826	0	0	0
57	SLU 17	21	-16	827	0	0	0
57	SLU 18	21	-18	846	0	0	0
57	SLU 19	22	-17	846	0	0	0
57	SLU 20	21	-18	856	0	0	0
57	SLU 21	22	-17	856	0	0	0
57	SLU 22	22	-15	821	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
57	SLU 23	23	-14	821	0	0	0
57	SLU 24	23	-15	836	0	0	0
57	SLU 25	23	-14	837	0	0	0
57	SLU 26	23	-13	831	0	0	0
57	SLU 27	23	-14	847	0	0	0
57	SLU 28	23	-13	847	0	0	0
57	SLU 29	23	-15	841	0	0	0
57	SLU 30	23	-13	841	0	0	0
57	SLU 31	24	-15	914	0	0	0
57	SLU 32	24	-16	929	0	0	0
57	SLU 33	24	-15	929	0	0	0
57	SLU 34	24	-14	924	0	0	0
57	SLU 35	24	-16	939	0	0	0
57	SLU 36	24	-15	939	0	0	0
57	SLU 37	24	-16	934	0	0	0
57	SLU 38	24	-15	934	0	0	0
57	SLU 39	24	-17	953	0	0	0
57	SLU 40	24	-16	953	0	0	0
57	SLU 41	24	-17	963	0	0	0
57	SLU 42	25	-16	963	0	0	0
57	SLU 43	24	-22	891	0	0	0
57	SLU 44	25	-20	891	0	0	0
57	SLU 45	25	-21	907	0	0	0
57	SLU 46	25	-20	907	0	0	0
57	SLU 47	25	-20	901	0	0	0
57	SLU 48	25	-21	917	0	0	0
57	SLU 49	25	-20	917	0	0	0
57	SLU 50	25	-21	911	0	0	0
57	SLU 51	25	-20	911	0	0	0
57	SLU 52	26	-21	984	0	0	0
57	SLU 53	26	-23	999	0	0	0
57	SLU 54	26	-22	999	0	0	0
57	SLU 55	26	-21	994	0	0	0
57	SLU 56	26	-22	1009	0	0	0
57	SLU 57	26	-21	1009	0	0	0
57	SLU 58	26	-22	1004	0	0	0
57	SLU 59	26	-21	1004	0	0	0
57	SLU 60	26	-24	1023	0	0	0
57	SLU 61	26	-23	1023	0	0	0
57	SLU 62	26	-23	1033	0	0	0
57	SLU 63	26	-22	1033	0	0	0
57	SLU 64	27	-21	998	0	0	0
57	SLU 65	28	-19	998	0	0	0
57	SLU 66	28	-20	1014	0	0	0
57	SLU 67	28	-19	1014	0	0	0
57	SLU 68	28	-18	1009	0	0	0
57	SLU 69	28	-20	1024	0	0	0
57	SLU 70	28	-19	1024	0	0	0
57	SLU 71	28	-20	1018	0	0	0
57	SLU 72	28	-19	1019	0	0	0
57	SLU 73	29	-20	1091	0	0	0
57	SLU 74	29	-21	1106	0	0	0
57	SLU 75	29	-20	1106	0	0	0
57	SLU 76	29	-20	1101	0	0	0
57	SLU 77	29	-21	1116	0	0	0
57	SLU 78	29	-20	1117	0	0	0
57	SLU 79	29	-21	1111	0	0	0
57	SLU 80	29	-20	1111	0	0	0
57	SLU 81	29	-23	1130	0	0	0
57	SLU 82	29	-21	1130	0	0	0
57	SLU 83	29	-22	1140	0	0	0
57	SLU 84	29	-21	1141	0	0	0
57	SLE RA 1	20	-16	744	0	0	0
57	SLE RA 2	21	-15	744	0	0	0
57	SLE RA 3	21	-16	755	0	0	0
57	SLE RA 4	21	-15	755	0	0	0
57	SLE RA 5	21	-15	751	0	0	0
57	SLE RA 6	21	-16	761	0	0	0
57	SLE RA 7	21	-15	762	0	0	0
57	SLE RA 8	21	-16	758	0	0	0
57	SLE RA 9	21	-15	758	0	0	0
57	SLE RA 10	22	-16	806	0	0	0
57	SLE RA 11	21	-17	816	0	0	0
57	SLE RA 12	22	-16	816	0	0	0
57	SLE RA 13	22	-16	813	0	0	0
57	SLE RA 14	21	-16	823	0	0	0
57	SLE RA 15	22	-16	823	0	0	0
57	SLE RA 16	21	-16	819	0	0	0
57	SLE RA 17	21	-16	820	0	0	0
57	SLE RA 18	22	-17	832	0	0	0
57	SLE RA 19	22	-17	832	0	0	0
57	SLE RA 20	22	-17	839	0	0	0
57	SLE RA 21	22	-16	839	0	0	0
57	SLE FR 1	20	-16	744	0	0	0
57	SLE FR 2	20	-16	744	0	0	0
57	SLE FR 3	20	-16	747	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
57	SLE FR 4	21	-16	771	0	0	0
57	SLE FR 5	21	-16	773	0	0	0
57	SLE FR 6	21	-17	788	0	0	0
57	SLE QP 1	20	-16	744	0	0	0
57	SLE QP 2	21	-17	771	0	0	0
57	SLD 1	65	-12	743	0	0	0
57	SLD 2	67	-8	743	0	0	0
57	SLD 3	58	-31	735	0	0	0
57	SLD 4	60	-27	735	0	0	0
57	SLD 5	44	13	775	0	0	0
57	SLD 6	45	15	775	0	0	0
57	SLD 7	21	-50	747	0	0	0
57	SLD 8	22	-48	747	0	0	0
57	SLD 9	19	15	794	0	0	0
57	SLD 10	20	17	794	0	0	0
57	SLD 11	-4	-48	766	0	0	0
57	SLD 12	-3	-46	766	0	0	0
57	SLD 13	-18	-6	806	0	0	0
57	SLD 14	-17	-2	807	0	0	0
57	SLD 15	-25	-25	798	0	0	0
57	SLD 16	-24	-21	798	0	0	0
57	SLV 1	91	-8	728	0	0	0
57	SLV 2	93	-2	729	0	0	0
57	SLV 3	79	-41	714	0	0	0
57	SLV 4	81	-35	714	0	0	0
57	SLV 5	59	34	780	0	0	0
57	SLV 6	61	38	780	0	0	0
57	SLV 7	19	-74	732	0	0	0
57	SLV 8	21	-70	732	0	0	0
57	SLV 9	20	37	809	0	0	0
57	SLV 10	22	41	809	0	0	0
57	SLV 11	-20	-71	762	0	0	0
57	SLV 12	-18	-67	762	0	0	0
57	SLV 13	-40	2	827	0	0	0
57	SLV 14	-37	8	827	0	0	0
57	SLV 15	-52	-31	813	0	0	0
57	SLV 16	-49	-25	813	0	0	0
57	SLV FO 1	98	-7	724	0	0	0
57	SLV FO 2	101	-1	724	0	0	0
57	SLV FO 3	85	-43	708	0	0	0
57	SLV FO 4	87	-37	709	0	0	0
57	SLV FO 5	63	39	781	0	0	0
57	SLV FO 6	65	43	781	0	0	0
57	SLV FO 7	19	-80	728	0	0	0
57	SLV FO 8	21	-76	728	0	0	0
57	SLV FO 9	20	43	813	0	0	0
57	SLV FO 10	22	47	813	0	0	0
57	SLV FO 11	-24	-77	761	0	0	0
57	SLV FO 12	-22	-72	761	0	0	0
57	SLV FO 13	-46	4	833	0	0	0
57	SLV FO 14	-43	10	833	0	0	0
57	SLV FO 15	-59	-32	817	0	0	0
57	SLV FO 16	-56	-26	817	0	0	0
58	SLU 1	20	-18	707	0	0	0
58	SLU 2	20	-16	707	0	0	0
58	SLU 3	20	-17	722	0	0	0
58	SLU 4	20	-16	722	0	0	0
58	SLU 5	20	-15	717	0	0	0
58	SLU 6	20	-17	732	0	0	0
58	SLU 7	20	-16	732	0	0	0
58	SLU 8	20	-17	727	0	0	0
58	SLU 9	20	-16	727	0	0	0
58	SLU 10	21	-17	799	0	0	0
58	SLU 11	21	-18	814	0	0	0
58	SLU 12	21	-17	814	0	0	0
58	SLU 13	21	-17	809	0	0	0
58	SLU 14	21	-18	825	0	0	0
58	SLU 15	21	-17	825	0	0	0
58	SLU 16	21	-18	819	0	0	0
58	SLU 17	21	-17	819	0	0	0
58	SLU 18	21	-20	838	0	0	0
58	SLU 19	21	-18	838	0	0	0
58	SLU 20	21	-19	848	0	0	0
58	SLU 21	22	-18	848	0	0	0
58	SLU 22	22	-16	813	0	0	0
58	SLU 23	23	-15	813	0	0	0
58	SLU 24	23	-16	829	0	0	0
58	SLU 25	23	-15	829	0	0	0
58	SLU 26	23	-14	823	0	0	0
58	SLU 27	23	-16	839	0	0	0
58	SLU 28	23	-14	839	0	0	0
58	SLU 29	23	-16	833	0	0	0
58	SLU 30	23	-15	833	0	0	0
58	SLU 31	24	-16	905	0	0	0
58	SLU 32	24	-17	921	0	0	0
58	SLU 33	24	-16	921	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLU 34	24	-16	915	0	0	0
58	SLU 35	24	-17	931	0	0	0
58	SLU 36	24	-16	931	0	0	0
58	SLU 37	24	-17	925	0	0	0
58	SLU 38	24	-16	925	0	0	0
58	SLU 39	24	-18	945	0	0	0
58	SLU 40	24	-17	945	0	0	0
58	SLU 41	24	-18	955	0	0	0
58	SLU 42	24	-17	955	0	0	0
58	SLU 43	24	-23	882	0	0	0
58	SLU 44	25	-21	882	0	0	0
58	SLU 45	25	-23	898	0	0	0
58	SLU 46	25	-22	898	0	0	0
58	SLU 47	25	-21	893	0	0	0
58	SLU 48	25	-22	908	0	0	0
58	SLU 49	25	-21	908	0	0	0
58	SLU 50	25	-22	903	0	0	0
58	SLU 51	25	-21	903	0	0	0
58	SLU 52	26	-23	975	0	0	0
58	SLU 53	26	-24	990	0	0	0
58	SLU 54	26	-23	990	0	0	0
58	SLU 55	26	-22	985	0	0	0
58	SLU 56	26	-24	1000	0	0	0
58	SLU 57	26	-23	1000	0	0	0
58	SLU 58	26	-24	995	0	0	0
58	SLU 59	26	-23	995	0	0	0
58	SLU 60	26	-25	1014	0	0	0
58	SLU 61	26	-24	1014	0	0	0
58	SLU 62	26	-25	1024	0	0	0
58	SLU 63	26	-24	1024	0	0	0
58	SLU 64	27	-22	989	0	0	0
58	SLU 65	28	-20	989	0	0	0
58	SLU 66	28	-22	1004	0	0	0
58	SLU 67	28	-21	1004	0	0	0
58	SLU 68	28	-20	999	0	0	0
58	SLU 69	28	-21	1014	0	0	0
58	SLU 70	28	-20	1014	0	0	0
58	SLU 71	27	-21	1009	0	0	0
58	SLU 72	28	-20	1009	0	0	0
58	SLU 73	29	-22	1081	0	0	0
58	SLU 74	29	-23	1096	0	0	0
58	SLU 75	29	-22	1096	0	0	0
58	SLU 76	29	-21	1091	0	0	0
58	SLU 77	29	-23	1106	0	0	0
58	SLU 78	29	-22	1106	0	0	0
58	SLU 79	29	-23	1101	0	0	0
58	SLU 80	29	-22	1101	0	0	0
58	SLU 81	29	-24	1120	0	0	0
58	SLU 82	29	-23	1120	0	0	0
58	SLU 83	29	-24	1130	0	0	0
58	SLU 84	29	-23	1130	0	0	0
58	SLE RA 1	20	-17	737	0	0	0
58	SLE RA 2	21	-16	737	0	0	0
58	SLE RA 3	21	-17	748	0	0	0
58	SLE RA 4	21	-16	748	0	0	0
58	SLE RA 5	21	-16	744	0	0	0
58	SLE RA 6	21	-17	754	0	0	0
58	SLE RA 7	21	-16	754	0	0	0
58	SLE RA 8	20	-17	751	0	0	0
58	SLE RA 9	21	-16	751	0	0	0
58	SLE RA 10	21	-17	799	0	0	0
58	SLE RA 11	21	-18	809	0	0	0
58	SLE RA 12	22	-17	809	0	0	0
58	SLE RA 13	22	-17	805	0	0	0
58	SLE RA 14	21	-18	816	0	0	0
58	SLE RA 15	22	-17	816	0	0	0
58	SLE RA 16	21	-18	812	0	0	0
58	SLE RA 17	21	-17	812	0	0	0
58	SLE RA 18	21	-19	825	0	0	0
58	SLE RA 19	22	-18	825	0	0	0
58	SLE RA 20	22	-18	832	0	0	0
58	SLE RA 21	22	-18	832	0	0	0
58	SLE FR 1	20	-17	737	0	0	0
58	SLE FR 2	20	-17	737	0	0	0
58	SLE FR 3	20	-17	740	0	0	0
58	SLE FR 4	21	-17	763	0	0	0
58	SLE FR 5	21	-18	766	0	0	0
58	SLE FR 6	21	-18	781	0	0	0
58	SLE QP 1	20	-17	737	0	0	0
58	SLE QP 2	21	-18	763	0	0	0
58	SLD 1	65	-12	741	0	0	0
58	SLD 2	67	-9	741	0	0	0
58	SLD 3	58	-32	735	0	0	0
58	SLD 4	60	-29	735	0	0	0
58	SLD 5	44	13	765	0	0	0
58	SLD 6	45	15	765	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLD 7	21	-52	747	0	0	0
58	SLD 8	22	-50	747	0	0	0
58	SLD 9	19	15	780	0	0	0
58	SLD 10	20	17	780	0	0	0
58	SLD 11	-4	-50	762	0	0	0
58	SLD 12	-3	-48	762	0	0	0
58	SLD 13	-18	-7	792	0	0	0
58	SLD 14	-17	-4	792	0	0	0
58	SLD 15	-25	-26	786	0	0	0
58	SLD 16	-24	-23	786	0	0	0
58	SLV 1	91	-8	728	0	0	0
58	SLV 2	93	-3	729	0	0	0
58	SLV 3	79	-41	719	0	0	0
58	SLV 4	81	-36	719	0	0	0
58	SLV 5	59	35	767	0	0	0
58	SLV 6	61	38	767	0	0	0
58	SLV 7	19	-76	736	0	0	0
58	SLV 8	21	-73	736	0	0	0
58	SLV 9	20	38	791	0	0	0
58	SLV 10	22	41	791	0	0	0
58	SLV 11	-20	-73	760	0	0	0
58	SLV 12	-18	-70	760	0	0	0
58	SLV 13	-40	1	808	0	0	0
58	SLV 14	-37	6	808	0	0	0
58	SLV 15	-52	-32	798	0	0	0
58	SLV 16	-49	-28	798	0	0	0
58	SLV FO 1	98	-7	725	0	0	0
58	SLV FO 2	100	-1	725	0	0	0
58	SLV FO 3	84	-43	715	0	0	0
58	SLV FO 4	87	-38	715	0	0	0
58	SLV FO 5	63	40	768	0	0	0
58	SLV FO 6	65	44	768	0	0	0
58	SLV FO 7	19	-82	733	0	0	0
58	SLV FO 8	21	-78	733	0	0	0
58	SLV FO 9	20	43	794	0	0	0
58	SLV FO 10	22	47	794	0	0	0
58	SLV FO 11	-24	-79	759	0	0	0
58	SLV FO 12	-22	-76	759	0	0	0
58	SLV FO 13	-46	3	812	0	0	0
58	SLV FO 14	-43	8	812	0	0	0
58	SLV FO 15	-59	-34	802	0	0	0
58	SLV FO 16	-56	-29	802	0	0	0
59	SLU 1	20	-19	703	0	0	0
59	SLU 2	20	-17	703	0	0	0
59	SLU 3	20	-18	718	0	0	0
59	SLU 4	20	-17	718	0	0	0
59	SLU 5	20	-16	713	0	0	0
59	SLU 6	20	-18	728	0	0	0
59	SLU 7	20	-17	728	0	0	0
59	SLU 8	20	-18	723	0	0	0
59	SLU 9	20	-17	723	0	0	0
59	SLU 10	21	-18	795	0	0	0
59	SLU 11	21	-20	810	0	0	0
59	SLU 12	21	-19	810	0	0	0
59	SLU 13	21	-18	805	0	0	0
59	SLU 14	21	-19	820	0	0	0
59	SLU 15	21	-18	820	0	0	0
59	SLU 16	21	-19	815	0	0	0
59	SLU 17	21	-18	815	0	0	0
59	SLU 18	21	-21	834	0	0	0
59	SLU 19	21	-20	834	0	0	0
59	SLU 20	21	-20	844	0	0	0
59	SLU 21	22	-19	844	0	0	0
59	SLU 22	22	-18	809	0	0	0
59	SLU 23	23	-16	808	0	0	0
59	SLU 24	23	-17	824	0	0	0
59	SLU 25	23	-16	824	0	0	0
59	SLU 26	23	-15	818	0	0	0
59	SLU 27	23	-17	834	0	0	0
59	SLU 28	23	-16	834	0	0	0
59	SLU 29	23	-17	829	0	0	0
59	SLU 30	23	-16	829	0	0	0
59	SLU 31	24	-17	900	0	0	0
59	SLU 32	24	-19	916	0	0	0
59	SLU 33	24	-17	916	0	0	0
59	SLU 34	24	-17	910	0	0	0
59	SLU 35	24	-18	926	0	0	0
59	SLU 36	24	-17	926	0	0	0
59	SLU 37	24	-18	921	0	0	0
59	SLU 38	24	-17	921	0	0	0
59	SLU 39	24	-20	940	0	0	0
59	SLU 40	24	-19	940	0	0	0
59	SLU 41	24	-19	950	0	0	0
59	SLU 42	24	-18	950	0	0	0
59	SLU 43	24	-25	877	0	0	0
59	SLU 44	25	-23	877	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
59	SLU 45	25	-24	893	0	0	0
59	SLU 46	25	-23	893	0	0	0
59	SLU 47	25	-22	887	0	0	0
59	SLU 48	25	-24	903	0	0	0
59	SLU 49	25	-23	903	0	0	0
59	SLU 50	25	-24	898	0	0	0
59	SLU 51	25	-23	898	0	0	0
59	SLU 52	26	-24	969	0	0	0
59	SLU 53	26	-26	985	0	0	0
59	SLU 54	26	-24	985	0	0	0
59	SLU 55	26	-24	979	0	0	0
59	SLU 56	26	-25	995	0	0	0
59	SLU 57	26	-24	995	0	0	0
59	SLU 58	26	-25	990	0	0	0
59	SLU 59	26	-24	990	0	0	0
59	SLU 60	26	-27	1009	0	0	0
59	SLU 61	26	-26	1009	0	0	0
59	SLU 62	26	-26	1019	0	0	0
59	SLU 63	26	-25	1019	0	0	0
59	SLU 64	27	-24	983	0	0	0
59	SLU 65	28	-22	983	0	0	0
59	SLU 66	28	-23	999	0	0	0
59	SLU 67	28	-22	998	0	0	0
59	SLU 68	28	-21	993	0	0	0
59	SLU 69	28	-23	1009	0	0	0
59	SLU 70	28	-22	1009	0	0	0
59	SLU 71	27	-23	1003	0	0	0
59	SLU 72	28	-22	1003	0	0	0
59	SLU 73	29	-23	1075	0	0	0
59	SLU 74	29	-25	1091	0	0	0
59	SLU 75	29	-23	1091	0	0	0
59	SLU 76	29	-23	1085	0	0	0
59	SLU 77	29	-24	1101	0	0	0
59	SLU 78	29	-23	1101	0	0	0
59	SLU 79	29	-24	1095	0	0	0
59	SLU 80	29	-23	1095	0	0	0
59	SLU 81	29	-26	1115	0	0	0
59	SLU 82	29	-25	1114	0	0	0
59	SLU 83	29	-25	1125	0	0	0
59	SLU 84	29	-24	1125	0	0	0
59	SLE RA 1	20	-18	733	0	0	0
59	SLE RA 2	21	-17	733	0	0	0
59	SLE RA 3	21	-18	743	0	0	0
59	SLE RA 4	21	-17	743	0	0	0
59	SLE RA 5	21	-17	740	0	0	0
59	SLE RA 6	21	-18	750	0	0	0
59	SLE RA 7	21	-17	750	0	0	0
59	SLE RA 8	20	-18	747	0	0	0
59	SLE RA 9	21	-17	746	0	0	0
59	SLE RA 10	21	-18	794	0	0	0
59	SLE RA 11	21	-19	805	0	0	0
59	SLE RA 12	22	-18	805	0	0	0
59	SLE RA 13	22	-18	801	0	0	0
59	SLE RA 14	21	-19	811	0	0	0
59	SLE RA 15	22	-18	811	0	0	0
59	SLE RA 16	21	-19	808	0	0	0
59	SLE RA 17	21	-18	808	0	0	0
59	SLE RA 18	21	-20	821	0	0	0
59	SLE RA 19	22	-19	821	0	0	0
59	SLE RA 20	22	-19	827	0	0	0
59	SLE RA 21	22	-19	827	0	0	0
59	SLE FR 1	20	-18	733	0	0	0
59	SLE FR 2	20	-18	733	0	0	0
59	SLE FR 3	20	-18	736	0	0	0
59	SLE FR 4	21	-19	759	0	0	0
59	SLE FR 5	21	-19	762	0	0	0
59	SLE FR 6	21	-19	777	0	0	0
59	SLE QP 1	20	-18	733	0	0	0
59	SLE QP 2	21	-19	759	0	0	0
59	SLD 1	65	-12	741	0	0	0
59	SLD 2	67	-10	741	0	0	0
59	SLD 3	58	-32	739	0	0	0
59	SLD 4	60	-30	739	0	0	0
59	SLD 5	44	13	758	0	0	0
59	SLD 6	45	15	758	0	0	0
59	SLD 7	21	-54	749	0	0	0
59	SLD 8	22	-52	749	0	0	0
59	SLD 9	19	15	770	0	0	0
59	SLD 10	20	16	770	0	0	0
59	SLD 11	-4	-52	760	0	0	0
59	SLD 12	-3	-51	760	0	0	0
59	SLD 13	-18	-8	780	0	0	0
59	SLD 14	-17	-5	780	0	0	0
59	SLD 15	-25	-28	777	0	0	0
59	SLD 16	-24	-25	777	0	0	0
59	SLV 1	91	-7	732	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
59	SLV 2	93	-3	732	0	0	0
59	SLV 3	79	-42	727	0	0	0
59	SLV 4	81	-38	727	0	0	0
59	SLV 5	60	36	759	0	0	0
59	SLV 6	61	38	759	0	0	0
59	SLV 7	19	-78	742	0	0	0
59	SLV 8	21	-76	742	0	0	0
59	SLV 9	20	38	777	0	0	0
59	SLV 10	22	41	777	0	0	0
59	SLV 11	-20	-76	760	0	0	0
59	SLV 12	-18	-73	760	0	0	0
59	SLV 13	-40	0	792	0	0	0
59	SLV 14	-37	4	792	0	0	0
59	SLV 15	-52	-34	787	0	0	0
59	SLV 16	-49	-30	787	0	0	0
59	SLV FO 1	98	-6	729	0	0	0
59	SLV FO 2	101	-2	729	0	0	0
59	SLV FO 3	85	-44	723	0	0	0
59	SLV FO 4	87	-40	723	0	0	0
59	SLV FO 5	63	41	759	0	0	0
59	SLV FO 6	65	44	759	0	0	0
59	SLV FO 7	19	-84	740	0	0	0
59	SLV FO 8	21	-81	740	0	0	0
59	SLV FO 9	20	44	778	0	0	0
59	SLV FO 10	22	47	778	0	0	0
59	SLV FO 11	-24	-82	760	0	0	0
59	SLV FO 12	-22	-79	760	0	0	0
59	SLV FO 13	-46	2	795	0	0	0
59	SLV FO 14	-43	6	795	0	0	0
59	SLV FO 15	-59	-36	790	0	0	0
59	SLV FO 16	-56	-31	790	0	0	0
60	SLU 1	20	-20	714	0	0	0
60	SLU 2	20	-18	714	0	0	0
60	SLU 3	20	-20	730	0	0	0
60	SLU 4	20	-18	730	0	0	0
60	SLU 5	20	-18	724	0	0	0
60	SLU 6	20	-19	740	0	0	0
60	SLU 7	21	-18	740	0	0	0
60	SLU 8	20	-19	735	0	0	0
60	SLU 9	20	-18	735	0	0	0
60	SLU 10	22	-20	808	0	0	0
60	SLU 11	21	-21	824	0	0	0
60	SLU 12	22	-20	824	0	0	0
60	SLU 13	22	-19	818	0	0	0
60	SLU 14	21	-21	835	0	0	0
60	SLU 15	22	-20	834	0	0	0
60	SLU 16	21	-21	829	0	0	0
60	SLU 17	22	-20	829	0	0	0
60	SLU 18	22	-22	849	0	0	0
60	SLU 19	22	-21	848	0	0	0
60	SLU 20	22	-22	859	0	0	0
60	SLU 21	22	-21	859	0	0	0
60	SLU 22	23	-19	822	0	0	0
60	SLU 23	23	-17	821	0	0	0
60	SLU 24	23	-19	838	0	0	0
60	SLU 25	23	-17	837	0	0	0
60	SLU 26	23	-17	832	0	0	0
60	SLU 27	23	-18	848	0	0	0
60	SLU 28	24	-17	848	0	0	0
60	SLU 29	23	-18	843	0	0	0
60	SLU 30	23	-17	842	0	0	0
60	SLU 31	25	-19	915	0	0	0
60	SLU 32	24	-20	932	0	0	0
60	SLU 33	25	-19	931	0	0	0
60	SLU 34	25	-18	926	0	0	0
60	SLU 35	24	-20	942	0	0	0
60	SLU 36	25	-19	942	0	0	0
60	SLU 37	24	-20	937	0	0	0
60	SLU 38	25	-19	936	0	0	0
60	SLU 39	25	-21	956	0	0	0
60	SLU 40	25	-20	956	0	0	0
60	SLU 41	25	-21	967	0	0	0
60	SLU 42	25	-20	966	0	0	0
60	SLU 43	25	-27	892	0	0	0
60	SLU 44	25	-25	891	0	0	0
60	SLU 45	25	-26	907	0	0	0
60	SLU 46	25	-25	907	0	0	0
60	SLU 47	25	-24	902	0	0	0
60	SLU 48	25	-26	918	0	0	0
60	SLU 49	26	-24	918	0	0	0
60	SLU 50	25	-26	912	0	0	0
60	SLU 51	25	-24	912	0	0	0
60	SLU 52	27	-26	985	0	0	0
60	SLU 53	26	-28	1001	0	0	0
60	SLU 54	27	-26	1001	0	0	0
60	SLU 55	27	-26	996	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
60	SLU 56	26	-27	1012	0	0	0
60	SLU 57	27	-26	1012	0	0	0
60	SLU 58	26	-27	1006	0	0	0
60	SLU 59	26	-26	1006	0	0	0
60	SLU 60	27	-29	1026	0	0	0
60	SLU 61	27	-28	1026	0	0	0
60	SLU 62	27	-28	1036	0	0	0
60	SLU 63	27	-27	1036	0	0	0
60	SLU 64	28	-26	999	0	0	0
60	SLU 65	28	-24	999	0	0	0
60	SLU 66	28	-25	1015	0	0	0
60	SLU 67	28	-24	1015	0	0	0
60	SLU 68	28	-23	1009	0	0	0
60	SLU 69	28	-25	1025	0	0	0
60	SLU 70	28	-23	1025	0	0	0
60	SLU 71	28	-25	1020	0	0	0
60	SLU 72	28	-24	1020	0	0	0
60	SLU 73	30	-25	1093	0	0	0
60	SLU 74	29	-27	1109	0	0	0
60	SLU 75	30	-25	1109	0	0	0
60	SLU 76	30	-25	1103	0	0	0
60	SLU 77	29	-26	1119	0	0	0
60	SLU 78	30	-25	1119	0	0	0
60	SLU 79	29	-26	1114	0	0	0
60	SLU 80	29	-25	1114	0	0	0
60	SLU 81	30	-28	1133	0	0	0
60	SLU 82	30	-27	1133	0	0	0
60	SLU 83	30	-27	1144	0	0	0
60	SLU 84	30	-26	1144	0	0	0
60	SLE RA 1	21	-20	745	0	0	0
60	SLE RA 2	21	-19	745	0	0	0
60	SLE RA 3	21	-20	756	0	0	0
60	SLE RA 4	21	-19	755	0	0	0
60	SLE RA 5	21	-18	752	0	0	0
60	SLE RA 6	21	-19	762	0	0	0
60	SLE RA 7	21	-18	762	0	0	0
60	SLE RA 8	21	-19	759	0	0	0
60	SLE RA 9	21	-19	759	0	0	0
60	SLE RA 10	22	-20	807	0	0	0
60	SLE RA 11	22	-21	818	0	0	0
60	SLE RA 12	22	-20	818	0	0	0
60	SLE RA 13	22	-19	814	0	0	0
60	SLE RA 14	22	-20	825	0	0	0
60	SLE RA 15	22	-20	825	0	0	0
60	SLE RA 16	22	-20	822	0	0	0
60	SLE RA 17	22	-20	821	0	0	0
60	SLE RA 18	22	-21	835	0	0	0
60	SLE RA 19	22	-21	834	0	0	0
60	SLE RA 20	22	-21	841	0	0	0
60	SLE RA 21	22	-20	841	0	0	0
60	SLE FR 1	21	-20	745	0	0	0
60	SLE FR 2	21	-20	745	0	0	0
60	SLE FR 3	21	-20	748	0	0	0
60	SLE FR 4	21	-20	772	0	0	0
60	SLE FR 5	21	-20	775	0	0	0
60	SLE FR 6	21	-21	790	0	0	0
60	SLE QP 1	21	-20	745	0	0	0
60	SLE QP 2	21	-20	772	0	0	0
60	SLD 1	67	-13	760	0	0	0
60	SLD 2	68	-11	760	0	0	0
60	SLD 3	59	-34	757	0	0	0
60	SLD 4	61	-32	757	0	0	0
60	SLD 5	45	14	772	0	0	0
60	SLD 6	46	15	772	0	0	0
60	SLD 7	21	-57	763	0	0	0
60	SLD 8	22	-55	763	0	0	0
60	SLD 9	20	15	780	0	0	0
60	SLD 10	21	16	780	0	0	0
60	SLD 11	-4	-55	772	0	0	0
60	SLD 12	-3	-54	772	0	0	0
60	SLD 13	-19	-9	787	0	0	0
60	SLD 14	-17	-7	787	0	0	0
60	SLD 15	-26	-30	784	0	0	0
60	SLD 16	-24	-28	784	0	0	0
60	SLV 1	93	-7	753	0	0	0
60	SLV 2	95	-4	753	0	0	0
60	SLV 3	80	-43	748	0	0	0
60	SLV 4	83	-40	748	0	0	0
60	SLV 5	61	37	773	0	0	0
60	SLV 6	63	40	773	0	0	0
60	SLV 7	20	-82	758	0	0	0
60	SLV 8	21	-80	758	0	0	0
60	SLV 9	21	39	786	0	0	0
60	SLV 10	23	42	786	0	0	0
60	SLV 11	-20	-80	771	0	0	0
60	SLV 12	-19	-78	771	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
60	SLV 13	-41	-1	795	0	0	0
60	SLV 14	-38	2	795	0	0	0
60	SLV 15	-53	-36	791	0	0	0
60	SLV 16	-51	-33	791	0	0	0
60	SLV FO 1	100	-6	751	0	0	0
60	SLV FO 2	103	-3	751	0	0	0
60	SLV FO 3	86	-45	746	0	0	0
60	SLV FO 4	89	-42	746	0	0	0
60	SLV FO 5	65	43	773	0	0	0
60	SLV FO 6	67	45	773	0	0	0
60	SLV FO 7	19	-88	757	0	0	0
60	SLV FO 8	21	-86	757	0	0	0
60	SLV FO 9	21	45	787	0	0	0
60	SLV FO 10	23	48	787	0	0	0
60	SLV FO 11	-25	-86	771	0	0	0
60	SLV FO 12	-23	-84	771	0	0	0
60	SLV FO 13	-47	1	798	0	0	0
60	SLV FO 14	-44	5	798	0	0	0
60	SLV FO 15	-60	-38	793	0	0	0
60	SLV FO 16	-58	-35	793	0	0	0
61	SLU 1	17	-19	589	0	0	0
61	SLU 2	17	-17	588	0	0	0
61	SLU 3	17	-19	602	0	0	0
61	SLU 4	17	-18	602	0	0	0
61	SLU 5	17	-17	597	0	0	0
61	SLU 6	17	-18	611	0	0	0
61	SLU 7	17	-17	610	0	0	0
61	SLU 8	17	-18	606	0	0	0
61	SLU 9	17	-17	606	0	0	0
61	SLU 10	18	-19	667	0	0	0
61	SLU 11	18	-20	681	0	0	0
61	SLU 12	18	-19	680	0	0	0
61	SLU 13	18	-19	675	0	0	0
61	SLU 14	18	-20	690	0	0	0
61	SLU 15	18	-19	689	0	0	0
61	SLU 16	18	-20	685	0	0	0
61	SLU 17	18	-19	685	0	0	0
61	SLU 18	18	-21	701	0	0	0
61	SLU 19	18	-20	701	0	0	0
61	SLU 20	18	-21	710	0	0	0
61	SLU 21	18	-20	709	0	0	0
61	SLU 22	19	-18	678	0	0	0
61	SLU 23	20	-17	677	0	0	0
61	SLU 24	19	-18	691	0	0	0
61	SLU 25	20	-17	691	0	0	0
61	SLU 26	20	-16	686	0	0	0
61	SLU 27	19	-18	700	0	0	0
61	SLU 28	20	-17	699	0	0	0
61	SLU 29	19	-18	695	0	0	0
61	SLU 30	20	-17	695	0	0	0
61	SLU 31	21	-18	756	0	0	0
61	SLU 32	20	-20	770	0	0	0
61	SLU 33	21	-19	769	0	0	0
61	SLU 34	21	-18	764	0	0	0
61	SLU 35	20	-19	778	0	0	0
61	SLU 36	21	-18	778	0	0	0
61	SLU 37	20	-19	774	0	0	0
61	SLU 38	21	-18	773	0	0	0
61	SLU 39	21	-21	790	0	0	0
61	SLU 40	21	-20	790	0	0	0
61	SLU 41	21	-20	799	0	0	0
61	SLU 42	21	-19	798	0	0	0
61	SLU 43	21	-25	735	0	0	0
61	SLU 44	21	-24	734	0	0	0
61	SLU 45	21	-25	748	0	0	0
61	SLU 46	21	-24	748	0	0	0
61	SLU 47	21	-23	743	0	0	0
61	SLU 48	21	-24	757	0	0	0
61	SLU 49	21	-23	757	0	0	0
61	SLU 50	21	-24	753	0	0	0
61	SLU 51	21	-23	752	0	0	0
61	SLU 52	22	-25	813	0	0	0
61	SLU 53	22	-26	827	0	0	0
61	SLU 54	22	-25	826	0	0	0
61	SLU 55	22	-25	822	0	0	0
61	SLU 56	22	-26	836	0	0	0
61	SLU 57	22	-25	835	0	0	0
61	SLU 58	22	-26	831	0	0	0
61	SLU 59	22	-25	831	0	0	0
61	SLU 60	22	-27	847	0	0	0
61	SLU 61	22	-26	847	0	0	0
61	SLU 62	22	-27	856	0	0	0
61	SLU 63	22	-26	856	0	0	0
61	SLU 64	23	-25	824	0	0	0
61	SLU 65	24	-23	823	0	0	0
61	SLU 66	23	-24	837	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
61	SLU 67	24	-23	837	0	0	0
61	SLU 68	24	-22	832	0	0	0
61	SLU 69	24	-24	846	0	0	0
61	SLU 70	24	-23	845	0	0	0
61	SLU 71	23	-24	842	0	0	0
61	SLU 72	24	-23	841	0	0	0
61	SLU 73	25	-24	902	0	0	0
61	SLU 74	24	-26	916	0	0	0
61	SLU 75	25	-25	915	0	0	0
61	SLU 76	25	-24	910	0	0	0
61	SLU 77	25	-25	925	0	0	0
61	SLU 78	25	-24	924	0	0	0
61	SLU 79	24	-25	920	0	0	0
61	SLU 80	25	-24	920	0	0	0
61	SLU 81	25	-27	936	0	0	0
61	SLU 82	25	-26	936	0	0	0
61	SLU 83	25	-26	945	0	0	0
61	SLU 84	25	-25	945	0	0	0
61	SLE RA 1	17	-19	614	0	0	0
61	SLE RA 2	18	-18	614	0	0	0
61	SLE RA 3	17	-19	623	0	0	0
61	SLE RA 4	18	-18	623	0	0	0
61	SLE RA 5	18	-18	620	0	0	0
61	SLE RA 6	18	-18	629	0	0	0
61	SLE RA 7	18	-18	629	0	0	0
61	SLE RA 8	17	-19	626	0	0	0
61	SLE RA 9	18	-18	626	0	0	0
61	SLE RA 10	18	-19	666	0	0	0
61	SLE RA 11	18	-20	676	0	0	0
61	SLE RA 12	18	-19	675	0	0	0
61	SLE RA 13	18	-19	672	0	0	0
61	SLE RA 14	18	-19	681	0	0	0
61	SLE RA 15	18	-19	681	0	0	0
61	SLE RA 16	18	-19	678	0	0	0
61	SLE RA 17	18	-19	678	0	0	0
61	SLE RA 18	18	-20	689	0	0	0
61	SLE RA 19	18	-20	689	0	0	0
61	SLE RA 20	18	-20	695	0	0	0
61	SLE RA 21	18	-19	695	0	0	0
61	SLE FR 1	17	-19	614	0	0	0
61	SLE FR 2	17	-19	614	0	0	0
61	SLE FR 3	17	-19	617	0	0	0
61	SLE FR 4	18	-19	637	0	0	0
61	SLE FR 5	18	-19	639	0	0	0
61	SLE FR 6	18	-20	652	0	0	0
61	SLE QP 1	17	-19	614	0	0	0
61	SLE QP 2	18	-19	637	0	0	0
61	SLD 1	56	-12	627	0	0	0
61	SLD 2	57	-11	627	0	0	0
61	SLD 3	50	-30	635	0	0	0
61	SLD 4	51	-30	635	0	0	0
61	SLD 5	38	11	622	0	0	0
61	SLD 6	39	12	622	0	0	0
61	SLD 7	18	-51	649	0	0	0
61	SLD 8	19	-51	648	0	0	0
61	SLD 9	17	12	625	0	0	0
61	SLD 10	18	12	625	0	0	0
61	SLD 11	-4	-50	652	0	0	0
61	SLD 12	-3	-50	652	0	0	0
61	SLD 13	-16	-9	638	0	0	0
61	SLD 14	-14	-9	638	0	0	0
61	SLD 15	-22	-28	647	0	0	0
61	SLD 16	-20	-27	646	0	0	0
61	SLV 1	78	-6	621	0	0	0
61	SLV 2	80	-5	620	0	0	0
61	SLV 3	67	-38	634	0	0	0
61	SLV 4	69	-37	634	0	0	0
61	SLV 5	51	33	611	0	0	0
61	SLV 6	52	34	611	0	0	0
61	SLV 7	16	-74	657	0	0	0
61	SLV 8	18	-73	657	0	0	0
61	SLV 9	18	35	617	0	0	0
61	SLV 10	19	35	617	0	0	0
61	SLV 11	-17	-72	663	0	0	0
61	SLV 12	-16	-72	662	0	0	0
61	SLV 13	-34	-1	639	0	0	0
61	SLV 14	-32	-1	639	0	0	0
61	SLV 15	-45	-33	653	0	0	0
61	SLV 16	-42	-33	653	0	0	0
61	SLV FO 1	84	-4	619	0	0	0
61	SLV FO 2	86	-4	619	0	0	0
61	SLV FO 3	72	-40	634	0	0	0
61	SLV FO 4	74	-39	634	0	0	0
61	SLV FO 5	54	38	609	0	0	0
61	SLV FO 6	56	39	608	0	0	0
61	SLV FO 7	16	-79	659	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
61	SLV FO 8	18	-79	659	0	0	0
61	SLV FO 9	18	40	615	0	0	0
61	SLV FO 10	19	40	615	0	0	0
61	SLV FO 11	-21	-78	665	0	0	0
61	SLV FO 12	-19	-77	665	0	0	0
61	SLV FO 13	-39	0	640	0	0	0
61	SLV FO 14	-37	1	639	0	0	0
61	SLV FO 15	-51	-35	655	0	0	0
61	SLV FO 16	-48	-34	655	0	0	0
63	SLU 1	26	-28	951	-167.38	0.06	4.66
63	SLU 2	27	-26	950	-167.2	0.06	4.78
63	SLU 3	27	-28	972	-171.12	0.06	4.72
63	SLU 4	27	-26	972	-171.01	0.06	4.8
63	SLU 5	27	-25	964	-169.66	0.06	4.8
63	SLU 6	27	-27	986	-173.59	0.06	4.74
63	SLU 7	27	-26	986	-173.47	0.06	4.82
63	SLU 8	27	-27	979	-172.31	0.06	4.7
63	SLU 9	27	-26	978	-172.2	0.06	4.77
63	SLU 10	29	-28	1076	-189.36	0.06	5.06
63	SLU 11	28	-30	1098	-193.28	0.06	5
63	SLU 12	29	-28	1098	-193.17	0.06	5.07
63	SLU 13	29	-27	1090	-191.82	0.06	5.08
63	SLU 14	29	-29	1112	-195.75	0.07	5.02
63	SLU 15	29	-28	1112	-195.64	0.07	5.09
63	SLU 16	28	-29	1105	-194.47	0.07	4.98
63	SLU 17	29	-28	1104	-194.36	0.07	5.05
63	SLU 18	29	-32	1131	-199.04	0.07	5.06
63	SLU 19	29	-30	1130	-198.93	0.07	5.13
63	SLU 20	29	-31	1145	-201.51	0.07	5.08
63	SLU 21	29	-29	1144	-201.4	0.07	5.15
63	SLU 22	30	-27	1095	-192.64	0.06	5.36
63	SLU 23	31	-24	1093	-192.45	0.06	5.49
63	SLU 24	31	-26	1116	-196.38	0.07	5.42
63	SLU 25	31	-25	1115	-196.26	0.07	5.5
63	SLU 26	31	-24	1107	-194.92	0.07	5.5
63	SLU 27	31	-26	1130	-198.84	0.07	5.44
63	SLU 28	31	-24	1129	-198.73	0.07	5.52
63	SLU 29	31	-26	1123	-197.57	0.07	5.4
63	SLU 30	31	-24	1122	-197.46	0.07	5.47
63	SLU 31	33	-27	1219	-214.61	0.07	5.76
63	SLU 32	32	-29	1242	-218.54	0.07	5.7
63	SLU 33	33	-27	1241	-218.43	0.07	5.77
63	SLU 34	33	-26	1233	-217.08	0.07	5.78
63	SLU 35	32	-28	1256	-221	0.07	5.72
63	SLU 36	33	-26	1255	-220.89	0.07	5.79
63	SLU 37	32	-28	1248	-219.73	0.07	5.68
63	SLU 38	33	-27	1248	-219.62	0.07	5.75
63	SLU 39	33	-30	1274	-224.3	0.08	5.76
63	SLU 40	33	-29	1274	-224.19	0.08	5.83
63	SLU 41	33	-30	1288	-226.76	0.08	5.78
63	SLU 42	33	-28	1288	-226.65	0.08	5.85
63	SLU 43	33	-37	1187	-208.94	0.07	5.82
63	SLU 44	34	-35	1186	-208.75	0.07	5.94
63	SLU 45	33	-37	1208	-212.68	0.07	5.88
63	SLU 46	34	-35	1208	-212.56	0.07	5.96
63	SLU 47	34	-34	1200	-211.22	0.07	5.96
63	SLU 48	34	-36	1222	-215.14	0.07	5.9
63	SLU 49	34	-34	1222	-215.03	0.07	5.97
63	SLU 50	33	-36	1215	-213.87	0.07	5.86
63	SLU 51	34	-35	1215	-213.76	0.07	5.93
63	SLU 52	35	-37	1312	-230.91	0.08	6.22
63	SLU 53	35	-39	1334	-234.84	0.08	6.16
63	SLU 54	35	-37	1334	-234.73	0.08	6.23
63	SLU 55	35	-36	1326	-233.38	0.08	6.24
63	SLU 56	35	-38	1348	-237.3	0.08	6.18
63	SLU 57	36	-37	1348	-237.19	0.08	6.25
63	SLU 58	35	-38	1341	-236.03	0.08	6.13
63	SLU 59	35	-37	1340	-235.92	0.08	6.21
63	SLU 60	35	-40	1367	-240.6	0.08	6.21
63	SLU 61	36	-39	1366	-240.49	0.08	6.29
63	SLU 62	35	-40	1381	-243.06	0.08	6.23
63	SLU 63	36	-38	1380	-242.95	0.08	6.31
63	SLU 64	37	-36	1331	-234.19	0.08	6.52
63	SLU 65	38	-33	1330	-234.01	0.08	6.64
63	SLU 66	37	-35	1352	-237.93	0.08	6.58
63	SLU 67	38	-34	1351	-237.82	0.08	6.66
63	SLU 68	38	-33	1344	-236.47	0.08	6.66
63	SLU 69	37	-35	1366	-240.4	0.08	6.6
63	SLU 70	38	-33	1365	-240.28	0.08	6.68
63	SLU 71	37	-35	1359	-239.12	0.08	6.56
63	SLU 72	38	-33	1358	-239.01	0.08	6.63
63	SLU 73	39	-36	1456	-256.17	0.09	6.92
63	SLU 74	39	-38	1478	-260.09	0.09	6.86
63	SLU 75	39	-36	1477	-259.98	0.09	6.93
63	SLU 76	39	-35	1470	-258.63	0.09	6.94
63	SLU 77	39	-37	1492	-262.56	0.09	6.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
63	SLU 78	39	-35	1491	-262.45	0.09	6.95
63	SLU 79	39	-37	1485	-261.29	0.09	6.84
63	SLU 80	39	-36	1484	-261.17	0.09	6.91
63	SLU 81	39	-39	1511	-265.85	0.09	6.91
63	SLU 82	40	-38	1510	-265.74	0.09	6.99
63	SLU 83	39	-39	1525	-268.32	0.09	6.93
63	SLU 84	40	-37	1524	-268.21	0.09	7.01
63	SLE RA 1	28	-28	992	-174.6	0.06	4.86
63	SLE RA 2	28	-26	991	-174.47	0.06	4.94
63	SLE RA 3	28	-28	1006	-177.09	0.06	4.9
63	SLE RA 4	28	-27	1006	-177.02	0.06	4.95
63	SLE RA 5	28	-26	1001	-176.12	0.06	4.96
63	SLE RA 6	28	-27	1016	-178.73	0.06	4.92
63	SLE RA 7	28	-26	1015	-178.66	0.06	4.97
63	SLE RA 8	28	-27	1011	-177.88	0.06	4.89
63	SLE RA 9	28	-26	1010	-177.81	0.06	4.94
63	SLE RA 10	29	-28	1075	-189.25	0.06	5.13
63	SLE RA 11	29	-29	1090	-191.86	0.06	5.09
63	SLE RA 12	29	-28	1090	-191.79	0.06	5.14
63	SLE RA 13	29	-27	1085	-190.89	0.06	5.14
63	SLE RA 14	29	-29	1099	-193.51	0.06	5.1
63	SLE RA 15	29	-28	1099	-193.43	0.06	5.15
63	SLE RA 16	29	-29	1095	-192.66	0.06	5.07
63	SLE RA 17	29	-28	1094	-192.59	0.06	5.12
63	SLE RA 18	29	-30	1112	-195.7	0.07	5.12
63	SLE RA 19	29	-29	1112	-195.63	0.07	5.17
63	SLE RA 20	29	-30	1121	-197.35	0.07	5.14
63	SLE RA 21	29	-29	1121	-197.27	0.07	5.19
63	SLE FR 1	28	-28	992	-174.6	0.06	4.86
63	SLE FR 2	28	-28	992	-174.57	0.06	4.88
63	SLE FR 3	28	-28	996	-175.26	0.06	4.87
63	SLE FR 4	28	-28	1028	-180.9	0.06	4.96
63	SLE FR 5	28	-28	1032	-181.59	0.06	4.95
63	SLE FR 6	28	-29	1052	-185.15	0.06	4.99
63	SLE QP 1	28	-28	992	-174.6	0.06	4.86
63	SLE QP 2	28	-29	1028	-180.93	0.06	4.94
63	SLD 1	89	-17	1014	-178.46	0.06	15.64
63	SLD 2	91	-16	1014	-178.43	0.06	16.01
63	SLD 3	79	-46	1021	-179.78	0.06	13.93
63	SLD 4	81	-45	1021	-179.75	0.06	14.29
63	SLD 5	61	18	1012	-178.2	0.06	10.69
63	SLD 6	62	19	1012	-178.18	0.06	10.93
63	SLD 7	28	-78	1037	-182.58	0.06	4.97
63	SLD 8	30	-77	1037	-182.57	0.06	5.2
63	SLD 9	27	20	1019	-179.29	0.06	4.68
63	SLD 10	28	21	1019	-179.28	0.06	4.91
63	SLD 11	-6	-77	1044	-183.68	0.06	-1.05
63	SLD 12	-5	-76	1044	-183.66	0.06	-0.81
63	SLD 13	-25	-13	1035	-182.11	0.06	-4.41
63	SLD 14	-23	-11	1035	-182.08	0.06	-4.05
63	SLD 15	-35	-42	1042	-183.43	0.06	-6.13
63	SLD 16	-33	-40	1042	-183.4	0.06	-5.76
63	SLV 1	124	-9	1005	-176.92	0.06	21.82
63	SLV 2	127	-7	1005	-176.88	0.06	22.39
63	SLV 3	107	-59	1018	-179.16	0.06	18.89
63	SLV 4	111	-56	1018	-179.12	0.06	19.46
63	SLV 5	82	51	1002	-176.33	0.06	14.34
63	SLV 6	84	53	1002	-176.31	0.06	14.73
63	SLV 7	26	-113	1044	-183.81	0.06	4.57
63	SLV 8	28	-111	1044	-183.78	0.06	4.96
63	SLV 9	28	54	1012	-178.08	0.06	4.92
63	SLV 10	30	56	1012	-178.05	0.06	5.31
63	SLV 11	-28	-111	1054	-185.55	0.06	-4.85
63	SLV 12	-25	-109	1054	-185.53	0.06	-4.46
63	SLV 13	-54	-1	1038	-182.74	0.06	-9.58
63	SLV 14	-51	1	1038	-182.7	0.06	-9.01
63	SLV 15	-71	-51	1051	-184.98	0.06	-12.51
63	SLV 16	-68	-48	1051	-184.94	0.06	-11.94
63	SLV FO 1	134	-7	1003	-176.52	0.06	23.51
63	SLV FO 2	137	-4	1003	-176.47	0.06	24.14
63	SLV FO 3	115	-62	1017	-178.98	0.06	20.28
63	SLV FO 4	119	-59	1017	-178.94	0.06	20.91
63	SLV FO 5	87	59	999	-175.87	0.06	15.28
63	SLV FO 6	89	61	999	-175.84	0.06	15.71
63	SLV FO 7	26	-121	1046	-184.09	0.06	4.53
63	SLV FO 8	28	-119	1046	-184.06	0.06	4.96
63	SLV FO 9	28	62	1010	-177.8	0.06	4.92
63	SLV FO 10	30	64	1010	-177.77	0.06	5.35
63	SLV FO 11	-33	-119	1057	-186.02	0.06	-5.83
63	SLV FO 12	-31	-117	1057	-185.99	0.06	-5.4
63	SLV FO 13	-63	1	1039	-182.92	0.06	-11.03
63	SLV FO 14	-59	4	1039	-182.88	0.06	-10.4
63	SLV FO 15	-81	-53	1053	-185.39	0.06	-14.25
63	SLV FO 16	-77	-50	1053	-185.34	0.06	-13.63
63	CRTFP Ux+	0	0	0	0	0	0
63	CRTFP Ux-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
63	CRTFP Uy+	0	0	0	0	0	0
63	CRTFP Uy-	0	0	0	0	0	0
64	SLU 1	24	-20	929	0	0	0
64	SLU 2	25	-18	929	0	0	0
64	SLU 3	24	-19	950	0	0	0
64	SLU 4	25	-18	950	0	0	0
64	SLU 5	25	-17	943	0	0	0
64	SLU 6	24	-19	964	0	0	0
64	SLU 7	25	-18	964	0	0	0
64	SLU 8	24	-19	957	0	0	0
64	SLU 9	25	-18	956	0	0	0
64	SLU 10	26	-19	1050	0	0	0
64	SLU 11	26	-21	1071	0	0	0
64	SLU 12	26	-20	1071	0	0	0
64	SLU 13	26	-19	1063	0	0	0
64	SLU 14	26	-21	1084	0	0	0
64	SLU 15	26	-19	1084	0	0	0
64	SLU 16	25	-21	1077	0	0	0
64	SLU 17	26	-19	1077	0	0	0
64	SLU 18	26	-22	1102	0	0	0
64	SLU 19	26	-21	1102	0	0	0
64	SLU 20	26	-22	1115	0	0	0
64	SLU 21	26	-20	1115	0	0	0
64	SLU 22	28	-18	1071	0	0	0
64	SLU 23	28	-16	1071	0	0	0
64	SLU 24	28	-18	1092	0	0	0
64	SLU 25	28	-16	1092	0	0	0
64	SLU 26	28	-16	1085	0	0	0
64	SLU 27	28	-17	1106	0	0	0
64	SLU 28	28	-16	1106	0	0	0
64	SLU 29	28	-17	1099	0	0	0
64	SLU 30	28	-16	1098	0	0	0
64	SLU 31	30	-18	1192	0	0	0
64	SLU 32	29	-19	1213	0	0	0
64	SLU 33	30	-18	1213	0	0	0
64	SLU 34	30	-17	1205	0	0	0
64	SLU 35	29	-19	1226	0	0	0
64	SLU 36	30	-18	1226	0	0	0
64	SLU 37	29	-19	1219	0	0	0
64	SLU 38	30	-18	1219	0	0	0
64	SLU 39	30	-21	1244	0	0	0
64	SLU 40	30	-19	1244	0	0	0
64	SLU 41	30	-20	1257	0	0	0
64	SLU 42	30	-19	1257	0	0	0
64	SLU 43	30	-27	1160	0	0	0
64	SLU 44	30	-24	1159	0	0	0
64	SLU 45	30	-26	1180	0	0	0
64	SLU 46	31	-25	1180	0	0	0
64	SLU 47	31	-24	1173	0	0	0
64	SLU 48	30	-25	1194	0	0	0
64	SLU 49	31	-24	1194	0	0	0
64	SLU 50	30	-26	1187	0	0	0
64	SLU 51	30	-24	1187	0	0	0
64	SLU 52	32	-26	1280	0	0	0
64	SLU 53	32	-28	1301	0	0	0
64	SLU 54	32	-26	1301	0	0	0
64	SLU 55	32	-25	1293	0	0	0
64	SLU 56	32	-27	1315	0	0	0
64	SLU 57	32	-26	1314	0	0	0
64	SLU 58	31	-27	1307	0	0	0
64	SLU 59	32	-26	1307	0	0	0
64	SLU 60	32	-29	1332	0	0	0
64	SLU 61	32	-27	1332	0	0	0
64	SLU 62	32	-28	1346	0	0	0
64	SLU 63	32	-27	1345	0	0	0
64	SLU 64	33	-25	1302	0	0	0
64	SLU 65	34	-23	1301	0	0	0
64	SLU 66	34	-24	1322	0	0	0
64	SLU 67	34	-23	1322	0	0	0
64	SLU 68	34	-22	1315	0	0	0
64	SLU 69	34	-24	1336	0	0	0
64	SLU 70	34	-23	1336	0	0	0
64	SLU 71	34	-24	1329	0	0	0
64	SLU 72	34	-23	1329	0	0	0
64	SLU 73	36	-24	1422	0	0	0
64	SLU 74	35	-26	1443	0	0	0
64	SLU 75	36	-25	1443	0	0	0
64	SLU 76	36	-24	1435	0	0	0
64	SLU 77	35	-25	1457	0	0	0
64	SLU 78	36	-24	1456	0	0	0
64	SLU 79	35	-26	1449	0	0	0
64	SLU 80	36	-24	1449	0	0	0
64	SLU 81	35	-27	1474	0	0	0
64	SLU 82	36	-26	1474	0	0	0
64	SLU 83	36	-27	1487	0	0	0
64	SLU 84	36	-25	1487	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
64	SLE RA 1	25	-20	970	0	0	0
64	SLE RA 2	25	-18	970	0	0	0
64	SLE RA 3	25	-19	984	0	0	0
64	SLE RA 4	25	-18	984	0	0	0
64	SLE RA 5	25	-18	979	0	0	0
64	SLE RA 6	25	-19	993	0	0	0
64	SLE RA 7	26	-18	993	0	0	0
64	SLE RA 8	25	-19	988	0	0	0
64	SLE RA 9	25	-18	988	0	0	0
64	SLE RA 10	26	-19	1050	0	0	0
64	SLE RA 11	26	-20	1064	0	0	0
64	SLE RA 12	26	-19	1064	0	0	0
64	SLE RA 13	26	-19	1059	0	0	0
64	SLE RA 14	26	-20	1073	0	0	0
64	SLE RA 15	26	-19	1073	0	0	0
64	SLE RA 16	26	-20	1069	0	0	0
64	SLE RA 17	26	-19	1068	0	0	0
64	SLE RA 18	26	-21	1085	0	0	0
64	SLE RA 19	27	-20	1085	0	0	0
64	SLE RA 20	26	-21	1094	0	0	0
64	SLE RA 21	27	-20	1094	0	0	0
64	SLE FR 1	25	-20	970	0	0	0
64	SLE FR 2	25	-19	970	0	0	0
64	SLE FR 3	25	-19	974	0	0	0
64	SLE FR 4	25	-20	1004	0	0	0
64	SLE FR 5	25	-20	1008	0	0	0
64	SLE FR 6	26	-20	1027	0	0	0
64	SLE QP 1	25	-20	970	0	0	0
64	SLE QP 2	25	-20	1004	0	0	0
64	SLD 1	84	-15	957	0	0	0
64	SLD 2	85	-10	958	0	0	0
64	SLD 3	74	-40	955	0	0	0
64	SLD 4	75	-34	955	0	0	0
64	SLD 5	58	17	994	0	0	0
64	SLD 6	58	21	994	0	0	0
64	SLD 7	25	-63	986	0	0	0
64	SLD 8	25	-60	986	0	0	0
64	SLD 9	25	20	1023	0	0	0
64	SLD 10	26	23	1023	0	0	0
64	SLD 11	-8	-61	1015	0	0	0
64	SLD 12	-7	-57	1015	0	0	0
64	SLD 13	-24	-6	1054	0	0	0
64	SLD 14	-23	-1	1054	0	0	0
64	SLD 15	-34	-30	1051	0	0	0
64	SLD 16	-33	-25	1051	0	0	0
64	SLV 1	117	-11	931	0	0	0
64	SLV 2	119	-3	932	0	0	0
64	SLV 3	100	-52	927	0	0	0
64	SLV 4	103	-44	928	0	0	0
64	SLV 5	78	43	989	0	0	0
64	SLV 6	80	49	989	0	0	0
64	SLV 7	22	-94	975	0	0	0
64	SLV 8	23	-88	975	0	0	0
64	SLV 9	27	48	1034	0	0	0
64	SLV 10	29	54	1034	0	0	0
64	SLV 11	-29	-89	1020	0	0	0
64	SLV 12	-28	-83	1020	0	0	0
64	SLV 13	-52	4	1081	0	0	0
64	SLV 14	-50	12	1082	0	0	0
64	SLV 15	-69	-38	1077	0	0	0
64	SLV 16	-67	-29	1078	0	0	0
64	SLV FO 1	127	-10	924	0	0	0
64	SLV FO 2	129	-1	925	0	0	0
64	SLV FO 3	108	-56	919	0	0	0
64	SLV FO 4	110	-46	920	0	0	0
64	SLV FO 5	83	50	987	0	0	0
64	SLV FO 6	85	56	988	0	0	0
64	SLV FO 7	22	-101	972	0	0	0
64	SLV FO 8	23	-95	972	0	0	0
64	SLV FO 9	28	55	1037	0	0	0
64	SLV FO 10	29	61	1037	0	0	0
64	SLV FO 11	-34	-96	1021	0	0	0
64	SLV FO 12	-33	-90	1022	0	0	0
64	SLV FO 13	-60	6	1089	0	0	0
64	SLV FO 14	-57	16	1090	0	0	0
64	SLV FO 15	-78	-39	1084	0	0	0
64	SLV FO 16	-76	-30	1085	0	0	0
65	SLU 1	15	-11	582	0	0	0
65	SLU 2	15	-10	582	0	0	0
65	SLU 3	15	-11	595	0	0	0
65	SLU 4	15	-10	595	0	0	0
65	SLU 5	15	-9	590	0	0	0
65	SLU 6	15	-10	603	0	0	0
65	SLU 7	15	-9	603	0	0	0
65	SLU 8	15	-10	599	0	0	0
65	SLU 9	15	-10	599	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
65	SLU 10	16	-11	657	0	0	0
65	SLU 11	16	-11	670	0	0	0
65	SLU 12	16	-11	670	0	0	0
65	SLU 13	16	-10	665	0	0	0
65	SLU 14	16	-11	678	0	0	0
65	SLU 15	16	-10	678	0	0	0
65	SLU 16	16	-11	674	0	0	0
65	SLU 17	16	-10	674	0	0	0
65	SLU 18	16	-12	689	0	0	0
65	SLU 19	16	-11	689	0	0	0
65	SLU 20	16	-12	697	0	0	0
65	SLU 21	16	-11	697	0	0	0
65	SLU 22	17	-10	671	0	0	0
65	SLU 23	17	-9	671	0	0	0
65	SLU 24	17	-10	684	0	0	0
65	SLU 25	18	-9	684	0	0	0
65	SLU 26	18	-8	679	0	0	0
65	SLU 27	17	-9	692	0	0	0
65	SLU 28	18	-8	692	0	0	0
65	SLU 29	17	-9	688	0	0	0
65	SLU 30	17	-8	688	0	0	0
65	SLU 31	18	-9	746	0	0	0
65	SLU 32	18	-10	759	0	0	0
65	SLU 33	18	-10	759	0	0	0
65	SLU 34	18	-9	754	0	0	0
65	SLU 35	18	-10	767	0	0	0
65	SLU 36	18	-9	767	0	0	0
65	SLU 37	18	-10	763	0	0	0
65	SLU 38	18	-9	763	0	0	0
65	SLU 39	18	-11	778	0	0	0
65	SLU 40	19	-10	778	0	0	0
65	SLU 41	18	-11	786	0	0	0
65	SLU 42	19	-10	786	0	0	0
65	SLU 43	18	-15	726	0	0	0
65	SLU 44	19	-13	726	0	0	0
65	SLU 45	19	-14	739	0	0	0
65	SLU 46	19	-13	739	0	0	0
65	SLU 47	19	-13	734	0	0	0
65	SLU 48	19	-14	747	0	0	0
65	SLU 49	19	-13	747	0	0	0
65	SLU 50	19	-14	743	0	0	0
65	SLU 51	19	-13	743	0	0	0
65	SLU 52	20	-14	801	0	0	0
65	SLU 53	19	-15	814	0	0	0
65	SLU 54	20	-14	814	0	0	0
65	SLU 55	20	-14	809	0	0	0
65	SLU 56	20	-15	822	0	0	0
65	SLU 57	20	-14	822	0	0	0
65	SLU 58	19	-15	818	0	0	0
65	SLU 59	20	-14	818	0	0	0
65	SLU 60	20	-16	833	0	0	0
65	SLU 61	20	-15	833	0	0	0
65	SLU 62	20	-16	841	0	0	0
65	SLU 63	20	-15	841	0	0	0
65	SLU 64	21	-14	815	0	0	0
65	SLU 65	21	-12	815	0	0	0
65	SLU 66	21	-13	828	0	0	0
65	SLU 67	21	-12	828	0	0	0
65	SLU 68	21	-12	823	0	0	0
65	SLU 69	21	-13	836	0	0	0
65	SLU 70	21	-12	836	0	0	0
65	SLU 71	21	-13	832	0	0	0
65	SLU 72	21	-12	832	0	0	0
65	SLU 73	22	-13	890	0	0	0
65	SLU 74	22	-14	903	0	0	0
65	SLU 75	22	-13	903	0	0	0
65	SLU 76	22	-13	898	0	0	0
65	SLU 77	22	-14	911	0	0	0
65	SLU 78	22	-13	911	0	0	0
65	SLU 79	22	-14	907	0	0	0
65	SLU 80	22	-13	907	0	0	0
65	SLU 81	22	-15	922	0	0	0
65	SLU 82	22	-14	922	0	0	0
65	SLU 83	22	-15	930	0	0	0
65	SLU 84	22	-14	930	0	0	0
65	SLE RA 1	15	-11	607	0	0	0
65	SLE RA 2	16	-10	607	0	0	0
65	SLE RA 3	16	-10	616	0	0	0
65	SLE RA 4	16	-10	616	0	0	0
65	SLE RA 5	16	-10	613	0	0	0
65	SLE RA 6	16	-10	622	0	0	0
65	SLE RA 7	16	-10	622	0	0	0
65	SLE RA 8	16	-10	619	0	0	0
65	SLE RA 9	16	-10	619	0	0	0
65	SLE RA 10	16	-10	657	0	0	0
65	SLE RA 11	16	-11	666	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
65	SLE RA 12	16	-10	666	0	0	0
65	SLE RA 13	16	-10	663	0	0	0
65	SLE RA 14	16	-11	671	0	0	0
65	SLE RA 15	16	-10	671	0	0	0
65	SLE RA 16	16	-11	668	0	0	0
65	SLE RA 17	16	-10	668	0	0	0
65	SLE RA 18	16	-12	679	0	0	0
65	SLE RA 19	16	-11	679	0	0	0
65	SLE RA 20	16	-11	684	0	0	0
65	SLE RA 21	16	-11	684	0	0	0
65	SLE FR 1	15	-11	607	0	0	0
65	SLE FR 2	15	-11	607	0	0	0
65	SLE FR 3	15	-11	610	0	0	0
65	SLE FR 4	16	-11	629	0	0	0
65	SLE FR 5	16	-11	631	0	0	0
65	SLE FR 6	16	-11	643	0	0	0
65	SLE QP 1	15	-11	607	0	0	0
65	SLE QP 2	16	-11	629	0	0	0
65	SLD 1	52	-9	593	0	0	0
65	SLD 2	53	-5	593	0	0	0
65	SLD 3	46	-24	589	0	0	0
65	SLD 4	46	-19	589	0	0	0
65	SLD 5	36	10	624	0	0	0
65	SLD 6	36	13	624	0	0	0
65	SLD 7	15	-37	611	0	0	0
65	SLD 8	16	-34	611	0	0	0
65	SLD 9	16	13	646	0	0	0
65	SLD 10	16	15	646	0	0	0
65	SLD 11	-5	-35	634	0	0	0
65	SLD 12	-4	-32	634	0	0	0
65	SLD 13	-15	-2	668	0	0	0
65	SLD 14	-14	2	669	0	0	0
65	SLD 15	-21	-17	664	0	0	0
65	SLD 16	-21	-12	665	0	0	0
65	SLV 1	73	-8	573	0	0	0
65	SLV 2	74	-1	573	0	0	0
65	SLV 3	62	-32	566	0	0	0
65	SLV 4	63	-25	567	0	0	0
65	SLV 5	49	26	622	0	0	0
65	SLV 6	49	30	622	0	0	0
65	SLV 7	13	-55	600	0	0	0
65	SLV 8	14	-51	600	0	0	0
65	SLV 9	17	29	657	0	0	0
65	SLV 10	18	33	657	0	0	0
65	SLV 11	-18	-52	635	0	0	0
65	SLV 12	-17	-48	636	0	0	0
65	SLV 13	-32	3	691	0	0	0
65	SLV 14	-31	10	691	0	0	0
65	SLV 15	-43	-21	684	0	0	0
65	SLV 16	-41	-14	685	0	0	0
65	SLV FO 1	78	-7	567	0	0	0
65	SLV FO 2	80	0	567	0	0	0
65	SLV FO 3	67	-34	560	0	0	0
65	SLV FO 4	68	-27	560	0	0	0
65	SLV FO 5	52	29	621	0	0	0
65	SLV FO 6	53	34	621	0	0	0
65	SLV FO 7	13	-60	597	0	0	0
65	SLV FO 8	14	-55	597	0	0	0
65	SLV FO 9	17	33	660	0	0	0
65	SLV FO 10	18	38	660	0	0	0
65	SLV FO 11	-21	-56	636	0	0	0
65	SLV FO 12	-20	-51	636	0	0	0
65	SLV FO 13	-37	5	697	0	0	0
65	SLV FO 14	-36	12	697	0	0	0
65	SLV FO 15	-48	-22	690	0	0	0
65	SLV FO 16	-47	-15	690	0	0	0
66	SLU 1	18	-16	701	0	0	0
66	SLU 2	19	-15	700	0	0	0
66	SLU 3	18	-16	717	0	0	0
66	SLU 4	19	-15	716	0	0	0
66	SLU 5	19	-14	711	0	0	0
66	SLU 6	18	-15	727	0	0	0
66	SLU 7	19	-14	727	0	0	0
66	SLU 8	18	-16	722	0	0	0
66	SLU 9	19	-14	721	0	0	0
66	SLU 10	20	-16	792	0	0	0
66	SLU 11	19	-17	808	0	0	0
66	SLU 12	20	-16	808	0	0	0
66	SLU 13	20	-15	802	0	0	0
66	SLU 14	20	-17	819	0	0	0
66	SLU 15	20	-16	818	0	0	0
66	SLU 16	19	-17	813	0	0	0
66	SLU 17	20	-16	813	0	0	0
66	SLU 18	20	-18	832	0	0	0
66	SLU 19	20	-17	831	0	0	0
66	SLU 20	20	-18	842	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
66	SLU 21	20	-17	842	0	0	0
66	SLU 22	21	-15	808	0	0	0
66	SLU 23	21	-13	808	0	0	0
66	SLU 24	21	-15	824	0	0	0
66	SLU 25	22	-14	824	0	0	0
66	SLU 26	22	-13	818	0	0	0
66	SLU 27	21	-14	834	0	0	0
66	SLU 28	22	-13	834	0	0	0
66	SLU 29	21	-14	829	0	0	0
66	SLU 30	21	-13	829	0	0	0
66	SLU 31	23	-15	899	0	0	0
66	SLU 32	22	-16	915	0	0	0
66	SLU 33	23	-15	915	0	0	0
66	SLU 34	23	-14	909	0	0	0
66	SLU 35	22	-16	926	0	0	0
66	SLU 36	23	-15	925	0	0	0
66	SLU 37	22	-16	920	0	0	0
66	SLU 38	22	-15	920	0	0	0
66	SLU 39	22	-17	939	0	0	0
66	SLU 40	23	-16	938	0	0	0
66	SLU 41	23	-17	949	0	0	0
66	SLU 42	23	-16	949	0	0	0
66	SLU 43	23	-22	875	0	0	0
66	SLU 44	23	-20	874	0	0	0
66	SLU 45	23	-21	890	0	0	0
66	SLU 46	23	-20	890	0	0	0
66	SLU 47	23	-19	884	0	0	0
66	SLU 48	23	-21	901	0	0	0
66	SLU 49	23	-20	900	0	0	0
66	SLU 50	23	-21	895	0	0	0
66	SLU 51	23	-20	895	0	0	0
66	SLU 52	24	-21	965	0	0	0
66	SLU 53	24	-22	982	0	0	0
66	SLU 54	24	-21	981	0	0	0
66	SLU 55	24	-21	976	0	0	0
66	SLU 56	24	-22	992	0	0	0
66	SLU 57	24	-21	992	0	0	0
66	SLU 58	24	-22	987	0	0	0
66	SLU 59	24	-21	986	0	0	0
66	SLU 60	24	-24	1005	0	0	0
66	SLU 61	24	-22	1005	0	0	0
66	SLU 62	24	-23	1016	0	0	0
66	SLU 63	24	-22	1015	0	0	0
66	SLU 64	25	-21	982	0	0	0
66	SLU 65	26	-19	981	0	0	0
66	SLU 66	26	-20	998	0	0	0
66	SLU 67	26	-19	997	0	0	0
66	SLU 68	26	-18	992	0	0	0
66	SLU 69	26	-20	1008	0	0	0
66	SLU 70	26	-19	1008	0	0	0
66	SLU 71	26	-20	1002	0	0	0
66	SLU 72	26	-19	1002	0	0	0
66	SLU 73	27	-20	1073	0	0	0
66	SLU 74	27	-21	1089	0	0	0
66	SLU 75	27	-20	1089	0	0	0
66	SLU 76	27	-20	1083	0	0	0
66	SLU 77	27	-21	1099	0	0	0
66	SLU 78	27	-20	1099	0	0	0
66	SLU 79	27	-21	1094	0	0	0
66	SLU 80	27	-20	1094	0	0	0
66	SLU 81	27	-22	1112	0	0	0
66	SLU 82	27	-21	1112	0	0	0
66	SLU 83	27	-22	1123	0	0	0
66	SLU 84	27	-21	1122	0	0	0
66	SLE RA 1	19	-16	732	0	0	0
66	SLE RA 2	19	-15	731	0	0	0
66	SLE RA 3	19	-16	742	0	0	0
66	SLE RA 4	19	-15	742	0	0	0
66	SLE RA 5	19	-15	738	0	0	0
66	SLE RA 6	19	-15	749	0	0	0
66	SLE RA 7	19	-15	749	0	0	0
66	SLE RA 8	19	-16	745	0	0	0
66	SLE RA 9	19	-15	745	0	0	0
66	SLE RA 10	20	-16	792	0	0	0
66	SLE RA 11	20	-17	803	0	0	0
66	SLE RA 12	20	-16	803	0	0	0
66	SLE RA 13	20	-15	799	0	0	0
66	SLE RA 14	20	-16	810	0	0	0
66	SLE RA 15	20	-16	810	0	0	0
66	SLE RA 16	20	-16	806	0	0	0
66	SLE RA 17	20	-16	806	0	0	0
66	SLE RA 18	20	-17	819	0	0	0
66	SLE RA 19	20	-17	818	0	0	0
66	SLE RA 20	20	-17	826	0	0	0
66	SLE RA 21	20	-16	825	0	0	0
66	SLE FR 1	19	-16	732	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
66	SLE FR 2	19	-16	732	0	0	0
66	SLE FR 3	19	-16	734	0	0	0
66	SLE FR 4	19	-16	758	0	0	0
66	SLE FR 5	19	-16	761	0	0	0
66	SLE FR 6	19	-17	775	0	0	0
66	SLE QP 1	19	-16	732	0	0	0
66	SLE QP 2	19	-16	758	0	0	0
66	SLD 1	64	-12	726	0	0	0
66	SLD 2	65	-8	726	0	0	0
66	SLD 3	56	-31	729	0	0	0
66	SLD 4	57	-27	729	0	0	0
66	SLD 5	44	13	744	0	0	0
66	SLD 6	44	15	744	0	0	0
66	SLD 7	19	-50	754	0	0	0
66	SLD 8	19	-48	754	0	0	0
66	SLD 9	19	15	762	0	0	0
66	SLD 10	20	17	762	0	0	0
66	SLD 11	-6	-48	772	0	0	0
66	SLD 12	-5	-46	772	0	0	0
66	SLD 13	-19	-6	786	0	0	0
66	SLD 14	-18	-2	787	0	0	0
66	SLD 15	-26	-24	789	0	0	0
66	SLD 16	-25	-21	790	0	0	0
66	SLV 1	89	-8	708	0	0	0
66	SLV 2	91	-2	708	0	0	0
66	SLV 3	76	-40	713	0	0	0
66	SLV 4	78	-35	713	0	0	0
66	SLV 5	60	34	735	0	0	0
66	SLV 6	61	38	735	0	0	0
66	SLV 7	17	-73	752	0	0	0
66	SLV 8	17	-70	752	0	0	0
66	SLV 9	21	37	763	0	0	0
66	SLV 10	22	41	764	0	0	0
66	SLV 11	-22	-71	780	0	0	0
66	SLV 12	-21	-67	780	0	0	0
66	SLV 13	-39	2	802	0	0	0
66	SLV 14	-38	8	803	0	0	0
66	SLV 15	-52	-30	807	0	0	0
66	SLV 16	-51	-25	808	0	0	0
66	SLV FO 1	96	-7	703	0	0	0
66	SLV FO 2	98	-1	703	0	0	0
66	SLV FO 3	82	-43	708	0	0	0
66	SLV FO 4	84	-36	709	0	0	0
66	SLV FO 5	64	39	733	0	0	0
66	SLV FO 6	65	43	733	0	0	0
66	SLV FO 7	16	-79	751	0	0	0
66	SLV FO 8	17	-75	752	0	0	0
66	SLV FO 9	21	42	764	0	0	0
66	SLV FO 10	22	46	764	0	0	0
66	SLV FO 11	-26	-76	782	0	0	0
66	SLV FO 12	-25	-72	783	0	0	0
66	SLV FO 13	-45	4	807	0	0	0
66	SLV FO 14	-44	10	807	0	0	0
66	SLV FO 15	-60	-32	812	0	0	0
66	SLV FO 16	-58	-26	813	0	0	0
67	SLU 1	18	-17	686	0	0	0
67	SLU 2	18	-15	685	0	0	0
67	SLU 3	18	-17	702	0	0	0
67	SLU 4	18	-16	701	0	0	0
67	SLU 5	19	-15	696	0	0	0
67	SLU 6	18	-16	712	0	0	0
67	SLU 7	19	-15	711	0	0	0
67	SLU 8	18	-16	707	0	0	0
67	SLU 9	18	-15	706	0	0	0
67	SLU 10	19	-17	775	0	0	0
67	SLU 11	19	-18	792	0	0	0
67	SLU 12	20	-17	791	0	0	0
67	SLU 13	20	-16	786	0	0	0
67	SLU 14	19	-18	802	0	0	0
67	SLU 15	20	-17	801	0	0	0
67	SLU 16	19	-18	797	0	0	0
67	SLU 17	19	-17	796	0	0	0
67	SLU 18	19	-19	815	0	0	0
67	SLU 19	20	-18	814	0	0	0
67	SLU 20	19	-19	825	0	0	0
67	SLU 21	20	-18	824	0	0	0
67	SLU 22	21	-16	791	0	0	0
67	SLU 23	21	-14	790	0	0	0
67	SLU 24	21	-16	807	0	0	0
67	SLU 25	21	-15	806	0	0	0
67	SLU 26	21	-14	801	0	0	0
67	SLU 27	21	-15	817	0	0	0
67	SLU 28	21	-14	816	0	0	0
67	SLU 29	21	-15	812	0	0	0
67	SLU 30	21	-14	811	0	0	0
67	SLU 31	22	-16	880	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
67	SLU 32	22	-17	897	0	0	0
67	SLU 33	22	-16	896	0	0	0
67	SLU 34	22	-15	891	0	0	0
67	SLU 35	22	-17	907	0	0	0
67	SLU 36	22	-16	906	0	0	0
67	SLU 37	22	-17	901	0	0	0
67	SLU 38	22	-16	901	0	0	0
67	SLU 39	22	-18	920	0	0	0
67	SLU 40	23	-17	919	0	0	0
67	SLU 41	22	-18	930	0	0	0
67	SLU 42	23	-17	929	0	0	0
67	SLU 43	22	-23	856	0	0	0
67	SLU 44	23	-21	855	0	0	0
67	SLU 45	23	-22	872	0	0	0
67	SLU 46	23	-21	871	0	0	0
67	SLU 47	23	-21	866	0	0	0
67	SLU 48	23	-22	882	0	0	0
67	SLU 49	23	-21	881	0	0	0
67	SLU 50	22	-22	876	0	0	0
67	SLU 51	23	-21	876	0	0	0
67	SLU 52	24	-22	945	0	0	0
67	SLU 53	24	-24	962	0	0	0
67	SLU 54	24	-23	961	0	0	0
67	SLU 55	24	-22	955	0	0	0
67	SLU 56	24	-23	972	0	0	0
67	SLU 57	24	-22	971	0	0	0
67	SLU 58	24	-23	966	0	0	0
67	SLU 59	24	-22	966	0	0	0
67	SLU 60	24	-25	985	0	0	0
67	SLU 61	24	-24	984	0	0	0
67	SLU 62	24	-24	995	0	0	0
67	SLU 63	24	-23	994	0	0	0
67	SLU 64	25	-22	961	0	0	0
67	SLU 65	26	-20	960	0	0	0
67	SLU 66	25	-21	977	0	0	0
67	SLU 67	26	-20	976	0	0	0
67	SLU 68	26	-19	970	0	0	0
67	SLU 69	25	-21	987	0	0	0
67	SLU 70	26	-20	986	0	0	0
67	SLU 71	25	-21	981	0	0	0
67	SLU 72	26	-20	981	0	0	0
67	SLU 73	27	-21	1050	0	0	0
67	SLU 74	26	-23	1066	0	0	0
67	SLU 75	27	-21	1066	0	0	0
67	SLU 76	27	-21	1060	0	0	0
67	SLU 77	26	-22	1077	0	0	0
67	SLU 78	27	-21	1076	0	0	0
67	SLU 79	26	-22	1071	0	0	0
67	SLU 80	27	-21	1071	0	0	0
67	SLU 81	27	-24	1089	0	0	0
67	SLU 82	27	-23	1089	0	0	0
67	SLU 83	27	-23	1100	0	0	0
67	SLU 84	27	-22	1099	0	0	0
67	SLE RA 1	19	-17	716	0	0	0
67	SLE RA 2	19	-16	716	0	0	0
67	SLE RA 3	19	-17	727	0	0	0
67	SLE RA 4	19	-16	726	0	0	0
67	SLE RA 5	19	-15	722	0	0	0
67	SLE RA 6	19	-16	733	0	0	0
67	SLE RA 7	19	-16	733	0	0	0
67	SLE RA 8	19	-16	730	0	0	0
67	SLE RA 9	19	-16	729	0	0	0
67	SLE RA 10	20	-17	776	0	0	0
67	SLE RA 11	20	-17	786	0	0	0
67	SLE RA 12	20	-17	786	0	0	0
67	SLE RA 13	20	-16	782	0	0	0
67	SLE RA 14	20	-17	793	0	0	0
67	SLE RA 15	20	-17	793	0	0	0
67	SLE RA 16	20	-17	790	0	0	0
67	SLE RA 17	20	-17	789	0	0	0
67	SLE RA 18	20	-18	802	0	0	0
67	SLE RA 19	20	-17	802	0	0	0
67	SLE RA 20	20	-18	809	0	0	0
67	SLE RA 21	20	-17	808	0	0	0
67	SLE FR 1	19	-17	716	0	0	0
67	SLE FR 2	19	-17	716	0	0	0
67	SLE FR 3	19	-17	719	0	0	0
67	SLE FR 4	19	-17	742	0	0	0
67	SLE FR 5	19	-17	745	0	0	0
67	SLE FR 6	19	-18	759	0	0	0
67	SLE QP 1	19	-17	716	0	0	0
67	SLE QP 2	19	-17	742	0	0	0
67	SLD 1	63	-12	715	0	0	0
67	SLD 2	64	-9	715	0	0	0
67	SLD 3	55	-31	721	0	0	0
67	SLD 4	56	-28	721	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
67	SLD 5	43	13	725	0	0	0
67	SLD 6	44	15	725	0	0	0
67	SLD 7	18	-51	744	0	0	0
67	SLD 8	19	-49	744	0	0	0
67	SLD 9	19	14	739	0	0	0
67	SLD 10	20	16	739	0	0	0
67	SLD 11	-6	-49	759	0	0	0
67	SLD 12	-5	-47	759	0	0	0
67	SLD 13	-18	-6	763	0	0	0
67	SLD 14	-17	-4	763	0	0	0
67	SLD 15	-26	-26	769	0	0	0
67	SLD 16	-25	-23	769	0	0	0
67	SLV 1	88	-8	700	0	0	0
67	SLV 2	90	-3	700	0	0	0
67	SLV 3	75	-40	710	0	0	0
67	SLV 4	77	-36	710	0	0	0
67	SLV 5	59	34	714	0	0	0
67	SLV 6	60	37	714	0	0	0
67	SLV 7	16	-75	747	0	0	0
67	SLV 8	17	-71	747	0	0	0
67	SLV 9	21	37	737	0	0	0
67	SLV 10	22	40	737	0	0	0
67	SLV 11	-22	-72	769	0	0	0
67	SLV 12	-21	-69	770	0	0	0
67	SLV 13	-39	1	774	0	0	0
67	SLV 14	-37	6	774	0	0	0
67	SLV 15	-52	-32	784	0	0	0
67	SLV 16	-50	-27	784	0	0	0
67	SLV FO 1	95	-7	695	0	0	0
67	SLV FO 2	97	-1	696	0	0	0
67	SLV FO 3	81	-43	706	0	0	0
67	SLV FO 4	83	-37	706	0	0	0
67	SLV FO 5	63	39	711	0	0	0
67	SLV FO 6	64	43	712	0	0	0
67	SLV FO 7	16	-80	748	0	0	0
67	SLV FO 8	17	-77	748	0	0	0
67	SLV FO 9	21	42	736	0	0	0
67	SLV FO 10	22	46	736	0	0	0
67	SLV FO 11	-26	-77	772	0	0	0
67	SLV FO 12	-25	-74	772	0	0	0
67	SLV FO 13	-45	3	777	0	0	0
67	SLV FO 14	-43	8	777	0	0	0
67	SLV FO 15	-59	-33	788	0	0	0
67	SLV FO 16	-57	-28	788	0	0	0
68	SLU 1	18	-18	667	0	0	0
68	SLU 2	18	-16	666	0	0	0
68	SLU 3	18	-17	683	0	0	0
68	SLU 4	18	-16	682	0	0	0
68	SLU 5	18	-16	676	0	0	0
68	SLU 6	18	-17	693	0	0	0
68	SLU 7	18	-16	692	0	0	0
68	SLU 8	18	-17	687	0	0	0
68	SLU 9	18	-16	687	0	0	0
68	SLU 10	19	-17	754	0	0	0
68	SLU 11	19	-19	771	0	0	0
68	SLU 12	19	-18	770	0	0	0
68	SLU 13	19	-17	764	0	0	0
68	SLU 14	19	-18	781	0	0	0
68	SLU 15	19	-17	780	0	0	0
68	SLU 16	19	-18	775	0	0	0
68	SLU 17	19	-17	775	0	0	0
68	SLU 18	19	-20	793	0	0	0
68	SLU 19	19	-19	792	0	0	0
68	SLU 20	19	-19	803	0	0	0
68	SLU 21	19	-18	802	0	0	0
68	SLU 22	20	-17	770	0	0	0
68	SLU 23	21	-15	769	0	0	0
68	SLU 24	21	-16	785	0	0	0
68	SLU 25	21	-15	784	0	0	0
68	SLU 26	21	-15	779	0	0	0
68	SLU 27	21	-16	795	0	0	0
68	SLU 28	21	-15	794	0	0	0
68	SLU 29	20	-16	790	0	0	0
68	SLU 30	21	-15	789	0	0	0
68	SLU 31	22	-16	857	0	0	0
68	SLU 32	22	-18	873	0	0	0
68	SLU 33	22	-17	872	0	0	0
68	SLU 34	22	-16	866	0	0	0
68	SLU 35	22	-17	883	0	0	0
68	SLU 36	22	-16	882	0	0	0
68	SLU 37	21	-17	877	0	0	0
68	SLU 38	22	-16	877	0	0	0
68	SLU 39	22	-19	895	0	0	0
68	SLU 40	22	-18	895	0	0	0
68	SLU 41	22	-18	905	0	0	0
68	SLU 42	22	-17	905	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
68	SLU 43	22	-24	833	0	0	0
68	SLU 44	22	-22	832	0	0	0
68	SLU 45	22	-23	848	0	0	0
68	SLU 46	22	-22	847	0	0	0
68	SLU 47	22	-21	842	0	0	0
68	SLU 48	22	-23	858	0	0	0
68	SLU 49	22	-22	857	0	0	0
68	SLU 50	22	-23	853	0	0	0
68	SLU 51	22	-22	852	0	0	0
68	SLU 52	23	-23	920	0	0	0
68	SLU 53	23	-24	936	0	0	0
68	SLU 54	23	-23	935	0	0	0
68	SLU 55	23	-23	930	0	0	0
68	SLU 56	23	-24	946	0	0	0
68	SLU 57	24	-23	945	0	0	0
68	SLU 58	23	-24	941	0	0	0
68	SLU 59	23	-23	940	0	0	0
68	SLU 60	23	-26	958	0	0	0
68	SLU 61	24	-24	958	0	0	0
68	SLU 62	23	-25	968	0	0	0
68	SLU 63	24	-24	968	0	0	0
68	SLU 64	25	-23	935	0	0	0
68	SLU 65	25	-21	934	0	0	0
68	SLU 66	25	-22	950	0	0	0
68	SLU 67	25	-21	949	0	0	0
68	SLU 68	25	-20	944	0	0	0
68	SLU 69	25	-22	960	0	0	0
68	SLU 70	25	-21	959	0	0	0
68	SLU 71	25	-22	955	0	0	0
68	SLU 72	25	-21	954	0	0	0
68	SLU 73	26	-22	1022	0	0	0
68	SLU 74	26	-24	1038	0	0	0
68	SLU 75	26	-22	1037	0	0	0
68	SLU 76	26	-22	1032	0	0	0
68	SLU 77	26	-23	1048	0	0	0
68	SLU 78	26	-22	1047	0	0	0
68	SLU 79	26	-23	1043	0	0	0
68	SLU 80	26	-22	1042	0	0	0
68	SLU 81	26	-25	1060	0	0	0
68	SLU 82	26	-24	1060	0	0	0
68	SLU 83	26	-24	1070	0	0	0
68	SLU 84	26	-23	1070	0	0	0
68	SLE RA 1	18	-18	697	0	0	0
68	SLE RA 2	19	-16	696	0	0	0
68	SLE RA 3	18	-17	707	0	0	0
68	SLE RA 4	19	-17	706	0	0	0
68	SLE RA 5	19	-16	703	0	0	0
68	SLE RA 6	19	-17	713	0	0	0
68	SLE RA 7	19	-16	713	0	0	0
68	SLE RA 8	18	-17	710	0	0	0
68	SLE RA 9	19	-16	710	0	0	0
68	SLE RA 10	19	-17	755	0	0	0
68	SLE RA 11	19	-18	765	0	0	0
68	SLE RA 12	19	-17	765	0	0	0
68	SLE RA 13	19	-17	761	0	0	0
68	SLE RA 14	19	-18	772	0	0	0
68	SLE RA 15	19	-17	772	0	0	0
68	SLE RA 16	19	-18	769	0	0	0
68	SLE RA 17	19	-17	768	0	0	0
68	SLE RA 18	19	-19	780	0	0	0
68	SLE RA 19	19	-18	780	0	0	0
68	SLE RA 20	19	-19	787	0	0	0
68	SLE RA 21	20	-18	787	0	0	0
68	SLE FR 1	18	-18	697	0	0	0
68	SLE FR 2	18	-17	697	0	0	0
68	SLE FR 3	18	-17	699	0	0	0
68	SLE FR 4	19	-18	722	0	0	0
68	SLE FR 5	19	-18	724	0	0	0
68	SLE FR 6	19	-18	739	0	0	0
68	SLE QP 1	18	-18	697	0	0	0
68	SLE QP 2	19	-18	722	0	0	0
68	SLD 1	62	-12	700	0	0	0
68	SLD 2	62	-9	700	0	0	0
68	SLD 3	54	-31	709	0	0	0
68	SLD 4	55	-29	709	0	0	0
68	SLD 5	42	13	702	0	0	0
68	SLD 6	43	14	702	0	0	0
68	SLD 7	18	-51	731	0	0	0
68	SLD 8	19	-50	731	0	0	0
68	SLD 9	19	14	712	0	0	0
68	SLD 10	19	16	712	0	0	0
68	SLD 11	-6	-50	742	0	0	0
68	SLD 12	-5	-49	742	0	0	0
68	SLD 13	-18	-7	735	0	0	0
68	SLD 14	-17	-5	735	0	0	0
68	SLD 15	-25	-26	744	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
68	SLD 16	-24	-24	744	0	0	0
68	SLV 1	86	-7	687	0	0	0
68	SLV 2	88	-3	687	0	0	0
68	SLV 3	74	-40	702	0	0	0
68	SLV 4	75	-36	702	0	0	0
68	SLV 5	58	34	688	0	0	0
68	SLV 6	59	37	688	0	0	0
68	SLV 7	16	-75	739	0	0	0
68	SLV 8	17	-72	739	0	0	0
68	SLV 9	20	37	705	0	0	0
68	SLV 10	21	39	705	0	0	0
68	SLV 11	-21	-73	755	0	0	0
68	SLV 12	-21	-70	755	0	0	0
68	SLV 13	-38	0	742	0	0	0
68	SLV 14	-37	4	742	0	0	0
68	SLV 15	-51	-33	757	0	0	0
68	SLV 16	-49	-29	757	0	0	0
68	SLV FO 1	93	-6	683	0	0	0
68	SLV FO 2	95	-2	683	0	0	0
68	SLV FO 3	79	-42	700	0	0	0
68	SLV FO 4	81	-38	700	0	0	0
68	SLV FO 5	62	40	685	0	0	0
68	SLV FO 6	63	42	685	0	0	0
68	SLV FO 7	16	-81	740	0	0	0
68	SLV FO 8	17	-78	740	0	0	0
68	SLV FO 9	21	42	703	0	0	0
68	SLV FO 10	22	45	703	0	0	0
68	SLV FO 11	-25	-78	758	0	0	0
68	SLV FO 12	-24	-76	758	0	0	0
68	SLV FO 13	-44	2	744	0	0	0
68	SLV FO 14	-42	6	744	0	0	0
68	SLV FO 15	-58	-34	760	0	0	0
68	SLV FO 16	-56	-30	760	0	0	0
69	SLU 1	17	-18	641	0	0	0
69	SLU 2	17	-16	640	0	0	0
69	SLU 3	17	-18	656	0	0	0
69	SLU 4	17	-17	655	0	0	0
69	SLU 5	17	-16	650	0	0	0
69	SLU 6	17	-17	665	0	0	0
69	SLU 7	18	-16	665	0	0	0
69	SLU 8	17	-17	660	0	0	0
69	SLU 9	17	-16	660	0	0	0
69	SLU 10	18	-18	725	0	0	0
69	SLU 11	18	-19	741	0	0	0
69	SLU 12	18	-18	740	0	0	0
69	SLU 13	18	-17	734	0	0	0
69	SLU 14	18	-19	750	0	0	0
69	SLU 15	19	-18	750	0	0	0
69	SLU 16	18	-19	745	0	0	0
69	SLU 17	18	-18	745	0	0	0
69	SLU 18	18	-20	762	0	0	0
69	SLU 19	19	-19	762	0	0	0
69	SLU 20	18	-20	772	0	0	0
69	SLU 21	19	-19	771	0	0	0
69	SLU 22	20	-17	739	0	0	0
69	SLU 23	20	-16	738	0	0	0
69	SLU 24	20	-17	754	0	0	0
69	SLU 25	20	-16	753	0	0	0
69	SLU 26	20	-15	748	0	0	0
69	SLU 27	20	-16	764	0	0	0
69	SLU 28	20	-15	763	0	0	0
69	SLU 29	20	-17	759	0	0	0
69	SLU 30	20	-15	758	0	0	0
69	SLU 31	21	-17	823	0	0	0
69	SLU 32	21	-18	839	0	0	0
69	SLU 33	21	-17	838	0	0	0
69	SLU 34	21	-17	833	0	0	0
69	SLU 35	21	-18	849	0	0	0
69	SLU 36	21	-17	848	0	0	0
69	SLU 37	21	-18	844	0	0	0
69	SLU 38	21	-17	843	0	0	0
69	SLU 39	21	-19	861	0	0	0
69	SLU 40	21	-18	860	0	0	0
69	SLU 41	21	-19	870	0	0	0
69	SLU 42	21	-18	870	0	0	0
69	SLU 43	21	-24	800	0	0	0
69	SLU 44	22	-22	799	0	0	0
69	SLU 45	21	-24	814	0	0	0
69	SLU 46	22	-22	814	0	0	0
69	SLU 47	22	-22	808	0	0	0
69	SLU 48	21	-23	824	0	0	0
69	SLU 49	22	-22	823	0	0	0
69	SLU 50	21	-23	819	0	0	0
69	SLU 51	22	-22	818	0	0	0
69	SLU 52	23	-24	883	0	0	0
69	SLU 53	22	-25	899	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
69	SLU 54	23	-24	899	0	0	0
69	SLU 55	23	-23	893	0	0	0
69	SLU 56	22	-25	909	0	0	0
69	SLU 57	23	-24	908	0	0	0
69	SLU 58	22	-25	904	0	0	0
69	SLU 59	22	-24	903	0	0	0
69	SLU 60	22	-26	921	0	0	0
69	SLU 61	23	-25	920	0	0	0
69	SLU 62	23	-26	931	0	0	0
69	SLU 63	23	-25	930	0	0	0
69	SLU 64	24	-23	898	0	0	0
69	SLU 65	24	-21	897	0	0	0
69	SLU 66	24	-23	913	0	0	0
69	SLU 67	24	-22	912	0	0	0
69	SLU 68	24	-21	906	0	0	0
69	SLU 69	24	-22	922	0	0	0
69	SLU 70	24	-21	922	0	0	0
69	SLU 71	24	-22	917	0	0	0
69	SLU 72	24	-21	917	0	0	0
69	SLU 73	25	-23	982	0	0	0
69	SLU 74	25	-24	997	0	0	0
69	SLU 75	25	-23	997	0	0	0
69	SLU 76	25	-22	991	0	0	0
69	SLU 77	25	-24	1007	0	0	0
69	SLU 78	25	-23	1006	0	0	0
69	SLU 79	25	-24	1002	0	0	0
69	SLU 80	25	-23	1001	0	0	0
69	SLU 81	25	-25	1019	0	0	0
69	SLU 82	25	-24	1018	0	0	0
69	SLU 83	25	-25	1029	0	0	0
69	SLU 84	25	-24	1028	0	0	0
69	SLE RA 1	18	-18	669	0	0	0
69	SLE RA 2	18	-17	668	0	0	0
69	SLE RA 3	18	-18	679	0	0	0
69	SLE RA 4	18	-17	678	0	0	0
69	SLE RA 5	18	-17	675	0	0	0
69	SLE RA 6	18	-17	685	0	0	0
69	SLE RA 7	18	-17	685	0	0	0
69	SLE RA 8	18	-17	682	0	0	0
69	SLE RA 9	18	-17	682	0	0	0
69	SLE RA 10	19	-18	725	0	0	0
69	SLE RA 11	18	-19	736	0	0	0
69	SLE RA 12	19	-18	735	0	0	0
69	SLE RA 13	19	-17	731	0	0	0
69	SLE RA 14	19	-18	742	0	0	0
69	SLE RA 15	19	-18	741	0	0	0
69	SLE RA 16	18	-18	739	0	0	0
69	SLE RA 17	19	-18	738	0	0	0
69	SLE RA 18	19	-19	750	0	0	0
69	SLE RA 19	19	-19	750	0	0	0
69	SLE RA 20	19	-19	756	0	0	0
69	SLE RA 21	19	-18	756	0	0	0
69	SLE FR 1	18	-18	669	0	0	0
69	SLE FR 2	18	-18	669	0	0	0
69	SLE FR 3	18	-18	672	0	0	0
69	SLE FR 4	18	-18	693	0	0	0
69	SLE FR 5	18	-18	696	0	0	0
69	SLE FR 6	18	-19	710	0	0	0
69	SLE QP 1	18	-18	669	0	0	0
69	SLE QP 2	18	-18	693	0	0	0
69	SLD 1	59	-12	676	0	0	0
69	SLD 2	60	-10	676	0	0	0
69	SLD 3	52	-31	688	0	0	0
69	SLD 4	53	-29	688	0	0	0
69	SLD 5	41	12	670	0	0	0
69	SLD 6	42	13	670	0	0	0
69	SLD 7	17	-51	710	0	0	0
69	SLD 8	18	-50	710	0	0	0
69	SLD 9	18	13	677	0	0	0
69	SLD 10	19	14	677	0	0	0
69	SLD 11	-6	-50	717	0	0	0
69	SLD 12	-5	-49	717	0	0	0
69	SLD 13	-17	-8	699	0	0	0
69	SLD 14	-16	-6	699	0	0	0
69	SLD 15	-24	-27	711	0	0	0
69	SLD 16	-24	-25	711	0	0	0
69	SLV 1	83	-7	666	0	0	0
69	SLV 2	85	-4	665	0	0	0
69	SLV 3	71	-39	686	0	0	0
69	SLV 4	73	-36	686	0	0	0
69	SLV 5	56	34	654	0	0	0
69	SLV 6	57	36	654	0	0	0
69	SLV 7	15	-74	722	0	0	0
69	SLV 8	16	-72	722	0	0	0
69	SLV 9	20	36	665	0	0	0
69	SLV 10	21	38	665	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
69	SLV 11	-21	-73	733	0	0	0
69	SLV 12	-20	-71	733	0	0	0
69	SLV 13	-37	0	701	0	0	0
69	SLV 14	-35	2	701	0	0	0
69	SLV 15	-49	-33	722	0	0	0
69	SLV 16	-48	-30	721	0	0	0
69	SLV FO 1	90	-5	663	0	0	0
69	SLV FO 2	91	-2	662	0	0	0
69	SLV FO 3	77	-41	685	0	0	0
69	SLV FO 4	78	-38	685	0	0	0
69	SLV FO 5	60	39	650	0	0	0
69	SLV FO 6	61	41	650	0	0	0
69	SLV FO 7	15	-80	725	0	0	0
69	SLV FO 8	16	-78	725	0	0	0
69	SLV FO 9	20	41	662	0	0	0
69	SLV FO 10	21	43	662	0	0	0
69	SLV FO 11	-25	-78	737	0	0	0
69	SLV FO 12	-24	-76	737	0	0	0
69	SLV FO 13	-42	1	702	0	0	0
69	SLV FO 14	-41	4	702	0	0	0
69	SLV FO 15	-56	-34	724	0	0	0
69	SLV FO 16	-54	-31	724	0	0	0
70	SLU 1	13	-16	491	0	0	0
70	SLU 2	13	-15	490	0	0	0
70	SLU 3	13	-16	502	0	0	0
70	SLU 4	13	-15	501	0	0	0
70	SLU 5	13	-14	497	0	0	0
70	SLU 6	13	-15	510	0	0	0
70	SLU 7	14	-15	509	0	0	0
70	SLU 8	13	-15	506	0	0	0
70	SLU 9	13	-15	505	0	0	0
70	SLU 10	14	-16	555	0	0	0
70	SLU 11	14	-17	568	0	0	0
70	SLU 12	14	-16	567	0	0	0
70	SLU 13	14	-16	563	0	0	0
70	SLU 14	14	-17	576	0	0	0
70	SLU 15	14	-16	575	0	0	0
70	SLU 16	14	-17	572	0	0	0
70	SLU 17	14	-16	571	0	0	0
70	SLU 18	14	-18	585	0	0	0
70	SLU 19	14	-17	584	0	0	0
70	SLU 20	14	-18	593	0	0	0
70	SLU 21	14	-17	592	0	0	0
70	SLU 22	15	-16	566	0	0	0
70	SLU 23	15	-14	565	0	0	0
70	SLU 24	15	-15	578	0	0	0
70	SLU 25	15	-14	577	0	0	0
70	SLU 26	16	-14	573	0	0	0
70	SLU 27	15	-15	585	0	0	0
70	SLU 28	16	-14	585	0	0	0
70	SLU 29	15	-15	582	0	0	0
70	SLU 30	15	-14	581	0	0	0
70	SLU 31	16	-15	631	0	0	0
70	SLU 32	16	-16	644	0	0	0
70	SLU 33	16	-16	643	0	0	0
70	SLU 34	16	-15	638	0	0	0
70	SLU 35	16	-16	651	0	0	0
70	SLU 36	16	-15	650	0	0	0
70	SLU 37	16	-16	648	0	0	0
70	SLU 38	16	-15	647	0	0	0
70	SLU 39	16	-17	661	0	0	0
70	SLU 40	16	-16	660	0	0	0
70	SLU 41	16	-17	668	0	0	0
70	SLU 42	16	-16	667	0	0	0
70	SLU 43	16	-21	612	0	0	0
70	SLU 44	17	-20	611	0	0	0
70	SLU 45	16	-21	624	0	0	0
70	SLU 46	17	-20	623	0	0	0
70	SLU 47	17	-19	619	0	0	0
70	SLU 48	16	-21	631	0	0	0
70	SLU 49	17	-20	630	0	0	0
70	SLU 50	16	-21	628	0	0	0
70	SLU 51	17	-20	627	0	0	0
70	SLU 52	17	-21	677	0	0	0
70	SLU 53	17	-22	690	0	0	0
70	SLU 54	17	-21	689	0	0	0
70	SLU 55	17	-21	684	0	0	0
70	SLU 56	17	-22	697	0	0	0
70	SLU 57	17	-21	696	0	0	0
70	SLU 58	17	-22	693	0	0	0
70	SLU 59	17	-21	693	0	0	0
70	SLU 60	17	-23	707	0	0	0
70	SLU 61	18	-22	706	0	0	0
70	SLU 62	17	-23	714	0	0	0
70	SLU 63	18	-22	713	0	0	0
70	SLU 64	18	-21	688	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
70	SLU 65	19	-19	686	0	0	0
70	SLU 66	18	-20	699	0	0	0
70	SLU 67	19	-19	698	0	0	0
70	SLU 68	19	-19	694	0	0	0
70	SLU 69	19	-20	707	0	0	0
70	SLU 70	19	-19	706	0	0	0
70	SLU 71	18	-20	703	0	0	0
70	SLU 72	19	-19	702	0	0	0
70	SLU 73	19	-20	752	0	0	0
70	SLU 74	19	-21	765	0	0	0
70	SLU 75	19	-21	764	0	0	0
70	SLU 76	19	-20	760	0	0	0
70	SLU 77	19	-21	773	0	0	0
70	SLU 78	20	-20	772	0	0	0
70	SLU 79	19	-21	769	0	0	0
70	SLU 80	19	-20	768	0	0	0
70	SLU 81	19	-22	782	0	0	0
70	SLU 82	20	-21	781	0	0	0
70	SLU 83	19	-22	790	0	0	0
70	SLU 84	20	-21	789	0	0	0
70	SLE RA 1	14	-16	513	0	0	0
70	SLE RA 2	14	-15	512	0	0	0
70	SLE RA 3	14	-16	520	0	0	0
70	SLE RA 4	14	-15	520	0	0	0
70	SLE RA 5	14	-15	517	0	0	0
70	SLE RA 6	14	-16	525	0	0	0
70	SLE RA 7	14	-15	525	0	0	0
70	SLE RA 8	14	-16	523	0	0	0
70	SLE RA 9	14	-15	522	0	0	0
70	SLE RA 10	14	-16	556	0	0	0
70	SLE RA 11	14	-17	564	0	0	0
70	SLE RA 12	14	-16	563	0	0	0
70	SLE RA 13	14	-16	561	0	0	0
70	SLE RA 14	14	-16	569	0	0	0
70	SLE RA 15	14	-16	569	0	0	0
70	SLE RA 16	14	-16	567	0	0	0
70	SLE RA 17	14	-16	566	0	0	0
70	SLE RA 18	14	-17	575	0	0	0
70	SLE RA 19	14	-17	575	0	0	0
70	SLE RA 20	14	-17	580	0	0	0
70	SLE RA 21	15	-16	580	0	0	0
70	SLE FR 1	14	-16	513	0	0	0
70	SLE FR 2	14	-16	512	0	0	0
70	SLE FR 3	14	-16	515	0	0	0
70	SLE FR 4	14	-16	531	0	0	0
70	SLE FR 5	14	-16	533	0	0	0
70	SLE FR 6	14	-17	544	0	0	0
70	SLE QP 1	14	-16	513	0	0	0
70	SLE QP 2	14	-16	531	0	0	0
70	SLD 1	46	-10	529	0	0	0
70	SLD 2	47	-9	528	0	0	0
70	SLD 3	41	-25	545	0	0	0
70	SLD 4	41	-25	544	0	0	0
70	SLD 5	32	10	506	0	0	0
70	SLD 6	32	10	506	0	0	0
70	SLD 7	13	-43	560	0	0	0
70	SLD 8	14	-43	559	0	0	0
70	SLD 9	14	10	503	0	0	0
70	SLD 10	14	10	503	0	0	0
70	SLD 11	-5	-42	556	0	0	0
70	SLD 12	-4	-42	556	0	0	0
70	SLD 13	-13	-7	518	0	0	0
70	SLD 14	-13	-7	518	0	0	0
70	SLD 15	-19	-23	534	0	0	0
70	SLD 16	-19	-23	534	0	0	0
70	SLV 1	65	-5	527	0	0	0
70	SLV 2	66	-5	526	0	0	0
70	SLV 3	55	-32	554	0	0	0
70	SLV 4	56	-31	553	0	0	0
70	SLV 5	44	28	489	0	0	0
70	SLV 6	44	28	489	0	0	0
70	SLV 7	12	-62	579	0	0	0
70	SLV 8	12	-62	579	0	0	0
70	SLV 9	15	29	484	0	0	0
70	SLV 10	16	29	483	0	0	0
70	SLV 11	-16	-61	574	0	0	0
70	SLV 12	-16	-61	574	0	0	0
70	SLV 13	-29	-1	509	0	0	0
70	SLV 14	-28	-1	509	0	0	0
70	SLV 15	-38	-28	537	0	0	0
70	SLV 16	-37	-28	536	0	0	0
70	SLV FO 1	70	-4	526	0	0	0
70	SLV FO 2	71	-3	526	0	0	0
70	SLV FO 3	59	-33	556	0	0	0
70	SLV FO 4	60	-33	555	0	0	0
70	SLV FO 5	46	32	485	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
70	SLV FO 6	47	33	484	0	0	0
70	SLV FO 7	11	-66	584	0	0	0
70	SLV FO 8	12	-66	584	0	0	0
70	SLV FO 9	16	34	479	0	0	0
70	SLV FO 10	16	34	479	0	0	0
70	SLV FO 11	-19	-65	578	0	0	0
70	SLV FO 12	-19	-65	578	0	0	0
70	SLV FO 13	-33	0	507	0	0	0
70	SLV FO 14	-32	1	507	0	0	0
70	SLV FO 15	-43	-29	537	0	0	0
70	SLV FO 16	-42	-29	537	0	0	0
71	SLU 1	22	-25	829	0	0	0
71	SLU 2	22	-23	827	0	0	0
71	SLU 3	22	-24	848	0	0	0
71	SLU 4	23	-23	847	0	0	0
71	SLU 5	23	-22	840	0	0	0
71	SLU 6	22	-24	861	0	0	0
71	SLU 7	23	-22	860	0	0	0
71	SLU 8	22	-24	854	0	0	0
71	SLU 9	22	-23	853	0	0	0
71	SLU 10	24	-25	937	0	0	0
71	SLU 11	23	-26	958	0	0	0
71	SLU 12	24	-25	957	0	0	0
71	SLU 13	24	-24	950	0	0	0
71	SLU 14	24	-26	971	0	0	0
71	SLU 15	24	-24	970	0	0	0
71	SLU 16	23	-26	965	0	0	0
71	SLU 17	24	-24	964	0	0	0
71	SLU 18	24	-28	987	0	0	0
71	SLU 19	24	-26	985	0	0	0
71	SLU 20	24	-27	999	0	0	0
71	SLU 21	24	-26	998	0	0	0
71	SLU 22	25	-24	956	0	0	0
71	SLU 23	26	-22	954	0	0	0
71	SLU 24	26	-23	975	0	0	0
71	SLU 25	26	-22	974	0	0	0
71	SLU 26	26	-21	967	0	0	0
71	SLU 27	26	-23	988	0	0	0
71	SLU 28	26	-21	987	0	0	0
71	SLU 29	26	-23	982	0	0	0
71	SLU 30	26	-21	981	0	0	0
71	SLU 31	27	-23	1065	0	0	0
71	SLU 32	27	-25	1086	0	0	0
71	SLU 33	27	-24	1085	0	0	0
71	SLU 34	27	-23	1077	0	0	0
71	SLU 35	27	-25	1099	0	0	0
71	SLU 36	27	-23	1097	0	0	0
71	SLU 37	27	-25	1092	0	0	0
71	SLU 38	27	-23	1091	0	0	0
71	SLU 39	27	-27	1114	0	0	0
71	SLU 40	28	-25	1113	0	0	0
71	SLU 41	27	-26	1127	0	0	0
71	SLU 42	28	-25	1126	0	0	0
71	SLU 43	27	-33	1034	0	0	0
71	SLU 44	28	-30	1032	0	0	0
71	SLU 45	27	-32	1053	0	0	0
71	SLU 46	28	-31	1052	0	0	0
71	SLU 47	28	-30	1045	0	0	0
71	SLU 48	28	-32	1066	0	0	0
71	SLU 49	28	-30	1065	0	0	0
71	SLU 50	27	-32	1059	0	0	0
71	SLU 51	28	-30	1058	0	0	0
71	SLU 52	29	-32	1142	0	0	0
71	SLU 53	29	-34	1164	0	0	0
71	SLU 54	29	-33	1162	0	0	0
71	SLU 55	29	-32	1155	0	0	0
71	SLU 56	29	-34	1176	0	0	0
71	SLU 57	29	-32	1175	0	0	0
71	SLU 58	29	-34	1170	0	0	0
71	SLU 59	29	-32	1169	0	0	0
71	SLU 60	29	-36	1192	0	0	0
71	SLU 61	29	-34	1191	0	0	0
71	SLU 62	29	-35	1204	0	0	0
71	SLU 63	30	-34	1203	0	0	0
71	SLU 64	31	-32	1161	0	0	0
71	SLU 65	31	-29	1159	0	0	0
71	SLU 66	31	-31	1181	0	0	0
71	SLU 67	31	-30	1179	0	0	0
71	SLU 68	31	-29	1172	0	0	0
71	SLU 69	31	-31	1193	0	0	0
71	SLU 70	31	-29	1192	0	0	0
71	SLU 71	31	-31	1187	0	0	0
71	SLU 72	31	-29	1186	0	0	0
71	SLU 73	33	-31	1270	0	0	0
71	SLU 74	32	-33	1291	0	0	0
71	SLU 75	33	-32	1290	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
71	SLU 76	33	-31	1282	0	0	0
71	SLU 77	32	-33	1304	0	0	0
71	SLU 78	33	-31	1302	0	0	0
71	SLU 79	32	-33	1297	0	0	0
71	SLU 80	33	-31	1296	0	0	0
71	SLU 81	32	-34	1319	0	0	0
71	SLU 82	33	-33	1318	0	0	0
71	SLU 83	33	-34	1332	0	0	0
71	SLU 84	33	-33	1331	0	0	0
71	SLE RA 1	23	-25	865	0	0	0
71	SLE RA 2	23	-23	864	0	0	0
71	SLE RA 3	23	-24	878	0	0	0
71	SLE RA 4	23	-23	877	0	0	0
71	SLE RA 5	23	-23	873	0	0	0
71	SLE RA 6	23	-24	887	0	0	0
71	SLE RA 7	23	-23	886	0	0	0
71	SLE RA 8	23	-24	882	0	0	0
71	SLE RA 9	23	-23	881	0	0	0
71	SLE RA 10	24	-24	938	0	0	0
71	SLE RA 11	24	-26	952	0	0	0
71	SLE RA 12	24	-25	951	0	0	0
71	SLE RA 13	24	-24	946	0	0	0
71	SLE RA 14	24	-25	960	0	0	0
71	SLE RA 15	24	-24	959	0	0	0
71	SLE RA 16	24	-25	956	0	0	0
71	SLE RA 17	24	-24	955	0	0	0
71	SLE RA 18	24	-26	971	0	0	0
71	SLE RA 19	24	-26	970	0	0	0
71	SLE RA 20	24	-26	979	0	0	0
71	SLE RA 21	24	-25	978	0	0	0
71	SLE FR 1	23	-25	865	0	0	0
71	SLE FR 2	23	-24	865	0	0	0
71	SLE FR 3	23	-24	869	0	0	0
71	SLE FR 4	23	-25	897	0	0	0
71	SLE FR 5	23	-25	900	0	0	0
71	SLE FR 6	23	-26	918	0	0	0
71	SLE QP 1	23	-25	865	0	0	0
71	SLE QP 2	23	-25	897	0	0	0
71	SLD 1	77	-15	878	0	0	0
71	SLD 2	78	-14	878	0	0	0
71	SLD 3	68	-41	900	0	0	0
71	SLD 4	69	-39	899	0	0	0
71	SLD 5	53	16	859	0	0	0
71	SLD 6	54	17	859	0	0	0
71	SLD 7	22	-69	930	0	0	0
71	SLD 8	23	-68	930	0	0	0
71	SLD 9	24	17	864	0	0	0
71	SLD 10	24	18	864	0	0	0
71	SLD 11	-8	-67	935	0	0	0
71	SLD 12	-7	-66	935	0	0	0
71	SLD 13	-22	-11	894	0	0	0
71	SLD 14	-22	-10	894	0	0	0
71	SLD 15	-32	-37	916	0	0	0
71	SLD 16	-31	-35	915	0	0	0
71	SLV 1	109	-8	866	0	0	0
71	SLV 2	110	-6	866	0	0	0
71	SLV 3	93	-52	902	0	0	0
71	SLV 4	94	-49	902	0	0	0
71	SLV 5	73	45	833	0	0	0
71	SLV 6	74	47	832	0	0	0
71	SLV 7	19	-99	954	0	0	0
71	SLV 8	20	-98	954	0	0	0
71	SLV 9	26	47	840	0	0	0
71	SLV 10	27	49	840	0	0	0
71	SLV 11	-27	-97	962	0	0	0
71	SLV 12	-27	-96	961	0	0	0
71	SLV 13	-48	-1	892	0	0	0
71	SLV 14	-46	1	891	0	0	0
71	SLV 15	-64	-45	928	0	0	0
71	SLV 16	-62	-42	928	0	0	0
71	SLV FO 1	117	-6	863	0	0	0
71	SLV FO 2	119	-4	862	0	0	0
71	SLV FO 3	99	-54	903	0	0	0
71	SLV FO 4	101	-51	902	0	0	0
71	SLV FO 5	78	52	826	0	0	0
71	SLV FO 6	79	54	826	0	0	0
71	SLV FO 7	19	-107	960	0	0	0
71	SLV FO 8	20	-105	959	0	0	0
71	SLV FO 9	26	54	835	0	0	0
71	SLV FO 10	27	56	834	0	0	0
71	SLV FO 11	-33	-104	968	0	0	0
71	SLV FO 12	-31	-103	968	0	0	0
71	SLV FO 13	-55	1	891	0	0	0
71	SLV FO 14	-53	4	891	0	0	0
71	SLV FO 15	-72	-47	931	0	0	0
71	SLV FO 16	-71	-44	931	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
77	SLU 1	11	-10	461	0	0	0
77	SLU 2	11	-9	460	0	0	0
77	SLU 3	11	-10	472	0	0	0
77	SLU 4	11	-9	471	0	0	0
77	SLU 5	12	-9	467	0	0	0
77	SLU 6	11	-9	479	0	0	0
77	SLU 7	12	-9	478	0	0	0
77	SLU 8	11	-10	475	0	0	0
77	SLU 9	11	-9	475	0	0	0
77	SLU 10	12	-10	521	0	0	0
77	SLU 11	12	-11	532	0	0	0
77	SLU 12	12	-10	532	0	0	0
77	SLU 13	12	-9	528	0	0	0
77	SLU 14	12	-10	539	0	0	0
77	SLU 15	12	-10	539	0	0	0
77	SLU 16	12	-10	535	0	0	0
77	SLU 17	12	-10	535	0	0	0
77	SLU 18	12	-11	547	0	0	0
77	SLU 19	12	-11	547	0	0	0
77	SLU 20	12	-11	554	0	0	0
77	SLU 21	12	-10	554	0	0	0
77	SLU 22	13	-9	533	0	0	0
77	SLU 23	13	-8	532	0	0	0
77	SLU 24	13	-9	543	0	0	0
77	SLU 25	13	-8	543	0	0	0
77	SLU 26	13	-8	539	0	0	0
77	SLU 27	13	-9	550	0	0	0
77	SLU 28	13	-8	550	0	0	0
77	SLU 29	13	-9	547	0	0	0
77	SLU 30	13	-8	546	0	0	0
77	SLU 31	14	-9	592	0	0	0
77	SLU 32	14	-10	604	0	0	0
77	SLU 33	14	-9	603	0	0	0
77	SLU 34	14	-9	599	0	0	0
77	SLU 35	14	-10	611	0	0	0
77	SLU 36	14	-9	610	0	0	0
77	SLU 37	14	-10	607	0	0	0
77	SLU 38	14	-9	607	0	0	0
77	SLU 39	14	-10	619	0	0	0
77	SLU 40	14	-10	618	0	0	0
77	SLU 41	14	-10	626	0	0	0
77	SLU 42	14	-9	625	0	0	0
77	SLU 43	14	-13	575	0	0	0
77	SLU 44	14	-12	574	0	0	0
77	SLU 45	14	-13	585	0	0	0
77	SLU 46	14	-12	585	0	0	0
77	SLU 47	14	-12	581	0	0	0
77	SLU 48	14	-13	592	0	0	0
77	SLU 49	14	-12	592	0	0	0
77	SLU 50	14	-13	589	0	0	0
77	SLU 51	14	-12	588	0	0	0
77	SLU 52	15	-13	634	0	0	0
77	SLU 53	15	-14	646	0	0	0
77	SLU 54	15	-13	645	0	0	0
77	SLU 55	15	-13	641	0	0	0
77	SLU 56	15	-14	653	0	0	0
77	SLU 57	15	-13	652	0	0	0
77	SLU 58	15	-14	649	0	0	0
77	SLU 59	15	-13	649	0	0	0
77	SLU 60	15	-14	661	0	0	0
77	SLU 61	15	-14	660	0	0	0
77	SLU 62	15	-14	668	0	0	0
77	SLU 63	15	-14	667	0	0	0
77	SLU 64	16	-13	646	0	0	0
77	SLU 65	16	-11	646	0	0	0
77	SLU 66	16	-12	657	0	0	0
77	SLU 67	16	-12	657	0	0	0
77	SLU 68	16	-11	653	0	0	0
77	SLU 69	16	-12	664	0	0	0
77	SLU 70	16	-11	664	0	0	0
77	SLU 71	16	-12	660	0	0	0
77	SLU 72	16	-11	660	0	0	0
77	SLU 73	17	-12	706	0	0	0
77	SLU 74	16	-13	717	0	0	0
77	SLU 75	17	-12	717	0	0	0
77	SLU 76	17	-12	713	0	0	0
77	SLU 77	16	-13	724	0	0	0
77	SLU 78	17	-12	724	0	0	0
77	SLU 79	16	-13	721	0	0	0
77	SLU 80	17	-12	720	0	0	0
77	SLU 81	16	-14	733	0	0	0
77	SLU 82	17	-13	732	0	0	0
77	SLU 83	17	-13	740	0	0	0
77	SLU 84	17	-13	739	0	0	0
77	SLE RA 1	12	-10	482	0	0	0
77	SLE RA 2	12	-9	481	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
77	SLE RA 3	12	-10	489	0	0	0
77	SLE RA 4	12	-9	488	0	0	0
77	SLE RA 5	12	-9	486	0	0	0
77	SLE RA 6	12	-9	493	0	0	0
77	SLE RA 7	12	-9	493	0	0	0
77	SLE RA 8	12	-9	491	0	0	0
77	SLE RA 9	12	-9	491	0	0	0
77	SLE RA 10	12	-10	521	0	0	0
77	SLE RA 11	12	-10	529	0	0	0
77	SLE RA 12	12	-10	529	0	0	0
77	SLE RA 13	12	-9	526	0	0	0
77	SLE RA 14	12	-10	533	0	0	0
77	SLE RA 15	12	-10	533	0	0	0
77	SLE RA 16	12	-10	531	0	0	0
77	SLE RA 17	12	-10	531	0	0	0
77	SLE RA 18	12	-11	539	0	0	0
77	SLE RA 19	12	-10	539	0	0	0
77	SLE RA 20	12	-10	544	0	0	0
77	SLE RA 21	12	-10	543	0	0	0
77	SLE FR 1	12	-10	482	0	0	0
77	SLE FR 2	12	-10	481	0	0	0
77	SLE FR 3	12	-10	483	0	0	0
77	SLE FR 4	12	-10	499	0	0	0
77	SLE FR 5	12	-10	501	0	0	0
77	SLE FR 6	12	-10	510	0	0	0
77	SLE QP 1	12	-10	482	0	0	0
77	SLE QP 2	12	-10	499	0	0	0
77	SLD 1	41	-8	472	0	0	0
77	SLD 2	41	-5	472	0	0	0
77	SLD 3	36	-20	478	0	0	0
77	SLD 4	36	-17	479	0	0	0
77	SLD 5	29	8	481	0	0	0
77	SLD 6	29	10	481	0	0	0
77	SLD 7	11	-32	502	0	0	0
77	SLD 8	11	-30	502	0	0	0
77	SLD 9	13	10	495	0	0	0
77	SLD 10	13	12	495	0	0	0
77	SLD 11	-5	-30	516	0	0	0
77	SLD 12	-5	-29	516	0	0	0
77	SLD 13	-13	-3	519	0	0	0
77	SLD 14	-12	0	519	0	0	0
77	SLD 15	-18	-15	525	0	0	0
77	SLD 16	-18	-12	525	0	0	0
77	SLV 1	58	-6	457	0	0	0
77	SLV 2	59	-1	457	0	0	0
77	SLV 3	49	-26	468	0	0	0
77	SLV 4	49	-22	468	0	0	0
77	SLV 5	40	22	470	0	0	0
77	SLV 6	40	25	470	0	0	0
77	SLV 7	9	-47	506	0	0	0
77	SLV 8	9	-44	506	0	0	0
77	SLV 9	14	24	492	0	0	0
77	SLV 10	14	27	492	0	0	0
77	SLV 11	-16	-45	527	0	0	0
77	SLV 12	-16	-42	528	0	0	0
77	SLV 13	-26	2	530	0	0	0
77	SLV 14	-26	6	530	0	0	0
77	SLV 15	-35	-19	540	0	0	0
77	SLV 16	-35	-14	541	0	0	0
77	SLV FO 1	63	-5	453	0	0	0
77	SLV FO 2	63	0	453	0	0	0
77	SLV FO 3	53	-28	464	0	0	0
77	SLV FO 4	53	-23	465	0	0	0
77	SLV FO 5	42	25	467	0	0	0
77	SLV FO 6	43	28	467	0	0	0
77	SLV FO 7	9	-51	506	0	0	0
77	SLV FO 8	9	-47	506	0	0	0
77	SLV FO 9	15	27	491	0	0	0
77	SLV FO 10	15	31	491	0	0	0
77	SLV FO 11	-19	-48	530	0	0	0
77	SLV FO 12	-19	-45	530	0	0	0
77	SLV FO 13	-30	3	533	0	0	0
77	SLV FO 14	-29	8	533	0	0	0
77	SLV FO 15	-40	-20	544	0	0	0
77	SLV FO 16	-39	-15	545	0	0	0
78	SLU 1	5	-7	198	0	0	0
78	SLU 2	5	-6	197	0	0	0
78	SLU 3	5	-6	202	0	0	0
78	SLU 4	5	-6	202	0	0	0
78	SLU 5	5	-6	200	0	0	0
78	SLU 6	5	-6	205	0	0	0
78	SLU 7	5	-6	205	0	0	0
78	SLU 8	5	-6	204	0	0	0
78	SLU 9	5	-6	203	0	0	0
78	SLU 10	5	-6	224	0	0	0
78	SLU 11	5	-7	229	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
78	SLU 12	6	-7	228	0	0	0
78	SLU 13	6	-6	227	0	0	0
78	SLU 14	5	-7	232	0	0	0
78	SLU 15	6	-6	232	0	0	0
78	SLU 16	5	-7	231	0	0	0
78	SLU 17	5	-6	230	0	0	0
78	SLU 18	5	-7	236	0	0	0
78	SLU 19	6	-7	235	0	0	0
78	SLU 20	5	-7	239	0	0	0
78	SLU 21	6	-7	238	0	0	0
78	SLU 22	6	-6	228	0	0	0
78	SLU 23	6	-6	228	0	0	0
78	SLU 24	6	-6	233	0	0	0
78	SLU 25	6	-6	233	0	0	0
78	SLU 26	6	-6	231	0	0	0
78	SLU 27	6	-6	236	0	0	0
78	SLU 28	6	-6	236	0	0	0
78	SLU 29	6	-6	235	0	0	0
78	SLU 30	6	-6	234	0	0	0
78	SLU 31	6	-6	254	0	0	0
78	SLU 32	6	-7	260	0	0	0
78	SLU 33	6	-6	259	0	0	0
78	SLU 34	6	-6	257	0	0	0
78	SLU 35	6	-7	263	0	0	0
78	SLU 36	6	-6	262	0	0	0
78	SLU 37	6	-7	261	0	0	0
78	SLU 38	6	-6	261	0	0	0
78	SLU 39	6	-7	266	0	0	0
78	SLU 40	6	-7	266	0	0	0
78	SLU 41	6	-7	270	0	0	0
78	SLU 42	6	-7	269	0	0	0
78	SLU 43	6	-9	246	0	0	0
78	SLU 44	6	-8	246	0	0	0
78	SLU 45	6	-8	251	0	0	0
78	SLU 46	6	-8	251	0	0	0
78	SLU 47	6	-8	249	0	0	0
78	SLU 48	6	-8	254	0	0	0
78	SLU 49	6	-8	254	0	0	0
78	SLU 50	6	-8	253	0	0	0
78	SLU 51	6	-8	252	0	0	0
78	SLU 52	7	-8	272	0	0	0
78	SLU 53	7	-9	278	0	0	0
78	SLU 54	7	-9	277	0	0	0
78	SLU 55	7	-8	275	0	0	0
78	SLU 56	7	-9	281	0	0	0
78	SLU 57	7	-8	280	0	0	0
78	SLU 58	7	-9	279	0	0	0
78	SLU 59	7	-8	279	0	0	0
78	SLU 60	7	-9	284	0	0	0
78	SLU 61	7	-9	284	0	0	0
78	SLU 62	7	-9	288	0	0	0
78	SLU 63	7	-9	287	0	0	0
78	SLU 64	7	-8	277	0	0	0
78	SLU 65	7	-8	276	0	0	0
78	SLU 66	7	-8	282	0	0	0
78	SLU 67	7	-8	281	0	0	0
78	SLU 68	7	-8	280	0	0	0
78	SLU 69	7	-8	285	0	0	0
78	SLU 70	7	-8	284	0	0	0
78	SLU 71	7	-8	283	0	0	0
78	SLU 72	7	-8	283	0	0	0
78	SLU 73	8	-8	303	0	0	0
78	SLU 74	7	-9	308	0	0	0
78	SLU 75	8	-8	308	0	0	0
78	SLU 76	8	-8	306	0	0	0
78	SLU 77	7	-9	312	0	0	0
78	SLU 78	8	-8	311	0	0	0
78	SLU 79	7	-9	310	0	0	0
78	SLU 80	8	-8	310	0	0	0
78	SLU 81	8	-9	315	0	0	0
78	SLU 82	8	-9	315	0	0	0
78	SLU 83	8	-9	318	0	0	0
78	SLU 84	8	-9	318	0	0	0
78	SLE RA 1	5	-6	206	0	0	0
78	SLE RA 2	5	-6	206	0	0	0
78	SLE RA 3	5	-6	210	0	0	0
78	SLE RA 4	5	-6	209	0	0	0
78	SLE RA 5	5	-6	208	0	0	0
78	SLE RA 6	5	-6	212	0	0	0
78	SLE RA 7	5	-6	211	0	0	0
78	SLE RA 8	5	-6	211	0	0	0
78	SLE RA 9	5	-6	210	0	0	0
78	SLE RA 10	6	-6	224	0	0	0
78	SLE RA 11	6	-7	227	0	0	0
78	SLE RA 12	6	-6	227	0	0	0
78	SLE RA 13	6	-6	226	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
78	SLE RA 14	6	-7	229	0	0	0
78	SLE RA 15	6	-6	229	0	0	0
78	SLE RA 16	6	-7	228	0	0	0
78	SLE RA 17	6	-6	228	0	0	0
78	SLE RA 18	6	-7	232	0	0	0
78	SLE RA 19	6	-7	231	0	0	0
78	SLE RA 20	6	-7	234	0	0	0
78	SLE RA 21	6	-7	234	0	0	0
78	SLE FR 1	5	-6	206	0	0	0
78	SLE FR 2	5	-6	206	0	0	0
78	SLE FR 3	5	-6	207	0	0	0
78	SLE FR 4	5	-7	214	0	0	0
78	SLE FR 5	5	-7	215	0	0	0
78	SLE FR 6	5	-7	219	0	0	0
78	SLE QP 1	5	-6	206	0	0	0
78	SLE QP 2	5	-7	214	0	0	0
78	SLD 1	19	-4	212	0	0	0
78	SLD 2	19	-4	212	0	0	0
78	SLD 3	16	-10	221	0	0	0
78	SLD 4	16	-10	221	0	0	0
78	SLD 5	13	4	200	0	0	0
78	SLD 6	13	4	200	0	0	0
78	SLD 7	5	-17	230	0	0	0
78	SLD 8	5	-17	230	0	0	0
78	SLD 9	6	4	198	0	0	0
78	SLD 10	6	4	198	0	0	0
78	SLD 11	-2	-17	228	0	0	0
78	SLD 12	-2	-17	228	0	0	0
78	SLD 13	-6	-3	207	0	0	0
78	SLD 14	-5	-3	207	0	0	0
78	SLD 15	-8	-9	216	0	0	0
78	SLD 16	-8	-9	216	0	0	0
78	SLV 1	26	-2	210	0	0	0
78	SLV 2	26	-2	210	0	0	0
78	SLV 3	22	-13	225	0	0	0
78	SLV 4	22	-13	225	0	0	0
78	SLV 5	18	11	190	0	0	0
78	SLV 6	18	11	190	0	0	0
78	SLV 7	4	-25	241	0	0	0
78	SLV 8	4	-25	241	0	0	0
78	SLV 9	6	12	188	0	0	0
78	SLV 10	7	12	187	0	0	0
78	SLV 11	-7	-25	239	0	0	0
78	SLV 12	-7	-25	238	0	0	0
78	SLV 13	-12	0	203	0	0	0
78	SLV 14	-11	0	203	0	0	0
78	SLV 15	-16	-11	218	0	0	0
78	SLV 16	-16	-11	218	0	0	0
78	SLV FO 1	28	-2	210	0	0	0
78	SLV FO 2	28	-1	210	0	0	0
78	SLV FO 3	24	-14	227	0	0	0
78	SLV FO 4	24	-13	226	0	0	0
78	SLV FO 5	19	13	187	0	0	0
78	SLV FO 6	19	13	187	0	0	0
78	SLV FO 7	4	-27	243	0	0	0
78	SLV FO 8	4	-27	243	0	0	0
78	SLV FO 9	7	14	185	0	0	0
78	SLV FO 10	7	14	185	0	0	0
78	SLV FO 11	-8	-26	241	0	0	0
78	SLV FO 12	-8	-26	241	0	0	0
78	SLV FO 13	-13	0	202	0	0	0
78	SLV FO 14	-13	0	201	0	0	0
78	SLV FO 15	-18	-12	219	0	0	0
78	SLV FO 16	-18	-12	218	0	0	0
79	SLU 1	8	-10	331	0	0	0
79	SLU 2	9	-9	330	0	0	0
79	SLU 3	8	-10	338	0	0	0
79	SLU 4	9	-9	338	0	0	0
79	SLU 5	9	-9	335	0	0	0
79	SLU 6	8	-10	344	0	0	0
79	SLU 7	9	-9	343	0	0	0
79	SLU 8	8	-10	341	0	0	0
79	SLU 9	9	-9	340	0	0	0
79	SLU 10	9	-10	374	0	0	0
79	SLU 11	9	-11	383	0	0	0
79	SLU 12	9	-10	382	0	0	0
79	SLU 13	9	-10	379	0	0	0
79	SLU 14	9	-10	388	0	0	0
79	SLU 15	9	-10	387	0	0	0
79	SLU 16	9	-10	385	0	0	0
79	SLU 17	9	-10	385	0	0	0
79	SLU 18	9	-11	394	0	0	0
79	SLU 19	9	-11	393	0	0	0
79	SLU 20	9	-11	399	0	0	0
79	SLU 21	9	-10	398	0	0	0
79	SLU 22	10	-10	382	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
79	SLU 23	10	-9	381	0	0	0
79	SLU 24	10	-9	390	0	0	0
79	SLU 25	10	-9	389	0	0	0
79	SLU 26	10	-8	386	0	0	0
79	SLU 27	10	-9	395	0	0	0
79	SLU 28	10	-9	394	0	0	0
79	SLU 29	10	-9	392	0	0	0
79	SLU 30	10	-9	392	0	0	0
79	SLU 31	10	-9	425	0	0	0
79	SLU 32	10	-10	434	0	0	0
79	SLU 33	10	-10	433	0	0	0
79	SLU 34	10	-9	430	0	0	0
79	SLU 35	10	-10	439	0	0	0
79	SLU 36	10	-9	439	0	0	0
79	SLU 37	10	-10	437	0	0	0
79	SLU 38	10	-9	436	0	0	0
79	SLU 39	10	-11	445	0	0	0
79	SLU 40	11	-10	445	0	0	0
79	SLU 41	10	-10	450	0	0	0
79	SLU 42	11	-10	450	0	0	0
79	SLU 43	10	-13	412	0	0	0
79	SLU 44	11	-12	411	0	0	0
79	SLU 45	10	-13	420	0	0	0
79	SLU 46	11	-12	419	0	0	0
79	SLU 47	11	-12	416	0	0	0
79	SLU 48	10	-13	425	0	0	0
79	SLU 49	11	-12	424	0	0	0
79	SLU 50	10	-13	423	0	0	0
79	SLU 51	11	-12	422	0	0	0
79	SLU 52	11	-13	455	0	0	0
79	SLU 53	11	-14	464	0	0	0
79	SLU 54	11	-13	463	0	0	0
79	SLU 55	11	-13	460	0	0	0
79	SLU 56	11	-14	469	0	0	0
79	SLU 57	11	-13	469	0	0	0
79	SLU 58	11	-14	467	0	0	0
79	SLU 59	11	-13	466	0	0	0
79	SLU 60	11	-14	475	0	0	0
79	SLU 61	11	-14	475	0	0	0
79	SLU 62	11	-14	481	0	0	0
79	SLU 63	11	-14	480	0	0	0
79	SLU 64	12	-13	464	0	0	0
79	SLU 65	12	-12	463	0	0	0
79	SLU 66	12	-12	471	0	0	0
79	SLU 67	12	-12	471	0	0	0
79	SLU 68	12	-12	468	0	0	0
79	SLU 69	12	-12	477	0	0	0
79	SLU 70	12	-12	476	0	0	0
79	SLU 71	12	-12	474	0	0	0
79	SLU 72	12	-12	473	0	0	0
79	SLU 73	12	-13	507	0	0	0
79	SLU 74	12	-13	516	0	0	0
79	SLU 75	12	-13	515	0	0	0
79	SLU 76	12	-12	512	0	0	0
79	SLU 77	12	-13	521	0	0	0
79	SLU 78	12	-13	520	0	0	0
79	SLU 79	12	-13	518	0	0	0
79	SLU 80	12	-13	518	0	0	0
79	SLU 81	12	-14	527	0	0	0
79	SLU 82	13	-13	526	0	0	0
79	SLU 83	12	-14	532	0	0	0
79	SLU 84	13	-13	531	0	0	0
79	SLE RA 1	9	-10	345	0	0	0
79	SLE RA 2	9	-9	345	0	0	0
79	SLE RA 3	9	-10	351	0	0	0
79	SLE RA 4	9	-9	350	0	0	0
79	SLE RA 5	9	-9	348	0	0	0
79	SLE RA 6	9	-10	354	0	0	0
79	SLE RA 7	9	-9	354	0	0	0
79	SLE RA 8	9	-10	352	0	0	0
79	SLE RA 9	9	-9	352	0	0	0
79	SLE RA 10	9	-10	374	0	0	0
79	SLE RA 11	9	-10	380	0	0	0
79	SLE RA 12	9	-10	380	0	0	0
79	SLE RA 13	9	-10	378	0	0	0
79	SLE RA 14	9	-10	383	0	0	0
79	SLE RA 15	9	-10	383	0	0	0
79	SLE RA 16	9	-10	382	0	0	0
79	SLE RA 17	9	-10	381	0	0	0
79	SLE RA 18	9	-11	387	0	0	0
79	SLE RA 19	9	-10	387	0	0	0
79	SLE RA 20	9	-10	391	0	0	0
79	SLE RA 21	9	-10	390	0	0	0
79	SLE FR 1	9	-10	345	0	0	0
79	SLE FR 2	9	-10	345	0	0	0
79	SLE FR 3	9	-10	347	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
79	SLE FR 4	9	-10	358	0	0	0
79	SLE FR 5	9	-10	359	0	0	0
79	SLE FR 6	9	-10	366	0	0	0
79	SLE QP 1	9	-10	345	0	0	0
79	SLE QP 2	9	-10	358	0	0	0
79	SLD 1	31	-6	349	0	0	0
79	SLD 2	31	-6	349	0	0	0
79	SLD 3	27	-16	361	0	0	0
79	SLD 4	27	-16	361	0	0	0
79	SLD 5	21	6	336	0	0	0
79	SLD 6	21	7	336	0	0	0
79	SLD 7	8	-28	378	0	0	0
79	SLD 8	8	-27	378	0	0	0
79	SLD 9	9	7	338	0	0	0
79	SLD 10	9	7	338	0	0	0
79	SLD 11	-4	-27	380	0	0	0
79	SLD 12	-4	-27	380	0	0	0
79	SLD 13	-9	-4	355	0	0	0
79	SLD 14	-9	-4	354	0	0	0
79	SLD 15	-13	-15	367	0	0	0
79	SLD 16	-13	-14	367	0	0	0
79	SLV 1	43	-3	342	0	0	0
79	SLV 2	43	-2	342	0	0	0
79	SLV 3	37	-21	364	0	0	0
79	SLV 4	37	-20	364	0	0	0
79	SLV 5	29	18	321	0	0	0
79	SLV 6	30	19	320	0	0	0
79	SLV 7	7	-40	393	0	0	0
79	SLV 8	7	-39	392	0	0	0
79	SLV 9	11	19	323	0	0	0
79	SLV 10	11	20	323	0	0	0
79	SLV 11	-12	-39	396	0	0	0
79	SLV 12	-12	-38	395	0	0	0
79	SLV 13	-19	-1	352	0	0	0
79	SLV 14	-19	0	352	0	0	0
79	SLV 15	-26	-18	374	0	0	0
79	SLV 16	-26	-17	373	0	0	0
79	SLV FO 1	47	-3	341	0	0	0
79	SLV FO 2	47	-2	341	0	0	0
79	SLV FO 3	39	-22	365	0	0	0
79	SLV FO 4	39	-21	364	0	0	0
79	SLV FO 5	31	21	317	0	0	0
79	SLV FO 6	32	22	317	0	0	0
79	SLV FO 7	7	-43	396	0	0	0
79	SLV FO 8	7	-42	396	0	0	0
79	SLV FO 9	11	22	320	0	0	0
79	SLV FO 10	11	23	320	0	0	0
79	SLV FO 11	-14	-42	399	0	0	0
79	SLV FO 12	-14	-41	399	0	0	0
79	SLV FO 13	-22	0	352	0	0	0
79	SLV FO 14	-22	2	351	0	0	0
79	SLV FO 15	-29	-19	375	0	0	0
79	SLV FO 16	-29	-18	375	0	0	0
80	SLU 1	7	-9	299	0	0	0
80	SLU 2	8	-8	298	0	0	0
80	SLU 3	8	-8	306	0	0	0
80	SLU 4	8	-8	306	0	0	0
80	SLU 5	8	-8	303	0	0	0
80	SLU 6	8	-8	311	0	0	0
80	SLU 7	8	-8	310	0	0	0
80	SLU 8	8	-8	309	0	0	0
80	SLU 9	8	-8	308	0	0	0
80	SLU 10	8	-8	338	0	0	0
80	SLU 11	8	-9	346	0	0	0
80	SLU 12	8	-9	346	0	0	0
80	SLU 13	8	-8	343	0	0	0
80	SLU 14	8	-9	351	0	0	0
80	SLU 15	8	-8	350	0	0	0
80	SLU 16	8	-9	348	0	0	0
80	SLU 17	8	-8	348	0	0	0
80	SLU 18	8	-10	356	0	0	0
80	SLU 19	8	-9	356	0	0	0
80	SLU 20	8	-9	361	0	0	0
80	SLU 21	8	-9	360	0	0	0
80	SLU 22	9	-8	346	0	0	0
80	SLU 23	9	-7	345	0	0	0
80	SLU 24	9	-8	353	0	0	0
80	SLU 25	9	-7	352	0	0	0
80	SLU 26	9	-7	350	0	0	0
80	SLU 27	9	-8	358	0	0	0
80	SLU 28	9	-7	357	0	0	0
80	SLU 29	9	-8	355	0	0	0
80	SLU 30	9	-7	355	0	0	0
80	SLU 31	9	-8	385	0	0	0
80	SLU 32	9	-9	393	0	0	0
80	SLU 33	9	-8	392	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
80	SLU 34	9	-8	390	0	0	0
80	SLU 35	9	-8	397	0	0	0
80	SLU 36	9	-8	397	0	0	0
80	SLU 37	9	-8	395	0	0	0
80	SLU 38	9	-8	395	0	0	0
80	SLU 39	9	-9	403	0	0	0
80	SLU 40	9	-9	402	0	0	0
80	SLU 41	9	-9	407	0	0	0
80	SLU 42	10	-8	407	0	0	0
80	SLU 43	9	-11	373	0	0	0
80	SLU 44	10	-10	372	0	0	0
80	SLU 45	9	-11	380	0	0	0
80	SLU 46	10	-11	380	0	0	0
80	SLU 47	10	-10	377	0	0	0
80	SLU 48	9	-11	385	0	0	0
80	SLU 49	10	-10	384	0	0	0
80	SLU 50	9	-11	383	0	0	0
80	SLU 51	10	-10	382	0	0	0
80	SLU 52	10	-11	412	0	0	0
80	SLU 53	10	-12	420	0	0	0
80	SLU 54	10	-11	419	0	0	0
80	SLU 55	10	-11	417	0	0	0
80	SLU 56	10	-12	425	0	0	0
80	SLU 57	10	-11	424	0	0	0
80	SLU 58	10	-12	422	0	0	0
80	SLU 59	10	-11	422	0	0	0
80	SLU 60	10	-12	430	0	0	0
80	SLU 61	10	-12	430	0	0	0
80	SLU 62	10	-12	435	0	0	0
80	SLU 63	10	-12	434	0	0	0
80	SLU 64	11	-11	420	0	0	0
80	SLU 65	11	-10	419	0	0	0
80	SLU 66	11	-11	427	0	0	0
80	SLU 67	11	-10	426	0	0	0
80	SLU 68	11	-10	424	0	0	0
80	SLU 69	11	-10	431	0	0	0
80	SLU 70	11	-10	431	0	0	0
80	SLU 71	11	-10	429	0	0	0
80	SLU 72	11	-10	429	0	0	0
80	SLU 73	11	-11	459	0	0	0
80	SLU 74	11	-11	467	0	0	0
80	SLU 75	11	-11	466	0	0	0
80	SLU 76	11	-11	463	0	0	0
80	SLU 77	11	-11	471	0	0	0
80	SLU 78	11	-11	471	0	0	0
80	SLU 79	11	-11	469	0	0	0
80	SLU 80	11	-11	468	0	0	0
80	SLU 81	11	-12	477	0	0	0
80	SLU 82	11	-11	476	0	0	0
80	SLU 83	11	-12	481	0	0	0
80	SLU 84	11	-11	481	0	0	0
80	SLE RA 1	8	-8	313	0	0	0
80	SLE RA 2	8	-8	312	0	0	0
80	SLE RA 3	8	-8	317	0	0	0
80	SLE RA 4	8	-8	317	0	0	0
80	SLE RA 5	8	-8	315	0	0	0
80	SLE RA 6	8	-8	320	0	0	0
80	SLE RA 7	8	-8	320	0	0	0
80	SLE RA 8	8	-8	319	0	0	0
80	SLE RA 9	8	-8	319	0	0	0
80	SLE RA 10	8	-8	339	0	0	0
80	SLE RA 11	8	-9	344	0	0	0
80	SLE RA 12	8	-8	344	0	0	0
80	SLE RA 13	8	-8	342	0	0	0
80	SLE RA 14	8	-9	347	0	0	0
80	SLE RA 15	8	-8	347	0	0	0
80	SLE RA 16	8	-9	345	0	0	0
80	SLE RA 17	8	-8	345	0	0	0
80	SLE RA 18	8	-9	351	0	0	0
80	SLE RA 19	8	-9	350	0	0	0
80	SLE RA 20	8	-9	354	0	0	0
80	SLE RA 21	8	-9	353	0	0	0
80	SLE FR 1	8	-8	313	0	0	0
80	SLE FR 2	8	-8	313	0	0	0
80	SLE FR 3	8	-8	314	0	0	0
80	SLE FR 4	8	-9	324	0	0	0
80	SLE FR 5	8	-9	325	0	0	0
80	SLE FR 6	8	-9	332	0	0	0
80	SLE QP 1	8	-8	313	0	0	0
80	SLE QP 2	8	-9	324	0	0	0
80	SLD 1	28	-5	314	0	0	0
80	SLD 2	28	-5	314	0	0	0
80	SLD 3	24	-14	324	0	0	0
80	SLD 4	24	-14	324	0	0	0
80	SLD 5	19	6	306	0	0	0
80	SLD 6	19	6	306	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
80	SLD 7	7	-24	339	0	0	0
80	SLD 8	7	-24	339	0	0	0
80	SLD 9	8	6	309	0	0	0
80	SLD 10	9	7	309	0	0	0
80	SLD 11	-3	-24	342	0	0	0
80	SLD 12	-3	-23	342	0	0	0
80	SLD 13	-8	-4	324	0	0	0
80	SLD 14	-8	-3	324	0	0	0
80	SLD 15	-12	-13	334	0	0	0
80	SLD 16	-12	-12	334	0	0	0
80	SLV 1	39	-3	308	0	0	0
80	SLV 2	39	-2	308	0	0	0
80	SLV 3	33	-18	325	0	0	0
80	SLV 4	33	-17	325	0	0	0
80	SLV 5	27	16	293	0	0	0
80	SLV 6	27	17	293	0	0	0
80	SLV 7	6	-35	350	0	0	0
80	SLV 8	6	-34	350	0	0	0
80	SLV 9	10	17	298	0	0	0
80	SLV 10	10	18	298	0	0	0
80	SLV 11	-11	-34	355	0	0	0
80	SLV 12	-11	-33	355	0	0	0
80	SLV 13	-17	0	323	0	0	0
80	SLV 14	-17	1	323	0	0	0
80	SLV 15	-23	-15	340	0	0	0
80	SLV 16	-23	-14	340	0	0	0
80	SLV FO 1	42	-2	306	0	0	0
80	SLV FO 2	42	-1	306	0	0	0
80	SLV FO 3	35	-19	325	0	0	0
80	SLV FO 4	36	-18	325	0	0	0
80	SLV FO 5	28	18	290	0	0	0
80	SLV FO 6	29	19	290	0	0	0
80	SLV FO 7	6	-38	353	0	0	0
80	SLV FO 8	6	-37	353	0	0	0
80	SLV FO 9	10	19	295	0	0	0
80	SLV FO 10	10	20	295	0	0	0
80	SLV FO 11	-13	-37	358	0	0	0
80	SLV FO 12	-13	-36	358	0	0	0
80	SLV FO 13	-20	1	323	0	0	0
80	SLV FO 14	-20	2	323	0	0	0
80	SLV FO 15	-26	-16	342	0	0	0
80	SLV FO 16	-26	-15	342	0	0	0
81	SLU 1	8	-9	324	0	0	0
81	SLU 2	8	-8	323	0	0	0
81	SLU 3	8	-9	331	0	0	0
81	SLU 4	8	-8	331	0	0	0
81	SLU 5	8	-8	328	0	0	0
81	SLU 6	8	-8	336	0	0	0
81	SLU 7	8	-8	336	0	0	0
81	SLU 8	8	-8	334	0	0	0
81	SLU 9	8	-8	333	0	0	0
81	SLU 10	9	-9	366	0	0	0
81	SLU 11	9	-9	374	0	0	0
81	SLU 12	9	-9	374	0	0	0
81	SLU 13	9	-8	371	0	0	0
81	SLU 14	9	-9	379	0	0	0
81	SLU 15	9	-8	379	0	0	0
81	SLU 16	9	-9	377	0	0	0
81	SLU 17	9	-9	376	0	0	0
81	SLU 18	9	-10	385	0	0	0
81	SLU 19	9	-9	385	0	0	0
81	SLU 20	9	-10	390	0	0	0
81	SLU 21	9	-9	390	0	0	0
81	SLU 22	9	-8	374	0	0	0
81	SLU 23	10	-7	373	0	0	0
81	SLU 24	9	-8	382	0	0	0
81	SLU 25	10	-8	381	0	0	0
81	SLU 26	10	-7	378	0	0	0
81	SLU 27	9	-8	387	0	0	0
81	SLU 28	10	-7	386	0	0	0
81	SLU 29	9	-8	384	0	0	0
81	SLU 30	10	-7	384	0	0	0
81	SLU 31	10	-8	416	0	0	0
81	SLU 32	10	-9	425	0	0	0
81	SLU 33	10	-8	424	0	0	0
81	SLU 34	10	-8	421	0	0	0
81	SLU 35	10	-9	430	0	0	0
81	SLU 36	10	-8	429	0	0	0
81	SLU 37	10	-9	427	0	0	0
81	SLU 38	10	-8	427	0	0	0
81	SLU 39	10	-9	435	0	0	0
81	SLU 40	10	-9	435	0	0	0
81	SLU 41	10	-9	440	0	0	0
81	SLU 42	10	-9	440	0	0	0
81	SLU 43	10	-12	404	0	0	0
81	SLU 44	10	-11	403	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
81	SLU 45	10	-11	411	0	0	0
81	SLU 46	10	-11	411	0	0	0
81	SLU 47	10	-10	408	0	0	0
81	SLU 48	10	-11	416	0	0	0
81	SLU 49	10	-11	416	0	0	0
81	SLU 50	10	-11	414	0	0	0
81	SLU 51	10	-11	413	0	0	0
81	SLU 52	11	-11	446	0	0	0
81	SLU 53	11	-12	454	0	0	0
81	SLU 54	11	-11	454	0	0	0
81	SLU 55	11	-11	451	0	0	0
81	SLU 56	11	-12	459	0	0	0
81	SLU 57	11	-11	459	0	0	0
81	SLU 58	11	-12	457	0	0	0
81	SLU 59	11	-11	456	0	0	0
81	SLU 60	11	-12	465	0	0	0
81	SLU 61	11	-12	464	0	0	0
81	SLU 62	11	-12	470	0	0	0
81	SLU 63	11	-12	469	0	0	0
81	SLU 64	11	-11	454	0	0	0
81	SLU 65	12	-10	453	0	0	0
81	SLU 66	11	-11	462	0	0	0
81	SLU 67	12	-10	461	0	0	0
81	SLU 68	12	-10	458	0	0	0
81	SLU 69	11	-11	467	0	0	0
81	SLU 70	12	-10	466	0	0	0
81	SLU 71	11	-11	464	0	0	0
81	SLU 72	12	-10	464	0	0	0
81	SLU 73	12	-11	496	0	0	0
81	SLU 74	12	-12	504	0	0	0
81	SLU 75	12	-11	504	0	0	0
81	SLU 76	12	-11	501	0	0	0
81	SLU 77	12	-11	509	0	0	0
81	SLU 78	12	-11	509	0	0	0
81	SLU 79	12	-11	507	0	0	0
81	SLU 80	12	-11	506	0	0	0
81	SLU 81	12	-12	515	0	0	0
81	SLU 82	12	-11	515	0	0	0
81	SLU 83	12	-12	520	0	0	0
81	SLU 84	12	-11	520	0	0	0
81	SLE RA 1	8	-9	338	0	0	0
81	SLE RA 2	9	-8	338	0	0	0
81	SLE RA 3	8	-8	343	0	0	0
81	SLE RA 4	9	-8	343	0	0	0
81	SLE RA 5	9	-8	341	0	0	0
81	SLE RA 6	9	-8	347	0	0	0
81	SLE RA 7	9	-8	346	0	0	0
81	SLE RA 8	8	-8	345	0	0	0
81	SLE RA 9	9	-8	345	0	0	0
81	SLE RA 10	9	-8	366	0	0	0
81	SLE RA 11	9	-9	372	0	0	0
81	SLE RA 12	9	-9	371	0	0	0
81	SLE RA 13	9	-8	370	0	0	0
81	SLE RA 14	9	-9	375	0	0	0
81	SLE RA 15	9	-8	375	0	0	0
81	SLE RA 16	9	-9	373	0	0	0
81	SLE RA 17	9	-8	373	0	0	0
81	SLE RA 18	9	-9	379	0	0	0
81	SLE RA 19	9	-9	379	0	0	0
81	SLE RA 20	9	-9	382	0	0	0
81	SLE RA 21	9	-9	382	0	0	0
81	SLE FR 1	8	-9	338	0	0	0
81	SLE FR 2	8	-8	338	0	0	0
81	SLE FR 3	8	-9	340	0	0	0
81	SLE FR 4	9	-9	350	0	0	0
81	SLE FR 5	9	-9	352	0	0	0
81	SLE FR 6	9	-9	359	0	0	0
81	SLE QP 1	8	-9	338	0	0	0
81	SLE QP 2	9	-9	350	0	0	0
81	SLD 1	30	-6	338	0	0	0
81	SLD 2	30	-5	338	0	0	0
81	SLD 3	26	-15	347	0	0	0
81	SLD 4	26	-14	347	0	0	0
81	SLD 5	21	6	333	0	0	0
81	SLD 6	21	7	333	0	0	0
81	SLD 7	8	-25	363	0	0	0
81	SLD 8	8	-24	363	0	0	0
81	SLD 9	9	7	337	0	0	0
81	SLD 10	9	8	337	0	0	0
81	SLD 11	-4	-25	368	0	0	0
81	SLD 12	-4	-24	368	0	0	0
81	SLD 13	-9	-4	354	0	0	0
81	SLD 14	-9	-2	354	0	0	0
81	SLD 15	-13	-13	363	0	0	0
81	SLD 16	-13	-12	363	0	0	0
81	SLV 1	42	-3	330	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
81	SLV 2	42	-2	330	0	0	0
81	SLV 3	35	-20	346	0	0	0
81	SLV 4	36	-18	346	0	0	0
81	SLV 5	29	17	320	0	0	0
81	SLV 6	29	18	320	0	0	0
81	SLV 7	7	-37	373	0	0	0
81	SLV 8	7	-35	373	0	0	0
81	SLV 9	10	18	328	0	0	0
81	SLV 10	10	19	328	0	0	0
81	SLV 11	-12	-36	381	0	0	0
81	SLV 12	-12	-34	381	0	0	0
81	SLV 13	-19	0	355	0	0	0
81	SLV 14	-18	2	355	0	0	0
81	SLV 15	-25	-16	371	0	0	0
81	SLV 16	-25	-14	371	0	0	0
81	SLV FO 1	45	-3	328	0	0	0
81	SLV FO 2	46	-1	328	0	0	0
81	SLV FO 3	38	-21	345	0	0	0
81	SLV FO 4	38	-19	345	0	0	0
81	SLV FO 5	31	19	317	0	0	0
81	SLV FO 6	31	21	317	0	0	0
81	SLV FO 7	6	-39	375	0	0	0
81	SLV FO 8	7	-38	375	0	0	0
81	SLV FO 9	11	21	326	0	0	0
81	SLV FO 10	11	22	326	0	0	0
81	SLV FO 11	-14	-38	384	0	0	0
81	SLV FO 12	-14	-37	384	0	0	0
81	SLV FO 13	-21	1	356	0	0	0
81	SLV FO 14	-21	3	356	0	0	0
81	SLV FO 15	-29	-17	373	0	0	0
81	SLV FO 16	-28	-15	373	0	0	0
82	SLU 1	8	-9	337	0	0	0
82	SLU 2	9	-8	336	0	0	0
82	SLU 3	8	-8	344	0	0	0
82	SLU 4	9	-8	344	0	0	0
82	SLU 5	9	-7	341	0	0	0
82	SLU 6	8	-8	350	0	0	0
82	SLU 7	9	-8	349	0	0	0
82	SLU 8	8	-8	347	0	0	0
82	SLU 9	9	-8	347	0	0	0
82	SLU 10	9	-8	380	0	0	0
82	SLU 11	9	-9	389	0	0	0
82	SLU 12	9	-8	388	0	0	0
82	SLU 13	9	-8	385	0	0	0
82	SLU 14	9	-9	394	0	0	0
82	SLU 15	9	-8	394	0	0	0
82	SLU 16	9	-9	391	0	0	0
82	SLU 17	9	-8	391	0	0	0
82	SLU 18	9	-9	400	0	0	0
82	SLU 19	9	-9	400	0	0	0
82	SLU 20	9	-9	405	0	0	0
82	SLU 21	9	-9	405	0	0	0
82	SLU 22	10	-8	389	0	0	0
82	SLU 23	10	-7	388	0	0	0
82	SLU 24	10	-8	397	0	0	0
82	SLU 25	10	-7	396	0	0	0
82	SLU 26	10	-7	393	0	0	0
82	SLU 27	10	-8	402	0	0	0
82	SLU 28	10	-7	402	0	0	0
82	SLU 29	10	-8	399	0	0	0
82	SLU 30	10	-7	399	0	0	0
82	SLU 31	10	-8	433	0	0	0
82	SLU 32	10	-8	441	0	0	0
82	SLU 33	10	-8	441	0	0	0
82	SLU 34	10	-8	438	0	0	0
82	SLU 35	10	-8	446	0	0	0
82	SLU 36	10	-8	446	0	0	0
82	SLU 37	10	-8	444	0	0	0
82	SLU 38	10	-8	443	0	0	0
82	SLU 39	10	-9	452	0	0	0
82	SLU 40	10	-8	452	0	0	0
82	SLU 41	10	-9	458	0	0	0
82	SLU 42	11	-8	457	0	0	0
82	SLU 43	10	-11	420	0	0	0
82	SLU 44	11	-10	419	0	0	0
82	SLU 45	10	-11	428	0	0	0
82	SLU 46	11	-10	427	0	0	0
82	SLU 47	11	-10	424	0	0	0
82	SLU 48	10	-11	433	0	0	0
82	SLU 49	11	-10	432	0	0	0
82	SLU 50	10	-11	430	0	0	0
82	SLU 51	11	-10	430	0	0	0
82	SLU 52	11	-11	463	0	0	0
82	SLU 53	11	-12	472	0	0	0
82	SLU 54	11	-11	471	0	0	0
82	SLU 55	11	-11	469	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
82	SLU 56	11	-11	477	0	0	0
82	SLU 57	11	-11	477	0	0	0
82	SLU 58	11	-12	474	0	0	0
82	SLU 59	11	-11	474	0	0	0
82	SLU 60	11	-12	483	0	0	0
82	SLU 61	11	-12	483	0	0	0
82	SLU 62	11	-12	488	0	0	0
82	SLU 63	11	-11	488	0	0	0
82	SLU 64	12	-11	472	0	0	0
82	SLU 65	12	-10	471	0	0	0
82	SLU 66	12	-10	480	0	0	0
82	SLU 67	12	-10	479	0	0	0
82	SLU 68	12	-10	477	0	0	0
82	SLU 69	12	-10	485	0	0	0
82	SLU 70	12	-10	485	0	0	0
82	SLU 71	12	-10	482	0	0	0
82	SLU 72	12	-10	482	0	0	0
82	SLU 73	12	-11	516	0	0	0
82	SLU 74	12	-11	524	0	0	0
82	SLU 75	12	-11	524	0	0	0
82	SLU 76	12	-10	521	0	0	0
82	SLU 77	12	-11	529	0	0	0
82	SLU 78	12	-10	529	0	0	0
82	SLU 79	12	-11	527	0	0	0
82	SLU 80	12	-10	526	0	0	0
82	SLU 81	12	-12	535	0	0	0
82	SLU 82	12	-11	535	0	0	0
82	SLU 83	12	-11	541	0	0	0
82	SLU 84	13	-11	540	0	0	0
82	SLE RA 1	9	-8	352	0	0	0
82	SLE RA 2	9	-8	351	0	0	0
82	SLE RA 3	9	-8	357	0	0	0
82	SLE RA 4	9	-8	357	0	0	0
82	SLE RA 5	9	-8	355	0	0	0
82	SLE RA 6	9	-8	360	0	0	0
82	SLE RA 7	9	-8	360	0	0	0
82	SLE RA 8	9	-8	359	0	0	0
82	SLE RA 9	9	-8	358	0	0	0
82	SLE RA 10	9	-8	381	0	0	0
82	SLE RA 11	9	-9	386	0	0	0
82	SLE RA 12	9	-8	386	0	0	0
82	SLE RA 13	9	-8	384	0	0	0
82	SLE RA 14	9	-9	390	0	0	0
82	SLE RA 15	9	-8	390	0	0	0
82	SLE RA 16	9	-9	388	0	0	0
82	SLE RA 17	9	-8	388	0	0	0
82	SLE RA 18	9	-9	394	0	0	0
82	SLE RA 19	9	-9	394	0	0	0
82	SLE RA 20	9	-9	397	0	0	0
82	SLE RA 21	9	-9	397	0	0	0
82	SLE FR 1	9	-8	352	0	0	0
82	SLE FR 2	9	-8	352	0	0	0
82	SLE FR 3	9	-8	353	0	0	0
82	SLE FR 4	9	-8	364	0	0	0
82	SLE FR 5	9	-8	366	0	0	0
82	SLE FR 6	9	-9	373	0	0	0
82	SLE QP 1	9	-8	352	0	0	0
82	SLE QP 2	9	-9	364	0	0	0
82	SLD 1	31	-6	349	0	0	0
82	SLD 2	31	-4	349	0	0	0
82	SLD 3	27	-15	357	0	0	0
82	SLD 4	27	-14	357	0	0	0
82	SLD 5	21	6	348	0	0	0
82	SLD 6	21	7	348	0	0	0
82	SLD 7	8	-25	374	0	0	0
82	SLD 8	8	-24	374	0	0	0
82	SLD 9	9	7	354	0	0	0
82	SLD 10	9	8	354	0	0	0
82	SLD 11	-4	-24	381	0	0	0
82	SLD 12	-4	-23	381	0	0	0
82	SLD 13	-9	-3	372	0	0	0
82	SLD 14	-9	-2	372	0	0	0
82	SLD 15	-13	-13	380	0	0	0
82	SLD 16	-13	-11	380	0	0	0
82	SLV 1	43	-4	340	0	0	0
82	SLV 2	44	-1	340	0	0	0
82	SLV 3	37	-20	353	0	0	0
82	SLV 4	37	-18	353	0	0	0
82	SLV 5	29	17	336	0	0	0
82	SLV 6	30	19	336	0	0	0
82	SLV 7	7	-37	382	0	0	0
82	SLV 8	7	-35	382	0	0	0
82	SLV 9	11	18	347	0	0	0
82	SLV 10	11	20	347	0	0	0
82	SLV 11	-12	-36	392	0	0	0
82	SLV 12	-12	-34	392	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
82	SLV 13	-19	0	375	0	0	0
82	SLV 14	-19	3	375	0	0	0
82	SLV 15	-26	-16	389	0	0	0
82	SLV 16	-26	-13	389	0	0	0
82	SLV FO 1	47	-3	337	0	0	0
82	SLV FO 2	47	-1	337	0	0	0
82	SLV FO 3	39	-21	352	0	0	0
82	SLV FO 4	40	-18	352	0	0	0
82	SLV FO 5	32	20	334	0	0	0
82	SLV FO 6	32	21	334	0	0	0
82	SLV FO 7	7	-40	383	0	0	0
82	SLV FO 8	7	-38	383	0	0	0
82	SLV FO 9	11	21	345	0	0	0
82	SLV FO 10	11	23	345	0	0	0
82	SLV FO 11	-14	-38	395	0	0	0
82	SLV FO 12	-14	-37	395	0	0	0
82	SLV FO 13	-22	1	376	0	0	0
82	SLV FO 14	-22	4	376	0	0	0
82	SLV FO 15	-30	-16	391	0	0	0
82	SLV FO 16	-29	-14	391	0	0	0
83	SLU 1	8	-8	346	0	0	0
83	SLU 2	9	-7	346	0	0	0
83	SLU 3	9	-8	354	0	0	0
83	SLU 4	9	-7	354	0	0	0
83	SLU 5	9	-7	351	0	0	0
83	SLU 6	9	-8	360	0	0	0
83	SLU 7	9	-7	359	0	0	0
83	SLU 8	8	-8	357	0	0	0
83	SLU 9	9	-7	357	0	0	0
83	SLU 10	9	-8	391	0	0	0
83	SLU 11	9	-9	400	0	0	0
83	SLU 12	9	-8	399	0	0	0
83	SLU 13	9	-8	396	0	0	0
83	SLU 14	9	-8	405	0	0	0
83	SLU 15	9	-8	405	0	0	0
83	SLU 16	9	-8	402	0	0	0
83	SLU 17	9	-8	402	0	0	0
83	SLU 18	9	-9	411	0	0	0
83	SLU 19	9	-9	411	0	0	0
83	SLU 20	9	-9	417	0	0	0
83	SLU 21	9	-8	416	0	0	0
83	SLU 22	10	-8	400	0	0	0
83	SLU 23	10	-7	400	0	0	0
83	SLU 24	10	-7	408	0	0	0
83	SLU 25	10	-7	408	0	0	0
83	SLU 26	10	-6	405	0	0	0
83	SLU 27	10	-7	414	0	0	0
83	SLU 28	10	-7	413	0	0	0
83	SLU 29	10	-7	411	0	0	0
83	SLU 30	10	-7	410	0	0	0
83	SLU 31	11	-7	445	0	0	0
83	SLU 32	10	-8	454	0	0	0
83	SLU 33	11	-7	453	0	0	0
83	SLU 34	11	-7	450	0	0	0
83	SLU 35	10	-8	459	0	0	0
83	SLU 36	11	-7	459	0	0	0
83	SLU 37	10	-8	456	0	0	0
83	SLU 38	11	-7	456	0	0	0
83	SLU 39	10	-9	465	0	0	0
83	SLU 40	11	-8	465	0	0	0
83	SLU 41	11	-8	470	0	0	0
83	SLU 42	11	-8	470	0	0	0
83	SLU 43	10	-11	432	0	0	0
83	SLU 44	11	-10	431	0	0	0
83	SLU 45	11	-11	440	0	0	0
83	SLU 46	11	-10	439	0	0	0
83	SLU 47	11	-10	436	0	0	0
83	SLU 48	11	-10	445	0	0	0
83	SLU 49	11	-10	445	0	0	0
83	SLU 50	11	-10	442	0	0	0
83	SLU 51	11	-10	442	0	0	0
83	SLU 52	11	-11	477	0	0	0
83	SLU 53	11	-11	485	0	0	0
83	SLU 54	11	-11	485	0	0	0
83	SLU 55	11	-10	482	0	0	0
83	SLU 56	11	-11	491	0	0	0
83	SLU 57	11	-10	490	0	0	0
83	SLU 58	11	-11	488	0	0	0
83	SLU 59	11	-10	487	0	0	0
83	SLU 60	11	-12	497	0	0	0
83	SLU 61	11	-11	496	0	0	0
83	SLU 62	11	-12	502	0	0	0
83	SLU 63	11	-11	502	0	0	0
83	SLU 64	12	-10	486	0	0	0
83	SLU 65	12	-9	485	0	0	0
83	SLU 66	12	-10	494	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
83	SLU 67	12	-9	493	0	0	0
83	SLU 68	12	-9	490	0	0	0
83	SLU 69	12	-10	499	0	0	0
83	SLU 70	12	-9	499	0	0	0
83	SLU 71	12	-10	496	0	0	0
83	SLU 72	12	-9	496	0	0	0
83	SLU 73	13	-10	530	0	0	0
83	SLU 74	12	-11	539	0	0	0
83	SLU 75	13	-10	539	0	0	0
83	SLU 76	13	-10	536	0	0	0
83	SLU 77	12	-10	544	0	0	0
83	SLU 78	13	-10	544	0	0	0
83	SLU 79	12	-10	542	0	0	0
83	SLU 80	13	-10	541	0	0	0
83	SLU 81	13	-11	551	0	0	0
83	SLU 82	13	-11	550	0	0	0
83	SLU 83	13	-11	556	0	0	0
83	SLU 84	13	-10	556	0	0	0
83	SLE RA 1	9	-8	362	0	0	0
83	SLE RA 2	9	-7	361	0	0	0
83	SLE RA 3	9	-8	367	0	0	0
83	SLE RA 4	9	-7	367	0	0	0
83	SLE RA 5	9	-7	365	0	0	0
83	SLE RA 6	9	-8	371	0	0	0
83	SLE RA 7	9	-7	370	0	0	0
83	SLE RA 8	9	-8	369	0	0	0
83	SLE RA 9	9	-7	369	0	0	0
83	SLE RA 10	9	-8	392	0	0	0
83	SLE RA 11	9	-8	397	0	0	0
83	SLE RA 12	9	-8	397	0	0	0
83	SLE RA 13	9	-8	395	0	0	0
83	SLE RA 14	9	-8	401	0	0	0
83	SLE RA 15	9	-8	401	0	0	0
83	SLE RA 16	9	-8	399	0	0	0
83	SLE RA 17	9	-8	399	0	0	0
83	SLE RA 18	9	-9	405	0	0	0
83	SLE RA 19	9	-8	405	0	0	0
83	SLE RA 20	9	-8	409	0	0	0
83	SLE RA 21	9	-8	408	0	0	0
83	SLE FR 1	9	-8	362	0	0	0
83	SLE FR 2	9	-8	362	0	0	0
83	SLE FR 3	9	-8	363	0	0	0
83	SLE FR 4	9	-8	375	0	0	0
83	SLE FR 5	9	-8	376	0	0	0
83	SLE FR 6	9	-8	383	0	0	0
83	SLE QP 1	9	-8	362	0	0	0
83	SLE QP 2	9	-8	375	0	0	0
83	SLD 1	31	-6	357	0	0	0
83	SLD 2	31	-4	357	0	0	0
83	SLD 3	27	-15	363	0	0	0
83	SLD 4	27	-14	363	0	0	0
83	SLD 5	22	6	359	0	0	0
83	SLD 6	22	8	360	0	0	0
83	SLD 7	8	-25	381	0	0	0
83	SLD 8	8	-24	381	0	0	0
83	SLD 9	10	7	368	0	0	0
83	SLD 10	10	9	368	0	0	0
83	SLD 11	-4	-24	390	0	0	0
83	SLD 12	-4	-23	390	0	0	0
83	SLD 13	-10	-3	386	0	0	0
83	SLD 14	-9	-1	386	0	0	0
83	SLD 15	-14	-12	392	0	0	0
83	SLD 16	-13	-10	393	0	0	0
83	SLV 1	44	-4	346	0	0	0
83	SLV 2	44	-1	347	0	0	0
83	SLV 3	37	-20	357	0	0	0
83	SLV 4	38	-17	358	0	0	0
83	SLV 5	30	17	349	0	0	0
83	SLV 6	30	19	349	0	0	0
83	SLV 7	7	-37	386	0	0	0
83	SLV 8	7	-35	387	0	0	0
83	SLV 9	11	18	363	0	0	0
83	SLV 10	11	20	363	0	0	0
83	SLV 11	-12	-35	400	0	0	0
83	SLV 12	-12	-33	400	0	0	0
83	SLV 13	-20	1	392	0	0	0
83	SLV 14	-19	4	392	0	0	0
83	SLV 15	-27	-15	403	0	0	0
83	SLV 16	-26	-12	403	0	0	0
83	SLV FO 1	48	-4	344	0	0	0
83	SLV FO 2	48	-1	344	0	0	0
83	SLV FO 3	40	-21	356	0	0	0
83	SLV FO 4	40	-18	356	0	0	0
83	SLV FO 5	32	19	347	0	0	0
83	SLV FO 6	32	21	347	0	0	0
83	SLV FO 7	7	-39	388	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
83	SLV FO 8	7	-37	388	0	0	0
83	SLV FO 9	11	21	362	0	0	0
83	SLV FO 10	11	23	362	0	0	0
83	SLV FO 11	-14	-38	403	0	0	0
83	SLV FO 12	-14	-36	403	0	0	0
83	SLV FO 13	-23	2	393	0	0	0
83	SLV FO 14	-22	5	394	0	0	0
83	SLV FO 15	-30	-16	406	0	0	0
83	SLV FO 16	-30	-13	406	0	0	0
84	SLU 1	7	-5	288	0	0	0
84	SLU 2	7	-5	288	0	0	0
84	SLU 3	7	-5	295	0	0	0
84	SLU 4	7	-5	295	0	0	0
84	SLU 5	7	-5	292	0	0	0
84	SLU 6	7	-5	299	0	0	0
84	SLU 7	7	-5	299	0	0	0
84	SLU 8	7	-5	297	0	0	0
84	SLU 9	7	-5	297	0	0	0
84	SLU 10	7	-5	325	0	0	0
84	SLU 11	7	-6	332	0	0	0
84	SLU 12	7	-5	332	0	0	0
84	SLU 13	7	-5	330	0	0	0
84	SLU 14	7	-6	337	0	0	0
84	SLU 15	8	-5	336	0	0	0
84	SLU 16	7	-6	334	0	0	0
84	SLU 17	7	-5	334	0	0	0
84	SLU 18	7	-6	342	0	0	0
84	SLU 19	8	-6	342	0	0	0
84	SLU 20	7	-6	346	0	0	0
84	SLU 21	8	-6	346	0	0	0
84	SLU 22	8	-5	333	0	0	0
84	SLU 23	8	-4	333	0	0	0
84	SLU 24	8	-5	340	0	0	0
84	SLU 25	8	-4	340	0	0	0
84	SLU 26	8	-4	337	0	0	0
84	SLU 27	8	-5	344	0	0	0
84	SLU 28	8	-4	344	0	0	0
84	SLU 29	8	-5	342	0	0	0
84	SLU 30	8	-4	342	0	0	0
84	SLU 31	9	-5	370	0	0	0
84	SLU 32	8	-5	377	0	0	0
84	SLU 33	9	-5	377	0	0	0
84	SLU 34	9	-5	375	0	0	0
84	SLU 35	8	-5	381	0	0	0
84	SLU 36	9	-5	381	0	0	0
84	SLU 37	8	-5	379	0	0	0
84	SLU 38	9	-5	379	0	0	0
84	SLU 39	8	-6	387	0	0	0
84	SLU 40	9	-5	386	0	0	0
84	SLU 41	9	-5	391	0	0	0
84	SLU 42	9	-5	391	0	0	0
84	SLU 43	8	-7	359	0	0	0
84	SLU 44	9	-7	359	0	0	0
84	SLU 45	9	-7	366	0	0	0
84	SLU 46	9	-7	366	0	0	0
84	SLU 47	9	-6	363	0	0	0
84	SLU 48	9	-7	370	0	0	0
84	SLU 49	9	-7	370	0	0	0
84	SLU 50	9	-7	368	0	0	0
84	SLU 51	9	-7	368	0	0	0
84	SLU 52	9	-7	396	0	0	0
84	SLU 53	9	-8	403	0	0	0
84	SLU 54	9	-7	403	0	0	0
84	SLU 55	9	-7	401	0	0	0
84	SLU 56	9	-7	408	0	0	0
84	SLU 57	9	-7	408	0	0	0
84	SLU 58	9	-7	405	0	0	0
84	SLU 59	9	-7	405	0	0	0
84	SLU 60	9	-8	413	0	0	0
84	SLU 61	9	-8	413	0	0	0
84	SLU 62	9	-8	417	0	0	0
84	SLU 63	9	-7	417	0	0	0
84	SLU 64	10	-7	404	0	0	0
84	SLU 65	10	-6	404	0	0	0
84	SLU 66	10	-7	411	0	0	0
84	SLU 67	10	-6	411	0	0	0
84	SLU 68	10	-6	408	0	0	0
84	SLU 69	10	-6	415	0	0	0
84	SLU 70	10	-6	415	0	0	0
84	SLU 71	10	-6	413	0	0	0
84	SLU 72	10	-6	413	0	0	0
84	SLU 73	10	-7	441	0	0	0
84	SLU 74	10	-7	448	0	0	0
84	SLU 75	10	-7	448	0	0	0
84	SLU 76	10	-6	446	0	0	0
84	SLU 77	10	-7	453	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
84	SLU 78	10	-6	452	0	0	0
84	SLU 79	10	-7	450	0	0	0
84	SLU 80	10	-6	450	0	0	0
84	SLU 81	10	-7	458	0	0	0
84	SLU 82	10	-7	457	0	0	0
84	SLU 83	10	-7	462	0	0	0
84	SLU 84	10	-7	462	0	0	0
84	SLE RA 1	7	-5	301	0	0	0
84	SLE RA 2	7	-5	301	0	0	0
84	SLE RA 3	7	-5	306	0	0	0
84	SLE RA 4	7	-5	305	0	0	0
84	SLE RA 5	7	-5	304	0	0	0
84	SLE RA 6	7	-5	308	0	0	0
84	SLE RA 7	7	-5	308	0	0	0
84	SLE RA 8	7	-5	307	0	0	0
84	SLE RA 9	7	-5	307	0	0	0
84	SLE RA 10	8	-5	326	0	0	0
84	SLE RA 11	7	-5	330	0	0	0
84	SLE RA 12	8	-5	330	0	0	0
84	SLE RA 13	8	-5	329	0	0	0
84	SLE RA 14	7	-5	333	0	0	0
84	SLE RA 15	8	-5	333	0	0	0
84	SLE RA 16	7	-5	332	0	0	0
84	SLE RA 17	8	-5	332	0	0	0
84	SLE RA 18	8	-6	337	0	0	0
84	SLE RA 19	8	-5	337	0	0	0
84	SLE RA 20	8	-6	340	0	0	0
84	SLE RA 21	8	-5	339	0	0	0
84	SLE FR 1	7	-5	301	0	0	0
84	SLE FR 2	7	-5	301	0	0	0
84	SLE FR 3	7	-5	302	0	0	0
84	SLE FR 4	7	-5	312	0	0	0
84	SLE FR 5	7	-5	313	0	0	0
84	SLE FR 6	7	-6	319	0	0	0
84	SLE QP 1	7	-5	301	0	0	0
84	SLE QP 2	7	-5	312	0	0	0
84	SLD 1	26	-5	292	0	0	0
84	SLD 2	26	-3	292	0	0	0
84	SLD 3	22	-12	294	0	0	0
84	SLD 4	22	-10	295	0	0	0
84	SLD 5	18	5	302	0	0	0
84	SLD 6	18	7	302	0	0	0
84	SLD 7	7	-19	310	0	0	0
84	SLD 8	7	-17	310	0	0	0
84	SLD 9	8	6	313	0	0	0
84	SLD 10	8	8	313	0	0	0
84	SLD 11	-3	-17	321	0	0	0
84	SLD 12	-3	-16	321	0	0	0
84	SLD 13	-8	-1	329	0	0	0
84	SLD 14	-8	1	329	0	0	0
84	SLD 15	-11	-8	331	0	0	0
84	SLD 16	-11	-6	332	0	0	0
84	SLV 1	36	-4	281	0	0	0
84	SLV 2	36	0	281	0	0	0
84	SLV 3	30	-16	285	0	0	0
84	SLV 4	31	-13	285	0	0	0
84	SLV 5	25	13	296	0	0	0
84	SLV 6	25	15	296	0	0	0
84	SLV 7	6	-28	310	0	0	0
84	SLV 8	6	-25	310	0	0	0
84	SLV 9	9	15	313	0	0	0
84	SLV 10	9	17	314	0	0	0
84	SLV 11	-10	-26	327	0	0	0
84	SLV 12	-10	-24	328	0	0	0
84	SLV 13	-16	2	338	0	0	0
84	SLV 14	-16	5	339	0	0	0
84	SLV 15	-22	-10	343	0	0	0
84	SLV 16	-22	-7	343	0	0	0
84	SLV FO 1	39	-4	278	0	0	0
84	SLV FO 2	39	0	278	0	0	0
84	SLV FO 3	33	-17	282	0	0	0
84	SLV FO 4	33	-13	283	0	0	0
84	SLV FO 5	26	15	294	0	0	0
84	SLV FO 6	26	17	295	0	0	0
84	SLV FO 7	5	-30	310	0	0	0
84	SLV FO 8	5	-27	310	0	0	0
84	SLV FO 9	9	17	313	0	0	0
84	SLV FO 10	9	19	314	0	0	0
84	SLV FO 11	-12	-28	329	0	0	0
84	SLV FO 12	-12	-26	329	0	0	0
84	SLV FO 13	-18	2	341	0	0	0
84	SLV FO 14	-18	6	341	0	0	0
84	SLV FO 15	-25	-11	346	0	0	0
84	SLV FO 16	-25	-7	346	0	0	0
171	SLU 1	0	-5	249	-18.69	31.24	0.67
171	SLU 2	0	-5	257	-19.25	32.17	0.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
171	SLU 3	0	-6	253	-18.97	31.71	0.68
171	SLU 4	0	-5	257	-19.31	32.27	0.62
171	SLU 5	0	-5	259	-19.42	32.47	0.57
171	SLU 6	0	-6	255	-19.15	32.01	0.69
171	SLU 7	0	-5	260	-19.48	32.57	0.62
171	SLU 8	0	-6	254	-19.04	31.83	0.69
171	SLU 9	0	-5	258	-19.37	32.39	0.62
171	SLU 10	0	-5	289	-21.71	36.29	0.65
171	SLU 11	0	-6	286	-21.44	35.83	0.77
171	SLU 12	0	-6	290	-21.77	36.39	0.7
171	SLU 13	0	-5	292	-21.89	36.59	0.65
171	SLU 14	0	-6	288	-21.61	36.13	0.78
171	SLU 15	0	-6	293	-21.94	36.68	0.71
171	SLU 16	0	-6	287	-21.5	35.95	0.77
171	SLU 17	0	-6	291	-21.84	36.51	0.71
171	SLU 18	0	-6	296	-22.21	37.13	0.8
171	SLU 19	0	-6	301	-22.54	37.69	0.73
171	SLU 20	0	-6	298	-22.38	37.42	0.8
171	SLU 21	0	-6	303	-22.72	37.98	0.74
171	SLU 22	0	-6	282	-21.18	35.41	0.75
171	SLU 23	0	-5	290	-21.74	36.34	0.64
171	SLU 24	0	-6	286	-21.46	35.88	0.77
171	SLU 25	0	-6	291	-21.8	36.44	0.7
171	SLU 26	0	-5	292	-21.91	36.63	0.65
171	SLU 27	0	-6	289	-21.64	36.17	0.77
171	SLU 28	0	-6	293	-21.97	36.73	0.71
171	SLU 29	0	-6	287	-21.53	35.99	0.77
171	SLU 30	0	-6	292	-21.87	36.55	0.7
171	SLU 31	0	-6	323	-24.2	40.46	0.73
171	SLU 32	0	-7	319	-23.93	40	0.86
171	SLU 33	0	-6	323	-24.26	40.56	0.79
171	SLU 34	0	-6	325	-24.38	40.75	0.74
171	SLU 35	0	-7	321	-24.1	40.29	0.86
171	SLU 36	0	-6	326	-24.44	40.85	0.8
171	SLU 37	0	-7	320	-23.99	40.11	0.86
171	SLU 38	0	-6	324	-24.33	40.67	0.79
171	SLU 39	0	-7	329	-24.7	41.29	0.88
171	SLU 40	0	-6	334	-25.04	41.85	0.81
171	SLU 41	0	-7	332	-24.88	41.58	0.89
171	SLU 42	0	-7	336	-25.21	42.14	0.82
171	SLU 43	0	-7	313	-23.44	39.19	0.84
171	SLU 44	0	-6	320	-24	40.12	0.73
171	SLU 45	0	-7	316	-23.72	39.66	0.85
171	SLU 46	0	-6	321	-24.06	40.22	0.79
171	SLU 47	0	-6	322	-24.18	40.41	0.74
171	SLU 48	0	-7	319	-23.9	39.95	0.86
171	SLU 49	0	-6	323	-24.23	40.51	0.8
171	SLU 50	0	-7	317	-23.79	39.77	0.86
171	SLU 51	0	-6	322	-24.13	40.33	0.79
171	SLU 52	0	-7	353	-26.46	44.24	0.82
171	SLU 53	0	-8	349	-26.19	43.78	0.94
171	SLU 54	0	-7	354	-26.52	44.34	0.88
171	SLU 55	0	-7	355	-26.64	44.53	0.83
171	SLU 56	0	-8	352	-26.36	44.07	0.95
171	SLU 57	0	-7	356	-26.7	44.63	0.88
171	SLU 58	0	-8	350	-26.26	43.89	0.95
171	SLU 59	0	-7	355	-26.59	44.45	0.88
171	SLU 60	0	-8	360	-26.96	45.07	0.97
171	SLU 61	0	-7	364	-27.3	45.63	0.9
171	SLU 62	0	-8	362	-27.14	45.36	0.98
171	SLU 63	0	-7	366	-27.47	45.92	0.91
171	SLU 64	0	-7	346	-25.93	43.35	0.93
171	SLU 65	0	-7	353	-26.49	44.28	0.81
171	SLU 66	0	-8	350	-26.22	43.82	0.94
171	SLU 67	0	-7	354	-26.55	44.38	0.87
171	SLU 68	0	-7	356	-26.67	44.58	0.82
171	SLU 69	0	-8	352	-26.39	44.12	0.95
171	SLU 70	0	-7	356	-26.73	44.67	0.88
171	SLU 71	0	-8	350	-26.28	43.94	0.94
171	SLU 72	0	-7	355	-26.62	44.5	0.87
171	SLU 73	0	-7	386	-28.96	48.4	0.9
171	SLU 74	0	-8	382	-28.68	47.94	1.03
171	SLU 75	0	-8	387	-29.01	48.5	0.96
171	SLU 76	0	-7	388	-29.13	48.7	0.91
171	SLU 77	0	-8	385	-28.85	48.23	1.04
171	SLU 78	0	-8	389	-29.19	48.79	0.97
171	SLU 79	0	-8	383	-28.75	48.06	1.03
171	SLU 80	0	-8	388	-29.08	48.62	0.96
171	SLU 81	0	-8	393	-29.45	49.24	1.05
171	SLU 82	0	-8	397	-29.79	49.8	0.99
171	SLU 83	0	-8	395	-29.63	49.53	1.06
171	SLU 84	0	-8	400	-29.96	50.09	0.99
171	SLE RA 1	0	-6	259	-19.4	32.43	0.69
171	SLE RA 2	0	-5	264	-19.77	33.05	0.62
171	SLE RA 3	0	-6	261	-19.59	32.75	0.7
171	SLE RA 4	0	-5	264	-19.81	33.12	0.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
171	SLE RA 5	0	-5	265	-19.89	33.25	0.62
171	SLE RA 6	0	-6	263	-19.71	32.94	0.71
171	SLE RA 7	0	-5	266	-19.93	33.31	0.66
171	SLE RA 8	0	-6	262	-19.63	32.82	0.7
171	SLE RA 9	0	-5	265	-19.86	33.2	0.66
171	SLE RA 10	0	-5	286	-21.42	35.8	0.68
171	SLE RA 11	0	-6	283	-21.23	35.49	0.76
171	SLE RA 12	0	-6	286	-21.46	35.87	0.72
171	SLE RA 13	0	-5	287	-21.53	36	0.68
171	SLE RA 14	0	-6	285	-21.35	35.69	0.77
171	SLE RA 15	0	-6	288	-21.57	36.06	0.72
171	SLE RA 16	0	-6	284	-21.28	35.57	0.76
171	SLE RA 17	0	-6	287	-21.5	35.94	0.72
171	SLE RA 18	0	-6	290	-21.75	36.36	0.78
171	SLE RA 19	0	-6	293	-21.97	36.73	0.73
171	SLE RA 20	0	-6	292	-21.86	36.55	0.78
171	SLE RA 21	0	-6	295	-22.09	36.92	0.74
171	SLE FR 1	0	-6	259	-19.4	32.43	0.69
171	SLE FR 2	0	-6	260	-19.48	32.56	0.68
171	SLE FR 3	0	-6	259	-19.45	32.51	0.7
171	SLE FR 4	0	-6	269	-20.18	33.73	0.7
171	SLE FR 5	0	-6	269	-20.15	33.69	0.72
171	SLE FR 6	0	-6	274	-20.57	34.39	0.74
171	SLE QP 1	0	-6	259	-19.4	32.43	0.69
171	SLE QP 2	0	-6	268	-20.11	33.61	0.72
171	SLD 1	23	-4	339	-25.39	42.44	2.12
171	SLD 2	27	-6	335	-25.13	42	2.75
171	SLD 3	22	-14	233	-17.44	29.16	3.47
171	SLD 4	27	-16	229	-17.18	28.72	4.09
171	SLD 5	7	11	451	-33.79	56.48	-1.01
171	SLD 6	10	10	448	-33.62	56.2	-0.61
171	SLD 7	5	-24	97	-7.3	12.2	3.48
171	SLD 8	8	-26	95	-7.13	11.92	3.88
171	SLD 9	-8	14	441	-33.08	55.3	-2.44
171	SLD 10	-5	13	439	-32.91	55.02	-2.04
171	SLD 11	-10	-22	88	-6.59	11.02	2.04
171	SLD 12	-7	-23	86	-6.42	10.73	2.45
171	SLD 13	-27	5	307	-23.03	38.5	-2.65
171	SLD 14	-22	3	304	-22.77	38.06	-2.03
171	SLD 15	-28	-6	201	-15.09	25.22	-1.31
171	SLD 16	-23	-8	198	-14.82	24.78	-0.68
171	SLV 1	36	-2	386	-28.95	48.4	2.81
171	SLV 2	43	-5	380	-28.53	47.7	3.79
171	SLV 3	35	-20	205	-15.39	25.73	5.1
171	SLV 4	42	-23	200	-14.97	25.03	6.09
171	SLV 5	11	24	579	-43.41	72.56	-2.31
171	SLV 6	16	21	575	-43.13	72.09	-1.65
171	SLV 7	8	-37	-24	1.8	-3.01	5.33
171	SLV 8	13	-39	-28	2.08	-3.48	5.99
171	SLV 9	-13	28	564	-42.29	70.7	-4.55
171	SLV 10	-8	25	560	-42.01	70.23	-3.89
171	SLV 11	-16	-33	-39	2.91	-4.87	3.09
171	SLV 12	-11	-35	-43	3.2	-5.34	3.75
171	SLV 13	-42	12	337	-25.24	42.19	-4.65
171	SLV 14	-35	8	331	-24.82	41.49	-3.67
171	SLV 15	-43	-6	156	-11.68	19.52	-2.36
171	SLV 16	-36	-10	150	-11.26	18.82	-1.37
171	SLV FO 1	39	-1	398	-29.84	49.88	3.02
171	SLV FO 2	47	-5	392	-29.38	49.11	4.1
171	SLV FO 3	38	-21	199	-14.92	24.94	5.54
171	SLV FO 4	46	-25	193	-14.46	24.17	6.62
171	SLV FO 5	12	27	610	-45.74	76.46	-2.62
171	SLV FO 6	17	24	606	-45.43	75.94	-1.89
171	SLV FO 7	8	-40	-53	3.99	-6.67	5.79
171	SLV FO 8	14	-43	-57	4.3	-7.19	6.52
171	SLV FO 9	-14	31	593	-44.51	74.41	-5.08
171	SLV FO 10	-9	28	589	-44.2	73.89	-4.35
171	SLV FO 11	-17	-36	-70	5.22	-8.72	3.33
171	SLV FO 12	-12	-38	-74	5.53	-9.24	4.06
171	SLV FO 13	-47	13	343	-25.75	43.05	-5.19
171	SLV FO 14	-39	10	337	-25.29	42.28	-4.11
171	SLV FO 15	-48	-7	144	-10.83	18.11	-2.66
171	SLV FO 16	-39	-10	138	-10.38	17.34	-1.58
171	CRTFP Ux+	0	0	0	0	0	0
171	CRTFP Ux-	0	0	0	0	0	0
171	CRTFP Uy+	0	0	0	0	0	0
171	CRTFP Uy-	0	0	0	0	0	0
172	SLU 1	0	-9	488	-36.62	54.42	0.99
172	SLU 2	0	-7	503	-37.71	56.04	0.78
172	SLU 3	0	-9	496	-37.18	55.24	1
172	SLU 4	0	-8	504	-37.83	56.21	0.88
172	SLU 5	0	-7	507	-38.06	56.55	0.79
172	SLU 6	0	-9	500	-37.52	55.75	1.02
172	SLU 7	0	-8	509	-38.17	56.72	0.89
172	SLU 8	0	-9	497	-37.31	55.44	1.01
172	SLU 9	0	-8	506	-37.96	56.41	0.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
172	SLU 10	0	-8	567	-42.55	63.22	0.92
172	SLU 11	0	-10	560	-42.01	62.43	1.14
172	SLU 12	0	-9	569	-42.67	63.4	1.02
172	SLU 13	0	-8	572	-42.89	63.73	0.93
172	SLU 14	0	-10	565	-42.36	62.94	1.15
172	SLU 15	0	-9	573	-43.01	63.91	1.03
172	SLU 16	0	-10	562	-42.15	62.63	1.14
172	SLU 17	0	-9	571	-42.8	63.6	1.02
172	SLU 18	0	-10	580	-43.53	64.69	1.18
172	SLU 19	0	-9	589	-44.19	65.66	1.06
172	SLU 20	0	-11	585	-43.88	65.2	1.19
172	SLU 21	0	-9	594	-44.53	66.17	1.07
172	SLU 22	0	-10	553	-41.49	61.66	1.11
172	SLU 23	0	-8	568	-42.58	63.27	0.9
172	SLU 24	0	-10	561	-42.05	62.48	1.12
172	SLU 25	0	-9	569	-42.7	63.45	1
172	SLU 26	0	-8	572	-42.92	63.78	0.91
172	SLU 27	0	-10	565	-42.39	62.99	1.14
172	SLU 28	0	-9	574	-43.04	63.96	1.01
172	SLU 29	0	-10	562	-42.18	62.68	1.13
172	SLU 30	0	-9	571	-42.83	63.65	1.01
172	SLU 31	0	-9	632	-47.42	70.46	1.04
172	SLU 32	0	-11	625	-46.88	69.67	1.26
172	SLU 33	0	-10	634	-47.54	70.63	1.14
172	SLU 34	0	-9	637	-47.76	70.97	1.05
172	SLU 35	0	-11	630	-47.23	70.18	1.27
172	SLU 36	0	-10	638	-47.88	71.15	1.15
172	SLU 37	0	-11	627	-47.02	69.87	1.26
172	SLU 38	0	-10	636	-47.67	70.83	1.14
172	SLU 39	0	-12	645	-48.4	71.92	1.3
172	SLU 40	0	-10	654	-49.06	72.89	1.18
172	SLU 41	0	-12	650	-48.75	72.43	1.31
172	SLU 42	0	-11	659	-49.4	73.4	1.19
172	SLU 43	0	-11	613	-45.94	68.26	1.24
172	SLU 44	0	-10	627	-47.03	69.88	1.04
172	SLU 45	0	-12	620	-46.49	69.09	1.26
172	SLU 46	0	-10	629	-47.15	70.06	1.14
172	SLU 47	0	-10	632	-47.37	70.39	1.05
172	SLU 48	0	-12	625	-46.84	69.6	1.27
172	SLU 49	0	-11	633	-47.49	70.57	1.15
172	SLU 50	0	-12	622	-46.63	69.29	1.26
172	SLU 51	0	-11	630	-47.28	70.26	1.14
172	SLU 52	0	-11	692	-51.87	77.07	1.17
172	SLU 53	0	-13	684	-51.33	76.27	1.39
172	SLU 54	0	-11	693	-51.98	77.24	1.27
172	SLU 55	0	-11	696	-52.21	77.58	1.18
172	SLU 56	0	-13	689	-51.68	76.79	1.4
172	SLU 57	0	-12	698	-52.33	77.75	1.28
172	SLU 58	0	-13	686	-51.47	76.47	1.4
172	SLU 59	0	-12	695	-52.12	77.44	1.28
172	SLU 60	0	-13	705	-52.85	78.53	1.43
172	SLU 61	0	-12	713	-53.5	79.5	1.31
172	SLU 62	0	-13	709	-53.19	79.04	1.44
172	SLU 63	0	-12	718	-53.85	80.01	1.32
172	SLU 64	0	-12	677	-50.81	75.5	1.36
172	SLU 65	0	-11	692	-51.9	77.12	1.16
172	SLU 66	0	-13	685	-51.36	76.32	1.38
172	SLU 67	0	-12	694	-52.02	77.29	1.26
172	SLU 68	0	-11	697	-52.24	77.63	1.17
172	SLU 69	0	-13	689	-51.71	76.83	1.39
172	SLU 70	0	-12	698	-52.36	77.8	1.27
172	SLU 71	0	-13	687	-51.5	76.52	1.38
172	SLU 72	0	-12	695	-52.15	77.49	1.26
172	SLU 73	0	-12	756	-56.74	84.3	1.29
172	SLU 74	0	-14	749	-56.2	83.51	1.51
172	SLU 75	0	-13	758	-56.85	84.48	1.39
172	SLU 76	0	-12	761	-57.08	84.81	1.3
172	SLU 77	0	-14	754	-56.55	84.02	1.52
172	SLU 78	0	-13	763	-57.2	84.99	1.4
172	SLU 79	0	-14	751	-56.34	83.71	1.52
172	SLU 80	0	-13	760	-56.99	84.68	1.4
172	SLU 81	0	-14	770	-57.72	85.77	1.55
172	SLU 82	0	-13	778	-58.37	86.74	1.43
172	SLU 83	0	-14	774	-58.06	86.28	1.56
172	SLU 84	0	-13	783	-58.72	87.25	1.44
172	SLE RA 1	0	-9	507	-38.01	56.49	1.02
172	SLE RA 2	0	-8	517	-38.74	57.56	0.88
172	SLE RA 3	0	-9	512	-38.38	57.04	1.03
172	SLE RA 4	0	-9	518	-38.82	57.68	0.95
172	SLE RA 5	0	-8	520	-38.97	57.9	0.89
172	SLE RA 6	0	-10	515	-38.61	57.38	1.04
172	SLE RA 7	0	-9	521	-39.05	58.02	0.96
172	SLE RA 8	0	-10	513	-38.47	57.17	1.04
172	SLE RA 9	0	-9	519	-38.91	57.81	0.95
172	SLE RA 10	0	-9	560	-41.96	62.36	0.97
172	SLE RA 11	0	-10	555	-41.61	61.83	1.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
172	SLE RA 12	0	-9	561	-42.04	62.47	1.04
172	SLE RA 13	0	-9	563	-42.19	62.7	0.98
172	SLE RA 14	0	-10	558	-41.84	62.17	1.13
172	SLE RA 15	0	-9	564	-42.27	62.81	1.05
172	SLE RA 16	0	-10	556	-41.7	61.96	1.13
172	SLE RA 17	0	-9	562	-42.13	62.61	1.04
172	SLE RA 18	0	-10	568	-42.62	63.33	1.15
172	SLE RA 19	0	-10	574	-43.06	63.98	1.07
172	SLE RA 20	0	-10	571	-42.85	63.67	1.16
172	SLE RA 21	0	-10	577	-43.29	64.32	1.07
172	SLE FR 1	0	-9	507	-38.01	56.49	1.02
172	SLE FR 2	0	-9	509	-38.16	56.7	0.99
172	SLE FR 3	0	-9	508	-38.11	56.62	1.02
172	SLE FR 4	0	-9	527	-39.54	58.76	1.03
172	SLE FR 5	0	-10	527	-39.49	58.68	1.06
172	SLE FR 6	0	-10	538	-40.32	59.91	1.08
172	SLE QP 1	0	-9	507	-38.01	56.49	1.02
172	SLE QP 2	0	-10	525	-39.4	58.54	1.06
172	SLD 1	45	-4	659	-49.39	73.39	3.75
172	SLD 2	54	-8	652	-48.9	72.67	4.88
172	SLD 3	44	-26	451	-33.86	50.31	6.2
172	SLD 4	53	-30	445	-33.37	49.58	7.32
172	SLD 5	13	26	881	-66.04	98.13	-2.04
172	SLD 6	19	23	876	-65.73	97.67	-1.32
172	SLD 7	10	-47	190	-14.26	21.18	6.12
172	SLD 8	16	-49	186	-13.94	20.72	6.84
172	SLD 9	-16	30	865	-64.85	96.36	-4.73
172	SLD 10	-10	28	861	-64.54	95.9	-4
172	SLD 11	-20	-42	174	-13.07	19.41	3.43
172	SLD 12	-14	-45	170	-12.75	18.95	4.16
172	SLD 13	-54	11	606	-45.43	67.5	-5.21
172	SLD 14	-44	7	599	-44.94	66.77	-4.08
172	SLD 15	-55	-11	399	-29.89	44.41	-2.76
172	SLD 16	-45	-15	392	-29.4	43.69	-1.64
172	SLV 1	70	1	749	-56.17	83.47	5.09
172	SLV 2	85	-6	739	-55.4	82.32	6.86
172	SLV 3	69	-37	395	-29.66	44.07	9.26
172	SLV 4	83	-43	385	-28.89	42.93	11.03
172	SLV 5	21	51	1130	-84.78	125.98	-4.39
172	SLV 6	31	47	1124	-84.26	125.21	-3.2
172	SLV 7	15	-73	-48	3.59	-5.34	9.52
172	SLV 8	25	-77	-55	4.11	-6.11	10.71
172	SLV 9	-25	58	1105	-82.9	123.19	-8.59
172	SLV 10	-16	54	1098	-82.38	122.42	-7.4
172	SLV 11	-31	-66	-73	5.47	-8.13	5.32
172	SLV 12	-21	-70	-80	5.99	-8.9	6.51
172	SLV 13	-84	24	665	-49.9	74.15	-8.91
172	SLV 14	-69	17	655	-49.13	73.01	-7.14
172	SLV 15	-85	-14	312	-23.39	34.76	-4.74
172	SLV 16	-71	-20	302	-22.62	33.61	-2.97
172	SLV FO 1	78	2	771	-57.85	85.96	5.49
172	SLV FO 2	94	-5	760	-57	84.7	7.44
172	SLV FO 3	76	-39	382	-28.69	42.63	10.08
172	SLV FO 4	92	-46	371	-27.84	41.37	12.03
172	SLV FO 5	23	57	1191	-89.32	132.72	-4.94
172	SLV FO 6	34	53	1183	-88.75	131.88	-3.63
172	SLV FO 7	17	-79	-105	7.89	-11.72	10.36
172	SLV FO 8	28	-84	-113	8.46	-12.57	11.68
172	SLV FO 9	-28	65	1163	-87.25	129.65	-9.56
172	SLV FO 10	-17	60	1156	-86.68	128.8	-8.25
172	SLV FO 11	-34	-72	-133	9.96	-14.8	5.74
172	SLV FO 12	-23	-76	-140	10.53	-15.64	7.06
172	SLV FO 13	-92	27	679	-50.96	75.72	-9.91
172	SLV FO 14	-76	20	668	-50.11	74.46	-7.96
172	SLV FO 15	-94	-14	291	-21.79	32.38	-5.32
172	SLV FO 16	-78	-21	279	-20.94	31.12	-3.37
172	CRTFP Ux+	0	0	0	0	0	0
172	CRTFP Ux-	0	0	0	0	0	0
172	CRTFP Uy+	0	0	0	0	0	0
172	CRTFP Uy-	0	0	0	0	0	0
173	SLU 1	0	-8	489	-36.71	47.72	0.71
173	SLU 2	0	-6	504	-37.79	49.13	0.52
173	SLU 3	0	-8	497	-37.26	48.45	0.72
173	SLU 4	0	-7	505	-37.91	49.29	0.61
173	SLU 5	0	-6	508	-38.14	49.58	0.53
173	SLU 6	0	-8	501	-37.61	48.9	0.73
173	SLU 7	0	-7	510	-38.26	49.74	0.61
173	SLU 8	0	-8	499	-37.4	48.62	0.72
173	SLU 9	0	-7	507	-38.05	49.47	0.61
173	SLU 10	0	-6	569	-42.65	55.45	0.62
173	SLU 11	0	-8	562	-42.12	54.76	0.82
173	SLU 12	0	-7	570	-42.77	55.61	0.71
173	SLU 13	0	-7	573	-42.99	55.9	0.63
173	SLU 14	0	-9	566	-42.47	55.21	0.83
173	SLU 15	0	-7	575	-43.12	56.06	0.72
173	SLU 16	0	-9	563	-42.26	54.94	0.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
173	SLU 17	0	-7	572	-42.91	55.79	0.71
173	SLU 18	0	-9	582	-43.65	56.75	0.85
173	SLU 19	0	-8	591	-44.3	57.59	0.74
173	SLU 20	0	-9	587	-43.99	57.2	0.86
173	SLU 21	0	-8	595	-44.64	58.04	0.75
173	SLU 22	0	-8	554	-41.58	54.06	0.79
173	SLU 23	0	-7	569	-42.66	55.47	0.6
173	SLU 24	0	-9	562	-42.13	54.78	0.8
173	SLU 25	0	-7	570	-42.78	55.63	0.69
173	SLU 26	0	-7	573	-43.01	55.92	0.61
173	SLU 27	0	-9	566	-42.48	55.23	0.81
173	SLU 28	0	-8	575	-43.13	56.08	0.7
173	SLU 29	0	-9	564	-42.27	54.96	0.8
173	SLU 30	-1	-7	572	-42.92	55.8	0.69
173	SLU 31	0	-7	634	-47.52	61.78	0.71
173	SLU 32	0	-9	627	-46.99	61.1	0.9
173	SLU 33	0	-8	635	-47.64	61.94	0.79
173	SLU 34	0	-7	638	-47.87	62.23	0.71
173	SLU 35	0	-9	631	-47.34	61.55	0.91
173	SLU 36	0	-8	640	-47.99	62.39	0.8
173	SLU 37	0	-9	628	-47.13	61.28	0.91
173	SLU 38	0	-8	637	-47.78	62.12	0.8
173	SLU 39	0	-10	647	-48.52	63.08	0.94
173	SLU 40	0	-8	656	-49.17	63.93	0.82
173	SLU 41	0	-10	652	-48.86	63.53	0.94
173	SLU 42	0	-9	660	-49.51	64.38	0.83
173	SLU 43	0	-9	614	-46.05	59.87	0.89
173	SLU 44	-1	-8	628	-47.13	61.28	0.7
173	SLU 45	0	-10	621	-46.6	60.59	0.9
173	SLU 46	-1	-9	630	-47.25	61.44	0.79
173	SLU 47	-1	-8	633	-47.48	61.73	0.71
173	SLU 48	0	-10	626	-46.95	61.04	0.91
173	SLU 49	-1	-9	635	-47.6	61.89	0.8
173	SLU 50	-1	-10	623	-46.74	60.77	0.91
173	SLU 51	-1	-9	632	-47.39	61.62	0.79
173	SLU 52	0	-8	693	-51.99	67.59	0.81
173	SLU 53	0	-10	686	-51.46	66.91	1.01
173	SLU 54	0	-9	695	-52.11	67.75	0.89
173	SLU 55	0	-9	698	-52.34	68.04	0.81
173	SLU 56	0	-11	691	-51.81	67.36	1.01
173	SLU 57	0	-9	699	-52.46	68.21	0.9
173	SLU 58	0	-10	688	-51.6	67.09	1.01
173	SLU 59	0	-9	697	-52.25	67.93	0.9
173	SLU 60	0	-11	706	-52.99	68.89	1.04
173	SLU 61	0	-9	715	-53.64	69.74	0.93
173	SLU 62	0	-11	711	-53.33	69.34	1.05
173	SLU 63	0	-10	720	-53.98	70.19	0.93
173	SLU 64	0	-10	679	-50.92	66.2	0.97
173	SLU 65	-1	-8	693	-52	67.61	0.79
173	SLU 66	0	-10	686	-51.48	66.93	0.99
173	SLU 67	-1	-9	695	-52.13	67.77	0.87
173	SLU 68	-1	-9	698	-52.35	68.06	0.79
173	SLU 69	-1	-11	691	-51.82	67.38	0.99
173	SLU 70	-1	-9	700	-52.47	68.22	0.88
173	SLU 71	-1	-11	688	-51.61	67.1	0.99
173	SLU 72	-1	-9	697	-52.26	67.95	0.88
173	SLU 73	0	-9	758	-56.86	73.93	0.89
173	SLU 74	0	-11	751	-56.33	73.24	1.09
173	SLU 75	0	-10	760	-56.98	74.09	0.98
173	SLU 76	0	-9	763	-57.21	74.38	0.9
173	SLU 77	0	-11	756	-56.68	73.69	1.1
173	SLU 78	0	-10	764	-57.33	74.54	0.98
173	SLU 79	0	-11	753	-56.47	73.42	1.09
173	SLU 80	0	-10	762	-57.12	74.27	0.98
173	SLU 81	0	-11	771	-57.86	75.23	1.12
173	SLU 82	0	-10	780	-58.51	76.07	1.01
173	SLU 83	0	-12	776	-58.21	75.68	1.13
173	SLU 84	0	-10	785	-58.86	76.52	1.02
173	SLE RA 1	0	-8	508	-38.1	49.53	0.73
173	SLE RA 2	0	-7	518	-38.82	50.47	0.61
173	SLE RA 3	0	-8	513	-38.47	50.02	0.74
173	SLE RA 4	0	-7	519	-38.9	50.58	0.66
173	SLE RA 5	0	-7	521	-39.05	50.77	0.61
173	SLE RA 6	0	-8	516	-38.7	50.32	0.74
173	SLE RA 7	0	-7	522	-39.13	50.88	0.67
173	SLE RA 8	0	-8	514	-38.56	50.13	0.74
173	SLE RA 9	0	-7	520	-38.99	50.7	0.67
173	SLE RA 10	0	-7	561	-42.06	54.68	0.67
173	SLE RA 11	0	-8	556	-41.71	54.23	0.81
173	SLE RA 12	0	-8	562	-42.14	54.79	0.73
173	SLE RA 13	0	-7	564	-42.29	54.98	0.68
173	SLE RA 14	0	-8	559	-41.94	54.53	0.81
173	SLE RA 15	0	-8	565	-42.37	55.09	0.74
173	SLE RA 16	0	-8	557	-41.8	54.35	0.81
173	SLE RA 17	0	-8	563	-42.23	54.91	0.73
173	SLE RA 18	0	-9	570	-42.72	55.55	0.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
173	SLE RA 19	0	-8	575	-43.16	56.11	0.75
173	SLE RA 20	0	-9	573	-42.96	55.85	0.83
173	SLE RA 21	0	-8	579	-43.39	56.41	0.76
173	SLE FR 1	0	-8	508	-38.1	49.53	0.73
173	SLE FR 2	0	-8	510	-38.24	49.72	0.71
173	SLE FR 3	0	-8	509	-38.19	49.65	0.73
173	SLE FR 4	0	-8	528	-39.63	51.53	0.74
173	SLE FR 5	0	-8	528	-39.58	51.46	0.76
173	SLE FR 6	0	-8	539	-40.41	52.54	0.78
173	SLE QP 1	0	-8	508	-38.1	49.53	0.73
173	SLE QP 2	0	-8	526	-39.49	51.34	0.76
173	SLD 1	45	-1	655	-49.13	63.87	3.44
173	SLD 2	54	-5	649	-48.67	63.27	4.48
173	SLD 3	44	-24	448	-33.61	43.7	5.67
173	SLD 4	53	-28	442	-33.15	43.1	6.7
173	SLD 5	13	29	880	-65.99	85.8	-1.99
173	SLD 6	19	27	876	-65.69	85.41	-1.33
173	SLD 7	10	-47	190	-14.27	18.55	5.43
173	SLD 8	16	-49	186	-13.97	18.17	6.1
173	SLD 9	-16	33	867	-65	84.51	-4.58
173	SLD 10	-10	31	863	-64.7	84.12	-3.91
173	SLD 11	-20	-43	177	-13.28	17.26	2.85
173	SLD 12	-14	-45	173	-12.98	16.88	3.51
173	SLD 13	-54	12	611	-45.82	59.57	-5.18
173	SLD 14	-45	8	605	-45.36	58.98	-4.15
173	SLD 15	-55	-11	404	-30.3	39.4	-2.96
173	SLD 16	-46	-15	398	-29.84	38.8	-1.92
173	SLV 1	71	4	743	-55.71	72.43	4.78
173	SLV 2	85	-2	733	-54.98	71.49	6.42
173	SLV 3	69	-35	390	-29.23	38	8.58
173	SLV 4	84	-40	380	-28.51	37.06	10.21
173	SLV 5	21	55	1129	-84.65	110.06	-4.1
173	SLV 6	31	52	1122	-84.16	109.42	-3
173	SLV 7	15	-74	-48	3.62	-4.7	8.56
173	SLV 8	25	-77	-55	4.1	-5.33	9.66
173	SLV 9	-26	61	1108	-83.07	108.01	-8.14
173	SLV 10	-16	58	1101	-82.59	107.38	-7.04
173	SLV 11	-31	-68	-69	5.19	-6.75	4.52
173	SLV 12	-21	-71	-76	5.68	-7.38	5.62
173	SLV 13	-84	24	673	-50.47	65.61	-8.69
173	SLV 14	-69	19	663	-49.74	64.67	-7.06
173	SLV 15	-86	-14	320	-23.99	31.19	-4.89
173	SLV 16	-71	-20	310	-23.26	30.24	-3.26
173	SLV FO 1	78	5	764	-57.33	74.54	5.18
173	SLV FO 2	94	-1	754	-56.53	73.5	6.98
173	SLV FO 3	76	-37	376	-28.2	36.67	9.36
173	SLV FO 4	92	-43	365	-27.41	35.63	11.16
173	SLV FO 5	23	62	1189	-89.16	115.93	-4.58
173	SLV FO 6	34	58	1182	-88.63	115.23	-3.38
173	SLV FO 7	17	-80	-106	7.93	-10.3	9.34
173	SLV FO 8	28	-84	-113	8.46	-11	10.55
173	SLV FO 9	-28	68	1166	-87.43	113.68	-9.03
173	SLV FO 10	-17	64	1159	-86.9	112.98	-7.82
173	SLV FO 11	-34	-74	-129	9.66	-12.55	4.9
173	SLV FO 12	-23	-78	-136	10.19	-13.25	6.11
173	SLV FO 13	-93	27	688	-51.56	67.04	-9.64
173	SLV FO 14	-76	21	677	-50.77	66.01	-7.84
173	SLV FO 15	-94	-15	299	-22.44	29.17	-5.46
173	SLV FO 16	-78	-21	289	-21.64	28.14	-3.66
173	CRTFP Ux+	0	0	0	0	0	0
173	CRTFP Ux-	0	0	0	0	0	0
173	CRTFP Uy+	0	0	0	0	0	0
173	CRTFP Uy-	0	0	0	0	0	0
174	SLU 1	0	-6	493	-37	41.24	0.49
174	SLU 2	0	-4	508	-38.09	42.45	0.32
174	SLU 3	0	-6	501	-37.57	41.87	0.49
174	SLU 4	0	-5	510	-38.22	42.59	0.39
174	SLU 5	-1	-4	513	-38.44	42.84	0.32
174	SLU 6	0	-6	506	-37.92	42.26	0.5
174	SLU 7	-1	-5	514	-38.57	42.98	0.4
174	SLU 8	0	-6	503	-37.71	42.02	0.5
174	SLU 9	-1	-5	511	-38.36	42.75	0.4
174	SLU 10	0	-5	573	-43	47.92	0.4
174	SLU 11	0	-7	566	-42.48	47.34	0.57
174	SLU 12	0	-6	575	-43.13	48.07	0.47
174	SLU 13	0	-5	578	-43.35	48.31	0.4
174	SLU 14	0	-7	571	-42.83	47.73	0.58
174	SLU 15	0	-6	580	-43.48	48.46	0.48
174	SLU 16	0	-7	568	-42.62	47.5	0.57
174	SLU 17	0	-6	577	-43.27	48.22	0.47
174	SLU 18	0	-7	587	-44.02	49.06	0.6
174	SLU 19	0	-6	596	-44.67	49.78	0.5
174	SLU 20	0	-7	592	-44.37	49.45	0.6
174	SLU 21	0	-6	600	-45.02	50.18	0.5
174	SLU 22	0	-7	559	-41.91	46.71	0.54
174	SLU 23	0	-5	573	-42.99	47.92	0.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLU 24	0	-7	566	-42.47	47.33	0.55
174	SLU 25	0	-6	575	-43.12	48.06	0.45
174	SLU 26	-1	-5	578	-43.35	48.31	0.38
174	SLU 27	0	-7	571	-42.82	47.73	0.55
174	SLU 28	-1	-6	580	-43.48	48.45	0.45
174	SLU 29	0	-7	568	-42.61	47.49	0.55
174	SLU 30	-1	-6	577	-43.26	48.21	0.45
174	SLU 31	0	-6	639	-47.91	53.39	0.45
174	SLU 32	0	-8	632	-47.39	52.81	0.62
174	SLU 33	0	-6	641	-48.04	53.53	0.52
174	SLU 34	0	-6	643	-48.26	53.78	0.45
174	SLU 35	0	-8	637	-47.74	53.2	0.63
174	SLU 36	0	-7	645	-48.39	53.93	0.53
174	SLU 37	0	-8	634	-47.53	52.96	0.63
174	SLU 38	0	-6	642	-48.18	53.69	0.53
174	SLU 39	0	-8	652	-48.93	54.53	0.65
174	SLU 40	0	-7	661	-49.58	55.25	0.55
174	SLU 41	0	-8	657	-49.28	54.92	0.66
174	SLU 42	0	-7	666	-49.93	55.64	0.55
174	SLU 43	0	-8	619	-46.42	51.73	0.62
174	SLU 44	-1	-6	633	-47.51	52.94	0.45
174	SLU 45	-1	-8	626	-46.99	52.36	0.62
174	SLU 46	-1	-7	635	-47.64	53.09	0.52
174	SLU 47	-1	-6	638	-47.86	53.33	0.45
174	SLU 48	-1	-8	631	-47.34	52.75	0.63
174	SLU 49	-1	-7	640	-47.99	53.48	0.53
174	SLU 50	-1	-8	628	-47.12	52.52	0.63
174	SLU 51	-1	-7	637	-47.78	53.24	0.52
174	SLU 52	0	-7	699	-52.42	58.42	0.53
174	SLU 53	0	-9	692	-51.9	57.84	0.7
174	SLU 54	0	-7	701	-52.55	58.56	0.6
174	SLU 55	0	-7	704	-52.77	58.81	0.53
174	SLU 56	0	-9	697	-52.25	58.23	0.71
174	SLU 57	0	-7	705	-52.9	58.95	0.61
174	SLU 58	0	-9	694	-52.04	57.99	0.7
174	SLU 59	0	-7	703	-52.69	58.72	0.6
174	SLU 60	0	-9	713	-53.44	59.55	0.73
174	SLU 61	0	-8	721	-54.09	60.28	0.63
174	SLU 62	0	-9	717	-53.79	59.95	0.73
174	SLU 63	0	-8	726	-54.44	60.67	0.63
174	SLU 64	0	-8	684	-51.33	57.2	0.67
174	SLU 65	-1	-7	699	-52.41	58.41	0.5
174	SLU 66	-1	-9	692	-51.89	57.83	0.68
174	SLU 67	-1	-7	701	-52.54	58.56	0.58
174	SLU 68	-1	-7	704	-52.76	58.8	0.51
174	SLU 69	-1	-9	697	-52.24	58.22	0.68
174	SLU 70	-1	-8	705	-52.89	58.95	0.58
174	SLU 71	-1	-9	694	-52.03	57.98	0.68
174	SLU 72	-1	-7	702	-52.68	58.71	0.58
174	SLU 73	0	-7	764	-57.33	63.89	0.58
174	SLU 74	0	-9	757	-56.8	63.3	0.75
174	SLU 75	0	-8	766	-57.46	64.03	0.65
174	SLU 76	0	-7	769	-57.68	64.28	0.58
174	SLU 77	0	-9	762	-57.16	63.7	0.76
174	SLU 78	0	-8	771	-57.81	64.42	0.66
174	SLU 79	0	-9	759	-56.94	63.46	0.75
174	SLU 80	0	-8	768	-57.59	64.19	0.65
174	SLU 81	0	-9	778	-58.35	65.02	0.78
174	SLU 82	0	-8	787	-59	65.75	0.68
174	SLU 83	0	-9	783	-58.7	65.41	0.78
174	SLU 84	0	-8	791	-59.35	66.14	0.68
174	SLE RA 1	0	-6	512	-38.4	42.8	0.5
174	SLE RA 2	0	-5	522	-39.13	43.61	0.39
174	SLE RA 3	0	-6	517	-38.78	43.22	0.51
174	SLE RA 4	0	-6	523	-39.21	43.7	0.44
174	SLE RA 5	0	-5	525	-39.36	43.87	0.39
174	SLE RA 6	0	-6	520	-39.01	43.48	0.51
174	SLE RA 7	0	-6	526	-39.45	43.96	0.44
174	SLE RA 8	0	-6	518	-38.87	43.32	0.51
174	SLE RA 9	0	-6	524	-39.31	43.81	0.44
174	SLE RA 10	0	-5	565	-42.4	47.26	0.44
174	SLE RA 11	0	-7	561	-42.06	46.87	0.56
174	SLE RA 12	0	-6	567	-42.49	47.35	0.49
174	SLE RA 13	0	-6	569	-42.64	47.52	0.45
174	SLE RA 14	0	-7	564	-42.29	47.13	0.56
174	SLE RA 15	0	-6	570	-42.72	47.61	0.5
174	SLE RA 16	0	-7	562	-42.15	46.97	0.56
174	SLE RA 17	0	-6	568	-42.58	47.46	0.49
174	SLE RA 18	0	-7	574	-43.08	48.01	0.58
174	SLE RA 19	0	-6	580	-43.52	48.5	0.51
174	SLE RA 20	0	-7	578	-43.32	48.27	0.58
174	SLE RA 21	0	-6	583	-43.75	48.76	0.51
174	SLE FR 1	0	-6	512	-38.4	42.8	0.5
174	SLE FR 2	0	-6	514	-38.55	42.96	0.48
174	SLE FR 3	0	-6	513	-38.5	42.9	0.5
174	SLE FR 4	0	-6	533	-39.95	44.52	0.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLE FR 5	0	-7	532	-39.9	44.47	0.53
174	SLE FR 6	0	-7	543	-40.74	45.41	0.54
174	SLE QP 1	0	-6	512	-38.4	42.8	0.5
174	SLE QP 2	0	-7	531	-39.81	44.36	0.52
174	SLD 1	45	1	655	-49.15	54.77	3.24
174	SLD 2	55	-2	650	-48.72	54.29	4.21
174	SLD 3	44	-22	448	-33.57	37.41	5.23
174	SLD 4	54	-26	442	-33.13	36.92	6.19
174	SLD 5	13	32	884	-66.32	73.91	-1.84
174	SLD 6	19	30	881	-66.04	73.6	-1.22
174	SLD 7	10	-47	192	-14.37	16.02	4.78
174	SLD 8	16	-49	188	-14.09	15.71	5.4
174	SLD 9	-17	36	874	-65.52	73.02	-4.35
174	SLD 10	-10	33	870	-65.24	72.71	-3.73
174	SLD 11	-20	-43	181	-13.57	15.13	2.27
174	SLD 12	-14	-45	177	-13.29	14.82	2.89
174	SLD 13	-54	13	620	-46.48	51.8	-5.14
174	SLD 14	-45	9	614	-46.05	51.32	-4.18
174	SLD 15	-55	-11	412	-30.9	34.44	-3.16
174	SLD 16	-46	-14	406	-30.47	33.95	-2.19
174	SLV 1	71	7	741	-55.58	61.94	4.63
174	SLV 2	86	2	732	-54.89	61.18	6.14
174	SLV 3	70	-33	386	-28.98	32.3	8.01
174	SLV 4	84	-38	377	-28.3	31.54	9.53
174	SLV 5	21	59	1133	-85	94.73	-3.66
174	SLV 6	31	56	1127	-84.54	94.22	-2.64
174	SLV 7	15	-75	-49	3.65	-4.07	7.62
174	SLV 8	25	-78	-55	4.11	-4.58	8.64
174	SLV 9	-26	65	1116	-83.72	93.3	-7.59
174	SLV 10	-16	62	1110	-83.26	92.79	-6.57
174	SLV 11	-31	-69	-66	4.93	-5.49	3.69
174	SLV 12	-22	-73	-72	5.39	-6	4.71
174	SLV 13	-85	25	684	-51.32	57.19	-8.48
174	SLV 14	-70	20	675	-50.64	56.43	-6.96
174	SLV 15	-87	-15	330	-24.72	27.55	-5.09
174	SLV 16	-72	-20	321	-24.04	26.79	-3.58
174	SLV FO 1	78	8	762	-57.15	63.69	5.04
174	SLV FO 2	95	3	752	-56.4	62.86	6.71
174	SLV FO 3	77	-36	372	-27.9	31.09	8.76
174	SLV FO 4	93	-41	362	-27.15	30.25	10.43
174	SLV FO 5	23	66	1194	-89.52	99.77	-4.08
174	SLV FO 6	34	62	1187	-89.02	99.2	-2.95
174	SLV FO 7	17	-81	-107	7.99	-8.91	8.33
174	SLV FO 8	28	-85	-113	8.5	-9.47	9.45
174	SLV FO 9	-28	72	1175	-88.12	98.2	-8.4
174	SLV FO 10	-17	68	1168	-87.61	97.64	-7.28
174	SLV FO 11	-35	-76	-125	9.4	-10.47	4
174	SLV FO 12	-24	-79	-132	9.9	-11.04	5.13
174	SLV FO 13	-93	28	700	-52.47	58.47	-9.38
174	SLV FO 14	-77	23	690	-51.72	57.64	-7.71
174	SLV FO 15	-95	-16	310	-23.21	25.87	-5.66
174	SLV FO 16	-79	-22	300	-22.46	25.03	-3.99
174	CRTFP Ux+	0	0	0	0	0	0
174	CRTFP Ux-	0	0	0	0	0	0
174	CRTFP Uy+	0	0	0	0	0	0
174	CRTFP Uy-	0	0	0	0	0	0
175	SLU 1	0	-5	498	-37.38	34.72	0.31
175	SLU 2	0	-3	513	-38.47	35.73	0.17
175	SLU 3	0	-5	506	-37.95	35.25	0.31
175	SLU 4	0	-4	515	-38.61	35.86	0.23
175	SLU 5	0	-3	518	-38.83	36.06	0.17
175	SLU 6	0	-5	511	-38.31	35.58	0.32
175	SLU 7	0	-4	520	-38.97	36.19	0.23
175	SLU 8	0	-5	508	-38.1	35.38	0.32
175	SLU 9	-1	-4	517	-38.75	35.99	0.23
175	SLU 10	0	-3	579	-43.45	40.36	0.22
175	SLU 11	0	-5	572	-42.94	39.87	0.37
175	SLU 12	0	-4	581	-43.59	40.48	0.29
175	SLU 13	0	-3	584	-43.81	40.69	0.23
175	SLU 14	0	-6	577	-43.29	40.21	0.37
175	SLU 15	0	-4	586	-43.95	40.81	0.29
175	SLU 16	0	-6	574	-43.08	40.01	0.37
175	SLU 17	0	-4	583	-43.73	40.61	0.29
175	SLU 18	0	-6	593	-44.5	41.33	0.39
175	SLU 19	0	-4	602	-45.15	41.93	0.31
175	SLU 20	0	-6	598	-44.86	41.66	0.4
175	SLU 21	0	-4	607	-45.51	42.26	0.31
175	SLU 22	0	-5	565	-42.34	39.32	0.34
175	SLU 23	0	-3	579	-43.43	40.33	0.2
175	SLU 24	0	-5	572	-42.91	39.85	0.34
175	SLU 25	0	-4	581	-43.57	40.46	0.26
175	SLU 26	-1	-3	584	-43.79	40.66	0.2
175	SLU 27	0	-5	577	-43.27	40.18	0.35
175	SLU 28	-1	-4	586	-43.92	40.79	0.26
175	SLU 29	0	-5	574	-43.05	39.98	0.34
175	SLU 30	-1	-4	583	-43.71	40.59	0.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLU 31	0	-4	645	-48.41	44.96	0.25
175	SLU 32	0	-6	639	-47.89	44.48	0.4
175	SLU 33	0	-5	647	-48.55	45.09	0.31
175	SLU 34	0	-4	650	-48.77	45.29	0.25
175	SLU 35	0	-6	643	-48.25	44.81	0.4
175	SLU 36	0	-5	652	-48.9	45.42	0.32
175	SLU 37	0	-6	640	-48.03	44.61	0.4
175	SLU 38	0	-5	649	-48.69	45.22	0.31
175	SLU 39	0	-6	659	-49.46	45.93	0.42
175	SLU 40	0	-5	668	-50.11	46.54	0.34
175	SLU 41	0	-6	664	-49.81	46.26	0.42
175	SLU 42	0	-5	673	-50.47	46.87	0.34
175	SLU 43	0	-6	625	-46.9	43.55	0.4
175	SLU 44	-1	-4	640	-47.99	44.56	0.25
175	SLU 45	0	-6	633	-47.47	44.08	0.4
175	SLU 46	-1	-5	642	-48.12	44.69	0.31
175	SLU 47	-1	-4	645	-48.34	44.9	0.25
175	SLU 48	-1	-6	638	-47.83	44.42	0.4
175	SLU 49	-1	-5	646	-48.48	45.02	0.31
175	SLU 50	-1	-6	635	-47.61	44.22	0.4
175	SLU 51	-1	-5	644	-48.26	44.82	0.31
175	SLU 52	0	-5	706	-52.97	49.19	0.31
175	SLU 53	0	-7	699	-52.45	48.71	0.46
175	SLU 54	0	-6	708	-53.11	49.32	0.37
175	SLU 55	0	-5	711	-53.33	49.52	0.31
175	SLU 56	0	-7	704	-52.81	49.04	0.46
175	SLU 57	0	-6	713	-53.46	49.65	0.37
175	SLU 58	0	-7	701	-52.59	48.84	0.46
175	SLU 59	0	-6	710	-53.25	49.45	0.37
175	SLU 60	0	-7	720	-54.01	50.16	0.48
175	SLU 61	0	-6	729	-54.67	50.77	0.39
175	SLU 62	0	-7	725	-54.37	50.49	0.48
175	SLU 63	0	-6	734	-55.02	51.1	0.39
175	SLU 64	0	-7	691	-51.85	48.16	0.42
175	SLU 65	-1	-5	706	-52.94	49.17	0.28
175	SLU 66	-1	-7	699	-52.43	48.69	0.43
175	SLU 67	-1	-5	708	-53.08	49.3	0.34
175	SLU 68	-1	-5	711	-53.3	49.5	0.28
175	SLU 69	-1	-7	704	-52.78	49.02	0.43
175	SLU 70	-1	-6	712	-53.44	49.63	0.34
175	SLU 71	-1	-7	701	-52.57	48.82	0.43
175	SLU 72	-1	-6	710	-53.22	49.43	0.34
175	SLU 73	0	-5	772	-57.93	53.79	0.34
175	SLU 74	0	-7	765	-57.41	53.31	0.49
175	SLU 75	0	-6	774	-58.06	53.92	0.4
175	SLU 76	0	-5	777	-58.28	54.13	0.34
175	SLU 77	0	-7	770	-57.77	53.65	0.49
175	SLU 78	0	-6	779	-58.42	54.25	0.4
175	SLU 79	0	-7	767	-57.55	53.45	0.49
175	SLU 80	0	-6	776	-58.2	54.05	0.4
175	SLU 81	0	-7	786	-58.97	54.77	0.51
175	SLU 82	0	-6	795	-59.62	55.37	0.42
175	SLU 83	0	-7	791	-59.33	55.1	0.51
175	SLU 84	0	-6	800	-59.98	55.7	0.42
175	SLE RA 1	0	-5	517	-38.8	36.03	0.32
175	SLE RA 2	0	-4	527	-39.52	36.71	0.22
175	SLE RA 3	0	-5	522	-39.18	36.39	0.32
175	SLE RA 4	0	-4	528	-39.62	36.79	0.26
175	SLE RA 5	0	-4	530	-39.76	36.93	0.22
175	SLE RA 6	0	-5	526	-39.42	36.61	0.32
175	SLE RA 7	0	-4	531	-39.85	37.01	0.27
175	SLE RA 8	0	-5	524	-39.27	36.47	0.32
175	SLE RA 9	0	-4	529	-39.71	36.88	0.26
175	SLE RA 10	0	-4	571	-42.85	39.79	0.26
175	SLE RA 11	0	-5	567	-42.5	39.47	0.36
175	SLE RA 12	0	-5	572	-42.94	39.88	0.3
175	SLE RA 13	0	-4	574	-43.08	40.01	0.26
175	SLE RA 14	0	-5	570	-42.74	39.69	0.36
175	SLE RA 15	0	-5	576	-43.18	40.1	0.3
175	SLE RA 16	0	-5	568	-42.59	39.56	0.36
175	SLE RA 17	0	-5	574	-43.03	39.96	0.3
175	SLE RA 18	0	-5	581	-43.54	40.44	0.37
175	SLE RA 19	0	-5	586	-43.98	40.84	0.32
175	SLE RA 20	0	-5	584	-43.78	40.66	0.38
175	SLE RA 21	0	-5	590	-44.22	41.06	0.32
175	SLE FR 1	0	-5	517	-38.8	36.03	0.32
175	SLE FR 2	0	-5	519	-38.94	36.17	0.3
175	SLE FR 3	0	-5	519	-38.89	36.12	0.32
175	SLE FR 4	0	-5	538	-40.37	37.49	0.32
175	SLE FR 5	0	-5	538	-40.32	37.44	0.34
175	SLE FR 6	0	-5	549	-41.17	38.23	0.35
175	SLE QP 1	0	-5	517	-38.8	36.03	0.32
175	SLE QP 2	0	-5	536	-40.22	37.35	0.34
175	SLD 1	46	4	657	-49.3	45.79	3.13
175	SLD 2	55	1	652	-48.9	45.41	4.03
175	SLD 3	45	-21	448	-33.61	31.22	4.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLD 4	54	-24	443	-33.21	30.84	5.74
175	SLD 5	14	35	891	-66.81	62.05	-1.58
175	SLD 6	20	33	887	-66.55	61.8	-1
175	SLD 7	10	-47	194	-14.51	13.48	4.13
175	SLD 8	16	-48	190	-14.25	13.23	4.71
175	SLD 9	-17	38	883	-66.19	61.47	-4.04
175	SLD 10	-11	36	879	-65.93	61.23	-3.46
175	SLD 11	-20	-44	185	-13.89	12.9	1.67
175	SLD 12	-14	-45	182	-13.63	12.66	2.25
175	SLD 13	-55	13	630	-47.23	43.87	-5.07
175	SLD 14	-45	11	624	-46.83	43.49	-4.17
175	SLD 15	-56	-11	421	-31.54	29.29	-3.35
175	SLD 16	-46	-14	415	-31.14	28.92	-2.45
175	SLV 1	72	10	741	-55.6	51.64	4.57
175	SLV 2	87	6	733	-54.96	51.04	5.99
175	SLV 3	70	-32	384	-28.83	26.77	7.49
175	SLV 4	85	-36	376	-28.19	26.18	8.91
175	SLV 5	21	64	1141	-85.56	79.46	-3.08
175	SLV 6	31	61	1135	-85.13	79.06	-2.13
175	SLV 7	16	-76	-49	3.69	-3.42	6.64
175	SLV 8	26	-78	-55	4.12	-3.82	7.6
175	SLV 9	-26	68	1127	-84.56	78.53	-6.92
175	SLV 10	-16	65	1122	-84.13	78.13	-5.97
175	SLV 11	-32	-71	-63	4.69	-4.36	2.8
175	SLV 12	-22	-74	-68	5.12	-4.76	3.76
175	SLV 13	-86	26	697	-52.25	48.53	-8.23
175	SLV 14	-71	21	688	-51.61	47.93	-6.82
175	SLV 15	-87	-16	340	-25.48	23.66	-5.32
175	SLV 16	-72	-20	331	-24.84	23.07	-3.9
175	SLV FO 1	79	12	762	-57.14	53.07	4.99
175	SLV FO 2	95	7	752	-56.44	52.41	6.55
175	SLV FO 3	77	-34	369	-27.69	25.72	8.2
175	SLV FO 4	94	-39	360	-26.99	25.06	9.76
175	SLV FO 5	23	70	1201	-90.1	83.67	-3.43
175	SLV FO 6	34	67	1195	-89.62	83.23	-2.37
175	SLV FO 7	17	-83	-108	8.08	-7.5	7.27
175	SLV FO 8	28	-86	-114	8.55	-7.94	8.32
175	SLV FO 9	-29	76	1187	-88.99	82.65	-7.65
175	SLV FO 10	-18	72	1180	-88.52	82.21	-6.6
175	SLV FO 11	-35	-77	-122	9.18	-8.53	3.05
175	SLV FO 12	-24	-81	-129	9.66	-8.97	4.1
175	SLV FO 13	-94	29	713	-53.46	49.64	-9.09
175	SLV FO 14	-78	24	703	-52.75	48.99	-7.53
175	SLV FO 15	-96	-17	320	-24	22.29	-5.88
175	SLV FO 16	-80	-22	311	-23.3	21.64	-4.32
175	CRTFP Ux+	0	0	0	0	0	0
175	CRTFP Ux-	0	0	0	0	0	0
175	CRTFP Uy+	0	0	0	0	0	0
175	CRTFP Uy-	0	0	0	0	0	0
176	SLU 1	0	-4	504	-37.79	28.08	0.17
176	SLU 2	0	-1	519	-38.89	28.89	0.05
176	SLU 3	0	-4	512	-38.38	28.51	0.17
176	SLU 4	0	-2	520	-39.03	29	0.1
176	SLU 5	0	-2	523	-39.25	29.16	0.05
176	SLU 6	0	-4	517	-38.74	28.78	0.17
176	SLU 7	0	-2	525	-39.4	29.27	0.1
176	SLU 8	0	-4	514	-38.52	28.62	0.17
176	SLU 9	0	-2	522	-39.18	29.11	0.1
176	SLU 10	0	-2	586	-43.95	32.65	0.09
176	SLU 11	0	-4	579	-43.44	32.27	0.21
176	SLU 12	0	-3	588	-44.1	32.76	0.14
176	SLU 13	0	-2	591	-44.31	32.92	0.09
176	SLU 14	0	-4	584	-43.8	32.54	0.21
176	SLU 15	0	-3	593	-44.46	33.03	0.14
176	SLU 16	0	-4	581	-43.58	32.38	0.21
176	SLU 17	0	-3	590	-44.24	32.87	0.14
176	SLU 18	0	-4	600	-45.02	33.45	0.23
176	SLU 19	0	-3	609	-45.68	33.94	0.16
176	SLU 20	0	-4	605	-45.39	33.72	0.23
176	SLU 21	0	-3	614	-46.04	34.21	0.16
176	SLU 22	0	-4	571	-42.81	31.81	0.18
176	SLU 23	0	-2	585	-43.91	32.62	0.06
176	SLU 24	0	-4	579	-43.39	32.24	0.18
176	SLU 25	0	-3	587	-44.05	32.73	0.11
176	SLU 26	0	-2	590	-44.27	32.89	0.06
176	SLU 27	0	-4	583	-43.76	32.51	0.18
176	SLU 28	0	-3	592	-44.41	33	0.11
176	SLU 29	0	-4	580	-43.54	32.35	0.18
176	SLU 30	-1	-3	589	-44.19	32.83	0.11
176	SLU 31	0	-2	653	-48.97	36.38	0.1
176	SLU 32	0	-4	646	-48.45	36	0.23
176	SLU 33	0	-3	655	-49.11	36.49	0.15
176	SLU 34	0	-2	658	-49.33	36.65	0.1
176	SLU 35	0	-4	651	-48.82	36.27	0.23
176	SLU 36	0	-3	660	-49.47	36.76	0.15
176	SLU 37	0	-4	648	-48.6	36.1	0.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
176	SLU 38	0	-3	657	-49.25	36.59	0.15
176	SLU 39	0	-4	667	-50.04	37.18	0.24
176	SLU 40	0	-3	676	-50.7	37.67	0.17
176	SLU 41	0	-4	672	-50.4	37.45	0.24
176	SLU 42	0	-3	681	-51.06	37.93	0.17
176	SLU 43	0	-5	632	-47.41	35.23	0.22
176	SLU 44	0	-2	647	-48.51	36.04	0.1
176	SLU 45	0	-5	640	-48	35.66	0.22
176	SLU 46	-1	-3	649	-48.65	36.15	0.15
176	SLU 47	-1	-2	652	-48.87	36.31	0.1
176	SLU 48	-1	-5	645	-48.36	35.93	0.22
176	SLU 49	-1	-3	654	-49.02	36.42	0.15
176	SLU 50	-1	-5	642	-48.14	35.77	0.22
176	SLU 51	-1	-3	651	-48.8	36.25	0.15
176	SLU 52	0	-3	714	-53.57	39.8	0.14
176	SLU 53	0	-5	707	-53.06	39.42	0.26
176	SLU 54	0	-4	716	-53.71	39.91	0.19
176	SLU 55	0	-3	719	-53.93	40.07	0.14
176	SLU 56	0	-5	712	-53.42	39.69	0.26
176	SLU 57	0	-4	721	-54.08	40.18	0.19
176	SLU 58	0	-5	709	-53.2	39.52	0.26
176	SLU 59	0	-4	718	-53.86	40.01	0.19
176	SLU 60	0	-5	729	-54.64	40.6	0.28
176	SLU 61	0	-4	737	-55.3	41.08	0.21
176	SLU 62	0	-5	733	-55	40.87	0.28
176	SLU 63	0	-4	742	-55.66	41.35	0.21
176	SLU 64	0	-5	699	-52.43	38.95	0.23
176	SLU 65	-1	-3	714	-53.52	39.77	0.11
176	SLU 66	0	-5	707	-53.01	39.38	0.23
176	SLU 67	-1	-4	716	-53.67	39.87	0.16
176	SLU 68	-1	-3	719	-53.89	40.04	0.11
176	SLU 69	-1	-5	712	-53.37	39.65	0.23
176	SLU 70	-1	-4	720	-54.03	40.14	0.16
176	SLU 71	-1	-5	709	-53.15	39.49	0.23
176	SLU 72	-1	-4	718	-53.81	39.98	0.16
176	SLU 73	0	-3	781	-58.58	43.53	0.15
176	SLU 74	0	-5	774	-58.07	43.14	0.27
176	SLU 75	0	-4	783	-58.73	43.63	0.2
176	SLU 76	0	-3	786	-58.95	43.8	0.15
176	SLU 77	0	-5	779	-58.43	43.41	0.27
176	SLU 78	0	-4	788	-59.09	43.9	0.2
176	SLU 79	0	-5	776	-58.21	43.25	0.27
176	SLU 80	0	-4	785	-58.87	43.74	0.2
176	SLU 81	0	-5	795	-59.66	44.32	0.29
176	SLU 82	0	-4	804	-60.31	44.81	0.22
176	SLU 83	0	-5	800	-60.02	44.59	0.29
176	SLU 84	0	-4	809	-60.68	45.08	0.22
176	SLE RA 1	0	-4	523	-39.23	29.14	0.18
176	SLE RA 2	0	-2	533	-39.96	29.69	0.09
176	SLE RA 3	0	-4	528	-39.62	29.43	0.18
176	SLE RA 4	0	-3	534	-40.05	29.76	0.13
176	SLE RA 5	0	-2	536	-40.2	29.87	0.09
176	SLE RA 6	0	-4	531	-39.86	29.61	0.18
176	SLE RA 7	0	-3	537	-40.3	29.94	0.13
176	SLE RA 8	0	-4	529	-39.71	29.5	0.17
176	SLE RA 9	0	-3	535	-40.15	29.83	0.13
176	SLE RA 10	0	-2	578	-43.33	32.19	0.12
176	SLE RA 11	0	-4	573	-42.99	31.94	0.2
176	SLE RA 12	0	-3	579	-43.43	32.26	0.15
176	SLE RA 13	0	-2	581	-43.57	32.37	0.12
176	SLE RA 14	0	-4	576	-43.23	32.12	0.2
176	SLE RA 15	0	-3	582	-43.67	32.44	0.15
176	SLE RA 16	0	-4	574	-43.08	32.01	0.2
176	SLE RA 17	0	-3	580	-43.52	32.34	0.15
176	SLE RA 18	0	-4	587	-44.05	32.72	0.21
176	SLE RA 19	0	-3	593	-44.48	33.05	0.17
176	SLE RA 20	0	-4	591	-44.29	32.9	0.21
176	SLE RA 21	0	-3	596	-44.73	33.23	0.17
176	SLE FR 1	0	-4	523	-39.23	29.14	0.18
176	SLE FR 2	0	-3	525	-39.37	29.25	0.16
176	SLE FR 3	0	-4	524	-39.32	29.22	0.18
176	SLE FR 4	0	-3	544	-40.82	30.33	0.17
176	SLE FR 5	0	-4	544	-40.77	30.29	0.19
176	SLE FR 6	0	-4	555	-41.64	30.93	0.2
176	SLE QP 1	0	-4	523	-39.23	29.14	0.18
176	SLE QP 2	0	-4	542	-40.67	30.22	0.19
176	SLD 1	46	6	661	-49.56	36.82	3.07
176	SLD 2	56	4	656	-49.18	36.54	3.92
176	SLD 3	45	-19	450	-33.75	25.07	4.48
176	SLD 4	55	-22	445	-33.37	24.79	5.33
176	SLD 5	14	38	899	-67.39	50.07	-1.23
176	SLD 6	20	37	895	-67.14	49.88	-0.69
176	SLD 7	10	-46	196	-14.68	10.9	3.47
176	SLD 8	16	-48	192	-14.43	10.72	4.02
176	SLD 9	-17	41	892	-66.91	49.71	-3.64
176	SLD 10	-11	39	889	-66.67	49.53	-3.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
176	SLD 11	-20	-44	189	-14.2	10.55	1.06
176	SLD 12	-14	-45	186	-13.96	10.37	1.61
176	SLD 13	-55	14	640	-47.98	35.65	-4.96
176	SLD 14	-46	12	635	-47.6	35.36	-4.11
176	SLD 15	-56	-11	429	-32.16	23.9	-3.54
176	SLD 16	-47	-13	424	-31.78	23.61	-2.7
176	SLV 1	72	13	744	-55.77	41.44	4.59
176	SLV 2	87	9	736	-55.17	40.99	5.93
176	SLV 3	71	-30	384	-28.79	21.39	7
176	SLV 4	86	-34	376	-28.19	20.94	8.33
176	SLV 5	21	68	1150	-86.24	64.08	-2.39
176	SLV 6	31	65	1145	-85.84	63.78	-1.49
176	SLV 7	16	-76	-49	3.71	-2.76	5.63
176	SLV 8	26	-79	-55	4.11	-3.06	6.53
176	SLV 9	-26	72	1139	-85.46	63.49	-6.15
176	SLV 10	-16	69	1134	-85.05	63.19	-5.26
176	SLV 11	-32	-72	-60	4.49	-3.34	1.87
176	SLV 12	-22	-75	-65	4.9	-3.64	2.76
176	SLV 13	-86	26	709	-53.16	39.49	-7.96
176	SLV 14	-71	23	701	-52.56	39.05	-6.62
176	SLV 15	-88	-17	349	-26.17	19.44	-5.55
176	SLV 16	-73	-21	341	-25.57	19	-4.22
176	SLV FO 1	80	15	764	-57.28	42.56	5.03
176	SLV FO 2	96	11	755	-56.62	42.07	6.5
176	SLV FO 3	78	-33	368	-27.6	20.51	7.68
176	SLV FO 4	94	-37	359	-26.94	20.02	9.14
176	SLV FO 5	24	75	1211	-90.8	67.46	-2.64
176	SLV FO 6	35	72	1205	-90.36	67.13	-1.66
176	SLV FO 7	17	-84	-109	8.15	-6.05	6.17
176	SLV FO 8	28	-86	-115	8.59	-6.38	7.16
176	SLV FO 9	-29	79	1199	-89.94	66.82	-6.79
176	SLV FO 10	-18	76	1193	-89.49	66.49	-5.8
176	SLV FO 11	-35	-79	-120	9.01	-6.7	2.03
176	SLV FO 12	-24	-82	-126	9.46	-7.02	3.02
176	SLV FO 13	-95	29	725	-54.41	40.42	-8.77
176	SLV FO 14	-78	25	717	-53.75	39.93	-7.31
176	SLV FO 15	-97	-18	330	-24.72	18.37	-6.12
176	SLV FO 16	-80	-22	321	-24.06	17.88	-4.66
176	CRTFP Ux+	0	0	0	0	0	0
176	CRTFP Ux-	0	0	0	0	0	0
176	CRTFP Uy+	0	0	0	0	0	0
176	CRTFP Uy-	0	0	0	0	0	0
177	SLU 1	0	-2	510	-38.26	21.32	0.07
177	SLU 2	0	0	525	-39.36	21.93	-0.03
177	SLU 3	0	-2	518	-38.85	21.65	0.06
177	SLU 4	0	-1	527	-39.51	22.02	0.01
177	SLU 5	0	0	530	-39.73	22.14	-0.03
177	SLU 6	0	-2	523	-39.22	21.85	0.06
177	SLU 7	0	-1	532	-39.88	22.22	0.01
177	SLU 8	0	-2	520	-38.99	21.73	0.06
177	SLU 9	0	-1	529	-39.66	22.1	0.01
177	SLU 10	0	0	593	-44.51	24.8	0
177	SLU 11	0	-2	587	-44	24.52	0.09
177	SLU 12	0	-1	595	-44.66	24.89	0.04
177	SLU 13	0	0	598	-44.88	25.01	0
177	SLU 14	0	-2	592	-44.37	24.72	0.09
177	SLU 15	0	-1	600	-45.03	25.09	0.03
177	SLU 16	0	-2	589	-44.14	24.6	0.09
177	SLU 17	0	-1	597	-44.81	24.97	0.04
177	SLU 18	0	-2	608	-45.61	25.41	0.11
177	SLU 19	0	-1	617	-46.27	25.78	0.05
177	SLU 20	0	-2	613	-45.98	25.62	0.11
177	SLU 21	0	-1	622	-46.64	25.99	0.05
177	SLU 22	0	-2	578	-43.34	24.15	0.07
177	SLU 23	0	0	593	-44.44	24.76	-0.03
177	SLU 24	0	-2	586	-43.93	24.48	0.06
177	SLU 25	0	-1	595	-44.6	24.85	0.01
177	SLU 26	0	0	598	-44.81	24.97	-0.03
177	SLU 27	0	-2	591	-44.3	24.69	0.06
177	SLU 28	0	-1	600	-44.97	25.06	0.01
177	SLU 29	0	-2	588	-44.08	24.56	0.06
177	SLU 30	0	-1	597	-44.74	24.93	0.01
177	SLU 31	0	0	661	-49.59	27.63	0
177	SLU 32	0	-2	654	-49.08	27.35	0.09
177	SLU 33	0	-1	663	-49.74	27.72	0.04
177	SLU 34	0	0	666	-49.96	27.84	0
177	SLU 35	0	-2	659	-49.45	27.56	0.09
177	SLU 36	0	-1	668	-50.11	27.92	0.03
177	SLU 37	0	-2	656	-49.23	27.43	0.09
177	SLU 38	0	-1	665	-49.89	27.8	0.03
177	SLU 39	0	-2	676	-50.69	28.25	0.11
177	SLU 40	0	-1	685	-51.36	28.62	0.05
177	SLU 41	0	-2	681	-51.06	28.45	0.11
177	SLU 42	0	-1	690	-51.73	28.82	0.05
177	SLU 43	0	-3	640	-47.99	26.74	0.09
177	SLU 44	0	-1	655	-49.09	27.36	-0.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
177	SLU 45	0	-3	648	-48.58	27.07	0.08
177	SLU 46	0	-2	657	-49.25	27.44	0.03
177	SLU 47	-1	-1	660	-49.46	27.56	-0.01
177	SLU 48	-1	-3	653	-48.95	27.28	0.08
177	SLU 49	-1	-2	662	-49.62	27.65	0.03
177	SLU 50	-1	-3	650	-48.73	27.15	0.08
177	SLU 51	-1	-2	659	-49.39	27.52	0.03
177	SLU 52	0	-1	723	-54.24	30.22	0.02
177	SLU 53	0	-3	716	-53.73	29.94	0.11
177	SLU 54	0	-2	725	-54.39	30.31	0.06
177	SLU 55	0	-1	728	-54.61	30.43	0.02
177	SLU 56	0	-3	721	-54.1	30.15	0.11
177	SLU 57	0	-2	730	-54.76	30.52	0.06
177	SLU 58	0	-3	718	-53.88	30.02	0.11
177	SLU 59	0	-2	727	-54.54	30.39	0.06
177	SLU 60	0	-3	738	-55.34	30.84	0.13
177	SLU 61	0	-2	747	-56.01	31.21	0.07
177	SLU 62	0	-3	743	-55.71	31.04	0.13
177	SLU 63	0	-2	752	-56.38	31.41	0.07
177	SLU 64	0	-3	708	-53.07	29.57	0.09
177	SLU 65	0	-1	722	-54.18	30.19	-0.01
177	SLU 66	0	-3	716	-53.67	29.9	0.08
177	SLU 67	-1	-2	724	-54.33	30.27	0.03
177	SLU 68	-1	-1	727	-54.55	30.39	-0.01
177	SLU 69	-1	-3	720	-54.04	30.11	0.08
177	SLU 70	-1	-2	729	-54.7	30.48	0.03
177	SLU 71	-1	-3	717	-53.81	29.99	0.08
177	SLU 72	-1	-2	726	-54.47	30.35	0.03
177	SLU 73	0	-1	791	-59.33	33.06	0.02
177	SLU 74	0	-3	784	-58.82	32.77	0.11
177	SLU 75	0	-2	793	-59.48	33.14	0.06
177	SLU 76	0	-1	796	-59.7	33.26	0.02
177	SLU 77	0	-3	789	-59.18	32.98	0.11
177	SLU 78	0	-2	798	-59.85	33.35	0.05
177	SLU 79	0	-3	786	-58.96	32.85	0.11
177	SLU 80	0	-2	795	-59.62	33.22	0.05
177	SLU 81	0	-3	806	-60.43	33.67	0.13
177	SLU 82	0	-2	815	-61.09	34.04	0.07
177	SLU 83	0	-3	811	-60.8	33.88	0.13
177	SLU 84	0	-2	819	-61.46	34.25	0.07
177	SLE RA 1	0	-2	529	-39.71	22.13	0.07
177	SLE RA 2	0	-1	539	-40.44	22.54	0
177	SLE RA 3	0	-2	535	-40.1	22.35	0.07
177	SLE RA 4	0	-1	541	-40.55	22.59	0.03
177	SLE RA 5	0	-1	543	-40.69	22.67	0
177	SLE RA 6	0	-2	538	-40.35	22.48	0.06
177	SLE RA 7	0	-1	544	-40.79	22.73	0.03
177	SLE RA 8	0	-2	536	-40.2	22.4	0.06
177	SLE RA 9	0	-1	542	-40.64	22.65	0.03
177	SLE RA 10	0	-1	585	-43.88	24.45	0.02
177	SLE RA 11	0	-2	580	-43.54	24.26	0.08
177	SLE RA 12	0	-1	586	-43.98	24.51	0.05
177	SLE RA 13	0	-1	588	-44.12	24.59	0.02
177	SLE RA 14	0	-2	584	-43.78	24.4	0.08
177	SLE RA 15	0	-1	590	-44.22	24.64	0.05
177	SLE RA 16	0	-2	582	-43.63	24.31	0.08
177	SLE RA 17	0	-1	588	-44.07	24.56	0.05
177	SLE RA 18	0	-2	595	-44.61	24.86	0.09
177	SLE RA 19	0	-1	601	-45.05	25.1	0.06
177	SLE RA 20	0	-2	598	-44.86	25	0.09
177	SLE RA 21	0	-1	604	-45.3	25.24	0.06
177	SLE FR 1	0	-2	529	-39.71	22.13	0.07
177	SLE FR 2	0	-2	531	-39.85	22.21	0.05
177	SLE FR 3	0	-2	531	-39.81	22.18	0.07
177	SLE FR 4	0	-2	551	-41.33	23.03	0.06
177	SLE FR 5	0	-2	550	-41.28	23	0.07
177	SLE FR 6	0	-2	562	-42.16	23.49	0.08
177	SLE QP 1	0	-2	529	-39.71	22.13	0.07
177	SLE QP 2	0	-2	549	-41.18	22.95	0.07
177	SLD 1	47	9	667	-50	27.86	3.08
177	SLD 2	56	7	662	-49.65	27.66	3.88
177	SLD 3	46	-18	454	-34.04	18.97	4.17
177	SLD 4	55	-20	449	-33.68	18.77	4.97
177	SLD 5	14	41	908	-68.09	37.94	-0.81
177	SLD 6	20	40	905	-67.87	37.82	-0.29
177	SLD 7	10	-46	199	-14.89	8.3	2.81
177	SLD 8	16	-48	195	-14.66	8.17	3.33
177	SLD 9	-17	43	903	-67.7	37.72	-3.18
177	SLD 10	-11	42	900	-67.47	37.59	-2.67
177	SLD 11	-20	-44	193	-14.49	8.07	0.44
177	SLD 12	-14	-46	190	-14.26	7.95	0.96
177	SLD 13	-56	15	649	-48.67	27.12	-4.82
177	SLD 14	-46	13	644	-48.32	26.92	-4.02
177	SLD 15	-57	-11	436	-32.71	18.23	-3.73
177	SLD 16	-47	-13	431	-32.36	18.03	-2.93
177	SLV 1	73	16	749	-56.19	31.31	4.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
177	SLV 2	88	13	742	-55.63	31	5.96
177	SLV 3	71	-28	386	-28.95	16.13	6.55
177	SLV 4	86	-31	379	-28.4	15.82	7.81
177	SLV 5	22	72	1161	-87.1	48.53	-1.58
177	SLV 6	32	70	1156	-86.72	48.32	-0.73
177	SLV 7	16	-77	-49	3.7	-2.06	4.59
177	SLV 8	26	-79	-54	4.07	-2.27	5.44
177	SLV 9	-26	75	1152	-86.43	48.16	-5.29
177	SLV 10	-16	73	1147	-86.05	47.95	-4.44
177	SLV 11	-32	-74	-58	4.37	-2.43	0.88
177	SLV 12	-22	-76	-63	4.74	-2.64	1.73
177	SLV 13	-87	27	719	-53.96	30.07	-7.66
177	SLV 14	-72	24	712	-53.4	29.76	-6.4
177	SLV 15	-88	-18	356	-26.72	14.89	-5.81
177	SLV 16	-73	-21	349	-26.17	14.58	-4.55
177	SLV FO 1	80	18	769	-57.69	32.15	5.16
177	SLV FO 2	97	15	761	-57.08	31.81	6.54
177	SLV FO 3	78	-31	370	-27.73	15.45	7.2
177	SLV FO 4	95	-34	362	-27.12	15.11	8.58
177	SLV FO 5	24	79	1223	-91.69	51.09	-1.75
177	SLV FO 6	35	77	1217	-91.28	50.86	-0.81
177	SLV FO 7	17	-85	-109	8.18	-4.56	5.04
177	SLV FO 8	28	-87	-115	8.6	-4.79	5.97
177	SLV FO 9	-29	83	1213	-90.95	50.68	-5.82
177	SLV FO 10	-18	80	1207	-90.54	50.45	-4.89
177	SLV FO 11	-35	-81	-119	8.92	-4.97	0.96
177	SLV FO 12	-24	-84	-124	9.33	-5.2	1.9
177	SLV FO 13	-95	30	737	-55.24	30.78	-8.43
177	SLV FO 14	-79	26	728	-54.63	30.44	-7.05
177	SLV FO 15	-97	-19	337	-25.28	14.08	-6.39
177	SLV FO 16	-81	-23	329	-24.66	13.74	-5.01
177	CRTFP Ux+	0	0	0	0	0	0
177	CRTFP Ux-	0	0	0	0	0	0
177	CRTFP Uy+	0	0	0	0	0	0
177	CRTFP Uy-	0	0	0	0	0	0
178	SLU 1	0	-1	517	-38.77	14.4	-0.01
178	SLU 2	0	1	532	-39.89	14.82	-0.07
178	SLU 3	0	-1	525	-39.38	14.63	-0.01
178	SLU 4	0	1	534	-40.05	14.88	-0.05
178	SLU 5	0	1	537	-40.27	14.96	-0.07
178	SLU 6	0	-1	530	-39.76	14.77	-0.01
178	SLU 7	-1	0	539	-40.43	15.02	-0.05
178	SLU 8	-1	-1	527	-39.53	14.68	-0.01
178	SLU 9	-1	0	536	-40.2	14.93	-0.05
178	SLU 10	0	1	602	-45.14	16.77	-0.05
178	SLU 11	0	-1	595	-44.63	16.58	0.01
178	SLU 12	0	1	604	-45.3	16.83	-0.03
178	SLU 13	0	1	607	-45.51	16.91	-0.06
178	SLU 14	0	-1	600	-45	16.72	0.01
178	SLU 15	0	0	609	-45.67	16.97	-0.03
178	SLU 16	0	-1	597	-44.78	16.63	0.01
178	SLU 17	0	0	606	-45.44	16.88	-0.03
178	SLU 18	0	-1	617	-46.27	17.19	0.02
178	SLU 19	0	1	626	-46.94	17.44	-0.02
178	SLU 20	0	-1	622	-46.65	17.33	0.02
178	SLU 21	0	0	631	-47.32	17.58	-0.02
178	SLU 22	0	-1	586	-43.94	16.32	-0.01
178	SLU 23	0	2	601	-45.05	16.74	-0.08
178	SLU 24	0	-1	594	-44.54	16.55	-0.02
178	SLU 25	0	1	603	-45.21	16.8	-0.06
178	SLU 26	-1	2	606	-45.43	16.88	-0.08
178	SLU 27	-1	-1	599	-44.92	16.69	-0.02
178	SLU 28	-1	1	608	-45.59	16.94	-0.06
178	SLU 29	-1	-1	596	-44.69	16.6	-0.02
178	SLU 30	-1	1	605	-45.36	16.85	-0.06
178	SLU 31	0	2	671	-50.3	18.68	-0.06
178	SLU 32	0	-1	664	-49.79	18.5	0
178	SLU 33	0	1	673	-50.46	18.74	-0.04
178	SLU 34	0	2	676	-50.67	18.82	-0.06
178	SLU 35	0	-1	669	-50.17	18.64	0
178	SLU 36	0	1	678	-50.84	18.88	-0.04
178	SLU 37	0	-1	666	-49.94	18.55	0
178	SLU 38	0	1	675	-50.61	18.8	-0.04
178	SLU 39	0	-1	686	-51.43	19.11	0.01
178	SLU 40	0	1	695	-52.1	19.35	-0.02
178	SLU 41	0	-1	691	-51.81	19.25	0.01
178	SLU 42	0	1	700	-52.48	19.49	-0.03
178	SLU 43	0	-1	649	-48.64	18.07	0
178	SLU 44	-1	1	663	-49.75	18.48	-0.07
178	SLU 45	-1	-1	657	-49.24	18.29	-0.01
178	SLU 46	-1	0	665	-49.91	18.54	-0.05
178	SLU 47	-1	1	668	-50.13	18.62	-0.07
178	SLU 48	-1	-1	662	-49.62	18.43	-0.01
178	SLU 49	-1	0	671	-50.29	18.68	-0.05
178	SLU 50	-1	-1	659	-49.39	18.35	-0.01
178	SLU 51	-1	0	667	-50.06	18.6	-0.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
178	SLU 52	0	1	733	-55	20.43	-0.05
178	SLU 53	0	-1	727	-54.49	20.24	0.01
178	SLU 54	0	0	735	-55.16	20.49	-0.03
178	SLU 55	0	1	738	-55.38	20.57	-0.05
178	SLU 56	0	-1	732	-54.87	20.38	0.01
178	SLU 57	0	0	740	-55.54	20.63	-0.03
178	SLU 58	0	-1	729	-54.64	20.3	0.01
178	SLU 59	0	0	737	-55.31	20.55	-0.03
178	SLU 60	0	-1	748	-56.13	20.85	0.02
178	SLU 61	0	0	757	-56.8	21.1	-0.02
178	SLU 62	0	-1	753	-56.51	20.99	0.02
178	SLU 63	0	0	762	-57.18	21.24	-0.02
178	SLU 64	-1	-1	717	-53.8	19.99	-0.01
178	SLU 65	-1	1	732	-54.91	20.4	-0.08
178	SLU 66	-1	-1	725	-54.41	20.21	-0.02
178	SLU 67	-1	0	734	-55.07	20.46	-0.06
178	SLU 68	-1	1	737	-55.29	20.54	-0.08
178	SLU 69	-1	-1	730	-54.78	20.35	-0.02
178	SLU 70	-1	0	739	-55.45	20.6	-0.06
178	SLU 71	-1	-1	727	-54.55	20.27	-0.02
178	SLU 72	-1	0	736	-55.22	20.51	-0.06
178	SLU 73	0	1	802	-60.16	22.35	-0.06
178	SLU 74	0	-1	795	-59.65	22.16	0
178	SLU 75	0	0	804	-60.32	22.41	-0.04
178	SLU 76	0	1	807	-60.54	22.49	-0.06
178	SLU 77	0	-1	800	-60.03	22.3	0
178	SLU 78	0	0	809	-60.7	22.55	-0.04
178	SLU 79	0	-1	797	-59.8	22.21	0
178	SLU 80	0	0	806	-60.47	22.46	-0.04
178	SLU 81	0	-1	817	-61.29	22.77	0.02
178	SLU 82	0	0	826	-61.96	23.02	-0.02
178	SLU 83	0	-1	822	-61.67	22.91	0.01
178	SLU 84	0	0	831	-62.34	23.16	-0.03
178	SLE RA 1	0	-1	537	-40.25	14.95	-0.01
178	SLE RA 2	0	1	547	-40.99	15.23	-0.05
178	SLE RA 3	0	-1	542	-40.65	15.1	-0.01
178	SLE RA 4	0	0	548	-41.1	15.27	-0.04
178	SLE RA 5	0	1	550	-41.24	15.32	-0.05
178	SLE RA 6	0	-1	545	-40.91	15.2	-0.01
178	SLE RA 7	0	0	551	-41.35	15.36	-0.04
178	SLE RA 8	0	-1	543	-40.75	15.14	-0.01
178	SLE RA 9	0	0	549	-41.2	15.3	-0.04
178	SLE RA 10	0	1	593	-44.49	16.53	-0.04
178	SLE RA 11	0	-1	589	-44.15	16.4	0
178	SLE RA 12	0	0	595	-44.6	16.57	-0.02
178	SLE RA 13	0	1	597	-44.74	16.62	-0.04
178	SLE RA 14	0	-1	592	-44.4	16.49	0
178	SLE RA 15	0	0	598	-44.85	16.66	-0.03
178	SLE RA 16	0	-1	590	-44.25	16.44	0
178	SLE RA 17	0	0	596	-44.7	16.6	-0.03
178	SLE RA 18	0	-1	603	-45.25	16.81	0.01
178	SLE RA 19	0	0	609	-45.69	16.97	-0.02
178	SLE RA 20	0	-1	607	-45.5	16.9	0.01
178	SLE RA 21	0	0	613	-45.94	17.07	-0.02
178	SLE FR 1	0	-1	537	-40.25	14.95	-0.01
178	SLE FR 2	0	0	539	-40.4	15.01	-0.02
178	SLE FR 3	0	-1	538	-40.35	14.99	-0.01
178	SLE FR 4	0	0	559	-41.9	15.56	-0.01
178	SLE FR 5	0	-1	558	-41.85	15.55	0
178	SLE FR 6	0	-1	570	-42.75	15.88	0
178	SLE QP 1	0	-1	537	-40.25	14.95	-0.01
178	SLE QP 2	0	-1	557	-41.75	15.51	0
178	SLD 1	47	11	676	-50.68	18.83	3.16
178	SLD 2	56	9	671	-50.35	18.7	3.92
178	SLD 3	46	-16	461	-34.54	12.83	3.9
178	SLD 4	55	-18	456	-34.21	12.71	4.66
178	SLD 5	14	44	919	-68.96	25.62	-0.31
178	SLD 6	20	43	917	-68.75	25.54	0.18
178	SLD 7	10	-46	202	-15.17	5.63	2.16
178	SLD 8	16	-47	199	-14.95	5.56	2.65
178	SLD 9	-17	46	914	-68.54	25.46	-2.66
178	SLD 10	-11	45	911	-68.33	25.38	-2.16
178	SLD 11	-21	-45	197	-14.75	5.48	-0.19
178	SLD 12	-14	-46	194	-14.54	5.4	0.3
178	SLD 13	-56	16	657	-49.28	18.31	-4.67
178	SLD 14	-46	15	653	-48.96	18.19	-3.9
178	SLD 15	-57	-11	442	-33.15	12.31	-3.93
178	SLD 16	-48	-13	438	-32.82	12.19	-3.16
178	SLV 1	73	20	759	-56.94	21.15	4.88
178	SLV 2	89	17	752	-56.42	20.96	6.09
178	SLV 3	72	-27	392	-29.4	10.92	6.14
178	SLV 4	87	-29	385	-28.88	10.73	7.35
178	SLV 5	22	76	1176	-88.17	32.75	-0.67
178	SLV 6	32	74	1171	-87.83	32.63	0.14
178	SLV 7	16	-78	-48	3.63	-1.35	3.53
178	SLV 8	26	-80	-53	3.98	-1.48	4.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
178	SLV 9	-27	78	1166	-87.48	32.5	-4.34
178	SLV 10	-16	77	1162	-87.13	32.37	-3.53
178	SLV 11	-33	-76	-58	4.33	-1.61	-0.14
178	SLV 12	-22	-77	-62	4.67	-1.74	0.67
178	SLV 13	-87	28	728	-54.61	20.29	-7.35
178	SLV 14	-72	25	721	-54.1	20.1	-6.15
178	SLV 15	-89	-19	361	-27.07	10.06	-6.09
178	SLV 16	-74	-21	354	-26.56	9.87	-4.89
178	SLV FO 1	81	22	779	-58.46	21.72	5.37
178	SLV FO 2	97	19	772	-57.89	21.51	6.7
178	SLV FO 3	79	-29	376	-28.16	10.46	6.76
178	SLV FO 4	95	-32	368	-27.6	10.25	8.08
178	SLV FO 5	24	84	1238	-92.81	34.48	-0.74
178	SLV FO 6	35	82	1232	-92.43	34.34	0.15
178	SLV FO 7	17	-86	-109	8.17	-3.03	3.88
178	SLV FO 8	29	-88	-114	8.55	-3.18	4.77
178	SLV FO 9	-29	86	1227	-92.05	34.19	-4.78
178	SLV FO 10	-18	84	1222	-91.67	34.05	-3.89
178	SLV FO 11	-36	-83	-119	8.94	-3.32	-0.16
178	SLV FO 12	-25	-85	-124	9.32	-3.46	0.74
178	SLV FO 13	-96	30	745	-55.9	20.77	-8.09
178	SLV FO 14	-79	28	738	-55.33	20.56	-6.76
178	SLV FO 15	-98	-20	341	-25.61	9.51	-6.7
178	SLV FO 16	-81	-23	334	-25.04	9.3	-5.38
178	CRTFP Ux+	0	0	0	0	0	0
178	CRTFP Ux-	0	0	0	0	0	0
178	CRTFP Uy+	0	0	0	0	0	0
178	CRTFP Uy-	0	0	0	0	0	0
179	SLU 1	0	1	524	-39.31	7.3	-0.05
179	SLU 2	-1	3	539	-40.43	7.51	-0.08
179	SLU 3	-1	1	532	-39.93	7.42	-0.05
179	SLU 4	-1	2	541	-40.6	7.54	-0.07
179	SLU 5	-1	3	544	-40.82	7.58	-0.08
179	SLU 6	-1	1	537	-40.31	7.49	-0.06
179	SLU 7	-1	2	546	-40.98	7.61	-0.08
179	SLU 8	-1	1	534	-40.08	7.44	-0.05
179	SLU 9	-1	2	543	-40.75	7.57	-0.08
179	SLU 10	0	3	610	-45.78	8.5	-0.07
179	SLU 11	0	1	604	-45.27	8.41	-0.04
179	SLU 12	0	2	613	-45.95	8.53	-0.06
179	SLU 13	0	3	616	-46.16	8.57	-0.07
179	SLU 14	0	1	609	-45.66	8.48	-0.04
179	SLU 15	0	2	618	-46.33	8.61	-0.06
179	SLU 16	0	1	606	-45.42	8.44	-0.04
179	SLU 17	0	2	615	-46.1	8.56	-0.06
179	SLU 18	0	1	626	-46.95	8.72	-0.03
179	SLU 19	0	2	635	-47.62	8.85	-0.05
179	SLU 20	0	1	631	-47.33	8.79	-0.03
179	SLU 21	0	2	640	-48.01	8.92	-0.05
179	SLU 22	-1	1	594	-44.55	8.27	-0.06
179	SLU 23	-1	3	609	-45.67	8.48	-0.09
179	SLU 24	-1	1	602	-45.17	8.39	-0.06
179	SLU 25	-1	2	611	-45.84	8.51	-0.08
179	SLU 26	-1	3	614	-46.06	8.55	-0.09
179	SLU 27	-1	1	607	-45.55	8.46	-0.07
179	SLU 28	-1	2	616	-46.23	8.59	-0.09
179	SLU 29	-1	1	604	-45.32	8.42	-0.07
179	SLU 30	-1	2	613	-45.99	8.54	-0.09
179	SLU 31	0	3	680	-51.02	9.48	-0.08
179	SLU 32	0	1	674	-50.51	9.38	-0.05
179	SLU 33	0	3	683	-51.19	9.51	-0.07
179	SLU 34	0	3	685	-51.41	9.55	-0.08
179	SLU 35	-1	1	679	-50.9	9.45	-0.05
179	SLU 36	-1	3	688	-51.57	9.58	-0.07
179	SLU 37	-1	1	676	-50.66	9.41	-0.05
179	SLU 38	-1	2	685	-51.34	9.54	-0.07
179	SLU 39	0	1	696	-52.19	9.69	-0.04
179	SLU 40	0	3	705	-52.86	9.82	-0.06
179	SLU 41	0	1	701	-52.57	9.76	-0.04
179	SLU 42	0	3	710	-53.25	9.89	-0.06
179	SLU 43	-1	1	657	-49.3	9.16	-0.06
179	SLU 44	-1	3	672	-50.43	9.37	-0.09
179	SLU 45	-1	1	666	-49.92	9.27	-0.06
179	SLU 46	-1	2	675	-50.6	9.4	-0.08
179	SLU 47	-1	3	677	-50.81	9.44	-0.09
179	SLU 48	-1	1	671	-50.31	9.34	-0.07
179	SLU 49	-1	2	680	-50.98	9.47	-0.09
179	SLU 50	-1	1	668	-50.07	9.3	-0.07
179	SLU 51	-1	2	677	-50.75	9.43	-0.09
179	SLU 52	0	3	744	-55.78	10.36	-0.08
179	SLU 53	-1	1	737	-55.27	10.27	-0.05
179	SLU 54	-1	2	746	-55.94	10.39	-0.07
179	SLU 55	-1	3	749	-56.16	10.43	-0.08
179	SLU 56	-1	1	742	-55.65	10.34	-0.05
179	SLU 57	-1	2	751	-56.33	10.46	-0.07
179	SLU 58	-1	1	739	-55.42	10.29	-0.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
179	SLU 59	-1	2	748	-56.09	10.42	-0.07
179	SLU 60	0	1	759	-56.94	10.58	-0.04
179	SLU 61	0	2	768	-57.62	10.7	-0.06
179	SLU 62	0	1	764	-57.33	10.65	-0.04
179	SLU 63	0	2	773	-58	10.77	-0.06
179	SLU 64	-1	1	727	-54.54	10.13	-0.07
179	SLU 65	-1	3	742	-55.67	10.34	-0.1
179	SLU 66	-1	1	736	-55.16	10.25	-0.07
179	SLU 67	-1	2	745	-55.84	10.37	-0.09
179	SLU 68	-1	3	747	-56.05	10.41	-0.11
179	SLU 69	-1	1	741	-55.55	10.32	-0.08
179	SLU 70	-1	2	750	-56.22	10.44	-0.1
179	SLU 71	-1	1	738	-55.31	10.27	-0.08
179	SLU 72	-1	2	747	-55.99	10.4	-0.1
179	SLU 73	-1	3	814	-61.02	11.33	-0.09
179	SLU 74	-1	1	807	-60.51	11.24	-0.06
179	SLU 75	-1	3	816	-61.18	11.36	-0.08
179	SLU 76	-1	3	819	-61.4	11.4	-0.09
179	SLU 77	-1	1	812	-60.89	11.31	-0.06
179	SLU 78	-1	3	821	-61.57	11.44	-0.08
179	SLU 79	-1	1	809	-60.66	11.27	-0.06
179	SLU 80	-1	3	818	-61.33	11.39	-0.08
179	SLU 81	0	1	829	-62.18	11.55	-0.05
179	SLU 82	0	3	838	-62.86	11.68	-0.07
179	SLU 83	0	1	834	-62.57	11.62	-0.05
179	SLU 84	-1	3	843	-63.24	11.75	-0.07
179	SLE RA 1	-1	1	544	-40.81	7.58	-0.05
179	SLE RA 2	-1	2	554	-41.56	7.72	-0.07
179	SLE RA 3	-1	1	550	-41.22	7.66	-0.05
179	SLE RA 4	-1	2	556	-41.67	7.74	-0.07
179	SLE RA 5	-1	2	557	-41.81	7.77	-0.07
179	SLE RA 6	-1	1	553	-41.47	7.7	-0.05
179	SLE RA 7	-1	2	559	-41.92	7.79	-0.07
179	SLE RA 8	-1	1	551	-41.32	7.67	-0.05
179	SLE RA 9	-1	2	557	-41.77	7.76	-0.07
179	SLE RA 10	0	2	602	-45.12	8.38	-0.06
179	SLE RA 11	0	1	597	-44.78	8.32	-0.04
179	SLE RA 12	0	2	603	-45.23	8.4	-0.06
179	SLE RA 13	0	2	605	-45.38	8.43	-0.07
179	SLE RA 14	0	1	601	-45.04	8.37	-0.05
179	SLE RA 15	0	2	607	-45.49	8.45	-0.06
179	SLE RA 16	0	1	598	-44.88	8.34	-0.05
179	SLE RA 17	0	2	604	-45.33	8.42	-0.06
179	SLE RA 18	0	1	612	-45.9	8.52	-0.04
179	SLE RA 19	0	2	618	-46.35	8.61	-0.05
179	SLE RA 20	0	1	615	-46.15	8.57	-0.04
179	SLE RA 21	0	2	621	-46.6	8.66	-0.05
179	SLE FR 1	-1	1	544	-40.81	7.58	-0.05
179	SLE FR 2	-1	1	546	-40.96	7.61	-0.05
179	SLE FR 3	-1	1	545	-40.91	7.6	-0.05
179	SLE FR 4	0	1	566	-42.48	7.89	-0.05
179	SLE FR 5	0	1	566	-42.44	7.88	-0.05
179	SLE FR 6	0	1	578	-43.35	8.05	-0.04
179	SLE QP 1	-1	1	544	-40.81	7.58	-0.05
179	SLE QP 2	0	1	564	-42.33	7.86	-0.04
179	SLD 1	47	17	687	-51.5	9.57	3.31
179	SLD 2	57	16	683	-51.2	9.51	4.05
179	SLD 3	46	-11	469	-35.18	6.53	3.68
179	SLD 4	56	-12	465	-34.88	6.48	4.42
179	SLD 5	14	49	932	-69.9	12.98	0.27
179	SLD 6	20	48	929	-69.7	12.95	0.75
179	SLD 7	10	-45	206	-15.48	2.87	1.51
179	SLD 8	16	-46	204	-15.28	2.84	1.98
179	SLD 9	-17	47	925	-69.38	12.89	-2.07
179	SLD 10	-11	47	923	-69.19	12.85	-1.6
179	SLD 11	-21	-46	200	-14.96	2.78	-0.84
179	SLD 12	-15	-47	197	-14.77	2.74	-0.36
179	SLD 13	-57	14	664	-49.79	9.25	-4.51
179	SLD 14	-47	12	660	-49.49	9.19	-3.77
179	SLD 15	-58	-14	446	-33.46	6.22	-4.14
179	SLD 16	-48	-16	442	-33.17	6.16	-3.4
179	SLV 1	74	29	772	-57.89	10.75	5.17
179	SLV 2	89	27	766	-57.42	10.67	6.33
179	SLV 3	72	-19	400	-30.03	5.58	5.8
179	SLV 4	87	-21	394	-29.56	5.49	6.96
179	SLV 5	22	82	1191	-89.34	16.59	0.35
179	SLV 6	32	81	1187	-89.02	16.54	1.13
179	SLV 7	16	-78	-47	3.52	-0.65	2.44
179	SLV 8	26	-79	-51	3.84	-0.71	3.23
179	SLV 9	-27	80	1180	-88.51	16.44	-3.32
179	SLV 10	-17	79	1176	-88.19	16.38	-2.53
179	SLV 11	-33	-79	-58	4.36	-0.81	-1.22
179	SLV 12	-23	-81	-62	4.68	-0.87	-0.44
179	SLV 13	-88	23	735	-55.11	10.24	-7.05
179	SLV 14	-73	21	728	-54.64	10.15	-5.89
179	SLV 15	-90	-25	363	-27.25	5.06	-6.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
179	SLV 16	-75	-27	357	-26.78	4.97	-5.26
179	SLV FO 1	82	31	793	-59.45	11.04	5.69
179	SLV FO 2	98	29	786	-58.93	10.95	6.97
179	SLV FO 3	79	-21	384	-28.8	5.35	6.38
179	SLV FO 4	96	-24	377	-28.28	5.25	7.66
179	SLV FO 5	24	90	1254	-94.04	17.47	0.39
179	SLV FO 6	35	89	1249	-93.69	17.4	1.25
179	SLV FO 7	17	-86	-108	8.11	-1.51	2.69
179	SLV FO 8	29	-87	-113	8.46	-1.57	3.56
179	SLV FO 9	-29	88	1242	-93.12	17.3	-3.65
179	SLV FO 10	-18	87	1237	-92.77	17.23	-2.78
179	SLV FO 11	-36	-87	-120	9.03	-1.68	-1.34
179	SLV FO 12	-25	-89	-125	9.38	-1.74	-0.48
179	SLV FO 13	-97	25	752	-56.38	10.47	-7.75
179	SLV FO 14	-80	23	745	-55.87	10.38	-6.47
179	SLV FO 15	-99	-28	343	-25.74	4.78	-7.06
179	SLV FO 16	-82	-30	336	-25.22	4.68	-5.78
179	CRTFP Ux+	0	0	0	0	0	0
179	CRTFP Ux-	0	0	0	0	0	0
179	CRTFP Uy+	0	0	0	0	0	0
179	CRTFP Uy-	0	0	0	0	0	0
180	SLU 1	-2	8	2649	754.48	-248.22	1.21
180	SLU 2	-2	21	2719	772.29	-254.73	2.36
180	SLU 3	-2	8	2692	767.16	-252.24	1.37
180	SLU 4	-2	16	2734	777.84	-256.14	2.06
180	SLU 5	-2	21	2746	780.23	-257.23	2.51
180	SLU 6	-3	8	2719	775.09	-254.74	1.52
180	SLU 7	-3	16	2761	785.78	-258.65	2.21
180	SLU 8	-3	8	2703	770.35	-253.23	1.5
180	SLU 9	-3	16	2745	781.04	-257.13	2.2
180	SLU 10	-2	22	3080	875.06	-288.55	2.68
180	SLU 11	-3	10	3053	869.92	-286.06	1.69
180	SLU 12	-3	17	3095	880.6	-289.97	2.38
180	SLU 13	-3	22	3107	882.99	-291.05	2.83
180	SLU 14	-3	9	3080	877.85	-288.57	1.83
180	SLU 15	-3	17	3122	888.54	-292.47	2.53
180	SLU 16	-3	9	3064	873.11	-287.05	1.82
180	SLU 17	-3	17	3106	883.8	-290.96	2.51
180	SLU 18	-3	10	3165	901.29	-296.53	1.67
180	SLU 19	-3	18	3207	911.97	-300.44	2.36
180	SLU 20	-3	10	3192	909.22	-299.04	1.81
180	SLU 21	-3	18	3234	919.91	-302.94	2.5
180	SLU 22	-2	11	3005	856.87	-281.54	1.51
180	SLU 23	-2	24	3075	874.68	-288.05	2.67
180	SLU 24	-2	11	3048	869.55	-285.56	1.67
180	SLU 25	-2	19	3090	880.23	-289.47	2.36
180	SLU 26	-2	24	3102	882.62	-290.55	2.81
180	SLU 27	-3	11	3074	877.48	-288.07	1.82
180	SLU 28	-3	19	3116	888.17	-291.97	2.51
180	SLU 29	-3	11	3058	872.74	-286.55	1.81
180	SLU 30	-3	19	3100	883.43	-290.46	2.5
180	SLU 31	-2	25	3436	977.44	-321.87	2.99
180	SLU 32	-3	13	3409	972.31	-319.38	1.99
180	SLU 33	-3	20	3451	982.99	-323.29	2.68
180	SLU 34	-3	25	3463	985.38	-324.38	3.13
180	SLU 35	-4	12	3435	980.24	-321.89	2.14
180	SLU 36	-3	20	3477	990.93	-325.8	2.83
180	SLU 37	-4	12	3419	975.5	-320.37	2.13
180	SLU 38	-3	20	3461	986.19	-324.28	2.82
180	SLU 39	-3	13	3521	1003.67	-329.86	1.97
180	SLU 40	-3	21	3563	1014.36	-333.76	2.66
180	SLU 41	-3	13	3547	1011.61	-332.36	2.12
180	SLU 42	-3	21	3589	1022.3	-336.27	2.81
180	SLU 43	-2	10	3322	945.72	-311.25	1.47
180	SLU 44	-2	23	3392	963.53	-317.76	2.62
180	SLU 45	-3	10	3365	958.4	-315.28	1.63
180	SLU 46	-3	18	3407	969.08	-319.18	2.32
180	SLU 47	-3	23	3419	971.47	-320.27	2.77
180	SLU 48	-3	10	3391	966.33	-317.78	1.77
180	SLU 49	-3	18	3434	977.02	-321.69	2.47
180	SLU 50	-3	9	3375	961.59	-316.27	1.76
180	SLU 51	-3	17	3417	972.28	-320.17	2.45
180	SLU 52	-3	24	3753	1066.3	-351.59	2.94
180	SLU 53	-3	11	3726	1061.16	-349.1	1.95
180	SLU 54	-3	19	3768	1071.84	-353.01	2.64
180	SLU 55	-3	24	3780	1074.23	-354.09	3.09
180	SLU 56	-4	11	3753	1069.09	-351.61	2.09
180	SLU 57	-4	19	3795	1079.78	-355.51	2.79
180	SLU 58	-4	11	3736	1064.35	-350.09	2.08
180	SLU 59	-4	18	3779	1075.04	-354	2.77
180	SLU 60	-3	11	3838	1092.53	-359.57	1.92
180	SLU 61	-3	19	3880	1103.21	-363.48	2.62
180	SLU 62	-4	11	3865	1100.46	-362.08	2.07
180	SLU 63	-4	19	3907	1111.15	-365.98	2.76
180	SLU 64	-3	13	3678	1048.11	-344.58	1.77
180	SLU 65	-2	26	3748	1065.92	-351.09	2.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
180	SLU 66	-3	13	3720	1060.79	-348.6	1.93
180	SLU 67	-3	21	3762	1071.47	-352.51	2.62
180	SLU 68	-3	26	3774	1073.86	-353.59	3.07
180	SLU 69	-3	13	3747	1068.72	-351.11	2.08
180	SLU 70	-3	20	3789	1079.41	-355.01	2.77
180	SLU 71	-4	12	3731	1063.98	-349.59	2.07
180	SLU 72	-3	20	3773	1074.67	-353.5	2.76
180	SLU 73	-3	27	4109	1168.68	-384.91	3.24
180	SLU 74	-4	14	4081	1163.55	-382.42	2.25
180	SLU 75	-3	22	4124	1174.23	-386.33	2.94
180	SLU 76	-3	27	4135	1176.62	-387.42	3.39
180	SLU 77	-4	14	4108	1171.48	-384.93	2.4
180	SLU 78	-4	22	4150	1182.17	-388.83	3.09
180	SLU 79	-4	14	4092	1166.74	-383.41	2.38
180	SLU 80	-4	21	4134	1177.43	-387.32	3.08
180	SLU 81	-3	14	4193	1194.92	-392.9	2.23
180	SLU 82	-3	22	4235	1205.6	-396.8	2.92
180	SLU 83	-4	14	4220	1202.85	-395.4	2.37
180	SLU 84	-4	22	4262	1213.54	-399.31	3.07
180	SLE RA 1	-2	9	2751	783.74	-257.74	1.3
180	SLE RA 2	-2	18	2797	795.61	-262.08	2.07
180	SLE RA 3	-2	9	2779	792.19	-260.42	1.4
180	SLE RA 4	-2	14	2807	799.31	-263.02	1.86
180	SLE RA 5	-2	18	2815	800.9	-263.75	2.16
180	SLE RA 6	-3	9	2797	797.48	-262.09	1.5
180	SLE RA 7	-2	14	2825	804.6	-264.69	1.96
180	SLE RA 8	-3	9	2786	794.32	-261.08	1.49
180	SLE RA 9	-3	14	2814	801.44	-263.68	1.95
180	SLE RA 10	-2	18	3038	864.12	-284.62	2.28
180	SLE RA 11	-3	10	3020	860.69	-282.97	1.62
180	SLE RA 12	-3	15	3048	867.82	-285.57	2.08
180	SLE RA 13	-2	18	3056	869.41	-286.3	2.38
180	SLE RA 14	-3	10	3038	865.98	-284.64	1.71
180	SLE RA 15	-3	15	3066	873.11	-287.24	2.17
180	SLE RA 16	-3	10	3027	862.82	-283.63	1.7
180	SLE RA 17	-3	15	3055	869.95	-286.23	2.17
180	SLE RA 18	-2	10	3095	881.61	-289.95	1.6
180	SLE RA 19	-2	15	3123	888.73	-292.55	2.06
180	SLE RA 20	-3	10	3112	886.9	-291.62	1.7
180	SLE RA 21	-3	15	3140	894.02	-294.22	2.16
180	SLE FR 1	-2	9	2751	783.74	-257.74	1.3
180	SLE FR 2	-2	11	2760	786.11	-258.6	1.45
180	SLE FR 3	-2	9	2758	785.85	-258.4	1.34
180	SLE FR 4	-2	11	2863	815.47	-268.27	1.54
180	SLE FR 5	-2	9	2861	815.21	-268.07	1.43
180	SLE FR 6	-2	10	2923	832.67	-273.84	1.45
180	SLE QP 1	-2	9	2751	783.74	-257.74	1.3
180	SLE QP 2	-2	9	2854	813.1	-267.4	1.39
180	SLD 1	266	98	3301	923.87	-308.74	-74.36
180	SLD 2	318	93	3285	919.89	-307.34	-90.79
180	SLD 3	259	-59	2278	662.47	-213.75	-87.82
180	SLD 4	311	-64	2263	658.5	-212.34	-104.25
180	SLD 5	81	274	4541	1243.46	-424.12	1.91
180	SLD 6	114	271	4531	1240.9	-423.21	-8.67
180	SLD 7	56	-248	1133	372.14	-107.47	-42.97
180	SLD 8	89	-251	1123	369.58	-106.57	-53.55
180	SLD 9	-94	270	4585	1256.61	-428.23	56.33
180	SLD 10	-60	267	4575	1254.05	-427.33	45.75
180	SLD 11	-118	-253	1176	385.29	-111.59	11.45
180	SLD 12	-85	-255	1166	382.73	-110.68	0.87
180	SLD 13	-315	82	3445	967.7	-322.46	107.03
180	SLD 14	-263	78	3430	963.73	-321.05	90.6
180	SLD 15	-322	-74	2423	706.3	-227.46	93.56
180	SLD 16	-270	-79	2407	702.33	-226.06	77.14
180	SLV 1	417	159	3624	1004.6	-338.65	-115.99
180	SLV 2	499	152	3599	998.34	-336.43	-141.89
180	SLV 3	405	-108	1879	558.51	-176.54	-138.89
180	SLV 4	487	-115	1854	552.25	-174.32	-164.78
180	SLV 5	127	461	5736	1548.28	-535.05	5.73
180	SLV 6	182	456	5719	1544.07	-533.56	-11.71
180	SLV 7	86	-430	-81	61.32	5.31	-70.58
180	SLV 8	141	-434	-97	57.11	6.8	-88.02
180	SLV 9	-145	453	5805	1569.09	-541.6	90.79
180	SLV 10	-91	449	5788	1564.87	-540.11	73.36
180	SLV 11	-186	-437	-12	82.13	-1.24	14.48
180	SLV 12	-131	-442	-28	77.91	0.25	-2.95
180	SLV 13	-491	134	3854	1073.95	-360.48	167.56
180	SLV 14	-409	127	3829	1067.68	-358.26	141.66
180	SLV 15	-503	-133	2109	627.86	-198.37	144.67
180	SLV 16	-422	-140	2084	621.6	-196.15	118.77
180	SLV FO 1	459	174	3701	1023.75	-345.78	-127.73
180	SLV FO 2	549	166	3674	1016.86	-343.34	-156.22
180	SLV FO 3	446	-120	1781	533.05	-167.46	-152.92
180	SLV FO 4	536	-127	1754	526.16	-165.02	-181.4
180	SLV FO 5	140	506	6024	1621.8	-561.82	6.16
180	SLV FO 6	200	501	6006	1617.16	-560.17	-13.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
180	SLV FO 7	95	-474	-374	-13.85	32.58	-77.78
180	SLV FO 8	156	-479	-392	-18.49	34.22	-96.96
180	SLV FO 9	-160	498	6100	1644.69	-569.02	99.73
180	SLV FO 10	-99	493	6082	1640.05	-567.38	80.56
180	SLV FO 11	-204	-482	-298	9.03	25.37	15.79
180	SLV FO 12	-144	-487	-316	4.39	27.02	-3.38
180	SLV FO 13	-540	146	3954	1100.03	-369.78	184.18
180	SLV FO 14	-450	139	3927	1093.14	-367.34	155.69
180	SLV FO 15	-553	-148	2034	609.34	-191.46	158.99
180	SLV FO 16	-464	-155	2007	602.45	-189.02	130.51
180	CRTFP Ux+	0	0	0	0	0	0
180	CRTFP Ux-	0	0	0	0	0	0
180	CRTFP Uy+	0	0	0	0	0	0
180	CRTFP Uy-	0	0	0	0	0	0
181	SLU 1	-2	8	3430	1088.71	-62.1	0.83
181	SLU 2	-2	25	3519	1114.34	-63.72	1.03
181	SLU 3	-3	8	3485	1106.88	-63.09	1.05
181	SLU 4	-3	18	3539	1122.26	-64.06	1.17
181	SLU 5	-3	25	3554	1125.72	-64.34	1.26
181	SLU 6	-4	8	3519	1118.26	-63.71	1.29
181	SLU 7	-3	18	3573	1133.63	-64.68	1.41
181	SLU 8	-4	8	3498	1111.47	-63.33	1.3
181	SLU 9	-3	18	3552	1126.84	-64.31	1.42
181	SLU 10	-3	27	3986	1261.96	-72.13	1.42
181	SLU 11	-4	10	3951	1254.5	-71.5	1.44
181	SLU 12	-4	20	4005	1269.87	-72.47	1.56
181	SLU 13	-4	27	4020	1273.33	-72.74	1.65
181	SLU 14	-5	10	3986	1265.88	-72.11	1.67
181	SLU 15	-4	20	4040	1281.25	-73.09	1.79
181	SLU 16	-5	9	3965	1259.08	-71.74	1.69
181	SLU 17	-4	20	4019	1274.46	-72.71	1.81
181	SLU 18	-4	11	4096	1299.59	-74.11	1.39
181	SLU 19	-3	21	4150	1314.97	-75.08	1.5
181	SLU 20	-4	10	4130	1310.97	-74.73	1.62
181	SLU 21	-4	21	4184	1326.35	-75.7	1.74
181	SLU 22	-2	11	3888	1235.52	-70.34	0.94
181	SLU 23	-2	28	3978	1261.15	-71.96	1.13
181	SLU 24	-3	11	3943	1253.69	-71.33	1.16
181	SLU 25	-3	22	3997	1269.07	-72.3	1.27
181	SLU 26	-3	28	4012	1272.53	-72.58	1.37
181	SLU 27	-4	11	3978	1265.07	-71.94	1.39
181	SLU 28	-4	21	4032	1280.44	-72.92	1.51
181	SLU 29	-4	11	3957	1258.28	-71.57	1.41
181	SLU 30	-4	21	4011	1273.65	-72.54	1.52
181	SLU 31	-3	30	4444	1408.77	-80.37	1.52
181	SLU 32	-4	13	4410	1401.31	-79.73	1.54
181	SLU 33	-4	23	4464	1416.68	-80.71	1.66
181	SLU 34	-4	30	4479	1420.14	-80.98	1.76
181	SLU 35	-5	13	4444	1412.68	-80.35	1.78
181	SLU 36	-5	23	4498	1428.06	-81.32	1.9
181	SLU 37	-5	13	4423	1405.89	-79.98	1.79
181	SLU 38	-5	23	4477	1421.27	-80.95	1.91
181	SLU 39	-4	14	4554	1446.4	-82.35	1.49
181	SLU 40	-4	24	4608	1461.78	-83.32	1.61
181	SLU 41	-5	14	4589	1457.78	-82.96	1.72
181	SLU 42	-4	24	4643	1473.16	-83.94	1.84
181	SLU 43	-3	9	4301	1364.99	-77.91	1.05
181	SLU 44	-3	26	4391	1390.62	-79.53	1.24
181	SLU 45	-3	9	4357	1383.16	-78.9	1.27
181	SLU 46	-3	19	4410	1398.54	-79.87	1.38
181	SLU 47	-3	26	4426	1402	-80.15	1.48
181	SLU 48	-4	9	4391	1394.54	-79.51	1.5
181	SLU 49	-4	19	4445	1409.91	-80.49	1.62
181	SLU 50	-4	9	4370	1387.75	-79.14	1.52
181	SLU 51	-4	19	4424	1403.12	-80.11	1.63
181	SLU 52	-4	28	4857	1538.24	-87.94	1.63
181	SLU 53	-4	11	4823	1530.78	-87.3	1.65
181	SLU 54	-4	21	4877	1546.15	-88.28	1.77
181	SLU 55	-4	28	4892	1549.61	-88.55	1.87
181	SLU 56	-5	11	4857	1542.15	-87.92	1.89
181	SLU 57	-5	21	4911	1557.53	-88.89	2.01
181	SLU 58	-5	11	4836	1535.36	-87.54	1.9
181	SLU 59	-5	21	4890	1550.74	-88.52	2.02
181	SLU 60	-4	12	4967	1575.87	-89.92	1.6
181	SLU 61	-4	22	5021	1591.25	-90.89	1.72
181	SLU 62	-5	12	5002	1587.25	-90.53	1.84
181	SLU 63	-5	22	5056	1602.63	-91.51	1.95
181	SLU 64	-3	12	4760	1511.8	-86.15	1.15
181	SLU 65	-3	29	4850	1537.43	-87.77	1.35
181	SLU 66	-4	13	4815	1529.97	-87.14	1.37
181	SLU 67	-3	23	4869	1545.35	-88.11	1.49
181	SLU 68	-3	29	4884	1548.81	-88.38	1.58
181	SLU 69	-4	12	4850	1541.35	-87.75	1.61
181	SLU 70	-4	23	4903	1556.72	-88.72	1.72
181	SLU 71	-4	12	4829	1534.56	-87.38	1.62
181	SLU 72	-4	22	4883	1549.93	-88.35	1.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
181	SLU 73	-4	31	5316	1685.04	-96.17	1.74
181	SLU 74	-5	14	5281	1677.59	-95.54	1.76
181	SLU 75	-4	25	5335	1692.96	-96.51	1.88
181	SLU 76	-4	31	5350	1696.42	-96.79	1.97
181	SLU 77	-5	14	5316	1688.96	-96.16	1.99
181	SLU 78	-5	25	5370	1704.34	-97.13	2.11
181	SLU 79	-5	14	5295	1682.17	-95.78	2.01
181	SLU 80	-5	24	5349	1697.55	-96.75	2.13
181	SLU 81	-4	15	5426	1722.68	-98.15	1.7
181	SLU 82	-4	25	5480	1738.06	-99.13	1.82
181	SLU 83	-5	15	5460	1734.06	-98.77	1.94
181	SLU 84	-5	25	5514	1749.44	-99.74	2.06
181	SLE RA 1	-2	9	3561	1130.66	-64.46	0.86
181	SLE RA 2	-2	20	3621	1147.74	-65.54	0.99
181	SLE RA 3	-3	9	3598	1142.77	-65.12	1.01
181	SLE RA 4	-3	16	3633	1153.02	-65.76	1.09
181	SLE RA 5	-3	20	3643	1155.33	-65.95	1.15
181	SLE RA 6	-3	9	3620	1150.36	-65.53	1.17
181	SLE RA 7	-3	16	3656	1160.61	-66.17	1.24
181	SLE RA 8	-3	9	3607	1145.83	-65.28	1.18
181	SLE RA 9	-3	15	3642	1156.08	-65.92	1.25
181	SLE RA 10	-3	21	3931	1246.15	-71.14	1.25
181	SLE RA 11	-3	10	3908	1241.18	-70.72	1.27
181	SLE RA 12	-3	17	3944	1251.43	-71.37	1.35
181	SLE RA 13	-3	21	3954	1253.74	-71.55	1.41
181	SLE RA 14	-4	10	3931	1248.77	-71.13	1.42
181	SLE RA 15	-4	17	3967	1259.02	-71.78	1.5
181	SLE RA 16	-4	10	3917	1244.24	-70.88	1.43
181	SLE RA 17	-4	17	3953	1254.49	-71.53	1.51
181	SLE RA 18	-3	11	4005	1271.25	-72.46	1.23
181	SLE RA 19	-3	17	4041	1281.5	-73.11	1.31
181	SLE RA 20	-4	11	4028	1278.83	-72.87	1.39
181	SLE RA 21	-4	17	4064	1289.08	-73.52	1.47
181	SLE FR 1	-2	9	3561	1130.66	-64.46	0.86
181	SLE FR 2	-2	11	3573	1134.08	-64.67	0.89
181	SLE FR 3	-2	9	3570	1133.69	-64.62	0.93
181	SLE FR 4	-3	12	3706	1176.25	-67.07	1
181	SLE FR 5	-3	9	3703	1175.87	-67.02	1.04
181	SLE FR 6	-3	10	3783	1200.95	-68.46	1.05
181	SLE QP 1	-2	9	3561	1130.66	-64.46	0.86
181	SLE QP 2	-3	9	3694	1172.83	-66.86	0.97
181	SLD 1	355	128	4260	1330.98	-76.93	-121.1
181	SLD 2	423	122	4243	1325.94	-76.73	-145.16
181	SLD 3	345	-78	2949	954.92	-53.26	-124.25
181	SLD 4	413	-84	2933	949.88	-53.07	-148.31
181	SLD 5	108	358	5854	1791.51	-105.8	-26.74
181	SLD 6	152	355	5843	1788.27	-105.67	-42.23
181	SLD 7	75	-329	1486	537.96	-26.93	-37.23
181	SLD 8	119	-332	1475	534.71	-26.8	-52.72
181	SLD 9	-124	351	5913	1810.96	-106.92	54.67
181	SLD 10	-80	347	5902	1807.71	-106.79	39.17
181	SLD 11	-157	-336	1544	557.4	-28.05	44.18
181	SLD 12	-113	-340	1534	554.16	-27.92	28.69
181	SLD 13	-419	102	4455	1395.79	-80.65	150.25
181	SLD 14	-350	97	4439	1390.75	-80.45	126.19
181	SLD 15	-429	-104	3145	1019.72	-56.99	147.11
181	SLD 16	-360	-109	3128	1014.69	-56.79	123.05
181	SLV 1	556	210	4670	1446.47	-84.25	-189.63
181	SLV 2	664	201	4644	1438.53	-83.94	-227.55
181	SLV 3	540	-142	2433	804.7	-43.87	-194.72
181	SLV 4	648	-150	2407	796.76	-43.56	-232.65
181	SLV 5	170	604	7384	2229.76	-133.37	-41.4
181	SLV 6	243	598	7366	2224.42	-133.16	-66.93
181	SLV 7	115	-568	-71	90.52	1.22	-58.39
181	SLV 8	187	-573	-89	85.17	1.43	-83.92
181	SLV 9	-193	592	7477	2260.5	-135.15	85.87
181	SLV 10	-120	586	7459	2255.15	-134.93	60.33
181	SLV 11	-248	-580	22	121.25	-0.55	68.88
181	SLV 12	-175	-586	4	115.9	-0.34	43.35
181	SLV 13	-653	169	4981	1548.91	-90.16	234.59
181	SLV 14	-545	160	4955	1540.97	-89.84	196.67
181	SLV 15	-669	-183	2744	907.14	-49.78	229.5
181	SLV 16	-561	-191	2718	899.19	-49.46	191.57
181	SLV FO 1	612	230	4767	1473.84	-85.99	-208.69
181	SLV FO 2	731	220	4739	1465.1	-85.65	-250.41
181	SLV FO 3	594	-157	2307	767.89	-41.57	-214.29
181	SLV FO 4	713	-166	2278	759.15	-41.23	-256.01
181	SLV FO 5	187	664	7753	2335.46	-140.03	-45.64
181	SLV FO 6	267	657	7733	2329.58	-139.79	-73.72
181	SLV FO 7	126	-625	-448	-17.71	8.03	-64.32
181	SLV FO 8	206	-632	-467	-23.59	8.26	-92.41
181	SLV FO 9	-212	650	7855	2369.26	-141.97	94.36
181	SLV FO 10	-132	644	7836	2363.38	-141.74	66.27
181	SLV FO 11	-273	-639	-345	16.09	6.08	75.67
181	SLV FO 12	-193	-645	-365	10.21	6.31	47.58
181	SLV FO 13	-718	185	5109	1586.52	-92.49	257.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
181	SLV FO 14	-599	175	5081	1577.78	-92.14	216.24
181	SLV FO 15	-736	-202	2649	880.57	-48.07	252.35
181	SLV FO 16	-617	-211	2620	871.83	-47.73	210.63
181	CRTFP Ux+	0	0	0	0	0	0
181	CRTFP Ux-	0	0	0	0	0	0
181	CRTFP Uy+	0	0	0	-0.01	0	0
181	CRTFP Uy-	0	0	0	0.01	0	0
182	SLU 1	-3	4	3770	1167.63	2.19	0.76
182	SLU 2	-2	22	3869	1194.92	2.25	0.61
182	SLU 3	-3	4	3831	1186.92	2.24	1.01
182	SLU 4	-3	15	3890	1203.29	2.28	0.92
182	SLU 5	-3	22	3906	1206.99	2.28	0.88
182	SLU 6	-4	4	3868	1198.99	2.27	1.28
182	SLU 7	-4	15	3927	1215.37	2.31	1.19
182	SLU 8	-4	3	3845	1191.78	2.26	1.3
182	SLU 9	-4	15	3904	1208.15	2.29	1.21
182	SLU 10	-4	25	4380	1352.15	2.61	1.06
182	SLU 11	-5	6	4341	1344.15	2.61	1.46
182	SLU 12	-4	17	4400	1360.53	2.64	1.37
182	SLU 13	-4	24	4417	1364.23	2.65	1.33
182	SLU 14	-5	6	4379	1356.23	2.64	1.73
182	SLU 15	-5	17	4438	1372.6	2.68	1.64
182	SLU 16	-6	5	4356	1349.01	2.62	1.75
182	SLU 17	-5	17	4415	1365.39	2.66	1.66
182	SLU 18	-5	7	4500	1392.25	2.71	1.4
182	SLU 19	-4	18	4559	1408.62	2.75	1.31
182	SLU 20	-5	7	4537	1404.32	2.74	1.67
182	SLU 21	-5	18	4596	1420.7	2.78	1.58
182	SLU 22	-3	6	4271	1323.68	2.58	0.81
182	SLU 23	-2	25	4370	1350.97	2.64	0.66
182	SLU 24	-4	6	4331	1342.97	2.63	1.05
182	SLU 25	-3	18	4391	1359.35	2.67	0.96
182	SLU 26	-3	25	4407	1363.05	2.68	0.93
182	SLU 27	-4	6	4369	1355.05	2.67	1.32
182	SLU 28	-4	18	4428	1371.42	2.71	1.23
182	SLU 29	-4	6	4346	1347.83	2.65	1.35
182	SLU 30	-4	17	4405	1364.2	2.69	1.26
182	SLU 31	-4	27	4880	1508.21	3.01	1.11
182	SLU 32	-5	9	4842	1500.21	3	1.5
182	SLU 33	-5	20	4901	1516.58	3.04	1.41
182	SLU 34	-5	27	4918	1520.28	3.04	1.38
182	SLU 35	-6	8	4879	1512.28	3.03	1.77
182	SLU 36	-5	20	4939	1528.65	3.07	1.68
182	SLU 37	-6	8	4857	1505.06	3.02	1.8
182	SLU 38	-6	19	4916	1521.44	3.05	1.71
182	SLU 39	-5	9	5001	1548.3	3.1	1.45
182	SLU 40	-5	21	5060	1564.68	3.14	1.36
182	SLU 41	-6	9	5038	1560.38	3.14	1.72
182	SLU 42	-5	20	5097	1576.75	3.18	1.63
182	SLU 43	-3	4	4730	1464.42	2.71	0.97
182	SLU 44	-3	23	4828	1491.71	2.77	0.82
182	SLU 45	-4	4	4790	1483.71	2.76	1.22
182	SLU 46	-4	15	4849	1500.08	2.8	1.13
182	SLU 47	-4	22	4866	1503.78	2.8	1.09
182	SLU 48	-5	4	4827	1495.78	2.8	1.49
182	SLU 49	-5	15	4887	1512.15	2.83	1.4
182	SLU 50	-5	3	4805	1488.56	2.78	1.51
182	SLU 51	-5	15	4864	1504.94	2.81	1.42
182	SLU 52	-4	25	5339	1648.94	3.14	1.27
182	SLU 53	-5	6	5301	1640.94	3.13	1.67
182	SLU 54	-5	17	5360	1657.31	3.16	1.58
182	SLU 55	-5	25	5376	1661.01	3.17	1.54
182	SLU 56	-6	6	5338	1653.01	3.16	1.94
182	SLU 57	-6	17	5397	1669.39	3.2	1.85
182	SLU 58	-6	6	5315	1645.8	3.14	1.96
182	SLU 59	-6	17	5374	1662.17	3.18	1.87
182	SLU 60	-5	7	5459	1689.04	3.23	1.61
182	SLU 61	-5	18	5518	1705.41	3.27	1.53
182	SLU 62	-6	7	5497	1701.11	3.26	1.88
182	SLU 63	-6	18	5556	1717.48	3.3	1.8
182	SLU 64	-4	6	5231	1620.47	3.1	1.02
182	SLU 65	-3	25	5329	1647.76	3.16	0.87
182	SLU 66	-4	7	5291	1639.76	3.15	1.27
182	SLU 67	-4	18	5350	1656.13	3.19	1.18
182	SLU 68	-4	25	5367	1659.83	3.2	1.14
182	SLU 69	-5	6	5328	1651.83	3.19	1.54
182	SLU 70	-5	18	5387	1668.21	3.23	1.45
182	SLU 71	-5	6	5306	1644.62	3.17	1.56
182	SLU 72	-5	17	5365	1660.99	3.21	1.47
182	SLU 73	-5	27	5840	1804.99	3.53	1.32
182	SLU 74	-6	9	5801	1796.99	3.52	1.72
182	SLU 75	-5	20	5861	1813.37	3.56	1.63
182	SLU 76	-5	27	5877	1817.07	3.56	1.59
182	SLU 77	-6	9	5839	1809.07	3.55	1.99
182	SLU 78	-6	20	5898	1825.44	3.59	1.9
182	SLU 79	-6	8	5816	1801.85	3.54	2.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
182	SLU 80	-6	20	5875	1818.22	3.57	1.92
182	SLU 81	-5	10	5960	1845.09	3.62	1.66
182	SLU 82	-5	21	6019	1861.46	3.66	1.57
182	SLU 83	-6	9	5998	1857.16	3.66	1.93
182	SLU 84	-6	21	6057	1873.54	3.7	1.84
182	SLE RA 1	-3	4	3914	1212.22	2.3	0.77
182	SLE RA 2	-2	17	3979	1230.41	2.34	0.68
182	SLE RA 3	-3	4	3954	1225.08	2.33	0.94
182	SLE RA 4	-3	12	3993	1235.99	2.36	0.88
182	SLE RA 5	-3	17	4004	1238.46	2.36	0.86
182	SLE RA 6	-4	4	3979	1233.13	2.36	1.12
182	SLE RA 7	-4	12	4018	1244.04	2.38	1.06
182	SLE RA 8	-4	4	3963	1228.32	2.35	1.13
182	SLE RA 9	-4	12	4003	1239.23	2.37	1.08
182	SLE RA 10	-3	18	4320	1335.23	2.58	0.97
182	SLE RA 11	-4	6	4294	1329.9	2.58	1.24
182	SLE RA 12	-4	13	4333	1340.82	2.6	1.18
182	SLE RA 13	-4	18	4345	1343.28	2.61	1.16
182	SLE RA 14	-5	6	4319	1337.95	2.6	1.42
182	SLE RA 15	-4	13	4358	1348.86	2.63	1.36
182	SLE RA 16	-5	6	4304	1333.14	2.59	1.43
182	SLE RA 17	-4	13	4343	1344.05	2.61	1.37
182	SLE RA 18	-4	6	4400	1361.96	2.65	1.2
182	SLE RA 19	-4	14	4439	1372.88	2.67	1.14
182	SLE RA 20	-4	6	4425	1370.01	2.67	1.38
182	SLE RA 21	-4	14	4464	1380.93	2.7	1.32
182	SLE FR 1	-3	4	3914	1212.22	2.3	0.77
182	SLE FR 2	-3	7	3927	1215.86	2.31	0.75
182	SLE FR 3	-3	4	3924	1215.44	2.31	0.85
182	SLE FR 4	-3	7	4073	1260.78	2.41	0.88
182	SLE FR 5	-3	5	4069	1260.36	2.41	0.97
182	SLE FR 6	-3	5	4157	1287.09	2.47	0.99
182	SLE QP 1	-3	4	3914	1212.22	2.3	0.77
182	SLE QP 2	-3	5	4059	1257.14	2.4	0.9
182	SLD 1	399	103	4674	1423.54	3.09	-139.91
182	SLD 2	476	98	4661	1419.45	2.92	-166.79
182	SLD 3	387	-127	3237	1023.22	2.14	-135.87
182	SLD 4	464	-132	3224	1019.13	1.98	-162.75
182	SLD 5	122	384	6426	1914.91	4.07	-42.84
182	SLD 6	171	380	6418	1912.28	3.96	-60.16
182	SLD 7	83	-382	1635	580.52	0.92	-29.38
182	SLD 8	133	-385	1627	577.89	0.82	-46.69
182	SLD 9	-139	395	6492	1936.39	3.99	48.5
182	SLD 10	-90	392	6484	1933.76	3.88	31.18
182	SLD 11	-177	-370	1701	602.01	0.84	61.96
182	SLD 12	-128	-374	1693	599.37	0.74	44.65
182	SLD 13	-470	142	4895	1495.15	2.83	164.56
182	SLD 14	-393	136	4882	1491.06	2.66	137.67
182	SLD 15	-482	-88	3458	1094.83	1.88	168.6
182	SLD 16	-405	-93	3445	1090.74	1.72	141.71
182	SLV 1	625	175	5121	1545.42	3.54	-219.27
182	SLV 2	746	166	5100	1538.97	3.29	-261.64
182	SLV 3	606	-217	2668	862.27	1.93	-212.55
182	SLV 4	727	-226	2647	855.82	1.68	-254.93
182	SLV 5	192	652	8102	2380.94	5.23	-67.42
182	SLV 6	273	646	8088	2376.6	5.06	-95.95
182	SLV 7	128	-654	-74	103.77	-0.13	-45.04
182	SLV 8	210	-660	-88	99.43	-0.3	-73.57
182	SLV 9	-216	670	8207	2414.85	5.11	75.38
182	SLV 10	-134	664	8193	2410.51	4.94	46.85
182	SLV 11	-279	-636	31	137.69	-0.26	97.76
182	SLV 12	-198	-642	17	133.34	-0.43	69.23
182	SLV 13	-733	236	5472	1658.46	3.13	256.73
182	SLV 14	-612	227	5451	1652.01	2.87	214.36
182	SLV 15	-752	-156	3019	975.31	1.52	263.45
182	SLV 16	-631	-165	2998	968.86	1.26	221.07
182	SLV FO 1	688	192	5227	1574.25	3.66	-241.28
182	SLV FO 2	821	182	5204	1567.15	3.37	-287.9
182	SLV FO 3	667	-240	2529	822.78	1.89	-233.9
182	SLV FO 4	800	-249	2506	815.68	1.6	-280.51
182	SLV FO 5	211	716	8506	2493.32	5.52	-74.26
182	SLV FO 6	301	710	8491	2488.54	5.33	-105.64
182	SLV FO 7	141	-720	-487	-11.57	-0.38	-49.64
182	SLV FO 8	231	-727	-503	-16.34	-0.57	-81.02
182	SLV FO 9	-237	737	8622	2530.62	5.38	82.83
182	SLV FO 10	-147	730	8606	2525.85	5.19	51.44
182	SLV FO 11	-307	-700	-372	25.74	-0.52	107.44
182	SLV FO 12	-217	-706	-387	20.96	-0.71	76.06
182	SLV FO 13	-806	259	5613	1698.6	3.2	282.32
182	SLV FO 14	-673	249	5590	1691.5	2.92	235.7
182	SLV FO 15	-827	-172	2915	947.13	1.43	289.7
182	SLV FO 16	-694	-182	2892	940.04	1.15	243.09
182	CRTFP Ux+	0	0	0	0	0	0
182	CRTFP Ux-	0	0	0	0	0	0
182	CRTFP Uy+	0	0	0	-0.01	0	0
182	CRTFP Uy-	0	0	0	0.01	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
183	SLU 1	-3	-3	3704	1126.16	1.48	0.73
183	SLU 2	-2	16	3801	1152.3	1.53	0.57
183	SLU 3	-3	-3	3763	1144.52	1.53	0.98
183	SLU 4	-3	8	3820	1160.2	1.55	0.88
183	SLU 5	-3	16	3837	1163.78	1.55	0.84
183	SLU 6	-4	-3	3799	1156	1.55	1.26
183	SLU 7	-4	8	3857	1171.69	1.58	1.16
183	SLU 8	-4	-3	3777	1149.13	1.54	1.28
183	SLU 9	-4	8	3835	1164.81	1.57	1.18
183	SLU 10	-4	17	4300	1302.73	1.8	1.07
183	SLU 11	-5	-1	4262	1294.95	1.8	1.48
183	SLU 12	-5	10	4319	1310.63	1.83	1.38
183	SLU 13	-4	17	4336	1314.21	1.83	1.34
183	SLU 14	-6	-1	4298	1306.43	1.83	1.76
183	SLU 15	-5	10	4356	1322.11	1.86	1.66
183	SLU 16	-6	-2	4276	1299.55	1.82	1.78
183	SLU 17	-5	10	4334	1315.24	1.84	1.68
183	SLU 18	-5	0	4417	1341.05	1.88	1.45
183	SLU 19	-5	11	4475	1356.74	1.9	1.35
183	SLU 20	-6	-1	4453	1352.54	1.91	1.72
183	SLU 21	-5	10	4511	1368.22	1.93	1.62
183	SLU 22	-3	-2	4192	1275.14	1.78	0.78
183	SLU 23	-2	17	4289	1301.27	1.82	0.61
183	SLU 24	-4	-2	4251	1293.5	1.82	1.02
183	SLU 25	-3	10	4309	1309.18	1.85	0.92
183	SLU 26	-3	17	4325	1312.76	1.85	0.88
183	SLU 27	-4	-2	4287	1304.98	1.85	1.3
183	SLU 28	-4	9	4345	1320.66	1.88	1.2
183	SLU 29	-4	-2	4265	1298.1	1.84	1.32
183	SLU 30	-4	9	4323	1313.79	1.86	1.22
183	SLU 31	-4	19	4788	1451.7	2.1	1.11
183	SLU 32	-5	0	4750	1443.92	2.1	1.52
183	SLU 33	-5	11	4808	1459.61	2.13	1.42
183	SLU 34	-5	18	4824	1463.18	2.13	1.38
183	SLU 35	-6	0	4786	1455.41	2.13	1.8
183	SLU 36	-6	11	4844	1471.09	2.15	1.7
183	SLU 37	-6	0	4764	1448.53	2.11	1.82
183	SLU 38	-6	11	4822	1464.21	2.14	1.72
183	SLU 39	-5	1	4905	1490.03	2.17	1.49
183	SLU 40	-5	12	4963	1505.71	2.2	1.39
183	SLU 41	-6	1	4942	1501.51	2.2	1.76
183	SLU 42	-6	12	5000	1517.2	2.23	1.66
183	SLU 43	-3	-4	4648	1412.93	1.82	0.94
183	SLU 44	-3	15	4745	1439.07	1.87	0.77
183	SLU 45	-4	-4	4706	1431.29	1.87	1.19
183	SLU 46	-4	7	4764	1446.97	1.89	1.09
183	SLU 47	-4	14	4781	1450.55	1.9	1.05
183	SLU 48	-5	-4	4743	1442.77	1.9	1.46
183	SLU 49	-5	7	4801	1458.46	1.92	1.36
183	SLU 50	-5	-5	4720	1435.9	1.88	1.49
183	SLU 51	-5	7	4778	1451.58	1.91	1.39
183	SLU 52	-4	16	5244	1589.5	2.14	1.27
183	SLU 53	-6	-3	5205	1581.72	2.14	1.69
183	SLU 54	-5	9	5263	1597.4	2.17	1.59
183	SLU 55	-5	16	5280	1600.98	2.17	1.55
183	SLU 56	-6	-3	5242	1593.2	2.17	1.96
183	SLU 57	-6	8	5300	1608.88	2.2	1.86
183	SLU 58	-6	-3	5219	1586.32	2.16	1.99
183	SLU 59	-6	8	5277	1602.01	2.18	1.89
183	SLU 60	-5	-2	5361	1627.82	2.22	1.65
183	SLU 61	-5	9	5419	1643.51	2.25	1.55
183	SLU 62	-6	-2	5397	1639.31	2.25	1.93
183	SLU 63	-6	9	5455	1654.99	2.27	1.83
183	SLU 64	-4	-3	5136	1561.91	2.12	0.98
183	SLU 65	-3	16	5233	1588.04	2.17	0.82
183	SLU 66	-4	-3	5195	1580.27	2.17	1.23
183	SLU 67	-4	8	5253	1595.95	2.19	1.13
183	SLU 68	-4	16	5269	1599.53	2.19	1.09
183	SLU 69	-5	-3	5231	1591.75	2.19	1.5
183	SLU 70	-5	8	5289	1607.43	2.22	1.4
183	SLU 71	-5	-3	5209	1584.87	2.18	1.53
183	SLU 72	-5	8	5267	1600.56	2.21	1.43
183	SLU 73	-5	17	5732	1738.47	2.44	1.32
183	SLU 74	-6	-1	5694	1730.69	2.44	1.73
183	SLU 75	-6	10	5752	1746.38	2.47	1.63
183	SLU 76	-5	17	5768	1749.95	2.47	1.59
183	SLU 77	-7	-1	5730	1742.18	2.47	2
183	SLU 78	-6	10	5788	1757.86	2.5	1.9
183	SLU 79	-7	-2	5708	1735.3	2.46	2.03
183	SLU 80	-6	9	5766	1750.98	2.48	1.93
183	SLU 81	-6	-1	5849	1776.8	2.52	1.7
183	SLU 82	-5	11	5907	1792.48	2.54	1.6
183	SLU 83	-7	-1	5885	1788.28	2.55	1.97
183	SLU 84	-6	10	5943	1803.97	2.57	1.87
183	SLE RA 1	-3	-3	3844	1168.72	1.57	0.75
183	SLE RA 2	-2	10	3908	1186.15	1.6	0.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
183	SLE RA 3	-3	-3	3883	1180.96	1.6	0.91
183	SLE RA 4	-3	5	3921	1191.42	1.61	0.85
183	SLE RA 5	-3	10	3932	1193.81	1.62	0.82
183	SLE RA 6	-4	-3	3907	1188.62	1.61	1.09
183	SLE RA 7	-4	5	3945	1199.08	1.63	1.03
183	SLE RA 8	-4	-3	3892	1184.03	1.6	1.11
183	SLE RA 9	-4	5	3931	1194.49	1.62	1.04
183	SLE RA 10	-3	11	4241	1286.43	1.78	0.97
183	SLE RA 11	-4	-1	4215	1281.25	1.78	1.24
183	SLE RA 12	-4	6	4254	1291.71	1.8	1.18
183	SLE RA 13	-4	11	4265	1294.09	1.8	1.15
183	SLE RA 14	-5	-2	4239	1288.9	1.8	1.43
183	SLE RA 15	-5	6	4278	1299.36	1.82	1.36
183	SLE RA 16	-5	-2	4225	1284.32	1.79	1.44
183	SLE RA 17	-5	6	4263	1294.77	1.81	1.38
183	SLE RA 18	-4	-1	4319	1311.99	1.83	1.22
183	SLE RA 19	-4	7	4358	1322.44	1.85	1.16
183	SLE RA 20	-5	-1	4343	1319.64	1.85	1.4
183	SLE RA 21	-4	6	4382	1330.1	1.87	1.34
183	SLE FR 1	-3	-3	3844	1168.72	1.57	0.75
183	SLE FR 2	-3	0	3857	1172.21	1.57	0.72
183	SLE FR 3	-3	-3	3853	1171.79	1.57	0.82
183	SLE FR 4	-3	0	3999	1215.19	1.65	0.87
183	SLE FR 5	-3	-2	3996	1214.76	1.65	0.96
183	SLE FR 6	-3	-2	4081	1240.36	1.7	0.98
183	SLE QP 1	-3	-3	3844	1168.72	1.57	0.75
183	SLE QP 2	-3	-2	3986	1211.7	1.65	0.89
183	SLD 1	399	91	4584	1369.55	2.2	-139.96
183	SLD 2	476	87	4577	1367.2	2.03	-166.83
183	SLD 3	387	-137	3176	986.42	1.52	-135.83
183	SLD 4	464	-142	3169	984.07	1.35	-162.69
183	SLD 5	122	373	6302	1840.55	2.87	-43.02
183	SLD 6	172	371	6298	1839.03	2.76	-60.31
183	SLD 7	83	-389	1609	563.44	0.61	-29.24
183	SLD 8	132	-391	1604	561.93	0.5	-46.54
183	SLD 9	-139	387	6368	1861.48	2.79	48.31
183	SLD 10	-89	385	6364	1859.97	2.68	31.01
183	SLD 11	-178	-375	1675	584.37	0.53	62.09
183	SLD 12	-128	-378	1670	582.86	0.42	44.79
183	SLD 13	-470	138	4804	1439.33	1.94	164.47
183	SLD 14	-393	133	4796	1436.98	1.77	137.61
183	SLD 15	-482	-91	3396	1056.2	1.26	168.6
183	SLD 16	-405	-95	3388	1053.85	1.1	141.74
183	SLV 1	626	160	5019	1485.42	2.56	-219.35
183	SLV 2	747	153	5008	1481.72	2.3	-261.7
183	SLV 3	606	-230	2617	831.6	1.4	-212.47
183	SLV 4	727	-237	2605	827.9	1.14	-254.81
183	SLV 5	193	639	7943	2286.13	3.72	-67.72
183	SLV 6	274	635	7935	2283.64	3.55	-96.22
183	SLV 7	127	-661	-67	106.74	-0.14	-44.78
183	SLV 8	209	-665	-75	104.25	-0.31	-73.29
183	SLV 9	-215	661	8047	2319.15	3.6	75.06
183	SLV 10	-134	657	8039	2316.66	3.43	46.56
183	SLV 11	-280	-639	38	139.77	-0.26	98
183	SLV 12	-199	-643	30	137.28	-0.43	69.5
183	SLV 13	-733	233	5367	1595.5	2.15	256.59
183	SLV 14	-612	226	5356	1591.8	1.89	214.25
183	SLV 15	-753	-157	2965	941.69	1	263.47
183	SLV 16	-632	-164	2953	937.99	0.73	221.13
183	SLV FO 1	688	176	5123	1512.79	2.65	-241.38
183	SLV FO 2	822	168	5110	1508.72	2.36	-287.95
183	SLV FO 3	667	-253	2480	793.59	1.37	-233.81
183	SLV FO 4	800	-261	2467	789.52	1.09	-280.38
183	SLV FO 5	212	703	8338	2393.57	3.93	-74.58
183	SLV FO 6	302	698	8330	2390.83	3.74	-105.94
183	SLV FO 7	140	-727	-472	-3.75	-0.31	-49.35
183	SLV FO 8	230	-732	-481	-6.49	-0.51	-80.7
183	SLV FO 9	-236	727	8453	2429.9	3.8	82.48
183	SLV FO 10	-147	722	8445	2427.16	3.61	51.13
183	SLV FO 11	-308	-702	-357	32.58	-0.45	107.71
183	SLV FO 12	-218	-707	-366	29.83	-0.64	76.36
183	SLV FO 13	-806	256	5506	1633.88	2.2	282.16
183	SLV FO 14	-673	249	5493	1629.81	1.92	235.59
183	SLV FO 15	-828	-173	2862	914.69	0.93	289.73
183	SLV FO 16	-695	-180	2850	910.61	0.64	243.16
183	CRTFP Ux+	0	0	0	0	0	0
183	CRTFP Ux-	0	0	0	0	0	0
183	CRTFP Uy+	0	0	0	-0.01	0	0
183	CRTFP Uy-	0	0	0	0.01	0	0
184	SLU 1	-2	-10	3668	1108.41	0.55	0.65
184	SLU 2	-2	8	3763	1134.02	0.57	0.46
184	SLU 3	-3	-10	3725	1126.23	0.58	0.9
184	SLU 4	-3	1	3782	1141.59	0.59	0.79
184	SLU 5	-3	8	3798	1145.15	0.59	0.74
184	SLU 6	-4	-11	3760	1137.36	0.6	1.18
184	SLU 7	-4	0	3817	1152.72	0.61	1.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
184	SLU 8	-4	-11	3738	1130.67	0.59	1.2
184	SLU 9	-4	0	3796	1146.03	0.6	1.09
184	SLU 10	-4	9	4254	1280.95	0.72	1.01
184	SLU 11	-5	-10	4216	1273.16	0.73	1.45
184	SLU 12	-5	1	4273	1288.53	0.74	1.33
184	SLU 13	-4	9	4290	1292.08	0.74	1.28
184	SLU 14	-6	-10	4251	1284.29	0.75	1.72
184	SLU 15	-5	1	4309	1299.65	0.76	1.61
184	SLU 16	-6	-10	4230	1277.6	0.74	1.74
184	SLU 17	-5	1	4287	1292.97	0.75	1.63
184	SLU 18	-5	-9	4369	1318.32	0.77	1.43
184	SLU 19	-5	2	4427	1333.68	0.78	1.32
184	SLU 20	-6	-10	4405	1329.44	0.79	1.7
184	SLU 21	-5	2	4462	1344.81	0.8	1.59
184	SLU 22	-3	-10	4148	1253.65	0.72	0.67
184	SLU 23	-2	8	4243	1279.25	0.74	0.49
184	SLU 24	-3	-11	4205	1271.46	0.75	0.92
184	SLU 25	-3	1	4262	1286.83	0.76	0.81
184	SLU 26	-3	8	4278	1290.38	0.76	0.76
184	SLU 27	-4	-11	4240	1282.59	0.77	1.2
184	SLU 28	-4	0	4297	1297.96	0.78	1.09
184	SLU 29	-4	-11	4218	1275.9	0.76	1.22
184	SLU 30	-4	0	4276	1291.27	0.77	1.11
184	SLU 31	-4	9	4734	1426.18	0.89	1.03
184	SLU 32	-5	-10	4696	1418.4	0.9	1.47
184	SLU 33	-5	1	4753	1433.76	0.91	1.36
184	SLU 34	-5	9	4770	1437.31	0.91	1.31
184	SLU 35	-6	-10	4731	1429.53	0.92	1.74
184	SLU 36	-6	1	4789	1444.89	0.93	1.63
184	SLU 37	-6	-10	4710	1422.84	0.91	1.77
184	SLU 38	-6	1	4767	1438.2	0.92	1.66
184	SLU 39	-5	-9	4849	1463.55	0.93	1.45
184	SLU 40	-5	2	4907	1478.91	0.95	1.34
184	SLU 41	-6	-10	4885	1474.68	0.95	1.73
184	SLU 42	-5	1	4942	1490.04	0.96	1.61
184	SLU 43	-3	-13	4603	1391.14	0.66	0.84
184	SLU 44	-3	5	4699	1416.74	0.68	0.65
184	SLU 45	-4	-13	4660	1408.96	0.69	1.09
184	SLU 46	-4	-2	4718	1424.32	0.7	0.98
184	SLU 47	-3	5	4734	1427.87	0.7	0.93
184	SLU 48	-5	-14	4696	1420.09	0.71	1.36
184	SLU 49	-4	-3	4753	1435.45	0.72	1.25
184	SLU 50	-5	-14	4674	1413.4	0.7	1.39
184	SLU 51	-4	-3	4731	1428.76	0.71	1.28
184	SLU 52	-4	6	5190	1563.68	0.83	1.2
184	SLU 53	-6	-13	5152	1555.89	0.84	1.63
184	SLU 54	-5	-2	5209	1571.25	0.85	1.52
184	SLU 55	-5	6	5225	1574.81	0.85	1.47
184	SLU 56	-6	-13	5187	1567.02	0.86	1.91
184	SLU 57	-6	-2	5244	1582.38	0.87	1.79
184	SLU 58	-6	-13	5165	1560.33	0.85	1.93
184	SLU 59	-6	-2	5223	1575.69	0.86	1.82
184	SLU 60	-6	-12	5305	1601.04	0.88	1.62
184	SLU 61	-5	-1	5362	1616.41	0.89	1.5
184	SLU 62	-6	-13	5340	1612.17	0.9	1.89
184	SLU 63	-6	-1	5398	1627.54	0.91	1.78
184	SLU 64	-3	-13	5083	1536.37	0.83	0.86
184	SLU 65	-3	5	5179	1561.98	0.85	0.67
184	SLU 66	-4	-14	5140	1554.19	0.86	1.11
184	SLU 67	-4	-2	5198	1569.56	0.87	1
184	SLU 68	-4	5	5214	1573.11	0.87	0.95
184	SLU 69	-5	-14	5176	1565.32	0.88	1.39
184	SLU 70	-5	-3	5233	1580.68	0.89	1.27
184	SLU 71	-5	-14	5154	1558.63	0.87	1.41
184	SLU 72	-5	-3	5211	1574	0.88	1.3
184	SLU 73	-4	6	5670	1708.91	1	1.22
184	SLU 74	-6	-13	5632	1701.13	1.01	1.66
184	SLU 75	-5	-2	5689	1716.49	1.02	1.54
184	SLU 76	-5	6	5705	1720.04	1.02	1.49
184	SLU 77	-7	-13	5667	1712.25	1.03	1.93
184	SLU 78	-6	-2	5724	1727.62	1.04	1.82
184	SLU 79	-7	-13	5645	1705.57	1.02	1.96
184	SLU 80	-6	-2	5703	1720.93	1.03	1.84
184	SLU 81	-6	-12	5785	1746.28	1.04	1.64
184	SLU 82	-5	-1	5842	1761.64	1.06	1.53
184	SLU 83	-6	-13	5820	1757.41	1.06	1.91
184	SLU 84	-6	-2	5878	1772.77	1.07	1.8
184	SLE RA 1	-3	-10	3805	1149.91	0.6	0.66
184	SLE RA 2	-2	2	3868	1166.98	0.61	0.53
184	SLE RA 3	-3	-10	3843	1161.79	0.62	0.82
184	SLE RA 4	-3	-3	3881	1172.03	0.63	0.75
184	SLE RA 5	-3	2	3892	1174.4	0.63	0.72
184	SLE RA 6	-4	-11	3866	1169.2	0.63	1.01
184	SLE RA 7	-3	-3	3905	1179.45	0.64	0.93
184	SLE RA 8	-4	-11	3852	1164.75	0.63	1.02
184	SLE RA 9	-3	-3	3890	1174.99	0.63	0.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
184	SLE RA 10	-3	3	4196	1264.93	0.71	0.9
184	SLE RA 11	-4	-10	4170	1259.74	0.72	1.19
184	SLE RA 12	-4	-2	4208	1269.98	0.73	1.11
184	SLE RA 13	-4	2	4219	1272.35	0.73	1.08
184	SLE RA 14	-5	-10	4194	1267.16	0.73	1.37
184	SLE RA 15	-4	-3	4232	1277.4	0.74	1.3
184	SLE RA 16	-5	-10	4179	1262.7	0.73	1.39
184	SLE RA 17	-4	-3	4218	1272.94	0.73	1.31
184	SLE RA 18	-4	-10	4273	1289.84	0.74	1.18
184	SLE RA 19	-4	-2	4311	1300.09	0.75	1.1
184	SLE RA 20	-5	-10	4296	1297.26	0.76	1.36
184	SLE RA 21	-4	-2	4334	1307.5	0.76	1.28
184	SLE FR 1	-3	-10	3805	1149.91	0.6	0.66
184	SLE FR 2	-2	-8	3817	1153.32	0.6	0.63
184	SLE FR 3	-3	-10	3814	1152.87	0.61	0.73
184	SLE FR 4	-3	-8	3958	1195.3	0.65	0.79
184	SLE FR 5	-3	-10	3954	1194.86	0.65	0.89
184	SLE FR 6	-3	-10	4039	1219.87	0.67	0.92
184	SLE QP 1	-3	-10	3805	1149.91	0.6	0.66
184	SLE QP 2	-3	-10	3945	1191.89	0.64	0.81
184	SLD 1	399	80	4532	1345.45	1.01	-140
184	SLD 2	476	77	4530	1344.87	0.85	-166.82
184	SLD 3	387	-148	3142	970.67	0.69	-135.73
184	SLD 4	464	-151	3140	970.09	0.52	-162.56
184	SLD 5	123	363	6230	1806.47	1.27	-43.28
184	SLD 6	172	361	6229	1806.1	1.17	-60.56
184	SLD 7	82	-397	1596	557.21	0.2	-29.07
184	SLD 8	132	-399	1595	556.84	0.09	-46.34
184	SLD 9	-138	378	6295	1826.94	1.2	47.97
184	SLD 10	-88	377	6294	1826.57	1.09	30.7
184	SLD 11	-178	-382	1661	577.68	0.12	62.18
184	SLD 12	-129	-383	1661	577.31	0.01	44.91
184	SLD 13	-470	131	4750	1413.68	0.77	164.18
184	SLD 14	-393	128	4748	1413.11	0.6	137.36
184	SLD 15	-482	-97	3360	1038.9	0.44	168.45
184	SLD 16	-405	-100	3358	1038.33	0.28	141.62
184	SLV 1	626	147	4960	1458.3	1.25	-219.38
184	SLV 2	747	142	4957	1457.39	0.98	-261.66
184	SLV 3	606	-242	2588	818.75	0.69	-212.26
184	SLV 4	727	-246	2585	817.84	0.43	-254.54
184	SLV 5	194	628	7848	2241.97	1.71	-68.14
184	SLV 6	275	625	7846	2241.36	1.54	-96.6
184	SLV 7	126	-668	-59	110.13	-0.13	-44.43
184	SLV 8	208	-672	-61	109.52	-0.31	-72.9
184	SLV 9	-214	651	7951	2274.26	1.59	74.52
184	SLV 10	-132	648	7950	2273.64	1.42	46.06
184	SLV 11	-281	-645	44	142.42	-0.25	98.23
184	SLV 12	-200	-648	43	141.81	-0.42	69.77
184	SLV 13	-733	226	5305	1565.93	0.86	256.17
184	SLV 14	-612	222	5303	1565.02	0.59	213.89
184	SLV 15	-753	-163	2933	926.38	0.3	263.28
184	SLV 16	-632	-167	2930	925.47	0.04	221
184	SLV FO 1	689	163	5061	1484.94	1.31	-241.4
184	SLV FO 2	822	158	5059	1483.94	1.02	-287.9
184	SLV FO 3	666	-265	2452	781.44	0.7	-233.57
184	SLV FO 4	800	-270	2449	780.44	0.41	-280.08
184	SLV FO 5	214	691	8238	2346.98	1.82	-75.04
184	SLV FO 6	303	688	8236	2346.3	1.62	-106.35
184	SLV FO 7	139	-734	-460	1.95	-0.21	-48.96
184	SLV FO 8	229	-738	-462	1.28	-0.4	-80.27
184	SLV FO 9	-235	718	8352	2382.49	1.69	81.89
184	SLV FO 10	-145	714	8350	2381.82	1.5	50.58
184	SLV FO 11	-309	-708	-346	37.47	-0.34	107.97
184	SLV FO 12	-220	-712	-348	36.8	-0.53	76.66
184	SLV FO 13	-806	250	5441	1603.34	0.88	281.7
184	SLV FO 14	-672	245	5438	1602.34	0.59	235.2
184	SLV FO 15	-828	-178	2831	899.83	0.27	289.53
184	SLV FO 16	-695	-183	2829	898.83	-0.02	243.02
184	CRTFP Ux+	0	0	0	0	0	0
184	CRTFP Ux-	0	0	0	0	0	0
184	CRTFP Uy+	0	0	0	-0.01	0	0
184	CRTFP Uy-	0	0	0	0.01	0	0
185	SLU 1	-2	-18	3665	1117.03	-0.37	0.51
185	SLU 2	-1	0	3760	1142.79	-0.38	0.3
185	SLU 3	-3	-18	3721	1134.74	-0.36	0.76
185	SLU 4	-2	-7	3778	1150.2	-0.37	0.63
185	SLU 5	-2	0	3795	1153.84	-0.37	0.57
185	SLU 6	-4	-19	3756	1145.79	-0.35	1.04
185	SLU 7	-3	-8	3813	1161.25	-0.36	0.91
185	SLU 8	-4	-19	3734	1139.13	-0.36	1.06
185	SLU 9	-3	-8	3792	1154.58	-0.36	0.93
185	SLU 10	-3	0	4248	1289.98	-0.36	0.88
185	SLU 11	-5	-19	4209	1281.93	-0.34	1.34
185	SLU 12	-4	-8	4266	1297.39	-0.34	1.21
185	SLU 13	-4	-1	4283	1301.03	-0.35	1.15
185	SLU 14	-5	-20	4244	1292.98	-0.33	1.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
185	SLU 15	-5	-8	4301	1308.44	-0.33	1.49
185	SLU 16	-5	-20	4223	1286.32	-0.33	1.64
185	SLU 17	-5	-8	4280	1301.77	-0.34	1.51
185	SLU 18	-5	-19	4362	1327.3	-0.34	1.34
185	SLU 19	-4	-8	4419	1342.76	-0.35	1.21
185	SLU 20	-5	-19	4397	1338.35	-0.33	1.62
185	SLU 21	-5	-8	4454	1353.81	-0.34	1.49
185	SLU 22	-2	-20	4141	1262.31	-0.35	0.5
185	SLU 23	-2	-1	4236	1288.08	-0.35	0.29
185	SLU 24	-3	-20	4198	1280.03	-0.34	0.75
185	SLU 25	-3	-9	4255	1295.49	-0.34	0.62
185	SLU 26	-2	-2	4271	1299.12	-0.35	0.56
185	SLU 27	-4	-21	4233	1291.08	-0.33	1.03
185	SLU 28	-3	-10	4290	1306.54	-0.33	0.9
185	SLU 29	-4	-21	4211	1284.41	-0.33	1.05
185	SLU 30	-3	-10	4268	1299.87	-0.33	0.92
185	SLU 31	-3	-2	4725	1435.27	-0.33	0.87
185	SLU 32	-5	-21	4686	1427.22	-0.31	1.33
185	SLU 33	-4	-10	4743	1442.68	-0.32	1.2
185	SLU 34	-4	-2	4760	1446.32	-0.32	1.15
185	SLU 35	-5	-21	4721	1438.27	-0.3	1.61
185	SLU 36	-5	-10	4778	1453.73	-0.31	1.48
185	SLU 37	-6	-21	4699	1431.61	-0.31	1.63
185	SLU 38	-5	-10	4756	1447.06	-0.31	1.51
185	SLU 39	-5	-21	4839	1472.59	-0.32	1.33
185	SLU 40	-4	-9	4896	1488.04	-0.32	1.2
185	SLU 41	-6	-21	4874	1483.64	-0.31	1.61
185	SLU 42	-5	-10	4931	1499.09	-0.31	1.48
185	SLU 43	-3	-23	4601	1402.32	-0.49	0.67
185	SLU 44	-2	-4	4696	1428.08	-0.5	0.45
185	SLU 45	-3	-23	4657	1420.04	-0.48	0.92
185	SLU 46	-3	-12	4714	1435.49	-0.49	0.79
185	SLU 47	-3	-5	4731	1439.13	-0.49	0.73
185	SLU 48	-4	-24	4692	1431.09	-0.47	1.19
185	SLU 49	-4	-13	4749	1446.54	-0.48	1.06
185	SLU 50	-4	-24	4670	1424.42	-0.48	1.22
185	SLU 51	-4	-13	4727	1439.88	-0.48	1.09
185	SLU 52	-4	-5	5184	1575.27	-0.48	1.03
185	SLU 53	-5	-24	5145	1567.23	-0.46	1.5
185	SLU 54	-5	-13	5202	1582.68	-0.46	1.37
185	SLU 55	-5	-5	5219	1586.32	-0.47	1.31
185	SLU 56	-6	-24	5180	1578.28	-0.45	1.77
185	SLU 57	-6	-13	5237	1593.73	-0.45	1.64
185	SLU 58	-6	-24	5159	1571.61	-0.45	1.8
185	SLU 59	-6	-13	5216	1587.07	-0.46	1.67
185	SLU 60	-5	-24	5298	1612.59	-0.46	1.5
185	SLU 61	-5	-13	5355	1628.05	-0.47	1.37
185	SLU 62	-6	-24	5333	1623.64	-0.45	1.77
185	SLU 63	-6	-13	5390	1639.1	-0.46	1.64
185	SLU 64	-3	-25	5077	1547.61	-0.47	0.66
185	SLU 65	-2	-6	5172	1573.37	-0.48	0.44
185	SLU 66	-4	-25	5134	1565.33	-0.46	0.91
185	SLU 67	-3	-14	5191	1580.78	-0.46	0.78
185	SLU 68	-3	-7	5207	1584.42	-0.47	0.72
185	SLU 69	-4	-26	5168	1576.38	-0.45	1.18
185	SLU 70	-4	-14	5226	1591.83	-0.45	1.05
185	SLU 71	-4	-26	5147	1569.71	-0.45	1.21
185	SLU 72	-4	-14	5204	1585.17	-0.45	1.08
185	SLU 73	-4	-7	5661	1720.56	-0.45	1.03
185	SLU 74	-5	-26	5622	1712.52	-0.43	1.49
185	SLU 75	-5	-14	5679	1727.97	-0.44	1.36
185	SLU 76	-5	-7	5696	1731.61	-0.44	1.3
185	SLU 77	-6	-26	5657	1723.57	-0.42	1.76
185	SLU 78	-6	-15	5714	1739.02	-0.43	1.64
185	SLU 79	-6	-26	5635	1716.9	-0.43	1.79
185	SLU 80	-6	-15	5692	1732.36	-0.43	1.66
185	SLU 81	-5	-25	5775	1757.88	-0.44	1.49
185	SLU 82	-5	-14	5832	1773.34	-0.44	1.36
185	SLU 83	-6	-26	5810	1768.93	-0.43	1.76
185	SLU 84	-6	-15	5867	1784.39	-0.43	1.64
185	SLE RA 1	-2	-19	3801	1158.54	-0.37	0.51
185	SLE RA 2	-2	-6	3864	1175.71	-0.37	0.37
185	SLE RA 3	-3	-19	3838	1170.35	-0.36	0.67
185	SLE RA 4	-2	-11	3876	1180.65	-0.36	0.59
185	SLE RA 5	-2	-7	3888	1183.08	-0.36	0.55
185	SLE RA 6	-3	-19	3862	1177.71	-0.35	0.86
185	SLE RA 7	-3	-12	3900	1188.02	-0.35	0.77
185	SLE RA 8	-3	-19	3847	1173.27	-0.35	0.88
185	SLE RA 9	-3	-12	3885	1183.57	-0.36	0.79
185	SLE RA 10	-3	-7	4190	1273.84	-0.36	0.75
185	SLE RA 11	-4	-19	4164	1268.48	-0.34	1.06
185	SLE RA 12	-4	-12	4202	1278.78	-0.35	0.98
185	SLE RA 13	-3	-7	4213	1281.2	-0.35	0.94
185	SLE RA 14	-4	-20	4187	1275.84	-0.34	1.25
185	SLE RA 15	-4	-12	4225	1286.15	-0.34	1.16
185	SLE RA 16	-4	-20	4173	1271.4	-0.34	1.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
185	SLE RA 17	-4	-12	4211	1281.7	-0.34	1.18
185	SLE RA 18	-4	-19	4266	1298.72	-0.34	1.06
185	SLE RA 19	-4	-12	4304	1309.02	-0.35	0.98
185	SLE RA 20	-4	-19	4289	1306.09	-0.34	1.25
185	SLE RA 21	-4	-12	4327	1316.39	-0.34	1.16
185	SLE FR 1	-2	-19	3801	1158.54	-0.37	0.51
185	SLE FR 2	-2	-16	3813	1161.97	-0.37	0.48
185	SLE FR 3	-2	-19	3810	1161.48	-0.36	0.58
185	SLE FR 4	-3	-16	3953	1204.03	-0.36	0.65
185	SLE FR 5	-3	-19	3950	1203.54	-0.36	0.75
185	SLE FR 6	-3	-19	4033	1228.63	-0.36	0.78
185	SLE QP 1	-2	-19	3801	1158.54	-0.37	0.51
185	SLE QP 2	-3	-19	3940	1200.59	-0.36	0.67
185	SLD 1	399	71	4521	1354.32	-0.18	-140.01
185	SLD 2	476	69	4526	1355.52	-0.34	-166.78
185	SLD 3	387	-157	3136	977.98	-0.13	-135.58
185	SLD 4	463	-158	3141	979.18	-0.29	-162.34
185	SLD 5	124	354	6215	1817.29	-0.35	-43.66
185	SLD 6	173	353	6217	1818.06	-0.45	-60.9
185	SLD 7	82	-405	1598	562.82	-0.19	-28.87
185	SLD 8	131	-406	1600	563.59	-0.3	-46.1
185	SLD 9	-136	369	6280	1837.59	-0.42	47.45
185	SLD 10	-87	368	6283	1838.37	-0.53	30.21
185	SLD 11	-179	-390	1663	583.13	-0.27	62.25
185	SLD 12	-129	-391	1666	583.9	-0.37	45.01
185	SLD 13	-469	121	4740	1422.01	-0.43	163.69
185	SLD 14	-392	120	4744	1423.21	-0.59	136.92
185	SLD 15	-481	-107	3355	1045.67	-0.38	168.13
185	SLD 16	-405	-108	3359	1046.87	-0.54	141.36
185	SLV 1	626	137	4946	1467.36	-0.08	-219.34
185	SLV 2	747	135	4953	1469.25	-0.33	-261.53
185	SLV 3	605	-251	2582	825.14	0	-211.92
185	SLV 4	726	-253	2589	827.04	-0.25	-254.12
185	SLV 5	196	617	7825	2254.29	-0.35	-68.71
185	SLV 6	277	616	7830	2255.56	-0.52	-97.12
185	SLV 7	125	-677	-53	113.59	-0.08	-43.98
185	SLV 8	206	-678	-49	114.86	-0.25	-72.38
185	SLV 9	-212	641	7929	2286.32	-0.46	73.73
185	SLV 10	-130	639	7934	2287.6	-0.64	45.33
185	SLV 11	-282	-653	50	145.62	-0.2	98.46
185	SLV 12	-201	-655	55	146.9	-0.37	70.06
185	SLV 13	-731	216	5292	1574.15	-0.47	255.46
185	SLV 14	-610	214	5299	1576.04	-0.72	213.27
185	SLV 15	-752	-172	2928	931.94	-0.39	262.88
185	SLV 16	-631	-174	2935	933.83	-0.64	220.69
185	SLV FO 1	689	153	5046	1494.03	-0.05	-241.34
185	SLV FO 2	822	150	5054	1496.11	-0.33	-287.76
185	SLV FO 3	666	-274	2446	787.6	0.04	-233.18
185	SLV FO 4	798	-277	2454	789.68	-0.24	-279.59
185	SLV FO 5	215	681	8214	2359.66	-0.35	-75.65
185	SLV FO 6	305	679	8219	2361.06	-0.54	-106.89
185	SLV FO 7	138	-743	-453	4.89	-0.06	-48.44
185	SLV FO 8	227	-744	-448	6.29	-0.24	-79.69
185	SLV FO 9	-232	707	8328	2394.9	-0.48	81.04
185	SLV FO 10	-143	705	8333	2396.3	-0.66	49.79
185	SLV FO 11	-310	-717	-339	40.13	-0.18	108.24
185	SLV FO 12	-221	-718	-333	41.53	-0.37	77
185	SLV FO 13	-804	239	5427	1611.5	-0.48	280.94
185	SLV FO 14	-671	237	5434	1613.58	-0.76	234.53
185	SLV FO 15	-827	-188	2827	905.07	-0.39	289.1
185	SLV FO 16	-694	-190	2834	907.15	-0.67	242.69
185	CRTFP Ux+	0	0	0	0	0	0
185	CRTFP Ux-	0	0	0	0	0	0
185	CRTFP Uy+	0	0	0	-0.01	0	0
185	CRTFP Uy-	0	0	0	0.01	0	0
186	SLU 1	-2	-26	3691	1149.79	-1.08	0.31
186	SLU 2	-1	-8	3787	1176.36	-1.1	0.06
186	SLU 3	-2	-27	3747	1167.82	-1.08	0.56
186	SLU 4	-2	-16	3805	1183.76	-1.09	0.41
186	SLU 5	-2	-8	3822	1187.58	-1.1	0.34
186	SLU 6	-3	-27	3782	1179.05	-1.08	0.83
186	SLU 7	-3	-16	3840	1194.99	-1.09	0.68
186	SLU 8	-3	-27	3761	1172.24	-1.07	0.86
186	SLU 9	-3	-16	3818	1188.18	-1.09	0.71
186	SLU 10	-3	-10	4276	1327.29	-1.18	0.67
186	SLU 11	-4	-29	4237	1318.75	-1.15	1.16
186	SLU 12	-4	-18	4294	1334.69	-1.17	1.02
186	SLU 13	-3	-10	4311	1338.51	-1.18	0.95
186	SLU 14	-5	-29	4272	1329.98	-1.15	1.44
186	SLU 15	-4	-18	4329	1345.92	-1.17	1.29
186	SLU 16	-5	-29	4250	1323.17	-1.15	1.47
186	SLU 17	-5	-18	4308	1339.11	-1.17	1.32
186	SLU 18	-4	-29	4390	1365.41	-1.19	1.18
186	SLU 19	-4	-18	4448	1381.35	-1.2	1.03
186	SLU 20	-5	-30	4425	1376.63	-1.18	1.45
186	SLU 21	-5	-18	4483	1392.57	-1.2	1.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
186	SLU 22	-1	-29	4169	1298.7	-1.16	0.26
186	SLU 23	-1	-11	4265	1325.27	-1.19	0.01
186	SLU 24	-2	-30	4225	1316.73	-1.16	0.5
186	SLU 25	-2	-19	4283	1332.67	-1.18	0.36
186	SLU 26	-2	-11	4300	1336.49	-1.19	0.29
186	SLU 27	-3	-31	4260	1327.96	-1.16	0.78
186	SLU 28	-3	-19	4318	1343.9	-1.18	0.63
186	SLU 29	-3	-31	4239	1321.15	-1.16	0.81
186	SLU 30	-3	-19	4296	1337.09	-1.18	0.66
186	SLU 31	-3	-13	4754	1476.2	-1.27	0.62
186	SLU 32	-4	-32	4715	1467.66	-1.24	1.11
186	SLU 33	-4	-21	4772	1483.6	-1.26	0.96
186	SLU 34	-3	-13	4789	1487.42	-1.27	0.9
186	SLU 35	-5	-32	4749	1478.89	-1.24	1.39
186	SLU 36	-4	-21	4807	1494.83	-1.25	1.24
186	SLU 37	-5	-32	4728	1472.08	-1.24	1.41
186	SLU 38	-5	-21	4785	1488.02	-1.25	1.27
186	SLU 39	-4	-32	4868	1514.32	-1.27	1.13
186	SLU 40	-4	-21	4926	1530.26	-1.29	0.98
186	SLU 41	-5	-33	4903	1525.54	-1.27	1.4
186	SLU 42	-5	-22	4960	1541.48	-1.29	1.25
186	SLU 43	-2	-33	4635	1443.67	-1.37	0.42
186	SLU 44	-1	-14	4731	1470.24	-1.4	0.18
186	SLU 45	-3	-34	4691	1461.7	-1.37	0.67
186	SLU 46	-2	-22	4749	1477.64	-1.39	0.52
186	SLU 47	-2	-15	4765	1481.47	-1.4	0.45
186	SLU 48	-4	-34	4726	1472.93	-1.37	0.94
186	SLU 49	-3	-23	4783	1488.87	-1.39	0.8
186	SLU 50	-4	-34	4704	1466.13	-1.37	0.97
186	SLU 51	-3	-23	4762	1482.07	-1.38	0.82
186	SLU 52	-3	-16	5220	1621.17	-1.47	0.78
186	SLU 53	-5	-35	5180	1612.63	-1.45	1.28
186	SLU 54	-4	-24	5238	1628.57	-1.46	1.13
186	SLU 55	-4	-17	5255	1632.4	-1.47	1.06
186	SLU 56	-5	-36	5215	1623.86	-1.45	1.55
186	SLU 57	-5	-25	5273	1639.8	-1.46	1.4
186	SLU 58	-5	-36	5194	1617.06	-1.44	1.58
186	SLU 59	-5	-25	5251	1633	-1.46	1.43
186	SLU 60	-5	-36	5334	1659.29	-1.48	1.29
186	SLU 61	-4	-25	5391	1675.23	-1.5	1.14
186	SLU 62	-5	-36	5369	1670.51	-1.48	1.56
186	SLU 63	-5	-25	5426	1686.46	-1.49	1.42
186	SLU 64	-2	-36	5113	1592.58	-1.46	0.37
186	SLU 65	-1	-18	5209	1619.15	-1.48	0.12
186	SLU 66	-3	-37	5169	1610.61	-1.46	0.61
186	SLU 67	-2	-26	5226	1626.55	-1.47	0.47
186	SLU 68	-2	-18	5243	1630.38	-1.48	0.4
186	SLU 69	-3	-37	5204	1621.84	-1.46	0.89
186	SLU 70	-3	-26	5261	1637.78	-1.47	0.74
186	SLU 71	-4	-37	5182	1615.03	-1.45	0.92
186	SLU 72	-3	-26	5240	1630.98	-1.47	0.77
186	SLU 73	-3	-19	5698	1770.08	-1.56	0.73
186	SLU 74	-5	-39	5658	1761.54	-1.53	1.22
186	SLU 75	-4	-28	5716	1777.48	-1.55	1.08
186	SLU 76	-4	-20	5733	1781.31	-1.56	1.01
186	SLU 77	-5	-39	5693	1772.77	-1.53	1.5
186	SLU 78	-5	-28	5750	1788.71	-1.55	1.35
186	SLU 79	-5	-39	5671	1765.96	-1.53	1.53
186	SLU 80	-5	-28	5729	1781.91	-1.55	1.38
186	SLU 81	-5	-39	5812	1808.2	-1.56	1.24
186	SLU 82	-4	-28	5869	1824.14	-1.58	1.09
186	SLU 83	-5	-39	5846	1819.42	-1.56	1.51
186	SLU 84	-5	-28	5904	1835.36	-1.58	1.37
186	SLE RA 1	-2	-27	3828	1192.34	-1.1	0.29
186	SLE RA 2	-1	-15	3892	1210.05	-1.12	0.13
186	SLE RA 3	-2	-27	3865	1204.36	-1.1	0.46
186	SLE RA 4	-2	-20	3904	1214.98	-1.11	0.36
186	SLE RA 5	-2	-15	3915	1217.53	-1.12	0.31
186	SLE RA 6	-3	-28	3888	1211.84	-1.1	0.64
186	SLE RA 7	-2	-20	3927	1222.47	-1.11	0.54
186	SLE RA 8	-3	-28	3874	1207.3	-1.1	0.66
186	SLE RA 9	-2	-20	3912	1217.93	-1.11	0.56
186	SLE RA 10	-2	-16	4218	1310.67	-1.17	0.54
186	SLE RA 11	-3	-29	4191	1304.98	-1.15	0.86
186	SLE RA 12	-3	-21	4230	1315.6	-1.16	0.77
186	SLE RA 13	-3	-16	4241	1318.15	-1.17	0.72
186	SLE RA 14	-4	-29	4215	1312.46	-1.15	1.05
186	SLE RA 15	-3	-22	4253	1323.09	-1.16	0.95
186	SLE RA 16	-4	-29	4200	1307.92	-1.15	1.07
186	SLE RA 17	-4	-22	4239	1318.55	-1.16	0.97
186	SLE RA 18	-3	-29	4294	1336.08	-1.17	0.87
186	SLE RA 19	-3	-21	4332	1346.71	-1.18	0.78
186	SLE RA 20	-4	-29	4317	1343.56	-1.17	1.06
186	SLE RA 21	-4	-22	4355	1354.19	-1.18	0.96
186	SLE FR 1	-2	-27	3828	1192.34	-1.1	0.29
186	SLE FR 2	-1	-25	3841	1195.88	-1.1	0.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
186	SLE FR 3	-2	-27	3837	1195.33	-1.1	0.37
186	SLE FR 4	-2	-25	3980	1239	-1.13	0.44
186	SLE FR 5	-2	-28	3977	1238.45	-1.12	0.54
186	SLE FR 6	-2	-28	4061	1264.21	-1.14	0.58
186	SLE QP 1	-2	-27	3828	1192.34	-1.1	0.29
186	SLE QP 2	-2	-28	3968	1235.46	-1.12	0.47
186	SLD 1	400	63	4547	1393.29	-1.06	-140.03
186	SLD 2	476	63	4557	1396.23	-1.21	-166.72
186	SLD 3	386	-164	3155	1005.99	-0.73	-135.37
186	SLD 4	463	-164	3165	1008.93	-0.88	-162.06
186	SLD 5	125	344	6251	1869.72	-1.58	-44.16
186	SLD 6	175	344	6257	1871.61	-1.67	-61.35
186	SLD 7	81	-413	1611	578.7	-0.48	-28.62
186	SLD 8	130	-413	1617	580.59	-0.58	-45.81
186	SLD 9	-134	358	6318	1890.33	-1.67	46.75
186	SLD 10	-85	358	6324	1892.22	-1.77	29.55
186	SLD 11	-179	-399	1678	599.31	-0.57	62.29
186	SLD 12	-130	-399	1684	601.2	-0.67	45.1
186	SLD 13	-467	109	4770	1461.99	-1.36	163
186	SLD 14	-390	109	4780	1464.93	-1.52	136.3
186	SLD 15	-480	-118	3378	1074.69	-1.03	167.66
186	SLD 16	-404	-118	3388	1077.63	-1.19	140.96
186	SLV 1	626	129	4971	1509.39	-1.04	-219.27
186	SLV 2	747	130	4986	1514.03	-1.28	-261.35
186	SLV 3	604	-258	2595	848.48	-0.48	-211.46
186	SLV 4	724	-257	2611	853.11	-0.72	-253.54
186	SLV 5	198	607	7868	2319.16	-1.9	-69.45
186	SLV 6	279	607	7879	2322.29	-2.07	-97.78
186	SLV 7	124	-684	-50	116.11	-0.03	-43.4
186	SLV 8	205	-683	-39	119.23	-0.2	-71.73
186	SLV 9	-209	628	7974	2351.69	-2.05	72.67
186	SLV 10	-128	629	7985	2354.81	-2.21	44.34
186	SLV 11	-283	-662	56	148.63	-0.18	98.72
186	SLV 12	-202	-662	67	151.76	-0.34	70.39
186	SLV 13	-728	202	5324	1617.81	-1.52	254.47
186	SLV 14	-608	203	5340	1622.44	-1.77	212.39
186	SLV 15	-751	-185	2949	956.89	-0.96	262.29
186	SLV 16	-630	-184	2965	961.53	-1.2	220.21
186	SLV FO 1	689	145	5071	1536.78	-1.03	-241.25
186	SLV FO 2	821	146	5088	1541.89	-1.3	-287.53
186	SLV FO 3	664	-281	2458	809.78	-0.42	-232.65
186	SLV FO 4	797	-280	2475	814.88	-0.68	-278.94
186	SLV FO 5	218	670	8258	2427.53	-1.98	-76.45
186	SLV FO 6	307	671	8270	2430.97	-2.16	-107.61
186	SLV FO 7	136	-750	-451	4.18	0.08	-47.79
186	SLV FO 8	225	-749	-440	7.61	-0.1	-78.95
186	SLV FO 9	-229	694	8375	2463.31	-2.14	79.89
186	SLV FO 10	-140	695	8387	2466.74	-2.32	48.73
186	SLV FO 11	-311	-726	-335	39.95	-0.08	108.54
186	SLV FO 12	-222	-725	-323	43.39	-0.26	77.38
186	SLV FO 13	-801	225	5460	1656.04	-1.56	279.87
186	SLV FO 14	-669	226	5477	1661.14	-1.83	233.58
186	SLV FO 15	-826	-201	2847	929.03	-0.95	288.47
186	SLV FO 16	-693	-200	2864	934.14	-1.21	242.18
186	CRTFP Ux+	0	0	0	0	0	0
186	CRTFP Ux-	0	0	0	0	0	0
186	CRTFP Uy+	0	0	0	-0.01	0	0
186	CRTFP Uy-	0	0	0	0.01	0	0
188	SLU 1	-1	-30	3326	1067.46	60.95	0.64
188	SLU 2	0	-13	3412	1092.25	62.53	0.09
188	SLU 3	-1	-31	3376	1084.06	61.88	0.87
188	SLU 4	-1	-21	3428	1098.94	62.83	0.54
188	SLU 5	-1	-14	3443	1102.57	63.11	0.35
188	SLU 6	-2	-31	3407	1094.38	62.46	1.13
188	SLU 7	-2	-21	3459	1109.26	63.4	0.8
188	SLU 8	-2	-31	3388	1088.1	62.1	1.15
188	SLU 9	-2	-21	3440	1102.97	63.05	0.82
188	SLU 10	-2	-16	3851	1232.13	70.62	0.71
188	SLU 11	-3	-34	3815	1223.94	69.97	1.49
188	SLU 12	-3	-24	3867	1238.81	70.92	1.16
188	SLU 13	-2	-17	3882	1242.45	71.2	0.96
188	SLU 14	-4	-34	3846	1234.26	70.54	1.75
188	SLU 15	-3	-24	3898	1249.13	71.49	1.42
188	SLU 16	-4	-34	3827	1227.98	70.19	1.77
188	SLU 17	-3	-24	3878	1242.85	71.14	1.44
188	SLU 18	-3	-34	3953	1267.29	72.5	1.52
188	SLU 19	-3	-24	4005	1282.16	73.45	1.19
188	SLU 20	-4	-35	3984	1277.61	73.08	1.78
188	SLU 21	-3	-25	4036	1292.48	74.03	1.45
188	SLU 22	0	-34	3755	1205.57	68.84	0.62
188	SLU 23	0	-17	3841	1230.36	70.42	0.07
188	SLU 24	-1	-35	3805	1222.17	69.77	0.85
188	SLU 25	-1	-25	3857	1237.04	70.72	0.52
188	SLU 26	0	-18	3872	1240.67	71	0.33
188	SLU 27	-2	-35	3836	1232.49	70.35	1.11
188	SLU 28	-1	-25	3888	1247.36	71.29	0.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
188	SLU 29	-2	-35	3817	1226.2	69.99	1.14
188	SLU 30	-1	-25	3869	1241.08	70.94	0.8
188	SLU 31	-1	-20	4280	1370.23	78.51	0.69
188	SLU 32	-3	-37	4244	1362.05	77.86	1.47
188	SLU 33	-2	-28	4296	1376.92	78.81	1.14
188	SLU 34	-2	-21	4311	1380.55	79.09	0.94
188	SLU 35	-4	-38	4275	1372.36	78.43	1.73
188	SLU 36	-3	-28	4327	1387.24	79.38	1.4
188	SLU 37	-4	-38	4256	1366.08	78.08	1.75
188	SLU 38	-3	-28	4308	1380.95	79.03	1.42
188	SLU 39	-3	-38	4382	1405.39	80.39	1.5
188	SLU 40	-2	-28	4434	1420.27	81.34	1.17
188	SLU 41	-4	-39	4413	1415.71	80.97	1.76
188	SLU 42	-3	-29	4465	1430.58	81.92	1.43
188	SLU 43	-1	-37	4176	1340.35	76.53	0.84
188	SLU 44	0	-21	4263	1365.14	78.11	0.29
188	SLU 45	-2	-38	4227	1356.95	77.46	1.07
188	SLU 46	-1	-28	4278	1371.83	78.41	0.74
188	SLU 47	-1	-22	4294	1375.46	78.69	0.54
188	SLU 48	-2	-39	4257	1367.27	78.04	1.33
188	SLU 49	-2	-29	4309	1382.14	78.98	1
188	SLU 50	-2	-39	4238	1360.99	77.68	1.35
188	SLU 51	-2	-29	4290	1375.86	78.63	1.02
188	SLU 52	-2	-24	4702	1505.02	86.2	0.9
188	SLU 53	-3	-41	4665	1496.83	85.55	1.69
188	SLU 54	-3	-31	4717	1511.7	86.5	1.36
188	SLU 55	-3	-25	4733	1515.34	86.78	1.16
188	SLU 56	-4	-42	4696	1507.15	86.12	1.95
188	SLU 57	-4	-32	4748	1522.02	87.07	1.61
188	SLU 58	-4	-42	4677	1500.87	85.77	1.97
188	SLU 59	-4	-32	4729	1515.74	86.72	1.64
188	SLU 60	-3	-42	4803	1540.18	88.08	1.72
188	SLU 61	-3	-32	4855	1555.05	89.03	1.39
188	SLU 62	-4	-42	4834	1550.5	88.66	1.98
188	SLU 63	-4	-32	4886	1565.37	89.61	1.65
188	SLU 64	-1	-41	4605	1478.46	84.42	0.82
188	SLU 65	0	-25	4692	1503.25	86	0.27
188	SLU 66	-1	-42	4656	1495.06	85.35	1.05
188	SLU 67	-1	-32	4708	1509.93	86.3	0.72
188	SLU 68	-1	-26	4723	1513.56	86.58	0.53
188	SLU 69	-2	-43	4687	1505.38	85.93	1.31
188	SLU 70	-2	-33	4739	1520.25	86.87	0.98
188	SLU 71	-2	-43	4667	1499.09	85.57	1.33
188	SLU 72	-2	-33	4719	1513.97	86.52	1
188	SLU 73	-2	-28	5131	1643.12	94.09	0.89
188	SLU 74	-3	-45	5095	1634.94	93.44	1.67
188	SLU 75	-3	-35	5146	1649.81	94.39	1.34
188	SLU 76	-2	-29	5162	1653.44	94.67	1.14
188	SLU 77	-4	-46	5126	1645.25	94.01	1.93
188	SLU 78	-3	-36	5177	1660.13	94.96	1.6
188	SLU 79	-4	-46	5106	1638.97	93.66	1.95
188	SLU 80	-3	-36	5158	1653.84	94.61	1.62
188	SLU 81	-3	-45	5232	1678.28	95.97	1.7
188	SLU 82	-3	-36	5284	1693.15	96.92	1.37
188	SLU 83	-4	-46	5263	1688.6	96.55	1.96
188	SLU 84	-3	-36	5315	1703.47	97.5	1.63
188	SLE RA 1	-1	-31	3448	1106.92	63.21	0.64
188	SLE RA 2	0	-20	3506	1123.45	64.26	0.27
188	SLE RA 3	-1	-31	3482	1117.99	63.82	0.79
188	SLE RA 4	-1	-25	3516	1127.9	64.46	0.57
188	SLE RA 5	-1	-20	3527	1130.33	64.64	0.44
188	SLE RA 6	-2	-32	3502	1124.87	64.21	0.96
188	SLE RA 7	-1	-25	3537	1134.78	64.84	0.74
188	SLE RA 8	-2	-32	3490	1120.68	63.97	0.98
188	SLE RA 9	-1	-25	3524	1130.6	64.6	0.76
188	SLE RA 10	-1	-22	3799	1216.7	69.65	0.68
188	SLE RA 11	-2	-33	3774	1211.24	69.22	1.2
188	SLE RA 12	-2	-27	3809	1221.16	69.85	0.98
188	SLE RA 13	-2	-22	3819	1223.58	70.03	0.85
188	SLE RA 14	-3	-34	3795	1218.12	69.6	1.37
188	SLE RA 15	-2	-27	3830	1228.03	70.23	1.15
188	SLE RA 16	-3	-34	3782	1213.93	69.36	1.39
188	SLE RA 17	-2	-27	3817	1223.85	70	1.17
188	SLE RA 18	-2	-34	3866	1240.14	70.91	1.22
188	SLE RA 19	-2	-27	3901	1250.05	71.54	1
188	SLE RA 20	-3	-34	3887	1247.02	71.29	1.39
188	SLE RA 21	-2	-28	3922	1256.93	71.92	1.17
188	SLE FR 1	-1	-31	3448	1106.92	63.21	0.64
188	SLE FR 2	-1	-29	3460	1110.23	63.42	0.56
188	SLE FR 3	-1	-31	3457	1109.67	63.36	0.7
188	SLE FR 4	-1	-30	3585	1150.19	65.73	0.74
188	SLE FR 5	-1	-32	3582	1149.64	65.67	0.88
188	SLE FR 6	-1	-32	3657	1173.53	67.06	0.93
188	SLE QP 1	-1	-31	3448	1106.92	63.21	0.64
188	SLE QP 2	-1	-32	3574	1146.89	65.52	0.81
188	SLD 1	356	50	4089	1293.47	75.13	-125.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
188	SLD 2	424	53	4103	1297.48	75.28	-149.31
188	SLD 3	344	-151	2837	932.83	52.15	-117.86
188	SLD 4	412	-148	2850	936.83	52.3	-141.63
188	SLD 5	113	298	5625	1737.16	103.23	-44.64
188	SLD 6	157	299	5634	1739.74	103.33	-59.95
188	SLD 7	72	-373	1451	535	26.63	-19.06
188	SLD 8	116	-372	1460	537.58	26.72	-34.37
188	SLD 9	-118	308	5688	1756.2	104.31	35.99
188	SLD 10	-74	310	5696	1758.78	104.41	20.68
188	SLD 11	-159	-363	1513	554.04	27.71	61.58
188	SLD 12	-115	-361	1522	556.62	27.8	46.27
188	SLD 13	-414	85	4297	1356.94	78.73	143.25
188	SLD 14	-346	87	4310	1360.95	78.88	119.48
188	SLD 15	-426	-116	3045	996.3	55.75	150.93
188	SLD 16	-358	-114	3058	1000.3	55.9	127.16
188	SLV 1	558	110	4467	1401.35	82.15	-197.1
188	SLV 2	665	114	4489	1407.66	82.39	-234.57
188	SLV 3	537	-233	2330	785.93	42.94	-184.04
188	SLV 4	644	-229	2352	792.24	43.17	-221.51
188	SLV 5	178	531	7079	2155.44	129.94	-71.37
188	SLV 6	250	533	7093	2159.69	130.1	-96.6
188	SLV 7	109	-613	-44	104.03	-0.78	-27.84
188	SLV 8	181	-611	-30	108.28	-0.62	-53.07
188	SLV 9	-183	547	7177	2185.49	131.65	54.69
188	SLV 10	-111	550	7192	2189.74	131.81	29.47
188	SLV 11	-253	-597	54	134.09	0.93	98.23
188	SLV 12	-181	-594	69	138.34	1.09	73
188	SLV 13	-646	165	4796	1501.53	87.86	223.13
188	SLV 14	-539	169	4817	1507.84	88.1	185.66
188	SLV 15	-667	-178	2659	886.11	48.64	236.19
188	SLV 16	-560	-174	2680	892.42	48.88	198.72
188	SLV FO 1	614	125	4557	1426.8	83.82	-216.89
188	SLV FO 2	732	129	4580	1433.74	84.07	-258.11
188	SLV FO 3	591	-253	2206	749.83	40.68	-202.52
188	SLV FO 4	708	-249	2229	756.78	40.94	-243.74
188	SLV FO 5	196	587	7429	2256.29	136.38	-78.59
188	SLV FO 6	276	590	7445	2260.97	136.56	-106.34
188	SLV FO 7	120	-672	-406	-0.25	-7.41	-30.71
188	SLV FO 8	199	-669	-390	4.42	-7.23	-58.46
188	SLV FO 9	-201	605	7538	2289.35	138.27	60.08
188	SLV FO 10	-122	608	7553	2294.03	138.44	32.33
188	SLV FO 11	-278	-653	-298	32.81	-5.53	107.97
188	SLV FO 12	-198	-650	-282	37.48	-5.35	80.22
188	SLV FO 13	-711	185	4918	1537	90.09	245.37
188	SLV FO 14	-593	189	4941	1543.94	90.35	204.14
188	SLV FO 15	-734	-193	2567	860.03	46.96	259.73
188	SLV FO 16	-616	-188	2591	866.98	47.22	218.51
188	CRTFP Ux+	0	0	0	0	0	0
188	CRTFP Ux-	0	0	0	0	0	0
188	CRTFP Uy+	0	0	0	0	0	0
188	CRTFP Uy-	0	0	0	0	0	0
189	SLU 1	-3	-50	5216	1044.69	1142.07	10.81
189	SLU 2	-2	-25	5356	1070.19	1172.97	5.01
189	SLU 3	-4	-52	5294	1060.7	1159.17	11.29
189	SLU 4	-4	-36	5378	1075.99	1177.71	7.81
189	SLU 5	-4	-26	5404	1080.1	1183.5	5.48
189	SLU 6	-6	-53	5341	1070.61	1169.7	11.75
189	SLU 7	-5	-38	5425	1085.9	1188.24	8.28
189	SLU 8	-6	-52	5312	1064.51	1163.13	11.74
189	SLU 9	-5	-37	5396	1079.81	1181.67	8.26
189	SLU 10	-6	-30	6044	1207.43	1324.36	6.66
189	SLU 11	-8	-57	5981	1197.94	1310.56	12.94
189	SLU 12	-7	-42	6065	1213.24	1329.1	9.46
189	SLU 13	-7	-31	6092	1217.34	1334.89	7.13
189	SLU 14	-9	-58	6029	1207.85	1321.08	13.4
189	SLU 15	-8	-43	6113	1223.15	1339.63	9.93
189	SLU 16	-9	-58	5999	1201.75	1314.52	13.39
189	SLU 17	-8	-43	6083	1217.05	1333.06	9.91
189	SLU 18	-8	-58	6198	1240.76	1358.34	13.16
189	SLU 19	-7	-43	6282	1256.05	1376.88	9.69
189	SLU 20	-9	-59	6246	1250.66	1368.87	13.63
189	SLU 21	-8	-44	6330	1265.96	1387.41	10.15
189	SLU 22	-3	-57	5887	1179.82	1289.11	12.13
189	SLU 23	-2	-32	6027	1205.31	1320.01	6.33
189	SLU 24	-4	-58	5965	1195.82	1306.21	12.6
189	SLU 25	-4	-43	6049	1211.12	1324.75	9.13
189	SLU 26	-3	-33	6075	1215.22	1330.54	6.8
189	SLU 27	-6	-59	6012	1205.73	1316.74	13.07
189	SLU 28	-5	-44	6096	1221.03	1335.28	9.59
189	SLU 29	-6	-59	5983	1199.64	1310.17	13.06
189	SLU 30	-5	-44	6067	1214.93	1328.71	9.58
189	SLU 31	-5	-37	6715	1342.56	1471.4	7.98
189	SLU 32	-8	-63	6652	1333.07	1457.6	14.25
189	SLU 33	-7	-48	6736	1348.36	1476.14	10.78
189	SLU 34	-7	-38	6762	1352.46	1481.93	8.45
189	SLU 35	-9	-64	6700	1342.97	1468.12	14.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
189	SLU 36	-8	-49	6784	1358.27	1486.67	11.24
189	SLU 37	-9	-64	6670	1336.88	1461.56	14.71
189	SLU 38	-8	-49	6754	1352.17	1480.1	11.23
189	SLU 39	-8	-64	6869	1375.88	1505.38	14.48
189	SLU 40	-7	-49	6953	1391.18	1523.92	11
189	SLU 41	-9	-65	6917	1385.79	1515.91	14.95
189	SLU 42	-8	-50	7001	1401.09	1534.45	11.47
189	SLU 43	-4	-63	6551	1311.77	1434.28	13.6
189	SLU 44	-3	-38	6691	1337.27	1465.18	7.81
189	SLU 45	-6	-64	6628	1327.78	1451.37	14.08
189	SLU 46	-5	-49	6712	1343.07	1469.92	10.6
189	SLU 47	-5	-39	6739	1347.18	1475.71	8.27
189	SLU 48	-7	-65	6676	1337.69	1461.9	14.54
189	SLU 49	-6	-50	6760	1352.98	1480.44	11.07
189	SLU 50	-7	-65	6646	1331.59	1455.34	14.53
189	SLU 51	-6	-50	6730	1346.89	1473.88	11.06
189	SLU 52	-7	-43	7379	1474.51	1616.57	9.45
189	SLU 53	-9	-70	7316	1465.02	1602.76	15.73
189	SLU 54	-8	-54	7400	1480.32	1621.3	12.25
189	SLU 55	-8	-44	7426	1484.42	1627.1	9.92
189	SLU 56	-10	-71	7364	1474.93	1613.29	16.19
189	SLU 57	-9	-56	7448	1490.22	1631.83	12.72
189	SLU 58	-10	-70	7334	1468.83	1606.73	16.18
189	SLU 59	-9	-55	7418	1484.13	1625.27	12.7
189	SLU 60	-9	-70	7533	1507.84	1650.55	15.95
189	SLU 61	-8	-55	7617	1523.13	1669.09	12.48
189	SLU 62	-10	-72	7581	1517.74	1661.08	16.42
189	SLU 63	-9	-56	7665	1533.04	1679.62	12.94
189	SLU 64	-4	-70	7222	1446.9	1581.32	14.92
189	SLU 65	-3	-45	7362	1472.39	1612.22	9.12
189	SLU 66	-5	-71	7299	1462.9	1598.42	15.4
189	SLU 67	-5	-56	7383	1478.2	1616.96	11.92
189	SLU 68	-5	-46	7410	1482.3	1622.75	9.59
189	SLU 69	-7	-72	7347	1472.81	1608.94	15.86
189	SLU 70	-6	-57	7431	1488.11	1627.48	12.39
189	SLU 71	-7	-72	7317	1466.71	1602.38	15.85
189	SLU 72	-6	-57	7401	1482.01	1620.92	12.37
189	SLU 73	-7	-50	8049	1609.64	1763.61	10.77
189	SLU 74	-9	-76	7987	1600.15	1749.8	17.04
189	SLU 75	-8	-61	8071	1615.44	1768.34	13.57
189	SLU 76	-8	-51	8097	1619.54	1774.14	11.24
189	SLU 77	-10	-77	8035	1610.05	1760.33	17.51
189	SLU 78	-9	-62	8119	1625.35	1778.87	14.03
189	SLU 79	-10	-77	8005	1603.96	1753.77	17.5
189	SLU 80	-9	-62	8089	1619.25	1772.31	14.02
189	SLU 81	-9	-77	8204	1642.96	1797.59	17.27
189	SLU 82	-8	-62	8288	1658.26	1816.13	13.79
189	SLU 83	-10	-78	8252	1652.87	1808.12	17.74
189	SLU 84	-9	-63	8336	1668.16	1826.66	14.26
189	SLE RA 1	-3	-52	5408	1083.3	1184.09	11.18
189	SLE RA 2	-3	-35	5501	1100.3	1204.69	7.32
189	SLE RA 3	-4	-53	5459	1093.97	1195.48	11.5
189	SLE RA 4	-4	-43	5515	1104.17	1207.84	9.19
189	SLE RA 5	-3	-36	5533	1106.9	1211.71	7.63
189	SLE RA 6	-5	-54	5491	1100.58	1202.5	11.81
189	SLE RA 7	-4	-44	5547	1110.77	1214.86	9.5
189	SLE RA 8	-5	-54	5471	1096.51	1198.12	11.81
189	SLE RA 9	-5	-44	5527	1106.71	1210.48	9.49
189	SLE RA 10	-5	-39	5960	1191.79	1305.61	8.42
189	SLE RA 11	-6	-56	5918	1185.47	1296.41	12.6
189	SLE RA 12	-6	-46	5974	1195.66	1308.77	10.28
189	SLE RA 13	-6	-40	5991	1198.4	1312.63	8.73
189	SLE RA 14	-7	-57	5950	1192.07	1303.43	12.91
189	SLE RA 15	-7	-47	6006	1202.27	1315.79	10.6
189	SLE RA 16	-7	-57	5930	1188.01	1299.05	12.9
189	SLE RA 17	-7	-47	5986	1198.2	1311.41	10.59
189	SLE RA 18	-6	-57	6063	1214.01	1328.27	12.75
189	SLE RA 19	-6	-47	6119	1224.21	1340.63	10.44
189	SLE RA 20	-7	-58	6095	1220.61	1335.28	13.06
189	SLE RA 21	-7	-48	6151	1230.81	1347.65	10.75
189	SLE FR 1	-3	-52	5408	1083.3	1184.09	11.18
189	SLE FR 2	-3	-49	5426	1086.7	1188.21	10.41
189	SLE FR 3	-4	-52	5420	1085.94	1186.89	11.31
189	SLE FR 4	-4	-50	5623	1125.91	1231.46	10.88
189	SLE FR 5	-5	-54	5617	1125.16	1230.15	11.78
189	SLE FR 6	-5	-55	5735	1148.66	1256.18	11.97
189	SLE QP 1	-3	-52	5408	1083.3	1184.09	11.18
189	SLE QP 2	-4	-54	5604	1122.51	1227.34	11.66
189	SLD 1	547	73	6432	1273.64	1414.04	-132.22
189	SLD 2	653	79	6457	1278.26	1418.04	-155.13
189	SLD 3	528	-235	4408	903.76	966.4	-60.76
189	SLD 4	634	-229	4433	908.39	970.4	-83.67
189	SLD 5	171	451	8919	1728.03	1961.59	-135.94
189	SLD 6	239	454	8935	1731.01	1964.16	-150.7
189	SLD 7	109	-576	2170	495.12	469.45	102.25
189	SLD 8	177	-573	2186	498.1	472.02	87.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
189	SLD 9	-185	466	9022	1746.93	1982.66	-64.18
189	SLD 10	-117	469	9038	1749.91	1985.23	-78.94
189	SLD 11	-248	-562	2273	514.02	490.52	174.01
189	SLD 12	-180	-558	2289	517	493.09	159.25
189	SLD 13	-642	122	6776	1336.64	1484.28	106.98
189	SLD 14	-537	128	6801	1341.26	1488.28	84.07
189	SLD 15	-661	-186	4751	966.76	1036.64	178.44
189	SLD 16	-555	-181	4776	971.39	1040.63	155.53
189	SLV 1	858	166	7041	1384.68	1550.48	-218.33
189	SLV 2	1024	175	7080	1391.97	1556.78	-254.44
189	SLV 3	826	-359	3586	753.52	786.61	-96.41
189	SLV 4	993	-351	3625	760.81	792.91	-132.52
189	SLV 5	271	808	11268	2157.07	2481.65	-235.52
189	SLV 6	383	814	11294	2161.98	2485.89	-259.83
189	SLV 7	166	-944	-249	53.19	-64.6	170.9
189	SLV 8	278	-939	-222	58.09	-60.36	146.58
189	SLV 9	-287	831	11431	2186.93	2515.03	-123.27
189	SLV 10	-174	837	11457	2191.84	2519.27	-147.58
189	SLV 11	-392	-921	-86	83.05	-31.21	283.14
189	SLV 12	-280	-915	-59	87.96	-26.97	258.83
189	SLV 13	-1001	244	7583	1484.22	1661.77	155.83
189	SLV 14	-835	252	7623	1491.51	1668.07	119.72
189	SLV 15	-1033	-282	4128	853.05	897.9	277.75
189	SLV 16	-866	-273	4168	860.35	904.19	241.64
189	SLV FO 1	944	188	7184	1410.9	1582.8	-241.33
189	SLV FO 2	1127	198	7228	1418.92	1589.73	-281.05
189	SLV FO 3	909	-390	3384	716.62	742.54	-107.21
189	SLV FO 4	1093	-381	3427	724.64	749.46	-146.93
189	SLV FO 5	299	894	11834	2260.53	2607.08	-260.24
189	SLV FO 6	422	900	11863	2265.93	2611.74	-286.98
189	SLV FO 7	183	-1033	-834	-53.75	-193.79	186.82
189	SLV FO 8	306	-1027	-805	-48.35	-189.13	160.08
189	SLV FO 9	-315	920	12013	2293.38	2643.8	-136.77
189	SLV FO 10	-191	926	12042	2298.78	2648.47	-163.51
189	SLV FO 11	-431	-1008	-655	-20.9	-157.06	310.29
189	SLV FO 12	-307	-1001	-626	-15.5	-152.4	283.55
189	SLV FO 13	-1101	274	7781	1520.39	1705.21	170.25
189	SLV FO 14	-918	283	7824	1528.41	1712.14	130.52
189	SLV FO 15	-1136	-305	3981	826.11	864.95	304.36
189	SLV FO 16	-952	-295	4024	834.13	871.88	264.64
189	CRTFP Ux+	0	0	0	0	0	0
189	CRTFP Ux-	0	0	0	0	0	0
189	CRTFP Uy+	0	0	0	-0.01	-0.01	0
189	CRTFP Uy-	0	0	0	0.01	0.01	0
190	SLU 1	-1	-7	624	-46.68	-8.67	-0.17
190	SLU 2	-1	-5	642	-48.02	-8.92	-0.12
190	SLU 3	-1	-8	633	-47.36	-8.79	-0.18
190	SLU 4	-1	-6	644	-48.16	-8.94	-0.15
190	SLU 5	-1	-5	647	-48.43	-8.99	-0.14
190	SLU 6	-1	-8	639	-47.77	-8.87	-0.19
190	SLU 7	-1	-6	649	-48.57	-9.02	-0.17
190	SLU 8	-1	-8	635	-47.51	-8.82	-0.19
190	SLU 9	-1	-6	646	-48.31	-8.97	-0.17
190	SLU 10	-1	-5	724	-54.14	-10.05	-0.17
190	SLU 11	-1	-8	715	-53.48	-9.93	-0.23
190	SLU 12	-1	-7	726	-54.28	-10.08	-0.2
190	SLU 13	-1	-5	729	-54.55	-10.13	-0.18
190	SLU 14	-2	-8	720	-53.89	-10.01	-0.24
190	SLU 15	-2	-7	731	-54.69	-10.15	-0.21
190	SLU 16	-2	-8	717	-53.63	-9.96	-0.24
190	SLU 17	-2	-7	728	-54.43	-10.11	-0.21
190	SLU 18	-2	-8	741	-55.43	-10.29	-0.23
190	SLU 19	-1	-7	752	-56.23	-10.44	-0.21
190	SLU 20	-2	-9	746	-55.84	-10.37	-0.24
190	SLU 21	-2	-7	757	-56.64	-10.52	-0.22
190	SLU 22	-1	-8	704	-52.65	-9.78	-0.19
190	SLU 23	-1	-6	722	-53.98	-10.02	-0.14
190	SLU 24	-1	-8	713	-53.32	-9.9	-0.2
190	SLU 25	-1	-7	724	-54.12	-10.05	-0.17
190	SLU 26	-1	-6	727	-54.4	-10.1	-0.15
190	SLU 27	-1	-9	718	-53.74	-9.98	-0.21
190	SLU 28	-1	-7	729	-54.54	-10.13	-0.18
190	SLU 29	-1	-9	715	-53.47	-9.93	-0.21
190	SLU 30	-1	-7	726	-54.27	-10.08	-0.18
190	SLU 31	-1	-6	804	-60.1	-11.16	-0.18
190	SLU 32	-2	-9	795	-59.44	-11.04	-0.24
190	SLU 33	-1	-8	805	-60.24	-11.19	-0.21
190	SLU 34	-1	-6	809	-60.52	-11.24	-0.2
190	SLU 35	-2	-9	800	-59.86	-11.11	-0.25
190	SLU 36	-2	-8	811	-60.66	-11.26	-0.23
190	SLU 37	-2	-9	797	-59.59	-11.07	-0.25
190	SLU 38	-2	-8	807	-60.39	-11.21	-0.23
190	SLU 39	-2	-9	821	-61.39	-11.4	-0.25
190	SLU 40	-2	-8	831	-62.19	-11.55	-0.22
190	SLU 41	-2	-10	826	-61.81	-11.48	-0.26
190	SLU 42	-2	-8	837	-62.61	-11.62	-0.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
190	SLU 43	-1	-9	784	-58.64	-10.89	-0.22
190	SLU 44	-1	-6	802	-59.97	-11.14	-0.17
190	SLU 45	-1	-9	793	-59.31	-11.01	-0.23
190	SLU 46	-1	-8	804	-60.11	-11.16	-0.2
190	SLU 47	-1	-7	807	-60.39	-11.21	-0.18
190	SLU 48	-1	-10	798	-59.73	-11.09	-0.24
190	SLU 49	-1	-8	809	-60.53	-11.24	-0.21
190	SLU 50	-1	-10	795	-59.46	-11.04	-0.24
190	SLU 51	-1	-8	806	-60.26	-11.19	-0.21
190	SLU 52	-2	-7	884	-66.09	-12.27	-0.21
190	SLU 53	-2	-10	875	-65.43	-12.15	-0.27
190	SLU 54	-2	-9	885	-66.23	-12.3	-0.24
190	SLU 55	-2	-7	889	-66.51	-12.35	-0.23
190	SLU 56	-2	-10	880	-65.85	-12.23	-0.28
190	SLU 57	-2	-9	891	-66.65	-12.37	-0.26
190	SLU 58	-2	-10	877	-65.58	-12.18	-0.28
190	SLU 59	-2	-9	887	-66.38	-12.33	-0.26
190	SLU 60	-2	-10	901	-67.38	-12.51	-0.28
190	SLU 61	-2	-9	912	-68.18	-12.66	-0.25
190	SLU 62	-2	-10	906	-67.8	-12.59	-0.29
190	SLU 63	-2	-9	917	-68.6	-12.74	-0.26
190	SLU 64	-1	-10	864	-64.61	-12	-0.23
190	SLU 65	-1	-7	882	-65.94	-12.24	-0.19
190	SLU 66	-1	-10	873	-65.28	-12.12	-0.24
190	SLU 67	-1	-9	883	-66.08	-12.27	-0.22
190	SLU 68	-1	-8	887	-66.35	-12.32	-0.2
190	SLU 69	-1	-10	878	-65.69	-12.2	-0.26
190	SLU 70	-1	-9	889	-66.49	-12.35	-0.23
190	SLU 71	-1	-10	875	-65.43	-12.15	-0.26
190	SLU 72	-1	-9	885	-66.23	-12.3	-0.23
190	SLU 73	-2	-8	963	-72.06	-13.38	-0.23
190	SLU 74	-2	-11	955	-71.4	-13.26	-0.29
190	SLU 75	-2	-9	965	-72.2	-13.41	-0.26
190	SLU 76	-2	-8	969	-72.47	-13.46	-0.24
190	SLU 77	-2	-11	960	-71.81	-13.33	-0.3
190	SLU 78	-2	-10	971	-72.61	-13.48	-0.27
190	SLU 79	-2	-11	957	-71.55	-13.29	-0.3
190	SLU 80	-2	-10	967	-72.35	-13.43	-0.27
190	SLU 81	-2	-11	981	-73.35	-13.62	-0.29
190	SLU 82	-2	-10	991	-74.15	-13.77	-0.27
190	SLU 83	-2	-11	986	-73.76	-13.7	-0.31
190	SLU 84	-2	-10	997	-74.56	-13.85	-0.28
190	SLE RA 1	-1	-8	647	-48.39	-8.98	-0.17
190	SLE RA 2	-1	-6	659	-49.28	-9.15	-0.14
190	SLE RA 3	-1	-8	653	-48.84	-9.07	-0.18
190	SLE RA 4	-1	-7	660	-49.37	-9.17	-0.16
190	SLE RA 5	-1	-6	662	-49.55	-9.2	-0.15
190	SLE RA 6	-1	-8	657	-49.11	-9.12	-0.19
190	SLE RA 7	-1	-7	664	-49.64	-9.22	-0.17
190	SLE RA 8	-1	-8	654	-48.94	-9.09	-0.19
190	SLE RA 9	-1	-7	661	-49.47	-9.19	-0.17
190	SLE RA 10	-1	-6	713	-53.36	-9.91	-0.17
190	SLE RA 11	-1	-8	707	-52.92	-9.83	-0.21
190	SLE RA 12	-1	-7	715	-53.45	-9.92	-0.19
190	SLE RA 13	-1	-6	717	-53.63	-9.96	-0.18
190	SLE RA 14	-1	-8	711	-53.19	-9.88	-0.22
190	SLE RA 15	-1	-7	718	-53.72	-9.98	-0.2
190	SLE RA 16	-1	-8	709	-53.02	-9.84	-0.22
190	SLE RA 17	-1	-7	716	-53.55	-9.94	-0.2
190	SLE RA 18	-1	-8	725	-54.22	-10.07	-0.22
190	SLE RA 19	-1	-7	732	-54.75	-10.17	-0.2
190	SLE RA 20	-1	-8	728	-54.49	-10.12	-0.22
190	SLE RA 21	-1	-7	736	-55.02	-10.22	-0.21
190	SLE FR 1	-1	-8	647	-48.39	-8.98	-0.17
190	SLE FR 2	-1	-7	649	-48.57	-9.02	-0.17
190	SLE FR 3	-1	-8	648	-48.5	-9.01	-0.18
190	SLE FR 4	-1	-7	673	-50.31	-9.34	-0.18
190	SLE FR 5	-1	-8	672	-50.25	-9.33	-0.19
190	SLE FR 6	-1	-8	686	-51.3	-9.53	-0.19
190	SLE QP 1	-1	-8	647	-48.39	-8.98	-0.17
190	SLE QP 2	-1	-8	670	-50.14	-9.31	-0.19
190	SLD 1	63	11	771	-57.7	-10.71	4.8
190	SLD 2	75	12	776	-58.03	-10.77	5.76
190	SLD 3	61	-24	515	-38.54	-7.16	4.22
190	SLD 4	73	-22	520	-38.87	-7.22	5.18
190	SLD 5	19	49	1088	-81.41	-15.12	2.03
190	SLD 6	27	50	1091	-81.62	-15.16	2.65
190	SLD 7	12	-65	234	-17.54	-3.26	0.08
190	SLD 8	21	-64	237	-17.75	-3.3	0.7
190	SLD 9	-23	48	1103	-82.53	-15.32	-1.07
190	SLD 10	-15	49	1106	-82.74	-15.36	-0.46
190	SLD 11	-29	-66	249	-18.65	-3.46	-3.02
190	SLD 12	-21	-65	252	-18.86	-3.5	-2.41
190	SLD 13	-75	6	821	-61.41	-11.4	-5.55
190	SLD 14	-63	8	825	-61.73	-11.46	-4.59
190	SLD 15	-77	-28	565	-42.24	-7.84	-6.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
190	SLD 16	-65	-26	569	-42.57	-7.9	-5.18
190	SLV 1	99	24	846	-63.31	-11.76	7.65
190	SLV 2	119	26	853	-63.83	-11.85	9.16
190	SLV 3	96	-35	409	-30.61	-5.68	6.65
190	SLV 4	115	-32	416	-31.13	-5.78	8.16
190	SLV 5	30	90	1385	-103.59	-19.23	3.4
190	SLV 6	43	91	1389	-103.93	-19.3	4.41
190	SLV 7	19	-105	-72	5.41	1	0.07
190	SLV 8	33	-103	-68	5.06	0.94	1.09
190	SLV 9	-35	88	1408	-105.34	-19.56	-1.46
190	SLV 10	-21	89	1413	-105.68	-19.62	-0.44
190	SLV 11	-45	-107	-49	3.66	0.68	-4.78
190	SLV 12	-32	-105	-44	3.32	0.62	-3.77
190	SLV 13	-117	17	924	-69.15	-12.84	-8.53
190	SLV 14	-98	19	931	-69.66	-12.93	-7.03
190	SLV 15	-121	-42	487	-36.45	-6.77	-9.53
190	SLV 16	-101	-39	494	-36.96	-6.86	-8.03
190	SLV FO 1	109	27	864	-64.63	-12	8.44
190	SLV FO 2	130	29	872	-65.2	-12.11	10.09
190	SLV FO 3	105	-38	383	-28.66	-5.32	7.34
190	SLV FO 4	127	-35	391	-29.23	-5.43	9
190	SLV FO 5	33	100	1456	-108.93	-20.23	3.76
190	SLV FO 6	48	101	1461	-109.31	-20.3	4.87
190	SLV FO 7	21	-115	-147	10.97	2.04	0.1
190	SLV FO 8	36	-113	-142	10.59	1.97	1.21
190	SLV FO 9	-38	97	1482	-110.86	-20.58	-1.59
190	SLV FO 10	-24	99	1487	-111.24	-20.65	-0.47
190	SLV FO 11	-50	-117	-121	9.04	1.68	-5.24
190	SLV FO 12	-35	-115	-116	8.66	1.61	-4.13
190	SLV FO 13	-129	19	950	-71.05	-13.19	-9.37
190	SLV FO 14	-107	22	957	-71.61	-13.3	-7.71
190	SLV FO 15	-133	-45	469	-35.08	-6.51	-10.47
190	SLV FO 16	-111	-42	477	-35.64	-6.62	-8.81
190	CRTFP Ux+	0	0	0	0	0	0
190	CRTFP Ux-	0	0	0	0	0	0
190	CRTFP Uy+	0	0	0	0	0	0
190	CRTFP Uy-	0	0	0	0	0	0
191	SLU 1	-1	-8	623	-46.58	-17.3	-0.28
191	SLU 2	-1	-5	641	-47.92	-17.79	-0.2
191	SLU 3	-1	-8	632	-47.25	-17.55	-0.3
191	SLU 4	-1	-7	642	-48.05	-17.84	-0.25
191	SLU 5	-1	-6	646	-48.33	-17.95	-0.21
191	SLU 6	-1	-8	637	-47.66	-17.7	-0.31
191	SLU 7	-1	-7	648	-48.46	-18	-0.26
191	SLU 8	-1	-8	634	-47.4	-17.6	-0.31
191	SLU 9	-1	-7	644	-48.2	-17.9	-0.26
191	SLU 10	-1	-6	722	-54	-20.05	-0.25
191	SLU 11	-1	-9	713	-53.33	-19.8	-0.35
191	SLU 12	-1	-8	724	-54.13	-20.1	-0.3
191	SLU 13	-1	-6	727	-54.4	-20.2	-0.27
191	SLU 14	-1	-9	718	-53.74	-19.96	-0.37
191	SLU 15	-1	-8	729	-54.54	-20.25	-0.32
191	SLU 16	-1	-9	715	-53.48	-19.86	-0.37
191	SLU 17	-1	-8	726	-54.28	-20.16	-0.32
191	SLU 18	-1	-9	739	-55.27	-20.52	-0.36
191	SLU 19	-1	-8	750	-56.07	-20.82	-0.31
191	SLU 20	-1	-10	744	-55.67	-20.68	-0.38
191	SLU 21	-1	-8	755	-56.47	-20.97	-0.33
191	SLU 22	-1	-9	702	-52.54	-19.51	-0.31
191	SLU 23	-1	-6	720	-53.87	-20.01	-0.23
191	SLU 24	-1	-9	711	-53.21	-19.76	-0.32
191	SLU 25	-1	-8	722	-54.01	-20.06	-0.27
191	SLU 26	-1	-7	726	-54.28	-20.16	-0.24
191	SLU 27	-1	-10	717	-53.61	-19.91	-0.34
191	SLU 28	-1	-8	727	-54.41	-20.21	-0.29
191	SLU 29	-1	-9	713	-53.35	-19.81	-0.34
191	SLU 30	-1	-8	724	-54.15	-20.11	-0.29
191	SLU 31	-1	-7	801	-59.95	-22.26	-0.28
191	SLU 32	-1	-10	793	-59.28	-22.02	-0.38
191	SLU 33	-1	-9	803	-60.08	-22.31	-0.33
191	SLU 34	-1	-7	807	-60.36	-22.41	-0.3
191	SLU 35	-1	-10	798	-59.69	-22.17	-0.39
191	SLU 36	-1	-9	809	-60.49	-22.46	-0.35
191	SLU 37	-1	-10	795	-59.43	-22.07	-0.39
191	SLU 38	-1	-9	805	-60.23	-22.37	-0.34
191	SLU 39	-1	-10	818	-61.22	-22.73	-0.39
191	SLU 40	-1	-9	829	-62.02	-23.03	-0.34
191	SLU 41	-1	-11	824	-61.63	-22.89	-0.4
191	SLU 42	-1	-9	835	-62.43	-23.18	-0.35
191	SLU 43	-1	-10	782	-58.52	-21.73	-0.36
191	SLU 44	-1	-7	800	-59.85	-22.23	-0.27
191	SLU 45	-1	-10	791	-59.18	-21.98	-0.37
191	SLU 46	-1	-9	802	-59.99	-22.28	-0.32
191	SLU 47	-1	-8	806	-60.26	-22.38	-0.29
191	SLU 48	-1	-11	797	-59.59	-22.13	-0.38
191	SLU 49	-1	-9	807	-60.39	-22.43	-0.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
191	SLU 50	-1	-11	793	-59.33	-22.03	-0.38
191	SLU 51	-1	-9	804	-60.13	-22.33	-0.34
191	SLU 52	-1	-8	881	-65.93	-24.48	-0.33
191	SLU 53	-2	-11	872	-65.26	-24.24	-0.43
191	SLU 54	-1	-10	883	-66.06	-24.53	-0.38
191	SLU 55	-1	-9	887	-66.34	-24.63	-0.34
191	SLU 56	-2	-11	878	-65.67	-24.39	-0.44
191	SLU 57	-2	-10	889	-66.47	-24.68	-0.39
191	SLU 58	-2	-11	874	-65.41	-24.29	-0.44
191	SLU 59	-2	-10	885	-66.21	-24.59	-0.39
191	SLU 60	-2	-11	898	-67.2	-24.96	-0.44
191	SLU 61	-2	-10	909	-68	-25.25	-0.39
191	SLU 62	-2	-12	904	-67.61	-25.11	-0.45
191	SLU 63	-2	-10	915	-68.41	-25.4	-0.4
191	SLU 64	-1	-11	862	-64.47	-23.94	-0.38
191	SLU 65	-1	-9	880	-65.81	-24.44	-0.3
191	SLU 66	-1	-11	871	-65.14	-24.19	-0.4
191	SLU 67	-1	-10	882	-65.94	-24.49	-0.35
191	SLU 68	-1	-9	885	-66.21	-24.59	-0.32
191	SLU 69	-1	-12	876	-65.55	-24.34	-0.41
191	SLU 70	-1	-10	887	-66.35	-24.64	-0.36
191	SLU 71	-1	-12	873	-65.29	-24.25	-0.41
191	SLU 72	-1	-10	884	-66.09	-24.54	-0.36
191	SLU 73	-1	-9	961	-71.88	-26.69	-0.36
191	SLU 74	-2	-12	952	-71.22	-26.45	-0.45
191	SLU 75	-1	-11	963	-72.02	-26.74	-0.41
191	SLU 76	-1	-10	966	-72.29	-26.85	-0.37
191	SLU 77	-2	-12	958	-71.62	-26.6	-0.47
191	SLU 78	-2	-11	968	-72.42	-26.9	-0.42
191	SLU 79	-2	-12	954	-71.36	-26.5	-0.47
191	SLU 80	-2	-11	965	-72.16	-26.8	-0.42
191	SLU 81	-2	-12	978	-73.15	-27.17	-0.46
191	SLU 82	-2	-11	989	-73.95	-27.46	-0.41
191	SLU 83	-2	-13	983	-73.56	-27.32	-0.48
191	SLU 84	-2	-11	994	-74.36	-27.62	-0.43
191	SLE RA 1	-1	-8	646	-48.29	-17.93	-0.29
191	SLE RA 2	-1	-7	657	-49.17	-18.26	-0.23
191	SLE RA 3	-1	-9	651	-48.73	-18.1	-0.3
191	SLE RA 4	-1	-7	659	-49.26	-18.29	-0.27
191	SLE RA 5	-1	-7	661	-49.45	-18.36	-0.24
191	SLE RA 6	-1	-9	655	-49	-18.2	-0.31
191	SLE RA 7	-1	-8	662	-49.54	-18.4	-0.28
191	SLE RA 8	-1	-9	653	-48.83	-18.13	-0.31
191	SLE RA 9	-1	-8	660	-49.36	-18.33	-0.28
191	SLE RA 10	-1	-7	712	-53.23	-19.77	-0.27
191	SLE RA 11	-1	-9	706	-52.78	-19.6	-0.34
191	SLE RA 12	-1	-8	713	-53.32	-19.8	-0.3
191	SLE RA 13	-1	-7	715	-53.5	-19.87	-0.28
191	SLE RA 14	-1	-9	709	-53.05	-19.7	-0.35
191	SLE RA 15	-1	-8	716	-53.59	-19.9	-0.31
191	SLE RA 16	-1	-9	707	-52.88	-19.64	-0.35
191	SLE RA 17	-1	-8	714	-53.41	-19.84	-0.31
191	SLE RA 18	-1	-9	723	-54.07	-20.08	-0.34
191	SLE RA 19	-1	-8	730	-54.61	-20.28	-0.31
191	SLE RA 20	-1	-9	727	-54.35	-20.18	-0.35
191	SLE RA 21	-1	-8	734	-54.88	-20.38	-0.32
191	SLE FR 1	-1	-8	646	-48.29	-17.93	-0.29
191	SLE FR 2	-1	-8	648	-48.46	-18	-0.28
191	SLE FR 3	-1	-8	647	-48.39	-17.97	-0.29
191	SLE FR 4	-1	-8	671	-50.2	-18.64	-0.29
191	SLE FR 5	-1	-9	670	-50.13	-18.62	-0.31
191	SLE FR 6	-1	-9	684	-51.18	-19.01	-0.32
191	SLE QP 1	-1	-8	646	-48.29	-17.93	-0.29
191	SLE QP 2	-1	-9	669	-50.02	-18.58	-0.3
191	SLD 1	63	10	767	-57.34	-21.29	4.91
191	SLD 2	75	12	772	-57.71	-21.43	5.9
191	SLD 3	61	-24	511	-38.22	-14.19	3.87
191	SLD 4	73	-21	516	-38.6	-14.33	4.85
191	SLD 5	19	47	1085	-81.14	-30.13	2.67
191	SLD 6	27	49	1088	-81.38	-30.22	3.3
191	SLD 7	12	-64	233	-17.43	-6.47	-0.8
191	SLD 8	20	-63	236	-17.67	-6.56	-0.17
191	SLD 9	-22	46	1101	-82.37	-30.59	-0.44
191	SLD 10	-14	47	1104	-82.62	-30.68	0.19
191	SLD 11	-29	-66	249	-18.66	-6.93	-3.91
191	SLD 12	-21	-65	253	-18.9	-7.02	-3.28
191	SLD 13	-75	4	821	-61.45	-22.82	-5.46
191	SLD 14	-62	6	826	-61.82	-22.96	-4.48
191	SLD 15	-77	-29	566	-42.33	-15.72	-6.51
191	SLD 16	-64	-27	571	-42.71	-15.86	-5.52
191	SLV 1	98	23	840	-62.81	-23.32	7.92
191	SLV 2	118	26	848	-63.4	-23.54	9.47
191	SLV 3	95	-34	404	-30.19	-11.21	6.14
191	SLV 4	115	-31	412	-30.78	-11.43	7.69
191	SLV 5	30	87	1380	-103.21	-38.33	4.57
191	SLV 6	43	89	1385	-103.61	-38.48	5.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
191	SLV 7	19	-103	-74	5.5	2.04	-1.36
191	SLV 8	32	-101	-68	5.11	1.9	-0.31
191	SLV 9	-34	84	1406	-105.15	-39.05	-0.3
191	SLV 10	-21	86	1411	-105.55	-39.2	0.75
191	SLV 11	-45	-106	-48	3.57	1.32	-6.22
191	SLV 12	-32	-104	-42	3.17	1.18	-5.18
191	SLV 13	-116	14	926	-69.26	-25.72	-8.3
191	SLV 14	-97	17	934	-69.85	-25.94	-6.75
191	SLV 15	-120	-43	490	-36.65	-13.61	-10.08
191	SLV 16	-100	-40	498	-37.24	-13.83	-8.53
191	SLV FO 1	108	26	857	-64.08	-23.8	8.74
191	SLV FO 2	130	30	865	-64.73	-24.04	10.45
191	SLV FO 3	105	-37	377	-28.21	-10.48	6.79
191	SLV FO 4	126	-33	386	-28.86	-10.72	8.49
191	SLV FO 5	33	96	1451	-108.53	-40.3	5.06
191	SLV FO 6	48	99	1457	-108.97	-40.47	6.21
191	SLV FO 7	21	-113	-148	11.06	4.11	-1.46
191	SLV FO 8	36	-111	-142	10.62	3.94	-0.31
191	SLV FO 9	-37	93	1479	-110.66	-41.1	-0.3
191	SLV FO 10	-23	96	1485	-111.1	-41.26	0.85
191	SLV FO 11	-50	-116	-119	8.93	3.31	-6.82
191	SLV FO 12	-35	-114	-113	8.49	3.15	-5.67
191	SLV FO 13	-128	16	952	-71.19	-26.44	-9.1
191	SLV FO 14	-106	19	960	-71.84	-26.68	-7.39
191	SLV FO 15	-132	-47	472	-35.31	-13.11	-11.06
191	SLV FO 16	-110	-43	481	-35.96	-13.35	-9.35
191	CRTFP Ux+	0	0	0	0	0	0
191	CRTFP Ux-	0	0	0	0	0	0
191	CRTFP Uy+	0	0	0	0	0	0
191	CRTFP Uy-	0	0	0	0	0	0
192	SLU 1	-1	-9	620	-46.38	-25.84	-0.42
192	SLU 2	-1	-6	638	-47.71	-26.58	-0.3
192	SLU 3	-1	-9	629	-47.04	-26.2	-0.44
192	SLU 4	-1	-8	640	-47.84	-26.65	-0.37
192	SLU 5	-1	-6	643	-48.12	-26.8	-0.32
192	SLU 6	-1	-9	634	-47.44	-26.43	-0.45
192	SLU 7	-1	-8	645	-48.24	-26.87	-0.38
192	SLU 8	-1	-9	631	-47.19	-26.29	-0.45
192	SLU 9	-1	-8	642	-47.99	-26.73	-0.38
192	SLU 10	-1	-7	718	-53.74	-29.93	-0.37
192	SLU 11	-1	-10	709	-53.06	-29.56	-0.51
192	SLU 12	-1	-9	720	-53.86	-30	-0.44
192	SLU 13	-1	-7	724	-54.14	-30.16	-0.39
192	SLU 14	-1	-10	715	-53.47	-29.78	-0.53
192	SLU 15	-1	-9	725	-54.27	-30.23	-0.46
192	SLU 16	-1	-10	711	-53.21	-29.64	-0.52
192	SLU 17	-1	-9	722	-54.01	-30.09	-0.45
192	SLU 18	-1	-10	735	-54.99	-30.63	-0.52
192	SLU 19	-1	-9	746	-55.78	-31.07	-0.45
192	SLU 20	-1	-10	740	-55.39	-30.85	-0.54
192	SLU 21	-1	-9	751	-56.19	-31.3	-0.47
192	SLU 22	-1	-10	699	-52.31	-29.14	-0.46
192	SLU 23	-1	-7	717	-53.64	-29.88	-0.34
192	SLU 24	-1	-10	708	-52.97	-29.51	-0.48
192	SLU 25	-1	-9	719	-53.77	-29.95	-0.41
192	SLU 26	-1	-8	723	-54.05	-30.11	-0.36
192	SLU 27	-1	-10	714	-53.37	-29.73	-0.5
192	SLU 28	-1	-9	724	-54.17	-30.18	-0.43
192	SLU 29	-1	-10	710	-53.12	-29.59	-0.5
192	SLU 30	-1	-9	721	-53.92	-30.03	-0.43
192	SLU 31	-1	-8	798	-59.67	-33.24	-0.42
192	SLU 32	-1	-11	789	-58.99	-32.86	-0.55
192	SLU 33	-1	-10	799	-59.79	-33.31	-0.48
192	SLU 34	-1	-9	803	-60.07	-33.46	-0.43
192	SLU 35	-1	-11	794	-59.4	-33.09	-0.57
192	SLU 36	-1	-10	805	-60.2	-33.53	-0.5
192	SLU 37	-1	-11	791	-59.14	-32.94	-0.57
192	SLU 38	-1	-10	801	-59.94	-33.39	-0.5
192	SLU 39	-1	-11	814	-60.91	-33.93	-0.57
192	SLU 40	-1	-10	825	-61.71	-34.38	-0.49
192	SLU 41	-1	-12	820	-61.32	-34.16	-0.58
192	SLU 42	-1	-10	830	-62.12	-34.6	-0.51
192	SLU 43	-1	-11	779	-58.26	-32.45	-0.53
192	SLU 44	-1	-9	797	-59.59	-33.2	-0.41
192	SLU 45	-1	-11	788	-58.92	-32.82	-0.55
192	SLU 46	-1	-10	798	-59.72	-33.27	-0.48
192	SLU 47	-1	-9	802	-60	-33.42	-0.43
192	SLU 48	-1	-12	793	-59.33	-33.05	-0.56
192	SLU 49	-1	-10	804	-60.12	-33.49	-0.49
192	SLU 50	-1	-12	790	-59.07	-32.9	-0.56
192	SLU 51	-1	-10	800	-59.87	-33.35	-0.49
192	SLU 52	-1	-10	877	-65.62	-36.55	-0.48
192	SLU 53	-1	-12	868	-64.95	-36.18	-0.62
192	SLU 54	-1	-11	879	-65.74	-36.62	-0.55
192	SLU 55	-1	-10	883	-66.02	-36.78	-0.5
192	SLU 56	-2	-13	874	-65.35	-36.4	-0.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
192	SLU 57	-1	-11	884	-66.15	-36.85	-0.57
192	SLU 58	-2	-12	870	-65.09	-36.26	-0.64
192	SLU 59	-1	-11	881	-65.89	-36.7	-0.57
192	SLU 60	-1	-13	894	-66.87	-37.25	-0.63
192	SLU 61	-1	-11	905	-67.67	-37.69	-0.56
192	SLU 62	-2	-13	899	-67.27	-37.47	-0.65
192	SLU 63	-2	-11	910	-68.07	-37.92	-0.58
192	SLU 64	-1	-12	858	-64.19	-35.76	-0.57
192	SLU 65	-1	-10	876	-65.52	-36.5	-0.46
192	SLU 66	-1	-12	867	-64.85	-36.13	-0.59
192	SLU 67	-1	-11	878	-65.65	-36.57	-0.52
192	SLU 68	-1	-10	881	-65.93	-36.72	-0.47
192	SLU 69	-1	-13	872	-65.25	-36.35	-0.61
192	SLU 70	-1	-11	883	-66.05	-36.79	-0.54
192	SLU 71	-1	-13	869	-65	-36.21	-0.61
192	SLU 72	-1	-11	880	-65.8	-36.65	-0.54
192	SLU 73	-1	-11	957	-71.55	-39.85	-0.53
192	SLU 74	-1	-13	948	-70.87	-39.48	-0.66
192	SLU 75	-1	-12	958	-71.67	-39.93	-0.59
192	SLU 76	-1	-11	962	-71.95	-40.08	-0.54
192	SLU 77	-1	-14	953	-71.28	-39.7	-0.68
192	SLU 78	-1	-12	964	-72.08	-40.15	-0.61
192	SLU 79	-2	-14	949	-71.02	-39.56	-0.68
192	SLU 80	-1	-12	960	-71.82	-40.01	-0.61
192	SLU 81	-1	-14	973	-72.8	-40.55	-0.68
192	SLU 82	-1	-12	984	-73.6	-41	-0.61
192	SLU 83	-2	-14	979	-73.2	-40.77	-0.69
192	SLU 84	-1	-12	989	-74	-41.22	-0.62
192	SLE RA 1	-1	-9	643	-48.08	-26.78	-0.43
192	SLE RA 2	-1	-7	655	-48.96	-27.27	-0.35
192	SLE RA 3	-1	-9	649	-48.52	-27.03	-0.44
192	SLE RA 4	-1	-8	656	-49.05	-27.32	-0.4
192	SLE RA 5	-1	-8	658	-49.23	-27.42	-0.36
192	SLE RA 6	-1	-9	652	-48.78	-27.17	-0.45
192	SLE RA 7	-1	-8	659	-49.32	-27.47	-0.41
192	SLE RA 8	-1	-9	650	-48.61	-27.08	-0.45
192	SLE RA 9	-1	-8	657	-49.15	-27.38	-0.41
192	SLE RA 10	-1	-8	708	-52.98	-29.51	-0.4
192	SLE RA 11	-1	-10	702	-52.53	-29.26	-0.49
192	SLE RA 12	-1	-9	709	-53.06	-29.56	-0.44
192	SLE RA 13	-1	-8	712	-53.25	-29.66	-0.41
192	SLE RA 14	-1	-10	706	-52.8	-29.41	-0.5
192	SLE RA 15	-1	-9	713	-53.33	-29.71	-0.46
192	SLE RA 16	-1	-10	704	-52.63	-29.32	-0.5
192	SLE RA 17	-1	-9	711	-53.16	-29.61	-0.45
192	SLE RA 18	-1	-10	719	-53.81	-29.98	-0.5
192	SLE RA 19	-1	-9	727	-54.34	-30.27	-0.45
192	SLE RA 20	-1	-10	723	-54.08	-30.12	-0.51
192	SLE RA 21	-1	-9	730	-54.61	-30.42	-0.46
192	SLE FR 1	-1	-9	643	-48.08	-26.78	-0.43
192	SLE FR 2	-1	-9	645	-48.25	-26.88	-0.42
192	SLE FR 3	-1	-9	644	-48.18	-26.84	-0.44
192	SLE FR 4	-1	-9	668	-49.97	-27.84	-0.44
192	SLE FR 5	-1	-10	667	-49.9	-27.8	-0.46
192	SLE FR 6	-1	-10	681	-50.94	-28.38	-0.47
192	SLE QP 1	-1	-9	643	-48.08	-26.78	-0.43
192	SLE QP 2	-1	-9	666	-49.8	-27.74	-0.45
192	SLD 1	62	10	760	-56.82	-31.65	5.01
192	SLD 2	75	12	765	-57.24	-31.88	6.04
192	SLD 3	60	-23	505	-37.78	-21.05	3.53
192	SLD 4	73	-21	511	-38.2	-21.28	4.56
192	SLD 5	19	45	1079	-80.7	-44.95	3.25
192	SLD 6	27	47	1083	-80.97	-45.11	3.92
192	SLD 7	12	-64	231	-17.25	-9.61	-1.68
192	SLD 8	20	-62	234	-17.52	-9.76	-1.02
192	SLD 9	-22	43	1097	-82.07	-45.72	0.11
192	SLD 10	-14	45	1101	-82.35	-45.87	0.77
192	SLD 11	-29	-66	249	-18.62	-10.37	-4.82
192	SLD 12	-21	-64	253	-18.89	-10.52	-4.16
192	SLD 13	-74	2	821	-61.39	-34.2	-5.46
192	SLD 14	-62	4	826	-61.81	-34.43	-4.44
192	SLD 15	-76	-31	566	-42.35	-23.59	-6.94
192	SLD 16	-64	-29	572	-42.78	-23.83	-5.91
192	SLV 1	98	23	830	-62.12	-34.6	8.19
192	SLV 2	117	27	839	-62.78	-34.97	9.81
192	SLV 3	94	-33	396	-29.64	-16.51	5.66
192	SLV 4	114	-29	405	-30.3	-16.88	7.28
192	SLV 5	30	84	1372	-102.63	-57.17	5.67
192	SLV 6	44	87	1378	-103.08	-57.42	6.76
192	SLV 7	19	-102	-75	5.64	3.14	-2.75
192	SLV 8	32	-99	-69	5.19	2.89	-1.66
192	SLV 9	-34	80	1401	-104.79	-58.37	0.75
192	SLV 10	-20	83	1407	-105.23	-58.62	1.85
192	SLV 11	-45	-106	-47	3.49	1.94	-7.66
192	SLV 12	-32	-103	-41	3.04	1.69	-6.57
192	SLV 13	-115	10	926	-69.29	-38.6	-8.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
192	SLV 14	-96	14	935	-69.96	-38.97	-6.57
192	SLV 15	-119	-46	492	-36.81	-20.5	-10.71
192	SLV 16	-99	-42	501	-37.47	-20.87	-9.09
192	SLV FO 1	108	26	847	-63.35	-35.29	9.05
192	SLV FO 2	129	30	857	-64.08	-35.7	10.84
192	SLV FO 3	104	-35	369	-27.62	-15.39	6.28
192	SLV FO 4	125	-31	379	-28.35	-15.79	8.06
192	SLV FO 5	34	93	1443	-107.92	-60.11	6.28
192	SLV FO 6	48	96	1449	-108.41	-60.39	7.48
192	SLV FO 7	21	-111	-150	11.18	6.23	-2.98
192	SLV FO 8	35	-108	-143	10.69	5.96	-1.78
192	SLV FO 9	-37	89	1474	-110.29	-61.43	0.88
192	SLV FO 10	-22	92	1481	-110.78	-61.71	2.08
192	SLV FO 11	-49	-115	-118	8.82	4.91	-8.38
192	SLV FO 12	-35	-112	-111	8.33	4.64	-7.18
192	SLV FO 13	-127	12	952	-71.24	-39.68	-8.96
192	SLV FO 14	-105	16	962	-71.97	-40.09	-7.18
192	SLV FO 15	-131	-49	475	-35.51	-19.78	-11.74
192	SLV FO 16	-109	-45	485	-36.24	-20.19	-9.96
192	CRTFP Ux+	0	0	0	0	0	0
192	CRTFP Ux-	0	0	0	0	0	0
192	CRTFP Uy+	0	0	0	0	0	0
192	CRTFP Uy-	0	0	0	0	0	0
193	SLU 1	-1	-10	618	-46.2	-34.31	-0.58
193	SLU 2	0	-7	635	-47.53	-35.3	-0.43
193	SLU 3	-1	-10	626	-46.85	-34.8	-0.6
193	SLU 4	-1	-8	637	-47.65	-35.39	-0.51
193	SLU 5	-1	-7	641	-47.93	-35.6	-0.45
193	SLU 6	-1	-10	632	-47.25	-35.09	-0.62
193	SLU 7	-1	-9	642	-48.05	-35.69	-0.53
193	SLU 8	-1	-10	628	-46.99	-34.9	-0.62
193	SLU 9	-1	-8	639	-47.79	-35.5	-0.53
193	SLU 10	-1	-8	715	-53.5	-39.74	-0.52
193	SLU 11	-1	-11	706	-52.82	-39.23	-0.69
193	SLU 12	-1	-9	717	-53.62	-39.83	-0.6
193	SLU 13	-1	-8	721	-53.9	-40.03	-0.54
193	SLU 14	-1	-11	712	-53.22	-39.53	-0.71
193	SLU 15	-1	-10	722	-54.02	-40.12	-0.62
193	SLU 16	-1	-11	708	-52.97	-39.34	-0.71
193	SLU 17	-1	-10	719	-53.77	-39.93	-0.62
193	SLU 18	-1	-11	732	-54.73	-40.65	-0.71
193	SLU 19	-1	-10	742	-55.53	-41.24	-0.62
193	SLU 20	-1	-11	737	-55.13	-40.95	-0.73
193	SLU 21	-1	-10	748	-55.93	-41.54	-0.64
193	SLU 22	-1	-11	697	-52.11	-38.7	-0.64
193	SLU 23	0	-8	714	-53.44	-39.69	-0.49
193	SLU 24	-1	-11	705	-52.76	-39.19	-0.66
193	SLU 25	-1	-10	716	-53.56	-39.78	-0.57
193	SLU 26	-1	-8	720	-53.84	-39.99	-0.51
193	SLU 27	-1	-11	711	-53.16	-39.48	-0.68
193	SLU 28	-1	-10	721	-53.96	-40.08	-0.59
193	SLU 29	-1	-11	707	-52.91	-39.29	-0.68
193	SLU 30	-1	-10	718	-53.7	-39.89	-0.59
193	SLU 31	-1	-9	794	-59.41	-44.13	-0.58
193	SLU 32	-1	-12	785	-58.74	-43.62	-0.75
193	SLU 33	-1	-11	796	-59.54	-44.22	-0.66
193	SLU 34	-1	-10	800	-59.81	-44.42	-0.6
193	SLU 35	-1	-12	791	-59.13	-43.92	-0.77
193	SLU 36	-1	-11	801	-59.93	-44.51	-0.68
193	SLU 37	-1	-12	787	-58.88	-43.73	-0.77
193	SLU 38	-1	-11	798	-59.68	-44.32	-0.68
193	SLU 39	-1	-12	811	-60.64	-45.04	-0.77
193	SLU 40	-1	-11	821	-61.44	-45.63	-0.68
193	SLU 41	-1	-13	816	-61.04	-45.34	-0.79
193	SLU 42	-1	-11	827	-61.84	-45.93	-0.7
193	SLU 43	-1	-12	776	-58.03	-43.1	-0.73
193	SLU 44	-1	-10	794	-59.36	-44.09	-0.58
193	SLU 45	-1	-12	785	-58.68	-43.59	-0.75
193	SLU 46	-1	-11	795	-59.48	-44.18	-0.66
193	SLU 47	-1	-10	799	-59.76	-44.38	-0.6
193	SLU 48	-1	-13	790	-59.08	-43.88	-0.77
193	SLU 49	-1	-11	801	-59.88	-44.47	-0.68
193	SLU 50	-1	-13	786	-58.83	-43.69	-0.77
193	SLU 51	-1	-11	797	-59.63	-44.28	-0.68
193	SLU 52	-1	-11	873	-65.34	-48.53	-0.67
193	SLU 53	-1	-13	864	-64.66	-48.02	-0.84
193	SLU 54	-1	-12	875	-65.46	-48.62	-0.75
193	SLU 55	-1	-11	879	-65.73	-48.82	-0.69
193	SLU 56	-1	-14	870	-65.06	-48.32	-0.86
193	SLU 57	-1	-12	880	-65.85	-48.91	-0.77
193	SLU 58	-1	-14	866	-64.8	-48.13	-0.86
193	SLU 59	-1	-12	877	-65.6	-48.72	-0.77
193	SLU 60	-1	-14	890	-66.56	-49.44	-0.86
193	SLU 61	-1	-12	901	-67.36	-50.03	-0.77
193	SLU 62	-1	-14	895	-66.96	-49.73	-0.88
193	SLU 63	-1	-12	906	-67.76	-50.33	-0.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
193	SLU 64	-1	-13	855	-63.94	-47.49	-0.79
193	SLU 65	-1	-11	873	-65.27	-48.48	-0.64
193	SLU 66	-1	-14	864	-64.59	-47.98	-0.82
193	SLU 67	-1	-12	874	-65.39	-48.57	-0.73
193	SLU 68	-1	-11	878	-65.67	-48.78	-0.66
193	SLU 69	-1	-14	869	-64.99	-48.27	-0.84
193	SLU 70	-1	-12	880	-65.79	-48.87	-0.75
193	SLU 71	-1	-14	865	-64.74	-48.08	-0.83
193	SLU 72	-1	-12	876	-65.54	-48.68	-0.74
193	SLU 73	-1	-12	952	-71.25	-52.92	-0.73
193	SLU 74	-1	-15	943	-70.57	-52.41	-0.91
193	SLU 75	-1	-13	954	-71.37	-53.01	-0.82
193	SLU 76	-1	-12	958	-71.64	-53.21	-0.75
193	SLU 77	-1	-15	949	-70.97	-52.71	-0.93
193	SLU 78	-1	-13	959	-71.77	-53.3	-0.84
193	SLU 79	-1	-15	945	-70.71	-52.52	-0.92
193	SLU 80	-1	-13	956	-71.51	-53.11	-0.83
193	SLU 81	-1	-15	969	-72.48	-53.83	-0.92
193	SLU 82	-1	-13	980	-73.27	-54.42	-0.83
193	SLU 83	-1	-15	974	-72.87	-54.12	-0.94
193	SLU 84	-1	-14	985	-73.67	-54.72	-0.85
193	SLE RA 1	-1	-10	640	-47.89	-35.57	-0.6
193	SLE RA 2	0	-8	652	-48.77	-36.23	-0.5
193	SLE RA 3	-1	-10	646	-48.32	-35.89	-0.61
193	SLE RA 4	-1	-9	653	-48.85	-36.29	-0.55
193	SLE RA 5	-1	-8	656	-49.04	-36.42	-0.51
193	SLE RA 6	-1	-10	650	-48.59	-36.09	-0.63
193	SLE RA 7	-1	-9	657	-49.12	-36.48	-0.57
193	SLE RA 8	-1	-10	647	-48.42	-35.96	-0.62
193	SLE RA 9	-1	-9	654	-48.95	-36.36	-0.56
193	SLE RA 10	-1	-9	705	-52.76	-39.18	-0.56
193	SLE RA 11	-1	-11	699	-52.3	-38.85	-0.67
193	SLE RA 12	-1	-10	706	-52.84	-39.24	-0.61
193	SLE RA 13	-1	-9	709	-53.02	-39.38	-0.57
193	SLE RA 14	-1	-11	703	-52.57	-39.04	-0.69
193	SLE RA 15	-1	-10	710	-53.1	-39.44	-0.63
193	SLE RA 16	-1	-11	701	-52.4	-38.92	-0.68
193	SLE RA 17	-1	-10	708	-52.93	-39.31	-0.62
193	SLE RA 18	-1	-11	716	-53.58	-39.79	-0.68
193	SLE RA 19	-1	-10	723	-54.11	-40.19	-0.62
193	SLE RA 20	-1	-11	720	-53.84	-39.99	-0.7
193	SLE RA 21	-1	-10	727	-54.37	-40.38	-0.64
193	SLE FR 1	-1	-10	640	-47.89	-35.57	-0.6
193	SLE FR 2	-1	-10	643	-48.06	-35.7	-0.58
193	SLE FR 3	-1	-10	642	-47.99	-35.65	-0.6
193	SLE FR 4	-1	-10	665	-49.77	-36.97	-0.6
193	SLE FR 5	-1	-10	664	-49.7	-36.91	-0.63
193	SLE FR 6	-1	-11	678	-50.73	-37.68	-0.64
193	SLE QP 1	-1	-10	640	-47.89	-35.57	-0.6
193	SLE QP 2	-1	-10	663	-49.59	-36.83	-0.62
193	SLD 1	62	9	753	-56.31	-41.82	5.11
193	SLD 2	74	12	759	-56.78	-42.17	6.2
193	SLD 3	60	-23	499	-37.33	-27.72	3.21
193	SLD 4	72	-20	505	-37.79	-28.07	4.3
193	SLD 5	19	43	1074	-80.32	-59.65	3.79
193	SLD 6	27	45	1078	-80.62	-59.88	4.49
193	SLD 7	12	-63	228	-17.04	-12.66	-2.54
193	SLD 8	20	-61	232	-17.34	-12.88	-1.84
193	SLD 9	-21	40	1094	-81.84	-60.79	0.6
193	SLD 10	-13	42	1098	-82.14	-61.01	1.29
193	SLD 11	-29	-66	248	-18.57	-13.79	-5.74
193	SLD 12	-21	-64	252	-18.87	-14.01	-5.04
193	SLD 13	-73	-1	821	-61.39	-45.6	-5.54
193	SLD 14	-61	2	827	-61.86	-45.95	-4.46
193	SLD 15	-76	-33	567	-42.41	-31.5	-7.44
193	SLD 16	-63	-30	573	-42.88	-31.85	-6.36
193	SLV 1	97	23	821	-61.44	-45.63	8.47
193	SLV 2	117	28	831	-62.18	-46.18	10.18
193	SLV 3	94	-32	388	-29.05	-21.57	5.23
193	SLV 4	113	-27	398	-29.79	-22.12	6.94
193	SLV 5	31	81	1365	-102.14	-75.86	6.7
193	SLV 6	44	85	1372	-102.63	-76.23	7.86
193	SLV 7	19	-100	-78	5.83	4.33	-4.1
193	SLV 8	32	-97	-71	5.34	3.96	-2.95
193	SLV 9	-33	76	1397	-104.52	-77.63	1.71
193	SLV 10	-20	80	1404	-105.02	-78	2.86
193	SLV 11	-45	-105	-46	3.45	2.56	-9.1
193	SLV 12	-32	-102	-39	2.95	2.19	-7.95
193	SLV 13	-114	6	928	-69.4	-51.55	-8.19
193	SLV 14	-95	11	938	-70.14	-52.09	-6.47
193	SLV 15	-118	-48	495	-37.01	-27.49	-11.43
193	SLV 16	-99	-43	505	-37.75	-28.04	-9.72
193	SLV FO 1	107	26	837	-62.62	-46.51	9.38
193	SLV FO 2	128	31	848	-63.43	-47.11	11.26
193	SLV FO 3	103	-34	361	-26.99	-20.05	5.81
193	SLV FO 4	125	-29	372	-27.8	-20.65	7.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
193	SLV FO 5	34	90	1436	-107.39	-79.76	7.44
193	SLV FO 6	48	94	1443	-107.94	-80.17	8.7
193	SLV FO 7	21	-109	-152	11.38	8.45	-4.45
193	SLV FO 8	35	-106	-145	10.83	8.04	-3.19
193	SLV FO 9	-36	85	1471	-110.02	-81.71	1.94
193	SLV FO 10	-22	89	1478	-110.56	-82.12	3.21
193	SLV FO 11	-49	-115	-117	8.75	6.5	-9.95
193	SLV FO 12	-35	-111	-110	8.2	6.09	-8.68
193	SLV FO 13	-126	8	954	-71.38	-53.02	-8.94
193	SLV FO 14	-105	13	965	-72.19	-53.62	-7.06
193	SLV FO 15	-130	-52	478	-35.75	-26.55	-12.51
193	SLV FO 16	-109	-47	489	-36.56	-27.16	-10.63
193	CRTFP Ux+	0	0	0	0	0	0
193	CRTFP Ux-	0	0	0	0	0	0
193	CRTFP Uy+	0	0	0	0	0	0
193	CRTFP Uy-	0	0	0	0	0	0
194	SLU 1	-1	-10	615	-46.04	-42.74	-0.76
194	SLU 2	0	-8	633	-47.37	-43.98	-0.58
194	SLU 3	-1	-11	624	-46.69	-43.34	-0.79
194	SLU 4	-1	-9	635	-47.49	-44.09	-0.68
194	SLU 5	-1	-8	639	-47.77	-44.35	-0.6
194	SLU 6	-1	-11	629	-47.08	-43.71	-0.81
194	SLU 7	-1	-9	640	-47.88	-44.45	-0.7
194	SLU 8	-1	-11	626	-46.83	-43.47	-0.81
194	SLU 9	-1	-9	637	-47.63	-44.22	-0.7
194	SLU 10	-1	-9	713	-53.3	-49.49	-0.69
194	SLU 11	-1	-12	703	-52.62	-48.85	-0.9
194	SLU 12	-1	-10	714	-53.42	-49.59	-0.79
194	SLU 13	-1	-9	718	-53.7	-49.85	-0.71
194	SLU 14	-1	-12	709	-53.01	-49.22	-0.92
194	SLU 15	-1	-11	719	-53.81	-49.96	-0.81
194	SLU 16	-1	-12	705	-52.76	-48.98	-0.92
194	SLU 17	-1	-10	716	-53.56	-49.72	-0.81
194	SLU 18	-1	-12	729	-54.51	-50.61	-0.92
194	SLU 19	-1	-11	739	-55.31	-51.35	-0.81
194	SLU 20	-1	-12	734	-54.91	-50.98	-0.94
194	SLU 21	-1	-11	745	-55.71	-51.72	-0.83
194	SLU 22	0	-12	694	-51.94	-48.22	-0.84
194	SLU 23	0	-9	712	-53.27	-49.46	-0.66
194	SLU 24	-1	-12	703	-52.59	-48.82	-0.87
194	SLU 25	0	-10	714	-53.39	-49.57	-0.76
194	SLU 26	0	-9	717	-53.67	-49.83	-0.69
194	SLU 27	-1	-12	708	-52.98	-49.19	-0.89
194	SLU 28	-1	-11	719	-53.78	-49.93	-0.78
194	SLU 29	-1	-12	705	-52.73	-48.95	-0.89
194	SLU 30	-1	-11	716	-53.53	-49.7	-0.78
194	SLU 31	-1	-10	792	-59.21	-54.97	-0.77
194	SLU 32	-1	-13	782	-58.52	-54.33	-0.98
194	SLU 33	-1	-12	793	-59.32	-55.07	-0.87
194	SLU 34	-1	-11	797	-59.6	-55.33	-0.8
194	SLU 35	-1	-13	788	-58.91	-54.7	-1
194	SLU 36	-1	-12	798	-59.71	-55.44	-0.89
194	SLU 37	-1	-13	784	-58.66	-54.46	-1
194	SLU 38	-1	-12	795	-59.46	-55.2	-0.89
194	SLU 39	-1	-13	808	-60.41	-56.09	-1
194	SLU 40	-1	-12	818	-61.21	-56.83	-0.89
194	SLU 41	-1	-14	813	-60.81	-56.45	-1.03
194	SLU 42	-1	-12	824	-61.61	-57.2	-0.92
194	SLU 43	-1	-13	773	-57.83	-53.69	-0.96
194	SLU 44	-1	-11	791	-59.16	-54.92	-0.78
194	SLU 45	-1	-13	782	-58.47	-54.29	-0.99
194	SLU 46	-1	-12	792	-59.27	-55.03	-0.88
194	SLU 47	-1	-11	796	-59.55	-55.29	-0.8
194	SLU 48	-1	-14	787	-58.87	-54.65	-1.01
194	SLU 49	-1	-12	798	-59.67	-55.4	-0.9
194	SLU 50	-1	-14	784	-58.61	-54.42	-1.01
194	SLU 51	-1	-12	794	-59.41	-55.16	-0.9
194	SLU 52	-1	-12	870	-65.09	-60.43	-0.89
194	SLU 53	-1	-15	861	-64.41	-59.79	-1.1
194	SLU 54	-1	-13	872	-65.21	-60.54	-0.99
194	SLU 55	-1	-12	875	-65.49	-60.8	-0.91
194	SLU 56	-1	-15	866	-64.8	-60.16	-1.12
194	SLU 57	-1	-13	877	-65.6	-60.9	-1.01
194	SLU 58	-1	-15	863	-64.55	-59.92	-1.12
194	SLU 59	-1	-13	874	-65.35	-60.67	-1.01
194	SLU 60	-1	-15	886	-66.3	-61.55	-1.12
194	SLU 61	-1	-13	897	-67.1	-62.3	-1.01
194	SLU 62	-1	-15	892	-66.69	-61.92	-1.14
194	SLU 63	-1	-14	902	-67.49	-62.66	-1.03
194	SLU 64	-1	-14	852	-63.73	-59.17	-1.05
194	SLU 65	0	-12	870	-65.06	-60.4	-0.86
194	SLU 66	-1	-15	861	-64.38	-59.77	-1.07
194	SLU 67	-1	-13	871	-65.18	-60.51	-0.96
194	SLU 68	-1	-12	875	-65.46	-60.77	-0.89
194	SLU 69	-1	-15	866	-64.77	-60.13	-1.09
194	SLU 70	-1	-13	877	-65.57	-60.88	-0.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
194	SLU 71	-1	-15	863	-64.52	-59.9	-1.09
194	SLU 72	-1	-13	873	-65.32	-60.64	-0.98
194	SLU 73	-1	-13	949	-70.99	-65.91	-0.97
194	SLU 74	-1	-16	940	-70.31	-65.27	-1.18
194	SLU 75	-1	-14	951	-71.11	-66.02	-1.07
194	SLU 76	-1	-13	954	-71.39	-66.28	-1
194	SLU 77	-1	-16	945	-70.7	-65.64	-1.21
194	SLU 78	-1	-15	956	-71.5	-66.38	-1.1
194	SLU 79	-1	-16	942	-70.45	-65.4	-1.2
194	SLU 80	-1	-14	953	-71.25	-66.15	-1.09
194	SLU 81	-1	-16	965	-72.2	-67.03	-1.2
194	SLU 82	-1	-15	976	-73	-67.78	-1.09
194	SLU 83	-1	-16	971	-72.6	-67.4	-1.23
194	SLU 84	-1	-15	981	-73.4	-68.14	-1.12
194	SLE RA 1	0	-11	638	-47.72	-44.31	-0.79
194	SLE RA 2	0	-9	650	-48.61	-45.13	-0.66
194	SLE RA 3	-1	-11	644	-48.16	-44.71	-0.8
194	SLE RA 4	-1	-10	651	-48.69	-45.2	-0.73
194	SLE RA 5	0	-9	653	-48.88	-45.38	-0.68
194	SLE RA 6	-1	-11	647	-48.42	-44.95	-0.82
194	SLE RA 7	-1	-10	654	-48.95	-45.45	-0.75
194	SLE RA 8	-1	-11	645	-48.25	-44.8	-0.82
194	SLE RA 9	-1	-10	652	-48.78	-45.29	-0.74
194	SLE RA 10	-1	-10	703	-52.57	-48.8	-0.74
194	SLE RA 11	-1	-12	697	-52.11	-48.38	-0.88
194	SLE RA 12	-1	-11	704	-52.64	-48.88	-0.8
194	SLE RA 13	-1	-10	706	-52.83	-49.05	-0.75
194	SLE RA 14	-1	-12	700	-52.37	-48.62	-0.89
194	SLE RA 15	-1	-11	707	-52.91	-49.12	-0.82
194	SLE RA 16	-1	-12	698	-52.2	-48.47	-0.89
194	SLE RA 17	-1	-11	705	-52.74	-48.96	-0.82
194	SLE RA 18	-1	-12	714	-53.37	-49.55	-0.89
194	SLE RA 19	-1	-11	721	-53.91	-50.05	-0.82
194	SLE RA 20	-1	-12	717	-53.64	-49.8	-0.91
194	SLE RA 21	-1	-11	724	-54.17	-50.29	-0.83
194	SLE FR 1	0	-11	638	-47.72	-44.31	-0.79
194	SLE FR 2	0	-10	640	-47.9	-44.47	-0.76
194	SLE FR 3	-1	-11	639	-47.83	-44.41	-0.79
194	SLE FR 4	-1	-11	663	-49.6	-46.05	-0.79
194	SLE FR 5	-1	-11	662	-49.52	-45.98	-0.82
194	SLE FR 6	-1	-11	676	-50.55	-46.93	-0.84
194	SLE QP 1	0	-11	638	-47.72	-44.31	-0.79
194	SLE QP 2	-1	-11	661	-49.42	-45.88	-0.82
194	SLD 1	62	9	746	-55.83	-51.83	5.2
194	SLD 2	74	13	753	-56.34	-52.31	6.36
194	SLD 3	60	-22	493	-36.87	-34.23	2.9
194	SLD 4	72	-19	500	-37.39	-34.71	4.06
194	SLD 5	19	42	1070	-80	-74.27	4.28
194	SLD 6	27	44	1074	-80.33	-74.58	5.02
194	SLD 7	12	-62	225	-16.82	-15.61	-3.39
194	SLD 8	20	-60	229	-17.15	-15.92	-2.65
194	SLD 9	-21	38	1092	-81.69	-75.84	1.01
194	SLD 10	-13	40	1097	-82.02	-76.15	1.76
194	SLD 11	-28	-66	247	-18.51	-17.18	-6.66
194	SLD 12	-21	-64	252	-18.84	-17.49	-5.92
194	SLD 13	-73	-4	822	-61.45	-57.05	-5.69
194	SLD 14	-61	0	828	-61.97	-57.53	-4.54
194	SLD 15	-75	-35	568	-42.5	-39.45	-8
194	SLD 16	-63	-31	575	-43.01	-39.93	-6.84
194	SLV 1	97	23	813	-60.79	-56.44	8.75
194	SLV 2	116	28	824	-61.6	-57.19	10.58
194	SLV 3	93	-30	380	-28.44	-26.41	4.83
194	SLV 4	112	-25	391	-29.25	-27.16	6.65
194	SLV 5	31	79	1360	-101.73	-94.45	7.67
194	SLV 6	44	82	1367	-102.28	-94.96	8.9
194	SLV 7	18	-99	-81	6.08	5.64	-5.42
194	SLV 8	31	-95	-74	5.53	5.14	-4.19
194	SLV 9	-32	73	1395	-104.37	-96.9	2.56
194	SLV 10	-19	76	1403	-104.92	-97.41	3.79
194	SLV 11	-45	-105	-46	3.44	3.19	-10.53
194	SLV 12	-32	-101	-39	2.89	2.69	-9.31
194	SLV 13	-114	3	930	-69.58	-64.6	-8.28
194	SLV 14	-94	8	941	-70.39	-65.35	-6.46
194	SLV 15	-117	-51	498	-37.24	-34.57	-12.21
194	SLV 16	-98	-45	509	-38.05	-35.33	-10.39
194	SLV FO 1	107	26	828	-61.92	-57.49	9.71
194	SLV FO 2	128	32	840	-62.82	-58.32	11.72
194	SLV FO 3	103	-32	352	-26.35	-24.46	5.39
194	SLV FO 4	124	-26	364	-27.24	-25.29	7.4
194	SLV FO 5	34	88	1430	-106.96	-99.31	8.52
194	SLV FO 6	48	92	1438	-107.56	-99.86	9.87
194	SLV FO 7	20	-107	-155	11.63	10.8	-5.88
194	SLV FO 8	34	-103	-147	11.03	10.24	-4.53
194	SLV FO 9	-36	81	1469	-109.87	-102	2.9
194	SLV FO 10	-21	85	1477	-110.47	-102.56	4.25
194	SLV FO 11	-49	-114	-117	8.73	8.1	-11.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
194	SLV FO 12	-35	-110	-109	8.13	7.54	-10.15
194	SLV FO 13	-125	4	957	-71.6	-66.47	-9.03
194	SLV FO 14	-104	10	969	-72.49	-67.3	-7.03
194	SLV FO 15	-129	-55	482	-36.02	-33.44	-13.35
194	SLV FO 16	-108	-48	494	-36.91	-34.27	-11.35
194	CRTFP Ux+	0	0	0	0	0	0
194	CRTFP Ux-	0	0	0	0	0	0
194	CRTFP Uy+	0	0	0	0	0	0
194	CRTFP Uy-	0	0	0	0	0	0
195	SLU 1	0	-11	613	-45.85	-51.09	-0.97
195	SLU 2	0	-9	631	-47.19	-52.57	-0.76
195	SLU 3	-1	-11	622	-46.5	-51.8	-1
195	SLU 4	0	-10	632	-47.3	-52.69	-0.87
195	SLU 5	0	-9	636	-47.58	-53.01	-0.78
195	SLU 6	-1	-12	627	-46.89	-52.24	-1.03
195	SLU 7	-1	-10	638	-47.69	-53.13	-0.9
195	SLU 8	-1	-12	623	-46.63	-51.95	-1.02
195	SLU 9	-1	-10	634	-47.43	-52.85	-0.89
195	SLU 10	-1	-10	710	-53.08	-59.14	-0.89
195	SLU 11	-1	-13	700	-52.39	-58.37	-1.13
195	SLU 12	-1	-11	711	-53.19	-59.26	-1.01
195	SLU 13	-1	-10	715	-53.47	-59.57	-0.92
195	SLU 14	-1	-13	706	-52.78	-58.8	-1.16
195	SLU 15	-1	-11	716	-53.58	-59.69	-1.03
195	SLU 16	-1	-13	702	-52.53	-58.52	-1.15
195	SLU 17	-1	-11	713	-53.33	-59.41	-1.03
195	SLU 18	-1	-13	726	-54.27	-60.46	-1.16
195	SLU 19	-1	-12	736	-55.07	-61.36	-1.03
195	SLU 20	-1	-13	731	-54.66	-60.9	-1.19
195	SLU 21	-1	-12	741	-55.46	-61.79	-1.06
195	SLU 22	0	-13	692	-51.75	-57.65	-1.07
195	SLU 23	0	-10	710	-53.08	-59.14	-0.86
195	SLU 24	0	-13	700	-52.39	-58.37	-1.1
195	SLU 25	0	-11	711	-53.19	-59.26	-0.98
195	SLU 26	0	-10	715	-53.47	-59.57	-0.89
195	SLU 27	-1	-13	706	-52.78	-58.8	-1.13
195	SLU 28	-1	-12	716	-53.58	-59.69	-1
195	SLU 29	-1	-13	702	-52.53	-58.52	-1.13
195	SLU 30	-1	-12	713	-53.33	-59.41	-1
195	SLU 31	-1	-11	788	-58.98	-65.7	-0.99
195	SLU 32	-1	-14	779	-58.28	-64.93	-1.24
195	SLU 33	-1	-13	790	-59.08	-65.82	-1.11
195	SLU 34	-1	-12	794	-59.37	-66.14	-1.02
195	SLU 35	-1	-14	784	-58.67	-65.37	-1.26
195	SLU 36	-1	-13	795	-59.47	-66.26	-1.14
195	SLU 37	-1	-14	781	-58.42	-65.08	-1.26
195	SLU 38	-1	-13	792	-59.22	-65.98	-1.13
195	SLU 39	-1	-14	804	-60.17	-67.03	-1.26
195	SLU 40	-1	-13	815	-60.97	-67.92	-1.14
195	SLU 41	-1	-15	810	-60.56	-67.46	-1.29
195	SLU 42	-1	-13	820	-61.36	-68.36	-1.16
195	SLU 43	-1	-14	770	-57.59	-64.16	-1.22
195	SLU 44	0	-12	788	-58.92	-65.65	-1.01
195	SLU 45	-1	-14	779	-58.23	-64.88	-1.25
195	SLU 46	-1	-13	789	-59.03	-65.77	-1.13
195	SLU 47	-1	-12	793	-59.31	-66.08	-1.04
195	SLU 48	-1	-15	784	-58.62	-65.31	-1.28
195	SLU 49	-1	-13	794	-59.42	-66.2	-1.15
195	SLU 50	-1	-15	780	-58.37	-65.03	-1.28
195	SLU 51	-1	-13	791	-59.17	-65.92	-1.15
195	SLU 52	-1	-13	867	-64.82	-72.21	-1.14
195	SLU 53	-1	-16	857	-64.12	-71.44	-1.39
195	SLU 54	-1	-14	868	-64.93	-72.33	-1.26
195	SLU 55	-1	-13	872	-65.21	-72.65	-1.17
195	SLU 56	-1	-16	862	-64.51	-71.87	-1.41
195	SLU 57	-1	-14	873	-65.31	-72.77	-1.29
195	SLU 58	-1	-16	859	-64.26	-71.59	-1.41
195	SLU 59	-1	-14	870	-65.06	-72.48	-1.28
195	SLU 60	-1	-16	882	-66.01	-73.54	-1.41
195	SLU 61	-1	-14	893	-66.81	-74.43	-1.29
195	SLU 62	-1	-16	888	-66.4	-73.97	-1.44
195	SLU 63	-1	-15	898	-67.2	-74.86	-1.31
195	SLU 64	-1	-15	849	-63.48	-70.73	-1.33
195	SLU 65	0	-13	867	-64.82	-72.21	-1.12
195	SLU 66	-1	-16	857	-64.13	-71.44	-1.36
195	SLU 67	-1	-14	868	-64.93	-72.33	-1.23
195	SLU 68	-1	-13	872	-65.21	-72.65	-1.14
195	SLU 69	-1	-16	863	-64.52	-71.88	-1.39
195	SLU 70	-1	-14	873	-65.32	-72.77	-1.26
195	SLU 71	-1	-16	859	-64.26	-71.59	-1.38
195	SLU 72	-1	-14	870	-65.06	-72.49	-1.25
195	SLU 73	-1	-14	945	-70.71	-78.78	-1.25
195	SLU 74	-1	-17	936	-70.02	-78.01	-1.49
195	SLU 75	-1	-16	947	-70.82	-78.9	-1.36
195	SLU 76	-1	-14	951	-71.1	-79.21	-1.28
195	SLU 77	-1	-17	941	-70.41	-78.44	-1.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
195	SLU 78	-1	-16	952	-71.21	-79.33	-1.39
195	SLU 79	-1	-17	938	-70.15	-78.16	-1.51
195	SLU 80	-1	-16	949	-70.96	-79.05	-1.39
195	SLU 81	-1	-17	961	-71.9	-80.1	-1.52
195	SLU 82	-1	-16	972	-72.7	-81	-1.39
195	SLU 83	-1	-17	966	-72.29	-80.54	-1.54
195	SLU 84	-1	-16	977	-73.09	-81.43	-1.42
195	SLE RA 1	0	-12	636	-47.54	-52.96	-1
195	SLE RA 2	0	-10	647	-48.43	-53.95	-0.86
195	SLE RA 3	-1	-12	641	-47.97	-53.44	-1.02
195	SLE RA 4	0	-11	648	-48.5	-54.03	-0.93
195	SLE RA 5	0	-10	651	-48.69	-54.24	-0.87
195	SLE RA 6	-1	-12	645	-48.23	-53.73	-1.04
195	SLE RA 7	-1	-11	652	-48.76	-54.32	-0.95
195	SLE RA 8	-1	-12	642	-48.06	-53.54	-1.03
195	SLE RA 9	-1	-11	650	-48.59	-54.14	-0.95
195	SLE RA 10	-1	-11	700	-52.36	-58.33	-0.95
195	SLE RA 11	-1	-13	694	-51.89	-57.81	-1.11
195	SLE RA 12	-1	-12	701	-52.43	-58.41	-1.02
195	SLE RA 13	-1	-11	703	-52.62	-58.62	-0.96
195	SLE RA 14	-1	-13	697	-52.15	-58.1	-1.13
195	SLE RA 15	-1	-12	704	-52.69	-58.7	-1.04
195	SLE RA 16	-1	-13	695	-51.99	-57.92	-1.12
195	SLE RA 17	-1	-12	702	-52.52	-58.51	-1.04
195	SLE RA 18	-1	-13	711	-53.15	-59.21	-1.13
195	SLE RA 19	-1	-12	718	-53.68	-59.81	-1.04
195	SLE RA 20	-1	-13	714	-53.41	-59.5	-1.14
195	SLE RA 21	-1	-12	721	-53.94	-60.1	-1.06
195	SLE FR 1	0	-12	636	-47.54	-52.96	-1
195	SLE FR 2	0	-11	638	-47.72	-53.16	-0.97
195	SLE FR 3	0	-12	637	-47.64	-53.08	-1.01
195	SLE FR 4	-1	-12	660	-49.4	-55.04	-1.01
195	SLE FR 5	-1	-12	659	-49.33	-54.95	-1.04
195	SLE FR 6	-1	-12	673	-50.34	-56.09	-1.06
195	SLE QP 1	0	-12	636	-47.54	-52.96	-1
195	SLE QP 2	-1	-12	658	-49.22	-54.84	-1.04
195	SLD 1	61	9	740	-55.32	-61.64	5.28
195	SLD 2	74	13	747	-55.88	-62.26	6.52
195	SLD 3	59	-22	487	-36.39	-40.54	2.6
195	SLD 4	71	-18	494	-36.95	-41.17	3.84
195	SLD 5	19	40	1065	-79.67	-88.76	4.71
195	SLD 6	27	42	1070	-80.03	-89.16	5.5
195	SLD 7	12	-62	221	-16.56	-18.45	-4.22
195	SLD 8	20	-59	226	-16.92	-18.85	-3.42
195	SLD 9	-21	35	1090	-81.52	-90.82	1.35
195	SLD 10	-13	38	1095	-81.88	-91.22	2.15
195	SLD 11	-28	-66	246	-18.41	-20.51	-7.58
195	SLD 12	-21	-64	251	-18.77	-20.91	-6.78
195	SLD 13	-72	-6	822	-61.49	-68.51	-5.91
195	SLD 14	-60	-2	830	-62.05	-69.13	-4.67
195	SLD 15	-75	-37	569	-42.56	-47.41	-8.59
195	SLD 16	-63	-33	576	-43.12	-48.04	-7.35
195	SLV 1	96	23	804	-60.11	-66.97	9.02
195	SLV 2	116	29	815	-60.99	-67.95	10.97
195	SLV 3	93	-29	372	-27.81	-30.98	4.45
195	SLV 4	112	-23	384	-28.69	-31.96	6.4
195	SLV 5	31	76	1355	-101.32	-112.88	8.55
195	SLV 6	44	80	1362	-101.91	-113.54	9.86
195	SLV 7	18	-97	-85	6.36	7.09	-6.68
195	SLV 8	31	-93	-77	5.77	6.43	-5.37
195	SLV 9	-32	69	1393	-104.21	-116.1	3.3
195	SLV 10	-19	73	1401	-104.81	-116.76	4.61
195	SLV 11	-45	-104	-46	3.47	3.87	-11.93
195	SLV 12	-32	-100	-38	2.88	3.2	-10.62
195	SLV 13	-113	-1	933	-69.75	-77.71	-8.47
195	SLV 14	-94	5	944	-70.64	-78.69	-6.52
195	SLV 15	-117	-53	501	-37.45	-41.72	-13.04
195	SLV 16	-97	-47	512	-38.33	-42.7	-11.09
195	SLV FO 1	106	26	818	-61.2	-68.18	10.03
195	SLV FO 2	127	33	831	-62.17	-69.26	12.17
195	SLV FO 3	102	-31	343	-25.67	-28.59	5
195	SLV FO 4	123	-24	356	-26.64	-29.68	7.14
195	SLV FO 5	34	85	1424	-106.53	-118.68	9.51
195	SLV FO 6	48	89	1433	-107.18	-119.41	10.95
195	SLV FO 7	20	-106	-159	11.92	13.28	-7.25
195	SLV FO 8	34	-101	-151	11.27	12.55	-5.81
195	SLV FO 9	-35	77	1467	-109.71	-122.23	3.73
195	SLV FO 10	-21	82	1475	-110.36	-122.96	5.18
195	SLV FO 11	-49	-113	-117	8.74	9.74	-13.02
195	SLV FO 12	-35	-109	-108	8.09	9.01	-11.58
195	SLV FO 13	-124	0	960	-71.81	-80	-9.22
195	SLV FO 14	-103	7	973	-72.78	-81.08	-7.07
195	SLV FO 15	-128	-57	485	-36.27	-40.41	-14.24
195	SLV FO 16	-107	-50	498	-37.24	-41.49	-12.1
195	CRTFP Ux+	0	0	0	0	0	0
195	CRTFP Ux-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
195	CRTFP Uy+	0	0	0	0	0	0
195	CRTFP Uy-	0	0	0	0	0	0
196	SLU 1	0	-12	610	-45.62	-59.29	-1.2
196	SLU 2	0	-10	628	-46.95	-61.03	-0.96
196	SLU 3	-1	-12	618	-46.25	-60.12	-1.23
196	SLU 4	0	-11	629	-47.05	-61.16	-1.09
196	SLU 5	0	-10	633	-47.34	-61.53	-0.99
196	SLU 6	-1	-12	623	-46.64	-60.62	-1.26
196	SLU 7	-1	-11	634	-47.44	-61.66	-1.12
196	SLU 8	-1	-12	620	-46.38	-60.29	-1.26
196	SLU 9	-1	-11	631	-47.19	-61.33	-1.12
196	SLU 10	-1	-11	706	-52.8	-68.63	-1.12
196	SLU 11	-1	-14	697	-52.1	-67.72	-1.39
196	SLU 12	-1	-12	707	-52.9	-68.76	-1.25
196	SLU 13	-1	-11	711	-53.19	-69.13	-1.15
196	SLU 14	-1	-14	702	-52.49	-68.22	-1.42
196	SLU 15	-1	-12	712	-53.29	-69.26	-1.28
196	SLU 16	-1	-14	698	-52.24	-67.89	-1.42
196	SLU 17	-1	-12	709	-53.04	-68.94	-1.27
196	SLU 18	-1	-14	722	-53.97	-70.15	-1.43
196	SLU 19	-1	-12	732	-54.77	-71.19	-1.28
196	SLU 20	-1	-14	727	-54.36	-70.65	-1.46
196	SLU 21	-1	-13	737	-55.16	-71.69	-1.31
196	SLU 22	0	-13	689	-51.5	-66.94	-1.33
196	SLU 23	0	-11	706	-52.84	-68.68	-1.09
196	SLU 24	0	-14	697	-52.14	-67.77	-1.36
196	SLU 25	0	-12	708	-52.94	-68.81	-1.22
196	SLU 26	0	-11	712	-53.22	-69.18	-1.12
196	SLU 27	-1	-14	702	-52.52	-68.27	-1.39
196	SLU 28	-1	-12	713	-53.32	-69.31	-1.25
196	SLU 29	-1	-14	699	-52.27	-67.94	-1.39
196	SLU 30	-1	-12	710	-53.07	-68.98	-1.25
196	SLU 31	-1	-12	785	-58.69	-76.28	-1.25
196	SLU 32	-1	-15	775	-57.99	-75.37	-1.52
196	SLU 33	-1	-14	786	-58.79	-76.41	-1.38
196	SLU 34	-1	-13	790	-59.07	-76.78	-1.28
196	SLU 35	-1	-15	780	-58.37	-75.87	-1.55
196	SLU 36	-1	-14	791	-59.18	-76.91	-1.41
196	SLU 37	-1	-15	777	-58.12	-75.54	-1.55
196	SLU 38	-1	-14	788	-58.92	-76.59	-1.4
196	SLU 39	-1	-15	800	-59.86	-77.8	-1.55
196	SLU 40	-1	-14	811	-60.66	-78.84	-1.41
196	SLU 41	-1	-16	805	-60.24	-78.3	-1.58
196	SLU 42	-1	-14	816	-61.05	-79.34	-1.44
196	SLU 43	-1	-15	766	-57.28	-74.45	-1.51
196	SLU 44	-1	-13	784	-58.62	-76.19	-1.27
196	SLU 45	-1	-15	774	-57.92	-75.28	-1.55
196	SLU 46	-1	-14	785	-58.72	-76.32	-1.41
196	SLU 47	-1	-13	789	-59	-76.69	-1.31
196	SLU 48	-1	-16	779	-58.3	-75.78	-1.58
196	SLU 49	-1	-14	790	-59.11	-76.82	-1.44
196	SLU 50	-1	-15	776	-58.05	-75.45	-1.57
196	SLU 51	-1	-14	787	-58.85	-76.5	-1.43
196	SLU 52	-1	-14	862	-64.47	-83.79	-1.43
196	SLU 53	-1	-17	853	-63.77	-82.88	-1.71
196	SLU 54	-1	-15	863	-64.57	-83.93	-1.57
196	SLU 55	-1	-14	867	-64.85	-84.29	-1.46
196	SLU 56	-1	-17	858	-64.15	-83.38	-1.74
196	SLU 57	-1	-16	868	-64.96	-84.43	-1.6
196	SLU 58	-1	-17	854	-63.9	-83.06	-1.73
196	SLU 59	-1	-15	865	-64.7	-84.1	-1.59
196	SLU 60	-1	-17	878	-65.64	-85.32	-1.74
196	SLU 61	-1	-16	888	-66.44	-86.36	-1.6
196	SLU 62	-1	-17	883	-66.02	-85.82	-1.77
196	SLU 63	-1	-16	893	-66.83	-86.86	-1.63
196	SLU 64	-1	-16	844	-63.17	-82.1	-1.64
196	SLU 65	0	-14	862	-64.5	-83.84	-1.4
196	SLU 66	-1	-17	853	-63.8	-82.93	-1.68
196	SLU 67	-1	-15	864	-64.61	-83.97	-1.54
196	SLU 68	-1	-14	868	-64.89	-84.34	-1.43
196	SLU 69	-1	-17	858	-64.19	-83.43	-1.71
196	SLU 70	-1	-16	869	-64.99	-84.47	-1.57
196	SLU 71	-1	-17	855	-63.94	-83.1	-1.7
196	SLU 72	-1	-16	865	-64.74	-84.15	-1.56
196	SLU 73	-1	-15	941	-70.35	-91.44	-1.56
196	SLU 74	-1	-18	931	-69.65	-90.53	-1.84
196	SLU 75	-1	-17	942	-70.46	-91.58	-1.69
196	SLU 76	-1	-16	946	-70.74	-91.94	-1.59
196	SLU 77	-1	-18	936	-70.04	-91.03	-1.87
196	SLU 78	-1	-17	947	-70.84	-92.08	-1.73
196	SLU 79	-1	-18	933	-69.79	-90.71	-1.86
196	SLU 80	-1	-17	944	-70.59	-91.75	-1.72
196	SLU 81	-1	-18	956	-71.52	-92.96	-1.87
196	SLU 82	-1	-17	967	-72.33	-94.01	-1.73
196	SLU 83	-1	-19	961	-71.91	-93.47	-1.9
196	SLU 84	-1	-17	972	-72.71	-94.51	-1.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
196	SLE RA 1	0	-12	632	-47.3	-61.47	-1.23
196	SLE RA 2	0	-11	644	-48.19	-62.63	-1.08
196	SLE RA 3	-1	-13	638	-47.72	-62.03	-1.26
196	SLE RA 4	0	-12	645	-48.26	-62.72	-1.16
196	SLE RA 5	0	-11	648	-48.44	-62.97	-1.1
196	SLE RA 6	-1	-13	641	-47.98	-62.36	-1.28
196	SLE RA 7	-1	-12	649	-48.51	-63.06	-1.18
196	SLE RA 8	-1	-13	639	-47.81	-62.14	-1.28
196	SLE RA 9	-1	-12	646	-48.34	-62.84	-1.18
196	SLE RA 10	-1	-12	696	-52.09	-67.7	-1.18
196	SLE RA 11	-1	-13	690	-51.62	-67.1	-1.37
196	SLE RA 12	-1	-13	697	-52.16	-67.79	-1.27
196	SLE RA 13	-1	-12	700	-52.34	-68.04	-1.2
196	SLE RA 14	-1	-14	694	-51.88	-67.43	-1.39
196	SLE RA 15	-1	-13	701	-52.41	-68.12	-1.29
196	SLE RA 16	-1	-14	691	-51.71	-67.21	-1.38
196	SLE RA 17	-1	-13	698	-52.24	-67.91	-1.29
196	SLE RA 18	-1	-14	707	-52.87	-68.72	-1.39
196	SLE RA 19	-1	-13	714	-53.4	-69.41	-1.29
196	SLE RA 20	-1	-14	710	-53.12	-69.05	-1.41
196	SLE RA 21	-1	-13	717	-53.66	-69.74	-1.31
196	SLE FR 1	0	-12	632	-47.3	-61.47	-1.23
196	SLE FR 2	0	-12	635	-47.48	-61.71	-1.2
196	SLE FR 3	0	-12	634	-47.4	-61.61	-1.24
196	SLE FR 4	-1	-12	657	-49.15	-63.88	-1.25
196	SLE FR 5	-1	-13	656	-49.07	-63.78	-1.29
196	SLE FR 6	-1	-13	670	-50.08	-65.1	-1.31
196	SLE QP 1	0	-12	632	-47.3	-61.47	-1.23
196	SLE QP 2	-1	-13	655	-48.97	-63.65	-1.28
196	SLD 1	61	9	732	-54.77	-71.18	5.33
196	SLD 2	73	13	740	-55.37	-71.97	6.66
196	SLD 3	59	-21	479	-35.87	-46.62	2.31
196	SLD 4	71	-17	488	-36.47	-47.41	3.64
196	SLD 5	19	38	1060	-79.27	-103.03	5.06
196	SLD 6	27	41	1065	-79.66	-103.54	5.91
196	SLD 7	12	-61	217	-16.27	-21.14	-5.02
196	SLD 8	19	-58	223	-16.66	-21.65	-4.16
196	SLD 9	-20	32	1087	-81.28	-105.64	1.6
196	SLD 10	-13	35	1092	-81.67	-106.15	2.46
196	SLD 11	-28	-66	244	-18.28	-23.76	-8.47
196	SLD 12	-20	-63	250	-18.67	-24.26	-7.62
196	SLD 13	-72	-9	822	-61.46	-79.89	-6.2
196	SLD 14	-60	-5	830	-62.07	-80.68	-4.87
196	SLD 15	-74	-39	569	-42.56	-55.32	-9.22
196	SLD 16	-62	-34	577	-43.17	-56.11	-7.89
196	SLV 1	96	23	794	-59.38	-77.18	9.26
196	SLV 2	114	30	807	-60.34	-78.43	11.35
196	SLV 3	92	-28	363	-27.13	-35.27	4.1
196	SLV 4	110	-21	376	-28.09	-36.51	6.2
196	SLV 5	31	73	1348	-100.82	-131.05	9.32
196	SLV 6	44	78	1357	-101.47	-131.88	10.72
196	SLV 7	18	-95	-89	6.67	8.67	-7.88
196	SLV 8	30	-90	-81	6.03	7.83	-6.47
196	SLV 9	-31	65	1390	-103.96	-135.13	3.91
196	SLV 10	-19	70	1398	-104.61	-135.97	5.32
196	SLV 11	-45	-103	-47	3.53	4.59	-13.28
196	SLV 12	-32	-99	-39	2.89	3.75	-11.88
196	SLV 13	-112	-5	934	-69.85	-90.78	-8.76
196	SLV 14	-93	2	947	-70.8	-92.03	-6.67
196	SLV 15	-116	-55	503	-37.6	-48.87	-13.92
196	SLV 16	-97	-48	515	-38.55	-50.11	-11.82
196	SLV FO 1	105	26	808	-60.42	-78.54	10.32
196	SLV FO 2	126	34	822	-61.48	-79.9	12.62
196	SLV FO 3	101	-29	334	-24.95	-32.43	4.64
196	SLV FO 4	122	-22	348	-26	-33.8	6.94
196	SLV FO 5	34	82	1417	-106.01	-137.79	10.38
196	SLV FO 6	48	87	1427	-106.72	-138.71	11.92
196	SLV FO 7	19	-103	-164	12.24	15.9	-8.54
196	SLV FO 8	33	-98	-154	11.53	14.98	-6.99
196	SLV FO 9	-34	73	1463	-109.46	-142.28	4.43
196	SLV FO 10	-20	78	1473	-110.17	-143.2	5.98
196	SLV FO 11	-49	-112	-117	8.78	11.41	-14.49
196	SLV FO 12	-35	-107	-108	8.07	10.49	-12.94
196	SLV FO 13	-123	-4	962	-71.93	-93.5	-9.5
196	SLV FO 14	-102	4	976	-72.99	-94.86	-7.2
196	SLV FO 15	-127	-59	487	-36.46	-47.39	-15.18
196	SLV FO 16	-106	-52	502	-37.51	-48.76	-12.88
196	CRTFP Ux+	0	0	0	0	0	0
196	CRTFP Ux-	0	0	0	0	0	0
196	CRTFP Uy+	0	0	0	0	0	0
196	CRTFP Uy-	0	0	0	0	0	0
197	SLU 1	0	-13	608	-45.44	-67.5	-1.46
197	SLU 2	0	-11	625	-46.78	-69.49	-1.2
197	SLU 3	-1	-13	616	-46.08	-68.44	-1.51
197	SLU 4	-1	-12	627	-46.88	-69.64	-1.35
197	SLU 5	0	-11	631	-47.16	-70.06	-1.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLU 6	-1	-13	621	-46.46	-69.01	-1.54
197	SLU 7	-1	-12	632	-47.26	-70.2	-1.38
197	SLU 8	-1	-13	618	-46.21	-68.63	-1.53
197	SLU 9	-1	-12	628	-47.01	-69.83	-1.38
197	SLU 10	-1	-12	703	-52.61	-78.14	-1.39
197	SLU 11	-1	-15	694	-51.9	-77.09	-1.7
197	SLU 12	-1	-13	705	-52.7	-78.29	-1.54
197	SLU 13	-1	-12	708	-52.99	-78.71	-1.43
197	SLU 14	-1	-15	699	-52.28	-77.66	-1.73
197	SLU 15	-1	-13	710	-53.08	-78.85	-1.57
197	SLU 16	-1	-15	696	-52.03	-77.28	-1.72
197	SLU 17	-1	-13	706	-52.83	-78.48	-1.56
197	SLU 18	-1	-15	719	-53.76	-79.86	-1.73
197	SLU 19	-1	-14	729	-54.56	-81.05	-1.58
197	SLU 20	-1	-15	724	-54.14	-80.42	-1.77
197	SLU 21	-1	-14	735	-54.94	-81.62	-1.61
197	SLU 22	0	-14	686	-51.33	-76.25	-1.62
197	SLU 23	0	-12	704	-52.67	-78.24	-1.36
197	SLU 24	-1	-15	695	-51.97	-77.19	-1.66
197	SLU 25	0	-13	705	-52.77	-78.39	-1.51
197	SLU 26	0	-12	709	-53.05	-78.81	-1.39
197	SLU 27	-1	-15	700	-52.35	-77.76	-1.7
197	SLU 28	-1	-14	711	-53.15	-78.95	-1.54
197	SLU 29	-1	-15	696	-52.09	-77.38	-1.69
197	SLU 30	-1	-13	707	-52.9	-78.58	-1.53
197	SLU 31	-1	-14	782	-58.49	-86.89	-1.55
197	SLU 32	-1	-16	773	-57.79	-85.84	-1.85
197	SLU 33	-1	-15	783	-58.59	-87.03	-1.7
197	SLU 34	-1	-14	787	-58.88	-87.46	-1.58
197	SLU 35	-1	-16	778	-58.17	-86.41	-1.89
197	SLU 36	-1	-15	788	-58.97	-87.6	-1.73
197	SLU 37	-1	-16	774	-57.92	-86.03	-1.88
197	SLU 38	-1	-15	785	-58.72	-87.23	-1.72
197	SLU 39	-1	-16	797	-59.65	-88.61	-1.89
197	SLU 40	-1	-15	808	-60.45	-89.8	-1.73
197	SLU 41	-1	-17	803	-60.03	-89.17	-1.93
197	SLU 42	-1	-15	813	-60.83	-90.37	-1.77
197	SLU 43	-1	-16	763	-57.06	-84.75	-1.85
197	SLU 44	-1	-14	781	-58.4	-86.75	-1.59
197	SLU 45	-1	-16	771	-57.69	-85.7	-1.89
197	SLU 46	-1	-15	782	-58.49	-86.89	-1.73
197	SLU 47	-1	-14	786	-58.78	-87.31	-1.62
197	SLU 48	-1	-17	776	-58.07	-86.26	-1.93
197	SLU 49	-1	-15	787	-58.88	-87.46	-1.77
197	SLU 50	-1	-17	773	-57.82	-85.89	-1.92
197	SLU 51	-1	-15	784	-58.62	-87.08	-1.76
197	SLU 52	-1	-15	859	-64.22	-95.39	-1.78
197	SLU 53	-1	-18	849	-63.51	-94.34	-2.08
197	SLU 54	-1	-17	860	-64.32	-95.54	-1.92
197	SLU 55	-1	-16	864	-64.6	-95.96	-1.81
197	SLU 56	-1	-18	854	-63.89	-94.91	-2.11
197	SLU 57	-1	-17	865	-64.7	-96.1	-1.96
197	SLU 58	-1	-18	851	-63.64	-94.53	-2.11
197	SLU 59	-1	-17	862	-64.44	-95.73	-1.95
197	SLU 60	-1	-18	874	-65.37	-97.11	-2.12
197	SLU 61	-1	-17	885	-66.18	-98.3	-1.96
197	SLU 62	-1	-18	879	-65.75	-97.67	-2.15
197	SLU 63	-1	-17	890	-66.56	-98.87	-2
197	SLU 64	-1	-18	842	-62.95	-93.5	-2.01
197	SLU 65	0	-15	859	-64.29	-95.49	-1.74
197	SLU 66	-1	-18	850	-63.58	-94.44	-2.05
197	SLU 67	-1	-17	861	-64.38	-95.64	-1.89
197	SLU 68	-1	-16	865	-64.67	-96.06	-1.78
197	SLU 69	-1	-18	855	-63.96	-95.01	-2.08
197	SLU 70	-1	-17	866	-64.77	-96.2	-1.93
197	SLU 71	-1	-18	852	-63.71	-94.63	-2.08
197	SLU 72	-1	-17	862	-64.51	-95.83	-1.92
197	SLU 73	-1	-17	937	-70.11	-104.14	-1.93
197	SLU 74	-1	-19	928	-69.4	-103.09	-2.24
197	SLU 75	-1	-18	939	-70.21	-104.29	-2.08
197	SLU 76	-1	-17	942	-70.49	-104.71	-1.97
197	SLU 77	-1	-20	933	-69.78	-103.66	-2.27
197	SLU 78	-1	-18	944	-70.59	-104.85	-2.12
197	SLU 79	-1	-20	930	-69.53	-103.28	-2.26
197	SLU 80	-1	-18	940	-70.33	-104.48	-2.11
197	SLU 81	-1	-20	953	-71.26	-105.86	-2.28
197	SLU 82	-1	-18	963	-72.07	-107.05	-2.12
197	SLU 83	-1	-20	958	-71.64	-106.42	-2.31
197	SLU 84	-1	-19	969	-72.45	-107.62	-2.15
197	SLE RA 1	0	-13	630	-47.13	-70	-1.51
197	SLE RA 2	0	-12	642	-48.02	-71.33	-1.33
197	SLE RA 3	-1	-13	636	-47.55	-70.63	-1.54
197	SLE RA 4	0	-13	643	-48.08	-71.43	-1.43
197	SLE RA 5	0	-12	645	-48.27	-71.71	-1.36
197	SLE RA 6	-1	-14	639	-47.8	-71.01	-1.56
197	SLE RA 7	-1	-13	646	-48.34	-71.8	-1.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLE RA 8	-1	-14	637	-47.63	-70.76	-1.56
197	SLE RA 9	-1	-13	644	-48.17	-71.55	-1.45
197	SLE RA 10	-1	-13	694	-51.9	-77.1	-1.46
197	SLE RA 11	-1	-14	688	-51.43	-76.39	-1.66
197	SLE RA 12	-1	-14	695	-51.97	-77.19	-1.56
197	SLE RA 13	-1	-13	697	-52.15	-77.47	-1.48
197	SLE RA 14	-1	-15	691	-51.68	-76.77	-1.69
197	SLE RA 15	-1	-14	698	-52.22	-77.57	-1.58
197	SLE RA 16	-1	-15	689	-51.51	-76.52	-1.68
197	SLE RA 17	-1	-14	696	-52.05	-77.32	-1.58
197	SLE RA 18	-1	-15	704	-52.67	-78.24	-1.69
197	SLE RA 19	-1	-14	711	-53.21	-79.04	-1.58
197	SLE RA 20	-1	-15	708	-52.92	-78.62	-1.71
197	SLE RA 21	-1	-14	715	-53.46	-79.41	-1.61
197	SLE FR 1	0	-13	630	-47.13	-70	-1.51
197	SLE FR 2	0	-13	632	-47.3	-70.27	-1.47
197	SLE FR 3	-1	-13	631	-47.23	-70.15	-1.52
197	SLE FR 4	-1	-13	655	-48.97	-72.74	-1.53
197	SLE FR 5	-1	-14	654	-48.89	-72.62	-1.57
197	SLE FR 6	-1	-14	667	-49.9	-74.12	-1.6
197	SLE QP 1	0	-13	630	-47.13	-70	-1.51
197	SLE QP 2	-1	-14	652	-48.79	-72.47	-1.56
197	SLD 1	60	8	726	-54.31	-80.67	5.37
197	SLD 2	72	13	735	-54.96	-81.64	6.8
197	SLD 3	58	-20	473	-35.41	-52.6	2.03
197	SLD 4	70	-16	482	-36.06	-53.56	3.46
197	SLD 5	19	36	1056	-79	-117.35	5.34
197	SLD 6	27	39	1062	-79.42	-117.97	6.26
197	SLD 7	11	-60	214	-16	-23.76	-5.8
197	SLD 8	19	-57	219	-16.42	-24.39	-4.88
197	SLD 9	-20	30	1085	-81.16	-120.56	1.75
197	SLD 10	-12	33	1091	-81.58	-121.19	2.67
197	SLD 11	-28	-66	243	-18.16	-26.98	-9.39
197	SLD 12	-20	-63	248	-18.58	-27.6	-8.46
197	SLD 13	-71	-12	822	-61.52	-91.38	-6.59
197	SLD 14	-59	-7	831	-62.17	-92.35	-5.16
197	SLD 15	-73	-41	570	-42.62	-63.31	-9.93
197	SLD 16	-61	-36	578	-43.27	-64.28	-8.5
197	SLV 1	95	23	786	-58.77	-87.3	9.51
197	SLV 2	113	30	799	-59.8	-88.82	11.76
197	SLV 3	91	-26	355	-26.52	-39.39	3.81
197	SLV 4	109	-19	368	-27.55	-40.92	6.06
197	SLV 5	31	70	1344	-100.5	-149.29	9.98
197	SLV 6	43	75	1353	-101.19	-150.32	11.5
197	SLV 7	17	-93	-94	7	10.39	-9.02
197	SLV 8	30	-88	-84	6.3	9.36	-7.5
197	SLV 9	-31	61	1389	-103.88	-154.31	4.38
197	SLV 10	-18	66	1398	-104.57	-155.34	5.89
197	SLV 11	-44	-103	-48	3.62	5.37	-14.63
197	SLV 12	-32	-97	-39	2.92	4.34	-13.11
197	SLV 13	-110	-9	936	-70.03	-104.03	-9.19
197	SLV 14	-92	-1	950	-71.06	-105.55	-6.93
197	SLV 15	-114	-58	505	-37.78	-56.12	-14.89
197	SLV 16	-96	-50	519	-38.81	-57.65	-12.63
197	SLV FO 1	104	26	799	-59.77	-88.78	10.61
197	SLV FO 2	125	35	814	-60.9	-90.46	13.1
197	SLV FO 3	100	-28	325	-24.29	-36.08	4.34
197	SLV FO 4	120	-19	340	-25.42	-37.77	6.83
197	SLV FO 5	34	79	1413	-105.67	-156.97	11.14
197	SLV FO 6	48	84	1423	-106.44	-158.1	12.81
197	SLV FO 7	19	-101	-168	12.57	18.68	-9.77
197	SLV FO 8	33	-95	-158	11.81	17.55	-8.09
197	SLV FO 9	-34	68	1462	-109.39	-162.49	4.97
197	SLV FO 10	-20	74	1473	-110.15	-163.62	6.64
197	SLV FO 11	-49	-112	-118	8.86	13.16	-15.94
197	SLV FO 12	-35	-106	-108	8.09	12.02	-14.26
197	SLV FO 13	-121	-8	965	-72.15	-107.18	-9.95
197	SLV FO 14	-101	0	980	-73.29	-108.86	-7.47
197	SLV FO 15	-126	-62	490	-36.68	-54.49	-16.22
197	SLV FO 16	-105	-54	506	-37.81	-56.17	-13.74
197	CRTFP Ux+	0	0	0	0	0	0
197	CRTFP Ux-	0	0	0	0	0	0
197	CRTFP Uy+	0	0	0	0	0	0
197	CRTFP Uy-	0	0	0	0	0	0
198	SLU 1	0	-7	299	-22.39	-37.42	-0.87
198	SLU 2	0	-6	308	-23.06	-38.53	-0.73
198	SLU 3	0	-7	304	-22.7	-37.94	-0.89
198	SLU 4	0	-6	309	-23.1	-38.6	-0.81
198	SLU 5	0	-6	311	-23.24	-38.84	-0.75
198	SLU 6	0	-7	306	-22.89	-38.25	-0.91
198	SLU 7	0	-6	311	-23.29	-38.92	-0.83
198	SLU 8	0	-7	304	-22.76	-38.04	-0.91
198	SLU 9	0	-6	310	-23.16	-38.71	-0.82
198	SLU 10	0	-6	347	-25.92	-43.32	-0.84
198	SLU 11	0	-8	342	-25.57	-42.73	-1
198	SLU 12	0	-7	347	-25.97	-43.39	-0.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
198	SLU 13	0	-7	349	-26.11	-43.63	-0.86
198	SLU 14	-1	-8	344	-25.76	-43.04	-1.02
198	SLU 15	0	-7	350	-26.15	-43.71	-0.94
198	SLU 16	-1	-8	343	-25.63	-42.83	-1.02
198	SLU 17	0	-7	348	-26.03	-43.5	-0.93
198	SLU 18	0	-8	354	-26.49	-44.26	-1.02
198	SLU 19	0	-7	359	-26.88	-44.93	-0.94
198	SLU 20	-1	-8	357	-26.67	-44.57	-1.04
198	SLU 21	-1	-7	362	-27.07	-45.24	-0.96
198	SLU 22	0	-8	338	-25.31	-42.29	-0.96
198	SLU 23	0	-6	347	-25.97	-43.4	-0.82
198	SLU 24	0	-8	342	-25.62	-42.81	-0.98
198	SLU 25	0	-7	348	-26.02	-43.48	-0.9
198	SLU 26	0	-7	350	-26.16	-43.71	-0.84
198	SLU 27	0	-8	345	-25.81	-43.12	-1
198	SLU 28	0	-7	350	-26.2	-43.79	-0.92
198	SLU 29	0	-8	343	-25.68	-42.92	-1
198	SLU 30	0	-7	349	-26.08	-43.58	-0.92
198	SLU 31	0	-7	386	-28.84	-48.19	-0.93
198	SLU 32	0	-9	381	-28.49	-47.6	-1.09
198	SLU 33	0	-8	386	-28.88	-48.27	-1.01
198	SLU 34	0	-7	388	-29.02	-48.5	-0.95
198	SLU 35	0	-9	383	-28.67	-47.91	-1.11
198	SLU 36	0	-8	389	-29.07	-48.58	-1.03
198	SLU 37	0	-9	382	-28.55	-47.71	-1.11
198	SLU 38	0	-8	387	-28.95	-48.37	-1.02
198	SLU 39	0	-9	393	-29.4	-49.13	-1.12
198	SLU 40	0	-8	398	-29.8	-49.8	-1.03
198	SLU 41	0	-9	396	-29.59	-49.45	-1.14
198	SLU 42	0	-8	401	-29.99	-50.11	-1.05
198	SLU 43	0	-9	376	-28.11	-46.97	-1.1
198	SLU 44	0	-7	385	-28.77	-48.08	-0.96
198	SLU 45	0	-9	380	-28.42	-47.49	-1.12
198	SLU 46	0	-8	385	-28.82	-48.16	-1.04
198	SLU 47	0	-8	387	-28.96	-48.39	-0.97
198	SLU 48	0	-9	382	-28.61	-47.8	-1.14
198	SLU 49	0	-8	388	-29	-48.47	-1.06
198	SLU 50	0	-9	381	-28.48	-47.6	-1.13
198	SLU 51	0	-8	386	-28.88	-48.26	-1.05
198	SLU 52	0	-8	423	-31.64	-52.87	-1.06
198	SLU 53	-1	-9	418	-31.29	-52.28	-1.23
198	SLU 54	-1	-9	424	-31.68	-52.95	-1.15
198	SLU 55	0	-8	425	-31.83	-53.18	-1.08
198	SLU 56	-1	-10	421	-31.47	-52.59	-1.25
198	SLU 57	-1	-9	426	-31.87	-53.26	-1.16
198	SLU 58	-1	-10	419	-31.35	-52.39	-1.24
198	SLU 59	-1	-9	424	-31.75	-53.05	-1.16
198	SLU 60	-1	-10	431	-32.2	-53.81	-1.25
198	SLU 61	-1	-9	436	-32.6	-54.48	-1.17
198	SLU 62	-1	-10	433	-32.39	-54.13	-1.27
198	SLU 63	-1	-9	438	-32.79	-54.79	-1.19
198	SLU 64	0	-9	415	-31.02	-51.85	-1.19
198	SLU 65	0	-8	424	-31.69	-52.96	-1.05
198	SLU 66	0	-10	419	-31.34	-52.37	-1.21
198	SLU 67	0	-9	424	-31.73	-53.03	-1.13
198	SLU 68	0	-8	426	-31.88	-53.27	-1.07
198	SLU 69	0	-10	421	-31.52	-52.68	-1.23
198	SLU 70	0	-9	427	-31.92	-53.34	-1.15
198	SLU 71	0	-10	420	-31.4	-52.47	-1.23
198	SLU 72	0	-9	425	-31.8	-53.14	-1.14
198	SLU 73	0	-9	462	-34.56	-57.75	-1.16
198	SLU 74	-1	-10	457	-34.2	-57.16	-1.32
198	SLU 75	0	-10	463	-34.6	-57.82	-1.24
198	SLU 76	0	-9	464	-34.74	-58.06	-1.18
198	SLU 77	-1	-10	460	-34.39	-57.47	-1.34
198	SLU 78	-1	-10	465	-34.79	-58.13	-1.26
198	SLU 79	-1	-10	458	-34.26	-57.26	-1.34
198	SLU 80	-1	-10	463	-34.66	-57.93	-1.25
198	SLU 81	-1	-10	470	-35.12	-58.69	-1.34
198	SLU 82	0	-10	475	-35.52	-59.36	-1.26
198	SLU 83	-1	-11	472	-35.31	-59	-1.36
198	SLU 84	-1	-10	477	-35.7	-59.67	-1.28
198	SLE RA 1	0	-7	310	-23.22	-38.81	-0.89
198	SLE RA 2	0	-6	316	-23.67	-39.55	-0.8
198	SLE RA 3	0	-7	313	-23.43	-39.16	-0.91
198	SLE RA 4	0	-7	317	-23.7	-39.6	-0.85
198	SLE RA 5	0	-6	318	-23.79	-39.76	-0.81
198	SLE RA 6	0	-7	315	-23.56	-39.37	-0.92
198	SLE RA 7	0	-7	318	-23.82	-39.81	-0.87
198	SLE RA 8	0	-7	314	-23.47	-39.23	-0.92
198	SLE RA 9	0	-7	317	-23.74	-39.67	-0.86
198	SLE RA 10	0	-7	342	-25.58	-42.74	-0.87
198	SLE RA 11	0	-8	339	-25.34	-42.35	-0.98
198	SLE RA 12	0	-7	342	-25.61	-42.79	-0.93
198	SLE RA 13	0	-7	344	-25.7	-42.95	-0.89
198	SLE RA 14	0	-8	340	-25.47	-42.56	-1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
198	SLE RA 15	0	-7	344	-25.73	-43	-0.94
198	SLE RA 16	0	-8	339	-25.38	-42.42	-0.99
198	SLE RA 17	0	-7	343	-25.65	-42.86	-0.94
198	SLE RA 18	0	-8	347	-25.95	-43.37	-1
198	SLE RA 19	0	-7	351	-26.22	-43.82	-0.94
198	SLE RA 20	0	-8	349	-26.08	-43.58	-1.01
198	SLE RA 21	0	-7	352	-26.34	-44.02	-0.95
198	SLE FR 1	0	-7	310	-23.22	-38.81	-0.89
198	SLE FR 2	0	-7	312	-23.31	-38.96	-0.88
198	SLE FR 3	0	-7	311	-23.27	-38.89	-0.9
198	SLE FR 4	0	-7	323	-24.13	-40.33	-0.91
198	SLE FR 5	0	-7	322	-24.09	-40.26	-0.93
198	SLE FR 6	0	-7	329	-24.59	-41.09	-0.95
198	SLE QP 1	0	-7	310	-23.22	-38.81	-0.89
198	SLE QP 2	0	-7	321	-24.04	-40.18	-0.92
198	SLD 1	29	4	356	-26.64	-44.52	2.67
198	SLD 2	35	7	361	-26.99	-45.1	3.44
198	SLD 3	28	-10	231	-17.3	-28.91	0.88
198	SLD 4	34	-7	236	-17.64	-29.49	1.64
198	SLD 5	9	17	521	-38.93	-65.06	2.74
198	SLD 6	13	18	523	-39.16	-65.43	3.23
198	SLD 7	6	-29	104	-7.79	-13.02	-3.23
198	SLD 8	9	-28	107	-8.01	-13.39	-2.74
198	SLD 9	-10	13	536	-40.07	-66.97	0.89
198	SLD 10	-6	15	539	-40.3	-67.34	1.38
198	SLD 11	-14	-33	119	-8.93	-14.92	-5.08
198	SLD 12	-10	-31	122	-9.15	-15.29	-4.59
198	SLD 13	-35	-7	407	-30.44	-50.87	-3.49
198	SLD 14	-29	-5	412	-30.79	-51.45	-2.73
198	SLD 15	-36	-21	282	-21.1	-35.26	-5.29
198	SLD 16	-30	-18	287	-21.44	-35.83	-4.52
198	SLV 1	46	11	385	-28.78	-48.09	4.82
198	SLV 2	55	15	392	-29.32	-49	6.02
198	SLV 3	44	-12	172	-12.84	-21.45	1.76
198	SLV 4	53	-8	179	-13.38	-22.36	2.96
198	SLV 5	15	33	662	-49.54	-82.79	5.21
198	SLV 6	21	36	667	-49.91	-83.4	6.03
198	SLV 7	8	-45	-48	3.6	6.01	-4.99
198	SLV 8	15	-42	-43	3.23	5.4	-4.17
198	SLV 9	-15	28	686	-51.32	-85.76	2.32
198	SLV 10	-9	31	691	-51.68	-86.37	3.14
198	SLV 11	-22	-50	-24	1.82	3.04	-7.88
198	SLV 12	-15	-48	-19	1.45	2.43	-7.06
198	SLV 13	-54	-6	464	-34.71	-58	-4.81
198	SLV 14	-45	-2	471	-35.25	-58.91	-3.61
198	SLV 15	-56	-30	251	-18.77	-31.36	-7.87
198	SLV 16	-47	-26	258	-19.31	-32.27	-6.67
198	SLV FO 1	51	13	391	-29.25	-48.88	5.39
198	SLV FO 2	61	18	399	-29.85	-49.88	6.72
198	SLV FO 3	49	-13	157	-11.71	-19.58	2.03
198	SLV FO 4	59	-8	165	-12.31	-20.58	3.35
198	SLV FO 5	16	37	696	-52.09	-87.05	5.83
198	SLV FO 6	23	40	702	-52.49	-87.72	6.72
198	SLV FO 7	9	-49	-85	6.36	10.63	-5.39
198	SLV FO 8	16	-46	-80	5.96	9.96	-4.5
198	SLV FO 9	-17	31	723	-54.05	-90.32	2.65
198	SLV FO 10	-10	34	728	-54.45	-90.99	3.54
198	SLV FO 11	-24	-55	-59	4.41	7.36	-8.57
198	SLV FO 12	-17	-52	-54	4	6.69	-7.68
198	SLV FO 13	-59	-6	478	-35.77	-59.78	-5.2
198	SLV FO 14	-49	-2	486	-36.37	-60.78	-3.88
198	SLV FO 15	-61	-32	244	-18.24	-30.48	-8.57
198	SLV FO 16	-51	-28	252	-18.84	-31.48	-7.24
198	CRTFP Ux+	0	0	0	0	0	0
198	CRTFP Ux-	0	0	0	0	0	0
198	CRTFP Uy+	0	0	0	0	0	0
198	CRTFP Uy-	0	0	0	0	0	0
200	SLU 1	-3	-18	932	0	0	0
200	SLU 2	-4	-14	958	0	0	0
200	SLU 3	-3	-18	947	0	0	0
200	SLU 4	-4	-16	962	0	0	0
200	SLU 5	-4	-15	967	0	0	0
200	SLU 6	-4	-18	956	0	0	0
200	SLU 7	-4	-16	971	0	0	0
200	SLU 8	-3	-18	950	0	0	0
200	SLU 9	-4	-16	966	0	0	0
200	SLU 10	-3	-16	1081	0	0	0
200	SLU 11	-3	-20	1070	0	0	0
200	SLU 12	-3	-18	1085	0	0	0
200	SLU 13	-3	-17	1090	0	0	0
200	SLU 14	-3	-20	1079	0	0	0
200	SLU 15	-3	-18	1094	0	0	0
200	SLU 16	-3	-20	1073	0	0	0
200	SLU 17	-3	-18	1089	0	0	0
200	SLU 18	-3	-21	1108	0	0	0
200	SLU 19	-3	-19	1124	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
200	SLU 20	-3	-21	1117	0	0	0
200	SLU 21	-3	-19	1133	0	0	0
200	SLU 22	-4	-20	1057	0	0	0
200	SLU 23	-4	-17	1083	0	0	0
200	SLU 24	-4	-20	1072	0	0	0
200	SLU 25	-4	-18	1087	0	0	0
200	SLU 26	-4	-17	1092	0	0	0
200	SLU 27	-4	-21	1080	0	0	0
200	SLU 28	-4	-19	1096	0	0	0
200	SLU 29	-4	-21	1075	0	0	0
200	SLU 30	-4	-18	1091	0	0	0
200	SLU 31	-4	-18	1206	0	0	0
200	SLU 32	-4	-22	1194	0	0	0
200	SLU 33	-4	-20	1210	0	0	0
200	SLU 34	-4	-19	1215	0	0	0
200	SLU 35	-4	-23	1203	0	0	0
200	SLU 36	-4	-21	1219	0	0	0
200	SLU 37	-4	-23	1198	0	0	0
200	SLU 38	-4	-20	1214	0	0	0
200	SLU 39	-3	-23	1233	0	0	0
200	SLU 40	-3	-21	1249	0	0	0
200	SLU 41	-3	-23	1242	0	0	0
200	SLU 42	-4	-21	1257	0	0	0
200	SLU 43	-4	-22	1169	0	0	0
200	SLU 44	-4	-19	1195	0	0	0
200	SLU 45	-4	-23	1183	0	0	0
200	SLU 46	-4	-21	1199	0	0	0
200	SLU 47	-4	-19	1204	0	0	0
200	SLU 48	-4	-23	1192	0	0	0
200	SLU 49	-4	-21	1208	0	0	0
200	SLU 50	-4	-23	1187	0	0	0
200	SLU 51	-4	-21	1203	0	0	0
200	SLU 52	-4	-21	1318	0	0	0
200	SLU 53	-4	-25	1306	0	0	0
200	SLU 54	-4	-23	1322	0	0	0
200	SLU 55	-4	-21	1327	0	0	0
200	SLU 56	-4	-25	1315	0	0	0
200	SLU 57	-4	-23	1331	0	0	0
200	SLU 58	-4	-25	1310	0	0	0
200	SLU 59	-4	-23	1326	0	0	0
200	SLU 60	-4	-25	1345	0	0	0
200	SLU 61	-4	-23	1360	0	0	0
200	SLU 62	-4	-26	1354	0	0	0
200	SLU 63	-4	-23	1369	0	0	0
200	SLU 64	-5	-25	1294	0	0	0
200	SLU 65	-5	-21	1320	0	0	0
200	SLU 66	-5	-25	1308	0	0	0
200	SLU 67	-5	-23	1324	0	0	0
200	SLU 68	-5	-21	1329	0	0	0
200	SLU 69	-5	-25	1317	0	0	0
200	SLU 70	-5	-23	1333	0	0	0
200	SLU 71	-5	-25	1312	0	0	0
200	SLU 72	-5	-23	1328	0	0	0
200	SLU 73	-4	-23	1443	0	0	0
200	SLU 74	-4	-27	1431	0	0	0
200	SLU 75	-4	-25	1447	0	0	0
200	SLU 76	-5	-23	1452	0	0	0
200	SLU 77	-4	-27	1440	0	0	0
200	SLU 78	-5	-25	1456	0	0	0
200	SLU 79	-4	-27	1435	0	0	0
200	SLU 80	-5	-25	1451	0	0	0
200	SLU 81	-4	-27	1470	0	0	0
200	SLU 82	-4	-25	1485	0	0	0
200	SLU 83	-4	-28	1479	0	0	0
200	SLU 84	-4	-26	1494	0	0	0
200	SLE RA 1	-3	-18	968	0	0	0
200	SLE RA 2	-4	-16	985	0	0	0
200	SLE RA 3	-3	-19	978	0	0	0
200	SLE RA 4	-4	-17	988	0	0	0
200	SLE RA 5	-4	-16	991	0	0	0
200	SLE RA 6	-4	-19	983	0	0	0
200	SLE RA 7	-4	-18	994	0	0	0
200	SLE RA 8	-4	-19	980	0	0	0
200	SLE RA 9	-4	-17	990	0	0	0
200	SLE RA 10	-3	-17	1067	0	0	0
200	SLE RA 11	-3	-20	1059	0	0	0
200	SLE RA 12	-3	-19	1070	0	0	0
200	SLE RA 13	-3	-18	1073	0	0	0
200	SLE RA 14	-3	-20	1065	0	0	0
200	SLE RA 15	-3	-19	1076	0	0	0
200	SLE RA 16	-3	-20	1062	0	0	0
200	SLE RA 17	-3	-19	1072	0	0	0
200	SLE RA 18	-3	-20	1085	0	0	0
200	SLE RA 19	-3	-19	1096	0	0	0
200	SLE RA 20	-3	-21	1091	0	0	0
200	SLE RA 21	-3	-19	1101	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
200	SLE FR 1	-3	-18	968	0	0	0
200	SLE FR 2	-3	-18	971	0	0	0
200	SLE FR 3	-3	-19	970	0	0	0
200	SLE FR 4	-3	-19	1007	0	0	0
200	SLE FR 5	-3	-19	1005	0	0	0
200	SLE FR 6	-3	-19	1026	0	0	0
200	SLE QP 1	-3	-18	968	0	0	0
200	SLE QP 2	-3	-19	1003	0	0	0
200	SLD 1	82	-8	1244	0	0	0
200	SLD 2	100	-16	1232	0	0	0
200	SLD 3	85	-51	870	0	0	0
200	SLD 4	102	-59	858	0	0	0
200	SLD 5	15	51	1645	0	0	0
200	SLD 6	27	46	1637	0	0	0
200	SLD 7	24	-93	398	0	0	0
200	SLD 8	35	-97	390	0	0	0
200	SLD 9	-42	59	1616	0	0	0
200	SLD 10	-31	55	1608	0	0	0
200	SLD 11	-33	-84	369	0	0	0
200	SLD 12	-22	-89	361	0	0	0
200	SLD 13	-109	21	1148	0	0	0
200	SLD 14	-91	13	1136	0	0	0
200	SLD 15	-106	-22	774	0	0	0
200	SLD 16	-89	-30	762	0	0	0
200	SLV 1	130	1	1408	0	0	0
200	SLV 2	158	-11	1388	0	0	0
200	SLV 3	134	-72	769	0	0	0
200	SLV 4	162	-84	750	0	0	0
200	SLV 5	25	100	2096	0	0	0
200	SLV 6	44	92	2083	0	0	0
200	SLV 7	39	-144	-32	0	0	0
200	SLV 8	58	-152	-45	0	0	0
200	SLV 9	-64	114	2051	0	0	0
200	SLV 10	-46	106	2038	0	0	0
200	SLV 11	-50	-130	-77	0	0	0
200	SLV 12	-32	-138	-90	0	0	0
200	SLV 13	-168	46	1256	0	0	0
200	SLV 14	-141	34	1237	0	0	0
200	SLV 15	-164	-27	618	0	0	0
200	SLV 16	-137	-39	599	0	0	0
200	SLV FO 1	143	3	1448	0	0	0
200	SLV FO 2	174	-10	1427	0	0	0
200	SLV FO 3	148	-78	746	0	0	0
200	SLV FO 4	178	-91	724	0	0	0
200	SLV FO 5	28	112	2206	0	0	0
200	SLV FO 6	48	103	2191	0	0	0
200	SLV FO 7	43	-156	-135	0	0	0
200	SLV FO 8	64	-165	-150	0	0	0
200	SLV FO 9	-71	127	2156	0	0	0
200	SLV FO 10	-50	118	2141	0	0	0
200	SLV FO 11	-55	-141	-185	0	0	0
200	SLV FO 12	-35	-150	-199	0	0	0
200	SLV FO 13	-185	53	1282	0	0	0
200	SLV FO 14	-155	40	1260	0	0	0
200	SLV FO 15	-180	-28	580	0	0	0
200	SLV FO 16	-150	-41	558	0	0	0
200	CRTFP Uy+	0	0	0	0	0	0
200	CRTFP Uy-	0	0	0	0	0	0
201	SLU 1	-3	-15	937	0	0	0
201	SLU 2	-4	-11	963	0	0	0
201	SLU 3	-3	-15	951	0	0	0
201	SLU 4	-4	-13	967	0	0	0
201	SLU 5	-4	-12	972	0	0	0
201	SLU 6	-4	-16	960	0	0	0
201	SLU 7	-4	-13	976	0	0	0
201	SLU 8	-4	-16	955	0	0	0
201	SLU 9	-4	-13	970	0	0	0
201	SLU 10	-3	-13	1087	0	0	0
201	SLU 11	-3	-17	1075	0	0	0
201	SLU 12	-3	-15	1091	0	0	0
201	SLU 13	-3	-13	1096	0	0	0
201	SLU 14	-3	-17	1084	0	0	0
201	SLU 15	-3	-15	1100	0	0	0
201	SLU 16	-3	-17	1079	0	0	0
201	SLU 17	-3	-15	1094	0	0	0
201	SLU 18	-3	-17	1114	0	0	0
201	SLU 19	-3	-15	1129	0	0	0
201	SLU 20	-3	-18	1123	0	0	0
201	SLU 21	-3	-15	1138	0	0	0
201	SLU 22	-4	-17	1062	0	0	0
201	SLU 23	-4	-13	1088	0	0	0
201	SLU 24	-4	-17	1076	0	0	0
201	SLU 25	-4	-15	1092	0	0	0
201	SLU 26	-4	-13	1097	0	0	0
201	SLU 27	-4	-17	1085	0	0	0
201	SLU 28	-4	-15	1101	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
201	SLU 29	-4	-17	1080	0	0	0
201	SLU 30	-4	-15	1096	0	0	0
201	SLU 31	-4	-15	1212	0	0	0
201	SLU 32	-4	-19	1200	0	0	0
201	SLU 33	-4	-17	1216	0	0	0
201	SLU 34	-4	-15	1221	0	0	0
201	SLU 35	-4	-19	1209	0	0	0
201	SLU 36	-4	-17	1225	0	0	0
201	SLU 37	-4	-19	1204	0	0	0
201	SLU 38	-4	-17	1219	0	0	0
201	SLU 39	-3	-19	1239	0	0	0
201	SLU 40	-3	-17	1254	0	0	0
201	SLU 41	-3	-19	1248	0	0	0
201	SLU 42	-4	-17	1263	0	0	0
201	SLU 43	-4	-19	1175	0	0	0
201	SLU 44	-4	-15	1201	0	0	0
201	SLU 45	-4	-19	1189	0	0	0
201	SLU 46	-4	-17	1205	0	0	0
201	SLU 47	-4	-16	1210	0	0	0
201	SLU 48	-4	-20	1198	0	0	0
201	SLU 49	-5	-17	1214	0	0	0
201	SLU 50	-4	-19	1193	0	0	0
201	SLU 51	-4	-17	1209	0	0	0
201	SLU 52	-4	-17	1325	0	0	0
201	SLU 53	-4	-21	1313	0	0	0
201	SLU 54	-4	-19	1329	0	0	0
201	SLU 55	-4	-17	1334	0	0	0
201	SLU 56	-4	-21	1322	0	0	0
201	SLU 57	-4	-19	1338	0	0	0
201	SLU 58	-4	-21	1317	0	0	0
201	SLU 59	-4	-19	1332	0	0	0
201	SLU 60	-4	-21	1352	0	0	0
201	SLU 61	-4	-19	1367	0	0	0
201	SLU 62	-4	-22	1361	0	0	0
201	SLU 63	-4	-19	1376	0	0	0
201	SLU 64	-5	-21	1300	0	0	0
201	SLU 65	-5	-17	1326	0	0	0
201	SLU 66	-5	-21	1314	0	0	0
201	SLU 67	-5	-19	1330	0	0	0
201	SLU 68	-5	-17	1335	0	0	0
201	SLU 69	-5	-21	1324	0	0	0
201	SLU 70	-5	-19	1339	0	0	0
201	SLU 71	-5	-21	1318	0	0	0
201	SLU 72	-5	-19	1334	0	0	0
201	SLU 73	-4	-19	1450	0	0	0
201	SLU 74	-4	-23	1438	0	0	0
201	SLU 75	-5	-20	1454	0	0	0
201	SLU 76	-5	-19	1459	0	0	0
201	SLU 77	-4	-23	1447	0	0	0
201	SLU 78	-5	-21	1463	0	0	0
201	SLU 79	-4	-23	1442	0	0	0
201	SLU 80	-5	-21	1458	0	0	0
201	SLU 81	-4	-23	1477	0	0	0
201	SLU 82	-4	-21	1493	0	0	0
201	SLU 83	-4	-23	1486	0	0	0
201	SLU 84	-4	-21	1502	0	0	0
201	SLE RA 1	-3	-16	972	0	0	0
201	SLE RA 2	-4	-13	990	0	0	0
201	SLE RA 3	-3	-16	982	0	0	0
201	SLE RA 4	-4	-14	993	0	0	0
201	SLE RA 5	-4	-13	996	0	0	0
201	SLE RA 6	-4	-16	988	0	0	0
201	SLE RA 7	-4	-14	999	0	0	0
201	SLE RA 8	-4	-16	985	0	0	0
201	SLE RA 9	-4	-14	995	0	0	0
201	SLE RA 10	-3	-14	1072	0	0	0
201	SLE RA 11	-3	-17	1065	0	0	0
201	SLE RA 12	-3	-15	1075	0	0	0
201	SLE RA 13	-3	-14	1078	0	0	0
201	SLE RA 14	-3	-17	1071	0	0	0
201	SLE RA 15	-3	-16	1081	0	0	0
201	SLE RA 16	-3	-17	1067	0	0	0
201	SLE RA 17	-3	-15	1078	0	0	0
201	SLE RA 18	-3	-17	1090	0	0	0
201	SLE RA 19	-3	-16	1101	0	0	0
201	SLE RA 20	-3	-17	1096	0	0	0
201	SLE RA 21	-3	-16	1107	0	0	0
201	SLE FR 1	-3	-16	972	0	0	0
201	SLE FR 2	-3	-15	976	0	0	0
201	SLE FR 3	-3	-16	975	0	0	0
201	SLE FR 4	-3	-16	1011	0	0	0
201	SLE FR 5	-3	-16	1010	0	0	0
201	SLE FR 6	-3	-16	1031	0	0	0
201	SLE QP 1	-3	-16	972	0	0	0
201	SLE QP 2	-3	-16	1008	0	0	0
201	SLD 1	83	-3	1241	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
201	SLD 2	101	-10	1229	0	0	0
201	SLD 3	86	-48	866	0	0	0
201	SLD 4	104	-55	854	0	0	0
201	SLD 5	16	57	1648	0	0	0
201	SLD 6	27	53	1641	0	0	0
201	SLD 7	24	-93	399	0	0	0
201	SLD 8	36	-97	391	0	0	0
201	SLD 9	-42	65	1625	0	0	0
201	SLD 10	-31	61	1617	0	0	0
201	SLD 11	-34	-85	375	0	0	0
201	SLD 12	-22	-89	367	0	0	0
201	SLD 13	-110	23	1161	0	0	0
201	SLD 14	-92	16	1150	0	0	0
201	SLD 15	-108	-22	786	0	0	0
201	SLD 16	-90	-29	775	0	0	0
201	SLV 1	132	7	1400	0	0	0
201	SLV 2	160	-3	1382	0	0	0
201	SLV 3	136	-69	760	0	0	0
201	SLV 4	164	-80	742	0	0	0
201	SLV 5	26	109	2099	0	0	0
201	SLV 6	44	102	2087	0	0	0
201	SLV 7	40	-146	-33	0	0	0
201	SLV 8	59	-154	-46	0	0	0
201	SLV 9	-65	121	2061	0	0	0
201	SLV 10	-46	114	2049	0	0	0
201	SLV 11	-51	-134	-71	0	0	0
201	SLV 12	-32	-141	-84	0	0	0
201	SLV 13	-171	48	1274	0	0	0
201	SLV 14	-143	37	1255	0	0	0
201	SLV 15	-166	-29	634	0	0	0
201	SLV 16	-138	-40	616	0	0	0
201	SLV FO 1	145	10	1439	0	0	0
201	SLV FO 2	176	-2	1419	0	0	0
201	SLV FO 3	150	-74	736	0	0	0
201	SLV FO 4	181	-87	715	0	0	0
201	SLV FO 5	29	122	2209	0	0	0
201	SLV FO 6	49	114	2195	0	0	0
201	SLV FO 7	44	-159	-137	0	0	0
201	SLV FO 8	65	-167	-151	0	0	0
201	SLV FO 9	-71	135	2167	0	0	0
201	SLV FO 10	-51	127	2153	0	0	0
201	SLV FO 11	-56	-146	-179	0	0	0
201	SLV FO 12	-35	-154	-193	0	0	0
201	SLV FO 13	-187	54	1300	0	0	0
201	SLV FO 14	-156	42	1280	0	0	0
201	SLV FO 15	-183	-30	596	0	0	0
201	SLV FO 16	-152	-42	576	0	0	0
201	CRTFP Uy+	0	0	0	0	0	0
201	CRTFP Uy-	0	0	0	0	0	0
202	SLU 1	-3	-13	947	0	0	0
202	SLU 2	-4	-9	973	0	0	0
202	SLU 3	-3	-13	961	0	0	0
202	SLU 4	-4	-10	977	0	0	0
202	SLU 5	-4	-9	982	0	0	0
202	SLU 6	-4	-13	970	0	0	0
202	SLU 7	-4	-11	986	0	0	0
202	SLU 8	-3	-13	965	0	0	0
202	SLU 9	-4	-11	981	0	0	0
202	SLU 10	-3	-10	1098	0	0	0
202	SLU 11	-3	-14	1087	0	0	0
202	SLU 12	-3	-12	1102	0	0	0
202	SLU 13	-3	-10	1107	0	0	0
202	SLU 14	-3	-14	1096	0	0	0
202	SLU 15	-3	-12	1112	0	0	0
202	SLU 16	-3	-14	1090	0	0	0
202	SLU 17	-3	-12	1106	0	0	0
202	SLU 18	-3	-14	1126	0	0	0
202	SLU 19	-3	-12	1142	0	0	0
202	SLU 20	-3	-15	1135	0	0	0
202	SLU 21	-3	-12	1151	0	0	0
202	SLU 22	-4	-14	1073	0	0	0
202	SLU 23	-4	-10	1099	0	0	0
202	SLU 24	-4	-14	1088	0	0	0
202	SLU 25	-4	-12	1103	0	0	0
202	SLU 26	-4	-10	1108	0	0	0
202	SLU 27	-4	-14	1097	0	0	0
202	SLU 28	-4	-12	1113	0	0	0
202	SLU 29	-4	-14	1091	0	0	0
202	SLU 30	-4	-12	1107	0	0	0
202	SLU 31	-4	-11	1225	0	0	0
202	SLU 32	-3	-15	1213	0	0	0
202	SLU 33	-4	-13	1229	0	0	0
202	SLU 34	-4	-12	1234	0	0	0
202	SLU 35	-4	-16	1222	0	0	0
202	SLU 36	-4	-13	1238	0	0	0
202	SLU 37	-4	-16	1217	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
202	SLU 38	-4	-13	1232	0	0	0
202	SLU 39	-3	-16	1252	0	0	0
202	SLU 40	-3	-13	1268	0	0	0
202	SLU 41	-3	-16	1261	0	0	0
202	SLU 42	-4	-14	1277	0	0	0
202	SLU 43	-4	-16	1187	0	0	0
202	SLU 44	-4	-12	1213	0	0	0
202	SLU 45	-4	-16	1202	0	0	0
202	SLU 46	-4	-14	1218	0	0	0
202	SLU 47	-4	-12	1223	0	0	0
202	SLU 48	-4	-16	1211	0	0	0
202	SLU 49	-5	-14	1227	0	0	0
202	SLU 50	-4	-16	1206	0	0	0
202	SLU 51	-4	-14	1221	0	0	0
202	SLU 52	-4	-13	1339	0	0	0
202	SLU 53	-4	-17	1327	0	0	0
202	SLU 54	-4	-15	1343	0	0	0
202	SLU 55	-4	-13	1348	0	0	0
202	SLU 56	-4	-18	1337	0	0	0
202	SLU 57	-4	-15	1352	0	0	0
202	SLU 58	-4	-18	1331	0	0	0
202	SLU 59	-4	-15	1347	0	0	0
202	SLU 60	-4	-18	1366	0	0	0
202	SLU 61	-4	-15	1382	0	0	0
202	SLU 62	-4	-18	1376	0	0	0
202	SLU 63	-4	-16	1391	0	0	0
202	SLU 64	-4	-17	1314	0	0	0
202	SLU 65	-5	-13	1340	0	0	0
202	SLU 66	-5	-17	1328	0	0	0
202	SLU 67	-5	-15	1344	0	0	0
202	SLU 68	-5	-14	1349	0	0	0
202	SLU 69	-5	-18	1337	0	0	0
202	SLU 70	-5	-15	1353	0	0	0
202	SLU 71	-5	-18	1332	0	0	0
202	SLU 72	-5	-15	1348	0	0	0
202	SLU 73	-4	-15	1465	0	0	0
202	SLU 74	-4	-19	1454	0	0	0
202	SLU 75	-4	-16	1469	0	0	0
202	SLU 76	-5	-15	1474	0	0	0
202	SLU 77	-4	-19	1463	0	0	0
202	SLU 78	-5	-17	1479	0	0	0
202	SLU 79	-4	-19	1457	0	0	0
202	SLU 80	-5	-17	1473	0	0	0
202	SLU 81	-4	-19	1493	0	0	0
202	SLU 82	-4	-17	1509	0	0	0
202	SLU 83	-4	-19	1502	0	0	0
202	SLU 84	-4	-17	1518	0	0	0
202	SLE RA 1	-3	-13	983	0	0	0
202	SLE RA 2	-4	-10	1000	0	0	0
202	SLE RA 3	-3	-13	992	0	0	0
202	SLE RA 4	-4	-12	1003	0	0	0
202	SLE RA 5	-4	-10	1006	0	0	0
202	SLE RA 6	-4	-13	999	0	0	0
202	SLE RA 7	-4	-12	1009	0	0	0
202	SLE RA 8	-4	-13	995	0	0	0
202	SLE RA 9	-4	-12	1005	0	0	0
202	SLE RA 10	-3	-11	1084	0	0	0
202	SLE RA 11	-3	-14	1076	0	0	0
202	SLE RA 12	-3	-12	1087	0	0	0
202	SLE RA 13	-3	-11	1090	0	0	0
202	SLE RA 14	-3	-14	1082	0	0	0
202	SLE RA 15	-3	-13	1093	0	0	0
202	SLE RA 16	-3	-14	1079	0	0	0
202	SLE RA 17	-3	-13	1089	0	0	0
202	SLE RA 18	-3	-14	1102	0	0	0
202	SLE RA 19	-3	-13	1113	0	0	0
202	SLE RA 20	-3	-14	1108	0	0	0
202	SLE RA 21	-3	-13	1119	0	0	0
202	SLE FR 1	-3	-13	983	0	0	0
202	SLE FR 2	-3	-12	986	0	0	0
202	SLE FR 3	-3	-13	985	0	0	0
202	SLE FR 4	-3	-13	1022	0	0	0
202	SLE FR 5	-3	-13	1021	0	0	0
202	SLE FR 6	-3	-14	1042	0	0	0
202	SLE QP 1	-3	-13	983	0	0	0
202	SLE QP 2	-3	-13	1018	0	0	0
202	SLD 1	85	2	1245	0	0	0
202	SLD 2	103	-5	1234	0	0	0
202	SLD 3	87	-45	867	0	0	0
202	SLD 4	105	-51	856	0	0	0
202	SLD 5	16	64	1661	0	0	0
202	SLD 6	28	60	1654	0	0	0
202	SLD 7	25	-93	402	0	0	0
202	SLD 8	36	-97	395	0	0	0
202	SLD 9	-43	71	1642	0	0	0
202	SLD 10	-31	66	1635	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
202	SLD 11	-34	-86	383	0	0	0
202	SLD 12	-23	-90	376	0	0	0
202	SLD 13	-112	25	1181	0	0	0
202	SLD 14	-94	19	1170	0	0	0
202	SLD 15	-109	-22	803	0	0	0
202	SLD 16	-91	-28	792	0	0	0
202	SLV 1	134	14	1401	0	0	0
202	SLV 2	162	4	1384	0	0	0
202	SLV 3	138	-66	756	0	0	0
202	SLV 4	167	-76	739	0	0	0
202	SLV 5	26	118	2115	0	0	0
202	SLV 6	45	112	2103	0	0	0
202	SLV 7	40	-149	-35	0	0	0
202	SLV 8	59	-156	-47	0	0	0
202	SLV 9	-66	129	2084	0	0	0
202	SLV 10	-47	122	2072	0	0	0
202	SLV 11	-52	-138	-66	0	0	0
202	SLV 12	-33	-145	-78	0	0	0
202	SLV 13	-173	50	1298	0	0	0
202	SLV 14	-145	40	1281	0	0	0
202	SLV 15	-169	-30	653	0	0	0
202	SLV 16	-140	-40	636	0	0	0
202	SLV FO 1	148	16	1439	0	0	0
202	SLV FO 2	179	5	1420	0	0	0
202	SLV FO 3	152	-72	730	0	0	0
202	SLV FO 4	183	-83	711	0	0	0
202	SLV FO 5	29	131	2224	0	0	0
202	SLV FO 6	50	124	2211	0	0	0
202	SLV FO 7	44	-162	-141	0	0	0
202	SLV FO 8	66	-170	-153	0	0	0
202	SLV FO 9	-72	143	2190	0	0	0
202	SLV FO 10	-51	136	2178	0	0	0
202	SLV FO 11	-57	-151	-174	0	0	0
202	SLV FO 12	-36	-158	-187	0	0	0
202	SLV FO 13	-190	56	1326	0	0	0
202	SLV FO 14	-159	45	1307	0	0	0
202	SLV FO 15	-185	-32	617	0	0	0
202	SLV FO 16	-154	-43	598	0	0	0
202	CRTFP Uy+	0	0	0	0	0	0
202	CRTFP Uy-	0	0	0	0	0	0
203	SLU 1	-3	-10	958	0	0	0
203	SLU 2	-3	-6	984	0	0	0
203	SLU 3	-3	-10	973	0	0	0
203	SLU 4	-3	-8	988	0	0	0
203	SLU 5	-4	-6	993	0	0	0
203	SLU 6	-3	-10	982	0	0	0
203	SLU 7	-4	-8	998	0	0	0
203	SLU 8	-3	-10	976	0	0	0
203	SLU 9	-4	-8	992	0	0	0
203	SLU 10	-3	-7	1111	0	0	0
203	SLU 11	-3	-11	1100	0	0	0
203	SLU 12	-3	-9	1116	0	0	0
203	SLU 13	-3	-7	1121	0	0	0
203	SLU 14	-3	-11	1109	0	0	0
203	SLU 15	-3	-9	1125	0	0	0
203	SLU 16	-3	-11	1104	0	0	0
203	SLU 17	-3	-9	1119	0	0	0
203	SLU 18	-3	-11	1140	0	0	0
203	SLU 19	-3	-9	1155	0	0	0
203	SLU 20	-3	-12	1149	0	0	0
203	SLU 21	-3	-9	1165	0	0	0
203	SLU 22	-4	-11	1085	0	0	0
203	SLU 23	-4	-7	1112	0	0	0
203	SLU 24	-4	-11	1100	0	0	0
203	SLU 25	-4	-9	1116	0	0	0
203	SLU 26	-4	-7	1121	0	0	0
203	SLU 27	-4	-11	1110	0	0	0
203	SLU 28	-4	-9	1125	0	0	0
203	SLU 29	-4	-11	1104	0	0	0
203	SLU 30	-4	-9	1120	0	0	0
203	SLU 31	-4	-8	1239	0	0	0
203	SLU 32	-3	-12	1228	0	0	0
203	SLU 33	-4	-10	1244	0	0	0
203	SLU 34	-4	-8	1249	0	0	0
203	SLU 35	-4	-12	1237	0	0	0
203	SLU 36	-4	-10	1253	0	0	0
203	SLU 37	-4	-12	1231	0	0	0
203	SLU 38	-4	-10	1247	0	0	0
203	SLU 39	-3	-12	1267	0	0	0
203	SLU 40	-3	-10	1283	0	0	0
203	SLU 41	-3	-12	1277	0	0	0
203	SLU 42	-3	-10	1293	0	0	0
203	SLU 43	-4	-13	1201	0	0	0
203	SLU 44	-4	-9	1227	0	0	0
203	SLU 45	-4	-13	1216	0	0	0
203	SLU 46	-4	-10	1232	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
203	SLU 47	-4	-9	1237	0	0	0
203	SLU 48	-4	-13	1225	0	0	0
203	SLU 49	-4	-11	1241	0	0	0
203	SLU 50	-4	-13	1220	0	0	0
203	SLU 51	-4	-11	1236	0	0	0
203	SLU 52	-4	-10	1355	0	0	0
203	SLU 53	-4	-14	1343	0	0	0
203	SLU 54	-4	-11	1359	0	0	0
203	SLU 55	-4	-10	1364	0	0	0
203	SLU 56	-4	-14	1353	0	0	0
203	SLU 57	-4	-12	1369	0	0	0
203	SLU 58	-4	-14	1347	0	0	0
203	SLU 59	-4	-12	1363	0	0	0
203	SLU 60	-4	-14	1383	0	0	0
203	SLU 61	-4	-12	1399	0	0	0
203	SLU 62	-4	-14	1392	0	0	0
203	SLU 63	-4	-12	1408	0	0	0
203	SLU 64	-4	-14	1329	0	0	0
203	SLU 65	-5	-10	1355	0	0	0
203	SLU 66	-5	-14	1344	0	0	0
203	SLU 67	-5	-11	1360	0	0	0
203	SLU 68	-5	-10	1365	0	0	0
203	SLU 69	-5	-14	1353	0	0	0
203	SLU 70	-5	-12	1369	0	0	0
203	SLU 71	-5	-14	1347	0	0	0
203	SLU 72	-5	-12	1363	0	0	0
203	SLU 73	-4	-11	1483	0	0	0
203	SLU 74	-4	-15	1471	0	0	0
203	SLU 75	-4	-12	1487	0	0	0
203	SLU 76	-5	-11	1492	0	0	0
203	SLU 77	-4	-15	1480	0	0	0
203	SLU 78	-5	-13	1496	0	0	0
203	SLU 79	-4	-15	1475	0	0	0
203	SLU 80	-5	-13	1491	0	0	0
203	SLU 81	-4	-15	1511	0	0	0
203	SLU 82	-4	-13	1527	0	0	0
203	SLU 83	-4	-15	1520	0	0	0
203	SLU 84	-4	-13	1536	0	0	0
203	SLE RA 1	-3	-10	994	0	0	0
203	SLE RA 2	-3	-8	1012	0	0	0
203	SLE RA 3	-3	-10	1004	0	0	0
203	SLE RA 4	-4	-9	1015	0	0	0
203	SLE RA 5	-4	-8	1018	0	0	0
203	SLE RA 6	-3	-10	1010	0	0	0
203	SLE RA 7	-4	-9	1021	0	0	0
203	SLE RA 8	-3	-10	1007	0	0	0
203	SLE RA 9	-4	-9	1017	0	0	0
203	SLE RA 10	-3	-8	1097	0	0	0
203	SLE RA 11	-3	-11	1089	0	0	0
203	SLE RA 12	-3	-9	1100	0	0	0
203	SLE RA 13	-3	-8	1103	0	0	0
203	SLE RA 14	-3	-11	1095	0	0	0
203	SLE RA 15	-3	-10	1106	0	0	0
203	SLE RA 16	-3	-11	1091	0	0	0
203	SLE RA 17	-3	-10	1102	0	0	0
203	SLE RA 18	-3	-11	1115	0	0	0
203	SLE RA 19	-3	-10	1126	0	0	0
203	SLE RA 20	-3	-11	1122	0	0	0
203	SLE RA 21	-3	-10	1132	0	0	0
203	SLE FR 1	-3	-10	994	0	0	0
203	SLE FR 2	-3	-10	998	0	0	0
203	SLE FR 3	-3	-10	997	0	0	0
203	SLE FR 4	-3	-10	1034	0	0	0
203	SLE FR 5	-3	-11	1033	0	0	0
203	SLE FR 6	-3	-11	1055	0	0	0
203	SLE QP 1	-3	-10	994	0	0	0
203	SLE QP 2	-3	-11	1030	0	0	0
203	SLD 1	86	7	1251	0	0	0
203	SLD 2	104	1	1241	0	0	0
203	SLD 3	88	-42	870	0	0	0
203	SLD 4	107	-48	859	0	0	0
203	SLD 5	17	70	1677	0	0	0
203	SLD 6	28	66	1670	0	0	0
203	SLD 7	25	-93	406	0	0	0
203	SLD 8	37	-97	399	0	0	0
203	SLD 9	-43	76	1662	0	0	0
203	SLD 10	-31	72	1655	0	0	0
203	SLD 11	-35	-87	391	0	0	0
203	SLD 12	-23	-91	384	0	0	0
203	SLD 13	-113	27	1202	0	0	0
203	SLD 14	-95	21	1191	0	0	0
203	SLD 15	-110	-22	820	0	0	0
203	SLD 16	-92	-28	810	0	0	0
203	SLV 1	136	20	1404	0	0	0
203	SLV 2	165	11	1388	0	0	0
203	SLV 3	140	-64	753	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
203	SLV 4	169	-72	737	0	0	0
203	SLV 5	27	127	2133	0	0	0
203	SLV 6	46	121	2122	0	0	0
203	SLV 7	41	-151	-37	0	0	0
203	SLV 8	60	-157	-48	0	0	0
203	SLV 9	-66	136	2109	0	0	0
203	SLV 10	-47	130	2098	0	0	0
203	SLV 11	-53	-142	-61	0	0	0
203	SLV 12	-33	-148	-72	0	0	0
203	SLV 13	-175	51	1324	0	0	0
203	SLV 14	-146	43	1308	0	0	0
203	SLV 15	-171	-32	673	0	0	0
203	SLV 16	-142	-41	657	0	0	0
203	SLV FO 1	150	23	1441	0	0	0
203	SLV FO 2	181	13	1423	0	0	0
203	SLV FO 3	154	-69	725	0	0	0
203	SLV FO 4	186	-79	708	0	0	0
203	SLV FO 5	30	141	2243	0	0	0
203	SLV FO 6	51	134	2231	0	0	0
203	SLV FO 7	45	-165	-143	0	0	0
203	SLV FO 8	66	-172	-155	0	0	0
203	SLV FO 9	-73	151	2216	0	0	0
203	SLV FO 10	-51	144	2204	0	0	0
203	SLV FO 11	-58	-155	-170	0	0	0
203	SLV FO 12	-36	-162	-182	0	0	0
203	SLV FO 13	-192	58	1353	0	0	0
203	SLV FO 14	-161	48	1335	0	0	0
203	SLV FO 15	-188	-34	637	0	0	0
203	SLV FO 16	-156	-44	620	0	0	0
203	CRTFP Uy+	0	0	0	0	0	0
203	CRTFP Uy-	0	0	0	0	0	0
204	SLU 1	-3	-7	970	0	0	0
204	SLU 2	-3	-3	997	0	0	0
204	SLU 3	-3	-7	985	0	0	0
204	SLU 4	-3	-5	1001	0	0	0
204	SLU 5	-4	-3	1006	0	0	0
204	SLU 6	-3	-8	995	0	0	0
204	SLU 7	-4	-5	1011	0	0	0
204	SLU 8	-3	-8	989	0	0	0
204	SLU 9	-4	-5	1005	0	0	0
204	SLU 10	-3	-4	1126	0	0	0
204	SLU 11	-3	-8	1115	0	0	0
204	SLU 12	-3	-6	1131	0	0	0
204	SLU 13	-3	-4	1136	0	0	0
204	SLU 14	-3	-8	1124	0	0	0
204	SLU 15	-3	-6	1140	0	0	0
204	SLU 16	-3	-8	1119	0	0	0
204	SLU 17	-3	-6	1135	0	0	0
204	SLU 18	-3	-8	1155	0	0	0
204	SLU 19	-3	-6	1171	0	0	0
204	SLU 20	-3	-8	1165	0	0	0
204	SLU 21	-3	-6	1181	0	0	0
204	SLU 22	-4	-8	1099	0	0	0
204	SLU 23	-4	-4	1126	0	0	0
204	SLU 24	-4	-8	1115	0	0	0
204	SLU 25	-4	-5	1131	0	0	0
204	SLU 26	-4	-4	1136	0	0	0
204	SLU 27	-4	-8	1124	0	0	0
204	SLU 28	-4	-6	1140	0	0	0
204	SLU 29	-4	-8	1118	0	0	0
204	SLU 30	-4	-6	1134	0	0	0
204	SLU 31	-3	-4	1256	0	0	0
204	SLU 32	-3	-9	1244	0	0	0
204	SLU 33	-4	-6	1260	0	0	0
204	SLU 34	-4	-4	1265	0	0	0
204	SLU 35	-4	-9	1254	0	0	0
204	SLU 36	-4	-6	1270	0	0	0
204	SLU 37	-4	-9	1248	0	0	0
204	SLU 38	-4	-6	1264	0	0	0
204	SLU 39	-3	-9	1285	0	0	0
204	SLU 40	-3	-6	1301	0	0	0
204	SLU 41	-3	-9	1294	0	0	0
204	SLU 42	-3	-6	1310	0	0	0
204	SLU 43	-4	-9	1217	0	0	0
204	SLU 44	-4	-5	1243	0	0	0
204	SLU 45	-4	-9	1232	0	0	0
204	SLU 46	-4	-7	1248	0	0	0
204	SLU 47	-4	-5	1253	0	0	0
204	SLU 48	-4	-10	1241	0	0	0
204	SLU 49	-4	-7	1257	0	0	0
204	SLU 50	-4	-10	1236	0	0	0
204	SLU 51	-4	-7	1252	0	0	0
204	SLU 52	-4	-6	1373	0	0	0
204	SLU 53	-4	-10	1361	0	0	0
204	SLU 54	-4	-8	1377	0	0	0
204	SLU 55	-4	-6	1382	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
204	SLU 56	-4	-10	1371	0	0	0
204	SLU 57	-4	-8	1387	0	0	0
204	SLU 58	-4	-10	1365	0	0	0
204	SLU 59	-4	-8	1381	0	0	0
204	SLU 60	-3	-10	1402	0	0	0
204	SLU 61	-4	-8	1418	0	0	0
204	SLU 62	-4	-10	1411	0	0	0
204	SLU 63	-4	-8	1427	0	0	0
204	SLU 64	-4	-10	1346	0	0	0
204	SLU 65	-5	-6	1373	0	0	0
204	SLU 66	-4	-10	1361	0	0	0
204	SLU 67	-5	-7	1377	0	0	0
204	SLU 68	-5	-6	1382	0	0	0
204	SLU 69	-5	-10	1371	0	0	0
204	SLU 70	-5	-8	1387	0	0	0
204	SLU 71	-5	-10	1365	0	0	0
204	SLU 72	-5	-8	1381	0	0	0
204	SLU 73	-4	-6	1502	0	0	0
204	SLU 74	-4	-11	1491	0	0	0
204	SLU 75	-4	-8	1507	0	0	0
204	SLU 76	-4	-6	1512	0	0	0
204	SLU 77	-4	-11	1500	0	0	0
204	SLU 78	-4	-8	1516	0	0	0
204	SLU 79	-4	-11	1495	0	0	0
204	SLU 80	-4	-8	1511	0	0	0
204	SLU 81	-4	-11	1531	0	0	0
204	SLU 82	-4	-8	1547	0	0	0
204	SLU 83	-4	-11	1541	0	0	0
204	SLU 84	-4	-8	1557	0	0	0
204	SLE RA 1	-3	-7	1007	0	0	0
204	SLE RA 2	-3	-5	1025	0	0	0
204	SLE RA 3	-3	-8	1017	0	0	0
204	SLE RA 4	-3	-6	1028	0	0	0
204	SLE RA 5	-4	-5	1031	0	0	0
204	SLE RA 6	-3	-8	1023	0	0	0
204	SLE RA 7	-4	-6	1034	0	0	0
204	SLE RA 8	-3	-8	1020	0	0	0
204	SLE RA 9	-4	-6	1030	0	0	0
204	SLE RA 10	-3	-5	1111	0	0	0
204	SLE RA 11	-3	-8	1104	0	0	0
204	SLE RA 12	-3	-6	1114	0	0	0
204	SLE RA 13	-3	-5	1118	0	0	0
204	SLE RA 14	-3	-8	1110	0	0	0
204	SLE RA 15	-3	-6	1121	0	0	0
204	SLE RA 16	-3	-8	1106	0	0	0
204	SLE RA 17	-3	-6	1117	0	0	0
204	SLE RA 18	-3	-8	1130	0	0	0
204	SLE RA 19	-3	-6	1141	0	0	0
204	SLE RA 20	-3	-8	1137	0	0	0
204	SLE RA 21	-3	-7	1147	0	0	0
204	SLE FR 1	-3	-7	1007	0	0	0
204	SLE FR 2	-3	-7	1010	0	0	0
204	SLE FR 3	-3	-7	1009	0	0	0
204	SLE FR 4	-3	-7	1048	0	0	0
204	SLE FR 5	-3	-8	1047	0	0	0
204	SLE FR 6	-3	-8	1069	0	0	0
204	SLE QP 1	-3	-7	1007	0	0	0
204	SLE QP 2	-3	-8	1044	0	0	0
204	SLD 1	87	12	1260	0	0	0
204	SLD 2	105	7	1251	0	0	0
204	SLD 3	89	-39	875	0	0	0
204	SLD 4	108	-44	865	0	0	0
204	SLD 5	17	76	1695	0	0	0
204	SLD 6	29	73	1689	0	0	0
204	SLD 7	25	-93	411	0	0	0
204	SLD 8	37	-96	404	0	0	0
204	SLD 9	-43	81	1684	0	0	0
204	SLD 10	-31	78	1677	0	0	0
204	SLD 11	-35	-88	399	0	0	0
204	SLD 12	-23	-91	393	0	0	0
204	SLD 13	-114	29	1223	0	0	0
204	SLD 14	-95	24	1213	0	0	0
204	SLD 15	-111	-22	837	0	0	0
204	SLD 16	-93	-27	828	0	0	0
204	SLV 1	137	26	1411	0	0	0
204	SLV 2	166	18	1396	0	0	0
204	SLV 3	141	-60	754	0	0	0
204	SLV 4	170	-68	739	0	0	0
204	SLV 5	28	135	2154	0	0	0
204	SLV 6	47	130	2144	0	0	0
204	SLV 7	41	-153	-37	0	0	0
204	SLV 8	60	-159	-48	0	0	0
204	SLV 9	-67	143	2136	0	0	0
204	SLV 10	-47	138	2125	0	0	0
204	SLV 11	-53	-145	-56	0	0	0
204	SLV 12	-34	-151	-66	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
204	SLV 13	-176	53	1349	0	0	0
204	SLV 14	-147	45	1334	0	0	0
204	SLV 15	-173	-34	692	0	0	0
204	SLV 16	-144	-41	677	0	0	0
204	SLV FO 1	151	30	1448	0	0	0
204	SLV FO 2	183	21	1431	0	0	0
204	SLV FO 3	156	-66	725	0	0	0
204	SLV FO 4	187	-74	708	0	0	0
204	SLV FO 5	31	150	2265	0	0	0
204	SLV FO 6	52	144	2254	0	0	0
204	SLV FO 7	45	-168	-146	0	0	0
204	SLV FO 8	67	-174	-157	0	0	0
204	SLV FO 9	-73	158	2245	0	0	0
204	SLV FO 10	-51	153	2233	0	0	0
204	SLV FO 11	-58	-159	-166	0	0	0
204	SLV FO 12	-37	-165	-177	0	0	0
204	SLV FO 13	-194	59	1380	0	0	0
204	SLV FO 14	-162	50	1363	0	0	0
204	SLV FO 15	-189	-36	657	0	0	0
204	SLV FO 16	-158	-45	640	0	0	0
204	CRTFP Uy+	0	0	0	0	0	0
204	CRTFP Uy-	0	0	0	0	0	0
205	SLU 1	-3	-5	986	0	0	0
205	SLU 2	-3	0	1013	0	0	0
205	SLU 3	-3	-5	1001	0	0	0
205	SLU 4	-3	-2	1017	0	0	0
205	SLU 5	-4	0	1022	0	0	0
205	SLU 6	-3	-5	1011	0	0	0
205	SLU 7	-4	-2	1027	0	0	0
205	SLU 8	-3	-5	1005	0	0	0
205	SLU 9	-4	-2	1021	0	0	0
205	SLU 10	-3	-1	1145	0	0	0
205	SLU 11	-3	-5	1134	0	0	0
205	SLU 12	-3	-2	1150	0	0	0
205	SLU 13	-3	-1	1155	0	0	0
205	SLU 14	-3	-5	1143	0	0	0
205	SLU 15	-3	-3	1160	0	0	0
205	SLU 16	-3	-5	1138	0	0	0
205	SLU 17	-3	-3	1154	0	0	0
205	SLU 18	-3	-5	1175	0	0	0
205	SLU 19	-3	-2	1191	0	0	0
205	SLU 20	-3	-5	1185	0	0	0
205	SLU 21	-3	-3	1201	0	0	0
205	SLU 22	-4	-5	1117	0	0	0
205	SLU 23	-4	0	1144	0	0	0
205	SLU 24	-4	-5	1133	0	0	0
205	SLU 25	-4	-2	1149	0	0	0
205	SLU 26	-4	0	1154	0	0	0
205	SLU 27	-4	-5	1143	0	0	0
205	SLU 28	-4	-2	1159	0	0	0
205	SLU 29	-4	-5	1137	0	0	0
205	SLU 30	-4	-2	1153	0	0	0
205	SLU 31	-3	-1	1277	0	0	0
205	SLU 32	-3	-5	1265	0	0	0
205	SLU 33	-4	-2	1282	0	0	0
205	SLU 34	-4	-1	1287	0	0	0
205	SLU 35	-4	-5	1275	0	0	0
205	SLU 36	-4	-3	1291	0	0	0
205	SLU 37	-4	-5	1269	0	0	0
205	SLU 38	-4	-3	1286	0	0	0
205	SLU 39	-3	-5	1307	0	0	0
205	SLU 40	-3	-3	1323	0	0	0
205	SLU 41	-3	-5	1316	0	0	0
205	SLU 42	-3	-3	1333	0	0	0
205	SLU 43	-4	-6	1236	0	0	0
205	SLU 44	-4	-2	1263	0	0	0
205	SLU 45	-4	-6	1252	0	0	0
205	SLU 46	-4	-3	1268	0	0	0
205	SLU 47	-4	-2	1273	0	0	0
205	SLU 48	-4	-6	1261	0	0	0
205	SLU 49	-4	-4	1278	0	0	0
205	SLU 50	-4	-6	1255	0	0	0
205	SLU 51	-4	-4	1272	0	0	0
205	SLU 52	-4	-2	1395	0	0	0
205	SLU 53	-4	-6	1384	0	0	0
205	SLU 54	-4	-4	1400	0	0	0
205	SLU 55	-4	-2	1405	0	0	0
205	SLU 56	-4	-6	1394	0	0	0
205	SLU 57	-4	-4	1410	0	0	0
205	SLU 58	-4	-6	1388	0	0	0
205	SLU 59	-4	-4	1404	0	0	0
205	SLU 60	-3	-6	1425	0	0	0
205	SLU 61	-4	-4	1441	0	0	0
205	SLU 62	-4	-7	1435	0	0	0
205	SLU 63	-4	-4	1451	0	0	0
205	SLU 64	-4	-6	1368	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLU 65	-5	-2	1395	0	0	0
205	SLU 66	-4	-6	1383	0	0	0
205	SLU 67	-5	-3	1400	0	0	0
205	SLU 68	-5	-2	1405	0	0	0
205	SLU 69	-5	-6	1393	0	0	0
205	SLU 70	-5	-4	1409	0	0	0
205	SLU 71	-5	-6	1387	0	0	0
205	SLU 72	-5	-4	1403	0	0	0
205	SLU 73	-4	-2	1527	0	0	0
205	SLU 74	-4	-6	1516	0	0	0
205	SLU 75	-4	-4	1532	0	0	0
205	SLU 76	-4	-2	1537	0	0	0
205	SLU 77	-4	-7	1526	0	0	0
205	SLU 78	-4	-4	1542	0	0	0
205	SLU 79	-4	-7	1520	0	0	0
205	SLU 80	-4	-4	1536	0	0	0
205	SLU 81	-4	-6	1557	0	0	0
205	SLU 82	-4	-4	1573	0	0	0
205	SLU 83	-4	-7	1567	0	0	0
205	SLU 84	-4	-4	1583	0	0	0
205	SLE RA 1	-3	-5	1023	0	0	0
205	SLE RA 2	-3	-2	1041	0	0	0
205	SLE RA 3	-3	-5	1034	0	0	0
205	SLE RA 4	-3	-3	1044	0	0	0
205	SLE RA 5	-3	-2	1048	0	0	0
205	SLE RA 6	-3	-5	1040	0	0	0
205	SLE RA 7	-4	-3	1051	0	0	0
205	SLE RA 8	-3	-5	1036	0	0	0
205	SLE RA 9	-4	-3	1047	0	0	0
205	SLE RA 10	-3	-2	1130	0	0	0
205	SLE RA 11	-3	-5	1122	0	0	0
205	SLE RA 12	-3	-3	1133	0	0	0
205	SLE RA 13	-3	-2	1136	0	0	0
205	SLE RA 14	-3	-5	1128	0	0	0
205	SLE RA 15	-3	-3	1139	0	0	0
205	SLE RA 16	-3	-5	1125	0	0	0
205	SLE RA 17	-3	-3	1135	0	0	0
205	SLE RA 18	-3	-5	1149	0	0	0
205	SLE RA 19	-3	-3	1160	0	0	0
205	SLE RA 20	-3	-5	1156	0	0	0
205	SLE RA 21	-3	-3	1167	0	0	0
205	SLE FR 1	-3	-5	1023	0	0	0
205	SLE FR 2	-3	-4	1027	0	0	0
205	SLE FR 3	-3	-5	1026	0	0	0
205	SLE FR 4	-3	-4	1065	0	0	0
205	SLE FR 5	-3	-5	1064	0	0	0
205	SLE FR 6	-3	-5	1086	0	0	0
205	SLE QP 1	-3	-5	1023	0	0	0
205	SLE QP 2	-3	-5	1061	0	0	0
205	SLD 1	88	17	1277	0	0	0
205	SLD 2	106	13	1268	0	0	0
205	SLD 3	90	-36	886	0	0	0
205	SLD 4	108	-40	878	0	0	0
205	SLD 5	17	82	1719	0	0	0
205	SLD 6	29	80	1714	0	0	0
205	SLD 7	25	-93	418	0	0	0
205	SLD 8	37	-96	412	0	0	0
205	SLD 9	-43	86	1710	0	0	0
205	SLD 10	-31	84	1704	0	0	0
205	SLD 11	-35	-89	409	0	0	0
205	SLD 12	-24	-92	403	0	0	0
205	SLD 13	-115	31	1245	0	0	0
205	SLD 14	-96	26	1236	0	0	0
205	SLD 15	-112	-22	854	0	0	0
205	SLD 16	-94	-26	845	0	0	0
205	SLV 1	138	33	1428	0	0	0
205	SLV 2	168	26	1414	0	0	0
205	SLV 3	142	-57	762	0	0	0
205	SLV 4	171	-64	748	0	0	0
205	SLV 5	28	144	2184	0	0	0
205	SLV 6	48	140	2175	0	0	0
205	SLV 7	41	-155	-36	0	0	0
205	SLV 8	60	-160	-46	0	0	0
205	SLV 9	-67	150	2168	0	0	0
205	SLV 10	-47	146	2158	0	0	0
205	SLV 11	-54	-149	-53	0	0	0
205	SLV 12	-34	-153	-62	0	0	0
205	SLV 13	-178	54	1374	0	0	0
205	SLV 14	-149	48	1360	0	0	0
205	SLV 15	-174	-36	708	0	0	0
205	SLV 16	-145	-42	694	0	0	0
205	SLV FO 1	153	36	1465	0	0	0
205	SLV FO 2	185	29	1450	0	0	0
205	SLV FO 3	157	-62	732	0	0	0
205	SLV FO 4	189	-69	717	0	0	0
205	SLV FO 5	31	159	2296	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLV FO 6	53	154	2286	0	0	0
205	SLV FO 7	45	-170	-146	0	0	0
205	SLV FO 8	67	-175	-156	0	0	0
205	SLV FO 9	-73	166	2279	0	0	0
205	SLV FO 10	-52	161	2268	0	0	0
205	SLV FO 11	-59	-163	-164	0	0	0
205	SLV FO 12	-37	-168	-174	0	0	0
205	SLV FO 13	-195	60	1405	0	0	0
205	SLV FO 14	-163	53	1390	0	0	0
205	SLV FO 15	-191	-39	673	0	0	0
205	SLV FO 16	-159	-46	657	0	0	0
205	CRTFP Uy+	0	0	0	0	0	0
205	CRTFP Uy-	0	0	0	0	0	0
206	SLU 1	-3	-2	1005	0	0	0
206	SLU 2	-3	3	1032	0	0	0
206	SLU 3	-3	-2	1021	0	0	0
206	SLU 4	-3	1	1037	0	0	0
206	SLU 5	-4	3	1042	0	0	0
206	SLU 6	-3	-2	1031	0	0	0
206	SLU 7	-4	1	1047	0	0	0
206	SLU 8	-3	-2	1025	0	0	0
206	SLU 9	-4	1	1041	0	0	0
206	SLU 10	-3	3	1168	0	0	0
206	SLU 11	-3	-2	1157	0	0	0
206	SLU 12	-3	1	1173	0	0	0
206	SLU 13	-3	3	1178	0	0	0
206	SLU 14	-3	-2	1167	0	0	0
206	SLU 15	-3	1	1183	0	0	0
206	SLU 16	-3	-2	1161	0	0	0
206	SLU 17	-3	1	1177	0	0	0
206	SLU 18	-3	-2	1199	0	0	0
206	SLU 19	-3	1	1216	0	0	0
206	SLU 20	-3	-2	1209	0	0	0
206	SLU 21	-3	1	1226	0	0	0
206	SLU 22	-4	-1	1140	0	0	0
206	SLU 23	-4	3	1167	0	0	0
206	SLU 24	-4	-1	1156	0	0	0
206	SLU 25	-4	1	1172	0	0	0
206	SLU 26	-4	3	1177	0	0	0
206	SLU 27	-4	-1	1166	0	0	0
206	SLU 28	-4	1	1182	0	0	0
206	SLU 29	-4	-2	1160	0	0	0
206	SLU 30	-4	1	1176	0	0	0
206	SLU 31	-4	3	1303	0	0	0
206	SLU 32	-4	-1	1292	0	0	0
206	SLU 33	-4	1	1308	0	0	0
206	SLU 34	-4	3	1313	0	0	0
206	SLU 35	-4	-1	1302	0	0	0
206	SLU 36	-4	1	1318	0	0	0
206	SLU 37	-4	-2	1296	0	0	0
206	SLU 38	-4	1	1312	0	0	0
206	SLU 39	-3	-1	1334	0	0	0
206	SLU 40	-3	1	1350	0	0	0
206	SLU 41	-3	-1	1344	0	0	0
206	SLU 42	-4	1	1360	0	0	0
206	SLU 43	-4	-2	1260	0	0	0
206	SLU 44	-4	2	1288	0	0	0
206	SLU 45	-4	-2	1276	0	0	0
206	SLU 46	-4	0	1293	0	0	0
206	SLU 47	-4	2	1298	0	0	0
206	SLU 48	-4	-3	1286	0	0	0
206	SLU 49	-4	0	1303	0	0	0
206	SLU 50	-4	-3	1280	0	0	0
206	SLU 51	-4	0	1297	0	0	0
206	SLU 52	-4	2	1424	0	0	0
206	SLU 53	-4	-2	1412	0	0	0
206	SLU 54	-4	0	1429	0	0	0
206	SLU 55	-4	2	1434	0	0	0
206	SLU 56	-4	-3	1422	0	0	0
206	SLU 57	-4	0	1439	0	0	0
206	SLU 58	-4	-3	1416	0	0	0
206	SLU 59	-4	0	1433	0	0	0
206	SLU 60	-4	-2	1454	0	0	0
206	SLU 61	-4	0	1471	0	0	0
206	SLU 62	-4	-3	1464	0	0	0
206	SLU 63	-4	0	1481	0	0	0
206	SLU 64	-4	-2	1395	0	0	0
206	SLU 65	-5	2	1422	0	0	0
206	SLU 66	-5	-2	1411	0	0	0
206	SLU 67	-5	1	1427	0	0	0
206	SLU 68	-5	2	1432	0	0	0
206	SLU 69	-5	-2	1421	0	0	0
206	SLU 70	-5	1	1437	0	0	0
206	SLU 71	-5	-2	1415	0	0	0
206	SLU 72	-5	1	1431	0	0	0
206	SLU 73	-4	2	1558	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
206	SLU 74	-4	-2	1547	0	0	0
206	SLU 75	-4	1	1563	0	0	0
206	SLU 76	-5	2	1568	0	0	0
206	SLU 77	-4	-2	1557	0	0	0
206	SLU 78	-5	1	1573	0	0	0
206	SLU 79	-4	-2	1551	0	0	0
206	SLU 80	-5	0	1567	0	0	0
206	SLU 81	-4	-2	1589	0	0	0
206	SLU 82	-4	1	1606	0	0	0
206	SLU 83	-4	-2	1599	0	0	0
206	SLU 84	-4	1	1616	0	0	0
206	SLE RA 1	-3	-2	1043	0	0	0
206	SLE RA 2	-3	1	1062	0	0	0
206	SLE RA 3	-3	-2	1054	0	0	0
206	SLE RA 4	-3	0	1065	0	0	0
206	SLE RA 5	-4	1	1068	0	0	0
206	SLE RA 6	-3	-2	1061	0	0	0
206	SLE RA 7	-4	0	1072	0	0	0
206	SLE RA 8	-3	-2	1057	0	0	0
206	SLE RA 9	-4	0	1068	0	0	0
206	SLE RA 10	-3	1	1152	0	0	0
206	SLE RA 11	-3	-2	1145	0	0	0
206	SLE RA 12	-3	0	1156	0	0	0
206	SLE RA 13	-3	1	1159	0	0	0
206	SLE RA 14	-3	-2	1151	0	0	0
206	SLE RA 15	-3	0	1162	0	0	0
206	SLE RA 16	-3	-2	1147	0	0	0
206	SLE RA 17	-3	0	1158	0	0	0
206	SLE RA 18	-3	-2	1173	0	0	0
206	SLE RA 19	-3	0	1184	0	0	0
206	SLE RA 20	-3	-2	1180	0	0	0
206	SLE RA 21	-3	0	1191	0	0	0
206	SLE FR 1	-3	-2	1043	0	0	0
206	SLE FR 2	-3	-1	1047	0	0	0
206	SLE FR 3	-3	-2	1046	0	0	0
206	SLE FR 4	-3	-1	1086	0	0	0
206	SLE FR 5	-3	-2	1085	0	0	0
206	SLE FR 6	-3	-2	1108	0	0	0
206	SLE QP 1	-3	-2	1043	0	0	0
206	SLE QP 2	-3	-2	1082	0	0	0
206	SLD 1	88	22	1303	0	0	0
206	SLD 2	107	19	1295	0	0	0
206	SLD 3	91	-33	906	0	0	0
206	SLD 4	109	-36	898	0	0	0
206	SLD 5	18	89	1752	0	0	0
206	SLD 6	30	87	1746	0	0	0
206	SLD 7	25	-93	429	0	0	0
206	SLD 8	37	-95	424	0	0	0
206	SLD 9	-44	92	1741	0	0	0
206	SLD 10	-32	90	1736	0	0	0
206	SLD 11	-36	-90	418	0	0	0
206	SLD 12	-24	-92	413	0	0	0
206	SLD 13	-116	32	1267	0	0	0
206	SLD 14	-97	29	1259	0	0	0
206	SLD 15	-113	-22	870	0	0	0
206	SLD 16	-95	-25	862	0	0	0
206	SLV 1	140	39	1457	0	0	0
206	SLV 2	169	34	1444	0	0	0
206	SLV 3	143	-54	780	0	0	0
206	SLV 4	173	-59	767	0	0	0
206	SLV 5	29	153	2224	0	0	0
206	SLV 6	48	149	2216	0	0	0
206	SLV 7	41	-158	-33	0	0	0
206	SLV 8	61	-161	-42	0	0	0
206	SLV 9	-67	158	2206	0	0	0
206	SLV 10	-47	154	2198	0	0	0
206	SLV 11	-55	-153	-51	0	0	0
206	SLV 12	-35	-156	-60	0	0	0
206	SLV 13	-179	56	1397	0	0	0
206	SLV 14	-150	51	1385	0	0	0
206	SLV 15	-176	-37	720	0	0	0
206	SLV 16	-146	-43	707	0	0	0
206	SLV FO 1	154	43	1495	0	0	0
206	SLV FO 2	186	38	1480	0	0	0
206	SLV FO 3	158	-59	750	0	0	0
206	SLV FO 4	190	-65	736	0	0	0
206	SLV FO 5	32	168	2338	0	0	0
206	SLV FO 6	53	165	2329	0	0	0
206	SLV FO 7	45	-173	-145	0	0	0
206	SLV FO 8	67	-177	-154	0	0	0
206	SLV FO 9	-74	174	2319	0	0	0
206	SLV FO 10	-52	170	2309	0	0	0
206	SLV FO 11	-60	-168	-164	0	0	0
206	SLV FO 12	-38	-172	-174	0	0	0
206	SLV FO 13	-197	61	1429	0	0	0
206	SLV FO 14	-165	56	1415	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
206	SLV FO 15	-193	-41	684	0	0	0
206	SLV FO 16	-160	-47	670	0	0	0
206	CRTFP Uy+	0	0	0	0	0	0
206	CRTFP Uy-	0	0	0	0	0	0
207	SLU 1	-3	1	1025	0	0	0
207	SLU 2	-4	6	1052	0	0	0
207	SLU 3	-3	1	1041	0	0	0
207	SLU 4	-4	4	1058	0	0	0
207	SLU 5	-4	6	1063	0	0	0
207	SLU 6	-4	1	1051	0	0	0
207	SLU 7	-4	4	1068	0	0	0
207	SLU 8	-4	1	1045	0	0	0
207	SLU 9	-4	4	1062	0	0	0
207	SLU 10	-3	6	1192	0	0	0
207	SLU 11	-3	1	1180	0	0	0
207	SLU 12	-3	4	1197	0	0	0
207	SLU 13	-3	6	1202	0	0	0
207	SLU 14	-3	1	1191	0	0	0
207	SLU 15	-4	4	1207	0	0	0
207	SLU 16	-3	1	1184	0	0	0
207	SLU 17	-4	4	1201	0	0	0
207	SLU 18	-3	1	1224	0	0	0
207	SLU 19	-3	4	1240	0	0	0
207	SLU 20	-3	1	1234	0	0	0
207	SLU 21	-3	4	1251	0	0	0
207	SLU 22	-4	2	1162	0	0	0
207	SLU 23	-4	7	1190	0	0	0
207	SLU 24	-4	2	1179	0	0	0
207	SLU 25	-4	5	1195	0	0	0
207	SLU 26	-4	6	1200	0	0	0
207	SLU 27	-4	2	1189	0	0	0
207	SLU 28	-4	5	1206	0	0	0
207	SLU 29	-4	2	1183	0	0	0
207	SLU 30	-4	5	1199	0	0	0
207	SLU 31	-4	7	1329	0	0	0
207	SLU 32	-4	2	1318	0	0	0
207	SLU 33	-4	5	1335	0	0	0
207	SLU 34	-4	7	1340	0	0	0
207	SLU 35	-4	2	1328	0	0	0
207	SLU 36	-4	5	1345	0	0	0
207	SLU 37	-4	2	1322	0	0	0
207	SLU 38	-4	5	1339	0	0	0
207	SLU 39	-4	2	1361	0	0	0
207	SLU 40	-4	5	1378	0	0	0
207	SLU 41	-4	2	1372	0	0	0
207	SLU 42	-4	5	1388	0	0	0
207	SLU 43	-4	1	1285	0	0	0
207	SLU 44	-4	6	1312	0	0	0
207	SLU 45	-4	1	1301	0	0	0
207	SLU 46	-4	4	1318	0	0	0
207	SLU 47	-5	6	1323	0	0	0
207	SLU 48	-4	1	1311	0	0	0
207	SLU 49	-5	4	1328	0	0	0
207	SLU 50	-4	1	1305	0	0	0
207	SLU 51	-5	4	1322	0	0	0
207	SLU 52	-4	6	1452	0	0	0
207	SLU 53	-4	1	1441	0	0	0
207	SLU 54	-4	4	1457	0	0	0
207	SLU 55	-4	6	1462	0	0	0
207	SLU 56	-4	1	1451	0	0	0
207	SLU 57	-4	4	1467	0	0	0
207	SLU 58	-4	1	1445	0	0	0
207	SLU 59	-4	4	1461	0	0	0
207	SLU 60	-4	1	1484	0	0	0
207	SLU 61	-4	4	1500	0	0	0
207	SLU 62	-4	1	1494	0	0	0
207	SLU 63	-4	4	1511	0	0	0
207	SLU 64	-5	2	1422	0	0	0
207	SLU 65	-5	7	1450	0	0	0
207	SLU 66	-5	2	1439	0	0	0
207	SLU 67	-5	5	1455	0	0	0
207	SLU 68	-5	6	1460	0	0	0
207	SLU 69	-5	2	1449	0	0	0
207	SLU 70	-5	5	1466	0	0	0
207	SLU 71	-5	2	1443	0	0	0
207	SLU 72	-5	5	1460	0	0	0
207	SLU 73	-5	7	1589	0	0	0
207	SLU 74	-5	2	1578	0	0	0
207	SLU 75	-5	5	1595	0	0	0
207	SLU 76	-5	7	1600	0	0	0
207	SLU 77	-5	2	1588	0	0	0
207	SLU 78	-5	5	1605	0	0	0
207	SLU 79	-5	2	1582	0	0	0
207	SLU 80	-5	5	1599	0	0	0
207	SLU 81	-4	2	1622	0	0	0
207	SLU 82	-4	5	1638	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
207	SLU 83	-4	2	1632	0	0	0
207	SLU 84	-5	5	1648	0	0	0
207	SLE RA 1	-3	1	1064	0	0	0
207	SLE RA 2	-4	4	1082	0	0	0
207	SLE RA 3	-4	1	1075	0	0	0
207	SLE RA 4	-4	3	1086	0	0	0
207	SLE RA 5	-4	4	1089	0	0	0
207	SLE RA 6	-4	1	1082	0	0	0
207	SLE RA 7	-4	3	1093	0	0	0
207	SLE RA 8	-4	1	1078	0	0	0
207	SLE RA 9	-4	3	1089	0	0	0
207	SLE RA 10	-3	5	1175	0	0	0
207	SLE RA 11	-3	1	1168	0	0	0
207	SLE RA 12	-4	3	1179	0	0	0
207	SLE RA 13	-4	5	1182	0	0	0
207	SLE RA 14	-4	1	1175	0	0	0
207	SLE RA 15	-4	3	1186	0	0	0
207	SLE RA 16	-4	1	1170	0	0	0
207	SLE RA 17	-4	3	1182	0	0	0
207	SLE RA 18	-3	2	1197	0	0	0
207	SLE RA 19	-3	3	1208	0	0	0
207	SLE RA 20	-3	1	1203	0	0	0
207	SLE RA 21	-3	3	1215	0	0	0
207	SLE FR 1	-3	1	1064	0	0	0
207	SLE FR 2	-3	2	1068	0	0	0
207	SLE FR 3	-3	1	1067	0	0	0
207	SLE FR 4	-3	2	1107	0	0	0
207	SLE FR 5	-3	1	1106	0	0	0
207	SLE FR 6	-3	1	1130	0	0	0
207	SLE QP 1	-3	1	1064	0	0	0
207	SLE QP 2	-3	1	1104	0	0	0
207	SLD 1	89	35	1286	0	0	0
207	SLD 2	108	32	1279	0	0	0
207	SLD 3	91	-22	883	0	0	0
207	SLD 4	110	-25	875	0	0	0
207	SLD 5	18	98	1771	0	0	0
207	SLD 6	30	96	1767	0	0	0
207	SLD 7	25	-91	427	0	0	0
207	SLD 8	37	-93	422	0	0	0
207	SLD 9	-44	96	1785	0	0	0
207	SLD 10	-32	94	1780	0	0	0
207	SLD 11	-36	-94	441	0	0	0
207	SLD 12	-24	-95	436	0	0	0
207	SLD 13	-117	27	1332	0	0	0
207	SLD 14	-98	25	1325	0	0	0
207	SLD 15	-115	-30	929	0	0	0
207	SLD 16	-96	-32	921	0	0	0
207	SLV 1	141	58	1417	0	0	0
207	SLV 2	170	54	1405	0	0	0
207	SLV 3	145	-39	728	0	0	0
207	SLV 4	174	-43	717	0	0	0
207	SLV 5	29	166	2244	0	0	0
207	SLV 6	49	163	2236	0	0	0
207	SLV 7	41	-157	-51	0	0	0
207	SLV 8	61	-160	-58	0	0	0
207	SLV 9	-68	162	2266	0	0	0
207	SLV 10	-48	160	2258	0	0	0
207	SLV 11	-55	-161	-28	0	0	0
207	SLV 12	-36	-163	-36	0	0	0
207	SLV 13	-181	46	1491	0	0	0
207	SLV 14	-151	42	1479	0	0	0
207	SLV 15	-177	-51	803	0	0	0
207	SLV 16	-148	-55	791	0	0	0
207	SLV FO 1	155	63	1448	0	0	0
207	SLV FO 2	188	59	1435	0	0	0
207	SLV FO 3	159	-43	691	0	0	0
207	SLV FO 4	192	-48	678	0	0	0
207	SLV FO 5	32	182	2358	0	0	0
207	SLV FO 6	54	179	2349	0	0	0
207	SLV FO 7	46	-173	-166	0	0	0
207	SLV FO 8	67	-176	-175	0	0	0
207	SLV FO 9	-74	178	2382	0	0	0
207	SLV FO 10	-52	175	2373	0	0	0
207	SLV FO 11	-61	-177	-141	0	0	0
207	SLV FO 12	-39	-180	-150	0	0	0
207	SLV FO 13	-199	50	1530	0	0	0
207	SLV FO 14	-166	46	1517	0	0	0
207	SLV FO 15	-195	-56	772	0	0	0
207	SLV FO 16	-162	-61	760	0	0	0
207	CRTFP Uy+	0	0	0	0	0	0
207	CRTFP Uy-	0	0	0	0	0	0
209	SLU 1	-2	-11	470	-28.19	59.13	1.23
209	SLU 2	-2	-9	483	-28.98	60.8	1.01
209	SLU 3	-2	-11	477	-28.62	60.04	1.25
209	SLU 4	-2	-10	485	-29.1	61.04	1.12
209	SLU 5	-2	-9	488	-29.25	61.37	1.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
209	SLU 6	-2	-11	482	-28.89	60.61	1.27
209	SLU 7	-2	-10	489	-29.37	61.61	1.13
209	SLU 8	-2	-11	479	-28.73	60.27	1.26
209	SLU 9	-2	-10	487	-29.2	61.27	1.13
209	SLU 10	-2	-10	545	-32.69	68.59	1.16
209	SLU 11	-2	-12	539	-32.33	67.83	1.41
209	SLU 12	-2	-11	547	-32.81	68.83	1.28
209	SLU 13	-2	-10	549	-32.96	69.15	1.18
209	SLU 14	-2	-12	543	-32.6	68.4	1.42
209	SLU 15	-2	-11	551	-33.08	69.4	1.29
209	SLU 16	-2	-12	541	-32.44	68.05	1.42
209	SLU 17	-2	-11	549	-32.92	69.05	1.28
209	SLU 18	-1	-12	558	-33.49	70.26	1.45
209	SLU 19	-1	-11	566	-33.97	71.26	1.32
209	SLU 20	-1	-12	563	-33.76	70.82	1.47
209	SLU 21	-2	-11	571	-34.24	71.82	1.34
209	SLU 22	-2	-12	533	-31.97	67.08	1.38
209	SLU 23	-2	-10	546	-32.77	68.75	1.16
209	SLU 24	-2	-12	540	-32.41	67.99	1.4
209	SLU 25	-2	-11	548	-32.88	68.99	1.27
209	SLU 26	-2	-10	551	-33.04	69.31	1.18
209	SLU 27	-2	-12	545	-32.68	68.55	1.42
209	SLU 28	-2	-11	553	-33.15	69.55	1.29
209	SLU 29	-2	-12	542	-32.51	68.21	1.41
209	SLU 30	-2	-11	550	-32.99	69.21	1.28
209	SLU 31	-2	-11	608	-36.48	76.53	1.32
209	SLU 32	-2	-13	602	-36.12	75.77	1.56
209	SLU 33	-2	-12	610	-36.6	76.77	1.43
209	SLU 34	-2	-11	613	-36.75	77.1	1.33
209	SLU 35	-2	-13	606	-36.39	76.34	1.58
209	SLU 36	-2	-12	614	-36.87	77.34	1.44
209	SLU 37	-2	-13	604	-36.23	76	1.57
209	SLU 38	-2	-12	612	-36.7	77	1.44
209	SLU 39	-2	-14	621	-37.28	78.2	1.6
209	SLU 40	-2	-12	629	-37.75	79.2	1.47
209	SLU 41	-2	-14	626	-37.55	78.77	1.62
209	SLU 42	-2	-13	634	-38.02	79.77	1.49
209	SLU 43	-2	-13	589	-35.35	74.15	1.54
209	SLU 44	-2	-12	602	-36.14	75.82	1.32
209	SLU 45	-2	-13	596	-35.78	75.06	1.57
209	SLU 46	-2	-12	604	-36.26	76.06	1.43
209	SLU 47	-2	-12	607	-36.41	76.38	1.34
209	SLU 48	-2	-14	601	-36.05	75.63	1.58
209	SLU 49	-2	-13	609	-36.53	76.63	1.45
209	SLU 50	-2	-14	598	-35.89	75.28	1.57
209	SLU 51	-2	-13	606	-36.36	76.28	1.44
209	SLU 52	-2	-13	664	-39.85	83.61	1.48
209	SLU 53	-2	-15	658	-39.49	82.85	1.72
209	SLU 54	-2	-14	666	-39.97	83.85	1.59
209	SLU 55	-2	-13	669	-40.12	84.17	1.5
209	SLU 56	-2	-15	663	-39.76	83.41	1.74
209	SLU 57	-2	-14	671	-40.24	84.41	1.61
209	SLU 58	-2	-15	660	-39.6	83.07	1.73
209	SLU 59	-2	-14	668	-40.07	84.07	1.6
209	SLU 60	-2	-15	677	-40.65	85.27	1.77
209	SLU 61	-2	-14	685	-41.13	86.28	1.64
209	SLU 62	-2	-15	682	-40.92	85.84	1.78
209	SLU 63	-2	-14	690	-41.39	86.84	1.65
209	SLU 64	-2	-15	652	-39.13	82.09	1.7
209	SLU 65	-2	-13	665	-39.93	83.76	1.48
209	SLU 66	-2	-15	659	-39.57	83	1.72
209	SLU 67	-2	-14	667	-40.04	84	1.59
209	SLU 68	-2	-13	670	-40.2	84.33	1.49
209	SLU 69	-2	-15	664	-39.84	83.57	1.74
209	SLU 70	-2	-14	672	-40.31	84.57	1.6
209	SLU 71	-2	-15	661	-39.67	83.23	1.73
209	SLU 72	-2	-14	669	-40.15	84.23	1.59
209	SLU 73	-2	-14	727	-43.64	91.55	1.63
209	SLU 74	-2	-16	721	-43.28	90.79	1.88
209	SLU 75	-2	-15	729	-43.75	91.79	1.74
209	SLU 76	-2	-14	732	-43.91	92.11	1.65
209	SLU 77	-2	-16	726	-43.55	91.36	1.89
209	SLU 78	-2	-15	734	-44.02	92.36	1.76
209	SLU 79	-2	-16	723	-43.38	91.01	1.88
209	SLU 80	-2	-15	731	-43.86	92.01	1.75
209	SLU 81	-2	-16	741	-44.43	93.22	1.92
209	SLU 82	-2	-15	749	-44.91	94.22	1.79
209	SLU 83	-2	-16	745	-44.7	93.78	1.94
209	SLU 84	-2	-15	753	-45.18	94.78	1.8
209	SLE RA 1	-2	-11	488	-29.27	61.4	1.27
209	SLE RA 2	-2	-10	497	-29.8	62.52	1.12
209	SLE RA 3	-2	-11	493	-29.56	62.01	1.29
209	SLE RA 4	-2	-10	498	-29.88	62.68	1.2
209	SLE RA 5	-2	-10	500	-29.98	62.89	1.13
209	SLE RA 6	-2	-11	496	-29.74	62.39	1.3
209	SLE RA 7	-2	-10	501	-30.06	63.05	1.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
209	SLE RA 8	-2	-11	494	-29.63	62.16	1.29
209	SLE RA 9	-2	-10	499	-29.95	62.83	1.2
209	SLE RA 10	-2	-11	538	-32.27	67.71	1.23
209	SLE RA 11	-2	-12	534	-32.03	67.2	1.39
209	SLE RA 12	-2	-11	539	-32.35	67.87	1.3
209	SLE RA 13	-2	-11	541	-32.45	68.08	1.24
209	SLE RA 14	-2	-12	537	-32.21	67.58	1.4
209	SLE RA 15	-2	-11	542	-32.53	68.25	1.31
209	SLE RA 16	-2	-12	535	-32.1	67.35	1.4
209	SLE RA 17	-2	-11	540	-32.42	68.02	1.31
209	SLE RA 18	-2	-12	547	-32.8	68.82	1.42
209	SLE RA 19	-2	-11	552	-33.12	69.49	1.33
209	SLE RA 20	-2	-12	550	-32.98	69.2	1.43
209	SLE RA 21	-2	-11	555	-33.3	69.86	1.34
209	SLE FR 1	-2	-11	488	-29.27	61.4	1.27
209	SLE FR 2	-2	-11	490	-29.38	61.63	1.24
209	SLE FR 3	-2	-11	489	-29.34	61.55	1.28
209	SLE FR 4	-2	-11	507	-30.44	63.85	1.29
209	SLE FR 5	-2	-11	507	-30.4	63.78	1.32
209	SLE FR 6	-2	-11	517	-31.04	65.11	1.35
209	SLE QP 1	-2	-11	488	-29.27	61.4	1.27
209	SLE QP 2	-2	-11	506	-30.33	63.63	1.32
209	SLD 1	41	-7	631	-37.88	79.48	3.32
209	SLD 2	50	-11	625	-37.49	78.65	4.38
209	SLD 3	42	-28	442	-26.55	55.69	5.98
209	SLD 4	51	-32	436	-26.15	54.87	7.04
209	SLD 5	8	22	831	-49.86	104.6	-2.3
209	SLD 6	13	19	827	-49.6	104.06	-1.62
209	SLD 7	12	-47	201	-12.07	25.32	6.57
209	SLD 8	18	-50	197	-11.81	24.79	7.25
209	SLD 9	-21	27	814	-48.85	102.47	-4.62
209	SLD 10	-15	24	810	-48.59	101.94	-3.94
209	SLD 11	-17	-42	184	-11.06	23.19	4.25
209	SLD 12	-11	-45	180	-10.8	22.66	4.93
209	SLD 13	-54	10	575	-34.51	72.39	-4.41
209	SLD 14	-46	5	569	-34.11	71.56	-3.35
209	SLD 15	-53	-11	386	-23.17	48.61	-1.75
209	SLD 16	-44	-15	380	-22.78	47.78	-0.69
209	SLV 1	65	-3	716	-42.97	90.16	4.25
209	SLV 2	79	-10	706	-42.35	88.85	5.92
209	SLV 3	67	-39	394	-23.63	49.57	8.79
209	SLV 4	81	-45	383	-23.01	48.26	10.45
209	SLV 5	13	46	1060	-63.58	133.39	-4.99
209	SLV 6	22	42	1053	-63.16	132.51	-3.87
209	SLV 7	20	-72	-15	0.91	-1.9	10.12
209	SLV 8	29	-76	-22	1.33	-2.78	11.24
209	SLV 9	-32	54	1033	-61.99	130.04	-8.61
209	SLV 10	-23	49	1026	-61.57	129.16	-7.49
209	SLV 11	-25	-64	-42	2.5	-5.25	6.5
209	SLV 12	-16	-68	-49	2.92	-6.13	7.62
209	SLV 13	-84	23	628	-37.65	78.99	-7.82
209	SLV 14	-70	16	617	-37.03	77.69	-6.16
209	SLV 15	-82	-13	305	-18.31	38.41	-3.29
209	SLV 16	-68	-19	295	-17.69	37.1	-1.62
209	SLV FO 1	72	-2	737	-44.24	92.81	4.55
209	SLV FO 2	87	-10	726	-43.55	91.37	6.38
209	SLV FO 3	74	-41	383	-22.96	48.16	9.53
209	SLV FO 4	89	-49	371	-22.27	46.73	11.36
209	SLV FO 5	14	52	1115	-66.91	140.36	-5.62
209	SLV FO 6	24	47	1107	-66.45	139.4	-4.39
209	SLV FO 7	22	-78	-67	4.03	-8.46	11
209	SLV FO 8	32	-83	-75	4.49	-9.42	12.24
209	SLV FO 9	-35	60	1086	-65.15	136.68	-9.6
209	SLV FO 10	-25	55	1078	-64.69	135.71	-8.37
209	SLV FO 11	-27	-69	-96	5.79	-12.14	7.02
209	SLV FO 12	-17	-74	-104	6.25	-13.11	8.25
209	SLV FO 13	-92	26	640	-38.39	80.53	-8.73
209	SLV FO 14	-77	19	628	-37.7	79.09	-6.9
209	SLV FO 15	-90	-13	285	-17.11	35.88	-3.75
209	SLV FO 16	-75	-20	274	-16.42	34.45	-1.91
209	CRTFP Ux+	0	0	0	0	0	0
209	CRTFP Ux-	0	0	0	0	0	0
209	CRTFP Uy+	0	0	0	0	0	0
209	CRTFP Uy-	0	0	0	0	0	0
210	SLU 1	-2	2	519	-31.13	0	-0.1
210	SLU 2	-2	4	533	-31.97	0	-0.1
210	SLU 3	-2	2	527	-31.63	0	-0.1
210	SLU 4	-2	3	536	-32.13	0	-0.1
210	SLU 5	-2	4	538	-32.28	0	-0.11
210	SLU 6	-2	2	532	-31.94	0	-0.11
210	SLU 7	-2	3	541	-32.45	0	-0.11
210	SLU 8	-2	2	529	-31.75	0	-0.1
210	SLU 9	-2	3	538	-32.26	0	-0.11
210	SLU 10	-2	4	604	-36.22	0	-0.1
210	SLU 11	-2	2	598	-35.89	0	-0.09
210	SLU 12	-2	4	606	-36.39	0	-0.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
210	SLU 13	-2	4	609	-36.53	0	-0.1
210	SLU 14	-2	2	603	-36.2	0	-0.1
210	SLU 15	-2	3	612	-36.7	0	-0.1
210	SLU 16	-2	2	600	-36.01	0	-0.1
210	SLU 17	-2	3	609	-36.51	0	-0.1
210	SLU 18	-1	2	620	-37.21	0	-0.09
210	SLU 19	-2	4	628	-37.71	0	-0.09
210	SLU 20	-2	2	625	-37.52	0	-0.09
210	SLU 21	-2	4	634	-38.02	0	-0.1
210	SLU 22	-2	2	589	-35.31	0	-0.11
210	SLU 23	-2	5	603	-36.15	0	-0.12
210	SLU 24	-2	2	597	-35.82	0	-0.11
210	SLU 25	-2	4	605	-36.32	0	-0.12
210	SLU 26	-2	5	608	-36.47	0	-0.12
210	SLU 27	-2	2	602	-36.13	0	-0.12
210	SLU 28	-2	4	611	-36.63	0	-0.12
210	SLU 29	-2	2	599	-35.94	0	-0.12
210	SLU 30	-2	4	607	-36.44	0	-0.12
210	SLU 31	-2	5	673	-40.41	0	-0.11
210	SLU 32	-2	3	668	-40.07	0	-0.11
210	SLU 33	-2	4	676	-40.58	0	-0.11
210	SLU 34	-2	5	679	-40.72	0	-0.11
210	SLU 35	-2	3	673	-40.39	0	-0.11
210	SLU 36	-2	4	681	-40.89	0	-0.12
210	SLU 37	-2	3	670	-40.2	0	-0.11
210	SLU 38	-2	4	678	-40.7	0	-0.12
210	SLU 39	-2	3	690	-41.39	0	-0.1
210	SLU 40	-2	4	698	-41.9	0	-0.1
210	SLU 41	-2	3	695	-41.71	0	-0.11
210	SLU 42	-2	4	703	-42.21	0	-0.11
210	SLU 43	-2	2	651	-39.03	0	-0.12
210	SLU 44	-2	5	664	-39.87	0	-0.13
210	SLU 45	-2	2	659	-39.53	0	-0.12
210	SLU 46	-2	4	667	-40.04	0	-0.13
210	SLU 47	-2	5	670	-40.18	0	-0.13
210	SLU 48	-2	2	664	-39.85	0	-0.13
210	SLU 49	-2	4	672	-40.35	0	-0.13
210	SLU 50	-2	2	661	-39.66	0	-0.13
210	SLU 51	-2	4	669	-40.16	0	-0.13
210	SLU 52	-2	5	735	-44.12	0	-0.12
210	SLU 53	-2	2	730	-43.79	0	-0.12
210	SLU 54	-2	4	738	-44.29	0	-0.12
210	SLU 55	-2	5	741	-44.44	0	-0.12
210	SLU 56	-2	2	735	-44.1	0	-0.12
210	SLU 57	-2	4	743	-44.6	0	-0.13
210	SLU 58	-2	2	732	-43.91	0	-0.12
210	SLU 59	-2	4	740	-44.41	0	-0.13
210	SLU 60	-2	2	752	-45.11	0	-0.11
210	SLU 61	-2	4	760	-45.61	0	-0.11
210	SLU 62	-2	2	757	-45.42	0	-0.12
210	SLU 63	-2	4	765	-45.93	0	-0.12
210	SLU 64	-2	3	720	-43.22	0	-0.13
210	SLU 65	-2	5	734	-44.06	0	-0.14
210	SLU 66	-2	3	729	-43.72	0	-0.14
210	SLU 67	-2	4	737	-44.22	0	-0.14
210	SLU 68	-2	5	739	-44.37	0	-0.14
210	SLU 69	-2	3	734	-44.03	0	-0.14
210	SLU 70	-2	4	742	-44.54	0	-0.15
210	SLU 71	-2	3	731	-43.84	0	-0.14
210	SLU 72	-2	4	739	-44.35	0	-0.15
210	SLU 73	-2	5	805	-48.31	0	-0.13
210	SLU 74	-2	3	800	-47.98	0	-0.13
210	SLU 75	-2	4	808	-48.48	0	-0.14
210	SLU 76	-2	5	810	-48.62	0	-0.14
210	SLU 77	-2	3	805	-48.29	0	-0.14
210	SLU 78	-2	4	813	-48.79	0	-0.14
210	SLU 79	-2	3	802	-48.1	0	-0.14
210	SLU 80	-2	4	810	-48.6	0	-0.14
210	SLU 81	-2	3	822	-49.3	0	-0.12
210	SLU 82	-2	4	830	-49.8	0	-0.13
210	SLU 83	-2	3	827	-49.61	0	-0.13
210	SLU 84	-2	4	835	-50.11	0	-0.13
210	SLE RA 1	-2	2	539	-32.32	0	-0.1
210	SLE RA 2	-2	4	548	-32.88	0	-0.1
210	SLE RA 3	-2	2	544	-32.66	0	-0.1
210	SLE RA 4	-2	3	550	-32.99	0	-0.11
210	SLE RA 5	-2	4	552	-33.09	0	-0.11
210	SLE RA 6	-2	2	548	-32.87	0	-0.11
210	SLE RA 7	-2	3	553	-33.2	0	-0.11
210	SLE RA 8	-2	2	546	-32.74	0	-0.11
210	SLE RA 9	-2	3	551	-33.08	0	-0.11
210	SLE RA 10	-2	4	595	-35.72	0	-0.1
210	SLE RA 11	-2	2	592	-35.5	0	-0.1
210	SLE RA 12	-2	3	597	-35.83	0	-0.1
210	SLE RA 13	-2	4	599	-35.93	0	-0.1
210	SLE RA 14	-2	2	595	-35.7	0	-0.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
210	SLE RA 15	-2	3	601	-36.04	0	-0.1
210	SLE RA 16	-2	2	593	-35.58	0	-0.1
210	SLE RA 17	-2	3	599	-35.91	0	-0.1
210	SLE RA 18	-2	2	606	-36.38	0	-0.09
210	SLE RA 19	-2	3	612	-36.71	0	-0.1
210	SLE RA 20	-2	2	610	-36.58	0	-0.1
210	SLE RA 21	-2	3	615	-36.92	0	-0.1
210	SLE FR 1	-2	2	539	-32.32	0	-0.1
210	SLE FR 2	-2	2	541	-32.44	0	-0.1
210	SLE FR 3	-2	2	540	-32.41	0	-0.1
210	SLE FR 4	-2	2	561	-33.65	0	-0.1
210	SLE FR 5	-2	2	560	-33.62	0	-0.1
210	SLE FR 6	-2	2	573	-34.35	0	-0.1
210	SLE QP 1	-2	2	539	-32.32	0	-0.1
210	SLE QP 2	-2	2	559	-33.54	0	-0.1
210	SLD 1	46	19	648	-38.89	0	2.76
210	SLD 2	55	18	645	-38.7	0	3.33
210	SLD 3	45	-11	445	-26.68	0	2.69
210	SLD 4	54	-12	441	-26.48	0	3.26
210	SLD 5	13	52	895	-53.71	0	0.77
210	SLD 6	19	52	893	-53.58	0	1.13
210	SLD 7	9	-47	216	-12.99	0	0.54
210	SLD 8	15	-47	214	-12.86	0	0.91
210	SLD 9	-18	51	904	-54.22	0	-1.1
210	SLD 10	-12	51	902	-54.09	0	-0.73
210	SLD 11	-22	-47	225	-13.5	0	-1.33
210	SLD 12	-16	-48	223	-13.37	0	-0.96
210	SLD 13	-58	16	677	-40.6	0	-3.46
210	SLD 14	-48	15	673	-40.4	0	-2.89
210	SLD 15	-59	-14	473	-28.38	0	-3.52
210	SLD 16	-49	-15	470	-28.18	0	-2.96
210	SLV 1	73	30	713	-42.76	0	4.37
210	SLV 2	88	29	707	-42.45	0	5.27
210	SLV 3	71	-20	365	-21.91	0	4.26
210	SLV 4	86	-21	360	-21.6	0	5.16
210	SLV 5	21	87	1133	-67.98	0	1.24
210	SLV 6	31	86	1130	-67.77	0	1.84
210	SLV 7	15	-81	-25	1.51	0	0.88
210	SLV 8	25	-82	-29	1.72	0	1.48
210	SLV 9	-28	86	1147	-68.8	0	-1.68
210	SLV 10	-18	85	1143	-68.59	0	-1.07
210	SLV 11	-34	-82	-12	0.69	0	-2.04
210	SLV 12	-24	-83	-15	0.9	0	-1.44
210	SLV 13	-89	25	758	-45.48	0	-5.35
210	SLV 14	-74	24	753	-45.17	0	-4.46
210	SLV 15	-91	-25	411	-24.63	0	-5.46
210	SLV 16	-76	-26	405	-24.32	0	-4.57
210	SLV FO 1	80	33	728	-43.68	0	4.82
210	SLV FO 2	97	32	722	-43.34	0	5.8
210	SLV FO 3	78	-22	346	-20.75	0	4.7
210	SLV FO 4	95	-24	340	-20.41	0	5.68
210	SLV FO 5	23	96	1190	-71.43	0	1.38
210	SLV FO 6	34	95	1187	-71.2	0	2.04
210	SLV FO 7	16	-89	-84	5.02	0	0.98
210	SLV FO 8	27	-90	-87	5.25	0	1.64
210	SLV FO 9	-31	94	1205	-72.33	0	-1.83
210	SLV FO 10	-20	93	1202	-72.09	0	-1.17
210	SLV FO 11	-37	-91	-69	4.12	0	-2.23
210	SLV FO 12	-26	-92	-72	4.35	0	-1.57
210	SLV FO 13	-98	28	778	-46.67	0	-5.88
210	SLV FO 14	-82	26	772	-46.33	0	-4.89
210	SLV FO 15	-100	-28	396	-23.74	0	-6
210	SLV FO 16	-84	-29	390	-23.4	0	-5.01
210	CRTFP Ux+	0	0	0	0	0	0
210	CRTFP Ux-	0	0	0	0	0	0
210	CRTFP Uy+	0	0	0	0	0	0
210	CRTFP Uy-	0	0	0	0	0	0
212	SLU 1	0	-15	1230	0	0	0
212	SLU 2	0	-9	1262	0	0	0
212	SLU 3	0	-16	1248	0	0	0
212	SLU 4	0	-12	1268	0	0	0
212	SLU 5	0	-10	1274	0	0	0
212	SLU 6	0	-16	1259	0	0	0
212	SLU 7	0	-12	1279	0	0	0
212	SLU 8	0	-16	1252	0	0	0
212	SLU 9	0	-12	1272	0	0	0
212	SLU 10	0	-11	1423	0	0	0
212	SLU 11	-1	-17	1409	0	0	0
212	SLU 12	-1	-14	1429	0	0	0
212	SLU 13	0	-11	1434	0	0	0
212	SLU 14	-1	-17	1420	0	0	0
212	SLU 15	-1	-14	1440	0	0	0
212	SLU 16	-1	-17	1413	0	0	0
212	SLU 17	-1	-14	1433	0	0	0
212	SLU 18	-1	-17	1460	0	0	0
212	SLU 19	-1	-14	1479	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
212	SLU 20	-1	-18	1471	0	0	0
212	SLU 21	-1	-14	1490	0	0	0
212	SLU 22	0	-17	1388	0	0	0
212	SLU 23	1	-11	1421	0	0	0
212	SLU 24	0	-17	1406	0	0	0
212	SLU 25	0	-14	1426	0	0	0
212	SLU 26	0	-12	1432	0	0	0
212	SLU 27	0	-18	1418	0	0	0
212	SLU 28	0	-14	1437	0	0	0
212	SLU 29	0	-18	1411	0	0	0
212	SLU 30	0	-14	1430	0	0	0
212	SLU 31	0	-13	1582	0	0	0
212	SLU 32	-1	-19	1567	0	0	0
212	SLU 33	0	-16	1587	0	0	0
212	SLU 34	0	-13	1593	0	0	0
212	SLU 35	-1	-19	1579	0	0	0
212	SLU 36	-1	-16	1598	0	0	0
212	SLU 37	-1	-19	1571	0	0	0
212	SLU 38	-1	-16	1591	0	0	0
212	SLU 39	-1	-19	1618	0	0	0
212	SLU 40	0	-16	1638	0	0	0
212	SLU 41	-1	-20	1629	0	0	0
212	SLU 42	-1	-16	1649	0	0	0
212	SLU 43	0	-19	1545	0	0	0
212	SLU 44	0	-13	1577	0	0	0
212	SLU 45	0	-19	1563	0	0	0
212	SLU 46	0	-16	1582	0	0	0
212	SLU 47	0	-14	1588	0	0	0
212	SLU 48	0	-20	1574	0	0	0
212	SLU 49	0	-16	1594	0	0	0
212	SLU 50	0	-20	1567	0	0	0
212	SLU 51	0	-16	1587	0	0	0
212	SLU 52	0	-15	1738	0	0	0
212	SLU 53	-1	-21	1724	0	0	0
212	SLU 54	-1	-18	1743	0	0	0
212	SLU 55	0	-15	1749	0	0	0
212	SLU 56	-1	-21	1735	0	0	0
212	SLU 57	-1	-18	1754	0	0	0
212	SLU 58	-1	-21	1728	0	0	0
212	SLU 59	-1	-18	1747	0	0	0
212	SLU 60	-1	-21	1774	0	0	0
212	SLU 61	-1	-18	1794	0	0	0
212	SLU 62	-1	-22	1786	0	0	0
212	SLU 63	-1	-18	1805	0	0	0
212	SLU 64	0	-21	1703	0	0	0
212	SLU 65	1	-15	1735	0	0	0
212	SLU 66	0	-21	1721	0	0	0
212	SLU 67	0	-18	1741	0	0	0
212	SLU 68	0	-16	1747	0	0	0
212	SLU 69	0	-22	1732	0	0	0
212	SLU 70	0	-18	1752	0	0	0
212	SLU 71	0	-22	1725	0	0	0
212	SLU 72	0	-18	1745	0	0	0
212	SLU 73	0	-17	1896	0	0	0
212	SLU 74	-1	-23	1882	0	0	0
212	SLU 75	0	-20	1902	0	0	0
212	SLU 76	0	-17	1908	0	0	0
212	SLU 77	-1	-23	1893	0	0	0
212	SLU 78	-1	-20	1913	0	0	0
212	SLU 79	-1	-23	1886	0	0	0
212	SLU 80	-1	-20	1906	0	0	0
212	SLU 81	-1	-23	1933	0	0	0
212	SLU 82	0	-20	1952	0	0	0
212	SLU 83	-1	-24	1944	0	0	0
212	SLU 84	-1	-20	1963	0	0	0
212	SLE RA 1	0	-16	1275	0	0	0
212	SLE RA 2	0	-12	1297	0	0	0
212	SLE RA 3	0	-16	1287	0	0	0
212	SLE RA 4	0	-14	1300	0	0	0
212	SLE RA 5	0	-12	1304	0	0	0
212	SLE RA 6	0	-16	1295	0	0	0
212	SLE RA 7	0	-14	1308	0	0	0
212	SLE RA 8	0	-16	1290	0	0	0
212	SLE RA 9	0	-14	1303	0	0	0
212	SLE RA 10	0	-13	1404	0	0	0
212	SLE RA 11	0	-17	1395	0	0	0
212	SLE RA 12	0	-15	1408	0	0	0
212	SLE RA 13	0	-13	1412	0	0	0
212	SLE RA 14	-1	-17	1402	0	0	0
212	SLE RA 15	0	-15	1415	0	0	0
212	SLE RA 16	-1	-17	1397	0	0	0
212	SLE RA 17	0	-15	1410	0	0	0
212	SLE RA 18	0	-17	1428	0	0	0
212	SLE RA 19	0	-15	1441	0	0	0
212	SLE RA 20	-1	-17	1436	0	0	0
212	SLE RA 21	0	-15	1449	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
212	SLE FR 1	0	-16	1275	0	0	0
212	SLE FR 2	0	-15	1280	0	0	0
212	SLE FR 3	0	-16	1278	0	0	0
212	SLE FR 4	0	-15	1325	0	0	0
212	SLE FR 5	0	-16	1324	0	0	0
212	SLE FR 6	0	-16	1352	0	0	0
212	SLE QP 1	0	-16	1275	0	0	0
212	SLE QP 2	0	-16	1321	0	0	0
212	SLD 1	129	22	1506	0	0	0
212	SLD 2	153	25	1514	0	0	0
212	SLD 3	124	-49	1038	0	0	0
212	SLD 4	148	-45	1046	0	0	0
212	SLD 5	42	101	2085	0	0	0
212	SLD 6	58	103	2091	0	0	0
212	SLD 7	25	-133	525	0	0	0
212	SLD 8	41	-131	530	0	0	0
212	SLD 9	-41	99	2113	0	0	0
212	SLD 10	-25	101	2118	0	0	0
212	SLD 11	-58	-136	552	0	0	0
212	SLD 12	-42	-134	557	0	0	0
212	SLD 13	-148	13	1597	0	0	0
212	SLD 14	-124	16	1604	0	0	0
212	SLD 15	-153	-57	1128	0	0	0
212	SLD 16	-129	-54	1136	0	0	0
212	SLV 1	202	48	1643	0	0	0
212	SLV 2	240	53	1656	0	0	0
212	SLV 3	193	-72	844	0	0	0
212	SLV 4	232	-67	857	0	0	0
212	SLV 5	66	184	2627	0	0	0
212	SLV 6	92	188	2636	0	0	0
212	SLV 7	38	-216	-36	0	0	0
212	SLV 8	64	-212	-28	0	0	0
212	SLV 9	-64	180	2670	0	0	0
212	SLV 10	-38	183	2678	0	0	0
212	SLV 11	-92	-220	7	0	0	0
212	SLV 12	-66	-217	15	0	0	0
212	SLV 13	-232	34	1786	0	0	0
212	SLV 14	-193	39	1798	0	0	0
212	SLV 15	-240	-86	987	0	0	0
212	SLV 16	-202	-81	999	0	0	0
212	SLV FO 1	222	55	1675	0	0	0
212	SLV FO 2	264	60	1689	0	0	0
212	SLV FO 3	212	-77	796	0	0	0
212	SLV FO 4	255	-72	810	0	0	0
212	SLV FO 5	73	204	2758	0	0	0
212	SLV FO 6	101	208	2767	0	0	0
212	SLV FO 7	42	-236	-172	0	0	0
212	SLV FO 8	70	-232	-163	0	0	0
212	SLV FO 9	-70	200	2805	0	0	0
212	SLV FO 10	-42	203	2814	0	0	0
212	SLV FO 11	-101	-240	-125	0	0	0
212	SLV FO 12	-73	-237	-116	0	0	0
212	SLV FO 13	-255	39	1832	0	0	0
212	SLV FO 14	-212	45	1846	0	0	0
212	SLV FO 15	-264	-93	953	0	0	0
212	SLV FO 16	-222	-87	967	0	0	0
212	CRTFP Uy+	0	0	0	0	0	0
212	CRTFP Uy-	0	0	0	0	0	0
213	SLU 1	0	-16	1203	0	0	0
213	SLU 2	1	-11	1235	0	0	0
213	SLU 3	0	-17	1220	0	0	0
213	SLU 4	0	-14	1240	0	0	0
213	SLU 5	0	-11	1246	0	0	0
213	SLU 6	0	-17	1231	0	0	0
213	SLU 7	0	-14	1250	0	0	0
213	SLU 8	0	-17	1224	0	0	0
213	SLU 9	0	-14	1244	0	0	0
213	SLU 10	0	-13	1391	0	0	0
213	SLU 11	0	-19	1377	0	0	0
213	SLU 12	0	-15	1396	0	0	0
213	SLU 13	0	-13	1402	0	0	0
213	SLU 14	-1	-19	1388	0	0	0
213	SLU 15	0	-16	1407	0	0	0
213	SLU 16	-1	-19	1381	0	0	0
213	SLU 17	-1	-16	1400	0	0	0
213	SLU 18	0	-19	1426	0	0	0
213	SLU 19	0	-16	1445	0	0	0
213	SLU 20	-1	-19	1437	0	0	0
213	SLU 21	-1	-16	1456	0	0	0
213	SLU 22	1	-19	1358	0	0	0
213	SLU 23	1	-13	1389	0	0	0
213	SLU 24	0	-19	1375	0	0	0
213	SLU 25	1	-16	1394	0	0	0
213	SLU 26	1	-13	1400	0	0	0
213	SLU 27	0	-19	1386	0	0	0
213	SLU 28	0	-16	1405	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
213	SLU 29	0	-19	1379	0	0	0
213	SLU 30	0	-16	1398	0	0	0
213	SLU 31	0	-15	1546	0	0	0
213	SLU 32	0	-21	1532	0	0	0
213	SLU 33	0	-18	1551	0	0	0
213	SLU 34	0	-15	1557	0	0	0
213	SLU 35	0	-21	1543	0	0	0
213	SLU 36	0	-18	1562	0	0	0
213	SLU 37	0	-21	1536	0	0	0
213	SLU 38	0	-18	1555	0	0	0
213	SLU 39	0	-21	1581	0	0	0
213	SLU 40	0	-18	1600	0	0	0
213	SLU 41	-1	-21	1592	0	0	0
213	SLU 42	0	-18	1611	0	0	0
213	SLU 43	0	-21	1511	0	0	0
213	SLU 44	1	-15	1542	0	0	0
213	SLU 45	0	-21	1528	0	0	0
213	SLU 46	0	-18	1547	0	0	0
213	SLU 47	1	-16	1553	0	0	0
213	SLU 48	0	-21	1539	0	0	0
213	SLU 49	0	-18	1558	0	0	0
213	SLU 50	0	-21	1532	0	0	0
213	SLU 51	0	-18	1551	0	0	0
213	SLU 52	0	-17	1699	0	0	0
213	SLU 53	0	-23	1685	0	0	0
213	SLU 54	0	-20	1704	0	0	0
213	SLU 55	0	-17	1710	0	0	0
213	SLU 56	-1	-23	1696	0	0	0
213	SLU 57	0	-20	1715	0	0	0
213	SLU 58	-1	-23	1689	0	0	0
213	SLU 59	0	-20	1708	0	0	0
213	SLU 60	0	-23	1734	0	0	0
213	SLU 61	0	-20	1753	0	0	0
213	SLU 62	-1	-24	1745	0	0	0
213	SLU 63	-1	-20	1764	0	0	0
213	SLU 64	1	-23	1665	0	0	0
213	SLU 65	1	-17	1697	0	0	0
213	SLU 66	0	-23	1683	0	0	0
213	SLU 67	1	-20	1702	0	0	0
213	SLU 68	1	-18	1708	0	0	0
213	SLU 69	0	-24	1694	0	0	0
213	SLU 70	0	-20	1713	0	0	0
213	SLU 71	0	-23	1687	0	0	0
213	SLU 72	0	-20	1706	0	0	0
213	SLU 73	0	-19	1854	0	0	0
213	SLU 74	0	-25	1839	0	0	0
213	SLU 75	0	-22	1859	0	0	0
213	SLU 76	0	-19	1864	0	0	0
213	SLU 77	0	-25	1850	0	0	0
213	SLU 78	0	-22	1869	0	0	0
213	SLU 79	0	-25	1843	0	0	0
213	SLU 80	0	-22	1863	0	0	0
213	SLU 81	0	-25	1889	0	0	0
213	SLU 82	0	-22	1908	0	0	0
213	SLU 83	0	-26	1900	0	0	0
213	SLU 84	0	-22	1919	0	0	0
213	SLE RA 1	0	-17	1247	0	0	0
213	SLE RA 2	1	-13	1268	0	0	0
213	SLE RA 3	0	-17	1259	0	0	0
213	SLE RA 4	0	-15	1272	0	0	0
213	SLE RA 5	1	-14	1275	0	0	0
213	SLE RA 6	0	-18	1266	0	0	0
213	SLE RA 7	0	-15	1279	0	0	0
213	SLE RA 8	0	-17	1261	0	0	0
213	SLE RA 9	0	-15	1274	0	0	0
213	SLE RA 10	0	-15	1373	0	0	0
213	SLE RA 11	0	-19	1363	0	0	0
213	SLE RA 12	0	-16	1376	0	0	0
213	SLE RA 13	0	-15	1380	0	0	0
213	SLE RA 14	0	-19	1370	0	0	0
213	SLE RA 15	0	-17	1383	0	0	0
213	SLE RA 16	0	-19	1366	0	0	0
213	SLE RA 17	0	-17	1379	0	0	0
213	SLE RA 18	0	-19	1396	0	0	0
213	SLE RA 19	0	-17	1409	0	0	0
213	SLE RA 20	0	-19	1403	0	0	0
213	SLE RA 21	0	-17	1416	0	0	0
213	SLE FR 1	0	-17	1247	0	0	0
213	SLE FR 2	0	-16	1251	0	0	0
213	SLE FR 3	0	-17	1250	0	0	0
213	SLE FR 4	0	-17	1296	0	0	0
213	SLE FR 5	0	-18	1295	0	0	0
213	SLE FR 6	0	-18	1321	0	0	0
213	SLE QP 1	0	-17	1247	0	0	0
213	SLE QP 2	0	-18	1292	0	0	0
213	SLD 1	126	20	1467	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
213	SLD 2	150	24	1476	0	0	0
213	SLD 3	121	-47	1009	0	0	0
213	SLD 4	145	-43	1018	0	0	0
213	SLD 5	42	95	2038	0	0	0
213	SLD 6	57	98	2043	0	0	0
213	SLD 7	25	-129	510	0	0	0
213	SLD 8	40	-127	516	0	0	0
213	SLD 9	-40	92	2067	0	0	0
213	SLD 10	-24	94	2073	0	0	0
213	SLD 11	-56	-133	540	0	0	0
213	SLD 12	-41	-130	546	0	0	0
213	SLD 13	-144	8	1565	0	0	0
213	SLD 14	-120	12	1574	0	0	0
213	SLD 15	-149	-59	1107	0	0	0
213	SLD 16	-126	-55	1116	0	0	0
213	SLV 1	197	46	1598	0	0	0
213	SLV 2	235	53	1613	0	0	0
213	SLV 3	189	-69	816	0	0	0
213	SLV 4	226	-62	831	0	0	0
213	SLV 5	65	175	2567	0	0	0
213	SLV 6	91	179	2576	0	0	0
213	SLV 7	37	-208	-39	0	0	0
213	SLV 8	62	-204	-30	0	0	0
213	SLV 9	-62	169	2613	0	0	0
213	SLV 10	-36	173	2623	0	0	0
213	SLV 11	-90	-214	7	0	0	0
213	SLV 12	-65	-210	17	0	0	0
213	SLV 13	-226	27	1752	0	0	0
213	SLV 14	-188	34	1767	0	0	0
213	SLV 15	-234	-88	971	0	0	0
213	SLV 16	-197	-81	985	0	0	0
213	SLV FO 1	217	53	1629	0	0	0
213	SLV FO 2	258	60	1645	0	0	0
213	SLV FO 3	207	-74	769	0	0	0
213	SLV FO 4	249	-67	785	0	0	0
213	SLV FO 5	72	194	2694	0	0	0
213	SLV FO 6	100	199	2705	0	0	0
213	SLV FO 7	40	-228	-172	0	0	0
213	SLV FO 8	68	-223	-162	0	0	0
213	SLV FO 9	-68	188	2745	0	0	0
213	SLV FO 10	-40	192	2756	0	0	0
213	SLV FO 11	-99	-234	-121	0	0	0
213	SLV FO 12	-71	-229	-111	0	0	0
213	SLV FO 13	-248	32	1799	0	0	0
213	SLV FO 14	-207	39	1814	0	0	0
213	SLV FO 15	-258	-95	939	0	0	0
213	SLV FO 16	-216	-88	954	0	0	0
213	CRTFP Uy+	0	0	0	0	0	0
213	CRTFP Uy-	0	0	0	0	0	0
214	SLU 1	1	-18	1193	0	0	0
214	SLU 2	1	-13	1224	0	0	0
214	SLU 3	0	-18	1210	0	0	0
214	SLU 4	1	-15	1229	0	0	0
214	SLU 5	1	-13	1235	0	0	0
214	SLU 6	0	-19	1221	0	0	0
214	SLU 7	0	-16	1240	0	0	0
214	SLU 8	0	-19	1214	0	0	0
214	SLU 9	0	-16	1233	0	0	0
214	SLU 10	0	-15	1379	0	0	0
214	SLU 11	0	-20	1364	0	0	0
214	SLU 12	0	-17	1383	0	0	0
214	SLU 13	0	-15	1389	0	0	0
214	SLU 14	0	-21	1375	0	0	0
214	SLU 15	0	-18	1394	0	0	0
214	SLU 16	0	-21	1368	0	0	0
214	SLU 17	0	-18	1387	0	0	0
214	SLU 18	0	-21	1413	0	0	0
214	SLU 19	0	-18	1432	0	0	0
214	SLU 20	0	-21	1424	0	0	0
214	SLU 21	0	-18	1443	0	0	0
214	SLU 22	1	-20	1346	0	0	0
214	SLU 23	1	-15	1378	0	0	0
214	SLU 24	1	-21	1364	0	0	0
214	SLU 25	1	-18	1383	0	0	0
214	SLU 26	1	-15	1389	0	0	0
214	SLU 27	0	-21	1374	0	0	0
214	SLU 28	1	-18	1393	0	0	0
214	SLU 29	0	-21	1368	0	0	0
214	SLU 30	1	-18	1387	0	0	0
214	SLU 31	1	-17	1532	0	0	0
214	SLU 32	0	-23	1518	0	0	0
214	SLU 33	0	-20	1537	0	0	0
214	SLU 34	0	-17	1543	0	0	0
214	SLU 35	0	-23	1529	0	0	0
214	SLU 36	0	-20	1548	0	0	0
214	SLU 37	0	-23	1522	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
214	SLU 38	0	-20	1541	0	0	0
214	SLU 39	0	-23	1567	0	0	0
214	SLU 40	0	-20	1586	0	0	0
214	SLU 41	0	-23	1577	0	0	0
214	SLU 42	0	-20	1596	0	0	0
214	SLU 43	1	-23	1498	0	0	0
214	SLU 44	1	-17	1530	0	0	0
214	SLU 45	0	-23	1515	0	0	0
214	SLU 46	1	-20	1534	0	0	0
214	SLU 47	1	-18	1540	0	0	0
214	SLU 48	0	-23	1526	0	0	0
214	SLU 49	0	-20	1545	0	0	0
214	SLU 50	0	-23	1519	0	0	0
214	SLU 51	0	-20	1538	0	0	0
214	SLU 52	0	-19	1684	0	0	0
214	SLU 53	0	-25	1670	0	0	0
214	SLU 54	0	-22	1689	0	0	0
214	SLU 55	0	-20	1695	0	0	0
214	SLU 56	0	-25	1680	0	0	0
214	SLU 57	0	-22	1699	0	0	0
214	SLU 58	0	-25	1674	0	0	0
214	SLU 59	0	-22	1693	0	0	0
214	SLU 60	0	-26	1718	0	0	0
214	SLU 61	0	-22	1737	0	0	0
214	SLU 62	0	-26	1729	0	0	0
214	SLU 63	0	-23	1748	0	0	0
214	SLU 64	1	-25	1651	0	0	0
214	SLU 65	1	-20	1683	0	0	0
214	SLU 66	1	-25	1669	0	0	0
214	SLU 67	1	-22	1688	0	0	0
214	SLU 68	1	-20	1694	0	0	0
214	SLU 69	1	-26	1679	0	0	0
214	SLU 70	1	-23	1698	0	0	0
214	SLU 71	0	-26	1673	0	0	0
214	SLU 72	1	-22	1692	0	0	0
214	SLU 73	1	-22	1837	0	0	0
214	SLU 74	0	-27	1823	0	0	0
214	SLU 75	0	-24	1842	0	0	0
214	SLU 76	0	-22	1848	0	0	0
214	SLU 77	0	-28	1834	0	0	0
214	SLU 78	0	-25	1853	0	0	0
214	SLU 79	0	-28	1827	0	0	0
214	SLU 80	0	-24	1846	0	0	0
214	SLU 81	0	-28	1872	0	0	0
214	SLU 82	0	-25	1891	0	0	0
214	SLU 83	0	-28	1883	0	0	0
214	SLU 84	0	-25	1902	0	0	0
214	SLE RA 1	1	-19	1236	0	0	0
214	SLE RA 2	1	-15	1258	0	0	0
214	SLE RA 3	1	-19	1248	0	0	0
214	SLE RA 4	1	-17	1261	0	0	0
214	SLE RA 5	1	-15	1265	0	0	0
214	SLE RA 6	0	-19	1255	0	0	0
214	SLE RA 7	1	-17	1268	0	0	0
214	SLE RA 8	0	-19	1251	0	0	0
214	SLE RA 9	0	-17	1263	0	0	0
214	SLE RA 10	1	-16	1361	0	0	0
214	SLE RA 11	0	-20	1351	0	0	0
214	SLE RA 12	0	-18	1364	0	0	0
214	SLE RA 13	0	-17	1368	0	0	0
214	SLE RA 14	0	-21	1358	0	0	0
214	SLE RA 15	0	-18	1371	0	0	0
214	SLE RA 16	0	-20	1354	0	0	0
214	SLE RA 17	0	-18	1366	0	0	0
214	SLE RA 18	0	-21	1384	0	0	0
214	SLE RA 19	0	-18	1396	0	0	0
214	SLE RA 20	0	-21	1391	0	0	0
214	SLE RA 21	0	-19	1403	0	0	0
214	SLE FR 1	1	-19	1236	0	0	0
214	SLE FR 2	1	-18	1241	0	0	0
214	SLE FR 3	1	-19	1239	0	0	0
214	SLE FR 4	1	-19	1285	0	0	0
214	SLE FR 5	0	-19	1283	0	0	0
214	SLE FR 6	0	-20	1310	0	0	0
214	SLE QP 1	1	-19	1236	0	0	0
214	SLE QP 2	1	-19	1281	0	0	0
214	SLD 1	125	19	1449	0	0	0
214	SLD 2	149	24	1459	0	0	0
214	SLD 3	120	-46	994	0	0	0
214	SLD 4	144	-41	1004	0	0	0
214	SLD 5	42	91	2019	0	0	0
214	SLD 6	57	94	2026	0	0	0
214	SLD 7	24	-128	503	0	0	0
214	SLD 8	40	-124	510	0	0	0
214	SLD 9	-39	86	2051	0	0	0
214	SLD 10	-23	89	2058	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
214	SLD 11	-56	-133	536	0	0	0
214	SLD 12	-41	-129	542	0	0	0
214	SLD 13	-143	3	1557	0	0	0
214	SLD 14	-119	8	1567	0	0	0
214	SLD 15	-148	-63	1102	0	0	0
214	SLD 16	-124	-58	1113	0	0	0
214	SLV 1	196	46	1575	0	0	0
214	SLV 2	233	54	1592	0	0	0
214	SLV 3	187	-66	799	0	0	0
214	SLV 4	224	-58	816	0	0	0
214	SLV 5	66	168	2543	0	0	0
214	SLV 6	91	174	2554	0	0	0
214	SLV 7	36	-204	-44	0	0	0
214	SLV 8	61	-199	-33	0	0	0
214	SLV 9	-60	160	2594	0	0	0
214	SLV 10	-35	166	2605	0	0	0
214	SLV 11	-90	-212	7	0	0	0
214	SLV 12	-64	-207	18	0	0	0
214	SLV 13	-223	19	1746	0	0	0
214	SLV 14	-186	28	1762	0	0	0
214	SLV 15	-232	-92	970	0	0	0
214	SLV 16	-195	-84	986	0	0	0
214	SLV FO 1	215	52	1605	0	0	0
214	SLV FO 2	256	61	1623	0	0	0
214	SLV FO 3	206	-71	751	0	0	0
214	SLV FO 4	247	-62	769	0	0	0
214	SLV FO 5	72	187	2669	0	0	0
214	SLV FO 6	100	193	2681	0	0	0
214	SLV FO 7	40	-223	-176	0	0	0
214	SLV FO 8	67	-217	-164	0	0	0
214	SLV FO 9	-66	178	2725	0	0	0
214	SLV FO 10	-39	185	2737	0	0	0
214	SLV FO 11	-99	-232	-120	0	0	0
214	SLV FO 12	-71	-226	-108	0	0	0
214	SLV FO 13	-246	23	1792	0	0	0
214	SLV FO 14	-204	32	1810	0	0	0
214	SLV FO 15	-255	-100	938	0	0	0
214	SLV FO 16	-214	-91	956	0	0	0
214	CRTFP Uy+	0	0	0	0	0	0
214	CRTFP Uy-	0	0	0	0	0	0
215	SLU 1	1	-20	1185	0	0	0
215	SLU 2	1	-14	1217	0	0	0
215	SLU 3	1	-20	1203	0	0	0
215	SLU 4	1	-17	1222	0	0	0
215	SLU 5	1	-15	1228	0	0	0
215	SLU 6	0	-20	1213	0	0	0
215	SLU 7	1	-17	1232	0	0	0
215	SLU 8	0	-20	1206	0	0	0
215	SLU 9	1	-17	1225	0	0	0
215	SLU 10	1	-17	1370	0	0	0
215	SLU 11	0	-22	1355	0	0	0
215	SLU 12	0	-19	1374	0	0	0
215	SLU 13	0	-17	1380	0	0	0
215	SLU 14	0	-23	1366	0	0	0
215	SLU 15	0	-20	1385	0	0	0
215	SLU 16	0	-23	1359	0	0	0
215	SLU 17	0	-19	1378	0	0	0
215	SLU 18	0	-23	1404	0	0	0
215	SLU 19	0	-20	1423	0	0	0
215	SLU 20	0	-23	1414	0	0	0
215	SLU 21	0	-20	1433	0	0	0
215	SLU 22	1	-22	1338	0	0	0
215	SLU 23	1	-17	1370	0	0	0
215	SLU 24	1	-22	1355	0	0	0
215	SLU 25	1	-19	1374	0	0	0
215	SLU 26	1	-17	1380	0	0	0
215	SLU 27	1	-23	1366	0	0	0
215	SLU 28	1	-20	1385	0	0	0
215	SLU 29	1	-23	1359	0	0	0
215	SLU 30	1	-20	1378	0	0	0
215	SLU 31	1	-19	1523	0	0	0
215	SLU 32	0	-25	1508	0	0	0
215	SLU 33	1	-22	1527	0	0	0
215	SLU 34	1	-19	1533	0	0	0
215	SLU 35	0	-25	1519	0	0	0
215	SLU 36	0	-22	1538	0	0	0
215	SLU 37	0	-25	1512	0	0	0
215	SLU 38	0	-22	1531	0	0	0
215	SLU 39	0	-25	1556	0	0	0
215	SLU 40	1	-22	1575	0	0	0
215	SLU 41	0	-25	1567	0	0	0
215	SLU 42	0	-22	1586	0	0	0
215	SLU 43	1	-25	1489	0	0	0
215	SLU 44	1	-20	1520	0	0	0
215	SLU 45	1	-25	1506	0	0	0
215	SLU 46	1	-22	1525	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
215	SLU 47	1	-20	1531	0	0	0
215	SLU 48	0	-25	1516	0	0	0
215	SLU 49	1	-22	1535	0	0	0
215	SLU 50	0	-25	1510	0	0	0
215	SLU 51	1	-22	1529	0	0	0
215	SLU 52	1	-22	1673	0	0	0
215	SLU 53	0	-27	1658	0	0	0
215	SLU 54	0	-24	1678	0	0	0
215	SLU 55	0	-22	1683	0	0	0
215	SLU 56	0	-28	1669	0	0	0
215	SLU 57	0	-25	1688	0	0	0
215	SLU 58	0	-28	1662	0	0	0
215	SLU 59	0	-24	1681	0	0	0
215	SLU 60	0	-28	1707	0	0	0
215	SLU 61	0	-25	1726	0	0	0
215	SLU 62	0	-28	1717	0	0	0
215	SLU 63	0	-25	1736	0	0	0
215	SLU 64	1	-27	1641	0	0	0
215	SLU 65	2	-22	1673	0	0	0
215	SLU 66	1	-28	1659	0	0	0
215	SLU 67	1	-24	1678	0	0	0
215	SLU 68	1	-22	1684	0	0	0
215	SLU 69	1	-28	1669	0	0	0
215	SLU 70	1	-25	1688	0	0	0
215	SLU 71	1	-28	1662	0	0	0
215	SLU 72	1	-25	1681	0	0	0
215	SLU 73	1	-24	1826	0	0	0
215	SLU 74	0	-30	1811	0	0	0
215	SLU 75	1	-27	1830	0	0	0
215	SLU 76	1	-24	1836	0	0	0
215	SLU 77	0	-30	1822	0	0	0
215	SLU 78	0	-27	1841	0	0	0
215	SLU 79	0	-30	1815	0	0	0
215	SLU 80	0	-27	1834	0	0	0
215	SLU 81	0	-30	1860	0	0	0
215	SLU 82	1	-27	1879	0	0	0
215	SLU 83	0	-31	1870	0	0	0
215	SLU 84	0	-27	1889	0	0	0
215	SLE RA 1	1	-20	1229	0	0	0
215	SLE RA 2	1	-17	1250	0	0	0
215	SLE RA 3	1	-21	1240	0	0	0
215	SLE RA 4	1	-19	1253	0	0	0
215	SLE RA 5	1	-17	1257	0	0	0
215	SLE RA 6	1	-21	1247	0	0	0
215	SLE RA 7	1	-19	1260	0	0	0
215	SLE RA 8	1	-21	1243	0	0	0
215	SLE RA 9	1	-19	1256	0	0	0
215	SLE RA 10	1	-18	1352	0	0	0
215	SLE RA 11	0	-22	1342	0	0	0
215	SLE RA 12	1	-20	1355	0	0	0
215	SLE RA 13	1	-19	1359	0	0	0
215	SLE RA 14	0	-22	1349	0	0	0
215	SLE RA 15	0	-20	1362	0	0	0
215	SLE RA 16	0	-22	1345	0	0	0
215	SLE RA 17	0	-20	1358	0	0	0
215	SLE RA 18	0	-22	1374	0	0	0
215	SLE RA 19	0	-20	1387	0	0	0
215	SLE RA 20	0	-23	1381	0	0	0
215	SLE RA 21	0	-21	1394	0	0	0
215	SLE FR 1	1	-20	1229	0	0	0
215	SLE FR 2	1	-20	1233	0	0	0
215	SLE FR 3	1	-20	1232	0	0	0
215	SLE FR 4	1	-20	1277	0	0	0
215	SLE FR 5	1	-21	1275	0	0	0
215	SLE FR 6	1	-21	1302	0	0	0
215	SLE QP 1	1	-20	1229	0	0	0
215	SLE QP 2	1	-21	1273	0	0	0
215	SLD 1	125	19	1433	0	0	0
215	SLD 2	148	25	1445	0	0	0
215	SLD 3	119	-45	980	0	0	0
215	SLD 4	143	-39	992	0	0	0
215	SLD 5	42	87	2005	0	0	0
215	SLD 6	57	91	2013	0	0	0
215	SLD 7	24	-126	496	0	0	0
215	SLD 8	39	-122	504	0	0	0
215	SLD 9	-38	80	2041	0	0	0
215	SLD 10	-23	84	2049	0	0	0
215	SLD 11	-56	-133	532	0	0	0
215	SLD 12	-41	-129	540	0	0	0
215	SLD 13	-141	-3	1553	0	0	0
215	SLD 14	-118	3	1565	0	0	0
215	SLD 15	-147	-67	1100	0	0	0
215	SLD 16	-123	-61	1112	0	0	0
215	SLV 1	195	46	1556	0	0	0
215	SLV 2	232	55	1574	0	0	0
215	SLV 3	186	-63	783	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
215	SLV 4	223	-54	802	0	0	0
215	SLV 5	66	163	2526	0	0	0
215	SLV 6	91	169	2538	0	0	0
215	SLV 7	35	-201	-49	0	0	0
215	SLV 8	60	-194	-37	0	0	0
215	SLV 9	-59	153	2582	0	0	0
215	SLV 10	-34	159	2594	0	0	0
215	SLV 11	-89	-211	7	0	0	0
215	SLV 12	-64	-205	20	0	0	0
215	SLV 13	-221	12	1744	0	0	0
215	SLV 14	-184	22	1762	0	0	0
215	SLV 15	-230	-97	971	0	0	0
215	SLV 16	-193	-88	990	0	0	0
215	SLV FO 1	214	52	1584	0	0	0
215	SLV FO 2	255	63	1604	0	0	0
215	SLV FO 3	204	-68	734	0	0	0
215	SLV FO 4	245	-57	754	0	0	0
215	SLV FO 5	72	181	2651	0	0	0
215	SLV FO 6	100	188	2665	0	0	0
215	SLV FO 7	39	-219	-181	0	0	0
215	SLV FO 8	66	-212	-168	0	0	0
215	SLV FO 9	-65	170	2713	0	0	0
215	SLV FO 10	-37	177	2727	0	0	0
215	SLV FO 11	-98	-230	-119	0	0	0
215	SLV FO 12	-71	-223	-106	0	0	0
215	SLV FO 13	-243	15	1791	0	0	0
215	SLV FO 14	-203	26	1811	0	0	0
215	SLV FO 15	-253	-105	941	0	0	0
215	SLV FO 16	-213	-94	961	0	0	0
215	CRTFP Uy+	0	0	0	0	0	0
215	CRTFP Uy-	0	0	0	0	0	0
216	SLU 1	1	-21	1179	0	0	0
216	SLU 2	1	-16	1211	0	0	0
216	SLU 3	1	-22	1196	0	0	0
216	SLU 4	1	-19	1215	0	0	0
216	SLU 5	1	-17	1221	0	0	0
216	SLU 6	1	-22	1207	0	0	0
216	SLU 7	1	-19	1226	0	0	0
216	SLU 8	1	-22	1200	0	0	0
216	SLU 9	1	-19	1219	0	0	0
216	SLU 10	1	-18	1362	0	0	0
216	SLU 11	0	-24	1348	0	0	0
216	SLU 12	0	-21	1367	0	0	0
216	SLU 13	1	-19	1373	0	0	0
216	SLU 14	0	-24	1358	0	0	0
216	SLU 15	0	-21	1377	0	0	0
216	SLU 16	0	-24	1352	0	0	0
216	SLU 17	0	-21	1371	0	0	0
216	SLU 18	0	-24	1396	0	0	0
216	SLU 19	0	-21	1415	0	0	0
216	SLU 20	0	-25	1406	0	0	0
216	SLU 21	0	-22	1425	0	0	0
216	SLU 22	1	-24	1332	0	0	0
216	SLU 23	2	-19	1363	0	0	0
216	SLU 24	1	-24	1349	0	0	0
216	SLU 25	1	-21	1368	0	0	0
216	SLU 26	1	-19	1374	0	0	0
216	SLU 27	1	-25	1359	0	0	0
216	SLU 28	1	-22	1378	0	0	0
216	SLU 29	1	-24	1352	0	0	0
216	SLU 30	1	-21	1372	0	0	0
216	SLU 31	1	-21	1515	0	0	0
216	SLU 32	1	-27	1500	0	0	0
216	SLU 33	1	-24	1519	0	0	0
216	SLU 34	1	-21	1525	0	0	0
216	SLU 35	0	-27	1511	0	0	0
216	SLU 36	1	-24	1530	0	0	0
216	SLU 37	0	-27	1504	0	0	0
216	SLU 38	1	-24	1523	0	0	0
216	SLU 39	1	-27	1548	0	0	0
216	SLU 40	1	-24	1567	0	0	0
216	SLU 41	0	-27	1558	0	0	0
216	SLU 42	1	-24	1578	0	0	0
216	SLU 43	1	-27	1481	0	0	0
216	SLU 44	2	-22	1512	0	0	0
216	SLU 45	1	-27	1498	0	0	0
216	SLU 46	1	-24	1517	0	0	0
216	SLU 47	1	-22	1523	0	0	0
216	SLU 48	1	-27	1508	0	0	0
216	SLU 49	1	-24	1527	0	0	0
216	SLU 50	1	-27	1502	0	0	0
216	SLU 51	1	-24	1521	0	0	0
216	SLU 52	1	-24	1664	0	0	0
216	SLU 53	0	-29	1649	0	0	0
216	SLU 54	1	-26	1668	0	0	0
216	SLU 55	1	-24	1674	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
216	SLU 56	0	-30	1660	0	0	0
216	SLU 57	0	-27	1679	0	0	0
216	SLU 58	0	-30	1653	0	0	0
216	SLU 59	0	-27	1672	0	0	0
216	SLU 60	0	-30	1697	0	0	0
216	SLU 61	1	-27	1716	0	0	0
216	SLU 62	0	-30	1708	0	0	0
216	SLU 63	0	-27	1727	0	0	0
216	SLU 64	2	-29	1633	0	0	0
216	SLU 65	2	-24	1665	0	0	0
216	SLU 66	1	-30	1650	0	0	0
216	SLU 67	2	-27	1669	0	0	0
216	SLU 68	2	-25	1675	0	0	0
216	SLU 69	1	-30	1661	0	0	0
216	SLU 70	1	-27	1680	0	0	0
216	SLU 71	1	-30	1654	0	0	0
216	SLU 72	1	-27	1673	0	0	0
216	SLU 73	1	-27	1816	0	0	0
216	SLU 74	1	-32	1802	0	0	0
216	SLU 75	1	-29	1821	0	0	0
216	SLU 76	1	-27	1827	0	0	0
216	SLU 77	1	-32	1812	0	0	0
216	SLU 78	1	-29	1831	0	0	0
216	SLU 79	0	-32	1805	0	0	0
216	SLU 80	1	-29	1824	0	0	0
216	SLU 81	1	-32	1850	0	0	0
216	SLU 82	1	-30	1869	0	0	0
216	SLU 83	0	-33	1860	0	0	0
216	SLU 84	1	-30	1879	0	0	0
216	SLE RA 1	1	-22	1223	0	0	0
216	SLE RA 2	1	-19	1244	0	0	0
216	SLE RA 3	1	-22	1234	0	0	0
216	SLE RA 4	1	-20	1247	0	0	0
216	SLE RA 5	1	-19	1251	0	0	0
216	SLE RA 6	1	-22	1241	0	0	0
216	SLE RA 7	1	-20	1254	0	0	0
216	SLE RA 8	1	-22	1237	0	0	0
216	SLE RA 9	1	-20	1249	0	0	0
216	SLE RA 10	1	-20	1345	0	0	0
216	SLE RA 11	1	-24	1335	0	0	0
216	SLE RA 12	1	-22	1348	0	0	0
216	SLE RA 13	1	-20	1352	0	0	0
216	SLE RA 14	0	-24	1342	0	0	0
216	SLE RA 15	1	-22	1355	0	0	0
216	SLE RA 16	0	-24	1338	0	0	0
216	SLE RA 17	1	-22	1350	0	0	0
216	SLE RA 18	1	-24	1367	0	0	0
216	SLE RA 19	1	-22	1380	0	0	0
216	SLE RA 20	0	-24	1374	0	0	0
216	SLE RA 21	1	-22	1387	0	0	0
216	SLE FR 1	1	-22	1223	0	0	0
216	SLE FR 2	1	-21	1227	0	0	0
216	SLE FR 3	1	-22	1226	0	0	0
216	SLE FR 4	1	-22	1270	0	0	0
216	SLE FR 5	1	-23	1269	0	0	0
216	SLE FR 6	1	-23	1295	0	0	0
216	SLE QP 1	1	-22	1223	0	0	0
216	SLE QP 2	1	-23	1266	0	0	0
216	SLD 1	124	18	1419	0	0	0
216	SLD 2	147	25	1432	0	0	0
216	SLD 3	118	-44	968	0	0	0
216	SLD 4	142	-37	981	0	0	0
216	SLD 5	42	83	1994	0	0	0
216	SLD 6	57	88	2003	0	0	0
216	SLD 7	24	-125	490	0	0	0
216	SLD 8	39	-120	498	0	0	0
216	SLD 9	-37	75	2034	0	0	0
216	SLD 10	-22	80	2042	0	0	0
216	SLD 11	-55	-133	529	0	0	0
216	SLD 12	-40	-128	538	0	0	0
216	SLD 13	-140	-8	1551	0	0	0
216	SLD 14	-116	-1	1564	0	0	0
216	SLD 15	-145	-70	1100	0	0	0
216	SLD 16	-122	-63	1113	0	0	0
216	SLV 1	193	46	1538	0	0	0
216	SLV 2	230	57	1558	0	0	0
216	SLV 3	184	-61	768	0	0	0
216	SLV 4	221	-49	788	0	0	0
216	SLV 5	66	157	2512	0	0	0
216	SLV 6	91	165	2526	0	0	0
216	SLV 7	35	-197	-55	0	0	0
216	SLV 8	60	-190	-42	0	0	0
216	SLV 9	-58	145	2574	0	0	0
216	SLV 10	-33	152	2587	0	0	0
216	SLV 11	-89	-210	7	0	0	0
216	SLV 12	-64	-202	20	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
216	SLV 13	-219	4	1744	0	0	0
216	SLV 14	-182	16	1765	0	0	0
216	SLV 15	-228	-102	974	0	0	0
216	SLV 16	-191	-91	994	0	0	0
216	SLV FO 1	213	52	1565	0	0	0
216	SLV FO 2	253	65	1587	0	0	0
216	SLV FO 3	202	-64	718	0	0	0
216	SLV FO 4	243	-52	740	0	0	0
216	SLV FO 5	72	175	2636	0	0	0
216	SLV FO 6	100	183	2651	0	0	0
216	SLV FO 7	38	-215	-187	0	0	0
216	SLV FO 8	65	-206	-172	0	0	0
216	SLV FO 9	-64	161	2705	0	0	0
216	SLV FO 10	-36	170	2720	0	0	0
216	SLV FO 11	-98	-228	-119	0	0	0
216	SLV FO 12	-71	-220	-104	0	0	0
216	SLV FO 13	-241	7	1792	0	0	0
216	SLV FO 14	-200	19	1814	0	0	0
216	SLV FO 15	-251	-110	945	0	0	0
216	SLV FO 16	-211	-97	967	0	0	0
216	CRTFP Uy+	0	0	0	0	0	0
216	CRTFP Uy-	0	0	0	0	0	0
217	SLU 1	1	-22	1171	0	0	0
217	SLU 2	1	-18	1203	0	0	0
217	SLU 3	1	-23	1188	0	0	0
217	SLU 4	1	-20	1207	0	0	0
217	SLU 5	1	-18	1213	0	0	0
217	SLU 6	1	-23	1198	0	0	0
217	SLU 7	1	-21	1217	0	0	0
217	SLU 8	1	-23	1192	0	0	0
217	SLU 9	1	-20	1211	0	0	0
217	SLU 10	1	-20	1353	0	0	0
217	SLU 11	0	-26	1338	0	0	0
217	SLU 12	1	-23	1357	0	0	0
217	SLU 13	1	-21	1363	0	0	0
217	SLU 14	0	-26	1348	0	0	0
217	SLU 15	0	-23	1367	0	0	0
217	SLU 16	0	-26	1342	0	0	0
217	SLU 17	0	-23	1361	0	0	0
217	SLU 18	0	-26	1386	0	0	0
217	SLU 19	1	-23	1405	0	0	0
217	SLU 20	0	-26	1396	0	0	0
217	SLU 21	0	-24	1415	0	0	0
217	SLU 22	2	-25	1323	0	0	0
217	SLU 23	2	-20	1355	0	0	0
217	SLU 24	1	-26	1340	0	0	0
217	SLU 25	2	-23	1359	0	0	0
217	SLU 26	2	-21	1365	0	0	0
217	SLU 27	1	-26	1350	0	0	0
217	SLU 28	1	-23	1369	0	0	0
217	SLU 29	1	-26	1344	0	0	0
217	SLU 30	1	-23	1363	0	0	0
217	SLU 31	1	-23	1505	0	0	0
217	SLU 32	1	-28	1490	0	0	0
217	SLU 33	1	-25	1509	0	0	0
217	SLU 34	1	-23	1515	0	0	0
217	SLU 35	1	-29	1500	0	0	0
217	SLU 36	1	-26	1519	0	0	0
217	SLU 37	1	-28	1494	0	0	0
217	SLU 38	1	-26	1513	0	0	0
217	SLU 39	1	-29	1538	0	0	0
217	SLU 40	1	-26	1557	0	0	0
217	SLU 41	1	-29	1548	0	0	0
217	SLU 42	1	-26	1567	0	0	0
217	SLU 43	1	-28	1471	0	0	0
217	SLU 44	2	-23	1502	0	0	0
217	SLU 45	1	-29	1487	0	0	0
217	SLU 46	1	-26	1506	0	0	0
217	SLU 47	1	-24	1512	0	0	0
217	SLU 48	1	-29	1498	0	0	0
217	SLU 49	1	-26	1517	0	0	0
217	SLU 50	1	-29	1491	0	0	0
217	SLU 51	1	-26	1510	0	0	0
217	SLU 52	1	-26	1652	0	0	0
217	SLU 53	1	-31	1637	0	0	0
217	SLU 54	1	-28	1656	0	0	0
217	SLU 55	1	-26	1663	0	0	0
217	SLU 56	0	-32	1648	0	0	0
217	SLU 57	1	-29	1667	0	0	0
217	SLU 58	0	-32	1641	0	0	0
217	SLU 59	1	-29	1660	0	0	0
217	SLU 60	1	-32	1685	0	0	0
217	SLU 61	1	-29	1704	0	0	0
217	SLU 62	0	-32	1695	0	0	0
217	SLU 63	1	-29	1714	0	0	0
217	SLU 64	2	-31	1623	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
217	SLU 65	2	-26	1654	0	0	0
217	SLU 66	2	-31	1639	0	0	0
217	SLU 67	2	-29	1658	0	0	0
217	SLU 68	2	-27	1664	0	0	0
217	SLU 69	1	-32	1650	0	0	0
217	SLU 70	2	-29	1669	0	0	0
217	SLU 71	1	-32	1643	0	0	0
217	SLU 72	1	-29	1662	0	0	0
217	SLU 73	2	-29	1804	0	0	0
217	SLU 74	1	-34	1789	0	0	0
217	SLU 75	1	-31	1808	0	0	0
217	SLU 76	1	-29	1815	0	0	0
217	SLU 77	1	-34	1800	0	0	0
217	SLU 78	1	-32	1819	0	0	0
217	SLU 79	1	-34	1793	0	0	0
217	SLU 80	1	-31	1812	0	0	0
217	SLU 81	1	-35	1837	0	0	0
217	SLU 82	1	-32	1856	0	0	0
217	SLU 83	1	-35	1847	0	0	0
217	SLU 84	1	-32	1866	0	0	0
217	SLE RA 1	1	-23	1215	0	0	0
217	SLE RA 2	1	-20	1236	0	0	0
217	SLE RA 3	1	-24	1226	0	0	0
217	SLE RA 4	1	-22	1239	0	0	0
217	SLE RA 5	1	-20	1243	0	0	0
217	SLE RA 6	1	-24	1233	0	0	0
217	SLE RA 7	1	-22	1245	0	0	0
217	SLE RA 8	1	-24	1228	0	0	0
217	SLE RA 9	1	-22	1241	0	0	0
217	SLE RA 10	1	-22	1336	0	0	0
217	SLE RA 11	1	-25	1326	0	0	0
217	SLE RA 12	1	-23	1339	0	0	0
217	SLE RA 13	1	-22	1343	0	0	0
217	SLE RA 14	1	-26	1333	0	0	0
217	SLE RA 15	1	-24	1345	0	0	0
217	SLE RA 16	1	-25	1328	0	0	0
217	SLE RA 17	1	-24	1341	0	0	0
217	SLE RA 18	1	-26	1358	0	0	0
217	SLE RA 19	1	-24	1370	0	0	0
217	SLE RA 20	1	-26	1364	0	0	0
217	SLE RA 21	1	-24	1377	0	0	0
217	SLE FR 1	1	-23	1215	0	0	0
217	SLE FR 2	1	-23	1219	0	0	0
217	SLE FR 3	1	-23	1217	0	0	0
217	SLE FR 4	1	-23	1262	0	0	0
217	SLE FR 5	1	-24	1260	0	0	0
217	SLE FR 6	1	-24	1286	0	0	0
217	SLE QP 1	1	-23	1215	0	0	0
217	SLE QP 2	1	-24	1258	0	0	0
217	SLD 1	122	18	1403	0	0	0
217	SLD 2	145	26	1417	0	0	0
217	SLD 3	117	-43	954	0	0	0
217	SLD 4	140	-35	968	0	0	0
217	SLD 5	42	79	1981	0	0	0
217	SLD 6	57	84	1990	0	0	0
217	SLD 7	23	-123	482	0	0	0
217	SLD 8	38	-117	491	0	0	0
217	SLD 9	-36	70	2024	0	0	0
217	SLD 10	-21	75	2033	0	0	0
217	SLD 11	-55	-132	525	0	0	0
217	SLD 12	-40	-127	535	0	0	0
217	SLD 13	-138	-13	1547	0	0	0
217	SLD 14	-115	-5	1561	0	0	0
217	SLD 15	-143	-74	1098	0	0	0
217	SLD 16	-120	-66	1112	0	0	0
217	SLV 1	191	45	1517	0	0	0
217	SLV 2	227	58	1540	0	0	0
217	SLV 3	181	-58	750	0	0	0
217	SLV 4	218	-45	773	0	0	0
217	SLV 5	66	151	2495	0	0	0
217	SLV 6	90	159	2510	0	0	0
217	SLV 7	34	-193	-62	0	0	0
217	SLV 8	58	-184	-47	0	0	0
217	SLV 9	-56	136	2562	0	0	0
217	SLV 10	-32	145	2577	0	0	0
217	SLV 11	-88	-207	6	0	0	0
217	SLV 12	-64	-199	20	0	0	0
217	SLV 13	-216	-3	1743	0	0	0
217	SLV 14	-179	10	1765	0	0	0
217	SLV 15	-225	-106	975	0	0	0
217	SLV 16	-189	-93	998	0	0	0
217	SLV FO 1	210	52	1543	0	0	0
217	SLV FO 2	250	66	1568	0	0	0
217	SLV FO 3	200	-61	700	0	0	0
217	SLV FO 4	239	-47	724	0	0	0
217	SLV FO 5	72	168	2618	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
217	SLV FO 6	99	178	2635	0	0	0
217	SLV FO 7	37	-210	-194	0	0	0
217	SLV FO 8	64	-200	-178	0	0	0
217	SLV FO 9	-62	152	2693	0	0	0
217	SLV FO 10	-35	162	2709	0	0	0
217	SLV FO 11	-97	-226	-120	0	0	0
217	SLV FO 12	-70	-216	-103	0	0	0
217	SLV FO 13	-237	-1	1791	0	0	0
217	SLV FO 14	-197	13	1815	0	0	0
217	SLV FO 15	-248	-114	947	0	0	0
217	SLV FO 16	-208	-100	972	0	0	0
217	CRTFP Uy+	0	0	0	0	0	0
217	CRTFP Uy-	0	0	0	0	0	0
218	SLU 1	1	-24	1159	0	0	0
218	SLU 2	2	-19	1191	0	0	0
218	SLU 3	1	-24	1176	0	0	0
218	SLU 4	1	-22	1195	0	0	0
218	SLU 5	1	-20	1201	0	0	0
218	SLU 6	1	-25	1186	0	0	0
218	SLU 7	1	-22	1205	0	0	0
218	SLU 8	1	-25	1179	0	0	0
218	SLU 9	1	-22	1198	0	0	0
218	SLU 10	1	-22	1339	0	0	0
218	SLU 11	1	-27	1324	0	0	0
218	SLU 12	1	-24	1343	0	0	0
218	SLU 13	1	-22	1349	0	0	0
218	SLU 14	0	-27	1334	0	0	0
218	SLU 15	1	-25	1353	0	0	0
218	SLU 16	0	-27	1328	0	0	0
218	SLU 17	0	-24	1346	0	0	0
218	SLU 18	0	-28	1371	0	0	0
218	SLU 19	1	-25	1390	0	0	0
218	SLU 20	0	-28	1381	0	0	0
218	SLU 21	1	-25	1400	0	0	0
218	SLU 22	2	-27	1310	0	0	0
218	SLU 23	2	-22	1342	0	0	0
218	SLU 24	1	-27	1327	0	0	0
218	SLU 25	2	-24	1346	0	0	0
218	SLU 26	2	-22	1352	0	0	0
218	SLU 27	1	-28	1337	0	0	0
218	SLU 28	1	-25	1356	0	0	0
218	SLU 29	1	-27	1330	0	0	0
218	SLU 30	1	-25	1349	0	0	0
218	SLU 31	2	-25	1490	0	0	0
218	SLU 32	1	-30	1475	0	0	0
218	SLU 33	1	-27	1494	0	0	0
218	SLU 34	1	-25	1500	0	0	0
218	SLU 35	1	-30	1485	0	0	0
218	SLU 36	1	-27	1504	0	0	0
218	SLU 37	1	-30	1479	0	0	0
218	SLU 38	1	-27	1498	0	0	0
218	SLU 39	1	-30	1522	0	0	0
218	SLU 40	1	-28	1541	0	0	0
218	SLU 41	1	-31	1532	0	0	0
218	SLU 42	1	-28	1551	0	0	0
218	SLU 43	1	-30	1455	0	0	0
218	SLU 44	2	-25	1486	0	0	0
218	SLU 45	1	-30	1472	0	0	0
218	SLU 46	1	-28	1491	0	0	0
218	SLU 47	2	-26	1497	0	0	0
218	SLU 48	1	-31	1482	0	0	0
218	SLU 49	1	-28	1501	0	0	0
218	SLU 50	1	-31	1475	0	0	0
218	SLU 51	1	-28	1494	0	0	0
218	SLU 52	1	-28	1635	0	0	0
218	SLU 53	1	-33	1620	0	0	0
218	SLU 54	1	-30	1639	0	0	0
218	SLU 55	1	-28	1645	0	0	0
218	SLU 56	1	-34	1630	0	0	0
218	SLU 57	1	-31	1649	0	0	0
218	SLU 58	0	-33	1623	0	0	0
218	SLU 59	1	-31	1642	0	0	0
218	SLU 60	1	-34	1667	0	0	0
218	SLU 61	1	-31	1686	0	0	0
218	SLU 62	0	-34	1677	0	0	0
218	SLU 63	1	-31	1696	0	0	0
218	SLU 64	2	-33	1606	0	0	0
218	SLU 65	2	-28	1638	0	0	0
218	SLU 66	2	-33	1623	0	0	0
218	SLU 67	2	-30	1642	0	0	0
218	SLU 68	2	-29	1648	0	0	0
218	SLU 69	1	-34	1633	0	0	0
218	SLU 70	2	-31	1652	0	0	0
218	SLU 71	1	-34	1626	0	0	0
218	SLU 72	2	-31	1645	0	0	0
218	SLU 73	2	-31	1786	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
218	SLU 74	1	-36	1771	0	0	0
218	SLU 75	1	-33	1790	0	0	0
218	SLU 76	2	-31	1796	0	0	0
218	SLU 77	1	-36	1781	0	0	0
218	SLU 78	1	-34	1800	0	0	0
218	SLU 79	1	-36	1775	0	0	0
218	SLU 80	1	-33	1793	0	0	0
218	SLU 81	1	-37	1818	0	0	0
218	SLU 82	1	-34	1837	0	0	0
218	SLU 83	1	-37	1828	0	0	0
218	SLU 84	1	-34	1847	0	0	0
218	SLE RA 1	1	-25	1202	0	0	0
218	SLE RA 2	2	-21	1223	0	0	0
218	SLE RA 3	1	-25	1213	0	0	0
218	SLE RA 4	1	-23	1226	0	0	0
218	SLE RA 5	1	-22	1230	0	0	0
218	SLE RA 6	1	-25	1220	0	0	0
218	SLE RA 7	1	-23	1233	0	0	0
218	SLE RA 8	1	-25	1216	0	0	0
218	SLE RA 9	1	-23	1228	0	0	0
218	SLE RA 10	1	-23	1322	0	0	0
218	SLE RA 11	1	-27	1312	0	0	0
218	SLE RA 12	1	-25	1325	0	0	0
218	SLE RA 13	1	-24	1329	0	0	0
218	SLE RA 14	1	-27	1319	0	0	0
218	SLE RA 15	1	-25	1332	0	0	0
218	SLE RA 16	1	-27	1315	0	0	0
218	SLE RA 17	1	-25	1327	0	0	0
218	SLE RA 18	1	-27	1343	0	0	0
218	SLE RA 19	1	-25	1356	0	0	0
218	SLE RA 20	1	-27	1350	0	0	0
218	SLE RA 21	1	-26	1363	0	0	0
218	SLE FR 1	1	-25	1202	0	0	0
218	SLE FR 2	1	-24	1206	0	0	0
218	SLE FR 3	1	-25	1205	0	0	0
218	SLE FR 4	1	-25	1249	0	0	0
218	SLE FR 5	1	-25	1247	0	0	0
218	SLE FR 6	1	-26	1273	0	0	0
218	SLE QP 1	1	-25	1202	0	0	0
218	SLE QP 2	1	-25	1245	0	0	0
218	SLD 1	120	17	1383	0	0	0
218	SLD 2	143	26	1398	0	0	0
218	SLD 3	115	-41	936	0	0	0
218	SLD 4	137	-33	951	0	0	0
218	SLD 5	42	74	1960	0	0	0
218	SLD 6	56	80	1970	0	0	0
218	SLD 7	23	-120	473	0	0	0
218	SLD 8	37	-114	482	0	0	0
218	SLD 9	-35	64	2007	0	0	0
218	SLD 10	-20	69	2017	0	0	0
218	SLD 11	-54	-130	519	0	0	0
218	SLD 12	-39	-125	529	0	0	0
218	SLD 13	-135	-18	1538	0	0	0
218	SLD 14	-112	-9	1553	0	0	0
218	SLD 15	-140	-76	1091	0	0	0
218	SLD 16	-118	-67	1107	0	0	0
218	SLV 1	187	45	1492	0	0	0
218	SLV 2	223	59	1516	0	0	0
218	SLV 3	178	-55	731	0	0	0
218	SLV 4	213	-41	755	0	0	0
218	SLV 5	65	144	2469	0	0	0
218	SLV 6	89	153	2485	0	0	0
218	SLV 7	33	-187	-69	0	0	0
218	SLV 8	57	-178	-53	0	0	0
218	SLV 9	-55	127	2542	0	0	0
218	SLV 10	-31	137	2558	0	0	0
218	SLV 11	-86	-204	4	0	0	0
218	SLV 12	-63	-194	20	0	0	0
218	SLV 13	-211	-10	1735	0	0	0
218	SLV 14	-176	4	1758	0	0	0
218	SLV 15	-221	-109	973	0	0	0
218	SLV 16	-185	-95	997	0	0	0
218	SLV FO 1	206	52	1517	0	0	0
218	SLV FO 2	245	67	1543	0	0	0
218	SLV FO 3	196	-57	679	0	0	0
218	SLV FO 4	235	-42	706	0	0	0
218	SLV FO 5	71	161	2592	0	0	0
218	SLV FO 6	98	171	2610	0	0	0
218	SLV FO 7	36	-203	-200	0	0	0
218	SLV FO 8	63	-193	-183	0	0	0
218	SLV FO 9	-60	143	2672	0	0	0
218	SLV FO 10	-34	153	2689	0	0	0
218	SLV FO 11	-95	-221	-120	0	0	0
218	SLV FO 12	-69	-211	-103	0	0	0
218	SLV FO 13	-232	-8	1784	0	0	0
218	SLV FO 14	-193	7	1810	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
218	SLV FO 15	-243	-118	946	0	0	0
218	SLV FO 16	-204	-102	972	0	0	0
218	CRTFP Uy+	0	0	0	0	0	0
218	CRTFP Uy-	0	0	0	0	0	0
219	SLU 1	1	-25	1149	0	0	0
219	SLU 2	2	-21	1180	0	0	0
219	SLU 3	1	-26	1165	0	0	0
219	SLU 4	1	-23	1184	0	0	0
219	SLU 5	1	-21	1190	0	0	0
219	SLU 6	1	-26	1175	0	0	0
219	SLU 7	1	-24	1194	0	0	0
219	SLU 8	1	-26	1169	0	0	0
219	SLU 9	1	-23	1188	0	0	0
219	SLU 10	1	-24	1327	0	0	0
219	SLU 11	1	-29	1312	0	0	0
219	SLU 12	1	-26	1331	0	0	0
219	SLU 13	1	-24	1337	0	0	0
219	SLU 14	0	-29	1322	0	0	0
219	SLU 15	1	-26	1341	0	0	0
219	SLU 16	0	-29	1316	0	0	0
219	SLU 17	1	-26	1335	0	0	0
219	SLU 18	1	-29	1359	0	0	0
219	SLU 19	1	-27	1378	0	0	0
219	SLU 20	0	-30	1369	0	0	0
219	SLU 21	1	-27	1388	0	0	0
219	SLU 22	2	-28	1300	0	0	0
219	SLU 23	2	-24	1331	0	0	0
219	SLU 24	1	-29	1316	0	0	0
219	SLU 25	2	-26	1335	0	0	0
219	SLU 26	2	-24	1341	0	0	0
219	SLU 27	1	-29	1326	0	0	0
219	SLU 28	1	-26	1345	0	0	0
219	SLU 29	1	-29	1319	0	0	0
219	SLU 30	1	-26	1338	0	0	0
219	SLU 31	2	-26	1478	0	0	0
219	SLU 32	1	-31	1463	0	0	0
219	SLU 33	1	-29	1482	0	0	0
219	SLU 34	1	-27	1488	0	0	0
219	SLU 35	1	-32	1473	0	0	0
219	SLU 36	1	-29	1492	0	0	0
219	SLU 37	1	-32	1466	0	0	0
219	SLU 38	1	-29	1485	0	0	0
219	SLU 39	1	-32	1509	0	0	0
219	SLU 40	1	-29	1528	0	0	0
219	SLU 41	1	-33	1519	0	0	0
219	SLU 42	1	-30	1538	0	0	0
219	SLU 43	1	-32	1442	0	0	0
219	SLU 44	2	-27	1474	0	0	0
219	SLU 45	1	-32	1459	0	0	0
219	SLU 46	2	-30	1477	0	0	0
219	SLU 47	2	-28	1484	0	0	0
219	SLU 48	1	-33	1469	0	0	0
219	SLU 49	1	-30	1487	0	0	0
219	SLU 50	1	-33	1462	0	0	0
219	SLU 51	1	-30	1481	0	0	0
219	SLU 52	1	-30	1620	0	0	0
219	SLU 53	1	-35	1605	0	0	0
219	SLU 54	1	-32	1624	0	0	0
219	SLU 55	1	-31	1630	0	0	0
219	SLU 56	1	-36	1615	0	0	0
219	SLU 57	1	-33	1634	0	0	0
219	SLU 58	1	-35	1609	0	0	0
219	SLU 59	1	-33	1628	0	0	0
219	SLU 60	1	-36	1652	0	0	0
219	SLU 61	1	-33	1671	0	0	0
219	SLU 62	1	-36	1662	0	0	0
219	SLU 63	1	-33	1681	0	0	0
219	SLU 64	2	-35	1593	0	0	0
219	SLU 65	2	-30	1624	0	0	0
219	SLU 66	2	-35	1609	0	0	0
219	SLU 67	2	-33	1628	0	0	0
219	SLU 68	2	-31	1634	0	0	0
219	SLU 69	1	-36	1619	0	0	0
219	SLU 70	2	-33	1638	0	0	0
219	SLU 71	1	-35	1613	0	0	0
219	SLU 72	2	-33	1631	0	0	0
219	SLU 73	2	-33	1771	0	0	0
219	SLU 74	1	-38	1756	0	0	0
219	SLU 75	1	-35	1775	0	0	0
219	SLU 76	2	-33	1781	0	0	0
219	SLU 77	1	-38	1766	0	0	0
219	SLU 78	1	-36	1785	0	0	0
219	SLU 79	1	-38	1759	0	0	0
219	SLU 80	1	-36	1778	0	0	0
219	SLU 81	1	-39	1803	0	0	0
219	SLU 82	1	-36	1821	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
219	SLU 83	1	-39	1812	0	0	0
219	SLU 84	1	-36	1831	0	0	0
219	SLE RA 1	1	-26	1192	0	0	0
219	SLE RA 2	2	-23	1213	0	0	0
219	SLE RA 3	1	-26	1203	0	0	0
219	SLE RA 4	1	-25	1216	0	0	0
219	SLE RA 5	1	-23	1220	0	0	0
219	SLE RA 6	1	-27	1210	0	0	0
219	SLE RA 7	1	-25	1222	0	0	0
219	SLE RA 8	1	-27	1205	0	0	0
219	SLE RA 9	1	-25	1218	0	0	0
219	SLE RA 10	1	-25	1311	0	0	0
219	SLE RA 11	1	-28	1301	0	0	0
219	SLE RA 12	1	-26	1314	0	0	0
219	SLE RA 13	1	-25	1318	0	0	0
219	SLE RA 14	1	-29	1308	0	0	0
219	SLE RA 15	1	-27	1320	0	0	0
219	SLE RA 16	1	-28	1303	0	0	0
219	SLE RA 17	1	-27	1316	0	0	0
219	SLE RA 18	1	-29	1332	0	0	0
219	SLE RA 19	1	-27	1345	0	0	0
219	SLE RA 20	1	-29	1339	0	0	0
219	SLE RA 21	1	-27	1351	0	0	0
219	SLE FR 1	1	-26	1192	0	0	0
219	SLE FR 2	1	-25	1196	0	0	0
219	SLE FR 3	1	-26	1195	0	0	0
219	SLE FR 4	1	-26	1238	0	0	0
219	SLE FR 5	1	-27	1237	0	0	0
219	SLE FR 6	1	-27	1262	0	0	0
219	SLE QP 1	1	-26	1192	0	0	0
219	SLE QP 2	1	-27	1234	0	0	0
219	SLD 1	118	16	1365	0	0	0
219	SLD 2	140	26	1381	0	0	0
219	SLD 3	112	-40	921	0	0	0
219	SLD 4	134	-30	937	0	0	0
219	SLD 5	41	70	1944	0	0	0
219	SLD 6	55	76	1954	0	0	0
219	SLD 7	22	-117	464	0	0	0
219	SLD 8	37	-111	474	0	0	0
219	SLD 9	-34	58	1994	0	0	0
219	SLD 10	-20	64	2004	0	0	0
219	SLD 11	-53	-129	514	0	0	0
219	SLD 12	-38	-123	524	0	0	0
219	SLD 13	-132	-23	1531	0	0	0
219	SLD 14	-110	-14	1547	0	0	0
219	SLD 15	-138	-79	1087	0	0	0
219	SLD 16	-115	-70	1103	0	0	0
219	SLV 1	184	44	1470	0	0	0
219	SLV 2	219	60	1496	0	0	0
219	SLV 3	174	-51	713	0	0	0
219	SLV 4	209	-36	738	0	0	0
219	SLV 5	64	137	2449	0	0	0
219	SLV 6	87	147	2467	0	0	0
219	SLV 7	32	-182	-76	0	0	0
219	SLV 8	56	-172	-59	0	0	0
219	SLV 9	-53	118	2527	0	0	0
219	SLV 10	-30	129	2544	0	0	0
219	SLV 11	-85	-201	1	0	0	0
219	SLV 12	-61	-190	19	0	0	0
219	SLV 13	-207	-17	1730	0	0	0
219	SLV 14	-172	-2	1755	0	0	0
219	SLV 15	-216	-113	972	0	0	0
219	SLV 16	-181	-98	998	0	0	0
219	SLV FO 1	202	52	1494	0	0	0
219	SLV FO 2	240	68	1522	0	0	0
219	SLV FO 3	192	-54	661	0	0	0
219	SLV FO 4	230	-37	689	0	0	0
219	SLV FO 5	70	153	2571	0	0	0
219	SLV FO 6	96	164	2590	0	0	0
219	SLV FO 7	35	-198	-207	0	0	0
219	SLV FO 8	61	-186	-188	0	0	0
219	SLV FO 9	-59	133	2656	0	0	0
219	SLV FO 10	-33	144	2675	0	0	0
219	SLV FO 11	-93	-218	-122	0	0	0
219	SLV FO 12	-68	-207	-103	0	0	0
219	SLV FO 13	-228	-16	1779	0	0	0
219	SLV FO 14	-189	0	1807	0	0	0
219	SLV FO 15	-238	-122	946	0	0	0
219	SLV FO 16	-200	-105	974	0	0	0
219	CRTFP Uy+	0	0	0	0	0	0
219	CRTFP Uy-	0	0	0	0	0	0
231	SLU 1	1	-37	3886	53.55	1126.73	10.27
231	SLU 2	2	-18	3987	54.76	1155.68	4.61
231	SLU 3	0	-38	3945	54.4	1143.91	10.55
231	SLU 4	1	-26	4005	55.12	1161.28	7.15
231	SLU 5	1	-18	4023	55.29	1166.31	4.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
231	SLU 6	-1	-38	3981	54.92	1154.54	10.79
231	SLU 7	0	-27	4041	55.65	1171.91	7.4
231	SLU 8	-1	-38	3958	54.6	1147.98	10.76
231	SLU 9	0	-27	4019	55.33	1165.35	7.36
231	SLU 10	0	-21	4499	61.83	1305.11	5.67
231	SLU 11	-2	-41	4457	61.46	1293.34	11.61
231	SLU 12	-1	-30	4517	62.19	1310.71	8.21
231	SLU 13	-1	-22	4535	62.36	1315.73	5.92
231	SLU 14	-3	-42	4493	61.99	1303.97	11.85
231	SLU 15	-2	-31	4554	62.72	1321.34	8.46
231	SLU 16	-3	-42	4471	61.67	1297.41	11.82
231	SLU 17	-2	-31	4531	62.4	1314.78	8.43
231	SLU 18	-2	-42	4618	63.65	1340.2	11.79
231	SLU 19	-1	-31	4678	64.37	1357.57	8.39
231	SLU 20	-3	-43	4654	64.17	1350.82	12.03
231	SLU 21	-2	-31	4715	64.9	1368.19	8.64
231	SLU 22	1	-42	4387	60.53	1272.3	11.62
231	SLU 23	2	-22	4488	61.74	1301.25	5.96
231	SLU 24	1	-42	4446	61.37	1289.48	11.9
231	SLU 25	1	-31	4506	62.1	1306.85	8.5
231	SLU 26	2	-23	4524	62.26	1311.87	6.21
231	SLU 27	0	-43	4482	61.9	1300.11	12.14
231	SLU 28	0	-32	4543	62.62	1317.48	8.75
231	SLU 29	0	-43	4460	61.58	1293.55	12.11
231	SLU 30	0	-32	4520	62.31	1310.92	8.71
231	SLU 31	0	-26	5000	68.81	1450.67	7.02
231	SLU 32	-1	-46	4959	68.44	1438.91	12.96
231	SLU 33	-1	-35	5019	69.17	1456.28	9.57
231	SLU 34	0	-27	5037	69.33	1461.3	7.27
231	SLU 35	-2	-47	4995	68.97	1449.54	13.21
231	SLU 36	-1	-36	5055	69.69	1466.91	9.81
231	SLU 37	-2	-47	4972	68.65	1442.98	13.17
231	SLU 38	-2	-35	5033	69.37	1460.35	9.78
231	SLU 39	-1	-47	5119	70.62	1485.76	13.14
231	SLU 40	-1	-35	5180	71.35	1503.13	9.74
231	SLU 41	-2	-48	5156	71.15	1496.39	13.38
231	SLU 42	-2	-36	5216	71.88	1513.76	9.99
231	SLU 43	1	-46	4880	67.22	1414.84	12.89
231	SLU 44	2	-27	4980	68.44	1443.79	7.23
231	SLU 45	0	-47	4939	68.07	1432.02	13.16
231	SLU 46	1	-35	4999	68.8	1449.39	9.77
231	SLU 47	1	-28	5017	68.96	1454.41	7.47
231	SLU 48	-1	-48	4975	68.6	1442.65	13.41
231	SLU 49	0	-36	5035	69.32	1460.02	10.01
231	SLU 50	-1	-48	4952	68.28	1436.09	13.38
231	SLU 51	0	-36	5013	69	1453.46	9.98
231	SLU 52	0	-31	5493	75.5	1593.21	8.29
231	SLU 53	-2	-51	5451	75.14	1581.45	14.23
231	SLU 54	-1	-39	5511	75.86	1598.82	10.83
231	SLU 55	-1	-31	5529	76.03	1603.84	8.54
231	SLU 56	-3	-52	5487	75.66	1592.08	14.47
231	SLU 57	-2	-40	5548	76.39	1609.45	11.08
231	SLU 58	-3	-51	5465	75.34	1585.52	14.44
231	SLU 59	-2	-40	5525	76.07	1602.89	11.04
231	SLU 60	-2	-51	5612	77.32	1628.3	14.4
231	SLU 61	-1	-40	5672	78.05	1645.67	11.01
231	SLU 62	-3	-52	5648	77.85	1638.93	14.65
231	SLU 63	-2	-41	5708	78.57	1656.3	11.25
231	SLU 64	1	-51	5381	74.2	1560.41	14.24
231	SLU 65	2	-32	5482	75.41	1589.36	8.58
231	SLU 66	1	-52	5440	75.04	1577.59	14.51
231	SLU 67	1	-40	5500	75.77	1594.96	11.12
231	SLU 68	2	-33	5518	75.94	1599.98	8.82
231	SLU 69	0	-53	5476	75.57	1588.22	14.76
231	SLU 70	1	-41	5537	76.3	1605.59	11.36
231	SLU 71	0	-52	5454	75.25	1581.66	14.73
231	SLU 72	0	-41	5514	75.98	1599.03	11.33
231	SLU 73	1	-35	5994	82.48	1738.78	9.64
231	SLU 74	-1	-56	5952	82.11	1727.02	15.58
231	SLU 75	-1	-44	6013	82.84	1744.39	12.18
231	SLU 76	0	-36	6030	83.01	1749.41	9.89
231	SLU 77	-2	-56	5989	82.64	1737.65	15.82
231	SLU 78	-1	-45	6049	83.37	1755.02	12.43
231	SLU 79	-2	-56	5966	82.32	1731.09	15.79
231	SLU 80	-2	-45	6026	83.05	1748.46	12.4
231	SLU 81	-1	-56	6113	84.3	1773.87	15.76
231	SLU 82	-1	-45	6174	85.02	1791.24	12.36
231	SLU 83	-2	-57	6150	84.82	1784.5	16
231	SLU 84	-2	-46	6210	85.55	1801.87	12.61
231	SLE RA 1	1	-38	4029	55.54	1168.32	10.65
231	SLE RA 2	2	-25	4096	56.35	1187.62	6.88
231	SLE RA 3	1	-39	4068	56.11	1179.78	10.84
231	SLE RA 4	1	-31	4109	56.59	1191.36	8.58
231	SLE RA 5	1	-26	4120	56.7	1194.7	7.05
231	SLE RA 6	0	-39	4093	56.46	1186.86	11
231	SLE RA 7	0	-32	4133	56.94	1198.44	8.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
231	SLE RA 8	0	-39	4078	56.24	1182.49	10.98
231	SLE RA 9	0	-31	4118	56.73	1194.07	8.72
231	SLE RA 10	0	-28	4438	61.06	1287.24	7.59
231	SLE RA 11	-1	-41	4410	60.82	1279.39	11.55
231	SLE RA 12	0	-34	4450	61.3	1290.97	9.28
231	SLE RA 13	0	-28	4462	61.41	1294.32	7.75
231	SLE RA 14	-1	-42	4434	61.17	1286.48	11.71
231	SLE RA 15	-1	-34	4474	61.65	1298.06	9.45
231	SLE RA 16	-1	-42	4419	60.96	1282.11	11.69
231	SLE RA 17	-1	-34	4459	61.44	1293.69	9.43
231	SLE RA 18	-1	-42	4517	62.27	1310.63	11.67
231	SLE RA 19	0	-34	4558	62.76	1322.21	9.4
231	SLE RA 20	-1	-42	4541	62.63	1317.72	11.83
231	SLE RA 21	-1	-35	4582	63.11	1329.3	9.57
231	SLE FR 1	1	-38	4029	55.54	1168.32	10.65
231	SLE FR 2	1	-36	4043	55.71	1172.18	9.9
231	SLE FR 3	1	-38	4039	55.68	1171.15	10.72
231	SLE FR 4	1	-37	4189	57.72	1214.87	10.2
231	SLE FR 5	0	-39	4185	57.7	1213.85	11.02
231	SLE FR 6	0	-40	4273	58.91	1239.48	11.16
231	SLE QP 1	1	-38	4029	55.54	1168.32	10.65
231	SLE QP 2	0	-39	4176	57.56	1211.01	10.96
231	SLD 1	415	57	4774	65.01	1388.25	-26.57
231	SLD 2	494	60	4791	65.15	1391.44	-28.46
231	SLD 3	399	-178	3319	47.32	967.59	42.82
231	SLD 4	478	-175	3335	47.46	970.78	40.94
231	SLD 5	136	345	6560	86.61	1901.64	-105.22
231	SLD 6	186	347	6571	86.71	1903.69	-106.44
231	SLD 7	82	-437	1708	27.62	499.43	126.09
231	SLD 8	133	-435	1719	27.72	501.49	124.87
231	SLD 9	-132	357	6633	87.41	1920.54	-102.96
231	SLD 10	-82	359	6644	87.5	1922.59	-104.17
231	SLD 11	-185	-425	1780	28.42	518.33	128.35
231	SLD 12	-135	-423	1791	28.51	520.39	127.14
231	SLD 13	-477	97	5016	67.67	1451.25	-19.02
231	SLD 14	-398	100	5033	67.81	1454.44	-20.91
231	SLD 15	-493	-138	3560	49.97	1030.59	50.37
231	SLD 16	-414	-135	3577	50.11	1033.78	48.49
231	SLV 1	649	127	5214	70.44	1517.42	-52.94
231	SLV 2	773	132	5240	70.67	1522.45	-55.91
231	SLV 3	623	-274	2729	40.24	799.58	65.42
231	SLV 4	746	-268	2756	40.47	804.61	62.44
231	SLV 5	213	617	8250	107.19	2390.72	-187.16
231	SLV 6	296	620	8268	107.34	2394.1	-189.16
231	SLV 7	123	-718	-31	6.52	-2.08	207.36
231	SLV 8	207	-714	-13	6.67	1.31	205.35
231	SLV 9	-206	636	8364	108.45	2420.72	-183.44
231	SLV 10	-122	639	8382	108.6	2424.1	-185.44
231	SLV 11	-295	-699	84	7.79	27.92	211.08
231	SLV 12	-212	-695	102	7.94	31.31	209.08
231	SLV 13	-746	190	5596	74.66	1617.42	-40.53
231	SLV 14	-622	195	5622	74.88	1622.45	-43.5
231	SLV 15	-772	-210	3112	44.46	899.58	77.83
231	SLV 16	-649	-205	3138	44.68	904.61	74.85
231	SLV FO 1	714	143	5317	71.73	1548.06	-59.33
231	SLV FO 2	851	149	5346	71.98	1553.59	-62.6
231	SLV FO 3	685	-297	2585	38.51	758.44	70.86
231	SLV FO 4	821	-291	2614	38.76	763.97	67.59
231	SLV FO 5	234	682	8657	112.15	2508.69	-206.97
231	SLV FO 6	326	686	8677	112.32	2512.41	-209.17
231	SLV FO 7	135	-785	-451	1.42	-123.39	227
231	SLV FO 8	227	-781	-432	1.59	-119.66	224.79
231	SLV FO 9	-226	703	8783	113.54	2541.69	-202.88
231	SLV FO 10	-135	707	8803	113.71	2545.41	-205.08
231	SLV FO 11	-325	-764	-325	2.81	-90.39	231.09
231	SLV FO 12	-233	-761	-306	2.98	-86.66	228.89
231	SLV FO 13	-820	213	5738	76.37	1658.06	-45.68
231	SLV FO 14	-684	219	5767	76.61	1663.59	-48.95
231	SLV FO 15	-850	-227	3005	43.15	868.44	84.51
231	SLV FO 16	-713	-222	3034	43.4	873.97	81.24
231	CRTFP Ux+	0	0	0	0	0	0
231	CRTFP Ux-	0	0	0	0	0	0
231	CRTFP Uy+	0	0	0	0	-0.01	0
231	CRTFP Uy-	0	0	0	0	0.01	0
232	SLU 1	1	-13	575	-32.22	-71.87	-1.65
232	SLU 2	1	-11	591	-33.11	-73.85	-1.37
232	SLU 3	1	-14	583	-32.69	-72.9	-1.69
232	SLU 4	1	-12	593	-33.22	-74.08	-1.52
232	SLU 5	1	-12	596	-33.39	-74.47	-1.4
232	SLU 6	0	-14	588	-32.96	-73.51	-1.73
232	SLU 7	1	-13	598	-33.5	-74.7	-1.56
232	SLU 8	0	-14	585	-32.78	-73.1	-1.72
232	SLU 9	1	-13	594	-33.31	-74.29	-1.55
232	SLU 10	1	-13	664	-37.23	-83.03	-1.57
232	SLU 11	0	-15	657	-36.8	-82.08	-1.89
232	SLU 12	0	-14	666	-37.34	-83.27	-1.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
232	SLU 13	0	-13	669	-37.51	-83.65	-1.61
232	SLU 14	0	-15	662	-37.08	-82.7	-1.93
232	SLU 15	0	-14	671	-37.61	-83.89	-1.76
232	SLU 16	0	-15	658	-36.9	-82.29	-1.92
232	SLU 17	0	-14	668	-37.43	-83.48	-1.75
232	SLU 18	0	-16	680	-38.11	-84.99	-1.93
232	SLU 19	0	-14	689	-38.64	-86.17	-1.77
232	SLU 20	0	-16	685	-38.39	-85.61	-1.97
232	SLU 21	0	-15	694	-38.92	-86.79	-1.8
232	SLU 22	1	-15	651	-36.47	-81.33	-1.83
232	SLU 23	1	-13	666	-37.36	-83.31	-1.55
232	SLU 24	1	-15	659	-36.93	-82.36	-1.87
232	SLU 25	1	-14	668	-37.46	-83.55	-1.7
232	SLU 26	1	-13	671	-37.63	-83.93	-1.58
232	SLU 27	1	-16	664	-37.21	-82.98	-1.91
232	SLU 28	1	-14	673	-37.74	-84.17	-1.74
232	SLU 29	1	-15	661	-37.02	-82.57	-1.9
232	SLU 30	1	-14	670	-37.56	-83.76	-1.73
232	SLU 31	1	-14	740	-41.48	-92.5	-1.75
232	SLU 32	0	-17	732	-41.05	-91.54	-2.07
232	SLU 33	1	-16	742	-41.58	-92.73	-1.91
232	SLU 34	1	-15	745	-41.75	-93.11	-1.79
232	SLU 35	0	-17	737	-41.33	-92.16	-2.11
232	SLU 36	0	-16	747	-41.86	-93.35	-1.94
232	SLU 37	0	-17	734	-41.14	-91.75	-2.1
232	SLU 38	0	-16	744	-41.67	-92.94	-1.93
232	SLU 39	0	-17	756	-42.35	-94.45	-2.12
232	SLU 40	1	-16	765	-42.88	-95.64	-1.95
232	SLU 41	0	-17	761	-42.63	-95.07	-2.15
232	SLU 42	0	-16	770	-43.16	-96.26	-1.98
232	SLU 43	1	-17	721	-40.44	-90.18	-2.08
232	SLU 44	1	-15	737	-41.33	-92.16	-1.8
232	SLU 45	1	-17	730	-40.9	-91.21	-2.12
232	SLU 46	1	-16	739	-41.43	-92.4	-1.95
232	SLU 47	1	-15	742	-41.6	-92.78	-1.83
232	SLU 48	1	-17	735	-41.18	-91.83	-2.16
232	SLU 49	1	-16	744	-41.71	-93.02	-1.99
232	SLU 50	0	-17	731	-40.99	-91.42	-2.15
232	SLU 51	1	-16	741	-41.52	-92.61	-1.98
232	SLU 52	1	-16	811	-45.44	-101.35	-2
232	SLU 53	0	-19	803	-45.02	-100.39	-2.32
232	SLU 54	1	-17	813	-45.55	-101.58	-2.16
232	SLU 55	1	-17	816	-45.72	-101.96	-2.04
232	SLU 56	0	-19	808	-45.29	-101.01	-2.36
232	SLU 57	0	-18	818	-45.83	-102.2	-2.19
232	SLU 58	0	-19	805	-45.11	-100.6	-2.35
232	SLU 59	0	-18	814	-45.64	-101.79	-2.18
232	SLU 60	0	-19	826	-46.32	-103.3	-2.37
232	SLU 61	0	-18	836	-46.85	-104.49	-2.2
232	SLU 62	0	-19	831	-46.6	-103.92	-2.4
232	SLU 63	0	-18	841	-47.13	-105.11	-2.24
232	SLU 64	1	-18	797	-44.68	-99.65	-2.26
232	SLU 65	1	-16	813	-45.57	-101.63	-1.98
232	SLU 66	1	-19	805	-45.14	-100.68	-2.3
232	SLU 67	1	-18	815	-45.68	-101.86	-2.14
232	SLU 68	1	-17	818	-45.85	-102.24	-2.01
232	SLU 69	1	-19	810	-45.42	-101.29	-2.34
232	SLU 70	1	-18	820	-45.95	-102.48	-2.17
232	SLU 71	1	-19	807	-45.24	-100.88	-2.33
232	SLU 72	1	-18	817	-45.77	-102.07	-2.16
232	SLU 73	1	-18	886	-49.69	-110.81	-2.18
232	SLU 74	1	-20	879	-49.26	-109.86	-2.5
232	SLU 75	1	-19	888	-49.79	-111.05	-2.34
232	SLU 76	1	-18	891	-49.96	-111.43	-2.22
232	SLU 77	0	-21	884	-49.54	-110.48	-2.54
232	SLU 78	1	-19	893	-50.07	-111.67	-2.37
232	SLU 79	0	-20	881	-49.35	-110.07	-2.53
232	SLU 80	1	-19	890	-49.89	-111.26	-2.36
232	SLU 81	1	-21	902	-50.56	-112.77	-2.55
232	SLU 82	1	-19	912	-51.1	-113.95	-2.38
232	SLU 83	0	-21	907	-50.84	-113.39	-2.58
232	SLU 84	1	-20	917	-51.37	-114.57	-2.42
232	SLE RA 1	1	-14	597	-33.44	-74.57	-1.7
232	SLE RA 2	1	-12	607	-34.03	-75.89	-1.51
232	SLE RA 3	1	-14	602	-33.75	-75.26	-1.73
232	SLE RA 4	1	-13	608	-34.1	-76.05	-1.62
232	SLE RA 5	1	-13	610	-34.21	-76.3	-1.54
232	SLE RA 6	1	-14	605	-33.93	-75.67	-1.75
232	SLE RA 7	1	-13	612	-34.29	-76.46	-1.64
232	SLE RA 8	1	-14	603	-33.81	-75.4	-1.74
232	SLE RA 9	1	-13	610	-34.16	-76.19	-1.63
232	SLE RA 10	1	-13	656	-36.77	-82.01	-1.65
232	SLE RA 11	0	-15	651	-36.49	-81.38	-1.86
232	SLE RA 12	1	-14	657	-36.85	-82.17	-1.75
232	SLE RA 13	1	-14	659	-36.96	-82.43	-1.67
232	SLE RA 14	0	-15	654	-36.68	-81.79	-1.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
232	SLE RA 15	0	-14	661	-37.03	-82.58	-1.77
232	SLE RA 16	0	-15	652	-36.55	-81.52	-1.88
232	SLE RA 17	0	-14	658	-36.91	-82.31	-1.77
232	SLE RA 18	0	-15	667	-37.36	-83.32	-1.89
232	SLE RA 19	1	-14	673	-37.71	-84.11	-1.78
232	SLE RA 20	0	-15	670	-37.54	-83.73	-1.91
232	SLE RA 21	0	-15	676	-37.9	-84.52	-1.8
232	SLE FR 1	1	-14	597	-33.44	-74.57	-1.7
232	SLE FR 2	1	-14	599	-33.56	-74.83	-1.66
232	SLE FR 3	1	-14	598	-33.51	-74.74	-1.71
232	SLE FR 4	1	-14	620	-34.73	-77.46	-1.72
232	SLE FR 5	1	-14	619	-34.69	-77.36	-1.76
232	SLE FR 6	1	-15	632	-35.4	-78.94	-1.79
232	SLE QP 1	1	-14	597	-33.44	-74.57	-1.7
232	SLE QP 2	1	-14	618	-34.61	-77.19	-1.75
232	SLD 1	58	8	680	-38.13	-85.03	4.2
232	SLD 2	69	13	689	-38.62	-86.12	5.47
232	SLD 3	55	-19	457	-25.63	-57.15	0.66
232	SLD 4	66	-14	466	-26.11	-58.24	1.93
232	SLD 5	20	33	973	-54.54	-121.64	5.19
232	SLD 6	27	36	979	-54.86	-122.34	6
232	SLD 7	11	-58	230	-12.87	-28.71	-6.62
232	SLD 8	18	-55	235	-13.19	-29.41	-5.8
232	SLD 9	-17	26	1000	-56.04	-124.98	2.3
232	SLD 10	-10	29	1005	-56.35	-125.68	3.11
232	SLD 11	-26	-65	256	-14.37	-32.05	-9.51
232	SLD 12	-19	-61	262	-14.68	-32.75	-8.7
232	SLD 13	-65	-15	769	-43.11	-96.15	-5.44
232	SLD 14	-54	-9	778	-43.6	-97.24	-4.17
232	SLD 15	-68	-42	546	-30.61	-68.27	-8.98
232	SLD 16	-57	-37	555	-31.1	-69.36	-7.71
232	SLV 1	91	22	731	-41	-91.44	7.8
232	SLV 2	108	31	745	-41.77	-93.15	9.8
232	SLV 3	86	-24	351	-19.67	-43.87	1.76
232	SLV 4	103	-16	365	-20.44	-45.59	3.76
232	SLV 5	32	66	1226	-68.74	-153.29	9.91
232	SLV 6	43	71	1236	-69.25	-154.45	11.25
232	SLV 7	16	-89	-42	2.36	5.27	-10.24
232	SLV 8	28	-84	-33	1.84	4.11	-8.9
232	SLV 9	-26	55	1268	-71.07	-158.5	5.39
232	SLV 10	-15	61	1277	-71.59	-159.66	6.73
232	SLV 11	-42	-100	0	0.03	0.06	-14.76
232	SLV 12	-30	-94	9	-0.49	-1.1	-13.42
232	SLV 13	-102	-13	870	-48.79	-108.8	-7.27
232	SLV 14	-85	-4	884	-49.56	-110.52	-5.27
232	SLV 15	-107	-59	490	-27.46	-61.24	-13.31
232	SLV 16	-90	-51	504	-28.23	-62.95	-11.31
232	SLV FO 1	100	26	743	-41.64	-92.86	8.76
232	SLV FO 2	119	35	758	-42.49	-94.75	10.96
232	SLV FO 3	95	-25	324	-18.18	-40.54	2.11
232	SLV FO 4	114	-16	339	-19.02	-42.43	4.31
232	SLV FO 5	35	74	1287	-72.15	-160.9	11.08
232	SLV FO 6	47	80	1297	-72.72	-162.17	12.56
232	SLV FO 7	17	-97	-108	6.06	13.51	-11.09
232	SLV FO 8	30	-91	-98	5.49	12.24	-9.61
232	SLV FO 9	-29	62	1333	-74.72	-166.63	6.1
232	SLV FO 10	-16	68	1343	-75.29	-167.9	7.58
232	SLV FO 11	-46	-108	-62	3.49	7.78	-16.06
232	SLV FO 12	-33	-102	-52	2.92	6.51	-14.58
232	SLV FO 13	-112	-13	896	-50.2	-111.96	-7.82
232	SLV FO 14	-94	-3	911	-51.05	-113.85	-5.62
232	SLV FO 15	-118	-64	477	-26.74	-59.64	-14.47
232	SLV FO 16	-99	-55	492	-27.59	-61.53	-12.27
232	CRTFP Ux+	0	0	0	0	0	0
232	CRTFP Ux-	0	0	0	0	0	0
232	CRTFP Uy+	0	0	0	0	0	0
232	CRTFP Uy-	0	0	0	0	0	0
234	SLU 1	-6	-17	868	0	0	0
234	SLU 2	-6	-14	891	0	0	0
234	SLU 3	-6	-18	882	0	0	0
234	SLU 4	-6	-16	896	0	0	0
234	SLU 5	-6	-14	900	0	0	0
234	SLU 6	-6	-18	891	0	0	0
234	SLU 7	-6	-16	904	0	0	0
234	SLU 8	-6	-18	886	0	0	0
234	SLU 9	-6	-16	899	0	0	0
234	SLU 10	-6	-16	1006	0	0	0
234	SLU 11	-6	-19	996	0	0	0
234	SLU 12	-6	-17	1010	0	0	0
234	SLU 13	-6	-16	1014	0	0	0
234	SLU 14	-6	-20	1005	0	0	0
234	SLU 15	-6	-18	1019	0	0	0
234	SLU 16	-6	-20	1000	0	0	0
234	SLU 17	-6	-18	1014	0	0	0
234	SLU 18	-6	-20	1032	0	0	0
234	SLU 19	-6	-18	1046	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
234	SLU 20	-6	-20	1040	0	0	0
234	SLU 21	-6	-18	1054	0	0	0
234	SLU 22	-7	-19	986	0	0	0
234	SLU 23	-7	-16	1009	0	0	0
234	SLU 24	-7	-20	999	0	0	0
234	SLU 25	-7	-18	1013	0	0	0
234	SLU 26	-7	-16	1017	0	0	0
234	SLU 27	-7	-20	1008	0	0	0
234	SLU 28	-7	-18	1022	0	0	0
234	SLU 29	-7	-20	1003	0	0	0
234	SLU 30	-7	-18	1017	0	0	0
234	SLU 31	-7	-18	1123	0	0	0
234	SLU 32	-7	-21	1114	0	0	0
234	SLU 33	-7	-19	1128	0	0	0
234	SLU 34	-7	-18	1132	0	0	0
234	SLU 35	-7	-22	1122	0	0	0
234	SLU 36	-7	-20	1136	0	0	0
234	SLU 37	-7	-22	1117	0	0	0
234	SLU 38	-7	-20	1131	0	0	0
234	SLU 39	-7	-22	1149	0	0	0
234	SLU 40	-7	-20	1163	0	0	0
234	SLU 41	-7	-22	1158	0	0	0
234	SLU 42	-7	-20	1171	0	0	0
234	SLU 43	-7	-22	1089	0	0	0
234	SLU 44	-8	-18	1112	0	0	0
234	SLU 45	-7	-22	1102	0	0	0
234	SLU 46	-8	-20	1116	0	0	0
234	SLU 47	-8	-18	1120	0	0	0
234	SLU 48	-8	-22	1111	0	0	0
234	SLU 49	-8	-20	1125	0	0	0
234	SLU 50	-7	-22	1106	0	0	0
234	SLU 51	-8	-20	1120	0	0	0
234	SLU 52	-8	-20	1226	0	0	0
234	SLU 53	-7	-24	1217	0	0	0
234	SLU 54	-8	-22	1231	0	0	0
234	SLU 55	-8	-20	1235	0	0	0
234	SLU 56	-8	-24	1225	0	0	0
234	SLU 57	-8	-22	1239	0	0	0
234	SLU 58	-7	-24	1220	0	0	0
234	SLU 59	-8	-22	1234	0	0	0
234	SLU 60	-7	-24	1252	0	0	0
234	SLU 61	-7	-22	1266	0	0	0
234	SLU 62	-7	-25	1261	0	0	0
234	SLU 63	-8	-23	1274	0	0	0
234	SLU 64	-8	-24	1206	0	0	0
234	SLU 65	-8	-20	1229	0	0	0
234	SLU 66	-8	-24	1220	0	0	0
234	SLU 67	-8	-22	1233	0	0	0
234	SLU 68	-9	-21	1238	0	0	0
234	SLU 69	-8	-24	1228	0	0	0
234	SLU 70	-9	-22	1242	0	0	0
234	SLU 71	-8	-24	1223	0	0	0
234	SLU 72	-9	-22	1237	0	0	0
234	SLU 73	-8	-22	1343	0	0	0
234	SLU 74	-8	-26	1334	0	0	0
234	SLU 75	-8	-24	1348	0	0	0
234	SLU 76	-9	-22	1352	0	0	0
234	SLU 77	-8	-26	1343	0	0	0
234	SLU 78	-9	-24	1356	0	0	0
234	SLU 79	-8	-26	1338	0	0	0
234	SLU 80	-9	-24	1351	0	0	0
234	SLU 81	-8	-26	1369	0	0	0
234	SLU 82	-8	-24	1383	0	0	0
234	SLU 83	-8	-27	1378	0	0	0
234	SLU 84	-8	-25	1392	0	0	0
234	SLE RA 1	-6	-18	902	0	0	0
234	SLE RA 2	-6	-16	917	0	0	0
234	SLE RA 3	-6	-18	911	0	0	0
234	SLE RA 4	-6	-17	920	0	0	0
234	SLE RA 5	-6	-16	923	0	0	0
234	SLE RA 6	-6	-18	917	0	0	0
234	SLE RA 7	-6	-17	926	0	0	0
234	SLE RA 8	-6	-18	913	0	0	0
234	SLE RA 9	-6	-17	923	0	0	0
234	SLE RA 10	-6	-17	993	0	0	0
234	SLE RA 11	-6	-19	987	0	0	0
234	SLE RA 12	-6	-18	996	0	0	0
234	SLE RA 13	-6	-17	999	0	0	0
234	SLE RA 14	-6	-19	993	0	0	0
234	SLE RA 15	-6	-18	1002	0	0	0
234	SLE RA 16	-6	-19	990	0	0	0
234	SLE RA 17	-6	-18	999	0	0	0
234	SLE RA 18	-6	-20	1011	0	0	0
234	SLE RA 19	-6	-18	1020	0	0	0
234	SLE RA 20	-6	-20	1017	0	0	0
234	SLE RA 21	-6	-18	1026	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
234	SLE FR 1	-6	-18	902	0	0	0
234	SLE FR 2	-6	-17	905	0	0	0
234	SLE FR 3	-6	-18	904	0	0	0
234	SLE FR 4	-6	-18	938	0	0	0
234	SLE FR 5	-6	-18	937	0	0	0
234	SLE FR 6	-6	-19	956	0	0	0
234	SLE QP 1	-6	-18	902	0	0	0
234	SLE QP 2	-6	-18	935	0	0	0
234	SLD 1	74	-8	1146	0	0	0
234	SLD 2	91	-15	1135	0	0	0
234	SLD 3	78	-49	819	0	0	0
234	SLD 4	94	-57	807	0	0	0
234	SLD 5	10	49	1496	0	0	0
234	SLD 6	21	44	1489	0	0	0
234	SLD 7	22	-89	405	0	0	0
234	SLD 8	32	-94	398	0	0	0
234	SLD 9	-44	57	1471	0	0	0
234	SLD 10	-34	53	1464	0	0	0
234	SLD 11	-33	-81	380	0	0	0
234	SLD 12	-22	-85	373	0	0	0
234	SLD 13	-106	20	1062	0	0	0
234	SLD 14	-90	13	1051	0	0	0
234	SLD 15	-103	-21	735	0	0	0
234	SLD 16	-86	-29	723	0	0	0
234	SLV 1	120	1	1289	0	0	0
234	SLV 2	145	-11	1271	0	0	0
234	SLV 3	125	-70	730	0	0	0
234	SLV 4	151	-81	713	0	0	0
234	SLV 5	18	97	1892	0	0	0
234	SLV 6	35	89	1880	0	0	0
234	SLV 7	37	-139	29	0	0	0
234	SLV 8	55	-146	17	0	0	0
234	SLV 9	-67	110	1852	0	0	0
234	SLV 10	-49	102	1840	0	0	0
234	SLV 11	-47	-125	-10	0	0	0
234	SLV 12	-30	-133	-22	0	0	0
234	SLV 13	-163	45	1157	0	0	0
234	SLV 14	-137	33	1139	0	0	0
234	SLV 15	-157	-26	598	0	0	0
234	SLV 16	-131	-37	580	0	0	0
234	SLV FO 1	132	3	1325	0	0	0
234	SLV FO 2	160	-10	1305	0	0	0
234	SLV FO 3	138	-75	710	0	0	0
234	SLV FO 4	167	-88	690	0	0	0
234	SLV FO 5	21	108	1987	0	0	0
234	SLV FO 6	40	100	1974	0	0	0
234	SLV FO 7	42	-151	-61	0	0	0
234	SLV FO 8	61	-159	-74	0	0	0
234	SLV FO 9	-73	123	1944	0	0	0
234	SLV FO 10	-54	114	1930	0	0	0
234	SLV FO 11	-52	-136	-105	0	0	0
234	SLV FO 12	-33	-145	-118	0	0	0
234	SLV FO 13	-179	51	1179	0	0	0
234	SLV FO 14	-150	38	1159	0	0	0
234	SLV FO 15	-172	-27	564	0	0	0
234	SLV FO 16	-144	-39	545	0	0	0
234	CRTFP Uy+	0	0	0	0	0	0
234	CRTFP Uy-	0	0	0	0	0	0
235	SLU 1	-6	-15	882	0	0	0
235	SLU 2	-6	-11	905	0	0	0
235	SLU 3	-6	-15	896	0	0	0
235	SLU 4	-6	-13	909	0	0	0
235	SLU 5	-6	-12	913	0	0	0
235	SLU 6	-6	-15	904	0	0	0
235	SLU 7	-6	-13	918	0	0	0
235	SLU 8	-6	-15	899	0	0	0
235	SLU 9	-6	-13	913	0	0	0
235	SLU 10	-6	-13	1021	0	0	0
235	SLU 11	-6	-17	1012	0	0	0
235	SLU 12	-6	-15	1026	0	0	0
235	SLU 13	-6	-13	1030	0	0	0
235	SLU 14	-6	-17	1021	0	0	0
235	SLU 15	-6	-15	1034	0	0	0
235	SLU 16	-6	-17	1015	0	0	0
235	SLU 17	-6	-15	1029	0	0	0
235	SLU 18	-6	-17	1048	0	0	0
235	SLU 19	-6	-15	1062	0	0	0
235	SLU 20	-6	-17	1056	0	0	0
235	SLU 21	-6	-15	1070	0	0	0
235	SLU 22	-7	-17	1000	0	0	0
235	SLU 23	-7	-13	1024	0	0	0
235	SLU 24	-7	-17	1014	0	0	0
235	SLU 25	-7	-15	1028	0	0	0
235	SLU 26	-7	-13	1032	0	0	0
235	SLU 27	-7	-17	1023	0	0	0
235	SLU 28	-7	-15	1037	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
235	SLU 29	-7	-17	1018	0	0	0
235	SLU 30	-7	-15	1032	0	0	0
235	SLU 31	-7	-15	1140	0	0	0
235	SLU 32	-7	-18	1131	0	0	0
235	SLU 33	-7	-16	1144	0	0	0
235	SLU 34	-7	-15	1149	0	0	0
235	SLU 35	-7	-19	1139	0	0	0
235	SLU 36	-7	-17	1153	0	0	0
235	SLU 37	-7	-19	1134	0	0	0
235	SLU 38	-7	-16	1148	0	0	0
235	SLU 39	-7	-19	1167	0	0	0
235	SLU 40	-7	-17	1180	0	0	0
235	SLU 41	-7	-19	1175	0	0	0
235	SLU 42	-7	-17	1189	0	0	0
235	SLU 43	-7	-19	1105	0	0	0
235	SLU 44	-8	-15	1129	0	0	0
235	SLU 45	-7	-19	1119	0	0	0
235	SLU 46	-8	-17	1133	0	0	0
235	SLU 47	-8	-15	1137	0	0	0
235	SLU 48	-8	-19	1128	0	0	0
235	SLU 49	-8	-17	1142	0	0	0
235	SLU 50	-8	-19	1123	0	0	0
235	SLU 51	-8	-17	1137	0	0	0
235	SLU 52	-8	-17	1245	0	0	0
235	SLU 53	-7	-21	1236	0	0	0
235	SLU 54	-8	-18	1249	0	0	0
235	SLU 55	-8	-17	1254	0	0	0
235	SLU 56	-8	-21	1244	0	0	0
235	SLU 57	-8	-19	1258	0	0	0
235	SLU 58	-8	-21	1239	0	0	0
235	SLU 59	-8	-19	1253	0	0	0
235	SLU 60	-7	-21	1272	0	0	0
235	SLU 61	-8	-19	1285	0	0	0
235	SLU 62	-7	-21	1280	0	0	0
235	SLU 63	-8	-19	1294	0	0	0
235	SLU 64	-8	-20	1224	0	0	0
235	SLU 65	-9	-17	1247	0	0	0
235	SLU 66	-8	-21	1238	0	0	0
235	SLU 67	-9	-19	1252	0	0	0
235	SLU 68	-9	-17	1256	0	0	0
235	SLU 69	-8	-21	1247	0	0	0
235	SLU 70	-9	-19	1261	0	0	0
235	SLU 71	-8	-21	1242	0	0	0
235	SLU 72	-9	-19	1255	0	0	0
235	SLU 73	-9	-18	1364	0	0	0
235	SLU 74	-8	-22	1354	0	0	0
235	SLU 75	-9	-20	1368	0	0	0
235	SLU 76	-9	-19	1372	0	0	0
235	SLU 77	-8	-23	1363	0	0	0
235	SLU 78	-9	-20	1377	0	0	0
235	SLU 79	-8	-23	1358	0	0	0
235	SLU 80	-9	-20	1372	0	0	0
235	SLU 81	-8	-23	1390	0	0	0
235	SLU 82	-8	-21	1404	0	0	0
235	SLU 83	-8	-23	1399	0	0	0
235	SLU 84	-9	-21	1413	0	0	0
235	SLE RA 1	-6	-15	916	0	0	0
235	SLE RA 2	-6	-13	931	0	0	0
235	SLE RA 3	-6	-16	925	0	0	0
235	SLE RA 4	-6	-14	934	0	0	0
235	SLE RA 5	-6	-13	937	0	0	0
235	SLE RA 6	-6	-16	931	0	0	0
235	SLE RA 7	-6	-14	940	0	0	0
235	SLE RA 8	-6	-16	927	0	0	0
235	SLE RA 9	-6	-14	936	0	0	0
235	SLE RA 10	-6	-14	1009	0	0	0
235	SLE RA 11	-6	-17	1002	0	0	0
235	SLE RA 12	-6	-15	1012	0	0	0
235	SLE RA 13	-6	-14	1014	0	0	0
235	SLE RA 14	-6	-17	1008	0	0	0
235	SLE RA 15	-6	-15	1017	0	0	0
235	SLE RA 16	-6	-17	1005	0	0	0
235	SLE RA 17	-6	-15	1014	0	0	0
235	SLE RA 18	-6	-17	1026	0	0	0
235	SLE RA 19	-6	-15	1036	0	0	0
235	SLE RA 20	-6	-17	1032	0	0	0
235	SLE RA 21	-6	-16	1041	0	0	0
235	SLE FR 1	-6	-15	916	0	0	0
235	SLE FR 2	-6	-15	919	0	0	0
235	SLE FR 3	-6	-15	918	0	0	0
235	SLE FR 4	-6	-15	952	0	0	0
235	SLE FR 5	-6	-16	951	0	0	0
235	SLE FR 6	-6	-16	971	0	0	0
235	SLE QP 1	-6	-15	916	0	0	0
235	SLE QP 2	-6	-16	949	0	0	0
235	SLD 1	77	-3	1155	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
235	SLD 2	93	-10	1144	0	0	0
235	SLD 3	80	-47	824	0	0	0
235	SLD 4	97	-54	813	0	0	0
235	SLD 5	11	56	1516	0	0	0
235	SLD 6	21	51	1509	0	0	0
235	SLD 7	22	-90	410	0	0	0
235	SLD 8	33	-95	403	0	0	0
235	SLD 9	-45	63	1495	0	0	0
235	SLD 10	-34	59	1488	0	0	0
235	SLD 11	-33	-83	389	0	0	0
235	SLD 12	-23	-87	382	0	0	0
235	SLD 13	-109	22	1085	0	0	0
235	SLD 14	-92	15	1074	0	0	0
235	SLD 15	-105	-22	753	0	0	0
235	SLD 16	-89	-28	742	0	0	0
235	SLV 1	123	7	1296	0	0	0
235	SLV 2	149	-4	1279	0	0	0
235	SLV 3	129	-68	730	0	0	0
235	SLV 4	155	-79	713	0	0	0
235	SLV 5	19	106	1915	0	0	0
235	SLV 6	37	99	1903	0	0	0
235	SLV 7	38	-143	28	0	0	0
235	SLV 8	56	-150	16	0	0	0
235	SLV 9	-68	118	1881	0	0	0
235	SLV 10	-50	111	1870	0	0	0
235	SLV 11	-49	-131	-6	0	0	0
235	SLV 12	-31	-138	-17	0	0	0
235	SLV 13	-167	47	1185	0	0	0
235	SLV 14	-141	36	1168	0	0	0
235	SLV 15	-161	-28	619	0	0	0
235	SLV 16	-135	-39	601	0	0	0
235	SLV FO 1	136	9	1331	0	0	0
235	SLV FO 2	165	-3	1312	0	0	0
235	SLV FO 3	142	-73	708	0	0	0
235	SLV FO 4	171	-85	689	0	0	0
235	SLV FO 5	21	119	2011	0	0	0
235	SLV FO 6	41	111	1999	0	0	0
235	SLV FO 7	43	-155	-64	0	0	0
235	SLV FO 8	62	-163	-77	0	0	0
235	SLV FO 9	-74	132	1975	0	0	0
235	SLV FO 10	-55	124	1962	0	0	0
235	SLV FO 11	-53	-142	-101	0	0	0
235	SLV FO 12	-34	-150	-114	0	0	0
235	SLV FO 13	-183	53	1208	0	0	0
235	SLV FO 14	-154	41	1189	0	0	0
235	SLV FO 15	-177	-29	585	0	0	0
235	SLV FO 16	-148	-41	567	0	0	0
235	CRTFP Uy+	0	0	0	0	0	0
235	CRTFP Uy-	0	0	0	0	0	0
236	SLU 1	-6	-13	902	0	0	0
236	SLU 2	-6	-9	926	0	0	0
236	SLU 3	-6	-13	916	0	0	0
236	SLU 4	-6	-11	930	0	0	0
236	SLU 5	-6	-9	934	0	0	0
236	SLU 6	-6	-13	925	0	0	0
236	SLU 7	-6	-11	939	0	0	0
236	SLU 8	-6	-13	920	0	0	0
236	SLU 9	-6	-11	934	0	0	0
236	SLU 10	-6	-10	1045	0	0	0
236	SLU 11	-6	-14	1036	0	0	0
236	SLU 12	-6	-12	1050	0	0	0
236	SLU 13	-6	-10	1054	0	0	0
236	SLU 14	-6	-14	1044	0	0	0
236	SLU 15	-6	-12	1059	0	0	0
236	SLU 16	-6	-14	1039	0	0	0
236	SLU 17	-6	-12	1053	0	0	0
236	SLU 18	-6	-15	1072	0	0	0
236	SLU 19	-6	-12	1087	0	0	0
236	SLU 20	-6	-15	1081	0	0	0
236	SLU 21	-6	-13	1095	0	0	0
236	SLU 22	-7	-14	1023	0	0	0
236	SLU 23	-7	-10	1047	0	0	0
236	SLU 24	-7	-14	1038	0	0	0
236	SLU 25	-7	-12	1052	0	0	0
236	SLU 26	-7	-10	1056	0	0	0
236	SLU 27	-7	-15	1046	0	0	0
236	SLU 28	-7	-12	1061	0	0	0
236	SLU 29	-7	-14	1041	0	0	0
236	SLU 30	-7	-12	1055	0	0	0
236	SLU 31	-7	-12	1166	0	0	0
236	SLU 32	-7	-16	1157	0	0	0
236	SLU 33	-7	-13	1171	0	0	0
236	SLU 34	-7	-12	1175	0	0	0
236	SLU 35	-7	-16	1166	0	0	0
236	SLU 36	-7	-14	1180	0	0	0
236	SLU 37	-7	-16	1160	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLU 38	-7	-14	1175	0	0	0
236	SLU 39	-7	-16	1194	0	0	0
236	SLU 40	-7	-14	1208	0	0	0
236	SLU 41	-7	-16	1203	0	0	0
236	SLU 42	-7	-14	1217	0	0	0
236	SLU 43	-7	-16	1131	0	0	0
236	SLU 44	-8	-12	1155	0	0	0
236	SLU 45	-7	-16	1145	0	0	0
236	SLU 46	-8	-14	1159	0	0	0
236	SLU 47	-8	-12	1163	0	0	0
236	SLU 48	-8	-16	1154	0	0	0
236	SLU 49	-8	-14	1168	0	0	0
236	SLU 50	-8	-16	1149	0	0	0
236	SLU 51	-8	-14	1163	0	0	0
236	SLU 52	-8	-14	1274	0	0	0
236	SLU 53	-7	-18	1265	0	0	0
236	SLU 54	-8	-15	1279	0	0	0
236	SLU 55	-8	-14	1283	0	0	0
236	SLU 56	-8	-18	1273	0	0	0
236	SLU 57	-8	-16	1288	0	0	0
236	SLU 58	-8	-18	1268	0	0	0
236	SLU 59	-8	-15	1282	0	0	0
236	SLU 60	-7	-18	1301	0	0	0
236	SLU 61	-7	-16	1316	0	0	0
236	SLU 62	-7	-18	1310	0	0	0
236	SLU 63	-8	-16	1324	0	0	0
236	SLU 64	-8	-17	1252	0	0	0
236	SLU 65	-9	-14	1276	0	0	0
236	SLU 66	-8	-18	1267	0	0	0
236	SLU 67	-9	-15	1281	0	0	0
236	SLU 68	-9	-14	1285	0	0	0
236	SLU 69	-8	-18	1275	0	0	0
236	SLU 70	-9	-16	1290	0	0	0
236	SLU 71	-8	-18	1270	0	0	0
236	SLU 72	-9	-16	1284	0	0	0
236	SLU 73	-9	-15	1395	0	0	0
236	SLU 74	-8	-19	1386	0	0	0
236	SLU 75	-9	-17	1400	0	0	0
236	SLU 76	-9	-15	1404	0	0	0
236	SLU 77	-8	-19	1395	0	0	0
236	SLU 78	-9	-17	1409	0	0	0
236	SLU 79	-8	-19	1389	0	0	0
236	SLU 80	-9	-17	1404	0	0	0
236	SLU 81	-8	-19	1423	0	0	0
236	SLU 82	-8	-17	1437	0	0	0
236	SLU 83	-8	-19	1432	0	0	0
236	SLU 84	-9	-17	1446	0	0	0
236	SLE RA 1	-6	-13	937	0	0	0
236	SLE RA 2	-6	-11	952	0	0	0
236	SLE RA 3	-6	-13	946	0	0	0
236	SLE RA 4	-6	-12	956	0	0	0
236	SLE RA 5	-6	-11	958	0	0	0
236	SLE RA 6	-6	-13	952	0	0	0
236	SLE RA 7	-6	-12	962	0	0	0
236	SLE RA 8	-6	-13	949	0	0	0
236	SLE RA 9	-6	-12	958	0	0	0
236	SLE RA 10	-6	-11	1032	0	0	0
236	SLE RA 11	-6	-14	1026	0	0	0
236	SLE RA 12	-6	-13	1035	0	0	0
236	SLE RA 13	-6	-12	1038	0	0	0
236	SLE RA 14	-6	-14	1032	0	0	0
236	SLE RA 15	-6	-13	1041	0	0	0
236	SLE RA 16	-6	-14	1028	0	0	0
236	SLE RA 17	-6	-13	1037	0	0	0
236	SLE RA 18	-6	-14	1050	0	0	0
236	SLE RA 19	-6	-13	1060	0	0	0
236	SLE RA 20	-6	-14	1056	0	0	0
236	SLE RA 21	-6	-13	1066	0	0	0
236	SLE FR 1	-6	-13	937	0	0	0
236	SLE FR 2	-6	-13	940	0	0	0
236	SLE FR 3	-6	-13	939	0	0	0
236	SLE FR 4	-6	-13	974	0	0	0
236	SLE FR 5	-6	-14	973	0	0	0
236	SLE FR 6	-6	-14	993	0	0	0
236	SLE QP 1	-6	-13	937	0	0	0
236	SLE QP 2	-6	-13	971	0	0	0
236	SLD 1	79	1	1174	0	0	0
236	SLD 2	97	-5	1163	0	0	0
236	SLD 3	83	-45	835	0	0	0
236	SLD 4	100	-52	825	0	0	0
236	SLD 5	11	63	1547	0	0	0
236	SLD 6	22	59	1541	0	0	0
236	SLD 7	23	-93	418	0	0	0
236	SLD 8	34	-97	411	0	0	0
236	SLD 9	-46	70	1530	0	0	0
236	SLD 10	-35	66	1524	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLD 11	-35	-86	401	0	0	0
236	SLD 12	-23	-90	394	0	0	0
236	SLD 13	-112	25	1117	0	0	0
236	SLD 14	-95	18	1107	0	0	0
236	SLD 15	-109	-22	778	0	0	0
236	SLD 16	-92	-28	768	0	0	0
236	SLV 1	127	13	1313	0	0	0
236	SLV 2	154	3	1297	0	0	0
236	SLV 3	133	-66	735	0	0	0
236	SLV 4	160	-76	719	0	0	0
236	SLV 5	20	117	1954	0	0	0
236	SLV 6	38	110	1943	0	0	0
236	SLV 7	39	-148	26	0	0	0
236	SLV 8	58	-155	15	0	0	0
236	SLV 9	-70	128	1926	0	0	0
236	SLV 10	-52	121	1915	0	0	0
236	SLV 11	-50	-137	-1	0	0	0
236	SLV 12	-32	-144	-12	0	0	0
236	SLV 13	-172	49	1222	0	0	0
236	SLV 14	-145	39	1206	0	0	0
236	SLV 15	-167	-30	644	0	0	0
236	SLV 16	-139	-40	628	0	0	0
236	SLV FO 1	141	16	1348	0	0	0
236	SLV FO 2	171	5	1330	0	0	0
236	SLV FO 3	147	-72	712	0	0	0
236	SLV FO 4	177	-83	694	0	0	0
236	SLV FO 5	23	130	2052	0	0	0
236	SLV FO 6	43	122	2040	0	0	0
236	SLV FO 7	44	-161	-68	0	0	0
236	SLV FO 8	64	-169	-80	0	0	0
236	SLV FO 9	-76	142	2022	0	0	0
236	SLV FO 10	-56	134	2010	0	0	0
236	SLV FO 11	-55	-149	-98	0	0	0
236	SLV FO 12	-35	-157	-110	0	0	0
236	SLV FO 13	-189	56	1248	0	0	0
236	SLV FO 14	-159	45	1230	0	0	0
236	SLV FO 15	-183	-32	612	0	0	0
236	SLV FO 16	-153	-43	594	0	0	0
236	CRTFP Uy+	0	0	0	0	0	0
236	CRTFP Uy-	0	0	0	0	0	0
237	SLU 1	-6	-10	919	0	0	0
237	SLU 2	-6	-6	942	0	0	0
237	SLU 3	-6	-10	933	0	0	0
237	SLU 4	-6	-8	948	0	0	0
237	SLU 5	-6	-6	952	0	0	0
237	SLU 6	-6	-11	942	0	0	0
237	SLU 7	-6	-8	957	0	0	0
237	SLU 8	-6	-11	937	0	0	0
237	SLU 9	-6	-8	951	0	0	0
237	SLU 10	-6	-7	1064	0	0	0
237	SLU 11	-6	-12	1055	0	0	0
237	SLU 12	-6	-9	1069	0	0	0
237	SLU 13	-6	-7	1074	0	0	0
237	SLU 14	-6	-12	1064	0	0	0
237	SLU 15	-6	-9	1079	0	0	0
237	SLU 16	-6	-12	1059	0	0	0
237	SLU 17	-6	-9	1073	0	0	0
237	SLU 18	-6	-12	1093	0	0	0
237	SLU 19	-6	-9	1107	0	0	0
237	SLU 20	-6	-12	1102	0	0	0
237	SLU 21	-6	-10	1116	0	0	0
237	SLU 22	-7	-11	1042	0	0	0
237	SLU 23	-7	-7	1066	0	0	0
237	SLU 24	-7	-11	1057	0	0	0
237	SLU 25	-7	-9	1071	0	0	0
237	SLU 26	-7	-7	1075	0	0	0
237	SLU 27	-7	-12	1066	0	0	0
237	SLU 28	-7	-9	1080	0	0	0
237	SLU 29	-7	-12	1060	0	0	0
237	SLU 30	-7	-9	1075	0	0	0
237	SLU 31	-7	-8	1188	0	0	0
237	SLU 32	-7	-12	1179	0	0	0
237	SLU 33	-7	-10	1193	0	0	0
237	SLU 34	-7	-8	1197	0	0	0
237	SLU 35	-7	-13	1188	0	0	0
237	SLU 36	-7	-10	1202	0	0	0
237	SLU 37	-7	-13	1182	0	0	0
237	SLU 38	-7	-10	1197	0	0	0
237	SLU 39	-7	-13	1216	0	0	0
237	SLU 40	-7	-10	1231	0	0	0
237	SLU 41	-7	-13	1225	0	0	0
237	SLU 42	-7	-10	1240	0	0	0
237	SLU 43	-7	-13	1152	0	0	0
237	SLU 44	-8	-9	1176	0	0	0
237	SLU 45	-7	-13	1166	0	0	0
237	SLU 46	-8	-11	1181	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLU 47	-8	-9	1185	0	0	0
237	SLU 48	-8	-13	1176	0	0	0
237	SLU 49	-8	-11	1190	0	0	0
237	SLU 50	-8	-13	1170	0	0	0
237	SLU 51	-8	-11	1184	0	0	0
237	SLU 52	-8	-10	1298	0	0	0
237	SLU 53	-7	-14	1288	0	0	0
237	SLU 54	-8	-12	1303	0	0	0
237	SLU 55	-8	-10	1307	0	0	0
237	SLU 56	-8	-14	1298	0	0	0
237	SLU 57	-8	-12	1312	0	0	0
237	SLU 58	-7	-14	1292	0	0	0
237	SLU 59	-8	-12	1306	0	0	0
237	SLU 60	-7	-14	1326	0	0	0
237	SLU 61	-7	-12	1340	0	0	0
237	SLU 62	-7	-15	1335	0	0	0
237	SLU 63	-8	-12	1350	0	0	0
237	SLU 64	-8	-14	1275	0	0	0
237	SLU 65	-8	-10	1299	0	0	0
237	SLU 66	-8	-14	1290	0	0	0
237	SLU 67	-8	-12	1304	0	0	0
237	SLU 68	-9	-10	1308	0	0	0
237	SLU 69	-8	-14	1299	0	0	0
237	SLU 70	-9	-12	1313	0	0	0
237	SLU 71	-8	-14	1294	0	0	0
237	SLU 72	-9	-12	1308	0	0	0
237	SLU 73	-8	-11	1421	0	0	0
237	SLU 74	-8	-15	1412	0	0	0
237	SLU 75	-8	-13	1426	0	0	0
237	SLU 76	-9	-11	1430	0	0	0
237	SLU 77	-8	-15	1421	0	0	0
237	SLU 78	-9	-13	1435	0	0	0
237	SLU 79	-8	-15	1415	0	0	0
237	SLU 80	-9	-13	1430	0	0	0
237	SLU 81	-8	-15	1449	0	0	0
237	SLU 82	-8	-13	1464	0	0	0
237	SLU 83	-8	-16	1459	0	0	0
237	SLU 84	-8	-13	1473	0	0	0
237	SLE RA 1	-6	-11	954	0	0	0
237	SLE RA 2	-6	-8	970	0	0	0
237	SLE RA 3	-6	-11	964	0	0	0
237	SLE RA 4	-6	-9	973	0	0	0
237	SLE RA 5	-6	-8	976	0	0	0
237	SLE RA 6	-6	-11	970	0	0	0
237	SLE RA 7	-6	-9	979	0	0	0
237	SLE RA 8	-6	-11	966	0	0	0
237	SLE RA 9	-6	-9	976	0	0	0
237	SLE RA 10	-6	-9	1051	0	0	0
237	SLE RA 11	-6	-11	1045	0	0	0
237	SLE RA 12	-6	-10	1054	0	0	0
237	SLE RA 13	-6	-9	1057	0	0	0
237	SLE RA 14	-6	-11	1051	0	0	0
237	SLE RA 15	-6	-10	1061	0	0	0
237	SLE RA 16	-6	-11	1047	0	0	0
237	SLE RA 17	-6	-10	1057	0	0	0
237	SLE RA 18	-6	-12	1070	0	0	0
237	SLE RA 19	-6	-10	1080	0	0	0
237	SLE RA 20	-6	-12	1076	0	0	0
237	SLE RA 21	-6	-10	1086	0	0	0
237	SLE FR 1	-6	-11	954	0	0	0
237	SLE FR 2	-6	-10	957	0	0	0
237	SLE FR 3	-6	-11	956	0	0	0
237	SLE FR 4	-6	-10	992	0	0	0
237	SLE FR 5	-6	-11	991	0	0	0
237	SLE FR 6	-6	-11	1012	0	0	0
237	SLE QP 1	-6	-11	954	0	0	0
237	SLE QP 2	-6	-11	989	0	0	0
237	SLD 1	82	6	1188	0	0	0
237	SLD 2	99	0	1178	0	0	0
237	SLD 3	85	-43	843	0	0	0
237	SLD 4	103	-48	833	0	0	0
237	SLD 5	12	70	1573	0	0	0
237	SLD 6	23	66	1566	0	0	0
237	SLD 7	24	-94	424	0	0	0
237	SLD 8	35	-97	418	0	0	0
237	SLD 9	-47	76	1560	0	0	0
237	SLD 10	-35	72	1553	0	0	0
237	SLD 11	-35	-88	411	0	0	0
237	SLD 12	-24	-91	405	0	0	0
237	SLD 13	-115	27	1144	0	0	0
237	SLD 14	-97	21	1134	0	0	0
237	SLD 15	-111	-22	799	0	0	0
237	SLD 16	-93	-28	790	0	0	0
237	SLV 1	131	19	1326	0	0	0
237	SLV 2	158	10	1310	0	0	0
237	SLV 3	136	-64	738	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLV 4	164	-73	722	0	0	0
237	SLV 5	21	127	1984	0	0	0
237	SLV 6	40	120	1974	0	0	0
237	SLV 7	40	-152	24	0	0	0
237	SLV 8	59	-158	14	0	0	0
237	SLV 9	-71	136	1963	0	0	0
237	SLV 10	-52	130	1953	0	0	0
237	SLV 11	-52	-142	3	0	0	0
237	SLV 12	-33	-148	-7	0	0	0
237	SLV 13	-176	52	1255	0	0	0
237	SLV 14	-148	43	1240	0	0	0
237	SLV 15	-170	-32	667	0	0	0
237	SLV 16	-143	-41	652	0	0	0
237	SLV FO 1	144	22	1359	0	0	0
237	SLV FO 2	175	12	1343	0	0	0
237	SLV FO 3	151	-70	713	0	0	0
237	SLV FO 4	181	-79	696	0	0	0
237	SLV FO 5	24	140	2084	0	0	0
237	SLV FO 6	44	134	2073	0	0	0
237	SLV FO 7	45	-166	-72	0	0	0
237	SLV FO 8	65	-173	-83	0	0	0
237	SLV FO 9	-77	151	2061	0	0	0
237	SLV FO 10	-57	144	2049	0	0	0
237	SLV FO 11	-56	-155	-95	0	0	0
237	SLV FO 12	-36	-162	-107	0	0	0
237	SLV FO 13	-193	58	1282	0	0	0
237	SLV FO 14	-163	48	1265	0	0	0
237	SLV FO 15	-187	-34	635	0	0	0
237	SLV FO 16	-156	-44	618	0	0	0
237	CRTFP Uy+	0	0	0	0	0	0
237	CRTFP Uy-	0	0	0	0	0	0
238	SLU 1	-6	-8	935	0	0	0
238	SLU 2	-6	-3	959	0	0	0
238	SLU 3	-6	-8	950	0	0	0
238	SLU 4	-6	-5	964	0	0	0
238	SLU 5	-6	-4	968	0	0	0
238	SLU 6	-6	-8	959	0	0	0
238	SLU 7	-6	-5	974	0	0	0
238	SLU 8	-6	-8	953	0	0	0
238	SLU 9	-6	-5	968	0	0	0
238	SLU 10	-6	-4	1084	0	0	0
238	SLU 11	-6	-8	1074	0	0	0
238	SLU 12	-6	-6	1089	0	0	0
238	SLU 13	-6	-4	1093	0	0	0
238	SLU 14	-6	-9	1084	0	0	0
238	SLU 15	-6	-6	1098	0	0	0
238	SLU 16	-6	-9	1078	0	0	0
238	SLU 17	-6	-6	1093	0	0	0
238	SLU 18	-6	-9	1113	0	0	0
238	SLU 19	-6	-6	1127	0	0	0
238	SLU 20	-6	-9	1122	0	0	0
238	SLU 21	-6	-6	1137	0	0	0
238	SLU 22	-6	-8	1060	0	0	0
238	SLU 23	-7	-4	1085	0	0	0
238	SLU 24	-7	-8	1075	0	0	0
238	SLU 25	-7	-6	1090	0	0	0
238	SLU 26	-7	-4	1094	0	0	0
238	SLU 27	-7	-8	1085	0	0	0
238	SLU 28	-7	-6	1099	0	0	0
238	SLU 29	-7	-8	1079	0	0	0
238	SLU 30	-7	-6	1094	0	0	0
238	SLU 31	-7	-5	1209	0	0	0
238	SLU 32	-7	-9	1200	0	0	0
238	SLU 33	-7	-7	1215	0	0	0
238	SLU 34	-7	-5	1219	0	0	0
238	SLU 35	-7	-9	1209	0	0	0
238	SLU 36	-7	-7	1224	0	0	0
238	SLU 37	-7	-9	1204	0	0	0
238	SLU 38	-7	-7	1218	0	0	0
238	SLU 39	-6	-9	1239	0	0	0
238	SLU 40	-7	-7	1253	0	0	0
238	SLU 41	-7	-9	1248	0	0	0
238	SLU 42	-7	-7	1262	0	0	0
238	SLU 43	-7	-10	1172	0	0	0
238	SLU 44	-7	-6	1196	0	0	0
238	SLU 45	-7	-10	1187	0	0	0
238	SLU 46	-8	-7	1202	0	0	0
238	SLU 47	-8	-6	1206	0	0	0
238	SLU 48	-7	-10	1196	0	0	0
238	SLU 49	-8	-7	1211	0	0	0
238	SLU 50	-7	-10	1191	0	0	0
238	SLU 51	-8	-7	1205	0	0	0
238	SLU 52	-7	-6	1321	0	0	0
238	SLU 53	-7	-11	1312	0	0	0
238	SLU 54	-7	-8	1326	0	0	0
238	SLU 55	-8	-6	1330	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
238	SLU 56	-7	-11	1321	0	0	0
238	SLU 57	-8	-8	1336	0	0	0
238	SLU 58	-7	-11	1316	0	0	0
238	SLU 59	-8	-8	1330	0	0	0
238	SLU 60	-7	-11	1350	0	0	0
238	SLU 61	-7	-8	1365	0	0	0
238	SLU 62	-7	-11	1360	0	0	0
238	SLU 63	-7	-8	1374	0	0	0
238	SLU 64	-8	-10	1298	0	0	0
238	SLU 65	-8	-6	1322	0	0	0
238	SLU 66	-8	-10	1313	0	0	0
238	SLU 67	-8	-8	1327	0	0	0
238	SLU 68	-8	-6	1331	0	0	0
238	SLU 69	-8	-11	1322	0	0	0
238	SLU 70	-9	-8	1337	0	0	0
238	SLU 71	-8	-11	1316	0	0	0
238	SLU 72	-8	-8	1331	0	0	0
238	SLU 73	-8	-7	1447	0	0	0
238	SLU 74	-8	-11	1437	0	0	0
238	SLU 75	-8	-9	1452	0	0	0
238	SLU 76	-8	-7	1456	0	0	0
238	SLU 77	-8	-11	1447	0	0	0
238	SLU 78	-8	-9	1461	0	0	0
238	SLU 79	-8	-11	1441	0	0	0
238	SLU 80	-8	-9	1456	0	0	0
238	SLU 81	-8	-11	1476	0	0	0
238	SLU 82	-8	-9	1490	0	0	0
238	SLU 83	-8	-11	1485	0	0	0
238	SLU 84	-8	-9	1500	0	0	0
238	SLE RA 1	-6	-8	971	0	0	0
238	SLE RA 2	-6	-5	987	0	0	0
238	SLE RA 3	-6	-8	981	0	0	0
238	SLE RA 4	-6	-6	990	0	0	0
238	SLE RA 5	-6	-5	993	0	0	0
238	SLE RA 6	-6	-8	987	0	0	0
238	SLE RA 7	-6	-6	997	0	0	0
238	SLE RA 8	-6	-8	983	0	0	0
238	SLE RA 9	-6	-6	993	0	0	0
238	SLE RA 10	-6	-5	1070	0	0	0
238	SLE RA 11	-6	-8	1064	0	0	0
238	SLE RA 12	-6	-7	1073	0	0	0
238	SLE RA 13	-6	-6	1076	0	0	0
238	SLE RA 14	-6	-8	1070	0	0	0
238	SLE RA 15	-6	-7	1080	0	0	0
238	SLE RA 16	-6	-8	1066	0	0	0
238	SLE RA 17	-6	-7	1076	0	0	0
238	SLE RA 18	-6	-8	1089	0	0	0
238	SLE RA 19	-6	-7	1099	0	0	0
238	SLE RA 20	-6	-9	1096	0	0	0
238	SLE RA 21	-6	-7	1105	0	0	0
238	SLE FR 1	-6	-8	971	0	0	0
238	SLE FR 2	-6	-7	974	0	0	0
238	SLE FR 3	-6	-8	973	0	0	0
238	SLE FR 4	-6	-7	1009	0	0	0
238	SLE FR 5	-6	-8	1009	0	0	0
238	SLE FR 6	-6	-8	1030	0	0	0
238	SLE QP 1	-6	-8	971	0	0	0
238	SLE QP 2	-6	-8	1006	0	0	0
238	SLD 1	83	11	1202	0	0	0
238	SLD 2	101	6	1193	0	0	0
238	SLD 3	86	-40	852	0	0	0
238	SLD 4	104	-45	843	0	0	0
238	SLD 5	13	76	1597	0	0	0
238	SLD 6	24	73	1592	0	0	0
238	SLD 7	24	-94	431	0	0	0
238	SLD 8	35	-97	425	0	0	0
238	SLD 9	-47	81	1587	0	0	0
238	SLD 10	-36	78	1582	0	0	0
238	SLD 11	-36	-89	421	0	0	0
238	SLD 12	-24	-92	415	0	0	0
238	SLD 13	-116	29	1169	0	0	0
238	SLD 14	-98	24	1160	0	0	0
238	SLD 15	-113	-22	819	0	0	0
238	SLD 16	-95	-27	810	0	0	0
238	SLV 1	133	26	1339	0	0	0
238	SLV 2	161	18	1325	0	0	0
238	SLV 3	138	-61	742	0	0	0
238	SLV 4	167	-69	728	0	0	0
238	SLV 5	22	136	2015	0	0	0
238	SLV 6	41	130	2005	0	0	0
238	SLV 7	41	-155	24	0	0	0
238	SLV 8	60	-160	14	0	0	0
238	SLV 9	-71	144	1998	0	0	0
238	SLV 10	-52	139	1989	0	0	0
238	SLV 11	-53	-146	7	0	0	0
238	SLV 12	-34	-152	-2	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
238	SLV 13	-178	53	1285	0	0	0
238	SLV 14	-150	45	1270	0	0	0
238	SLV 15	-173	-34	687	0	0	0
238	SLV 16	-145	-42	673	0	0	0
238	SLV FO 1	147	29	1373	0	0	0
238	SLV FO 2	178	21	1357	0	0	0
238	SLV FO 3	153	-67	716	0	0	0
238	SLV FO 4	184	-75	700	0	0	0
238	SLV FO 5	25	150	2115	0	0	0
238	SLV FO 6	46	144	2105	0	0	0
238	SLV FO 7	45	-169	-74	0	0	0
238	SLV FO 8	66	-175	-85	0	0	0
238	SLV FO 9	-78	159	2097	0	0	0
238	SLV FO 10	-57	153	2087	0	0	0
238	SLV FO 11	-57	-160	-92	0	0	0
238	SLV FO 12	-36	-166	-103	0	0	0
238	SLV FO 13	-196	59	1312	0	0	0
238	SLV FO 14	-165	51	1297	0	0	0
238	SLV FO 15	-189	-36	655	0	0	0
238	SLV FO 16	-158	-45	640	0	0	0
238	CRTFP Uy+	0	0	0	0	0	0
238	CRTFP Uy-	0	0	0	0	0	0
239	SLU 1	-6	-5	955	0	0	0
239	SLU 2	-6	0	980	0	0	0
239	SLU 3	-6	-5	971	0	0	0
239	SLU 4	-6	-2	986	0	0	0
239	SLU 5	-6	-1	990	0	0	0
239	SLU 6	-6	-5	981	0	0	0
239	SLU 7	-6	-2	995	0	0	0
239	SLU 8	-6	-5	975	0	0	0
239	SLU 9	-6	-2	990	0	0	0
239	SLU 10	-6	-1	1108	0	0	0
239	SLU 11	-6	-5	1099	0	0	0
239	SLU 12	-6	-3	1114	0	0	0
239	SLU 13	-6	-1	1118	0	0	0
239	SLU 14	-6	-5	1109	0	0	0
239	SLU 15	-6	-3	1124	0	0	0
239	SLU 16	-6	-5	1103	0	0	0
239	SLU 17	-6	-3	1118	0	0	0
239	SLU 18	-6	-5	1139	0	0	0
239	SLU 19	-6	-3	1154	0	0	0
239	SLU 20	-6	-5	1148	0	0	0
239	SLU 21	-6	-3	1163	0	0	0
239	SLU 22	-6	-5	1084	0	0	0
239	SLU 23	-7	-1	1109	0	0	0
239	SLU 24	-7	-5	1100	0	0	0
239	SLU 25	-7	-2	1114	0	0	0
239	SLU 26	-7	-1	1118	0	0	0
239	SLU 27	-7	-5	1109	0	0	0
239	SLU 28	-7	-3	1124	0	0	0
239	SLU 29	-7	-5	1103	0	0	0
239	SLU 30	-7	-3	1118	0	0	0
239	SLU 31	-7	-1	1237	0	0	0
239	SLU 32	-7	-5	1228	0	0	0
239	SLU 33	-7	-3	1243	0	0	0
239	SLU 34	-7	-1	1247	0	0	0
239	SLU 35	-7	-6	1238	0	0	0
239	SLU 36	-7	-3	1252	0	0	0
239	SLU 37	-7	-6	1232	0	0	0
239	SLU 38	-7	-3	1247	0	0	0
239	SLU 39	-6	-5	1267	0	0	0
239	SLU 40	-7	-3	1282	0	0	0
239	SLU 41	-7	-6	1277	0	0	0
239	SLU 42	-7	-3	1292	0	0	0
239	SLU 43	-7	-6	1198	0	0	0
239	SLU 44	-7	-2	1223	0	0	0
239	SLU 45	-7	-6	1213	0	0	0
239	SLU 46	-7	-4	1228	0	0	0
239	SLU 47	-8	-2	1232	0	0	0
239	SLU 48	-7	-6	1223	0	0	0
239	SLU 49	-8	-4	1238	0	0	0
239	SLU 50	-7	-6	1217	0	0	0
239	SLU 51	-8	-4	1232	0	0	0
239	SLU 52	-7	-2	1351	0	0	0
239	SLU 53	-7	-7	1342	0	0	0
239	SLU 54	-7	-4	1357	0	0	0
239	SLU 55	-8	-2	1361	0	0	0
239	SLU 56	-7	-7	1351	0	0	0
239	SLU 57	-8	-4	1366	0	0	0
239	SLU 58	-7	-7	1346	0	0	0
239	SLU 59	-8	-4	1360	0	0	0
239	SLU 60	-7	-7	1381	0	0	0
239	SLU 61	-7	-4	1396	0	0	0
239	SLU 62	-7	-7	1391	0	0	0
239	SLU 63	-7	-4	1406	0	0	0
239	SLU 64	-8	-6	1327	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
239	SLU 65	-8	-2	1351	0	0	0
239	SLU 66	-8	-6	1342	0	0	0
239	SLU 67	-8	-4	1357	0	0	0
239	SLU 68	-8	-2	1361	0	0	0
239	SLU 69	-8	-7	1352	0	0	0
239	SLU 70	-8	-4	1367	0	0	0
239	SLU 71	-8	-7	1346	0	0	0
239	SLU 72	-8	-4	1361	0	0	0
239	SLU 73	-8	-2	1480	0	0	0
239	SLU 74	-8	-7	1470	0	0	0
239	SLU 75	-8	-4	1485	0	0	0
239	SLU 76	-8	-2	1489	0	0	0
239	SLU 77	-8	-7	1480	0	0	0
239	SLU 78	-8	-4	1495	0	0	0
239	SLU 79	-8	-7	1474	0	0	0
239	SLU 80	-8	-4	1489	0	0	0
239	SLU 81	-8	-7	1510	0	0	0
239	SLU 82	-8	-4	1525	0	0	0
239	SLU 83	-8	-7	1520	0	0	0
239	SLU 84	-8	-4	1534	0	0	0
239	SLE RA 1	-6	-5	992	0	0	0
239	SLE RA 2	-6	-2	1009	0	0	0
239	SLE RA 3	-6	-5	1003	0	0	0
239	SLE RA 4	-6	-3	1012	0	0	0
239	SLE RA 5	-6	-2	1015	0	0	0
239	SLE RA 6	-6	-5	1009	0	0	0
239	SLE RA 7	-6	-3	1019	0	0	0
239	SLE RA 8	-6	-5	1005	0	0	0
239	SLE RA 9	-6	-3	1015	0	0	0
239	SLE RA 10	-6	-2	1094	0	0	0
239	SLE RA 11	-6	-5	1088	0	0	0
239	SLE RA 12	-6	-3	1098	0	0	0
239	SLE RA 13	-6	-2	1101	0	0	0
239	SLE RA 14	-6	-5	1095	0	0	0
239	SLE RA 15	-6	-3	1104	0	0	0
239	SLE RA 16	-6	-5	1091	0	0	0
239	SLE RA 17	-6	-4	1100	0	0	0
239	SLE RA 18	-6	-5	1114	0	0	0
239	SLE RA 19	-6	-3	1124	0	0	0
239	SLE RA 20	-6	-5	1121	0	0	0
239	SLE RA 21	-6	-4	1131	0	0	0
239	SLE FR 1	-6	-5	992	0	0	0
239	SLE FR 2	-6	-4	996	0	0	0
239	SLE FR 3	-6	-5	995	0	0	0
239	SLE FR 4	-6	-4	1032	0	0	0
239	SLE FR 5	-6	-5	1031	0	0	0
239	SLE FR 6	-6	-5	1053	0	0	0
239	SLE QP 1	-6	-5	992	0	0	0
239	SLE QP 2	-6	-5	1029	0	0	0
239	SLD 1	84	17	1226	0	0	0
239	SLD 2	102	12	1218	0	0	0
239	SLD 3	87	-37	870	0	0	0
239	SLD 4	105	-41	861	0	0	0
239	SLD 5	13	83	1631	0	0	0
239	SLD 6	25	80	1625	0	0	0
239	SLD 7	24	-94	441	0	0	0
239	SLD 8	36	-97	436	0	0	0
239	SLD 9	-47	87	1622	0	0	0
239	SLD 10	-36	85	1616	0	0	0
239	SLD 11	-36	-90	432	0	0	0
239	SLD 12	-25	-93	427	0	0	0
239	SLD 13	-117	31	1197	0	0	0
239	SLD 14	-99	27	1188	0	0	0
239	SLD 15	-114	-22	840	0	0	0
239	SLD 16	-96	-27	831	0	0	0
239	SLV 1	135	33	1365	0	0	0
239	SLV 2	163	26	1352	0	0	0
239	SLV 3	140	-58	756	0	0	0
239	SLV 4	169	-65	743	0	0	0
239	SLV 5	23	145	2056	0	0	0
239	SLV 6	42	141	2047	0	0	0
239	SLV 7	41	-157	26	0	0	0
239	SLV 8	60	-162	17	0	0	0
239	SLV 9	-72	152	2041	0	0	0
239	SLV 10	-53	147	2032	0	0	0
239	SLV 11	-53	-151	11	0	0	0
239	SLV 12	-34	-155	2	0	0	0
239	SLV 13	-180	55	1315	0	0	0
239	SLV 14	-152	48	1302	0	0	0
239	SLV 15	-175	-36	706	0	0	0
239	SLV 16	-146	-43	693	0	0	0
239	SLV FO 1	149	36	1398	0	0	0
239	SLV FO 2	180	29	1384	0	0	0
239	SLV FO 3	155	-63	729	0	0	0
239	SLV FO 4	186	-71	714	0	0	0
239	SLV FO 5	25	160	2158	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
239	SLV FO 6	47	155	2149	0	0	0
239	SLV FO 7	46	-173	-74	0	0	0
239	SLV FO 8	67	-177	-84	0	0	0
239	SLV FO 9	-78	168	2142	0	0	0
239	SLV FO 10	-57	163	2132	0	0	0
239	SLV FO 11	-58	-165	-91	0	0	0
239	SLV FO 12	-37	-170	-101	0	0	0
239	SLV FO 13	-198	61	1344	0	0	0
239	SLV FO 14	-166	54	1329	0	0	0
239	SLV FO 15	-192	-39	674	0	0	0
239	SLV FO 16	-160	-46	659	0	0	0
239	CRTFP Uy+	0	0	0	0	0	0
239	CRTFP Uy-	0	0	0	0	0	0
240	SLU 1	-6	-2	984	0	0	0
240	SLU 2	-6	3	1009	0	0	0
240	SLU 3	-6	-2	1000	0	0	0
240	SLU 4	-6	1	1015	0	0	0
240	SLU 5	-6	3	1019	0	0	0
240	SLU 6	-6	-2	1010	0	0	0
240	SLU 7	-6	1	1025	0	0	0
240	SLU 8	-6	-2	1004	0	0	0
240	SLU 9	-6	1	1019	0	0	0
240	SLU 10	-6	3	1142	0	0	0
240	SLU 11	-6	-2	1133	0	0	0
240	SLU 12	-6	1	1148	0	0	0
240	SLU 13	-6	2	1152	0	0	0
240	SLU 14	-6	-2	1143	0	0	0
240	SLU 15	-6	1	1158	0	0	0
240	SLU 16	-6	-2	1137	0	0	0
240	SLU 17	-6	1	1152	0	0	0
240	SLU 18	-6	-2	1174	0	0	0
240	SLU 19	-6	1	1189	0	0	0
240	SLU 20	-6	-2	1184	0	0	0
240	SLU 21	-6	1	1199	0	0	0
240	SLU 22	-6	-2	1116	0	0	0
240	SLU 23	-7	3	1142	0	0	0
240	SLU 24	-7	-2	1133	0	0	0
240	SLU 25	-7	1	1148	0	0	0
240	SLU 26	-7	3	1152	0	0	0
240	SLU 27	-7	-2	1143	0	0	0
240	SLU 28	-7	1	1158	0	0	0
240	SLU 29	-7	-2	1137	0	0	0
240	SLU 30	-7	1	1152	0	0	0
240	SLU 31	-7	3	1275	0	0	0
240	SLU 32	-7	-2	1266	0	0	0
240	SLU 33	-7	1	1281	0	0	0
240	SLU 34	-7	3	1285	0	0	0
240	SLU 35	-7	-2	1276	0	0	0
240	SLU 36	-7	1	1291	0	0	0
240	SLU 37	-7	-2	1270	0	0	0
240	SLU 38	-7	1	1285	0	0	0
240	SLU 39	-6	-2	1307	0	0	0
240	SLU 40	-7	1	1322	0	0	0
240	SLU 41	-7	-2	1317	0	0	0
240	SLU 42	-7	1	1332	0	0	0
240	SLU 43	-7	-3	1233	0	0	0
240	SLU 44	-7	2	1258	0	0	0
240	SLU 45	-7	-3	1249	0	0	0
240	SLU 46	-8	0	1264	0	0	0
240	SLU 47	-8	2	1268	0	0	0
240	SLU 48	-7	-3	1259	0	0	0
240	SLU 49	-8	0	1274	0	0	0
240	SLU 50	-7	-3	1253	0	0	0
240	SLU 51	-8	0	1268	0	0	0
240	SLU 52	-7	2	1391	0	0	0
240	SLU 53	-7	-3	1382	0	0	0
240	SLU 54	-7	0	1397	0	0	0
240	SLU 55	-8	2	1401	0	0	0
240	SLU 56	-7	-3	1392	0	0	0
240	SLU 57	-8	0	1407	0	0	0
240	SLU 58	-7	-3	1386	0	0	0
240	SLU 59	-8	0	1401	0	0	0
240	SLU 60	-7	-3	1423	0	0	0
240	SLU 61	-7	0	1438	0	0	0
240	SLU 62	-7	-3	1433	0	0	0
240	SLU 63	-7	0	1448	0	0	0
240	SLU 64	-8	-2	1366	0	0	0
240	SLU 65	-8	2	1391	0	0	0
240	SLU 66	-8	-2	1382	0	0	0
240	SLU 67	-8	0	1397	0	0	0
240	SLU 68	-8	2	1401	0	0	0
240	SLU 69	-8	-2	1392	0	0	0
240	SLU 70	-9	0	1407	0	0	0
240	SLU 71	-8	-2	1386	0	0	0
240	SLU 72	-8	0	1401	0	0	0
240	SLU 73	-8	2	1524	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
240	SLU 74	-8	-2	1515	0	0	0
240	SLU 75	-8	0	1530	0	0	0
240	SLU 76	-8	2	1534	0	0	0
240	SLU 77	-8	-2	1525	0	0	0
240	SLU 78	-8	0	1540	0	0	0
240	SLU 79	-8	-3	1519	0	0	0
240	SLU 80	-8	0	1534	0	0	0
240	SLU 81	-8	-2	1556	0	0	0
240	SLU 82	-8	0	1571	0	0	0
240	SLU 83	-8	-2	1566	0	0	0
240	SLU 84	-8	0	1581	0	0	0
240	SLE RA 1	-6	-2	1022	0	0	0
240	SLE RA 2	-6	1	1038	0	0	0
240	SLE RA 3	-6	-2	1032	0	0	0
240	SLE RA 4	-6	0	1042	0	0	0
240	SLE RA 5	-6	1	1045	0	0	0
240	SLE RA 6	-6	-2	1039	0	0	0
240	SLE RA 7	-6	0	1049	0	0	0
240	SLE RA 8	-6	-2	1035	0	0	0
240	SLE RA 9	-6	0	1045	0	0	0
240	SLE RA 10	-6	1	1127	0	0	0
240	SLE RA 11	-6	-2	1121	0	0	0
240	SLE RA 12	-6	0	1131	0	0	0
240	SLE RA 13	-6	1	1134	0	0	0
240	SLE RA 14	-6	-2	1128	0	0	0
240	SLE RA 15	-6	0	1138	0	0	0
240	SLE RA 16	-6	-2	1124	0	0	0
240	SLE RA 17	-6	0	1134	0	0	0
240	SLE RA 18	-6	-2	1148	0	0	0
240	SLE RA 19	-6	0	1158	0	0	0
240	SLE RA 20	-6	-2	1155	0	0	0
240	SLE RA 21	-6	0	1165	0	0	0
240	SLE FR 1	-6	-2	1022	0	0	0
240	SLE FR 2	-6	-1	1025	0	0	0
240	SLE FR 3	-6	-2	1024	0	0	0
240	SLE FR 4	-6	-1	1063	0	0	0
240	SLE FR 5	-6	-2	1062	0	0	0
240	SLE FR 6	-6	-2	1085	0	0	0
240	SLE QP 1	-6	-2	1022	0	0	0
240	SLE QP 2	-6	-2	1060	0	0	0
240	SLD 1	85	22	1264	0	0	0
240	SLD 2	103	19	1257	0	0	0
240	SLD 3	89	-33	898	0	0	0
240	SLD 4	107	-37	891	0	0	0
240	SLD 5	13	90	1678	0	0	0
240	SLD 6	25	88	1673	0	0	0
240	SLD 7	24	-95	457	0	0	0
240	SLD 8	36	-97	452	0	0	0
240	SLD 9	-48	93	1667	0	0	0
240	SLD 10	-36	91	1662	0	0	0
240	SLD 11	-37	-92	447	0	0	0
240	SLD 12	-25	-94	442	0	0	0
240	SLD 13	-119	33	1229	0	0	0
240	SLD 14	-100	30	1221	0	0	0
240	SLD 15	-115	-23	862	0	0	0
240	SLD 16	-97	-26	855	0	0	0
240	SLV 1	136	40	1408	0	0	0
240	SLV 2	165	34	1395	0	0	0
240	SLV 3	142	-55	783	0	0	0
240	SLV 4	171	-60	771	0	0	0
240	SLV 5	23	155	2114	0	0	0
240	SLV 6	42	152	2106	0	0	0
240	SLV 7	41	-160	31	0	0	0
240	SLV 8	61	-164	23	0	0	0
240	SLV 9	-73	160	2096	0	0	0
240	SLV 10	-53	157	2088	0	0	0
240	SLV 11	-54	-155	14	0	0	0
240	SLV 12	-35	-159	5	0	0	0
240	SLV 13	-182	57	1349	0	0	0
240	SLV 14	-154	51	1336	0	0	0
240	SLV 15	-177	-38	724	0	0	0
240	SLV 16	-148	-43	712	0	0	0
240	SLV FO 1	151	44	1442	0	0	0
240	SLV FO 2	182	38	1429	0	0	0
240	SLV FO 3	157	-60	755	0	0	0
240	SLV FO 4	188	-66	742	0	0	0
240	SLV FO 5	26	171	2219	0	0	0
240	SLV FO 6	47	167	2210	0	0	0
240	SLV FO 7	46	-176	-72	0	0	0
240	SLV FO 8	67	-180	-81	0	0	0
240	SLV FO 9	-79	176	2200	0	0	0
240	SLV FO 10	-58	173	2191	0	0	0
240	SLV FO 11	-59	-171	-91	0	0	0
240	SLV FO 12	-38	-175	-100	0	0	0
240	SLV FO 13	-200	62	1378	0	0	0
240	SLV FO 14	-168	57	1364	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
240	SLV FO 15	-194	-42	690	0	0	0
240	SLV FO 16	-162	-48	677	0	0	0
240	CRTFP Uy+	0	0	0	0	0	0
240	CRTFP Uy-	0	0	0	0	0	0
241	SLU 1	-6	1	1023	0	0	0
241	SLU 2	-6	6	1049	0	0	0
241	SLU 3	-6	1	1040	0	0	0
241	SLU 4	-6	4	1056	0	0	0
241	SLU 5	-6	6	1060	0	0	0
241	SLU 6	-6	1	1051	0	0	0
241	SLU 7	-6	4	1066	0	0	0
241	SLU 8	-6	1	1044	0	0	0
241	SLU 9	-6	4	1060	0	0	0
241	SLU 10	-6	6	1189	0	0	0
241	SLU 11	-6	1	1180	0	0	0
241	SLU 12	-6	4	1195	0	0	0
241	SLU 13	-6	6	1199	0	0	0
241	SLU 14	-6	1	1190	0	0	0
241	SLU 15	-6	4	1206	0	0	0
241	SLU 16	-6	1	1184	0	0	0
241	SLU 17	-6	4	1199	0	0	0
241	SLU 18	-6	1	1222	0	0	0
241	SLU 19	-6	4	1238	0	0	0
241	SLU 20	-6	1	1233	0	0	0
241	SLU 21	-6	4	1249	0	0	0
241	SLU 22	-7	2	1162	0	0	0
241	SLU 23	-7	7	1188	0	0	0
241	SLU 24	-7	2	1179	0	0	0
241	SLU 25	-7	5	1194	0	0	0
241	SLU 26	-7	6	1199	0	0	0
241	SLU 27	-7	2	1189	0	0	0
241	SLU 28	-7	5	1205	0	0	0
241	SLU 29	-7	2	1183	0	0	0
241	SLU 30	-7	4	1199	0	0	0
241	SLU 31	-7	7	1327	0	0	0
241	SLU 32	-7	2	1318	0	0	0
241	SLU 33	-7	5	1334	0	0	0
241	SLU 34	-7	7	1338	0	0	0
241	SLU 35	-7	2	1329	0	0	0
241	SLU 36	-7	5	1344	0	0	0
241	SLU 37	-7	2	1322	0	0	0
241	SLU 38	-7	5	1338	0	0	0
241	SLU 39	-7	2	1361	0	0	0
241	SLU 40	-7	5	1377	0	0	0
241	SLU 41	-7	2	1372	0	0	0
241	SLU 42	-7	5	1387	0	0	0
241	SLU 43	-7	1	1283	0	0	0
241	SLU 44	-7	6	1309	0	0	0
241	SLU 45	-7	1	1300	0	0	0
241	SLU 46	-8	4	1315	0	0	0
241	SLU 47	-8	6	1319	0	0	0
241	SLU 48	-7	1	1310	0	0	0
241	SLU 49	-8	4	1326	0	0	0
241	SLU 50	-7	1	1304	0	0	0
241	SLU 51	-8	4	1319	0	0	0
241	SLU 52	-7	6	1448	0	0	0
241	SLU 53	-7	1	1439	0	0	0
241	SLU 54	-8	4	1455	0	0	0
241	SLU 55	-8	6	1459	0	0	0
241	SLU 56	-7	1	1450	0	0	0
241	SLU 57	-8	4	1465	0	0	0
241	SLU 58	-7	1	1443	0	0	0
241	SLU 59	-8	4	1459	0	0	0
241	SLU 60	-7	1	1482	0	0	0
241	SLU 61	-7	4	1497	0	0	0
241	SLU 62	-7	1	1492	0	0	0
241	SLU 63	-7	4	1508	0	0	0
241	SLU 64	-8	2	1421	0	0	0
241	SLU 65	-8	7	1447	0	0	0
241	SLU 66	-8	2	1438	0	0	0
241	SLU 67	-8	5	1454	0	0	0
241	SLU 68	-8	6	1458	0	0	0
241	SLU 69	-8	2	1449	0	0	0
241	SLU 70	-9	5	1464	0	0	0
241	SLU 71	-8	2	1443	0	0	0
241	SLU 72	-9	4	1458	0	0	0
241	SLU 73	-8	7	1587	0	0	0
241	SLU 74	-8	2	1578	0	0	0
241	SLU 75	-8	5	1593	0	0	0
241	SLU 76	-8	7	1597	0	0	0
241	SLU 77	-8	2	1588	0	0	0
241	SLU 78	-9	5	1604	0	0	0
241	SLU 79	-8	2	1582	0	0	0
241	SLU 80	-9	5	1597	0	0	0
241	SLU 81	-8	2	1621	0	0	0
241	SLU 82	-8	5	1636	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
241	SLU 83	-8	2	1631	0	0	0
241	SLU 84	-8	5	1647	0	0	0
241	SLE RA 1	-6	1	1063	0	0	0
241	SLE RA 2	-6	4	1080	0	0	0
241	SLE RA 3	-6	1	1074	0	0	0
241	SLE RA 4	-6	3	1085	0	0	0
241	SLE RA 5	-6	4	1087	0	0	0
241	SLE RA 6	-6	1	1081	0	0	0
241	SLE RA 7	-6	3	1092	0	0	0
241	SLE RA 8	-6	1	1077	0	0	0
241	SLE RA 9	-6	3	1087	0	0	0
241	SLE RA 10	-6	5	1173	0	0	0
241	SLE RA 11	-6	1	1167	0	0	0
241	SLE RA 12	-6	3	1177	0	0	0
241	SLE RA 13	-6	4	1180	0	0	0
241	SLE RA 14	-6	1	1174	0	0	0
241	SLE RA 15	-6	3	1185	0	0	0
241	SLE RA 16	-6	1	1170	0	0	0
241	SLE RA 17	-6	3	1180	0	0	0
241	SLE RA 18	-6	1	1196	0	0	0
241	SLE RA 19	-6	3	1206	0	0	0
241	SLE RA 20	-6	1	1203	0	0	0
241	SLE RA 21	-6	3	1213	0	0	0
241	SLE FR 1	-6	1	1063	0	0	0
241	SLE FR 2	-6	2	1066	0	0	0
241	SLE FR 3	-6	1	1066	0	0	0
241	SLE FR 4	-6	2	1106	0	0	0
241	SLE FR 5	-6	1	1106	0	0	0
241	SLE FR 6	-6	1	1129	0	0	0
241	SLE QP 1	-6	1	1063	0	0	0
241	SLE QP 2	-6	1	1103	0	0	0
241	SLD 1	87	35	1272	0	0	0
241	SLD 2	106	33	1265	0	0	0
241	SLD 3	90	-23	893	0	0	0
241	SLD 4	109	-26	885	0	0	0
241	SLD 5	14	101	1730	0	0	0
241	SLD 6	26	99	1726	0	0	0
241	SLD 7	25	-94	465	0	0	0
241	SLD 8	37	-96	461	0	0	0
241	SLD 9	-49	98	1745	0	0	0
241	SLD 10	-37	97	1740	0	0	0
241	SLD 11	-38	-97	480	0	0	0
241	SLD 12	-26	-98	475	0	0	0
241	SLD 13	-121	28	1320	0	0	0
241	SLD 14	-102	25	1313	0	0	0
241	SLD 15	-118	-31	941	0	0	0
241	SLD 16	-99	-33	934	0	0	0
241	SLV 1	139	59	1393	0	0	0
241	SLV 2	169	55	1382	0	0	0
241	SLV 3	145	-41	746	0	0	0
241	SLV 4	174	-45	735	0	0	0
241	SLV 5	24	171	2174	0	0	0
241	SLV 6	44	168	2166	0	0	0
241	SLV 7	42	-162	16	0	0	0
241	SLV 8	62	-165	8	0	0	0
241	SLV 9	-74	167	2197	0	0	0
241	SLV 10	-54	164	2190	0	0	0
241	SLV 11	-55	-166	39	0	0	0
241	SLV 12	-36	-168	31	0	0	0
241	SLV 13	-186	47	1471	0	0	0
241	SLV 14	-157	43	1460	0	0	0
241	SLV 15	-180	-53	823	0	0	0
241	SLV 16	-151	-57	812	0	0	0
241	SLV FO 1	154	65	1423	0	0	0
241	SLV FO 2	186	61	1410	0	0	0
241	SLV FO 3	160	-45	710	0	0	0
241	SLV FO 4	192	-49	698	0	0	0
241	SLV FO 5	27	188	2281	0	0	0
241	SLV FO 6	49	185	2273	0	0	0
241	SLV FO 7	47	-178	-93	0	0	0
241	SLV FO 8	69	-181	-101	0	0	0
241	SLV FO 9	-80	184	2307	0	0	0
241	SLV FO 10	-59	181	2298	0	0	0
241	SLV FO 11	-60	-182	-67	0	0	0
241	SLV FO 12	-39	-185	-76	0	0	0
241	SLV FO 13	-204	52	1508	0	0	0
241	SLV FO 14	-172	47	1495	0	0	0
241	SLV FO 15	-198	-58	795	0	0	0
241	SLV FO 16	-166	-63	783	0	0	0
241	CRTFP Uy+	0	0	0	0	0	0
241	CRTFP Uy-	0	0	0	0	0	0
243	SLU 1	-3	-10	437	-19.67	55.25	1.14
243	SLU 2	-3	-8	449	-20.2	56.71	0.92
243	SLU 3	-3	-10	444	-19.98	56.12	1.16
243	SLU 4	-3	-9	451	-20.3	57	1.03
243	SLU 5	-3	-9	453	-20.39	57.25	0.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	SLU 6	-3	-10	448	-20.18	56.66	1.17
243	SLU 7	-3	-9	455	-20.49	57.54	1.05
243	SLU 8	-3	-10	446	-20.06	56.33	1.16
243	SLU 9	-3	-9	453	-20.37	57.21	1.04
243	SLU 10	-3	-9	506	-22.78	63.98	1.06
243	SLU 11	-3	-11	502	-22.57	63.38	1.3
243	SLU 12	-3	-10	509	-22.88	64.26	1.17
243	SLU 13	-3	-10	511	-22.98	64.52	1.08
243	SLU 14	-3	-11	506	-22.76	63.92	1.31
243	SLU 15	-3	-10	513	-23.08	64.8	1.19
243	SLU 16	-3	-11	503	-22.65	63.6	1.3
243	SLU 17	-3	-10	510	-22.96	64.48	1.18
243	SLU 18	-3	-12	519	-23.37	65.63	1.34
243	SLU 19	-3	-11	526	-23.68	66.51	1.21
243	SLU 20	-3	-12	524	-23.56	66.17	1.35
243	SLU 21	-3	-11	531	-23.88	67.05	1.22
243	SLU 22	-3	-11	496	-22.34	62.73	1.28
243	SLU 23	-3	-10	508	-22.86	64.2	1.06
243	SLU 24	-3	-11	503	-22.65	63.6	1.3
243	SLU 25	-3	-11	510	-22.96	64.48	1.17
243	SLU 26	-4	-10	512	-23.05	64.74	1.08
243	SLU 27	-3	-12	508	-22.84	64.14	1.31
243	SLU 28	-4	-11	515	-23.15	65.02	1.19
243	SLU 29	-3	-12	505	-22.72	63.82	1.31
243	SLU 30	-4	-11	512	-23.04	64.69	1.18
243	SLU 31	-3	-11	566	-25.45	71.46	1.2
243	SLU 32	-3	-13	561	-25.24	70.87	1.44
243	SLU 33	-3	-12	568	-25.55	71.75	1.31
243	SLU 34	-4	-11	570	-25.64	72	1.22
243	SLU 35	-3	-13	565	-25.43	71.41	1.45
243	SLU 36	-4	-12	572	-25.74	72.29	1.33
243	SLU 37	-3	-13	562	-25.31	71.08	1.45
243	SLU 38	-4	-12	569	-25.62	71.96	1.32
243	SLU 39	-3	-13	579	-26.04	73.12	1.48
243	SLU 40	-3	-12	586	-26.35	73.99	1.35
243	SLU 41	-3	-13	583	-26.23	73.66	1.49
243	SLU 42	-3	-12	590	-26.54	74.53	1.36
243	SLU 43	-4	-13	548	-24.66	69.26	1.43
243	SLU 44	-4	-11	560	-25.18	70.72	1.22
243	SLU 45	-4	-13	555	-24.97	70.13	1.45
243	SLU 46	-4	-12	562	-25.28	71	1.32
243	SLU 47	-4	-11	564	-25.38	71.26	1.23
243	SLU 48	-4	-13	559	-25.16	70.67	1.47
243	SLU 49	-4	-12	566	-25.48	71.55	1.34
243	SLU 50	-4	-13	557	-25.05	70.34	1.46
243	SLU 51	-4	-12	564	-25.36	71.22	1.33
243	SLU 52	-4	-12	617	-27.77	77.99	1.36
243	SLU 53	-4	-14	612	-27.56	77.39	1.59
243	SLU 54	-4	-13	619	-27.87	78.27	1.46
243	SLU 55	-4	-12	621	-27.96	78.53	1.37
243	SLU 56	-4	-14	617	-27.75	77.93	1.61
243	SLU 57	-4	-13	624	-28.06	78.81	1.48
243	SLU 58	-4	-14	614	-27.64	77.61	1.6
243	SLU 59	-4	-13	621	-27.95	78.49	1.47
243	SLU 60	-4	-14	630	-28.36	79.64	1.63
243	SLU 61	-4	-13	637	-28.67	80.52	1.5
243	SLU 62	-4	-14	634	-28.55	80.18	1.64
243	SLU 63	-4	-13	641	-28.86	81.06	1.52
243	SLU 64	-4	-14	607	-27.33	76.74	1.57
243	SLU 65	-4	-12	619	-27.85	78.21	1.36
243	SLU 66	-4	-14	614	-27.64	77.61	1.59
243	SLU 67	-4	-13	621	-27.95	78.49	1.46
243	SLU 68	-4	-12	623	-28.04	78.75	1.37
243	SLU 69	-4	-14	618	-27.83	78.15	1.61
243	SLU 70	-4	-13	625	-28.14	79.03	1.48
243	SLU 71	-4	-14	616	-27.71	77.83	1.6
243	SLU 72	-4	-13	623	-28.03	78.7	1.47
243	SLU 73	-4	-13	676	-30.44	85.47	1.5
243	SLU 74	-4	-15	672	-30.22	84.88	1.73
243	SLU 75	-4	-14	679	-30.54	85.75	1.6
243	SLU 76	-4	-13	681	-30.63	86.01	1.51
243	SLU 77	-4	-15	676	-30.42	85.42	1.75
243	SLU 78	-4	-14	683	-30.73	86.3	1.62
243	SLU 79	-4	-15	673	-30.3	85.09	1.74
243	SLU 80	-4	-14	680	-30.61	85.97	1.61
243	SLU 81	-4	-15	689	-31.02	87.12	1.77
243	SLU 82	-4	-14	696	-31.34	88	1.64
243	SLU 83	-4	-16	694	-31.22	87.67	1.78
243	SLU 84	-4	-15	701	-31.53	88.54	1.66
243	SLE RA 1	-3	-10	454	-20.44	57.39	1.18
243	SLE RA 2	-3	-9	462	-20.78	58.36	1.03
243	SLE RA 3	-3	-10	459	-20.64	57.97	1.19
243	SLE RA 4	-3	-10	463	-20.85	58.55	1.11
243	SLE RA 5	-3	-9	465	-20.91	58.72	1.04
243	SLE RA 6	-3	-11	462	-20.77	58.33	1.2
243	SLE RA 7	-3	-10	466	-20.98	58.91	1.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	SLE RA 8	-3	-11	460	-20.69	58.11	1.2
243	SLE RA 9	-3	-10	464	-20.9	58.69	1.11
243	SLE RA 10	-3	-10	500	-22.51	63.21	1.13
243	SLE RA 11	-3	-11	497	-22.37	62.81	1.28
243	SLE RA 12	-3	-11	502	-22.58	63.4	1.2
243	SLE RA 13	-3	-10	503	-22.64	63.57	1.14
243	SLE RA 14	-3	-11	500	-22.5	63.17	1.29
243	SLE RA 15	-3	-11	505	-22.7	63.76	1.21
243	SLE RA 16	-3	-11	498	-22.42	62.95	1.29
243	SLE RA 17	-3	-11	503	-22.63	63.54	1.2
243	SLE RA 18	-3	-11	509	-22.9	64.31	1.31
243	SLE RA 19	-3	-11	514	-23.11	64.89	1.22
243	SLE RA 20	-3	-12	512	-23.03	64.67	1.32
243	SLE RA 21	-3	-11	516	-23.24	65.25	1.23
243	SLE FR 1	-3	-10	454	-20.44	57.39	1.18
243	SLE FR 2	-3	-10	456	-20.51	57.58	1.15
243	SLE FR 3	-3	-10	455	-20.49	57.53	1.18
243	SLE FR 4	-3	-10	472	-21.24	59.66	1.19
243	SLE FR 5	-3	-11	472	-21.23	59.61	1.22
243	SLE FR 6	-3	-11	482	-21.67	60.85	1.24
243	SLE QP 1	-3	-10	454	-20.44	57.39	1.18
243	SLE QP 2	-3	-11	471	-21.18	59.46	1.22
243	SLD 1	37	-7	581	-26.14	73.4	2.47
243	SLD 2	45	-11	575	-25.86	72.63	3.34
243	SLD 3	39	-26	416	-18.71	52.53	5.05
243	SLD 4	47	-31	410	-18.43	51.76	5.92
243	SLD 5	5	21	755	-33.98	95.43	-2.47
243	SLD 6	10	19	751	-33.81	94.94	-1.91
243	SLD 7	11	-45	205	-9.21	25.86	6.13
243	SLD 8	16	-47	201	-9.03	25.37	6.69
243	SLD 9	-22	26	740	-33.32	93.56	-4.26
243	SLD 10	-17	24	736	-33.14	93.07	-3.69
243	SLD 11	-16	-40	190	-8.54	23.99	4.34
243	SLD 12	-11	-43	186	-8.37	23.5	4.9
243	SLD 13	-53	9	531	-23.92	67.16	-3.49
243	SLD 14	-45	5	525	-23.64	66.4	-2.62
243	SLD 15	-51	-11	366	-16.49	46.3	-0.91
243	SLD 16	-43	-15	360	-16.21	45.53	-0.04
243	SLV 1	59	-3	655	-29.48	82.79	2.98
243	SLV 2	72	-9	646	-29.05	81.58	4.36
243	SLV 3	62	-37	373	-16.8	47.17	7.38
243	SLV 4	75	-43	364	-16.37	45.96	8.75
243	SLV 5	9	44	955	-42.98	120.7	-5.18
243	SLV 6	18	40	949	-42.69	119.89	-4.25
243	SLV 7	19	-69	16	-0.71	1.99	9.48
243	SLV 8	27	-73	9	-0.42	1.17	10.4
243	SLV 9	-33	52	932	-41.93	117.76	-7.97
243	SLV 10	-25	47	925	-41.64	116.94	-7.04
243	SLV 11	-24	-61	-8	0.34	-0.96	6.68
243	SLV 12	-15	-66	-14	0.63	-1.77	7.61
243	SLV 13	-81	22	577	-25.98	72.97	-6.32
243	SLV 14	-68	15	568	-25.55	71.76	-4.95
243	SLV 15	-78	-12	296	-13.3	37.35	-1.93
243	SLV 16	-65	-19	286	-12.87	36.14	-0.55
243	SLV FO 1	66	-2	674	-30.31	85.12	3.16
243	SLV FO 2	80	-9	663	-29.84	83.79	4.67
243	SLV FO 3	69	-39	364	-16.36	45.94	8
243	SLV FO 4	83	-46	353	-15.89	44.61	9.51
243	SLV FO 5	10	50	1004	-45.16	126.83	-5.82
243	SLV FO 6	20	45	997	-44.84	125.93	-4.8
243	SLV FO 7	21	-75	-30	1.34	-3.76	10.3
243	SLV FO 8	30	-79	-37	1.66	-4.66	11.32
243	SLV FO 9	-36	58	978	-44.01	123.59	-8.89
243	SLV FO 10	-27	53	971	-43.69	122.69	-7.87
243	SLV FO 11	-26	-66	-55	2.49	-7	7.23
243	SLV FO 12	-16	-71	-62	2.81	-7.9	8.25
243	SLV FO 13	-89	25	588	-26.46	74.32	-7.08
243	SLV FO 14	-75	18	578	-25.99	72.99	-5.57
243	SLV FO 15	-86	-12	278	-12.51	35.14	-2.24
243	SLV FO 16	-72	-19	268	-12.04	33.81	-0.73
243	CRTFP Ux+	0	0	0	0	0	0
243	CRTFP Ux-	0	0	0	0	0	0
243	CRTFP Uy+	0	0	0	0	0	0
243	CRTFP Uy-	0	0	0	0	0	0
244	SLU 1	-3	2	538	-24.22	0	-0.13
244	SLU 2	-3	5	552	-24.83	0	-0.14
244	SLU 3	-3	2	547	-24.62	0	-0.14
244	SLU 4	-3	4	555	-24.99	0	-0.14
244	SLU 5	-3	4	557	-25.08	0	-0.15
244	SLU 6	-3	2	553	-24.87	0	-0.14
244	SLU 7	-3	4	561	-25.24	0	-0.15
244	SLU 8	-3	2	549	-24.72	0	-0.14
244	SLU 9	-3	3	558	-25.09	0	-0.15
244	SLU 10	-3	5	626	-28.15	0	-0.14
244	SLU 11	-3	2	621	-27.94	0	-0.14
244	SLU 12	-3	4	629	-28.31	0	-0.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
244	SLU 13	-3	5	631	-28.4	0	-0.15
244	SLU 14	-3	2	627	-28.19	0	-0.14
244	SLU 15	-3	4	635	-28.56	0	-0.15
244	SLU 16	-3	2	623	-28.04	0	-0.14
244	SLU 17	-3	4	631	-28.41	0	-0.15
244	SLU 18	-3	2	644	-28.96	0	-0.13
244	SLU 19	-3	4	652	-29.33	0	-0.14
244	SLU 20	-3	2	649	-29.21	0	-0.14
244	SLU 21	-3	4	657	-29.58	0	-0.14
244	SLU 22	-3	3	611	-27.51	0	-0.15
244	SLU 23	-4	5	625	-28.12	0	-0.16
244	SLU 24	-3	3	620	-27.91	0	-0.16
244	SLU 25	-4	4	628	-28.28	0	-0.16
244	SLU 26	-4	5	631	-28.37	0	-0.17
244	SLU 27	-4	3	626	-28.17	0	-0.16
244	SLU 28	-4	4	634	-28.53	0	-0.17
244	SLU 29	-4	3	623	-28.01	0	-0.16
244	SLU 30	-4	4	631	-28.38	0	-0.17
244	SLU 31	-4	5	699	-31.44	0	-0.16
244	SLU 32	-3	3	694	-31.23	0	-0.16
244	SLU 33	-4	4	702	-31.6	0	-0.16
244	SLU 34	-4	5	704	-31.69	0	-0.16
244	SLU 35	-4	3	700	-31.48	0	-0.16
244	SLU 36	-4	4	708	-31.85	0	-0.17
244	SLU 37	-4	3	696	-31.33	0	-0.16
244	SLU 38	-4	4	704	-31.7	0	-0.17
244	SLU 39	-3	3	717	-32.25	0	-0.15
244	SLU 40	-3	5	725	-32.62	0	-0.16
244	SLU 41	-3	3	722	-32.51	0	-0.16
244	SLU 42	-4	5	730	-32.87	0	-0.16
244	SLU 43	-4	2	675	-30.36	0	-0.17
244	SLU 44	-4	5	688	-30.97	0	-0.17
244	SLU 45	-4	2	684	-30.76	0	-0.17
244	SLU 46	-4	4	692	-31.13	0	-0.18
244	SLU 47	-4	5	694	-31.22	0	-0.18
244	SLU 48	-4	2	689	-31.01	0	-0.17
244	SLU 49	-4	4	697	-31.38	0	-0.18
244	SLU 50	-4	2	686	-30.86	0	-0.17
244	SLU 51	-4	4	694	-31.23	0	-0.18
244	SLU 52	-4	5	762	-34.29	0	-0.17
244	SLU 53	-4	3	757	-34.08	0	-0.17
244	SLU 54	-4	4	765	-34.45	0	-0.18
244	SLU 55	-4	5	768	-34.54	0	-0.18
244	SLU 56	-4	3	763	-34.33	0	-0.17
244	SLU 57	-4	4	771	-34.7	0	-0.18
244	SLU 58	-4	3	760	-34.18	0	-0.17
244	SLU 59	-4	4	768	-34.55	0	-0.18
244	SLU 60	-4	3	780	-35.1	0	-0.17
244	SLU 61	-4	4	788	-35.47	0	-0.17
244	SLU 62	-4	3	786	-35.35	0	-0.17
244	SLU 63	-4	4	794	-35.72	0	-0.17
244	SLU 64	-4	3	748	-33.65	0	-0.19
244	SLU 65	-4	6	761	-34.26	0	-0.19
244	SLU 66	-4	3	757	-34.05	0	-0.19
244	SLU 67	-4	5	765	-34.42	0	-0.2
244	SLU 68	-4	6	767	-34.51	0	-0.2
244	SLU 69	-4	3	762	-34.3	0	-0.19
244	SLU 70	-4	5	770	-34.67	0	-0.2
244	SLU 71	-4	3	759	-34.15	0	-0.19
244	SLU 72	-4	4	767	-34.52	0	-0.2
244	SLU 73	-4	6	835	-37.58	0	-0.19
244	SLU 74	-4	3	830	-37.37	0	-0.19
244	SLU 75	-4	5	839	-37.74	0	-0.2
244	SLU 76	-4	6	841	-37.83	0	-0.2
244	SLU 77	-4	3	836	-37.62	0	-0.19
244	SLU 78	-4	5	844	-37.99	0	-0.2
244	SLU 79	-4	3	833	-37.47	0	-0.19
244	SLU 80	-4	5	841	-37.84	0	-0.2
244	SLU 81	-4	3	853	-38.39	0	-0.18
244	SLU 82	-4	5	861	-38.76	0	-0.19
244	SLU 83	-4	3	859	-38.64	0	-0.19
244	SLU 84	-4	5	867	-39.01	0	-0.19
244	SLE RA 1	-3	2	559	-25.16	0	-0.14
244	SLE RA 2	-3	4	568	-25.57	0	-0.14
244	SLE RA 3	-3	2	565	-25.43	0	-0.14
244	SLE RA 4	-3	3	571	-25.67	0	-0.15
244	SLE RA 5	-3	4	572	-25.74	0	-0.15
244	SLE RA 6	-3	2	569	-25.6	0	-0.14
244	SLE RA 7	-3	3	574	-25.84	0	-0.15
244	SLE RA 8	-3	2	567	-25.49	0	-0.14
244	SLE RA 9	-3	3	572	-25.74	0	-0.15
244	SLE RA 10	-3	4	617	-27.78	0	-0.14
244	SLE RA 11	-3	2	614	-27.64	0	-0.14
244	SLE RA 12	-3	3	620	-27.89	0	-0.14
244	SLE RA 13	-3	4	621	-27.95	0	-0.15
244	SLE RA 14	-3	2	618	-27.81	0	-0.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
244	SLE RA 15	-3	3	623	-28.05	0	-0.15
244	SLE RA 16	-3	2	616	-27.71	0	-0.14
244	SLE RA 17	-3	3	621	-27.95	0	-0.15
244	SLE RA 18	-3	2	629	-28.32	0	-0.14
244	SLE RA 19	-3	3	635	-28.57	0	-0.14
244	SLE RA 20	-3	2	633	-28.49	0	-0.14
244	SLE RA 21	-3	3	639	-28.73	0	-0.14
244	SLE FR 1	-3	2	559	-25.16	0	-0.14
244	SLE FR 2	-3	2	561	-25.24	0	-0.14
244	SLE FR 3	-3	2	561	-25.23	0	-0.14
244	SLE FR 4	-3	3	582	-26.19	0	-0.14
244	SLE FR 5	-3	2	582	-26.18	0	-0.14
244	SLE FR 6	-3	2	594	-26.74	0	-0.14
244	SLE QP 1	-3	2	559	-25.16	0	-0.14
244	SLE QP 2	-3	2	580	-26.11	0	-0.14
244	SLD 1	45	20	665	-29.94	0	2.01
244	SLD 2	54	19	662	-29.79	0	2.45
244	SLD 3	46	-11	467	-20.99	0	2.09
244	SLD 4	56	-12	463	-20.85	0	2.52
244	SLD 5	7	55	908	-40.85	0	0.32
244	SLD 6	13	54	906	-40.75	0	0.59
244	SLD 7	13	-49	245	-11.04	0	0.57
244	SLD 8	19	-50	243	-10.94	0	0.85
244	SLD 9	-25	54	917	-41.28	0	-1.13
244	SLD 10	-19	53	915	-41.18	0	-0.85
244	SLD 11	-19	-50	255	-11.47	0	-0.87
244	SLD 12	-13	-51	253	-11.37	0	-0.59
244	SLD 13	-62	17	697	-31.37	0	-2.8
244	SLD 14	-53	16	694	-31.22	0	-2.37
244	SLD 15	-61	-15	498	-22.43	0	-2.72
244	SLD 16	-51	-15	495	-22.28	0	-2.29
244	SLV 1	72	32	727	-32.72	0	3.22
244	SLV 2	87	31	722	-32.49	0	3.9
244	SLV 3	74	-21	388	-17.46	0	3.35
244	SLV 4	90	-23	383	-17.23	0	4.03
244	SLV 5	12	92	1140	-51.28	0	0.55
244	SLV 6	22	91	1136	-51.13	0	1.01
244	SLV 7	22	-85	9	-0.41	0	0.98
244	SLV 8	32	-86	6	-0.25	0	1.43
244	SLV 9	-38	91	1155	-51.96	0	-1.71
244	SLV 10	-28	90	1151	-51.81	0	-1.25
244	SLV 11	-29	-87	24	-1.09	0	-1.28
244	SLV 12	-18	-88	21	-0.93	0	-0.83
244	SLV 13	-96	27	778	-34.99	0	-4.31
244	SLV 14	-81	26	772	-34.76	0	-3.63
244	SLV 15	-93	-26	438	-19.73	0	-4.18
244	SLV 16	-78	-28	433	-19.5	0	-3.5
244	SLV FO 1	79	35	742	-33.38	0	3.56
244	SLV FO 2	96	34	736	-33.13	0	4.31
244	SLV FO 3	82	-24	369	-16.59	0	3.7
244	SLV FO 4	99	-25	363	-16.34	0	4.45
244	SLV FO 5	14	101	1196	-53.8	0	0.62
244	SLV FO 6	25	100	1192	-53.63	0	1.12
244	SLV FO 7	24	-94	-48	2.16	0	1.09
244	SLV FO 8	35	-95	-52	2.33	0	1.59
244	SLV FO 9	-42	99	1212	-54.55	0	-1.87
244	SLV FO 10	-30	98	1208	-54.38	0	-1.36
244	SLV FO 11	-31	-96	-31	1.41	0	-1.4
244	SLV FO 12	-20	-97	-35	1.58	0	-0.89
244	SLV FO 13	-105	29	797	-35.88	0	-4.72
244	SLV FO 14	-88	28	792	-35.62	0	-3.98
244	SLV FO 15	-102	-29	424	-19.09	0	-4.58
244	SLV FO 16	-85	-31	419	-18.84	0	-3.84
244	CRTFP Ux+	0	0	0	0	0	0
244	CRTFP Ux-	0	0	0	0	0	0
244	CRTFP Uy+	0	0	0	0	0	0
244	CRTFP Uy-	0	0	0	0	0	0
246	SLU 1	2	-15	1206	0	0	0
246	SLU 2	3	-10	1235	0	0	0
246	SLU 3	2	-16	1225	0	0	0
246	SLU 4	2	-12	1242	0	0	0
246	SLU 5	3	-10	1247	0	0	0
246	SLU 6	2	-16	1236	0	0	0
246	SLU 7	2	-13	1253	0	0	0
246	SLU 8	2	-16	1229	0	0	0
246	SLU 9	2	-13	1246	0	0	0
246	SLU 10	2	-11	1393	0	0	0
246	SLU 11	2	-18	1382	0	0	0
246	SLU 12	2	-14	1399	0	0	0
246	SLU 13	2	-12	1404	0	0	0
246	SLU 14	2	-18	1393	0	0	0
246	SLU 15	2	-14	1411	0	0	0
246	SLU 16	2	-18	1386	0	0	0
246	SLU 17	2	-14	1404	0	0	0
246	SLU 18	2	-18	1431	0	0	0
246	SLU 19	2	-14	1448	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
246	SLU 20	2	-18	1442	0	0	0
246	SLU 21	2	-15	1460	0	0	0
246	SLU 22	3	-17	1363	0	0	0
246	SLU 23	3	-12	1392	0	0	0
246	SLU 24	3	-18	1381	0	0	0
246	SLU 25	3	-14	1398	0	0	0
246	SLU 26	3	-12	1403	0	0	0
246	SLU 27	2	-18	1392	0	0	0
246	SLU 28	3	-15	1410	0	0	0
246	SLU 29	2	-18	1385	0	0	0
246	SLU 30	3	-15	1403	0	0	0
246	SLU 31	3	-13	1549	0	0	0
246	SLU 32	2	-20	1538	0	0	0
246	SLU 33	3	-16	1556	0	0	0
246	SLU 34	3	-14	1560	0	0	0
246	SLU 35	2	-20	1550	0	0	0
246	SLU 36	2	-16	1567	0	0	0
246	SLU 37	2	-20	1543	0	0	0
246	SLU 38	2	-16	1560	0	0	0
246	SLU 39	2	-20	1587	0	0	0
246	SLU 40	3	-16	1605	0	0	0
246	SLU 41	2	-20	1599	0	0	0
246	SLU 42	2	-17	1616	0	0	0
246	SLU 43	3	-19	1514	0	0	0
246	SLU 44	3	-14	1544	0	0	0
246	SLU 45	3	-20	1533	0	0	0
246	SLU 46	3	-16	1550	0	0	0
246	SLU 47	3	-14	1555	0	0	0
246	SLU 48	3	-20	1544	0	0	0
246	SLU 49	3	-17	1562	0	0	0
246	SLU 50	2	-20	1537	0	0	0
246	SLU 51	3	-17	1555	0	0	0
246	SLU 52	3	-15	1701	0	0	0
246	SLU 53	2	-21	1690	0	0	0
246	SLU 54	3	-18	1708	0	0	0
246	SLU 55	3	-16	1712	0	0	0
246	SLU 56	2	-22	1702	0	0	0
246	SLU 57	2	-18	1719	0	0	0
246	SLU 58	2	-22	1695	0	0	0
246	SLU 59	2	-18	1712	0	0	0
246	SLU 60	2	-22	1739	0	0	0
246	SLU 61	3	-18	1757	0	0	0
246	SLU 62	2	-22	1751	0	0	0
246	SLU 63	2	-19	1768	0	0	0
246	SLU 64	3	-21	1671	0	0	0
246	SLU 65	4	-16	1700	0	0	0
246	SLU 66	3	-22	1689	0	0	0
246	SLU 67	3	-18	1707	0	0	0
246	SLU 68	4	-16	1711	0	0	0
246	SLU 69	3	-22	1701	0	0	0
246	SLU 70	3	-19	1718	0	0	0
246	SLU 71	3	-22	1694	0	0	0
246	SLU 72	3	-19	1711	0	0	0
246	SLU 73	3	-17	1857	0	0	0
246	SLU 74	3	-24	1846	0	0	0
246	SLU 75	3	-20	1864	0	0	0
246	SLU 76	3	-18	1869	0	0	0
246	SLU 77	3	-24	1858	0	0	0
246	SLU 78	3	-20	1875	0	0	0
246	SLU 79	3	-24	1851	0	0	0
246	SLU 80	3	-20	1868	0	0	0
246	SLU 81	3	-24	1896	0	0	0
246	SLU 82	3	-20	1913	0	0	0
246	SLU 83	3	-24	1907	0	0	0
246	SLU 84	3	-21	1924	0	0	0
246	SLE RA 1	2	-16	1251	0	0	0
246	SLE RA 2	3	-12	1270	0	0	0
246	SLE RA 3	2	-16	1263	0	0	0
246	SLE RA 4	3	-14	1275	0	0	0
246	SLE RA 5	3	-12	1278	0	0	0
246	SLE RA 6	2	-17	1271	0	0	0
246	SLE RA 7	2	-14	1282	0	0	0
246	SLE RA 8	2	-16	1266	0	0	0
246	SLE RA 9	2	-14	1278	0	0	0
246	SLE RA 10	3	-13	1375	0	0	0
246	SLE RA 11	2	-17	1368	0	0	0
246	SLE RA 12	2	-15	1380	0	0	0
246	SLE RA 13	2	-13	1383	0	0	0
246	SLE RA 14	2	-18	1376	0	0	0
246	SLE RA 15	2	-15	1387	0	0	0
246	SLE RA 16	2	-18	1371	0	0	0
246	SLE RA 17	2	-15	1383	0	0	0
246	SLE RA 18	2	-18	1401	0	0	0
246	SLE RA 19	2	-15	1412	0	0	0
246	SLE RA 20	2	-18	1408	0	0	0
246	SLE RA 21	2	-16	1420	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
246	SLE FR 1	2	-16	1251	0	0	0
246	SLE FR 2	3	-15	1255	0	0	0
246	SLE FR 3	2	-16	1254	0	0	0
246	SLE FR 4	2	-16	1300	0	0	0
246	SLE FR 5	2	-17	1299	0	0	0
246	SLE FR 6	2	-17	1326	0	0	0
246	SLE QP 1	2	-16	1251	0	0	0
246	SLE QP 2	2	-17	1296	0	0	0
246	SLD 1	132	22	1462	0	0	0
246	SLD 2	156	26	1469	0	0	0
246	SLD 3	126	-50	1041	0	0	0
246	SLD 4	149	-46	1049	0	0	0
246	SLD 5	47	103	1982	0	0	0
246	SLD 6	62	106	1987	0	0	0
246	SLD 7	26	-136	580	0	0	0
246	SLD 8	41	-134	585	0	0	0
246	SLD 9	-36	101	2007	0	0	0
246	SLD 10	-21	103	2011	0	0	0
246	SLD 11	-57	-139	605	0	0	0
246	SLD 12	-42	-137	609	0	0	0
246	SLD 13	-145	13	1543	0	0	0
246	SLD 14	-121	16	1550	0	0	0
246	SLD 15	-151	-59	1122	0	0	0
246	SLD 16	-127	-55	1130	0	0	0
246	SLV 1	205	49	1585	0	0	0
246	SLV 2	243	55	1597	0	0	0
246	SLV 3	194	-73	868	0	0	0
246	SLV 4	232	-68	879	0	0	0
246	SLV 5	73	188	2469	0	0	0
246	SLV 6	98	192	2477	0	0	0
246	SLV 7	37	-220	77	0	0	0
246	SLV 8	62	-217	84	0	0	0
246	SLV 9	-57	184	2507	0	0	0
246	SLV 10	-32	187	2515	0	0	0
246	SLV 11	-93	-225	115	0	0	0
246	SLV 12	-68	-221	123	0	0	0
246	SLV 13	-227	35	1713	0	0	0
246	SLV 14	-190	40	1724	0	0	0
246	SLV 15	-238	-88	995	0	0	0
246	SLV 16	-200	-83	1006	0	0	0
246	SLV FO 1	225	56	1614	0	0	0
246	SLV FO 2	267	62	1627	0	0	0
246	SLV FO 3	214	-79	825	0	0	0
246	SLV FO 4	255	-73	837	0	0	0
246	SLV FO 5	80	209	2586	0	0	0
246	SLV FO 6	107	212	2595	0	0	0
246	SLV FO 7	40	-241	-45	0	0	0
246	SLV FO 8	68	-237	-37	0	0	0
246	SLV FO 9	-63	204	2628	0	0	0
246	SLV FO 10	-35	208	2637	0	0	0
246	SLV FO 11	-103	-245	-3	0	0	0
246	SLV FO 12	-75	-242	5	0	0	0
246	SLV FO 13	-250	40	1754	0	0	0
246	SLV FO 14	-209	46	1767	0	0	0
246	SLV FO 15	-262	-95	965	0	0	0
246	SLV FO 16	-221	-89	977	0	0	0
246	CRTFP Uy+	0	0	0	0	0	0
246	CRTFP Uy-	0	0	0	0	0	0
247	SLU 1	2	-17	1173	0	0	0
247	SLU 2	3	-11	1202	0	0	0
247	SLU 3	2	-17	1191	0	0	0
247	SLU 4	3	-14	1208	0	0	0
247	SLU 5	3	-12	1213	0	0	0
247	SLU 6	2	-18	1202	0	0	0
247	SLU 7	2	-14	1219	0	0	0
247	SLU 8	2	-18	1195	0	0	0
247	SLU 9	2	-14	1212	0	0	0
247	SLU 10	3	-13	1354	0	0	0
247	SLU 11	2	-19	1343	0	0	0
247	SLU 12	2	-16	1360	0	0	0
247	SLU 13	2	-14	1365	0	0	0
247	SLU 14	2	-20	1354	0	0	0
247	SLU 15	2	-16	1371	0	0	0
247	SLU 16	2	-19	1347	0	0	0
247	SLU 17	2	-16	1364	0	0	0
247	SLU 18	2	-20	1391	0	0	0
247	SLU 19	2	-16	1408	0	0	0
247	SLU 20	2	-20	1402	0	0	0
247	SLU 21	2	-17	1419	0	0	0
247	SLU 22	3	-19	1325	0	0	0
247	SLU 23	3	-14	1354	0	0	0
247	SLU 24	3	-19	1343	0	0	0
247	SLU 25	3	-16	1360	0	0	0
247	SLU 26	3	-14	1365	0	0	0
247	SLU 27	3	-20	1354	0	0	0
247	SLU 28	3	-16	1371	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
247	SLU 29	2	-20	1347	0	0	0
247	SLU 30	3	-16	1364	0	0	0
247	SLU 31	3	-15	1506	0	0	0
247	SLU 32	2	-21	1495	0	0	0
247	SLU 33	3	-18	1512	0	0	0
247	SLU 34	3	-16	1517	0	0	0
247	SLU 35	2	-22	1506	0	0	0
247	SLU 36	2	-18	1523	0	0	0
247	SLU 37	2	-22	1499	0	0	0
247	SLU 38	2	-18	1516	0	0	0
247	SLU 39	2	-22	1543	0	0	0
247	SLU 40	3	-18	1560	0	0	0
247	SLU 41	2	-22	1554	0	0	0
247	SLU 42	2	-19	1571	0	0	0
247	SLU 43	3	-21	1473	0	0	0
247	SLU 44	3	-16	1501	0	0	0
247	SLU 45	3	-22	1491	0	0	0
247	SLU 46	3	-18	1508	0	0	0
247	SLU 47	3	-16	1512	0	0	0
247	SLU 48	3	-22	1502	0	0	0
247	SLU 49	3	-19	1519	0	0	0
247	SLU 50	3	-22	1495	0	0	0
247	SLU 51	3	-19	1512	0	0	0
247	SLU 52	3	-18	1654	0	0	0
247	SLU 53	2	-24	1643	0	0	0
247	SLU 54	3	-20	1660	0	0	0
247	SLU 55	3	-18	1665	0	0	0
247	SLU 56	2	-24	1654	0	0	0
247	SLU 57	3	-21	1671	0	0	0
247	SLU 58	2	-24	1647	0	0	0
247	SLU 59	3	-20	1664	0	0	0
247	SLU 60	3	-24	1690	0	0	0
247	SLU 61	3	-21	1707	0	0	0
247	SLU 62	2	-24	1701	0	0	0
247	SLU 63	3	-21	1718	0	0	0
247	SLU 64	4	-23	1625	0	0	0
247	SLU 65	4	-18	1653	0	0	0
247	SLU 66	3	-24	1643	0	0	0
247	SLU 67	4	-20	1660	0	0	0
247	SLU 68	4	-18	1664	0	0	0
247	SLU 69	3	-24	1654	0	0	0
247	SLU 70	3	-21	1671	0	0	0
247	SLU 71	3	-24	1647	0	0	0
247	SLU 72	3	-21	1664	0	0	0
247	SLU 73	4	-20	1806	0	0	0
247	SLU 74	3	-26	1795	0	0	0
247	SLU 75	3	-22	1812	0	0	0
247	SLU 76	3	-20	1817	0	0	0
247	SLU 77	3	-26	1806	0	0	0
247	SLU 78	3	-23	1823	0	0	0
247	SLU 79	3	-26	1799	0	0	0
247	SLU 80	3	-23	1816	0	0	0
247	SLU 81	3	-26	1842	0	0	0
247	SLU 82	3	-23	1859	0	0	0
247	SLU 83	3	-26	1853	0	0	0
247	SLU 84	3	-23	1870	0	0	0
247	SLE RA 1	3	-18	1217	0	0	0
247	SLE RA 2	3	-14	1236	0	0	0
247	SLE RA 3	2	-18	1228	0	0	0
247	SLE RA 4	3	-16	1240	0	0	0
247	SLE RA 5	3	-14	1243	0	0	0
247	SLE RA 6	2	-18	1236	0	0	0
247	SLE RA 7	3	-16	1247	0	0	0
247	SLE RA 8	2	-18	1231	0	0	0
247	SLE RA 9	2	-16	1243	0	0	0
247	SLE RA 10	3	-15	1337	0	0	0
247	SLE RA 11	2	-19	1330	0	0	0
247	SLE RA 12	2	-17	1341	0	0	0
247	SLE RA 13	3	-15	1344	0	0	0
247	SLE RA 14	2	-19	1337	0	0	0
247	SLE RA 15	2	-17	1349	0	0	0
247	SLE RA 16	2	-19	1333	0	0	0
247	SLE RA 17	2	-17	1344	0	0	0
247	SLE RA 18	2	-19	1362	0	0	0
247	SLE RA 19	2	-17	1373	0	0	0
247	SLE RA 20	2	-20	1369	0	0	0
247	SLE RA 21	2	-17	1380	0	0	0
247	SLE FR 1	3	-18	1217	0	0	0
247	SLE FR 2	3	-17	1220	0	0	0
247	SLE FR 3	3	-18	1220	0	0	0
247	SLE FR 4	3	-17	1264	0	0	0
247	SLE FR 5	2	-18	1263	0	0	0
247	SLE FR 6	2	-18	1289	0	0	0
247	SLE QP 1	3	-18	1217	0	0	0
247	SLE QP 2	2	-18	1260	0	0	0
247	SLD 1	129	20	1417	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
247	SLD 2	152	25	1425	0	0	0
247	SLD 3	122	-48	1007	0	0	0
247	SLD 4	145	-44	1016	0	0	0
247	SLD 5	46	97	1927	0	0	0
247	SLD 6	61	100	1932	0	0	0
247	SLD 7	25	-132	562	0	0	0
247	SLD 8	40	-129	567	0	0	0
247	SLD 9	-35	93	1953	0	0	0
247	SLD 10	-20	96	1959	0	0	0
247	SLD 11	-56	-136	588	0	0	0
247	SLD 12	-41	-133	593	0	0	0
247	SLD 13	-140	8	1504	0	0	0
247	SLD 14	-117	12	1513	0	0	0
247	SLD 15	-147	-61	1095	0	0	0
247	SLD 16	-124	-57	1103	0	0	0
247	SLV 1	200	47	1534	0	0	0
247	SLV 2	237	54	1548	0	0	0
247	SLV 3	189	-70	835	0	0	0
247	SLV 4	226	-63	849	0	0	0
247	SLV 5	71	178	2400	0	0	0
247	SLV 6	96	182	2409	0	0	0
247	SLV 7	35	-212	70	0	0	0
247	SLV 8	60	-208	79	0	0	0
247	SLV 9	-55	172	2441	0	0	0
247	SLV 10	-30	176	2450	0	0	0
247	SLV 11	-91	-218	111	0	0	0
247	SLV 12	-66	-214	120	0	0	0
247	SLV 13	-221	27	1672	0	0	0
247	SLV 14	-184	34	1685	0	0	0
247	SLV 15	-232	-90	973	0	0	0
247	SLV 16	-195	-83	986	0	0	0
247	SLV FO 1	220	54	1562	0	0	0
247	SLV FO 2	260	61	1576	0	0	0
247	SLV FO 3	208	-75	793	0	0	0
247	SLV FO 4	248	-68	807	0	0	0
247	SLV FO 5	78	197	2514	0	0	0
247	SLV FO 6	105	202	2524	0	0	0
247	SLV FO 7	38	-232	-49	0	0	0
247	SLV FO 8	65	-227	-39	0	0	0
247	SLV FO 9	-61	191	2559	0	0	0
247	SLV FO 10	-33	196	2569	0	0	0
247	SLV FO 11	-100	-238	-4	0	0	0
247	SLV FO 12	-73	-233	6	0	0	0
247	SLV FO 13	-243	32	1713	0	0	0
247	SLV FO 14	-203	39	1727	0	0	0
247	SLV FO 15	-255	-97	944	0	0	0
247	SLV FO 16	-215	-90	958	0	0	0
247	CRTFP Uy+	0	0	0	0	0	0
247	CRTFP Uy-	0	0	0	0	0	0
248	SLU 1	3	-18	1155	0	0	0
248	SLU 2	3	-13	1183	0	0	0
248	SLU 3	2	-19	1172	0	0	0
248	SLU 4	3	-16	1189	0	0	0
248	SLU 5	3	-13	1193	0	0	0
248	SLU 6	2	-19	1183	0	0	0
248	SLU 7	3	-16	1199	0	0	0
248	SLU 8	2	-19	1176	0	0	0
248	SLU 9	2	-16	1193	0	0	0
248	SLU 10	3	-15	1332	0	0	0
248	SLU 11	2	-21	1321	0	0	0
248	SLU 12	2	-18	1338	0	0	0
248	SLU 13	3	-16	1342	0	0	0
248	SLU 14	2	-21	1332	0	0	0
248	SLU 15	2	-18	1348	0	0	0
248	SLU 16	2	-21	1325	0	0	0
248	SLU 17	2	-18	1342	0	0	0
248	SLU 18	2	-21	1367	0	0	0
248	SLU 19	2	-18	1384	0	0	0
248	SLU 20	2	-22	1378	0	0	0
248	SLU 21	2	-19	1395	0	0	0
248	SLU 22	3	-21	1304	0	0	0
248	SLU 23	4	-15	1332	0	0	0
248	SLU 24	3	-21	1322	0	0	0
248	SLU 25	3	-18	1339	0	0	0
248	SLU 26	3	-16	1343	0	0	0
248	SLU 27	3	-22	1332	0	0	0
248	SLU 28	3	-18	1349	0	0	0
248	SLU 29	3	-21	1326	0	0	0
248	SLU 30	3	-18	1343	0	0	0
248	SLU 31	3	-17	1481	0	0	0
248	SLU 32	3	-23	1471	0	0	0
248	SLU 33	3	-20	1488	0	0	0
248	SLU 34	3	-18	1492	0	0	0
248	SLU 35	2	-24	1481	0	0	0
248	SLU 36	3	-20	1498	0	0	0
248	SLU 37	2	-24	1475	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLU 38	3	-20	1492	0	0	0
248	SLU 39	3	-24	1517	0	0	0
248	SLU 40	3	-20	1534	0	0	0
248	SLU 41	2	-24	1528	0	0	0
248	SLU 42	3	-21	1545	0	0	0
248	SLU 43	3	-23	1450	0	0	0
248	SLU 44	4	-18	1478	0	0	0
248	SLU 45	3	-24	1467	0	0	0
248	SLU 46	3	-20	1484	0	0	0
248	SLU 47	3	-18	1488	0	0	0
248	SLU 48	3	-24	1478	0	0	0
248	SLU 49	3	-21	1495	0	0	0
248	SLU 50	3	-24	1471	0	0	0
248	SLU 51	3	-21	1488	0	0	0
248	SLU 52	3	-20	1627	0	0	0
248	SLU 53	3	-26	1616	0	0	0
248	SLU 54	3	-22	1633	0	0	0
248	SLU 55	3	-20	1637	0	0	0
248	SLU 56	3	-26	1627	0	0	0
248	SLU 57	3	-23	1644	0	0	0
248	SLU 58	2	-26	1620	0	0	0
248	SLU 59	3	-23	1637	0	0	0
248	SLU 60	3	-26	1662	0	0	0
248	SLU 61	3	-23	1679	0	0	0
248	SLU 62	3	-26	1673	0	0	0
248	SLU 63	3	-23	1690	0	0	0
248	SLU 64	4	-26	1599	0	0	0
248	SLU 65	4	-20	1628	0	0	0
248	SLU 66	4	-26	1617	0	0	0
248	SLU 67	4	-23	1634	0	0	0
248	SLU 68	4	-21	1638	0	0	0
248	SLU 69	3	-26	1627	0	0	0
248	SLU 70	4	-23	1644	0	0	0
248	SLU 71	3	-26	1621	0	0	0
248	SLU 72	4	-23	1638	0	0	0
248	SLU 73	4	-22	1777	0	0	0
248	SLU 74	3	-28	1766	0	0	0
248	SLU 75	4	-25	1783	0	0	0
248	SLU 76	4	-23	1787	0	0	0
248	SLU 77	3	-28	1776	0	0	0
248	SLU 78	3	-25	1793	0	0	0
248	SLU 79	3	-28	1770	0	0	0
248	SLU 80	3	-25	1787	0	0	0
248	SLU 81	3	-28	1812	0	0	0
248	SLU 82	4	-25	1829	0	0	0
248	SLU 83	3	-29	1823	0	0	0
248	SLU 84	3	-26	1840	0	0	0
248	SLE RA 1	3	-19	1197	0	0	0
248	SLE RA 2	3	-16	1216	0	0	0
248	SLE RA 3	3	-19	1209	0	0	0
248	SLE RA 4	3	-17	1220	0	0	0
248	SLE RA 5	3	-16	1223	0	0	0
248	SLE RA 6	3	-20	1216	0	0	0
248	SLE RA 7	3	-18	1227	0	0	0
248	SLE RA 8	2	-20	1212	0	0	0
248	SLE RA 9	3	-17	1223	0	0	0
248	SLE RA 10	3	-17	1315	0	0	0
248	SLE RA 11	2	-21	1308	0	0	0
248	SLE RA 12	3	-19	1320	0	0	0
248	SLE RA 13	3	-17	1323	0	0	0
248	SLE RA 14	2	-21	1315	0	0	0
248	SLE RA 15	2	-19	1327	0	0	0
248	SLE RA 16	2	-21	1311	0	0	0
248	SLE RA 17	2	-19	1322	0	0	0
248	SLE RA 18	2	-21	1339	0	0	0
248	SLE RA 19	3	-19	1351	0	0	0
248	SLE RA 20	2	-21	1346	0	0	0
248	SLE RA 21	2	-19	1358	0	0	0
248	SLE FR 1	3	-19	1197	0	0	0
248	SLE FR 2	3	-18	1201	0	0	0
248	SLE FR 3	3	-19	1200	0	0	0
248	SLE FR 4	3	-19	1244	0	0	0
248	SLE FR 5	3	-20	1243	0	0	0
248	SLE FR 6	3	-20	1268	0	0	0
248	SLE QP 1	3	-19	1197	0	0	0
248	SLE QP 2	3	-20	1240	0	0	0
248	SLD 1	127	20	1389	0	0	0
248	SLD 2	150	25	1399	0	0	0
248	SLD 3	121	-47	986	0	0	0
248	SLD 4	143	-41	995	0	0	0
248	SLD 5	46	92	1896	0	0	0
248	SLD 6	61	95	1902	0	0	0
248	SLD 7	24	-129	549	0	0	0
248	SLD 8	39	-126	556	0	0	0
248	SLD 9	-34	87	1924	0	0	0
248	SLD 10	-19	90	1931	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLD 11	-55	-135	578	0	0	0
248	SLD 12	-41	-131	584	0	0	0
248	SLD 13	-138	2	1485	0	0	0
248	SLD 14	-115	7	1494	0	0	0
248	SLD 15	-145	-64	1081	0	0	0
248	SLD 16	-122	-59	1091	0	0	0
248	SLV 1	197	46	1502	0	0	0
248	SLV 2	234	55	1517	0	0	0
248	SLV 3	186	-67	813	0	0	0
248	SLV 4	223	-58	828	0	0	0
248	SLV 5	71	170	2361	0	0	0
248	SLV 6	95	176	2371	0	0	0
248	SLV 7	34	-207	64	0	0	0
248	SLV 8	59	-201	74	0	0	0
248	SLV 9	-53	162	2406	0	0	0
248	SLV 10	-29	168	2416	0	0	0
248	SLV 11	-90	-215	109	0	0	0
248	SLV 12	-66	-210	119	0	0	0
248	SLV 13	-217	19	1652	0	0	0
248	SLV 14	-181	27	1667	0	0	0
248	SLV 15	-228	-94	963	0	0	0
248	SLV 16	-192	-86	978	0	0	0
248	SLV FO 1	217	53	1528	0	0	0
248	SLV FO 2	257	62	1545	0	0	0
248	SLV FO 3	205	-71	770	0	0	0
248	SLV FO 4	245	-62	787	0	0	0
248	SLV FO 5	78	189	2473	0	0	0
248	SLV FO 6	105	196	2484	0	0	0
248	SLV FO 7	37	-226	-54	0	0	0
248	SLV FO 8	64	-220	-43	0	0	0
248	SLV FO 9	-59	180	2523	0	0	0
248	SLV FO 10	-32	186	2534	0	0	0
248	SLV FO 11	-99	-235	-4	0	0	0
248	SLV FO 12	-73	-229	7	0	0	0
248	SLV FO 13	-239	23	1693	0	0	0
248	SLV FO 14	-199	32	1710	0	0	0
248	SLV FO 15	-251	-102	935	0	0	0
248	SLV FO 16	-212	-92	951	0	0	0
248	CRTFP Uy+	0	0	0	0	0	0
248	CRTFP Uy-	0	0	0	0	0	0
249	SLU 1	3	-20	1144	0	0	0
249	SLU 2	3	-15	1172	0	0	0
249	SLU 3	3	-21	1161	0	0	0
249	SLU 4	3	-17	1178	0	0	0
249	SLU 5	3	-15	1182	0	0	0
249	SLU 6	2	-21	1171	0	0	0
249	SLU 7	3	-18	1188	0	0	0
249	SLU 8	2	-21	1165	0	0	0
249	SLU 9	3	-18	1181	0	0	0
249	SLU 10	3	-17	1319	0	0	0
249	SLU 11	2	-23	1308	0	0	0
249	SLU 12	3	-20	1324	0	0	0
249	SLU 13	3	-17	1329	0	0	0
249	SLU 14	2	-23	1318	0	0	0
249	SLU 15	2	-20	1335	0	0	0
249	SLU 16	2	-23	1312	0	0	0
249	SLU 17	2	-20	1328	0	0	0
249	SLU 18	2	-23	1354	0	0	0
249	SLU 19	3	-20	1370	0	0	0
249	SLU 20	2	-24	1364	0	0	0
249	SLU 21	2	-21	1381	0	0	0
249	SLU 22	3	-23	1292	0	0	0
249	SLU 23	4	-17	1320	0	0	0
249	SLU 24	3	-23	1309	0	0	0
249	SLU 25	4	-20	1326	0	0	0
249	SLU 26	4	-18	1331	0	0	0
249	SLU 27	3	-23	1320	0	0	0
249	SLU 28	3	-20	1337	0	0	0
249	SLU 29	3	-23	1313	0	0	0
249	SLU 30	3	-20	1330	0	0	0
249	SLU 31	4	-20	1467	0	0	0
249	SLU 32	3	-25	1456	0	0	0
249	SLU 33	3	-22	1473	0	0	0
249	SLU 34	3	-20	1478	0	0	0
249	SLU 35	3	-26	1467	0	0	0
249	SLU 36	3	-23	1484	0	0	0
249	SLU 37	3	-25	1460	0	0	0
249	SLU 38	3	-22	1477	0	0	0
249	SLU 39	3	-26	1502	0	0	0
249	SLU 40	3	-23	1519	0	0	0
249	SLU 41	3	-26	1513	0	0	0
249	SLU 42	3	-23	1529	0	0	0
249	SLU 43	3	-25	1436	0	0	0
249	SLU 44	4	-20	1464	0	0	0
249	SLU 45	3	-26	1453	0	0	0
249	SLU 46	4	-23	1470	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
249	SLU 47	4	-20	1474	0	0	0
249	SLU 48	3	-26	1463	0	0	0
249	SLU 49	3	-23	1480	0	0	0
249	SLU 50	3	-26	1457	0	0	0
249	SLU 51	3	-23	1474	0	0	0
249	SLU 52	4	-22	1611	0	0	0
249	SLU 53	3	-28	1600	0	0	0
249	SLU 54	3	-25	1617	0	0	0
249	SLU 55	3	-23	1621	0	0	0
249	SLU 56	3	-28	1610	0	0	0
249	SLU 57	3	-25	1627	0	0	0
249	SLU 58	3	-28	1604	0	0	0
249	SLU 59	3	-25	1620	0	0	0
249	SLU 60	3	-28	1646	0	0	0
249	SLU 61	3	-25	1662	0	0	0
249	SLU 62	3	-29	1656	0	0	0
249	SLU 63	3	-26	1673	0	0	0
249	SLU 64	4	-28	1584	0	0	0
249	SLU 65	5	-23	1612	0	0	0
249	SLU 66	4	-28	1602	0	0	0
249	SLU 67	4	-25	1618	0	0	0
249	SLU 68	4	-23	1623	0	0	0
249	SLU 69	4	-29	1612	0	0	0
249	SLU 70	4	-25	1629	0	0	0
249	SLU 71	4	-28	1605	0	0	0
249	SLU 72	4	-25	1622	0	0	0
249	SLU 73	4	-25	1759	0	0	0
249	SLU 74	4	-30	1748	0	0	0
249	SLU 75	4	-27	1765	0	0	0
249	SLU 76	4	-25	1770	0	0	0
249	SLU 77	3	-31	1759	0	0	0
249	SLU 78	4	-28	1776	0	0	0
249	SLU 79	3	-31	1752	0	0	0
249	SLU 80	4	-28	1769	0	0	0
249	SLU 81	4	-31	1794	0	0	0
249	SLU 82	4	-28	1811	0	0	0
249	SLU 83	3	-31	1805	0	0	0
249	SLU 84	4	-28	1822	0	0	0
249	SLE RA 1	3	-21	1186	0	0	0
249	SLE RA 2	3	-17	1205	0	0	0
249	SLE RA 3	3	-21	1198	0	0	0
249	SLE RA 4	3	-19	1209	0	0	0
249	SLE RA 5	3	-18	1212	0	0	0
249	SLE RA 6	3	-21	1204	0	0	0
249	SLE RA 7	3	-19	1216	0	0	0
249	SLE RA 8	3	-21	1200	0	0	0
249	SLE RA 9	3	-19	1211	0	0	0
249	SLE RA 10	3	-19	1303	0	0	0
249	SLE RA 11	3	-23	1295	0	0	0
249	SLE RA 12	3	-20	1307	0	0	0
249	SLE RA 13	3	-19	1310	0	0	0
249	SLE RA 14	3	-23	1302	0	0	0
249	SLE RA 15	3	-21	1314	0	0	0
249	SLE RA 16	2	-23	1298	0	0	0
249	SLE RA 17	3	-21	1309	0	0	0
249	SLE RA 18	3	-23	1326	0	0	0
249	SLE RA 19	3	-21	1337	0	0	0
249	SLE RA 20	3	-23	1333	0	0	0
249	SLE RA 21	3	-21	1344	0	0	0
249	SLE FR 1	3	-21	1186	0	0	0
249	SLE FR 2	3	-20	1190	0	0	0
249	SLE FR 3	3	-21	1189	0	0	0
249	SLE FR 4	3	-21	1232	0	0	0
249	SLE FR 5	3	-21	1231	0	0	0
249	SLE FR 6	3	-22	1256	0	0	0
249	SLE QP 1	3	-21	1186	0	0	0
249	SLE QP 2	3	-21	1228	0	0	0
249	SLD 1	126	19	1371	0	0	0
249	SLD 2	149	25	1382	0	0	0
249	SLD 3	120	-46	970	0	0	0
249	SLD 4	142	-39	981	0	0	0
249	SLD 5	46	87	1877	0	0	0
249	SLD 6	61	92	1884	0	0	0
249	SLD 7	24	-128	541	0	0	0
249	SLD 8	39	-123	548	0	0	0
249	SLD 9	-33	81	1908	0	0	0
249	SLD 10	-18	85	1915	0	0	0
249	SLD 11	-55	-134	572	0	0	0
249	SLD 12	-40	-130	579	0	0	0
249	SLD 13	-136	-4	1475	0	0	0
249	SLD 14	-114	3	1486	0	0	0
249	SLD 15	-143	-68	1074	0	0	0
249	SLD 16	-120	-62	1085	0	0	0
249	SLV 1	196	46	1480	0	0	0
249	SLV 2	232	56	1497	0	0	0
249	SLV 3	185	-64	796	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
249	SLV 4	220	-54	813	0	0	0
249	SLV 5	71	164	2338	0	0	0
249	SLV 6	95	171	2349	0	0	0
249	SLV 7	34	-203	58	0	0	0
249	SLV 8	58	-196	69	0	0	0
249	SLV 9	-52	153	2387	0	0	0
249	SLV 10	-28	160	2399	0	0	0
249	SLV 11	-90	-213	107	0	0	0
249	SLV 12	-65	-207	118	0	0	0
249	SLV 13	-215	11	1643	0	0	0
249	SLV 14	-179	21	1661	0	0	0
249	SLV 15	-226	-99	959	0	0	0
249	SLV 16	-190	-89	976	0	0	0
249	SLV FO 1	215	53	1505	0	0	0
249	SLV FO 2	255	64	1524	0	0	0
249	SLV FO 3	203	-68	752	0	0	0
249	SLV FO 4	242	-57	771	0	0	0
249	SLV FO 5	78	182	2449	0	0	0
249	SLV FO 6	105	190	2462	0	0	0
249	SLV FO 7	37	-221	-59	0	0	0
249	SLV FO 8	63	-214	-47	0	0	0
249	SLV FO 9	-57	171	2503	0	0	0
249	SLV FO 10	-31	178	2516	0	0	0
249	SLV FO 11	-99	-233	-5	0	0	0
249	SLV FO 12	-72	-225	7	0	0	0
249	SLV FO 13	-236	14	1685	0	0	0
249	SLV FO 14	-197	25	1704	0	0	0
249	SLV FO 15	-249	-107	932	0	0	0
249	SLV FO 16	-209	-96	951	0	0	0
249	CRTFP Uy+	0	0	0	0	0	0
249	CRTFP Uy-	0	0	0	0	0	0
250	SLU 1	3	-21	1135	0	0	0
250	SLU 2	4	-16	1163	0	0	0
250	SLU 3	3	-22	1152	0	0	0
250	SLU 4	3	-19	1169	0	0	0
250	SLU 5	3	-17	1173	0	0	0
250	SLU 6	3	-22	1162	0	0	0
250	SLU 7	3	-19	1179	0	0	0
250	SLU 8	3	-22	1156	0	0	0
250	SLU 9	3	-19	1172	0	0	0
250	SLU 10	3	-19	1308	0	0	0
250	SLU 11	3	-24	1297	0	0	0
250	SLU 12	3	-21	1314	0	0	0
250	SLU 13	3	-19	1319	0	0	0
250	SLU 14	2	-25	1307	0	0	0
250	SLU 15	3	-22	1324	0	0	0
250	SLU 16	2	-25	1301	0	0	0
250	SLU 17	3	-22	1318	0	0	0
250	SLU 18	3	-25	1343	0	0	0
250	SLU 19	3	-22	1359	0	0	0
250	SLU 20	2	-25	1353	0	0	0
250	SLU 21	3	-22	1370	0	0	0
250	SLU 22	4	-24	1283	0	0	0
250	SLU 23	4	-19	1311	0	0	0
250	SLU 24	4	-25	1300	0	0	0
250	SLU 25	4	-22	1317	0	0	0
250	SLU 26	4	-19	1321	0	0	0
250	SLU 27	3	-25	1310	0	0	0
250	SLU 28	4	-22	1327	0	0	0
250	SLU 29	3	-25	1304	0	0	0
250	SLU 30	4	-22	1320	0	0	0
250	SLU 31	4	-22	1456	0	0	0
250	SLU 32	3	-27	1445	0	0	0
250	SLU 33	4	-24	1462	0	0	0
250	SLU 34	4	-22	1467	0	0	0
250	SLU 35	3	-27	1456	0	0	0
250	SLU 36	3	-24	1472	0	0	0
250	SLU 37	3	-27	1449	0	0	0
250	SLU 38	3	-24	1466	0	0	0
250	SLU 39	3	-28	1491	0	0	0
250	SLU 40	4	-25	1507	0	0	0
250	SLU 41	3	-28	1501	0	0	0
250	SLU 42	3	-25	1518	0	0	0
250	SLU 43	4	-27	1425	0	0	0
250	SLU 44	4	-22	1453	0	0	0
250	SLU 45	4	-28	1442	0	0	0
250	SLU 46	4	-25	1458	0	0	0
250	SLU 47	4	-22	1463	0	0	0
250	SLU 48	3	-28	1452	0	0	0
250	SLU 49	4	-25	1469	0	0	0
250	SLU 50	3	-28	1445	0	0	0
250	SLU 51	4	-25	1462	0	0	0
250	SLU 52	4	-24	1598	0	0	0
250	SLU 53	3	-30	1587	0	0	0
250	SLU 54	4	-27	1604	0	0	0
250	SLU 55	4	-25	1608	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
250	SLU 56	3	-30	1597	0	0	0
250	SLU 57	3	-27	1614	0	0	0
250	SLU 58	3	-30	1591	0	0	0
250	SLU 59	3	-27	1607	0	0	0
250	SLU 60	3	-30	1632	0	0	0
250	SLU 61	4	-27	1649	0	0	0
250	SLU 62	3	-31	1643	0	0	0
250	SLU 63	3	-28	1659	0	0	0
250	SLU 64	4	-30	1573	0	0	0
250	SLU 65	5	-25	1601	0	0	0
250	SLU 66	4	-30	1590	0	0	0
250	SLU 67	5	-27	1606	0	0	0
250	SLU 68	5	-25	1611	0	0	0
250	SLU 69	4	-31	1600	0	0	0
250	SLU 70	4	-28	1617	0	0	0
250	SLU 71	4	-30	1593	0	0	0
250	SLU 72	4	-27	1610	0	0	0
250	SLU 73	5	-27	1746	0	0	0
250	SLU 74	4	-33	1735	0	0	0
250	SLU 75	4	-30	1752	0	0	0
250	SLU 76	4	-27	1756	0	0	0
250	SLU 77	4	-33	1745	0	0	0
250	SLU 78	4	-30	1762	0	0	0
250	SLU 79	4	-33	1739	0	0	0
250	SLU 80	4	-30	1755	0	0	0
250	SLU 81	4	-33	1780	0	0	0
250	SLU 82	4	-30	1797	0	0	0
250	SLU 83	4	-33	1791	0	0	0
250	SLU 84	4	-30	1807	0	0	0
250	SLE RA 1	3	-22	1177	0	0	0
250	SLE RA 2	4	-19	1196	0	0	0
250	SLE RA 3	3	-23	1189	0	0	0
250	SLE RA 4	3	-21	1200	0	0	0
250	SLE RA 5	3	-19	1203	0	0	0
250	SLE RA 6	3	-23	1195	0	0	0
250	SLE RA 7	3	-21	1207	0	0	0
250	SLE RA 8	3	-23	1191	0	0	0
250	SLE RA 9	3	-21	1202	0	0	0
250	SLE RA 10	3	-21	1293	0	0	0
250	SLE RA 11	3	-24	1285	0	0	0
250	SLE RA 12	3	-22	1297	0	0	0
250	SLE RA 13	3	-21	1300	0	0	0
250	SLE RA 14	3	-24	1292	0	0	0
250	SLE RA 15	3	-22	1303	0	0	0
250	SLE RA 16	3	-24	1288	0	0	0
250	SLE RA 17	3	-22	1299	0	0	0
250	SLE RA 18	3	-25	1316	0	0	0
250	SLE RA 19	3	-23	1327	0	0	0
250	SLE RA 20	3	-25	1323	0	0	0
250	SLE RA 21	3	-23	1334	0	0	0
250	SLE FR 1	3	-22	1177	0	0	0
250	SLE FR 2	3	-22	1181	0	0	0
250	SLE FR 3	3	-22	1180	0	0	0
250	SLE FR 4	3	-22	1223	0	0	0
250	SLE FR 5	3	-23	1222	0	0	0
250	SLE FR 6	3	-23	1246	0	0	0
250	SLE QP 1	3	-22	1177	0	0	0
250	SLE QP 2	3	-23	1219	0	0	0
250	SLD 1	125	18	1355	0	0	0
250	SLD 2	147	26	1367	0	0	0
250	SLD 3	118	-44	956	0	0	0
250	SLD 4	141	-37	968	0	0	0
250	SLD 5	46	83	1863	0	0	0
250	SLD 6	60	88	1870	0	0	0
250	SLD 7	24	-125	533	0	0	0
250	SLD 8	38	-121	541	0	0	0
250	SLD 9	-32	75	1897	0	0	0
250	SLD 10	-17	80	1905	0	0	0
250	SLD 11	-54	-134	567	0	0	0
250	SLD 12	-40	-129	575	0	0	0
250	SLD 13	-134	-9	1469	0	0	0
250	SLD 14	-112	-2	1481	0	0	0
250	SLD 15	-141	-71	1070	0	0	0
250	SLD 16	-119	-64	1083	0	0	0
250	SLV 1	194	46	1460	0	0	0
250	SLV 2	229	57	1479	0	0	0
250	SLV 3	182	-61	780	0	0	0
250	SLV 4	218	-49	799	0	0	0
250	SLV 5	71	157	2320	0	0	0
250	SLV 6	95	165	2333	0	0	0
250	SLV 7	33	-198	51	0	0	0
250	SLV 8	57	-191	64	0	0	0
250	SLV 9	-50	145	2374	0	0	0
250	SLV 10	-27	152	2386	0	0	0
250	SLV 11	-89	-211	105	0	0	0
250	SLV 12	-65	-203	118	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
250	SLV 13	-211	3	1639	0	0	0
250	SLV 14	-176	15	1658	0	0	0
250	SLV 15	-223	-103	958	0	0	0
250	SLV 16	-188	-92	977	0	0	0
250	SLV FO 1	213	53	1484	0	0	0
250	SLV FO 2	252	66	1505	0	0	0
250	SLV FO 3	200	-65	736	0	0	0
250	SLV FO 4	239	-52	757	0	0	0
250	SLV FO 5	78	175	2430	0	0	0
250	SLV FO 6	104	184	2444	0	0	0
250	SLV FO 7	36	-216	-66	0	0	0
250	SLV FO 8	62	-207	-51	0	0	0
250	SLV FO 9	-56	161	2489	0	0	0
250	SLV FO 10	-30	170	2503	0	0	0
250	SLV FO 11	-98	-230	-7	0	0	0
250	SLV FO 12	-72	-221	8	0	0	0
250	SLV FO 13	-233	6	1681	0	0	0
250	SLV FO 14	-194	19	1702	0	0	0
250	SLV FO 15	-245	-111	932	0	0	0
250	SLV FO 16	-207	-99	953	0	0	0
250	CRTFP Uy+	0	0	0	0	0	0
250	CRTFP Uy-	0	0	0	0	0	0
251	SLU 1	3	-23	1121	0	0	0
251	SLU 2	4	-18	1148	0	0	0
251	SLU 3	3	-23	1137	0	0	0
251	SLU 4	3	-20	1154	0	0	0
251	SLU 5	4	-18	1158	0	0	0
251	SLU 6	3	-24	1147	0	0	0
251	SLU 7	3	-21	1164	0	0	0
251	SLU 8	3	-23	1141	0	0	0
251	SLU 9	3	-21	1157	0	0	0
251	SLU 10	4	-20	1291	0	0	0
251	SLU 11	3	-26	1280	0	0	0
251	SLU 12	3	-23	1297	0	0	0
251	SLU 13	3	-21	1302	0	0	0
251	SLU 14	3	-26	1290	0	0	0
251	SLU 15	3	-23	1307	0	0	0
251	SLU 16	3	-26	1284	0	0	0
251	SLU 17	3	-23	1301	0	0	0
251	SLU 18	3	-26	1325	0	0	0
251	SLU 19	3	-23	1342	0	0	0
251	SLU 20	3	-27	1335	0	0	0
251	SLU 21	3	-24	1352	0	0	0
251	SLU 22	4	-25	1267	0	0	0
251	SLU 23	4	-21	1295	0	0	0
251	SLU 24	4	-26	1284	0	0	0
251	SLU 25	4	-23	1301	0	0	0
251	SLU 26	4	-21	1305	0	0	0
251	SLU 27	4	-26	1294	0	0	0
251	SLU 28	4	-23	1311	0	0	0
251	SLU 29	3	-26	1288	0	0	0
251	SLU 30	4	-23	1304	0	0	0
251	SLU 31	4	-23	1438	0	0	0
251	SLU 32	3	-28	1427	0	0	0
251	SLU 33	4	-26	1444	0	0	0
251	SLU 34	4	-24	1449	0	0	0
251	SLU 35	3	-29	1437	0	0	0
251	SLU 36	4	-26	1454	0	0	0
251	SLU 37	3	-29	1431	0	0	0
251	SLU 38	4	-26	1448	0	0	0
251	SLU 39	4	-29	1472	0	0	0
251	SLU 40	4	-26	1489	0	0	0
251	SLU 41	3	-29	1482	0	0	0
251	SLU 42	4	-27	1499	0	0	0
251	SLU 43	4	-29	1406	0	0	0
251	SLU 44	5	-24	1434	0	0	0
251	SLU 45	4	-29	1423	0	0	0
251	SLU 46	4	-26	1440	0	0	0
251	SLU 47	4	-24	1444	0	0	0
251	SLU 48	4	-29	1433	0	0	0
251	SLU 49	4	-27	1450	0	0	0
251	SLU 50	4	-29	1427	0	0	0
251	SLU 51	4	-26	1443	0	0	0
251	SLU 52	4	-26	1577	0	0	0
251	SLU 53	4	-32	1566	0	0	0
251	SLU 54	4	-29	1583	0	0	0
251	SLU 55	4	-27	1587	0	0	0
251	SLU 56	3	-32	1576	0	0	0
251	SLU 57	4	-29	1593	0	0	0
251	SLU 58	3	-32	1570	0	0	0
251	SLU 59	4	-29	1586	0	0	0
251	SLU 60	4	-32	1611	0	0	0
251	SLU 61	4	-29	1628	0	0	0
251	SLU 62	3	-33	1621	0	0	0
251	SLU 63	4	-30	1638	0	0	0
251	SLU 64	5	-31	1553	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLU 65	5	-26	1581	0	0	0
251	SLU 66	5	-32	1570	0	0	0
251	SLU 67	5	-29	1587	0	0	0
251	SLU 68	5	-27	1591	0	0	0
251	SLU 69	4	-32	1580	0	0	0
251	SLU 70	5	-29	1597	0	0	0
251	SLU 71	4	-32	1574	0	0	0
251	SLU 72	5	-29	1590	0	0	0
251	SLU 73	5	-29	1724	0	0	0
251	SLU 74	4	-34	1713	0	0	0
251	SLU 75	5	-31	1730	0	0	0
251	SLU 76	5	-29	1734	0	0	0
251	SLU 77	4	-35	1723	0	0	0
251	SLU 78	4	-32	1740	0	0	0
251	SLU 79	4	-35	1717	0	0	0
251	SLU 80	4	-32	1733	0	0	0
251	SLU 81	4	-35	1758	0	0	0
251	SLU 82	5	-32	1774	0	0	0
251	SLU 83	4	-35	1768	0	0	0
251	SLU 84	4	-32	1785	0	0	0
251	SLE RA 1	3	-23	1163	0	0	0
251	SLE RA 2	4	-20	1181	0	0	0
251	SLE RA 3	3	-24	1174	0	0	0
251	SLE RA 4	4	-22	1185	0	0	0
251	SLE RA 5	4	-21	1188	0	0	0
251	SLE RA 6	3	-24	1180	0	0	0
251	SLE RA 7	3	-22	1191	0	0	0
251	SLE RA 8	3	-24	1176	0	0	0
251	SLE RA 9	3	-22	1187	0	0	0
251	SLE RA 10	4	-22	1276	0	0	0
251	SLE RA 11	3	-25	1269	0	0	0
251	SLE RA 12	3	-24	1280	0	0	0
251	SLE RA 13	3	-22	1283	0	0	0
251	SLE RA 14	3	-26	1276	0	0	0
251	SLE RA 15	3	-24	1287	0	0	0
251	SLE RA 16	3	-26	1271	0	0	0
251	SLE RA 17	3	-24	1283	0	0	0
251	SLE RA 18	3	-26	1299	0	0	0
251	SLE RA 19	3	-24	1310	0	0	0
251	SLE RA 20	3	-26	1306	0	0	0
251	SLE RA 21	3	-24	1317	0	0	0
251	SLE FR 1	3	-23	1163	0	0	0
251	SLE FR 2	4	-23	1166	0	0	0
251	SLE FR 3	3	-24	1165	0	0	0
251	SLE FR 4	3	-24	1207	0	0	0
251	SLE FR 5	3	-24	1206	0	0	0
251	SLE FR 6	3	-25	1231	0	0	0
251	SLE QP 1	3	-23	1163	0	0	0
251	SLE QP 2	3	-24	1203	0	0	0
251	SLD 1	122	18	1333	0	0	0
251	SLD 2	144	26	1346	0	0	0
251	SLD 3	116	-43	938	0	0	0
251	SLD 4	137	-35	951	0	0	0
251	SLD 5	46	78	1839	0	0	0
251	SLD 6	60	83	1848	0	0	0
251	SLD 7	23	-122	522	0	0	0
251	SLD 8	37	-117	531	0	0	0
251	SLD 9	-30	69	1876	0	0	0
251	SLD 10	-16	74	1885	0	0	0
251	SLD 11	-53	-132	559	0	0	0
251	SLD 12	-39	-126	568	0	0	0
251	SLD 13	-131	-14	1456	0	0	0
251	SLD 14	-109	-6	1469	0	0	0
251	SLD 15	-137	-74	1061	0	0	0
251	SLD 16	-116	-66	1074	0	0	0
251	SLV 1	190	45	1433	0	0	0
251	SLV 2	224	58	1454	0	0	0
251	SLV 3	178	-57	759	0	0	0
251	SLV 4	213	-45	780	0	0	0
251	SLV 5	70	150	2291	0	0	0
251	SLV 6	93	158	2305	0	0	0
251	SLV 7	32	-192	44	0	0	0
251	SLV 8	55	-183	58	0	0	0
251	SLV 9	-48	135	2349	0	0	0
251	SLV 10	-25	144	2363	0	0	0
251	SLV 11	-87	-207	102	0	0	0
251	SLV 12	-64	-198	116	0	0	0
251	SLV 13	-206	-4	1627	0	0	0
251	SLV 14	-172	9	1647	0	0	0
251	SLV 15	-217	-106	953	0	0	0
251	SLV 16	-183	-94	973	0	0	0
251	SLV FO 1	208	52	1457	0	0	0
251	SLV FO 2	246	66	1479	0	0	0
251	SLV FO 3	196	-61	715	0	0	0
251	SLV FO 4	234	-47	738	0	0	0
251	SLV FO 5	77	167	2400	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLV FO 6	102	177	2415	0	0	0
251	SLV FO 7	35	-209	-72	0	0	0
251	SLV FO 8	60	-199	-56	0	0	0
251	SLV FO 9	-54	151	2463	0	0	0
251	SLV FO 10	-28	160	2479	0	0	0
251	SLV FO 11	-96	-225	-8	0	0	0
251	SLV FO 12	-70	-215	7	0	0	0
251	SLV FO 13	-227	-2	1669	0	0	0
251	SLV FO 14	-189	12	1692	0	0	0
251	SLV FO 15	-240	-114	927	0	0	0
251	SLV FO 16	-202	-100	950	0	0	0
251	CRTFP Uy+	0	0	0	0	0	0
251	CRTFP Uy-	0	0	0	0	0	0
252	SLU 1	3	-23	1088	0	0	0
252	SLU 2	4	-19	1115	0	0	0
252	SLU 3	3	-24	1104	0	0	0
252	SLU 4	4	-21	1120	0	0	0
252	SLU 5	4	-19	1125	0	0	0
252	SLU 6	3	-24	1114	0	0	0
252	SLU 7	3	-21	1130	0	0	0
252	SLU 8	3	-24	1108	0	0	0
252	SLU 9	3	-21	1124	0	0	0
252	SLU 10	4	-21	1254	0	0	0
252	SLU 11	3	-26	1243	0	0	0
252	SLU 12	3	-24	1259	0	0	0
252	SLU 13	3	-22	1264	0	0	0
252	SLU 14	3	-27	1253	0	0	0
252	SLU 15	3	-24	1269	0	0	0
252	SLU 16	3	-27	1246	0	0	0
252	SLU 17	3	-24	1263	0	0	0
252	SLU 18	3	-27	1286	0	0	0
252	SLU 19	3	-24	1303	0	0	0
252	SLU 20	3	-27	1296	0	0	0
252	SLU 21	3	-25	1312	0	0	0
252	SLU 22	4	-26	1231	0	0	0
252	SLU 23	5	-21	1259	0	0	0
252	SLU 24	4	-26	1248	0	0	0
252	SLU 25	4	-24	1264	0	0	0
252	SLU 26	4	-22	1268	0	0	0
252	SLU 27	4	-27	1257	0	0	0
252	SLU 28	4	-24	1274	0	0	0
252	SLU 29	4	-27	1251	0	0	0
252	SLU 30	4	-24	1267	0	0	0
252	SLU 31	4	-24	1397	0	0	0
252	SLU 32	4	-29	1386	0	0	0
252	SLU 33	4	-26	1403	0	0	0
252	SLU 34	4	-24	1407	0	0	0
252	SLU 35	3	-29	1396	0	0	0
252	SLU 36	4	-27	1412	0	0	0
252	SLU 37	3	-29	1390	0	0	0
252	SLU 38	4	-27	1406	0	0	0
252	SLU 39	4	-30	1430	0	0	0
252	SLU 40	4	-27	1446	0	0	0
252	SLU 41	4	-30	1440	0	0	0
252	SLU 42	4	-27	1456	0	0	0
252	SLU 43	4	-29	1365	0	0	0
252	SLU 44	5	-25	1392	0	0	0
252	SLU 45	4	-30	1381	0	0	0
252	SLU 46	4	-27	1398	0	0	0
252	SLU 47	4	-25	1402	0	0	0
252	SLU 48	4	-30	1391	0	0	0
252	SLU 49	4	-27	1407	0	0	0
252	SLU 50	4	-30	1385	0	0	0
252	SLU 51	4	-27	1401	0	0	0
252	SLU 52	4	-27	1531	0	0	0
252	SLU 53	4	-32	1520	0	0	0
252	SLU 54	4	-30	1536	0	0	0
252	SLU 55	4	-28	1541	0	0	0
252	SLU 56	4	-33	1530	0	0	0
252	SLU 57	4	-30	1546	0	0	0
252	SLU 58	4	-33	1524	0	0	0
252	SLU 59	4	-30	1540	0	0	0
252	SLU 60	4	-33	1564	0	0	0
252	SLU 61	4	-30	1580	0	0	0
252	SLU 62	4	-33	1573	0	0	0
252	SLU 63	4	-31	1590	0	0	0
252	SLU 64	5	-32	1509	0	0	0
252	SLU 65	5	-27	1536	0	0	0
252	SLU 66	5	-32	1525	0	0	0
252	SLU 67	5	-30	1541	0	0	0
252	SLU 68	5	-28	1546	0	0	0
252	SLU 69	5	-33	1535	0	0	0
252	SLU 70	5	-30	1551	0	0	0
252	SLU 71	4	-33	1528	0	0	0
252	SLU 72	5	-30	1544	0	0	0
252	SLU 73	5	-30	1675	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
252	SLU 74	4	-35	1664	0	0	0
252	SLU 75	5	-32	1680	0	0	0
252	SLU 76	5	-30	1684	0	0	0
252	SLU 77	4	-36	1673	0	0	0
252	SLU 78	5	-33	1690	0	0	0
252	SLU 79	4	-35	1667	0	0	0
252	SLU 80	5	-33	1683	0	0	0
252	SLU 81	5	-36	1707	0	0	0
252	SLU 82	5	-33	1723	0	0	0
252	SLU 83	4	-36	1717	0	0	0
252	SLU 84	5	-33	1733	0	0	0
252	SLE RA 1	4	-24	1129	0	0	0
252	SLE RA 2	4	-21	1147	0	0	0
252	SLE RA 3	3	-24	1140	0	0	0
252	SLE RA 4	4	-23	1151	0	0	0
252	SLE RA 5	4	-21	1154	0	0	0
252	SLE RA 6	3	-25	1146	0	0	0
252	SLE RA 7	4	-23	1157	0	0	0
252	SLE RA 8	3	-25	1142	0	0	0
252	SLE RA 9	4	-23	1153	0	0	0
252	SLE RA 10	4	-23	1240	0	0	0
252	SLE RA 11	3	-26	1232	0	0	0
252	SLE RA 12	4	-24	1243	0	0	0
252	SLE RA 13	4	-23	1246	0	0	0
252	SLE RA 14	3	-26	1239	0	0	0
252	SLE RA 15	3	-25	1250	0	0	0
252	SLE RA 16	3	-26	1235	0	0	0
252	SLE RA 17	3	-24	1245	0	0	0
252	SLE RA 18	3	-26	1261	0	0	0
252	SLE RA 19	4	-25	1272	0	0	0
252	SLE RA 20	3	-27	1268	0	0	0
252	SLE RA 21	3	-25	1279	0	0	0
252	SLE FR 1	4	-24	1129	0	0	0
252	SLE FR 2	4	-23	1133	0	0	0
252	SLE FR 3	4	-24	1132	0	0	0
252	SLE FR 4	4	-24	1172	0	0	0
252	SLE FR 5	3	-25	1171	0	0	0
252	SLE FR 6	3	-25	1195	0	0	0
252	SLE QP 1	4	-24	1129	0	0	0
252	SLE QP 2	4	-25	1169	0	0	0
252	SLD 1	117	16	1289	0	0	0
252	SLD 2	138	25	1303	0	0	0
252	SLD 3	111	-40	904	0	0	0
252	SLD 4	132	-32	918	0	0	0
252	SLD 5	44	72	1786	0	0	0
252	SLD 6	58	78	1795	0	0	0
252	SLD 7	22	-117	503	0	0	0
252	SLD 8	36	-111	512	0	0	0
252	SLD 9	-29	62	1825	0	0	0
252	SLD 10	-15	67	1834	0	0	0
252	SLD 11	-51	-127	542	0	0	0
252	SLD 12	-37	-121	551	0	0	0
252	SLD 13	-125	-18	1419	0	0	0
252	SLD 14	-104	-9	1433	0	0	0
252	SLD 15	-131	-75	1034	0	0	0
252	SLD 16	-110	-66	1048	0	0	0
252	SLV 1	182	44	1384	0	0	0
252	SLV 2	215	57	1406	0	0	0
252	SLV 3	171	-53	727	0	0	0
252	SLV 4	204	-39	749	0	0	0
252	SLV 5	68	140	2225	0	0	0
252	SLV 6	90	149	2240	0	0	0
252	SLV 7	30	-182	36	0	0	0
252	SLV 8	53	-173	51	0	0	0
252	SLV 9	-46	124	2287	0	0	0
252	SLV 10	-23	133	2302	0	0	0
252	SLV 11	-83	-198	97	0	0	0
252	SLV 12	-61	-189	112	0	0	0
252	SLV 13	-197	-10	1588	0	0	0
252	SLV 14	-164	4	1610	0	0	0
252	SLV 15	-208	-107	931	0	0	0
252	SLV 16	-175	-93	953	0	0	0
252	SLV FO 1	200	50	1406	0	0	0
252	SLV FO 2	236	65	1430	0	0	0
252	SLV FO 3	187	-56	683	0	0	0
252	SLV FO 4	224	-41	707	0	0	0
252	SLV FO 5	74	156	2331	0	0	0
252	SLV FO 6	99	166	2348	0	0	0
252	SLV FO 7	33	-198	-78	0	0	0
252	SLV FO 8	58	-188	-61	0	0	0
252	SLV FO 9	-51	139	2398	0	0	0
252	SLV FO 10	-26	149	2415	0	0	0
252	SLV FO 11	-92	-216	-10	0	0	0
252	SLV FO 12	-67	-206	6	0	0	0
252	SLV FO 13	-217	-9	1630	0	0	0
252	SLV FO 14	-180	6	1654	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
252	SLV FO 15	-229	-115	907	0	0	0
252	SLV FO 16	-193	-100	932	0	0	0
252	CRTFP Uy+	0	0	0	0	0	0
252	CRTFP Uy-	0	0	0	0	0	0
253	SLU 1	3	-24	1049	0	0	0
253	SLU 2	4	-19	1076	0	0	0
253	SLU 3	3	-24	1065	0	0	0
253	SLU 4	3	-22	1081	0	0	0
253	SLU 5	4	-20	1085	0	0	0
253	SLU 6	3	-25	1074	0	0	0
253	SLU 7	3	-22	1090	0	0	0
253	SLU 8	3	-24	1068	0	0	0
253	SLU 9	3	-22	1084	0	0	0
253	SLU 10	4	-22	1210	0	0	0
253	SLU 11	3	-27	1199	0	0	0
253	SLU 12	3	-24	1215	0	0	0
253	SLU 13	3	-23	1219	0	0	0
253	SLU 14	3	-27	1208	0	0	0
253	SLU 15	3	-25	1224	0	0	0
253	SLU 16	3	-27	1202	0	0	0
253	SLU 17	3	-25	1218	0	0	0
253	SLU 18	3	-27	1241	0	0	0
253	SLU 19	3	-25	1257	0	0	0
253	SLU 20	3	-28	1250	0	0	0
253	SLU 21	3	-25	1266	0	0	0
253	SLU 22	4	-26	1189	0	0	0
253	SLU 23	4	-22	1215	0	0	0
253	SLU 24	4	-27	1204	0	0	0
253	SLU 25	4	-24	1220	0	0	0
253	SLU 26	4	-23	1224	0	0	0
253	SLU 27	4	-27	1214	0	0	0
253	SLU 28	4	-25	1229	0	0	0
253	SLU 29	4	-27	1207	0	0	0
253	SLU 30	4	-25	1223	0	0	0
253	SLU 31	4	-25	1349	0	0	0
253	SLU 32	4	-30	1338	0	0	0
253	SLU 33	4	-27	1354	0	0	0
253	SLU 34	4	-25	1358	0	0	0
253	SLU 35	3	-30	1347	0	0	0
253	SLU 36	4	-28	1363	0	0	0
253	SLU 37	3	-30	1341	0	0	0
253	SLU 38	4	-27	1357	0	0	0
253	SLU 39	4	-30	1380	0	0	0
253	SLU 40	4	-28	1396	0	0	0
253	SLU 41	3	-31	1389	0	0	0
253	SLU 42	4	-28	1405	0	0	0
253	SLU 43	4	-30	1317	0	0	0
253	SLU 44	5	-26	1343	0	0	0
253	SLU 45	4	-30	1332	0	0	0
253	SLU 46	4	-28	1348	0	0	0
253	SLU 47	4	-26	1352	0	0	0
253	SLU 48	4	-31	1342	0	0	0
253	SLU 49	4	-28	1357	0	0	0
253	SLU 50	4	-31	1335	0	0	0
253	SLU 51	4	-28	1351	0	0	0
253	SLU 52	4	-28	1477	0	0	0
253	SLU 53	4	-33	1466	0	0	0
253	SLU 54	4	-31	1482	0	0	0
253	SLU 55	4	-29	1486	0	0	0
253	SLU 56	4	-33	1475	0	0	0
253	SLU 57	4	-31	1491	0	0	0
253	SLU 58	4	-33	1469	0	0	0
253	SLU 59	4	-31	1485	0	0	0
253	SLU 60	4	-34	1508	0	0	0
253	SLU 61	4	-31	1524	0	0	0
253	SLU 62	4	-34	1517	0	0	0
253	SLU 63	4	-32	1533	0	0	0
253	SLU 64	5	-33	1456	0	0	0
253	SLU 65	5	-28	1482	0	0	0
253	SLU 66	5	-33	1471	0	0	0
253	SLU 67	5	-31	1487	0	0	0
253	SLU 68	5	-29	1492	0	0	0
253	SLU 69	4	-34	1481	0	0	0
253	SLU 70	5	-31	1496	0	0	0
253	SLU 71	4	-33	1475	0	0	0
253	SLU 72	5	-31	1490	0	0	0
253	SLU 73	5	-31	1616	0	0	0
253	SLU 74	4	-36	1605	0	0	0
253	SLU 75	5	-33	1621	0	0	0
253	SLU 76	5	-31	1625	0	0	0
253	SLU 77	4	-36	1615	0	0	0
253	SLU 78	4	-34	1630	0	0	0
253	SLU 79	4	-36	1608	0	0	0
253	SLU 80	4	-34	1624	0	0	0
253	SLU 81	4	-36	1647	0	0	0
253	SLU 82	5	-34	1663	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
253	SLU 83	4	-37	1656	0	0	0
253	SLU 84	4	-34	1672	0	0	0
253	SLE RA 1	3	-24	1089	0	0	0
253	SLE RA 2	4	-22	1107	0	0	0
253	SLE RA 3	3	-25	1100	0	0	0
253	SLE RA 4	4	-23	1110	0	0	0
253	SLE RA 5	4	-22	1113	0	0	0
253	SLE RA 6	3	-25	1106	0	0	0
253	SLE RA 7	3	-23	1116	0	0	0
253	SLE RA 8	3	-25	1102	0	0	0
253	SLE RA 9	3	-23	1112	0	0	0
253	SLE RA 10	4	-23	1196	0	0	0
253	SLE RA 11	3	-27	1189	0	0	0
253	SLE RA 12	3	-25	1199	0	0	0
253	SLE RA 13	4	-24	1202	0	0	0
253	SLE RA 14	3	-27	1195	0	0	0
253	SLE RA 15	3	-25	1206	0	0	0
253	SLE RA 16	3	-27	1191	0	0	0
253	SLE RA 17	3	-25	1202	0	0	0
253	SLE RA 18	3	-27	1217	0	0	0
253	SLE RA 19	3	-25	1227	0	0	0
253	SLE RA 20	3	-27	1223	0	0	0
253	SLE RA 21	3	-26	1234	0	0	0
253	SLE FR 1	3	-24	1089	0	0	0
253	SLE FR 2	4	-24	1093	0	0	0
253	SLE FR 3	3	-25	1092	0	0	0
253	SLE FR 4	3	-25	1131	0	0	0
253	SLE FR 5	3	-25	1130	0	0	0
253	SLE FR 6	3	-26	1153	0	0	0
253	SLE QP 1	3	-24	1089	0	0	0
253	SLE QP 2	3	-25	1128	0	0	0
253	SLD 1	112	15	1239	0	0	0
253	SLD 2	131	24	1253	0	0	0
253	SLD 3	105	-38	866	0	0	0
253	SLD 4	125	-29	880	0	0	0
253	SLD 5	42	66	1724	0	0	0
253	SLD 6	55	71	1733	0	0	0
253	SLD 7	21	-111	481	0	0	0
253	SLD 8	34	-105	490	0	0	0
253	SLD 9	-27	55	1765	0	0	0
253	SLD 10	-14	60	1774	0	0	0
253	SLD 11	-48	-122	522	0	0	0
253	SLD 12	-35	-116	531	0	0	0
253	SLD 13	-118	-22	1375	0	0	0
253	SLD 14	-98	-13	1389	0	0	0
253	SLD 15	-125	-75	1002	0	0	0
253	SLD 16	-105	-66	1016	0	0	0
253	SLV 1	173	42	1328	0	0	0
253	SLV 2	204	56	1351	0	0	0
253	SLV 3	162	-49	692	0	0	0
253	SLV 4	193	-34	715	0	0	0
253	SLV 5	65	129	2149	0	0	0
253	SLV 6	86	139	2164	0	0	0
253	SLV 7	29	-172	27	0	0	0
253	SLV 8	50	-162	43	0	0	0
253	SLV 9	-43	112	2212	0	0	0
253	SLV 10	-22	121	2228	0	0	0
253	SLV 11	-79	-189	91	0	0	0
253	SLV 12	-58	-180	106	0	0	0
253	SLV 13	-187	-16	1540	0	0	0
253	SLV 14	-155	-2	1563	0	0	0
253	SLV 15	-197	-107	904	0	0	0
253	SLV 16	-166	-92	927	0	0	0
253	SLV FO 1	190	49	1348	0	0	0
253	SLV FO 2	224	64	1374	0	0	0
253	SLV FO 3	178	-51	648	0	0	0
253	SLV FO 4	212	-35	673	0	0	0
253	SLV FO 5	71	145	2251	0	0	0
253	SLV FO 6	94	155	2268	0	0	0
253	SLV FO 7	31	-186	-83	0	0	0
253	SLV FO 8	55	-176	-66	0	0	0
253	SLV FO 9	-48	125	2321	0	0	0
253	SLV FO 10	-25	136	2338	0	0	0
253	SLV FO 11	-87	-206	-13	0	0	0
253	SLV FO 12	-64	-195	4	0	0	0
253	SLV FO 13	-206	-15	1582	0	0	0
253	SLV FO 14	-171	0	1607	0	0	0
253	SLV FO 15	-217	-115	882	0	0	0
253	SLV FO 16	-183	-99	907	0	0	0
253	CRTFP Uy+	0	0	0	0	0	0
253	CRTFP Uy-	0	0	0	0	0	0
256	SLU 1	9	-42	4369	-3.52	1302.39	12.18
256	SLU 2	11	-20	4473	-3.85	1333.13	5.46
256	SLU 3	9	-44	4437	-3.53	1322.77	12.5
256	SLU 4	10	-30	4499	-3.73	1341.21	8.47
256	SLU 5	10	-21	4515	-3.85	1345.8	5.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
256	SLU 6	8	-44	4479	-3.52	1335.43	12.78
256	SLU 7	9	-31	4541	-3.72	1353.88	8.75
256	SLU 8	8	-44	4453	-3.52	1327.72	12.74
256	SLU 9	9	-31	4515	-3.72	1346.17	8.71
256	SLU 10	10	-25	5048	-4.34	1505.59	6.71
256	SLU 11	7	-48	5012	-4.01	1495.23	13.75
256	SLU 12	8	-35	5074	-4.21	1513.68	9.71
256	SLU 13	9	-25	5090	-4.34	1518.26	6.98
256	SLU 14	6	-49	5054	-4.01	1507.9	14.02
256	SLU 15	7	-35	5116	-4.21	1526.34	9.99
256	SLU 16	6	-49	5028	-4	1500.18	13.98
256	SLU 17	7	-35	5091	-4.2	1518.63	9.95
256	SLU 18	7	-49	5191	-4.22	1548.76	13.96
256	SLU 19	8	-35	5253	-4.42	1567.21	9.93
256	SLU 20	7	-50	5233	-4.21	1561.43	14.24
256	SLU 21	8	-36	5295	-4.41	1579.87	10.21
256	SLU 22	11	-48	4936	-3.88	1471.58	13.8
256	SLU 23	12	-26	5040	-4.21	1502.32	7.08
256	SLU 24	10	-49	5004	-3.89	1491.96	14.12
256	SLU 25	11	-36	5066	-4.09	1510.4	10.08
256	SLU 26	12	-27	5082	-4.21	1514.98	7.35
256	SLU 27	9	-50	5046	-3.89	1504.62	14.4
256	SLU 28	10	-37	5108	-4.09	1523.07	10.36
256	SLU 29	9	-50	5020	-3.88	1496.91	14.35
256	SLU 30	10	-37	5083	-4.08	1515.35	10.32
256	SLU 31	11	-30	5615	-4.7	1674.78	8.32
256	SLU 32	9	-53	5579	-4.38	1664.42	15.36
256	SLU 33	10	-40	5642	-4.58	1682.86	11.33
256	SLU 34	10	-31	5657	-4.7	1687.44	8.6
256	SLU 35	8	-54	5621	-4.37	1677.08	15.64
256	SLU 36	9	-41	5684	-4.57	1695.53	11.61
256	SLU 37	8	-54	5596	-4.37	1669.37	15.6
256	SLU 38	9	-41	5658	-4.57	1687.81	11.57
256	SLU 39	9	-54	5758	-4.58	1717.95	15.58
256	SLU 40	10	-41	5820	-4.78	1736.39	11.54
256	SLU 41	8	-55	5800	-4.58	1730.61	15.85
256	SLU 42	9	-42	5862	-4.78	1749.06	11.82
256	SLU 43	11	-53	5485	-4.45	1635.1	15.28
256	SLU 44	13	-31	5589	-4.78	1665.84	8.56
256	SLU 45	11	-54	5553	-4.46	1655.48	15.6
256	SLU 46	12	-41	5615	-4.66	1673.93	11.57
256	SLU 47	12	-32	5631	-4.78	1678.51	8.84
256	SLU 48	10	-55	5595	-4.45	1668.14	15.88
256	SLU 49	11	-42	5657	-4.65	1686.59	11.85
256	SLU 50	10	-55	5570	-4.45	1660.43	15.84
256	SLU 51	11	-42	5632	-4.65	1678.88	11.81
256	SLU 52	12	-35	6164	-5.27	1838.3	9.81
256	SLU 53	9	-59	6128	-4.94	1827.94	16.85
256	SLU 54	10	-45	6191	-5.14	1846.39	12.81
256	SLU 55	11	-36	6206	-5.27	1850.97	10.08
256	SLU 56	9	-60	6170	-4.94	1840.61	17.13
256	SLU 57	10	-46	6233	-5.14	1859.05	13.09
256	SLU 58	8	-59	6145	-4.94	1832.89	17.08
256	SLU 59	9	-46	6207	-5.13	1851.34	13.05
256	SLU 60	10	-59	6307	-5.15	1881.47	17.06
256	SLU 61	11	-46	6369	-5.35	1899.92	13.03
256	SLU 62	9	-60	6349	-5.15	1894.14	17.34
256	SLU 63	10	-47	6411	-5.35	1912.58	13.31
256	SLU 64	13	-59	6053	-4.81	1804.29	16.9
256	SLU 65	15	-37	6156	-5.15	1835.03	10.18
256	SLU 66	12	-60	6120	-4.82	1824.67	17.22
256	SLU 67	13	-47	6183	-5.02	1843.11	13.19
256	SLU 68	14	-38	6198	-5.14	1847.69	10.46
256	SLU 69	12	-61	6162	-4.82	1837.33	17.5
256	SLU 70	13	-48	6225	-5.02	1855.78	13.46
256	SLU 71	11	-61	6137	-4.81	1829.62	17.46
256	SLU 72	12	-47	6199	-5.01	1848.06	13.42
256	SLU 73	13	-41	6731	-5.63	2007.49	11.42
256	SLU 74	11	-64	6696	-5.31	1997.13	18.46
256	SLU 75	12	-51	6758	-5.51	2015.57	14.43
256	SLU 76	13	-42	6773	-5.63	2020.15	11.7
256	SLU 77	10	-65	6738	-5.31	2009.79	18.74
256	SLU 78	11	-52	6800	-5.51	2028.24	14.71
256	SLU 79	10	-65	6712	-5.3	2002.08	18.7
256	SLU 80	11	-52	6774	-5.5	2020.52	14.67
256	SLU 81	11	-65	6874	-5.51	2050.66	18.68
256	SLU 82	12	-52	6937	-5.71	2069.1	14.64
256	SLU 83	10	-66	6916	-5.51	2063.32	18.96
256	SLU 84	11	-53	6979	-5.71	2081.77	14.92
256	SLE RA 1	10	-44	4531	-3.62	1350.73	12.64
256	SLE RA 2	11	-29	4600	-3.84	1371.22	8.16
256	SLE RA 3	9	-45	4576	-3.63	1364.31	12.86
256	SLE RA 4	10	-36	4618	-3.76	1376.61	10.17
256	SLE RA 5	10	-30	4628	-3.84	1379.67	8.35
256	SLE RA 6	9	-45	4604	-3.63	1372.76	13.04
256	SLE RA 7	9	-36	4646	-3.76	1385.06	10.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
256	SLE RA 8	9	-45	4587	-3.62	1367.61	13.01
256	SLE RA 9	9	-36	4629	-3.75	1379.91	10.33
256	SLE RA 10	10	-32	4984	-4.17	1486.2	8.99
256	SLE RA 11	8	-48	4960	-3.95	1479.29	13.69
256	SLE RA 12	9	-39	5001	-4.09	1491.59	11
256	SLE RA 13	9	-33	5012	-4.17	1494.64	9.18
256	SLE RA 14	8	-48	4988	-3.95	1487.73	13.87
256	SLE RA 15	9	-39	5029	-4.08	1500.03	11.18
256	SLE RA 16	8	-48	4971	-3.95	1482.59	13.84
256	SLE RA 17	8	-39	5012	-4.08	1494.89	11.16
256	SLE RA 18	8	-48	5079	-4.09	1514.98	13.83
256	SLE RA 19	9	-39	5120	-4.22	1527.27	11.14
256	SLE RA 20	8	-49	5107	-4.09	1523.42	14.02
256	SLE RA 21	9	-40	5148	-4.22	1535.72	11.33
256	SLE FR 1	10	-44	4531	-3.62	1350.73	12.64
256	SLE FR 2	10	-41	4545	-3.67	1354.83	11.75
256	SLE FR 3	9	-44	4542	-3.62	1354.11	12.72
256	SLE FR 4	10	-42	4709	-3.81	1404.1	12.1
256	SLE FR 5	9	-46	4707	-3.76	1403.38	13.07
256	SLE FR 6	9	-46	4805	-3.85	1432.85	13.24
256	SLE QP 1	10	-44	4531	-3.62	1350.73	12.64
256	SLE QP 2	9	-45	4696	-3.76	1400	13
256	SLD 1	483	66	5318	-5.62	1589.93	-19.98
256	SLD 2	571	69	5334	-5.69	1593.08	-20.8
256	SLD 3	460	-207	3812	-0.94	1141.52	62.41
256	SLD 4	547	-204	3828	-1.01	1144.67	61.59
256	SLD 5	172	402	7164	-11.41	2136.53	-121.71
256	SLD 6	228	404	7174	-11.46	2138.56	-122.24
256	SLD 7	94	-509	2143	4.2	641.83	152.93
256	SLD 8	151	-506	2154	4.15	643.85	152.39
256	SLD 9	-132	416	7237	-11.68	2156.15	-126.39
256	SLD 10	-76	418	7248	-11.72	2158.18	-126.92
256	SLD 11	-209	-495	2217	3.93	661.45	148.24
256	SLD 12	-153	-492	2228	3.89	663.47	147.71
256	SLD 13	-529	113	5563	-6.51	1655.34	-35.59
256	SLD 14	-442	117	5580	-6.58	1658.48	-36.41
256	SLD 15	-552	-160	4057	-1.83	1206.93	46.8
256	SLD 16	-465	-156	4073	-1.9	1210.07	45.98
256	SLV 1	751	147	5773	-7	1728.15	-44.31
256	SLV 2	889	153	5799	-7.11	1733.11	-45.61
256	SLV 3	712	-319	3203	0.99	962.95	96.21
256	SLV 4	850	-313	3229	0.88	967.91	94.91
256	SLV 5	266	718	8912	-16.83	2658.07	-217.08
256	SLV 6	358	722	8929	-16.91	2661.41	-217.95
256	SLV 7	135	-835	345	9.8	107.41	251.33
256	SLV 8	227	-831	363	9.73	110.75	250.46
256	SLV 9	-209	741	9028	-17.25	2689.25	-224.45
256	SLV 10	-116	744	9046	-17.33	2692.59	-225.33
256	SLV 11	-340	-812	462	9.38	138.6	243.95
256	SLV 12	-247	-809	479	9.31	141.94	243.08
256	SLV 13	-831	222	6162	-8.4	1832.09	-68.91
256	SLV 14	-694	228	6188	-8.51	1837.05	-70.21
256	SLV 15	-870	-244	3592	-0.41	1066.9	71.61
256	SLV 16	-733	-238	3618	-0.52	1071.85	70.31
256	SLV FO 1	826	166	5881	-7.33	1760.97	-50.04
256	SLV FO 2	977	173	5910	-7.45	1766.42	-51.47
256	SLV FO 3	782	-346	3054	1.46	919.25	104.53
256	SLV FO 4	934	-340	3083	1.34	924.7	103.1
256	SLV FO 5	292	794	9334	-18.14	2783.88	-240.08
256	SLV FO 6	393	799	9353	-18.22	2787.55	-241.05
256	SLV FO 7	147	-914	-90	11.16	-21.84	275.16
256	SLV FO 8	249	-910	-71	11.08	-18.17	274.2
256	SLV FO 9	-231	819	9462	-18.6	2818.18	-248.2
256	SLV FO 10	-129	823	9481	-18.68	2821.85	-249.16
256	SLV FO 11	-375	-889	38	10.7	12.46	267.05
256	SLV FO 12	-273	-885	58	10.62	16.13	266.08
256	SLV FO 13	-915	249	6308	-8.86	1875.3	-77.1
256	SLV FO 14	-764	255	6337	-8.99	1880.76	-78.53
256	SLV FO 15	-958	-263	3481	-0.08	1033.59	77.47
256	SLV FO 16	-807	-257	3510	-0.2	1039.04	76.04
256	CRTFP Ux+	0	0	0	0	0	0
256	CRTFP Ux-	0	0	0	0	0	0
256	CRTFP Uy+	0	0	0	0	-0.01	0
256	CRTFP Uy-	0	0	0	0	0.01	0
257	SLU 1	2	-12	521	-19.45	-65.18	-1.5
257	SLU 2	2	-11	535	-19.94	-66.83	-1.24
257	SLU 3	2	-13	529	-19.74	-66.15	-1.54
257	SLU 4	2	-12	537	-20.03	-67.14	-1.39
257	SLU 5	2	-11	539	-20.12	-67.41	-1.27
257	SLU 6	1	-13	534	-19.91	-66.73	-1.57
257	SLU 7	2	-12	542	-20.21	-67.72	-1.42
257	SLU 8	1	-13	531	-19.8	-66.35	-1.56
257	SLU 9	2	-12	539	-20.09	-67.34	-1.41
257	SLU 10	2	-12	601	-22.43	-75.15	-1.42
257	SLU 11	1	-14	596	-22.22	-74.46	-1.72
257	SLU 12	2	-13	604	-22.52	-75.45	-1.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
257	SLU 13	2	-12	606	-22.6	-75.73	-1.45
257	SLU 14	1	-14	600	-22.39	-75.04	-1.75
257	SLU 15	2	-13	608	-22.69	-76.03	-1.6
257	SLU 16	1	-14	597	-22.28	-74.66	-1.74
257	SLU 17	1	-13	605	-22.57	-75.65	-1.59
257	SLU 18	1	-15	617	-23	-77.06	-1.76
257	SLU 19	2	-13	624	-23.29	-78.06	-1.6
257	SLU 20	1	-15	621	-23.17	-77.65	-1.79
257	SLU 21	2	-14	629	-23.47	-78.64	-1.63
257	SLU 22	2	-14	591	-22.04	-73.87	-1.67
257	SLU 23	2	-12	604	-22.54	-75.52	-1.41
257	SLU 24	2	-14	599	-22.33	-74.83	-1.71
257	SLU 25	2	-13	607	-22.63	-75.82	-1.55
257	SLU 26	2	-12	609	-22.71	-76.1	-1.44
257	SLU 27	2	-14	603	-22.5	-75.41	-1.74
257	SLU 28	2	-13	611	-22.8	-76.4	-1.58
257	SLU 29	2	-14	600	-22.39	-75.03	-1.73
257	SLU 30	2	-13	608	-22.69	-76.02	-1.58
257	SLU 31	2	-13	671	-25.02	-83.84	-1.59
257	SLU 32	2	-16	665	-24.81	-83.15	-1.89
257	SLU 33	2	-14	673	-25.11	-84.14	-1.73
257	SLU 34	2	-14	675	-25.19	-84.42	-1.62
257	SLU 35	2	-16	670	-24.99	-83.73	-1.92
257	SLU 36	2	-15	678	-25.28	-84.72	-1.76
257	SLU 37	2	-16	667	-24.87	-83.35	-1.91
257	SLU 38	2	-15	675	-25.17	-84.34	-1.76
257	SLU 39	2	-16	686	-25.59	-85.75	-1.93
257	SLU 40	2	-15	694	-25.88	-86.74	-1.77
257	SLU 41	2	-16	691	-25.76	-86.33	-1.96
257	SLU 42	2	-15	699	-26.06	-87.32	-1.8
257	SLU 43	2	-16	654	-24.4	-81.76	-1.89
257	SLU 44	2	-14	667	-24.89	-83.41	-1.64
257	SLU 45	2	-16	662	-24.68	-82.72	-1.93
257	SLU 46	2	-15	670	-24.98	-83.71	-1.78
257	SLU 47	2	-14	672	-25.06	-83.99	-1.67
257	SLU 48	2	-16	666	-24.86	-83.3	-1.96
257	SLU 49	2	-15	674	-25.15	-84.29	-1.81
257	SLU 50	2	-16	663	-24.74	-82.92	-1.96
257	SLU 51	2	-15	671	-25.04	-83.91	-1.8
257	SLU 52	2	-15	734	-27.37	-91.73	-1.82
257	SLU 53	2	-17	728	-27.17	-91.04	-2.11
257	SLU 54	2	-16	736	-27.46	-92.03	-1.96
257	SLU 55	2	-15	738	-27.54	-92.31	-1.85
257	SLU 56	2	-18	733	-27.34	-91.62	-2.14
257	SLU 57	2	-16	741	-27.64	-92.61	-1.99
257	SLU 58	2	-18	730	-27.23	-91.24	-2.13
257	SLU 59	2	-16	738	-27.52	-92.23	-1.98
257	SLU 60	2	-18	749	-27.94	-93.64	-2.15
257	SLU 61	2	-17	757	-28.24	-94.63	-2
257	SLU 62	2	-18	754	-28.12	-94.22	-2.18
257	SLU 63	2	-17	762	-28.41	-95.21	-2.03
257	SLU 64	2	-17	724	-26.99	-90.45	-2.06
257	SLU 65	3	-15	737	-27.48	-92.1	-1.81
257	SLU 66	2	-17	731	-27.28	-91.41	-2.1
257	SLU 67	2	-16	739	-27.57	-92.4	-1.95
257	SLU 68	2	-15	741	-27.66	-92.68	-1.84
257	SLU 69	2	-18	736	-27.45	-91.99	-2.13
257	SLU 70	2	-17	744	-27.75	-92.98	-1.98
257	SLU 71	2	-18	733	-27.34	-91.61	-2.12
257	SLU 72	2	-16	741	-27.63	-92.6	-1.97
257	SLU 73	2	-17	803	-29.96	-100.41	-1.98
257	SLU 74	2	-19	798	-29.76	-99.73	-2.28
257	SLU 75	2	-18	806	-30.05	-100.72	-2.13
257	SLU 76	2	-17	808	-30.14	-101	-2.01
257	SLU 77	2	-19	802	-29.93	-100.31	-2.31
257	SLU 78	2	-18	810	-30.23	-101.3	-2.16
257	SLU 79	2	-19	799	-29.82	-99.93	-2.3
257	SLU 80	2	-18	807	-30.11	-100.92	-2.15
257	SLU 81	2	-19	819	-30.53	-102.33	-2.32
257	SLU 82	2	-18	827	-30.83	-103.32	-2.16
257	SLU 83	2	-19	823	-30.71	-102.91	-2.35
257	SLU 84	2	-18	831	-31	-103.9	-2.2
257	SLE RA 1	2	-13	541	-20.19	-67.67	-1.55
257	SLE RA 2	2	-12	550	-20.52	-68.77	-1.38
257	SLE RA 3	2	-13	546	-20.38	-68.31	-1.58
257	SLE RA 4	2	-12	552	-20.58	-68.97	-1.47
257	SLE RA 5	2	-12	553	-20.64	-69.15	-1.4
257	SLE RA 6	2	-13	550	-20.5	-68.69	-1.6
257	SLE RA 7	2	-12	555	-20.7	-69.35	-1.49
257	SLE RA 8	2	-13	548	-20.42	-68.44	-1.59
257	SLE RA 9	2	-12	553	-20.62	-69.1	-1.49
257	SLE RA 10	2	-13	594	-22.17	-74.31	-1.5
257	SLE RA 11	2	-14	591	-22.04	-73.85	-1.7
257	SLE RA 12	2	-13	596	-22.23	-74.51	-1.59
257	SLE RA 13	2	-13	598	-22.29	-74.7	-1.52
257	SLE RA 14	2	-14	594	-22.15	-74.24	-1.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
257	SLE RA 15	2	-13	599	-22.35	-74.9	-1.61
257	SLE RA 16	2	-14	592	-22.08	-73.98	-1.71
257	SLE RA 17	2	-13	597	-22.27	-74.64	-1.61
257	SLE RA 18	2	-14	605	-22.56	-75.59	-1.72
257	SLE RA 19	2	-13	610	-22.75	-76.25	-1.62
257	SLE RA 20	2	-14	608	-22.67	-75.97	-1.74
257	SLE RA 21	2	-14	613	-22.87	-76.63	-1.64
257	SLE FR 1	2	-13	541	-20.19	-67.67	-1.55
257	SLE FR 2	2	-13	543	-20.26	-67.89	-1.52
257	SLE FR 3	2	-13	543	-20.24	-67.82	-1.56
257	SLE FR 4	2	-13	562	-20.97	-70.26	-1.57
257	SLE FR 5	2	-13	562	-20.95	-70.2	-1.61
257	SLE FR 6	2	-14	573	-21.37	-71.63	-1.64
257	SLE QP 1	2	-13	541	-20.19	-67.67	-1.55
257	SLE QP 2	2	-13	560	-20.9	-70.04	-1.6
257	SLD 1	55	7	613	-22.88	-76.67	2.91
257	SLD 2	64	12	621	-23.17	-77.64	3.88
257	SLD 3	52	-18	427	-15.93	-53.4	-0.38
257	SLD 4	61	-13	435	-16.22	-54.37	0.59
257	SLD 5	21	31	857	-31.98	-107.16	4.57
257	SLD 6	27	34	862	-32.16	-107.78	5.19
257	SLD 7	10	-54	237	-8.83	-29.59	-6.39
257	SLD 8	17	-51	242	-9.01	-30.21	-5.76
257	SLD 9	-13	24	879	-32.79	-109.87	2.56
257	SLD 10	-7	28	884	-32.97	-110.5	3.18
257	SLD 11	-23	-60	258	-9.64	-32.3	-8.4
257	SLD 12	-17	-57	263	-9.82	-32.92	-7.77
257	SLD 13	-58	-13	686	-25.58	-85.72	-3.8
257	SLD 14	-48	-8	693	-25.87	-86.69	-2.82
257	SLD 15	-61	-39	500	-18.63	-62.44	-7.08
257	SLD 16	-51	-34	507	-18.92	-63.41	-6.11
257	SLV 1	85	21	657	-24.49	-82.07	5.68
257	SLV 2	100	28	669	-24.95	-83.6	7.21
257	SLV 3	79	-23	339	-12.64	-42.36	0.07
257	SLV 4	95	-15	351	-13.1	-43.89	1.6
257	SLV 5	32	61	1069	-39.86	-133.59	8.8
257	SLV 6	42	66	1077	-40.17	-134.62	9.83
257	SLV 7	14	-83	10	-0.37	-1.23	-9.89
257	SLV 8	24	-78	18	-0.67	-2.26	-8.86
257	SLV 9	-21	52	1103	-41.13	-137.83	5.66
257	SLV 10	-11	57	1111	-41.43	-138.86	6.69
257	SLV 11	-39	-93	44	-1.63	-5.47	-13.03
257	SLV 12	-28	-88	52	-1.94	-6.5	-12
257	SLV 13	-91	-12	770	-28.7	-96.19	-4.8
257	SLV 14	-76	-4	782	-29.16	-97.72	-3.27
257	SLV 15	-97	-55	452	-16.86	-56.49	-10.41
257	SLV 16	-81	-47	464	-17.31	-58.02	-8.88
257	SLV FO 1	93	24	666	-24.85	-83.27	6.4
257	SLV FO 2	110	32	680	-25.35	-84.95	8.09
257	SLV FO 3	87	-24	317	-11.81	-39.59	0.24
257	SLV FO 4	104	-15	330	-12.32	-41.27	1.92
257	SLV FO 5	35	69	1120	-41.76	-139.94	9.84
257	SLV FO 6	46	74	1129	-42.1	-141.08	10.97
257	SLV FO 7	15	-90	-45	1.69	5.65	-10.72
257	SLV FO 8	27	-85	-36	1.35	4.52	-9.59
257	SLV FO 9	-23	58	1157	-43.15	-144.6	6.38
257	SLV FO 10	-12	64	1166	-43.49	-145.74	7.52
257	SLV FO 11	-43	-101	-8	0.3	0.99	-14.18
257	SLV FO 12	-31	-95	1	-0.04	-0.14	-13.04
257	SLV FO 13	-101	-11	790	-29.49	-98.81	-5.12
257	SLV FO 14	-84	-3	804	-29.99	-100.49	-3.44
257	SLV FO 15	-106	-59	441	-16.45	-55.13	-11.29
257	SLV FO 16	-90	-51	455	-16.95	-56.81	-9.61
257	CRTFP Ux+	0	0	0	0	0	0
257	CRTFP Ux-	0	0	0	0	0	0
257	CRTFP Uy+	0	0	0	0	0	0
257	CRTFP Uy-	0	0	0	0	0	0
259	SLU 1	-8	-16	799	0	0	0
259	SLU 2	-8	-13	819	0	0	0
259	SLU 3	-8	-17	812	0	0	0
259	SLU 4	-9	-15	824	0	0	0
259	SLU 5	-9	-13	827	0	0	0
259	SLU 6	-8	-17	820	0	0	0
259	SLU 7	-9	-15	832	0	0	0
259	SLU 8	-8	-17	816	0	0	0
259	SLU 9	-9	-15	827	0	0	0
259	SLU 10	-9	-15	924	0	0	0
259	SLU 11	-9	-18	917	0	0	0
259	SLU 12	-9	-16	929	0	0	0
259	SLU 13	-9	-15	932	0	0	0
259	SLU 14	-9	-19	925	0	0	0
259	SLU 15	-9	-17	937	0	0	0
259	SLU 16	-9	-18	921	0	0	0
259	SLU 17	-9	-17	932	0	0	0
259	SLU 18	-8	-19	950	0	0	0
259	SLU 19	-9	-17	961	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
259	SLU 20	-9	-19	958	0	0	0
259	SLU 21	-9	-17	969	0	0	0
259	SLU 22	-9	-18	908	0	0	0
259	SLU 23	-10	-15	928	0	0	0
259	SLU 24	-9	-19	921	0	0	0
259	SLU 25	-10	-17	933	0	0	0
259	SLU 26	-10	-15	936	0	0	0
259	SLU 27	-10	-19	929	0	0	0
259	SLU 28	-10	-17	941	0	0	0
259	SLU 29	-10	-19	924	0	0	0
259	SLU 30	-10	-17	936	0	0	0
259	SLU 31	-10	-17	1033	0	0	0
259	SLU 32	-10	-20	1026	0	0	0
259	SLU 33	-10	-18	1038	0	0	0
259	SLU 34	-10	-17	1041	0	0	0
259	SLU 35	-10	-21	1034	0	0	0
259	SLU 36	-10	-19	1046	0	0	0
259	SLU 37	-10	-20	1030	0	0	0
259	SLU 38	-10	-18	1041	0	0	0
259	SLU 39	-10	-21	1059	0	0	0
259	SLU 40	-10	-19	1070	0	0	0
259	SLU 41	-10	-21	1067	0	0	0
259	SLU 42	-10	-19	1078	0	0	0
259	SLU 43	-10	-20	1002	0	0	0
259	SLU 44	-10	-17	1022	0	0	0
259	SLU 45	-10	-21	1015	0	0	0
259	SLU 46	-11	-19	1027	0	0	0
259	SLU 47	-11	-17	1030	0	0	0
259	SLU 48	-10	-21	1023	0	0	0
259	SLU 49	-11	-19	1035	0	0	0
259	SLU 50	-10	-21	1018	0	0	0
259	SLU 51	-11	-19	1030	0	0	0
259	SLU 52	-11	-19	1127	0	0	0
259	SLU 53	-11	-22	1120	0	0	0
259	SLU 54	-11	-21	1132	0	0	0
259	SLU 55	-11	-19	1135	0	0	0
259	SLU 56	-11	-23	1128	0	0	0
259	SLU 57	-11	-21	1140	0	0	0
259	SLU 58	-11	-23	1123	0	0	0
259	SLU 59	-11	-21	1135	0	0	0
259	SLU 60	-10	-23	1152	0	0	0
259	SLU 61	-11	-21	1164	0	0	0
259	SLU 62	-11	-23	1160	0	0	0
259	SLU 63	-11	-21	1172	0	0	0
259	SLU 64	-11	-22	1111	0	0	0
259	SLU 65	-12	-19	1130	0	0	0
259	SLU 66	-11	-23	1124	0	0	0
259	SLU 67	-12	-21	1135	0	0	0
259	SLU 68	-12	-19	1139	0	0	0
259	SLU 69	-12	-23	1132	0	0	0
259	SLU 70	-12	-21	1144	0	0	0
259	SLU 71	-12	-23	1127	0	0	0
259	SLU 72	-12	-21	1139	0	0	0
259	SLU 73	-12	-21	1236	0	0	0
259	SLU 74	-12	-24	1229	0	0	0
259	SLU 75	-12	-23	1241	0	0	0
259	SLU 76	-12	-21	1244	0	0	0
259	SLU 77	-12	-25	1237	0	0	0
259	SLU 78	-12	-23	1249	0	0	0
259	SLU 79	-12	-25	1232	0	0	0
259	SLU 80	-12	-23	1244	0	0	0
259	SLU 81	-12	-25	1261	0	0	0
259	SLU 82	-12	-23	1273	0	0	0
259	SLU 83	-12	-25	1269	0	0	0
259	SLU 84	-12	-23	1281	0	0	0
259	SLE RA 1	-8	-17	831	0	0	0
259	SLE RA 2	-9	-15	844	0	0	0
259	SLE RA 3	-9	-17	839	0	0	0
259	SLE RA 4	-9	-16	847	0	0	0
259	SLE RA 5	-9	-15	849	0	0	0
259	SLE RA 6	-9	-17	844	0	0	0
259	SLE RA 7	-9	-16	852	0	0	0
259	SLE RA 8	-9	-17	841	0	0	0
259	SLE RA 9	-9	-16	849	0	0	0
259	SLE RA 10	-9	-16	914	0	0	0
259	SLE RA 11	-9	-18	909	0	0	0
259	SLE RA 12	-9	-17	917	0	0	0
259	SLE RA 13	-9	-16	919	0	0	0
259	SLE RA 14	-9	-18	915	0	0	0
259	SLE RA 15	-9	-17	922	0	0	0
259	SLE RA 16	-9	-18	911	0	0	0
259	SLE RA 17	-9	-17	919	0	0	0
259	SLE RA 18	-9	-18	931	0	0	0
259	SLE RA 19	-9	-17	939	0	0	0
259	SLE RA 20	-9	-19	936	0	0	0
259	SLE RA 21	-9	-17	944	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
259	SLE FR 1	-8	-17	831	0	0	0
259	SLE FR 2	-8	-16	833	0	0	0
259	SLE FR 3	-8	-17	833	0	0	0
259	SLE FR 4	-9	-17	863	0	0	0
259	SLE FR 5	-8	-17	863	0	0	0
259	SLE FR 6	-8	-18	881	0	0	0
259	SLE QP 1	-8	-17	831	0	0	0
259	SLE QP 2	-8	-17	861	0	0	0
259	SLD 1	66	-7	1042	0	0	0
259	SLD 2	81	-14	1032	0	0	0
259	SLD 3	71	-47	761	0	0	0
259	SLD 4	86	-54	751	0	0	0
259	SLD 5	5	47	1343	0	0	0
259	SLD 6	14	42	1336	0	0	0
259	SLD 7	20	-85	406	0	0	0
259	SLD 8	29	-89	400	0	0	0
259	SLD 9	-46	55	1321	0	0	0
259	SLD 10	-36	50	1315	0	0	0
259	SLD 11	-31	-77	385	0	0	0
259	SLD 12	-22	-81	378	0	0	0
259	SLD 13	-103	19	970	0	0	0
259	SLD 14	-88	12	960	0	0	0
259	SLD 15	-98	-20	689	0	0	0
259	SLD 16	-83	-27	679	0	0	0
259	SLV 1	108	1	1165	0	0	0
259	SLV 2	132	-10	1149	0	0	0
259	SLV 3	116	-66	686	0	0	0
259	SLV 4	139	-77	670	0	0	0
259	SLV 5	11	92	1682	0	0	0
259	SLV 6	27	85	1671	0	0	0
259	SLV 7	36	-132	84	0	0	0
259	SLV 8	52	-139	73	0	0	0
259	SLV 9	-68	105	1648	0	0	0
259	SLV 10	-53	97	1637	0	0	0
259	SLV 11	-44	-120	50	0	0	0
259	SLV 12	-28	-127	39	0	0	0
259	SLV 13	-156	43	1052	0	0	0
259	SLV 14	-133	32	1035	0	0	0
259	SLV 15	-149	-25	572	0	0	0
259	SLV 16	-125	-36	556	0	0	0
259	SLV FO 1	120	3	1196	0	0	0
259	SLV FO 2	146	-9	1178	0	0	0
259	SLV FO 3	128	-71	668	0	0	0
259	SLV FO 4	154	-83	650	0	0	0
259	SLV FO 5	13	103	1765	0	0	0
259	SLV FO 6	30	95	1752	0	0	0
259	SLV FO 7	40	-143	6	0	0	0
259	SLV FO 8	58	-152	-6	0	0	0
259	SLV FO 9	-74	117	1727	0	0	0
259	SLV FO 10	-57	109	1715	0	0	0
259	SLV FO 11	-47	-130	-31	0	0	0
259	SLV FO 12	-30	-138	-43	0	0	0
259	SLV FO 13	-171	49	1071	0	0	0
259	SLV FO 14	-145	36	1053	0	0	0
259	SLV FO 15	-163	-25	543	0	0	0
259	SLV FO 16	-137	-38	525	0	0	0
259	CRTFP Uy+	0	0	0	0	0	0
259	CRTFP Uy-	0	0	0	0	0	0
260	SLU 1	-8	-15	826	0	0	0
260	SLU 2	-9	-11	846	0	0	0
260	SLU 3	-8	-15	839	0	0	0
260	SLU 4	-9	-13	851	0	0	0
260	SLU 5	-9	-11	854	0	0	0
260	SLU 6	-9	-15	847	0	0	0
260	SLU 7	-9	-13	859	0	0	0
260	SLU 8	-9	-15	842	0	0	0
260	SLU 9	-9	-13	854	0	0	0
260	SLU 10	-9	-13	955	0	0	0
260	SLU 11	-9	-16	948	0	0	0
260	SLU 12	-9	-14	960	0	0	0
260	SLU 13	-9	-13	963	0	0	0
260	SLU 14	-9	-17	956	0	0	0
260	SLU 15	-9	-15	968	0	0	0
260	SLU 16	-9	-17	951	0	0	0
260	SLU 17	-9	-15	963	0	0	0
260	SLU 18	-9	-17	981	0	0	0
260	SLU 19	-9	-15	993	0	0	0
260	SLU 20	-9	-17	989	0	0	0
260	SLU 21	-9	-15	1001	0	0	0
260	SLU 22	-9	-16	938	0	0	0
260	SLU 23	-10	-13	958	0	0	0
260	SLU 24	-10	-17	951	0	0	0
260	SLU 25	-10	-15	963	0	0	0
260	SLU 26	-10	-13	966	0	0	0
260	SLU 27	-10	-17	959	0	0	0
260	SLU 28	-10	-15	972	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
260	SLU 29	-10	-17	955	0	0	0
260	SLU 30	-10	-15	967	0	0	0
260	SLU 31	-10	-14	1067	0	0	0
260	SLU 32	-10	-18	1060	0	0	0
260	SLU 33	-10	-16	1072	0	0	0
260	SLU 34	-10	-15	1075	0	0	0
260	SLU 35	-10	-18	1068	0	0	0
260	SLU 36	-11	-16	1080	0	0	0
260	SLU 37	-10	-18	1063	0	0	0
260	SLU 38	-10	-16	1075	0	0	0
260	SLU 39	-10	-19	1093	0	0	0
260	SLU 40	-10	-16	1105	0	0	0
260	SLU 41	-10	-19	1101	0	0	0
260	SLU 42	-10	-17	1114	0	0	0
260	SLU 43	-10	-18	1035	0	0	0
260	SLU 44	-11	-15	1055	0	0	0
260	SLU 45	-11	-19	1048	0	0	0
260	SLU 46	-11	-17	1060	0	0	0
260	SLU 47	-11	-15	1063	0	0	0
260	SLU 48	-11	-19	1057	0	0	0
260	SLU 49	-11	-17	1069	0	0	0
260	SLU 50	-11	-19	1052	0	0	0
260	SLU 51	-11	-17	1064	0	0	0
260	SLU 52	-11	-16	1164	0	0	0
260	SLU 53	-11	-20	1157	0	0	0
260	SLU 54	-11	-18	1169	0	0	0
260	SLU 55	-11	-17	1172	0	0	0
260	SLU 56	-11	-20	1165	0	0	0
260	SLU 57	-11	-18	1177	0	0	0
260	SLU 58	-11	-20	1160	0	0	0
260	SLU 59	-11	-18	1172	0	0	0
260	SLU 60	-11	-21	1190	0	0	0
260	SLU 61	-11	-19	1202	0	0	0
260	SLU 62	-11	-21	1199	0	0	0
260	SLU 63	-11	-19	1211	0	0	0
260	SLU 64	-12	-20	1147	0	0	0
260	SLU 65	-12	-17	1167	0	0	0
260	SLU 66	-12	-20	1160	0	0	0
260	SLU 67	-12	-18	1173	0	0	0
260	SLU 68	-12	-17	1176	0	0	0
260	SLU 69	-12	-21	1169	0	0	0
260	SLU 70	-12	-19	1181	0	0	0
260	SLU 71	-12	-21	1164	0	0	0
260	SLU 72	-12	-18	1176	0	0	0
260	SLU 73	-12	-18	1276	0	0	0
260	SLU 74	-12	-22	1269	0	0	0
260	SLU 75	-12	-20	1281	0	0	0
260	SLU 76	-13	-18	1284	0	0	0
260	SLU 77	-12	-22	1277	0	0	0
260	SLU 78	-13	-20	1290	0	0	0
260	SLU 79	-12	-22	1272	0	0	0
260	SLU 80	-12	-20	1285	0	0	0
260	SLU 81	-12	-22	1302	0	0	0
260	SLU 82	-12	-20	1315	0	0	0
260	SLU 83	-12	-23	1311	0	0	0
260	SLU 84	-12	-20	1323	0	0	0
260	SLE RA 1	-9	-15	858	0	0	0
260	SLE RA 2	-9	-13	871	0	0	0
260	SLE RA 3	-9	-15	867	0	0	0
260	SLE RA 4	-9	-14	875	0	0	0
260	SLE RA 5	-9	-13	877	0	0	0
260	SLE RA 6	-9	-15	872	0	0	0
260	SLE RA 7	-9	-14	880	0	0	0
260	SLE RA 8	-9	-15	869	0	0	0
260	SLE RA 9	-9	-14	877	0	0	0
260	SLE RA 10	-9	-14	944	0	0	0
260	SLE RA 11	-9	-16	939	0	0	0
260	SLE RA 12	-9	-15	947	0	0	0
260	SLE RA 13	-9	-14	949	0	0	0
260	SLE RA 14	-9	-16	945	0	0	0
260	SLE RA 15	-9	-15	953	0	0	0
260	SLE RA 16	-9	-16	941	0	0	0
260	SLE RA 17	-9	-15	949	0	0	0
260	SLE RA 18	-9	-17	961	0	0	0
260	SLE RA 19	-9	-15	969	0	0	0
260	SLE RA 20	-9	-17	967	0	0	0
260	SLE RA 21	-9	-15	975	0	0	0
260	SLE FR 1	-9	-15	858	0	0	0
260	SLE FR 2	-9	-15	860	0	0	0
260	SLE FR 3	-9	-15	860	0	0	0
260	SLE FR 4	-9	-15	891	0	0	0
260	SLE FR 5	-9	-16	891	0	0	0
260	SLE FR 6	-9	-16	910	0	0	0
260	SLE QP 1	-9	-15	858	0	0	0
260	SLE QP 2	-9	-16	889	0	0	0
260	SLD 1	70	-3	1069	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
260	SLD 2	86	-10	1059	0	0	0
260	SLD 3	75	-46	780	0	0	0
260	SLD 4	90	-53	770	0	0	0
260	SLD 5	5	54	1384	0	0	0
260	SLD 6	15	50	1378	0	0	0
260	SLD 7	21	-88	418	0	0	0
260	SLD 8	31	-92	412	0	0	0
260	SLD 9	-48	61	1366	0	0	0
260	SLD 10	-38	57	1359	0	0	0
260	SLD 11	-33	-81	400	0	0	0
260	SLD 12	-23	-85	394	0	0	0
260	SLD 13	-108	22	1008	0	0	0
260	SLD 14	-92	15	998	0	0	0
260	SLD 15	-103	-21	718	0	0	0
260	SLD 16	-87	-28	708	0	0	0
260	SLV 1	114	7	1193	0	0	0
260	SLV 2	139	-4	1177	0	0	0
260	SLV 3	122	-66	698	0	0	0
260	SLV 4	146	-77	682	0	0	0
260	SLV 5	12	103	1733	0	0	0
260	SLV 6	28	96	1722	0	0	0
260	SLV 7	38	-139	85	0	0	0
260	SLV 8	54	-146	74	0	0	0
260	SLV 9	-71	115	1703	0	0	0
260	SLV 10	-55	108	1693	0	0	0
260	SLV 11	-46	-127	56	0	0	0
260	SLV 12	-29	-134	45	0	0	0
260	SLV 13	-164	46	1095	0	0	0
260	SLV 14	-139	35	1079	0	0	0
260	SLV 15	-156	-27	601	0	0	0
260	SLV 16	-131	-38	585	0	0	0
260	SLV FO 1	126	9	1223	0	0	0
260	SLV FO 2	153	-3	1205	0	0	0
260	SLV FO 3	135	-71	679	0	0	0
260	SLV FO 4	162	-83	662	0	0	0
260	SLV FO 5	14	115	1817	0	0	0
260	SLV FO 6	32	107	1805	0	0	0
260	SLV FO 7	42	-151	4	0	0	0
260	SLV FO 8	60	-159	-7	0	0	0
260	SLV FO 9	-78	128	1785	0	0	0
260	SLV FO 10	-60	120	1773	0	0	0
260	SLV FO 11	-49	-138	-28	0	0	0
260	SLV FO 12	-31	-146	-39	0	0	0
260	SLV FO 13	-179	52	1116	0	0	0
260	SLV FO 14	-152	40	1098	0	0	0
260	SLV FO 15	-171	-28	572	0	0	0
260	SLV FO 16	-144	-40	555	0	0	0
260	CRTFP Uy+	0	0	0	0	0	0
260	CRTFP Uy-	0	0	0	0	0	0
261	SLU 1	-8	-13	864	0	0	0
261	SLU 2	-9	-9	885	0	0	0
261	SLU 3	-9	-13	878	0	0	0
261	SLU 4	-9	-11	890	0	0	0
261	SLU 5	-9	-9	893	0	0	0
261	SLU 6	-9	-13	886	0	0	0
261	SLU 7	-9	-11	899	0	0	0
261	SLU 8	-9	-13	881	0	0	0
261	SLU 9	-9	-11	894	0	0	0
261	SLU 10	-9	-11	999	0	0	0
261	SLU 11	-9	-15	992	0	0	0
261	SLU 12	-9	-12	1004	0	0	0
261	SLU 13	-9	-11	1007	0	0	0
261	SLU 14	-9	-15	1000	0	0	0
261	SLU 15	-9	-13	1013	0	0	0
261	SLU 16	-9	-15	995	0	0	0
261	SLU 17	-9	-13	1008	0	0	0
261	SLU 18	-9	-15	1027	0	0	0
261	SLU 19	-9	-13	1039	0	0	0
261	SLU 20	-9	-15	1035	0	0	0
261	SLU 21	-9	-13	1048	0	0	0
261	SLU 22	-10	-14	981	0	0	0
261	SLU 23	-10	-11	1002	0	0	0
261	SLU 24	-10	-15	995	0	0	0
261	SLU 25	-10	-12	1007	0	0	0
261	SLU 26	-10	-11	1010	0	0	0
261	SLU 27	-10	-15	1003	0	0	0
261	SLU 28	-10	-13	1016	0	0	0
261	SLU 29	-10	-15	998	0	0	0
261	SLU 30	-10	-13	1011	0	0	0
261	SLU 31	-10	-12	1116	0	0	0
261	SLU 32	-10	-16	1109	0	0	0
261	SLU 33	-10	-14	1121	0	0	0
261	SLU 34	-11	-12	1124	0	0	0
261	SLU 35	-10	-16	1117	0	0	0
261	SLU 36	-11	-14	1130	0	0	0
261	SLU 37	-10	-16	1112	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
261	SLU 38	-11	-14	1125	0	0	0
261	SLU 39	-10	-16	1144	0	0	0
261	SLU 40	-10	-14	1156	0	0	0
261	SLU 41	-10	-17	1152	0	0	0
261	SLU 42	-11	-14	1165	0	0	0
261	SLU 43	-10	-16	1083	0	0	0
261	SLU 44	-11	-13	1104	0	0	0
261	SLU 45	-11	-17	1097	0	0	0
261	SLU 46	-11	-14	1109	0	0	0
261	SLU 47	-11	-13	1112	0	0	0
261	SLU 48	-11	-17	1105	0	0	0
261	SLU 49	-11	-15	1118	0	0	0
261	SLU 50	-11	-17	1100	0	0	0
261	SLU 51	-11	-15	1113	0	0	0
261	SLU 52	-11	-14	1218	0	0	0
261	SLU 53	-11	-18	1211	0	0	0
261	SLU 54	-11	-16	1223	0	0	0
261	SLU 55	-11	-14	1226	0	0	0
261	SLU 56	-11	-18	1219	0	0	0
261	SLU 57	-12	-16	1232	0	0	0
261	SLU 58	-11	-18	1214	0	0	0
261	SLU 59	-11	-16	1227	0	0	0
261	SLU 60	-11	-18	1246	0	0	0
261	SLU 61	-11	-16	1258	0	0	0
261	SLU 62	-11	-19	1254	0	0	0
261	SLU 63	-11	-16	1267	0	0	0
261	SLU 64	-12	-18	1200	0	0	0
261	SLU 65	-12	-14	1221	0	0	0
261	SLU 66	-12	-18	1214	0	0	0
261	SLU 67	-12	-16	1226	0	0	0
261	SLU 68	-12	-14	1229	0	0	0
261	SLU 69	-12	-18	1222	0	0	0
261	SLU 70	-12	-16	1235	0	0	0
261	SLU 71	-12	-18	1217	0	0	0
261	SLU 72	-12	-16	1230	0	0	0
261	SLU 73	-13	-15	1335	0	0	0
261	SLU 74	-12	-19	1328	0	0	0
261	SLU 75	-13	-17	1340	0	0	0
261	SLU 76	-13	-16	1343	0	0	0
261	SLU 77	-12	-20	1336	0	0	0
261	SLU 78	-13	-17	1349	0	0	0
261	SLU 79	-12	-20	1331	0	0	0
261	SLU 80	-13	-17	1344	0	0	0
261	SLU 81	-12	-20	1363	0	0	0
261	SLU 82	-12	-18	1375	0	0	0
261	SLU 83	-12	-20	1371	0	0	0
261	SLU 84	-13	-18	1384	0	0	0
261	SLE RA 1	-9	-13	897	0	0	0
261	SLE RA 2	-9	-11	911	0	0	0
261	SLE RA 3	-9	-14	906	0	0	0
261	SLE RA 4	-9	-12	915	0	0	0
261	SLE RA 5	-9	-11	917	0	0	0
261	SLE RA 6	-9	-14	912	0	0	0
261	SLE RA 7	-9	-12	921	0	0	0
261	SLE RA 8	-9	-14	909	0	0	0
261	SLE RA 9	-9	-12	917	0	0	0
261	SLE RA 10	-9	-12	987	0	0	0
261	SLE RA 11	-9	-15	982	0	0	0
261	SLE RA 12	-9	-13	991	0	0	0
261	SLE RA 13	-9	-12	993	0	0	0
261	SLE RA 14	-9	-15	988	0	0	0
261	SLE RA 15	-9	-13	997	0	0	0
261	SLE RA 16	-9	-15	985	0	0	0
261	SLE RA 17	-9	-13	993	0	0	0
261	SLE RA 18	-9	-15	1006	0	0	0
261	SLE RA 19	-9	-13	1014	0	0	0
261	SLE RA 20	-9	-15	1012	0	0	0
261	SLE RA 21	-9	-13	1020	0	0	0
261	SLE FR 1	-9	-13	897	0	0	0
261	SLE FR 2	-9	-13	900	0	0	0
261	SLE FR 3	-9	-13	899	0	0	0
261	SLE FR 4	-9	-13	933	0	0	0
261	SLE FR 5	-9	-14	932	0	0	0
261	SLE FR 6	-9	-14	951	0	0	0
261	SLE QP 1	-9	-13	897	0	0	0
261	SLE QP 2	-9	-14	930	0	0	0
261	SLD 1	75	1	1111	0	0	0
261	SLD 2	91	-6	1101	0	0	0
261	SLD 3	80	-46	808	0	0	0
261	SLD 4	96	-52	799	0	0	0
261	SLD 5	6	62	1445	0	0	0
261	SLD 6	17	58	1439	0	0	0
261	SLD 7	22	-93	436	0	0	0
261	SLD 8	33	-97	430	0	0	0
261	SLD 9	-50	69	1430	0	0	0
261	SLD 10	-40	65	1424	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
261	SLD 11	-35	-86	421	0	0	0
261	SLD 12	-24	-90	415	0	0	0
261	SLD 13	-114	24	1061	0	0	0
261	SLD 14	-97	18	1051	0	0	0
261	SLD 15	-109	-22	758	0	0	0
261	SLD 16	-92	-28	748	0	0	0
261	SLV 1	122	12	1236	0	0	0
261	SLV 2	148	2	1220	0	0	0
261	SLV 3	129	-67	719	0	0	0
261	SLV 4	156	-77	704	0	0	0
261	SLV 5	13	116	1808	0	0	0
261	SLV 6	31	109	1798	0	0	0
261	SLV 7	40	-148	86	0	0	0
261	SLV 8	57	-155	76	0	0	0
261	SLV 9	-75	127	1784	0	0	0
261	SLV 10	-57	120	1773	0	0	0
261	SLV 11	-49	-137	62	0	0	0
261	SLV 12	-31	-144	52	0	0	0
261	SLV 13	-173	49	1156	0	0	0
261	SLV 14	-147	39	1140	0	0	0
261	SLV 15	-165	-30	639	0	0	0
261	SLV 16	-139	-40	624	0	0	0
261	SLV FO 1	135	15	1266	0	0	0
261	SLV FO 2	163	4	1249	0	0	0
261	SLV FO 3	143	-72	698	0	0	0
261	SLV FO 4	172	-83	681	0	0	0
261	SLV FO 5	16	129	1896	0	0	0
261	SLV FO 6	35	122	1884	0	0	0
261	SLV FO 7	45	-161	2	0	0	0
261	SLV FO 8	64	-169	-10	0	0	0
261	SLV FO 9	-82	141	1869	0	0	0
261	SLV FO 10	-62	134	1858	0	0	0
261	SLV FO 11	-53	-149	-25	0	0	0
261	SLV FO 12	-33	-157	-36	0	0	0
261	SLV FO 13	-190	56	1178	0	0	0
261	SLV FO 14	-161	45	1161	0	0	0
261	SLV FO 15	-181	-31	610	0	0	0
261	SLV FO 16	-152	-43	593	0	0	0
261	CRTFP Uy+	0	0	0	0	0	0
261	CRTFP Uy-	0	0	0	0	0	0
262	SLU 1	-8	-11	882	0	0	0
262	SLU 2	-9	-7	904	0	0	0
262	SLU 3	-9	-11	897	0	0	0
262	SLU 4	-9	-8	910	0	0	0
262	SLU 5	-9	-7	913	0	0	0
262	SLU 6	-9	-11	906	0	0	0
262	SLU 7	-9	-9	919	0	0	0
262	SLU 8	-9	-11	900	0	0	0
262	SLU 9	-9	-9	913	0	0	0
262	SLU 10	-9	-8	1021	0	0	0
262	SLU 11	-9	-12	1014	0	0	0
262	SLU 12	-9	-10	1026	0	0	0
262	SLU 13	-9	-8	1030	0	0	0
262	SLU 14	-9	-12	1023	0	0	0
262	SLU 15	-9	-10	1035	0	0	0
262	SLU 16	-9	-12	1017	0	0	0
262	SLU 17	-9	-10	1030	0	0	0
262	SLU 18	-9	-12	1049	0	0	0
262	SLU 19	-9	-10	1062	0	0	0
262	SLU 20	-9	-12	1058	0	0	0
262	SLU 21	-9	-10	1071	0	0	0
262	SLU 22	-10	-12	1002	0	0	0
262	SLU 23	-10	-8	1023	0	0	0
262	SLU 24	-10	-12	1016	0	0	0
262	SLU 25	-10	-10	1029	0	0	0
262	SLU 26	-10	-8	1032	0	0	0
262	SLU 27	-10	-12	1025	0	0	0
262	SLU 28	-10	-10	1038	0	0	0
262	SLU 29	-10	-12	1020	0	0	0
262	SLU 30	-10	-10	1033	0	0	0
262	SLU 31	-10	-9	1140	0	0	0
262	SLU 32	-10	-13	1133	0	0	0
262	SLU 33	-10	-11	1146	0	0	0
262	SLU 34	-10	-9	1149	0	0	0
262	SLU 35	-10	-13	1142	0	0	0
262	SLU 36	-11	-11	1155	0	0	0
262	SLU 37	-10	-13	1137	0	0	0
262	SLU 38	-10	-11	1149	0	0	0
262	SLU 39	-10	-13	1169	0	0	0
262	SLU 40	-10	-11	1182	0	0	0
262	SLU 41	-10	-13	1178	0	0	0
262	SLU 42	-10	-11	1191	0	0	0
262	SLU 43	-10	-14	1106	0	0	0
262	SLU 44	-11	-10	1128	0	0	0
262	SLU 45	-11	-14	1120	0	0	0
262	SLU 46	-11	-11	1133	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
262	SLU 47	-11	-10	1137	0	0	0
262	SLU 48	-11	-14	1129	0	0	0
262	SLU 49	-11	-12	1142	0	0	0
262	SLU 50	-11	-14	1124	0	0	0
262	SLU 51	-11	-11	1137	0	0	0
262	SLU 52	-11	-11	1244	0	0	0
262	SLU 53	-11	-15	1237	0	0	0
262	SLU 54	-11	-12	1250	0	0	0
262	SLU 55	-11	-11	1253	0	0	0
262	SLU 56	-11	-15	1246	0	0	0
262	SLU 57	-11	-13	1259	0	0	0
262	SLU 58	-11	-15	1241	0	0	0
262	SLU 59	-11	-13	1254	0	0	0
262	SLU 60	-11	-15	1273	0	0	0
262	SLU 61	-11	-13	1286	0	0	0
262	SLU 62	-11	-15	1282	0	0	0
262	SLU 63	-11	-13	1295	0	0	0
262	SLU 64	-12	-15	1226	0	0	0
262	SLU 65	-12	-11	1247	0	0	0
262	SLU 66	-12	-15	1240	0	0	0
262	SLU 67	-12	-12	1253	0	0	0
262	SLU 68	-12	-11	1256	0	0	0
262	SLU 69	-12	-15	1249	0	0	0
262	SLU 70	-12	-13	1262	0	0	0
262	SLU 71	-12	-15	1243	0	0	0
262	SLU 72	-12	-13	1256	0	0	0
262	SLU 73	-12	-12	1364	0	0	0
262	SLU 74	-12	-16	1357	0	0	0
262	SLU 75	-12	-13	1370	0	0	0
262	SLU 76	-13	-12	1373	0	0	0
262	SLU 77	-12	-16	1366	0	0	0
262	SLU 78	-13	-14	1379	0	0	0
262	SLU 79	-12	-16	1360	0	0	0
262	SLU 80	-13	-14	1373	0	0	0
262	SLU 81	-12	-16	1392	0	0	0
262	SLU 82	-12	-14	1405	0	0	0
262	SLU 83	-12	-16	1401	0	0	0
262	SLU 84	-12	-14	1414	0	0	0
262	SLE RA 1	-9	-11	916	0	0	0
262	SLE RA 2	-9	-8	931	0	0	0
262	SLE RA 3	-9	-11	926	0	0	0
262	SLE RA 4	-9	-10	935	0	0	0
262	SLE RA 5	-9	-8	937	0	0	0
262	SLE RA 6	-9	-11	932	0	0	0
262	SLE RA 7	-9	-10	941	0	0	0
262	SLE RA 8	-9	-11	928	0	0	0
262	SLE RA 9	-9	-10	937	0	0	0
262	SLE RA 10	-9	-9	1009	0	0	0
262	SLE RA 11	-9	-12	1004	0	0	0
262	SLE RA 12	-9	-10	1012	0	0	0
262	SLE RA 13	-9	-9	1015	0	0	0
262	SLE RA 14	-9	-12	1010	0	0	0
262	SLE RA 15	-9	-10	1018	0	0	0
262	SLE RA 16	-9	-12	1006	0	0	0
262	SLE RA 17	-9	-10	1015	0	0	0
262	SLE RA 18	-9	-12	1028	0	0	0
262	SLE RA 19	-9	-10	1036	0	0	0
262	SLE RA 20	-9	-12	1034	0	0	0
262	SLE RA 21	-9	-11	1042	0	0	0
262	SLE FR 1	-9	-11	916	0	0	0
262	SLE FR 2	-9	-10	919	0	0	0
262	SLE FR 3	-9	-11	919	0	0	0
262	SLE FR 4	-9	-11	953	0	0	0
262	SLE FR 5	-9	-11	952	0	0	0
262	SLE FR 6	-9	-11	972	0	0	0
262	SLE QP 1	-9	-11	916	0	0	0
262	SLE QP 2	-9	-11	950	0	0	0
262	SLD 1	78	6	1128	0	0	0
262	SLD 2	95	0	1119	0	0	0
262	SLD 3	82	-44	819	0	0	0
262	SLD 4	99	-49	810	0	0	0
262	SLD 5	7	69	1474	0	0	0
262	SLD 6	18	66	1468	0	0	0
262	SLD 7	23	-95	443	0	0	0
262	SLD 8	34	-98	437	0	0	0
262	SLD 9	-51	76	1462	0	0	0
262	SLD 10	-40	72	1456	0	0	0
262	SLD 11	-36	-88	432	0	0	0
262	SLD 12	-25	-92	426	0	0	0
262	SLD 13	-117	27	1090	0	0	0
262	SLD 14	-100	21	1081	0	0	0
262	SLD 15	-112	-22	781	0	0	0
262	SLD 16	-95	-28	772	0	0	0
262	SLV 1	126	19	1252	0	0	0
262	SLV 2	153	9	1237	0	0	0
262	SLV 3	134	-65	724	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
262	SLV 4	161	-74	710	0	0	0
262	SLV 5	15	127	1843	0	0	0
262	SLV 6	33	120	1833	0	0	0
262	SLV 7	41	-153	85	0	0	0
262	SLV 8	59	-159	75	0	0	0
262	SLV 9	-76	137	1825	0	0	0
262	SLV 10	-58	130	1815	0	0	0
262	SLV 11	-50	-143	66	0	0	0
262	SLV 12	-32	-149	57	0	0	0
262	SLV 13	-178	52	1190	0	0	0
262	SLV 14	-151	43	1176	0	0	0
262	SLV 15	-170	-32	663	0	0	0
262	SLV 16	-143	-41	648	0	0	0
262	SLV FO 1	139	22	1282	0	0	0
262	SLV FO 2	169	12	1266	0	0	0
262	SLV FO 3	148	-71	702	0	0	0
262	SLV FO 4	177	-81	686	0	0	0
262	SLV FO 5	17	140	1932	0	0	0
262	SLV FO 6	37	134	1922	0	0	0
262	SLV FO 7	46	-167	-2	0	0	0
262	SLV FO 8	66	-174	-12	0	0	0
262	SLV FO 9	-83	151	1912	0	0	0
262	SLV FO 10	-63	145	1901	0	0	0
262	SLV FO 11	-54	-156	-22	0	0	0
262	SLV FO 12	-34	-163	-33	0	0	0
262	SLV FO 13	-195	58	1214	0	0	0
262	SLV FO 14	-165	48	1198	0	0	0
262	SLV FO 15	-186	-34	634	0	0	0
262	SLV FO 16	-157	-44	618	0	0	0
262	CRTFP Uy+	0	0	0	0	0	0
262	CRTFP Uy-	0	0	0	0	0	0
263	SLU 1	-8	-8	898	0	0	0
263	SLU 2	-9	-4	920	0	0	0
263	SLU 3	-8	-8	913	0	0	0
263	SLU 4	-9	-6	926	0	0	0
263	SLU 5	-9	-4	929	0	0	0
263	SLU 6	-9	-8	922	0	0	0
263	SLU 7	-9	-6	935	0	0	0
263	SLU 8	-9	-8	917	0	0	0
263	SLU 9	-9	-6	930	0	0	0
263	SLU 10	-9	-5	1040	0	0	0
263	SLU 11	-9	-9	1033	0	0	0
263	SLU 12	-9	-6	1046	0	0	0
263	SLU 13	-9	-5	1049	0	0	0
263	SLU 14	-9	-9	1042	0	0	0
263	SLU 15	-9	-7	1055	0	0	0
263	SLU 16	-9	-9	1037	0	0	0
263	SLU 17	-9	-7	1050	0	0	0
263	SLU 18	-9	-9	1069	0	0	0
263	SLU 19	-9	-7	1082	0	0	0
263	SLU 20	-9	-9	1079	0	0	0
263	SLU 21	-9	-7	1092	0	0	0
263	SLU 22	-9	-9	1020	0	0	0
263	SLU 23	-10	-4	1042	0	0	0
263	SLU 24	-10	-9	1035	0	0	0
263	SLU 25	-10	-6	1048	0	0	0
263	SLU 26	-10	-5	1051	0	0	0
263	SLU 27	-10	-9	1044	0	0	0
263	SLU 28	-10	-6	1057	0	0	0
263	SLU 29	-10	-9	1038	0	0	0
263	SLU 30	-10	-6	1051	0	0	0
263	SLU 31	-10	-5	1161	0	0	0
263	SLU 32	-10	-9	1154	0	0	0
263	SLU 33	-10	-7	1167	0	0	0
263	SLU 34	-10	-5	1171	0	0	0
263	SLU 35	-10	-10	1164	0	0	0
263	SLU 36	-10	-7	1177	0	0	0
263	SLU 37	-10	-10	1158	0	0	0
263	SLU 38	-10	-7	1171	0	0	0
263	SLU 39	-10	-10	1191	0	0	0
263	SLU 40	-10	-7	1204	0	0	0
263	SLU 41	-10	-10	1200	0	0	0
263	SLU 42	-10	-7	1213	0	0	0
263	SLU 43	-10	-10	1126	0	0	0
263	SLU 44	-11	-6	1148	0	0	0
263	SLU 45	-10	-10	1141	0	0	0
263	SLU 46	-11	-8	1154	0	0	0
263	SLU 47	-11	-6	1157	0	0	0
263	SLU 48	-11	-10	1150	0	0	0
263	SLU 49	-11	-8	1163	0	0	0
263	SLU 50	-11	-10	1145	0	0	0
263	SLU 51	-11	-8	1158	0	0	0
263	SLU 52	-11	-7	1268	0	0	0
263	SLU 53	-11	-11	1261	0	0	0
263	SLU 54	-11	-9	1274	0	0	0
263	SLU 55	-11	-7	1277	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
263	SLU 56	-11	-11	1270	0	0	0
263	SLU 57	-11	-9	1283	0	0	0
263	SLU 58	-11	-11	1264	0	0	0
263	SLU 59	-11	-9	1277	0	0	0
263	SLU 60	-11	-11	1297	0	0	0
263	SLU 61	-11	-9	1310	0	0	0
263	SLU 62	-11	-11	1306	0	0	0
263	SLU 63	-11	-9	1319	0	0	0
263	SLU 64	-11	-11	1248	0	0	0
263	SLU 65	-12	-7	1270	0	0	0
263	SLU 66	-12	-11	1263	0	0	0
263	SLU 67	-12	-8	1276	0	0	0
263	SLU 68	-12	-7	1279	0	0	0
263	SLU 69	-12	-11	1272	0	0	0
263	SLU 70	-12	-9	1285	0	0	0
263	SLU 71	-12	-11	1266	0	0	0
263	SLU 72	-12	-9	1279	0	0	0
263	SLU 73	-12	-7	1389	0	0	0
263	SLU 74	-12	-12	1382	0	0	0
263	SLU 75	-12	-9	1395	0	0	0
263	SLU 76	-12	-7	1398	0	0	0
263	SLU 77	-12	-12	1391	0	0	0
263	SLU 78	-12	-9	1404	0	0	0
263	SLU 79	-12	-12	1386	0	0	0
263	SLU 80	-12	-9	1399	0	0	0
263	SLU 81	-12	-12	1419	0	0	0
263	SLU 82	-12	-9	1432	0	0	0
263	SLU 83	-12	-12	1428	0	0	0
263	SLU 84	-12	-9	1441	0	0	0
263	SLE RA 1	-9	-8	933	0	0	0
263	SLE RA 2	-9	-5	948	0	0	0
263	SLE RA 3	-9	-8	943	0	0	0
263	SLE RA 4	-9	-7	952	0	0	0
263	SLE RA 5	-9	-5	954	0	0	0
263	SLE RA 6	-9	-8	949	0	0	0
263	SLE RA 7	-9	-7	958	0	0	0
263	SLE RA 8	-9	-8	945	0	0	0
263	SLE RA 9	-9	-7	954	0	0	0
263	SLE RA 10	-9	-6	1027	0	0	0
263	SLE RA 11	-9	-9	1023	0	0	0
263	SLE RA 12	-9	-7	1031	0	0	0
263	SLE RA 13	-9	-6	1034	0	0	0
263	SLE RA 14	-9	-9	1029	0	0	0
263	SLE RA 15	-9	-7	1038	0	0	0
263	SLE RA 16	-9	-9	1025	0	0	0
263	SLE RA 17	-9	-7	1034	0	0	0
263	SLE RA 18	-9	-9	1047	0	0	0
263	SLE RA 19	-9	-7	1056	0	0	0
263	SLE RA 20	-9	-9	1053	0	0	0
263	SLE RA 21	-9	-7	1062	0	0	0
263	SLE FR 1	-9	-8	933	0	0	0
263	SLE FR 2	-9	-8	936	0	0	0
263	SLE FR 3	-9	-8	936	0	0	0
263	SLE FR 4	-9	-8	970	0	0	0
263	SLE FR 5	-9	-8	970	0	0	0
263	SLE FR 6	-9	-9	990	0	0	0
263	SLE QP 1	-9	-8	933	0	0	0
263	SLE QP 2	-9	-8	967	0	0	0
263	SLD 1	79	11	1143	0	0	0
263	SLD 2	96	6	1135	0	0	0
263	SLD 3	84	-41	829	0	0	0
263	SLD 4	101	-46	820	0	0	0
263	SLD 5	8	76	1498	0	0	0
263	SLD 6	19	73	1493	0	0	0
263	SLD 7	23	-95	450	0	0	0
263	SLD 8	34	-98	445	0	0	0
263	SLD 9	-51	82	1490	0	0	0
263	SLD 10	-40	78	1484	0	0	0
263	SLD 11	-36	-90	442	0	0	0
263	SLD 12	-25	-93	436	0	0	0
263	SLD 13	-118	29	1115	0	0	0
263	SLD 14	-101	24	1106	0	0	0
263	SLD 15	-114	-23	800	0	0	0
263	SLD 16	-96	-28	792	0	0	0
263	SLV 1	128	25	1266	0	0	0
263	SLV 2	156	17	1253	0	0	0
263	SLV 3	136	-62	730	0	0	0
263	SLV 4	163	-70	716	0	0	0
263	SLV 5	16	136	1873	0	0	0
263	SLV 6	34	131	1864	0	0	0
263	SLV 7	41	-156	85	0	0	0
263	SLV 8	60	-162	76	0	0	0
263	SLV 9	-77	145	1859	0	0	0
263	SLV 10	-59	139	1850	0	0	0
263	SLV 11	-51	-148	70	0	0	0
263	SLV 12	-33	-153	61	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
263	SLV 13	-180	54	1219	0	0	0
263	SLV 14	-153	46	1205	0	0	0
263	SLV 15	-173	-34	682	0	0	0
263	SLV 16	-145	-42	669	0	0	0
263	SLV FO 1	142	29	1296	0	0	0
263	SLV FO 2	172	20	1281	0	0	0
263	SLV FO 3	150	-68	706	0	0	0
263	SLV FO 4	181	-77	691	0	0	0
263	SLV FO 5	18	151	1964	0	0	0
263	SLV FO 6	38	145	1954	0	0	0
263	SLV FO 7	46	-171	-4	0	0	0
263	SLV FO 8	67	-177	-14	0	0	0
263	SLV FO 9	-84	160	1948	0	0	0
263	SLV FO 10	-64	154	1938	0	0	0
263	SLV FO 11	-55	-162	-19	0	0	0
263	SLV FO 12	-35	-168	-29	0	0	0
263	SLV FO 13	-198	60	1244	0	0	0
263	SLV FO 14	-168	51	1229	0	0	0
263	SLV FO 15	-189	-37	653	0	0	0
263	SLV FO 16	-159	-45	639	0	0	0
263	CRTFP Uy+	0	0	0	0	0	0
263	CRTFP Uy-	0	0	0	0	0	0
264	SLU 1	-8	-5	921	0	0	0
264	SLU 2	-9	-1	943	0	0	0
264	SLU 3	-8	-5	937	0	0	0
264	SLU 4	-9	-3	950	0	0	0
264	SLU 5	-9	-1	953	0	0	0
264	SLU 6	-9	-5	946	0	0	0
264	SLU 7	-9	-3	959	0	0	0
264	SLU 8	-9	-5	940	0	0	0
264	SLU 9	-9	-3	954	0	0	0
264	SLU 10	-9	-1	1067	0	0	0
264	SLU 11	-9	-6	1060	0	0	0
264	SLU 12	-9	-3	1073	0	0	0
264	SLU 13	-9	-1	1077	0	0	0
264	SLU 14	-9	-6	1070	0	0	0
264	SLU 15	-9	-3	1083	0	0	0
264	SLU 16	-9	-6	1064	0	0	0
264	SLU 17	-9	-3	1077	0	0	0
264	SLU 18	-8	-6	1098	0	0	0
264	SLU 19	-9	-3	1111	0	0	0
264	SLU 20	-9	-6	1107	0	0	0
264	SLU 21	-9	-3	1121	0	0	0
264	SLU 22	-9	-5	1046	0	0	0
264	SLU 23	-10	-1	1068	0	0	0
264	SLU 24	-10	-5	1061	0	0	0
264	SLU 25	-10	-3	1075	0	0	0
264	SLU 26	-10	-1	1078	0	0	0
264	SLU 27	-10	-5	1071	0	0	0
264	SLU 28	-10	-3	1084	0	0	0
264	SLU 29	-10	-6	1065	0	0	0
264	SLU 30	-10	-3	1079	0	0	0
264	SLU 31	-10	-1	1192	0	0	0
264	SLU 32	-10	-6	1185	0	0	0
264	SLU 33	-10	-3	1198	0	0	0
264	SLU 34	-10	-1	1202	0	0	0
264	SLU 35	-10	-6	1195	0	0	0
264	SLU 36	-10	-3	1208	0	0	0
264	SLU 37	-10	-6	1189	0	0	0
264	SLU 38	-10	-3	1202	0	0	0
264	SLU 39	-10	-6	1223	0	0	0
264	SLU 40	-10	-3	1236	0	0	0
264	SLU 41	-10	-6	1232	0	0	0
264	SLU 42	-10	-3	1246	0	0	0
264	SLU 43	-10	-7	1155	0	0	0
264	SLU 44	-11	-2	1177	0	0	0
264	SLU 45	-10	-7	1170	0	0	0
264	SLU 46	-11	-4	1183	0	0	0
264	SLU 47	-11	-2	1187	0	0	0
264	SLU 48	-11	-7	1180	0	0	0
264	SLU 49	-11	-4	1193	0	0	0
264	SLU 50	-11	-7	1174	0	0	0
264	SLU 51	-11	-4	1187	0	0	0
264	SLU 52	-11	-3	1301	0	0	0
264	SLU 53	-11	-7	1294	0	0	0
264	SLU 54	-11	-4	1307	0	0	0
264	SLU 55	-11	-3	1310	0	0	0
264	SLU 56	-11	-7	1303	0	0	0
264	SLU 57	-11	-5	1317	0	0	0
264	SLU 58	-11	-7	1298	0	0	0
264	SLU 59	-11	-5	1311	0	0	0
264	SLU 60	-10	-7	1331	0	0	0
264	SLU 61	-11	-5	1345	0	0	0
264	SLU 62	-11	-7	1341	0	0	0
264	SLU 63	-11	-5	1354	0	0	0
264	SLU 64	-11	-7	1280	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
264	SLU 65	-12	-2	1302	0	0	0
264	SLU 66	-12	-7	1295	0	0	0
264	SLU 67	-12	-4	1308	0	0	0
264	SLU 68	-12	-2	1312	0	0	0
264	SLU 69	-12	-7	1305	0	0	0
264	SLU 70	-12	-4	1318	0	0	0
264	SLU 71	-12	-7	1299	0	0	0
264	SLU 72	-12	-4	1312	0	0	0
264	SLU 73	-12	-3	1426	0	0	0
264	SLU 74	-12	-7	1419	0	0	0
264	SLU 75	-12	-5	1432	0	0	0
264	SLU 76	-12	-3	1435	0	0	0
264	SLU 77	-12	-7	1428	0	0	0
264	SLU 78	-12	-5	1441	0	0	0
264	SLU 79	-12	-7	1422	0	0	0
264	SLU 80	-12	-5	1436	0	0	0
264	SLU 81	-12	-7	1456	0	0	0
264	SLU 82	-12	-5	1470	0	0	0
264	SLU 83	-12	-7	1466	0	0	0
264	SLU 84	-12	-5	1479	0	0	0
264	SLE RA 1	-8	-5	957	0	0	0
264	SLE RA 2	-9	-2	972	0	0	0
264	SLE RA 3	-9	-5	967	0	0	0
264	SLE RA 4	-9	-3	976	0	0	0
264	SLE RA 5	-9	-2	978	0	0	0
264	SLE RA 6	-9	-5	974	0	0	0
264	SLE RA 7	-9	-4	982	0	0	0
264	SLE RA 8	-9	-5	970	0	0	0
264	SLE RA 9	-9	-4	979	0	0	0
264	SLE RA 10	-9	-3	1054	0	0	0
264	SLE RA 11	-9	-6	1050	0	0	0
264	SLE RA 12	-9	-4	1058	0	0	0
264	SLE RA 13	-9	-3	1061	0	0	0
264	SLE RA 14	-9	-6	1056	0	0	0
264	SLE RA 15	-9	-4	1065	0	0	0
264	SLE RA 16	-9	-6	1052	0	0	0
264	SLE RA 17	-9	-4	1061	0	0	0
264	SLE RA 18	-9	-6	1075	0	0	0
264	SLE RA 19	-9	-4	1084	0	0	0
264	SLE RA 20	-9	-6	1081	0	0	0
264	SLE RA 21	-9	-4	1090	0	0	0
264	SLE FR 1	-8	-5	957	0	0	0
264	SLE FR 2	-9	-5	960	0	0	0
264	SLE FR 3	-9	-5	960	0	0	0
264	SLE FR 4	-9	-5	995	0	0	0
264	SLE FR 5	-9	-5	995	0	0	0
264	SLE FR 6	-9	-5	1016	0	0	0
264	SLE QP 1	-8	-5	957	0	0	0
264	SLE QP 2	-9	-5	992	0	0	0
264	SLD 1	80	16	1171	0	0	0
264	SLD 2	98	12	1163	0	0	0
264	SLD 3	85	-37	849	0	0	0
264	SLD 4	102	-42	841	0	0	0
264	SLD 5	8	83	1536	0	0	0
264	SLD 6	19	81	1531	0	0	0
264	SLD 7	23	-96	462	0	0	0
264	SLD 8	35	-98	457	0	0	0
264	SLD 9	-52	88	1527	0	0	0
264	SLD 10	-41	85	1522	0	0	0
264	SLD 11	-37	-91	454	0	0	0
264	SLD 12	-25	-94	449	0	0	0
264	SLD 13	-120	31	1143	0	0	0
264	SLD 14	-102	27	1136	0	0	0
264	SLD 15	-115	-23	821	0	0	0
264	SLD 16	-97	-27	814	0	0	0
264	SLV 1	130	32	1296	0	0	0
264	SLV 2	158	26	1284	0	0	0
264	SLV 3	138	-59	747	0	0	0
264	SLV 4	165	-66	734	0	0	0
264	SLV 5	16	146	1919	0	0	0
264	SLV 6	35	142	1911	0	0	0
264	SLV 7	42	-159	88	0	0	0
264	SLV 8	61	-164	79	0	0	0
264	SLV 9	-78	153	1905	0	0	0
264	SLV 10	-59	148	1897	0	0	0
264	SLV 11	-52	-152	74	0	0	0
264	SLV 12	-33	-157	66	0	0	0
264	SLV 13	-183	55	1250	0	0	0
264	SLV 14	-155	49	1238	0	0	0
264	SLV 15	-175	-36	701	0	0	0
264	SLV 16	-147	-43	688	0	0	0
264	SLV FO 1	144	36	1327	0	0	0
264	SLV FO 2	174	29	1313	0	0	0
264	SLV FO 3	152	-65	722	0	0	0
264	SLV FO 4	183	-72	709	0	0	0
264	SLV FO 5	19	161	2012	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
264	SLV FO 6	39	156	2003	0	0	0
264	SLV FO 7	47	-174	-3	0	0	0
264	SLV FO 8	67	-179	-12	0	0	0
264	SLV FO 9	-84	169	1997	0	0	0
264	SLV FO 10	-64	164	1988	0	0	0
264	SLV FO 11	-56	-167	-18	0	0	0
264	SLV FO 12	-36	-172	-27	0	0	0
264	SLV FO 13	-200	61	1276	0	0	0
264	SLV FO 14	-170	54	1262	0	0	0
264	SLV FO 15	-191	-39	672	0	0	0
264	SLV FO 16	-161	-47	658	0	0	0
264	CRTFP Uy+	0	0	0	0	0	0
264	CRTFP Uy-	0	0	0	0	0	0
265	SLU 1	-8	-2	957	0	0	0
265	SLU 2	-9	2	980	0	0	0
265	SLU 3	-8	-2	973	0	0	0
265	SLU 4	-9	1	987	0	0	0
265	SLU 5	-9	2	990	0	0	0
265	SLU 6	-9	-2	983	0	0	0
265	SLU 7	-9	0	997	0	0	0
265	SLU 8	-8	-2	977	0	0	0
265	SLU 9	-9	0	991	0	0	0
265	SLU 10	-9	2	1109	0	0	0
265	SLU 11	-9	-2	1102	0	0	0
265	SLU 12	-9	0	1116	0	0	0
265	SLU 13	-9	2	1119	0	0	0
265	SLU 14	-9	-2	1112	0	0	0
265	SLU 15	-9	0	1126	0	0	0
265	SLU 16	-9	-2	1106	0	0	0
265	SLU 17	-9	0	1120	0	0	0
265	SLU 18	-8	-2	1142	0	0	0
265	SLU 19	-9	0	1156	0	0	0
265	SLU 20	-9	-2	1152	0	0	0
265	SLU 21	-9	0	1166	0	0	0
265	SLU 22	-9	-2	1087	0	0	0
265	SLU 23	-10	3	1110	0	0	0
265	SLU 24	-10	-2	1103	0	0	0
265	SLU 25	-10	1	1117	0	0	0
265	SLU 26	-10	3	1120	0	0	0
265	SLU 27	-10	-2	1113	0	0	0
265	SLU 28	-10	1	1127	0	0	0
265	SLU 29	-10	-2	1107	0	0	0
265	SLU 30	-10	1	1121	0	0	0
265	SLU 31	-10	3	1240	0	0	0
265	SLU 32	-10	-2	1233	0	0	0
265	SLU 33	-10	1	1246	0	0	0
265	SLU 34	-10	3	1250	0	0	0
265	SLU 35	-10	-2	1243	0	0	0
265	SLU 36	-10	1	1256	0	0	0
265	SLU 37	-10	-2	1237	0	0	0
265	SLU 38	-10	1	1250	0	0	0
265	SLU 39	-10	-2	1272	0	0	0
265	SLU 40	-10	1	1286	0	0	0
265	SLU 41	-10	-2	1282	0	0	0
265	SLU 42	-10	1	1296	0	0	0
265	SLU 43	-10	-3	1200	0	0	0
265	SLU 44	-11	2	1222	0	0	0
265	SLU 45	-10	-3	1216	0	0	0
265	SLU 46	-11	0	1229	0	0	0
265	SLU 47	-11	2	1232	0	0	0
265	SLU 48	-11	-3	1226	0	0	0
265	SLU 49	-11	0	1239	0	0	0
265	SLU 50	-11	-3	1220	0	0	0
265	SLU 51	-11	0	1233	0	0	0
265	SLU 52	-11	2	1352	0	0	0
265	SLU 53	-11	-3	1345	0	0	0
265	SLU 54	-11	0	1359	0	0	0
265	SLU 55	-11	1	1362	0	0	0
265	SLU 56	-11	-3	1355	0	0	0
265	SLU 57	-11	0	1369	0	0	0
265	SLU 58	-11	-3	1349	0	0	0
265	SLU 59	-11	0	1363	0	0	0
265	SLU 60	-10	-3	1384	0	0	0
265	SLU 61	-11	0	1398	0	0	0
265	SLU 62	-11	-3	1394	0	0	0
265	SLU 63	-11	0	1408	0	0	0
265	SLU 64	-11	-3	1330	0	0	0
265	SLU 65	-12	2	1353	0	0	0
265	SLU 66	-12	-3	1346	0	0	0
265	SLU 67	-12	0	1359	0	0	0
265	SLU 68	-12	2	1363	0	0	0
265	SLU 69	-12	-3	1356	0	0	0
265	SLU 70	-12	0	1370	0	0	0
265	SLU 71	-12	-3	1350	0	0	0
265	SLU 72	-12	0	1364	0	0	0
265	SLU 73	-12	2	1482	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
265	SLU 74	-12	-3	1475	0	0	0
265	SLU 75	-12	0	1489	0	0	0
265	SLU 76	-12	2	1492	0	0	0
265	SLU 77	-12	-3	1485	0	0	0
265	SLU 78	-12	0	1499	0	0	0
265	SLU 79	-12	-3	1479	0	0	0
265	SLU 80	-12	0	1493	0	0	0
265	SLU 81	-12	-3	1515	0	0	0
265	SLU 82	-12	0	1528	0	0	0
265	SLU 83	-12	-3	1525	0	0	0
265	SLU 84	-12	0	1538	0	0	0
265	SLE RA 1	-8	-2	994	0	0	0
265	SLE RA 2	-9	1	1010	0	0	0
265	SLE RA 3	-9	-2	1005	0	0	0
265	SLE RA 4	-9	0	1014	0	0	0
265	SLE RA 5	-9	1	1016	0	0	0
265	SLE RA 6	-9	-2	1012	0	0	0
265	SLE RA 7	-9	0	1021	0	0	0
265	SLE RA 8	-9	-2	1008	0	0	0
265	SLE RA 9	-9	0	1017	0	0	0
265	SLE RA 10	-9	1	1096	0	0	0
265	SLE RA 11	-9	-2	1091	0	0	0
265	SLE RA 12	-9	0	1100	0	0	0
265	SLE RA 13	-9	1	1102	0	0	0
265	SLE RA 14	-9	-2	1098	0	0	0
265	SLE RA 15	-9	0	1107	0	0	0
265	SLE RA 16	-9	-2	1094	0	0	0
265	SLE RA 17	-9	0	1103	0	0	0
265	SLE RA 18	-9	-2	1117	0	0	0
265	SLE RA 19	-9	0	1127	0	0	0
265	SLE RA 20	-9	-2	1124	0	0	0
265	SLE RA 21	-9	0	1133	0	0	0
265	SLE FR 1	-8	-2	994	0	0	0
265	SLE FR 2	-9	-1	997	0	0	0
265	SLE FR 3	-8	-2	997	0	0	0
265	SLE FR 4	-9	-2	1034	0	0	0
265	SLE FR 5	-9	-2	1034	0	0	0
265	SLE FR 6	-9	-2	1056	0	0	0
265	SLE QP 1	-8	-2	994	0	0	0
265	SLE QP 2	-9	-2	1031	0	0	0
265	SLD 1	82	22	1220	0	0	0
265	SLD 2	100	19	1212	0	0	0
265	SLD 3	86	-34	886	0	0	0
265	SLD 4	104	-38	879	0	0	0
265	SLD 5	9	91	1595	0	0	0
265	SLD 6	20	89	1590	0	0	0
265	SLD 7	24	-96	483	0	0	0
265	SLD 8	35	-99	478	0	0	0
265	SLD 9	-52	94	1584	0	0	0
265	SLD 10	-41	92	1579	0	0	0
265	SLD 11	-37	-93	472	0	0	0
265	SLD 12	-26	-95	468	0	0	0
265	SLD 13	-121	33	1184	0	0	0
265	SLD 14	-103	30	1176	0	0	0
265	SLD 15	-117	-23	850	0	0	0
265	SLD 16	-99	-26	843	0	0	0
265	SLV 1	132	40	1351	0	0	0
265	SLV 2	161	34	1339	0	0	0
265	SLV 3	140	-56	782	0	0	0
265	SLV 4	168	-62	770	0	0	0
265	SLV 5	17	157	1992	0	0	0
265	SLV 6	36	153	1985	0	0	0
265	SLV 7	42	-163	95	0	0	0
265	SLV 8	61	-167	88	0	0	0
265	SLV 9	-78	162	1975	0	0	0
265	SLV 10	-60	159	1967	0	0	0
265	SLV 11	-53	-158	78	0	0	0
265	SLV 12	-34	-161	70	0	0	0
265	SLV 13	-185	57	1292	0	0	0
265	SLV 14	-157	52	1281	0	0	0
265	SLV 15	-178	-39	723	0	0	0
265	SLV 16	-149	-44	712	0	0	0
265	SLV FO 1	147	44	1383	0	0	0
265	SLV FO 2	177	38	1370	0	0	0
265	SLV FO 3	155	-61	757	0	0	0
265	SLV FO 4	186	-68	744	0	0	0
265	SLV FO 5	19	173	2089	0	0	0
265	SLV FO 6	40	169	2080	0	0	0
265	SLV FO 7	48	-179	2	0	0	0
265	SLV FO 8	68	-183	-7	0	0	0
265	SLV FO 9	-85	179	2069	0	0	0
265	SLV FO 10	-65	175	2061	0	0	0
265	SLV FO 11	-57	-173	-18	0	0	0
265	SLV FO 12	-36	-177	-26	0	0	0
265	SLV FO 13	-203	63	1318	0	0	0
265	SLV FO 14	-172	57	1306	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
265	SLV FO 15	-194	-42	692	0	0	0
265	SLV FO 16	-164	-48	680	0	0	0
265	CRTFP Uy+	0	0	0	0	0	0
265	CRTFP Uy-	0	0	0	0	0	0
266	SLU 1	-8	1	1013	0	0	0
266	SLU 2	-9	6	1037	0	0	0
266	SLU 3	-9	1	1030	0	0	0
266	SLU 4	-9	4	1045	0	0	0
266	SLU 5	-9	6	1048	0	0	0
266	SLU 6	-9	1	1041	0	0	0
266	SLU 7	-9	4	1055	0	0	0
266	SLU 8	-9	1	1034	0	0	0
266	SLU 9	-9	4	1049	0	0	0
266	SLU 10	-9	6	1175	0	0	0
266	SLU 11	-9	1	1168	0	0	0
266	SLU 12	-9	4	1183	0	0	0
266	SLU 13	-9	6	1186	0	0	0
266	SLU 14	-9	1	1179	0	0	0
266	SLU 15	-9	4	1193	0	0	0
266	SLU 16	-9	1	1173	0	0	0
266	SLU 17	-9	4	1187	0	0	0
266	SLU 18	-9	1	1210	0	0	0
266	SLU 19	-9	4	1225	0	0	0
266	SLU 20	-9	1	1221	0	0	0
266	SLU 21	-9	4	1235	0	0	0
266	SLU 22	-10	2	1152	0	0	0
266	SLU 23	-10	7	1176	0	0	0
266	SLU 24	-10	2	1169	0	0	0
266	SLU 25	-10	5	1183	0	0	0
266	SLU 26	-10	6	1186	0	0	0
266	SLU 27	-10	2	1179	0	0	0
266	SLU 28	-10	5	1194	0	0	0
266	SLU 29	-10	1	1173	0	0	0
266	SLU 30	-10	4	1187	0	0	0
266	SLU 31	-10	7	1314	0	0	0
266	SLU 32	-10	2	1307	0	0	0
266	SLU 33	-10	5	1321	0	0	0
266	SLU 34	-10	7	1324	0	0	0
266	SLU 35	-10	2	1317	0	0	0
266	SLU 36	-11	5	1332	0	0	0
266	SLU 37	-10	2	1311	0	0	0
266	SLU 38	-10	5	1325	0	0	0
266	SLU 39	-10	2	1349	0	0	0
266	SLU 40	-10	5	1363	0	0	0
266	SLU 41	-10	2	1360	0	0	0
266	SLU 42	-10	5	1374	0	0	0
266	SLU 43	-10	1	1269	0	0	0
266	SLU 44	-11	6	1293	0	0	0
266	SLU 45	-11	1	1287	0	0	0
266	SLU 46	-11	4	1301	0	0	0
266	SLU 47	-11	6	1304	0	0	0
266	SLU 48	-11	1	1297	0	0	0
266	SLU 49	-11	4	1312	0	0	0
266	SLU 50	-11	1	1291	0	0	0
266	SLU 51	-11	4	1305	0	0	0
266	SLU 52	-11	6	1432	0	0	0
266	SLU 53	-11	1	1425	0	0	0
266	SLU 54	-11	4	1439	0	0	0
266	SLU 55	-11	6	1442	0	0	0
266	SLU 56	-11	1	1435	0	0	0
266	SLU 57	-11	4	1450	0	0	0
266	SLU 58	-11	1	1429	0	0	0
266	SLU 59	-11	4	1443	0	0	0
266	SLU 60	-11	1	1467	0	0	0
266	SLU 61	-11	4	1481	0	0	0
266	SLU 62	-11	1	1477	0	0	0
266	SLU 63	-11	4	1492	0	0	0
266	SLU 64	-12	2	1408	0	0	0
266	SLU 65	-12	7	1432	0	0	0
266	SLU 66	-12	2	1425	0	0	0
266	SLU 67	-12	5	1439	0	0	0
266	SLU 68	-12	6	1443	0	0	0
266	SLU 69	-12	2	1436	0	0	0
266	SLU 70	-12	5	1450	0	0	0
266	SLU 71	-12	1	1429	0	0	0
266	SLU 72	-12	4	1444	0	0	0
266	SLU 73	-12	7	1570	0	0	0
266	SLU 74	-12	2	1563	0	0	0
266	SLU 75	-12	5	1578	0	0	0
266	SLU 76	-13	7	1581	0	0	0
266	SLU 77	-12	2	1574	0	0	0
266	SLU 78	-13	5	1588	0	0	0
266	SLU 79	-12	2	1567	0	0	0
266	SLU 80	-13	5	1582	0	0	0
266	SLU 81	-12	2	1605	0	0	0
266	SLU 82	-12	5	1620	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
266	SLU 83	-12	2	1616	0	0	0
266	SLU 84	-12	5	1630	0	0	0
266	SLE RA 1	-9	1	1053	0	0	0
266	SLE RA 2	-9	4	1069	0	0	0
266	SLE RA 3	-9	1	1064	0	0	0
266	SLE RA 4	-9	3	1074	0	0	0
266	SLE RA 5	-9	4	1076	0	0	0
266	SLE RA 6	-9	1	1071	0	0	0
266	SLE RA 7	-9	3	1081	0	0	0
266	SLE RA 8	-9	1	1067	0	0	0
266	SLE RA 9	-9	3	1077	0	0	0
266	SLE RA 10	-9	4	1161	0	0	0
266	SLE RA 11	-9	1	1156	0	0	0
266	SLE RA 12	-9	3	1166	0	0	0
266	SLE RA 13	-9	4	1168	0	0	0
266	SLE RA 14	-9	1	1163	0	0	0
266	SLE RA 15	-9	3	1173	0	0	0
266	SLE RA 16	-9	1	1159	0	0	0
266	SLE RA 17	-9	3	1169	0	0	0
266	SLE RA 18	-9	1	1184	0	0	0
266	SLE RA 19	-9	3	1194	0	0	0
266	SLE RA 20	-9	1	1191	0	0	0
266	SLE RA 21	-9	3	1201	0	0	0
266	SLE FR 1	-9	1	1053	0	0	0
266	SLE FR 2	-9	2	1056	0	0	0
266	SLE FR 3	-9	1	1055	0	0	0
266	SLE FR 4	-9	2	1095	0	0	0
266	SLE FR 5	-9	1	1095	0	0	0
266	SLE FR 6	-9	1	1118	0	0	0
266	SLE QP 1	-9	1	1053	0	0	0
266	SLE QP 2	-9	1	1092	0	0	0
266	SLD 1	84	36	1246	0	0	0
266	SLD 2	102	34	1239	0	0	0
266	SLD 3	89	-24	894	0	0	0
266	SLD 4	107	-26	888	0	0	0
266	SLD 5	9	103	1673	0	0	0
266	SLD 6	21	101	1668	0	0	0
266	SLD 7	25	-96	500	0	0	0
266	SLD 8	36	-98	496	0	0	0
266	SLD 9	-54	100	1688	0	0	0
266	SLD 10	-42	99	1684	0	0	0
266	SLD 11	-38	-99	516	0	0	0
266	SLD 12	-26	-100	511	0	0	0
266	SLD 13	-124	28	1297	0	0	0
266	SLD 14	-106	26	1290	0	0	0
266	SLD 15	-120	-31	945	0	0	0
266	SLD 16	-101	-34	938	0	0	0
266	SLV 1	136	60	1357	0	0	0
266	SLV 2	165	56	1346	0	0	0
266	SLV 3	144	-42	757	0	0	0
266	SLV 4	173	-46	746	0	0	0
266	SLV 5	17	174	2084	0	0	0
266	SLV 6	37	171	2077	0	0	0
266	SLV 7	44	-165	83	0	0	0
266	SLV 8	63	-168	76	0	0	0
266	SLV 9	-81	170	2108	0	0	0
266	SLV 10	-61	168	2101	0	0	0
266	SLV 11	-54	-169	107	0	0	0
266	SLV 12	-35	-172	100	0	0	0
266	SLV 13	-190	48	1438	0	0	0
266	SLV 14	-161	44	1427	0	0	0
266	SLV 15	-182	-54	838	0	0	0
266	SLV 16	-153	-58	827	0	0	0
266	SLV FO 1	150	66	1384	0	0	0
266	SLV FO 2	182	62	1372	0	0	0
266	SLV FO 3	159	-46	723	0	0	0
266	SLV FO 4	191	-50	712	0	0	0
266	SLV FO 5	20	191	2183	0	0	0
266	SLV FO 6	41	188	2175	0	0	0
266	SLV FO 7	49	-182	-18	0	0	0
266	SLV FO 8	70	-185	-25	0	0	0
266	SLV FO 9	-88	187	2210	0	0	0
266	SLV FO 10	-66	184	2202	0	0	0
266	SLV FO 11	-59	-186	9	0	0	0
266	SLV FO 12	-37	-189	1	0	0	0
266	SLV FO 13	-208	53	1472	0	0	0
266	SLV FO 14	-177	48	1461	0	0	0
266	SLV FO 15	-200	-59	812	0	0	0
266	SLV FO 16	-168	-64	800	0	0	0
266	CRTFP Uy+	0	0	0	0	0	0
266	CRTFP Uy-	0	0	0	0	0	0
267	SLU 1	-4	-9	402	-12.07	51.04	1.07
267	SLU 2	-4	-8	412	-12.37	52.31	0.87
267	SLU 3	-4	-10	409	-12.26	51.86	1.09
267	SLU 4	-4	-9	415	-12.44	52.62	0.97
267	SLU 5	-4	-8	416	-12.49	52.82	0.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	SLU 6	-4	-10	413	-12.38	52.38	1.1
267	SLU 7	-4	-9	419	-12.56	53.13	0.98
267	SLU 8	-4	-10	410	-12.31	52.07	1.1
267	SLU 9	-4	-9	416	-12.49	52.82	0.98
267	SLU 10	-4	-9	465	-13.95	59.01	0.99
267	SLU 11	-4	-11	462	-13.85	58.57	1.21
267	SLU 12	-4	-10	468	-14.03	59.33	1.09
267	SLU 13	-4	-9	469	-14.08	59.52	1.01
267	SLU 14	-4	-11	466	-13.97	59.08	1.23
267	SLU 15	-4	-10	472	-14.15	59.84	1.11
267	SLU 16	-4	-11	463	-13.9	58.77	1.22
267	SLU 17	-4	-10	469	-14.08	59.53	1.1
267	SLU 18	-4	-11	478	-14.34	60.62	1.25
267	SLU 19	-4	-10	484	-14.51	61.38	1.13
267	SLU 20	-4	-11	482	-14.46	61.14	1.26
267	SLU 21	-4	-10	488	-14.64	61.89	1.14
267	SLU 22	-5	-11	457	-13.72	58.02	1.2
267	SLU 23	-5	-9	467	-14.02	59.28	1
267	SLU 24	-5	-11	464	-13.91	58.84	1.22
267	SLU 25	-5	-10	470	-14.09	59.6	1.1
267	SLU 26	-5	-9	471	-14.14	59.79	1.01
267	SLU 27	-5	-11	468	-14.03	59.35	1.23
267	SLU 28	-5	-10	474	-14.21	60.11	1.11
267	SLU 29	-5	-11	465	-13.96	59.04	1.23
267	SLU 30	-5	-10	471	-14.14	59.8	1.11
267	SLU 31	-5	-10	520	-15.6	65.99	1.12
267	SLU 32	-5	-12	517	-15.5	65.55	1.35
267	SLU 33	-5	-11	523	-15.68	66.3	1.23
267	SLU 34	-5	-10	524	-15.72	66.5	1.14
267	SLU 35	-5	-12	521	-15.62	66.06	1.36
267	SLU 36	-5	-11	527	-15.8	66.81	1.24
267	SLU 37	-5	-12	518	-15.55	65.75	1.35
267	SLU 38	-5	-11	524	-15.73	66.51	1.23
267	SLU 39	-5	-12	533	-15.99	67.6	1.38
267	SLU 40	-5	-11	539	-16.16	68.36	1.26
267	SLU 41	-5	-12	537	-16.11	68.11	1.39
267	SLU 42	-5	-11	543	-16.29	68.87	1.27
267	SLU 43	-5	-12	504	-15.13	63.97	1.34
267	SLU 44	-5	-10	514	-15.42	65.23	1.14
267	SLU 45	-5	-12	511	-15.32	64.78	1.36
267	SLU 46	-5	-11	517	-15.5	65.54	1.24
267	SLU 47	-5	-10	518	-15.54	65.74	1.16
267	SLU 48	-5	-12	515	-15.44	65.3	1.38
267	SLU 49	-5	-11	521	-15.62	66.05	1.26
267	SLU 50	-5	-12	512	-15.37	64.99	1.37
267	SLU 51	-5	-11	518	-15.55	65.75	1.25
267	SLU 52	-5	-11	567	-17.01	71.93	1.27
267	SLU 53	-5	-13	564	-16.91	71.49	1.49
267	SLU 54	-5	-12	569	-17.08	72.25	1.37
267	SLU 55	-5	-11	571	-17.13	72.44	1.28
267	SLU 56	-5	-13	568	-17.03	72	1.5
267	SLU 57	-5	-12	573	-17.2	72.76	1.38
267	SLU 58	-5	-13	565	-16.95	71.7	1.5
267	SLU 59	-5	-12	571	-17.13	72.45	1.38
267	SLU 60	-5	-13	580	-17.39	73.55	1.52
267	SLU 61	-5	-12	586	-17.57	74.3	1.4
267	SLU 62	-5	-13	584	-17.51	74.06	1.54
267	SLU 63	-5	-12	590	-17.69	74.81	1.42
267	SLU 64	-6	-13	559	-16.78	70.94	1.47
267	SLU 65	-6	-11	569	-17.07	72.2	1.27
267	SLU 66	-6	-13	566	-16.97	71.76	1.5
267	SLU 67	-6	-12	572	-17.15	72.52	1.37
267	SLU 68	-6	-12	573	-17.19	72.71	1.29
267	SLU 69	-6	-13	570	-17.09	72.27	1.51
267	SLU 70	-6	-12	576	-17.27	73.03	1.39
267	SLU 71	-6	-13	567	-17.02	71.97	1.5
267	SLU 72	-6	-12	573	-17.2	72.72	1.38
267	SLU 73	-6	-12	622	-18.66	78.91	1.4
267	SLU 74	-6	-14	618	-18.55	78.47	1.62
267	SLU 75	-6	-13	624	-18.73	79.22	1.5
267	SLU 76	-6	-13	626	-18.78	79.42	1.41
267	SLU 77	-6	-14	623	-18.68	78.98	1.64
267	SLU 78	-6	-13	628	-18.85	79.74	1.52
267	SLU 79	-6	-14	620	-18.6	78.67	1.63
267	SLU 80	-6	-13	626	-18.78	79.43	1.51
267	SLU 81	-6	-14	635	-19.04	80.52	1.65
267	SLU 82	-6	-13	641	-19.22	81.28	1.53
267	SLU 83	-6	-15	639	-19.16	81.03	1.67
267	SLU 84	-6	-14	645	-19.34	81.79	1.55
267	SLE RA 1	-4	-10	418	-12.54	53.04	1.1
267	SLE RA 2	-4	-9	425	-12.74	53.88	0.97
267	SLE RA 3	-4	-10	422	-12.67	53.58	1.12
267	SLE RA 4	-4	-9	426	-12.79	54.09	1.04
267	SLE RA 5	-4	-9	427	-12.82	54.22	0.98
267	SLE RA 6	-4	-10	425	-12.75	53.92	1.13
267	SLE RA 7	-4	-9	429	-12.87	54.43	1.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	SLE RA 8	-4	-10	423	-12.7	53.72	1.12
267	SLE RA 9	-4	-9	427	-12.82	54.22	1.04
267	SLE RA 10	-4	-9	460	-13.8	58.35	1.05
267	SLE RA 11	-4	-11	458	-13.73	58.05	1.2
267	SLE RA 12	-4	-10	462	-13.85	58.56	1.12
267	SLE RA 13	-4	-9	463	-13.88	58.69	1.06
267	SLE RA 14	-4	-11	460	-13.81	58.4	1.21
267	SLE RA 15	-4	-10	464	-13.93	58.9	1.13
267	SLE RA 16	-4	-11	459	-13.76	58.19	1.21
267	SLE RA 17	-4	-10	463	-13.88	58.7	1.13
267	SLE RA 18	-4	-11	468	-14.05	59.42	1.23
267	SLE RA 19	-4	-10	472	-14.17	59.93	1.14
267	SLE RA 20	-4	-11	471	-14.13	59.77	1.23
267	SLE RA 21	-4	-10	475	-14.25	60.27	1.15
267	SLE FR 1	-4	-10	418	-12.54	53.04	1.1
267	SLE FR 2	-4	-9	419	-12.58	53.21	1.08
267	SLE FR 3	-4	-10	419	-12.57	53.17	1.11
267	SLE FR 4	-4	-10	434	-13.03	55.12	1.11
267	SLE FR 5	-4	-10	434	-13.03	55.09	1.14
267	SLE FR 6	-4	-10	443	-13.3	56.23	1.16
267	SLE QP 1	-4	-10	418	-12.54	53.04	1.1
267	SLE QP 2	-4	-10	433	-12.99	54.95	1.14
267	SLD 1	33	-6	528	-15.84	66.99	1.72
267	SLD 2	40	-10	523	-15.68	66.29	2.42
267	SLD 3	35	-25	386	-11.59	49	4.18
267	SLD 4	42	-29	381	-11.42	48.3	4.88
267	SLD 5	2	21	678	-20.33	85.97	-2.54
267	SLD 6	7	18	674	-20.22	85.51	-2.09
267	SLD 7	10	-42	205	-6.15	26.01	5.66
267	SLD 8	14	-45	201	-6.04	25.56	6.11
267	SLD 9	-23	25	665	-19.95	84.35	-3.83
267	SLD 10	-18	23	661	-19.84	83.9	-3.38
267	SLD 11	-15	-38	192	-5.77	24.39	4.37
267	SLD 12	-11	-41	189	-5.66	23.94	4.82
267	SLD 13	-51	9	486	-14.57	61.6	-2.6
267	SLD 14	-43	5	480	-14.4	60.9	-1.9
267	SLD 15	-49	-10	344	-10.31	43.62	-0.14
267	SLD 16	-41	-14	338	-10.15	42.92	0.56
267	SLV 1	54	-2	592	-17.76	75.09	1.86
267	SLV 2	65	-8	583	-17.5	73.99	2.96
267	SLV 3	57	-35	350	-10.5	44.4	6.05
267	SLV 4	69	-41	341	-10.24	43.29	7.16
267	SLV 5	5	42	849	-25.48	107.76	-5.21
267	SLV 6	13	38	843	-25.3	107.01	-4.47
267	SLV 7	18	-65	43	-1.29	5.44	8.77
267	SLV 8	26	-69	37	-1.11	4.7	9.52
267	SLV 9	-34	49	829	-24.88	105.21	-7.23
267	SLV 10	-26	45	823	-24.7	104.47	-6.49
267	SLV 11	-22	-58	23	-0.68	2.9	6.75
267	SLV 12	-14	-62	17	-0.51	2.15	7.5
267	SLV 13	-77	21	525	-15.75	66.61	-4.88
267	SLV 14	-66	15	516	-15.49	65.51	-3.77
267	SLV 15	-74	-12	283	-8.49	35.92	-0.68
267	SLV 16	-62	-18	274	-8.23	34.81	0.42
267	SLV FO 1	59	-2	608	-18.23	77.11	1.93
267	SLV FO 2	72	-8	598	-17.95	75.89	3.15
267	SLV FO 3	63	-37	342	-10.25	43.34	6.54
267	SLV FO 4	76	-44	332	-9.96	42.13	7.76
267	SLV FO 5	6	48	891	-26.73	113.04	-5.85
267	SLV FO 6	15	43	885	-26.54	112.22	-5.03
267	SLV FO 7	20	-71	4	-0.12	0.49	9.53
267	SLV FO 8	29	-75	-3	0.08	-0.33	10.35
267	SLV FO 9	-37	55	869	-26.07	110.24	-8.07
267	SLV FO 10	-28	51	862	-25.87	109.42	-7.25
267	SLV FO 11	-23	-63	-18	0.55	-2.31	7.31
267	SLV FO 12	-15	-68	-25	0.74	-3.13	8.13
267	SLV FO 13	-85	24	534	-16.03	67.78	-5.48
267	SLV FO 14	-72	17	525	-15.74	66.56	-4.26
267	SLV FO 15	-81	-12	268	-8.04	34.01	-0.86
267	SLV FO 16	-68	-18	259	-7.76	32.8	0.35
267	CRTFP Ux+	0	0	0	0	0	0
267	CRTFP Ux-	0	0	0	0	0	0
267	CRTFP Uy+	0	0	0	0	0	0
267	CRTFP Uy-	0	0	0	0	0	0
268	SLU 1	-4	2	545	0	0	0
268	SLU 2	-5	5	558	0	0	0
268	SLU 3	-5	2	555	0	0	0
268	SLU 4	-5	4	562	0	0	0
268	SLU 5	-5	5	564	0	0	0
268	SLU 6	-5	2	561	0	0	0
268	SLU 7	-5	4	568	0	0	0
268	SLU 8	-5	2	557	0	0	0
268	SLU 9	-5	4	565	0	0	0
268	SLU 10	-5	5	633	0	0	0
268	SLU 11	-5	2	630	0	0	0
268	SLU 12	-5	4	637	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
268	SLU 13	-5	5	639	0	0	0
268	SLU 14	-5	2	636	0	0	0
268	SLU 15	-5	4	643	0	0	0
268	SLU 16	-5	2	632	0	0	0
268	SLU 17	-5	4	640	0	0	0
268	SLU 18	-5	2	653	0	0	0
268	SLU 19	-5	4	660	0	0	0
268	SLU 20	-5	2	658	0	0	0
268	SLU 21	-5	4	666	0	0	0
268	SLU 22	-5	3	620	0	0	0
268	SLU 23	-5	5	633	0	0	0
268	SLU 24	-5	3	630	0	0	0
268	SLU 25	-5	4	637	0	0	0
268	SLU 26	-5	5	639	0	0	0
268	SLU 27	-5	3	636	0	0	0
268	SLU 28	-6	4	643	0	0	0
268	SLU 29	-5	3	632	0	0	0
268	SLU 30	-5	4	640	0	0	0
268	SLU 31	-6	6	708	0	0	0
268	SLU 32	-5	3	705	0	0	0
268	SLU 33	-6	5	712	0	0	0
268	SLU 34	-6	6	714	0	0	0
268	SLU 35	-5	3	711	0	0	0
268	SLU 36	-6	5	718	0	0	0
268	SLU 37	-5	3	707	0	0	0
268	SLU 38	-6	5	715	0	0	0
268	SLU 39	-5	3	728	0	0	0
268	SLU 40	-5	5	735	0	0	0
268	SLU 41	-5	3	733	0	0	0
268	SLU 42	-6	5	741	0	0	0
268	SLU 43	-6	2	683	0	0	0
268	SLU 44	-6	5	696	0	0	0
268	SLU 45	-6	2	693	0	0	0
268	SLU 46	-6	4	700	0	0	0
268	SLU 47	-6	5	702	0	0	0
268	SLU 48	-6	2	699	0	0	0
268	SLU 49	-6	4	706	0	0	0
268	SLU 50	-6	2	695	0	0	0
268	SLU 51	-6	4	703	0	0	0
268	SLU 52	-6	5	771	0	0	0
268	SLU 53	-6	3	768	0	0	0
268	SLU 54	-6	4	775	0	0	0
268	SLU 55	-6	5	777	0	0	0
268	SLU 56	-6	3	774	0	0	0
268	SLU 57	-6	4	781	0	0	0
268	SLU 58	-6	3	770	0	0	0
268	SLU 59	-6	4	778	0	0	0
268	SLU 60	-6	3	790	0	0	0
268	SLU 61	-6	4	798	0	0	0
268	SLU 62	-6	3	796	0	0	0
268	SLU 63	-6	4	804	0	0	0
268	SLU 64	-6	3	758	0	0	0
268	SLU 65	-6	6	771	0	0	0
268	SLU 66	-6	3	768	0	0	0
268	SLU 67	-6	5	775	0	0	0
268	SLU 68	-7	6	777	0	0	0
268	SLU 69	-6	3	774	0	0	0
268	SLU 70	-7	5	781	0	0	0
268	SLU 71	-6	3	770	0	0	0
268	SLU 72	-7	5	778	0	0	0
268	SLU 73	-7	6	846	0	0	0
268	SLU 74	-6	3	843	0	0	0
268	SLU 75	-7	5	850	0	0	0
268	SLU 76	-7	6	852	0	0	0
268	SLU 77	-7	3	849	0	0	0
268	SLU 78	-7	5	856	0	0	0
268	SLU 79	-7	3	845	0	0	0
268	SLU 80	-7	5	853	0	0	0
268	SLU 81	-6	3	865	0	0	0
268	SLU 82	-7	5	873	0	0	0
268	SLU 83	-6	3	871	0	0	0
268	SLU 84	-7	5	879	0	0	0
268	SLE RA 1	-5	2	567	0	0	0
268	SLE RA 2	-5	4	575	0	0	0
268	SLE RA 3	-5	2	573	0	0	0
268	SLE RA 4	-5	3	578	0	0	0
268	SLE RA 5	-5	4	579	0	0	0
268	SLE RA 6	-5	2	577	0	0	0
268	SLE RA 7	-5	3	582	0	0	0
268	SLE RA 8	-5	2	575	0	0	0
268	SLE RA 9	-5	3	580	0	0	0
268	SLE RA 10	-5	4	625	0	0	0
268	SLE RA 11	-5	2	623	0	0	0
268	SLE RA 12	-5	3	628	0	0	0
268	SLE RA 13	-5	4	629	0	0	0
268	SLE RA 14	-5	2	627	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
268	SLE RA 15	-5	3	632	0	0	0
268	SLE RA 16	-5	2	625	0	0	0
268	SLE RA 17	-5	3	630	0	0	0
268	SLE RA 18	-5	2	638	0	0	0
268	SLE RA 19	-5	4	643	0	0	0
268	SLE RA 20	-5	2	642	0	0	0
268	SLE RA 21	-5	4	647	0	0	0
268	SLE FR 1	-5	2	567	0	0	0
268	SLE FR 2	-5	3	569	0	0	0
268	SLE FR 3	-5	2	568	0	0	0
268	SLE FR 4	-5	3	590	0	0	0
268	SLE FR 5	-5	2	590	0	0	0
268	SLE FR 6	-5	2	603	0	0	0
268	SLE QP 1	-5	2	567	0	0	0
268	SLE QP 2	-5	2	588	0	0	0
268	SLD 1	44	20	666	0	0	0
268	SLD 2	53	20	663	0	0	0
268	SLD 3	46	-12	479	0	0	0
268	SLD 4	56	-13	476	0	0	0
268	SLD 5	4	57	896	0	0	0
268	SLD 6	11	56	894	0	0	0
268	SLD 7	13	-51	272	0	0	0
268	SLD 8	19	-51	270	0	0	0
268	SLD 9	-28	56	907	0	0	0
268	SLD 10	-22	55	905	0	0	0
268	SLD 11	-20	-52	282	0	0	0
268	SLD 12	-14	-52	280	0	0	0
268	SLD 13	-65	17	701	0	0	0
268	SLD 14	-56	16	698	0	0	0
268	SLD 15	-63	-15	514	0	0	0
268	SLD 16	-53	-16	511	0	0	0
268	SLV 1	71	33	723	0	0	0
268	SLV 2	86	32	718	0	0	0
268	SLV 3	75	-22	403	0	0	0
268	SLV 4	90	-23	398	0	0	0
268	SLV 5	9	95	1114	0	0	0
268	SLV 6	19	94	1111	0	0	0
268	SLV 7	23	-88	49	0	0	0
268	SLV 8	33	-89	46	0	0	0
268	SLV 9	-42	94	1131	0	0	0
268	SLV 10	-32	93	1128	0	0	0
268	SLV 11	-28	-90	66	0	0	0
268	SLV 12	-18	-91	62	0	0	0
268	SLV 13	-99	28	778	0	0	0
268	SLV 14	-84	26	773	0	0	0
268	SLV 15	-95	-27	458	0	0	0
268	SLV 16	-80	-29	454	0	0	0
268	SLV FO 1	78	36	737	0	0	0
268	SLV FO 2	95	35	731	0	0	0
268	SLV FO 3	83	-24	385	0	0	0
268	SLV FO 4	99	-26	379	0	0	0
268	SLV FO 5	10	104	1167	0	0	0
268	SLV FO 6	21	103	1163	0	0	0
268	SLV FO 7	26	-97	-5	0	0	0
268	SLV FO 8	37	-98	-9	0	0	0
268	SLV FO 9	-46	103	1185	0	0	0
268	SLV FO 10	-35	102	1182	0	0	0
268	SLV FO 11	-31	-99	13	0	0	0
268	SLV FO 12	-19	-100	10	0	0	0
268	SLV FO 13	-109	30	797	0	0	0
268	SLV FO 14	-92	29	792	0	0	0
268	SLV FO 15	-104	-30	445	0	0	0
268	SLV FO 16	-88	-32	440	0	0	0
268	CRTFP Uy+	0	0	0	0	0	0
268	CRTFP Uy-	0	0	0	0	0	0
269	SLU 1	5	-16	1199	0	0	0
269	SLU 2	5	-10	1225	0	0	0
269	SLU 3	5	-16	1218	0	0	0
269	SLU 4	5	-13	1234	0	0	0
269	SLU 5	5	-10	1237	0	0	0
269	SLU 6	4	-17	1230	0	0	0
269	SLU 7	5	-13	1246	0	0	0
269	SLU 8	4	-17	1223	0	0	0
269	SLU 9	5	-13	1238	0	0	0
269	SLU 10	5	-12	1381	0	0	0
269	SLU 11	4	-18	1374	0	0	0
269	SLU 12	5	-15	1390	0	0	0
269	SLU 13	5	-12	1393	0	0	0
269	SLU 14	4	-18	1386	0	0	0
269	SLU 15	5	-15	1402	0	0	0
269	SLU 16	4	-18	1379	0	0	0
269	SLU 17	5	-15	1394	0	0	0
269	SLU 18	5	-18	1422	0	0	0
269	SLU 19	5	-15	1438	0	0	0
269	SLU 20	4	-19	1434	0	0	0
269	SLU 21	5	-15	1450	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
269	SLU 22	5	-18	1356	0	0	0
269	SLU 23	6	-12	1382	0	0	0
269	SLU 24	5	-18	1375	0	0	0
269	SLU 25	6	-15	1391	0	0	0
269	SLU 26	6	-12	1394	0	0	0
269	SLU 27	5	-19	1387	0	0	0
269	SLU 28	5	-15	1402	0	0	0
269	SLU 29	5	-19	1379	0	0	0
269	SLU 30	5	-15	1395	0	0	0
269	SLU 31	6	-14	1538	0	0	0
269	SLU 32	5	-20	1531	0	0	0
269	SLU 33	6	-17	1547	0	0	0
269	SLU 34	6	-14	1550	0	0	0
269	SLU 35	5	-21	1543	0	0	0
269	SLU 36	5	-17	1558	0	0	0
269	SLU 37	5	-20	1536	0	0	0
269	SLU 38	5	-17	1551	0	0	0
269	SLU 39	5	-21	1579	0	0	0
269	SLU 40	6	-17	1595	0	0	0
269	SLU 41	5	-21	1591	0	0	0
269	SLU 42	5	-17	1606	0	0	0
269	SLU 43	6	-20	1506	0	0	0
269	SLU 44	6	-14	1532	0	0	0
269	SLU 45	6	-21	1524	0	0	0
269	SLU 46	6	-17	1540	0	0	0
269	SLU 47	6	-14	1543	0	0	0
269	SLU 48	6	-21	1536	0	0	0
269	SLU 49	6	-17	1552	0	0	0
269	SLU 50	5	-21	1529	0	0	0
269	SLU 51	6	-17	1545	0	0	0
269	SLU 52	6	-16	1688	0	0	0
269	SLU 53	6	-22	1680	0	0	0
269	SLU 54	6	-19	1696	0	0	0
269	SLU 55	6	-16	1699	0	0	0
269	SLU 56	5	-23	1692	0	0	0
269	SLU 57	6	-19	1708	0	0	0
269	SLU 58	5	-23	1685	0	0	0
269	SLU 59	6	-19	1701	0	0	0
269	SLU 60	6	-23	1728	0	0	0
269	SLU 61	6	-19	1744	0	0	0
269	SLU 62	5	-23	1740	0	0	0
269	SLU 63	6	-19	1756	0	0	0
269	SLU 64	7	-22	1662	0	0	0
269	SLU 65	7	-16	1688	0	0	0
269	SLU 66	6	-23	1681	0	0	0
269	SLU 67	7	-19	1697	0	0	0
269	SLU 68	7	-16	1700	0	0	0
269	SLU 69	6	-23	1693	0	0	0
269	SLU 70	7	-19	1708	0	0	0
269	SLU 71	6	-23	1686	0	0	0
269	SLU 72	7	-19	1701	0	0	0
269	SLU 73	7	-18	1844	0	0	0
269	SLU 74	6	-24	1837	0	0	0
269	SLU 75	7	-21	1853	0	0	0
269	SLU 76	7	-18	1856	0	0	0
269	SLU 77	6	-25	1849	0	0	0
269	SLU 78	7	-21	1864	0	0	0
269	SLU 79	6	-25	1842	0	0	0
269	SLU 80	6	-21	1857	0	0	0
269	SLU 81	6	-25	1885	0	0	0
269	SLU 82	7	-21	1901	0	0	0
269	SLU 83	6	-25	1897	0	0	0
269	SLU 84	7	-21	1912	0	0	0
269	SLE RA 1	5	-17	1244	0	0	0
269	SLE RA 2	5	-13	1262	0	0	0
269	SLE RA 3	5	-17	1257	0	0	0
269	SLE RA 4	5	-14	1267	0	0	0
269	SLE RA 5	5	-13	1269	0	0	0
269	SLE RA 6	5	-17	1265	0	0	0
269	SLE RA 7	5	-15	1275	0	0	0
269	SLE RA 8	5	-17	1260	0	0	0
269	SLE RA 9	5	-15	1270	0	0	0
269	SLE RA 10	5	-14	1366	0	0	0
269	SLE RA 11	5	-18	1361	0	0	0
269	SLE RA 12	5	-16	1371	0	0	0
269	SLE RA 13	5	-14	1373	0	0	0
269	SLE RA 14	5	-18	1369	0	0	0
269	SLE RA 15	5	-16	1379	0	0	0
269	SLE RA 16	5	-18	1364	0	0	0
269	SLE RA 17	5	-16	1374	0	0	0
269	SLE RA 18	5	-18	1393	0	0	0
269	SLE RA 19	5	-16	1403	0	0	0
269	SLE RA 20	5	-18	1401	0	0	0
269	SLE RA 21	5	-16	1411	0	0	0
269	SLE FR 1	5	-17	1244	0	0	0
269	SLE FR 2	5	-16	1248	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
269	SLE FR 3	5	-17	1247	0	0	0
269	SLE FR 4	5	-16	1292	0	0	0
269	SLE FR 5	5	-17	1292	0	0	0
269	SLE FR 6	5	-17	1318	0	0	0
269	SLE QP 1	5	-17	1244	0	0	0
269	SLE QP 2	5	-17	1289	0	0	0
269	SLD 1	137	23	1438	0	0	0
269	SLD 2	160	27	1444	0	0	0
269	SLD 3	129	-51	1061	0	0	0
269	SLD 4	152	-48	1067	0	0	0
269	SLD 5	53	107	1905	0	0	0
269	SLD 6	68	109	1909	0	0	0
269	SLD 7	26	-141	647	0	0	0
269	SLD 8	41	-138	651	0	0	0
269	SLD 9	-31	104	1927	0	0	0
269	SLD 10	-16	106	1931	0	0	0
269	SLD 11	-58	-144	668	0	0	0
269	SLD 12	-43	-141	673	0	0	0
269	SLD 13	-142	14	1510	0	0	0
269	SLD 14	-119	17	1517	0	0	0
269	SLD 15	-150	-61	1133	0	0	0
269	SLD 16	-127	-57	1140	0	0	0
269	SLV 1	211	51	1549	0	0	0
269	SLV 2	248	57	1559	0	0	0
269	SLV 3	198	-75	904	0	0	0
269	SLV 4	235	-70	915	0	0	0
269	SLV 5	81	195	2342	0	0	0
269	SLV 6	106	198	2349	0	0	0
269	SLV 7	35	-228	195	0	0	0
269	SLV 8	60	-224	202	0	0	0
269	SLV 9	-50	190	2376	0	0	0
269	SLV 10	-25	194	2383	0	0	0
269	SLV 11	-96	-233	229	0	0	0
269	SLV 12	-71	-229	236	0	0	0
269	SLV 13	-225	36	1663	0	0	0
269	SLV 14	-188	41	1673	0	0	0
269	SLV 15	-239	-91	1019	0	0	0
269	SLV 16	-202	-86	1029	0	0	0
269	SLV FO 1	232	58	1575	0	0	0
269	SLV FO 2	273	64	1586	0	0	0
269	SLV FO 3	217	-81	866	0	0	0
269	SLV FO 4	258	-75	877	0	0	0
269	SLV FO 5	88	216	2447	0	0	0
269	SLV FO 6	116	220	2455	0	0	0
269	SLV FO 7	38	-249	85	0	0	0
269	SLV FO 8	66	-245	93	0	0	0
269	SLV FO 9	-56	211	2485	0	0	0
269	SLV FO 10	-28	215	2492	0	0	0
269	SLV FO 11	-106	-254	123	0	0	0
269	SLV FO 12	-78	-250	130	0	0	0
269	SLV FO 13	-248	41	1700	0	0	0
269	SLV FO 14	-207	47	1711	0	0	0
269	SLV FO 15	-263	-98	992	0	0	0
269	SLV FO 16	-222	-92	1003	0	0	0
269	CRTFP Uy+	0	0	0	0	0	0
269	CRTFP Uy-	0	0	0	0	0	0
270	SLU 1	5	-17	1128	0	0	0
270	SLU 2	5	-12	1152	0	0	0
270	SLU 3	4	-18	1145	0	0	0
270	SLU 4	5	-14	1160	0	0	0
270	SLU 5	5	-12	1163	0	0	0
270	SLU 6	4	-18	1156	0	0	0
270	SLU 7	5	-15	1171	0	0	0
270	SLU 8	4	-18	1149	0	0	0
270	SLU 9	4	-14	1164	0	0	0
270	SLU 10	5	-13	1298	0	0	0
270	SLU 11	4	-19	1291	0	0	0
270	SLU 12	5	-16	1306	0	0	0
270	SLU 13	5	-14	1309	0	0	0
270	SLU 14	4	-20	1302	0	0	0
270	SLU 15	4	-16	1317	0	0	0
270	SLU 16	4	-20	1295	0	0	0
270	SLU 17	4	-16	1310	0	0	0
270	SLU 18	4	-20	1336	0	0	0
270	SLU 19	5	-16	1351	0	0	0
270	SLU 20	4	-20	1347	0	0	0
270	SLU 21	5	-17	1362	0	0	0
270	SLU 22	5	-19	1275	0	0	0
270	SLU 23	6	-14	1300	0	0	0
270	SLU 24	5	-20	1293	0	0	0
270	SLU 25	5	-16	1307	0	0	0
270	SLU 26	6	-14	1310	0	0	0
270	SLU 27	5	-20	1303	0	0	0
270	SLU 28	5	-17	1318	0	0	0
270	SLU 29	5	-20	1297	0	0	0
270	SLU 30	5	-17	1311	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
270	SLU 31	6	-16	1445	0	0	0
270	SLU 32	5	-22	1438	0	0	0
270	SLU 33	5	-18	1453	0	0	0
270	SLU 34	6	-16	1456	0	0	0
270	SLU 35	5	-22	1449	0	0	0
270	SLU 36	5	-19	1464	0	0	0
270	SLU 37	5	-22	1443	0	0	0
270	SLU 38	5	-18	1457	0	0	0
270	SLU 39	5	-22	1483	0	0	0
270	SLU 40	5	-19	1498	0	0	0
270	SLU 41	5	-22	1494	0	0	0
270	SLU 42	5	-19	1509	0	0	0
270	SLU 43	6	-21	1415	0	0	0
270	SLU 44	6	-16	1440	0	0	0
270	SLU 45	6	-22	1433	0	0	0
270	SLU 46	6	-19	1448	0	0	0
270	SLU 47	6	-16	1451	0	0	0
270	SLU 48	5	-22	1444	0	0	0
270	SLU 49	6	-19	1459	0	0	0
270	SLU 50	5	-22	1437	0	0	0
270	SLU 51	6	-19	1452	0	0	0
270	SLU 52	6	-18	1586	0	0	0
270	SLU 53	5	-24	1579	0	0	0
270	SLU 54	6	-20	1594	0	0	0
270	SLU 55	6	-18	1597	0	0	0
270	SLU 56	5	-24	1590	0	0	0
270	SLU 57	6	-21	1604	0	0	0
270	SLU 58	5	-24	1583	0	0	0
270	SLU 59	5	-21	1598	0	0	0
270	SLU 60	5	-24	1624	0	0	0
270	SLU 61	6	-21	1638	0	0	0
270	SLU 62	5	-24	1635	0	0	0
270	SLU 63	6	-21	1649	0	0	0
270	SLU 64	6	-24	1563	0	0	0
270	SLU 65	7	-18	1587	0	0	0
270	SLU 66	6	-24	1580	0	0	0
270	SLU 67	7	-21	1595	0	0	0
270	SLU 68	7	-18	1598	0	0	0
270	SLU 69	6	-24	1591	0	0	0
270	SLU 70	6	-21	1606	0	0	0
270	SLU 71	6	-24	1585	0	0	0
270	SLU 72	6	-21	1599	0	0	0
270	SLU 73	7	-20	1733	0	0	0
270	SLU 74	6	-26	1726	0	0	0
270	SLU 75	6	-23	1741	0	0	0
270	SLU 76	7	-20	1744	0	0	0
270	SLU 77	6	-26	1737	0	0	0
270	SLU 78	6	-23	1752	0	0	0
270	SLU 79	6	-26	1730	0	0	0
270	SLU 80	6	-23	1745	0	0	0
270	SLU 81	6	-26	1771	0	0	0
270	SLU 82	7	-23	1786	0	0	0
270	SLU 83	6	-27	1782	0	0	0
270	SLU 84	6	-23	1797	0	0	0
270	SLE RA 1	5	-18	1170	0	0	0
270	SLE RA 2	5	-14	1186	0	0	0
270	SLE RA 3	5	-18	1181	0	0	0
270	SLE RA 4	5	-16	1191	0	0	0
270	SLE RA 5	5	-14	1193	0	0	0
270	SLE RA 6	5	-18	1189	0	0	0
270	SLE RA 7	5	-16	1199	0	0	0
270	SLE RA 8	4	-18	1184	0	0	0
270	SLE RA 9	5	-16	1194	0	0	0
270	SLE RA 10	5	-15	1283	0	0	0
270	SLE RA 11	5	-19	1279	0	0	0
270	SLE RA 12	5	-17	1288	0	0	0
270	SLE RA 13	5	-15	1291	0	0	0
270	SLE RA 14	4	-19	1286	0	0	0
270	SLE RA 15	5	-17	1296	0	0	0
270	SLE RA 16	4	-19	1281	0	0	0
270	SLE RA 17	5	-17	1291	0	0	0
270	SLE RA 18	5	-19	1309	0	0	0
270	SLE RA 19	5	-17	1318	0	0	0
270	SLE RA 20	4	-20	1316	0	0	0
270	SLE RA 21	5	-17	1326	0	0	0
270	SLE FR 1	5	-18	1170	0	0	0
270	SLE FR 2	5	-17	1173	0	0	0
270	SLE FR 3	5	-18	1173	0	0	0
270	SLE FR 4	5	-17	1215	0	0	0
270	SLE FR 5	5	-18	1214	0	0	0
270	SLE FR 6	5	-19	1239	0	0	0
270	SLE QP 1	5	-18	1170	0	0	0
270	SLE QP 2	5	-18	1211	0	0	0
270	SLD 1	129	21	1348	0	0	0
270	SLD 2	152	25	1355	0	0	0
270	SLD 3	122	-48	992	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
270	SLD 4	144	-44	1000	0	0	0
270	SLD 5	50	97	1790	0	0	0
270	SLD 6	64	100	1795	0	0	0
270	SLD 7	24	-132	605	0	0	0
270	SLD 8	38	-130	610	0	0	0
270	SLD 9	-29	93	1813	0	0	0
270	SLD 10	-15	96	1818	0	0	0
270	SLD 11	-55	-136	628	0	0	0
270	SLD 12	-41	-134	633	0	0	0
270	SLD 13	-134	7	1423	0	0	0
270	SLD 14	-112	12	1431	0	0	0
270	SLD 15	-142	-62	1068	0	0	0
270	SLD 16	-120	-57	1075	0	0	0
270	SLV 1	200	47	1450	0	0	0
270	SLV 2	235	54	1461	0	0	0
270	SLV 3	187	-70	843	0	0	0
270	SLV 4	222	-63	855	0	0	0
270	SLV 5	77	178	2201	0	0	0
270	SLV 6	100	183	2209	0	0	0
270	SLV 7	33	-213	179	0	0	0
270	SLV 8	56	-209	186	0	0	0
270	SLV 9	-47	172	2236	0	0	0
270	SLV 10	-23	177	2244	0	0	0
270	SLV 11	-91	-220	214	0	0	0
270	SLV 12	-67	-215	222	0	0	0
270	SLV 13	-212	27	1568	0	0	0
270	SLV 14	-177	34	1580	0	0	0
270	SLV 15	-226	-91	961	0	0	0
270	SLV 16	-191	-84	973	0	0	0
270	SLV FO 1	220	54	1473	0	0	0
270	SLV FO 2	258	62	1486	0	0	0
270	SLV FO 3	205	-75	806	0	0	0
270	SLV FO 4	243	-67	819	0	0	0
270	SLV FO 5	84	198	2300	0	0	0
270	SLV FO 6	110	203	2308	0	0	0
270	SLV FO 7	36	-233	75	0	0	0
270	SLV FO 8	62	-228	84	0	0	0
270	SLV FO 9	-52	191	2339	0	0	0
270	SLV FO 10	-26	196	2348	0	0	0
270	SLV FO 11	-100	-240	114	0	0	0
270	SLV FO 12	-75	-235	123	0	0	0
270	SLV FO 13	-234	31	1604	0	0	0
270	SLV FO 14	-196	39	1617	0	0	0
270	SLV FO 15	-249	-98	936	0	0	0
270	SLV FO 16	-210	-91	949	0	0	0
270	CRTFP Uy+	0	0	0	0	0	0
270	CRTFP Uy-	0	0	0	0	0	0
271	SLU 1	5	-19	1111	0	0	0
271	SLU 2	5	-13	1136	0	0	0
271	SLU 3	5	-19	1128	0	0	0
271	SLU 4	5	-16	1143	0	0	0
271	SLU 5	5	-14	1146	0	0	0
271	SLU 6	4	-20	1139	0	0	0
271	SLU 7	5	-16	1154	0	0	0
271	SLU 8	4	-20	1133	0	0	0
271	SLU 9	5	-16	1147	0	0	0
271	SLU 10	5	-16	1278	0	0	0
271	SLU 11	4	-21	1271	0	0	0
271	SLU 12	5	-18	1286	0	0	0
271	SLU 13	5	-16	1289	0	0	0
271	SLU 14	4	-22	1282	0	0	0
271	SLU 15	5	-19	1297	0	0	0
271	SLU 16	4	-22	1275	0	0	0
271	SLU 17	5	-18	1290	0	0	0
271	SLU 18	5	-22	1315	0	0	0
271	SLU 19	5	-19	1330	0	0	0
271	SLU 20	4	-22	1326	0	0	0
271	SLU 21	5	-19	1341	0	0	0
271	SLU 22	5	-21	1257	0	0	0
271	SLU 23	6	-16	1281	0	0	0
271	SLU 24	5	-22	1274	0	0	0
271	SLU 25	6	-18	1288	0	0	0
271	SLU 26	6	-16	1292	0	0	0
271	SLU 27	5	-22	1284	0	0	0
271	SLU 28	5	-19	1299	0	0	0
271	SLU 29	5	-22	1278	0	0	0
271	SLU 30	5	-19	1292	0	0	0
271	SLU 31	6	-18	1424	0	0	0
271	SLU 32	5	-24	1417	0	0	0
271	SLU 33	6	-21	1431	0	0	0
271	SLU 34	6	-18	1434	0	0	0
271	SLU 35	5	-24	1427	0	0	0
271	SLU 36	5	-21	1442	0	0	0
271	SLU 37	5	-24	1421	0	0	0
271	SLU 38	5	-21	1435	0	0	0
271	SLU 39	5	-24	1461	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLU 40	6	-21	1475	0	0	0
271	SLU 41	5	-25	1471	0	0	0
271	SLU 42	5	-21	1486	0	0	0
271	SLU 43	6	-24	1395	0	0	0
271	SLU 44	6	-18	1419	0	0	0
271	SLU 45	6	-24	1412	0	0	0
271	SLU 46	6	-21	1427	0	0	0
271	SLU 47	6	-19	1430	0	0	0
271	SLU 48	6	-25	1423	0	0	0
271	SLU 49	6	-21	1437	0	0	0
271	SLU 50	5	-24	1416	0	0	0
271	SLU 51	6	-21	1431	0	0	0
271	SLU 52	6	-20	1562	0	0	0
271	SLU 53	6	-26	1555	0	0	0
271	SLU 54	6	-23	1569	0	0	0
271	SLU 55	6	-21	1573	0	0	0
271	SLU 56	5	-27	1565	0	0	0
271	SLU 57	6	-23	1580	0	0	0
271	SLU 58	5	-26	1559	0	0	0
271	SLU 59	6	-23	1574	0	0	0
271	SLU 60	6	-27	1599	0	0	0
271	SLU 61	6	-23	1614	0	0	0
271	SLU 62	5	-27	1610	0	0	0
271	SLU 63	6	-24	1624	0	0	0
271	SLU 64	7	-26	1540	0	0	0
271	SLU 65	7	-21	1564	0	0	0
271	SLU 66	6	-26	1557	0	0	0
271	SLU 67	7	-23	1572	0	0	0
271	SLU 68	7	-21	1575	0	0	0
271	SLU 69	6	-27	1568	0	0	0
271	SLU 70	7	-24	1583	0	0	0
271	SLU 71	6	-27	1561	0	0	0
271	SLU 72	7	-24	1576	0	0	0
271	SLU 73	7	-23	1707	0	0	0
271	SLU 74	6	-29	1700	0	0	0
271	SLU 75	7	-25	1715	0	0	0
271	SLU 76	7	-23	1718	0	0	0
271	SLU 77	6	-29	1711	0	0	0
271	SLU 78	7	-26	1725	0	0	0
271	SLU 79	6	-29	1704	0	0	0
271	SLU 80	6	-26	1719	0	0	0
271	SLU 81	6	-29	1744	0	0	0
271	SLU 82	7	-26	1759	0	0	0
271	SLU 83	6	-29	1755	0	0	0
271	SLU 84	7	-26	1769	0	0	0
271	SLE RA 1	5	-20	1153	0	0	0
271	SLE RA 2	5	-16	1169	0	0	0
271	SLE RA 3	5	-20	1164	0	0	0
271	SLE RA 4	5	-18	1174	0	0	0
271	SLE RA 5	5	-16	1176	0	0	0
271	SLE RA 6	5	-20	1171	0	0	0
271	SLE RA 7	5	-18	1181	0	0	0
271	SLE RA 8	5	-20	1167	0	0	0
271	SLE RA 9	5	-18	1177	0	0	0
271	SLE RA 10	5	-17	1264	0	0	0
271	SLE RA 11	5	-21	1259	0	0	0
271	SLE RA 12	5	-19	1269	0	0	0
271	SLE RA 13	5	-18	1271	0	0	0
271	SLE RA 14	5	-21	1267	0	0	0
271	SLE RA 15	5	-19	1276	0	0	0
271	SLE RA 16	5	-21	1262	0	0	0
271	SLE RA 17	5	-19	1272	0	0	0
271	SLE RA 18	5	-21	1289	0	0	0
271	SLE RA 19	5	-19	1299	0	0	0
271	SLE RA 20	5	-22	1296	0	0	0
271	SLE RA 21	5	-20	1306	0	0	0
271	SLE FR 1	5	-20	1153	0	0	0
271	SLE FR 2	5	-19	1156	0	0	0
271	SLE FR 3	5	-20	1156	0	0	0
271	SLE FR 4	5	-19	1197	0	0	0
271	SLE FR 5	5	-20	1196	0	0	0
271	SLE FR 6	5	-20	1221	0	0	0
271	SLE QP 1	5	-20	1153	0	0	0
271	SLE QP 2	5	-20	1194	0	0	0
271	SLD 1	128	20	1324	0	0	0
271	SLD 2	150	25	1333	0	0	0
271	SLD 3	121	-47	973	0	0	0
271	SLD 4	143	-42	982	0	0	0
271	SLD 5	50	92	1764	0	0	0
271	SLD 6	64	96	1769	0	0	0
271	SLD 7	24	-131	593	0	0	0
271	SLD 8	38	-127	599	0	0	0
271	SLD 9	-28	87	1788	0	0	0
271	SLD 10	-14	90	1794	0	0	0
271	SLD 11	-55	-136	618	0	0	0
271	SLD 12	-40	-133	624	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLD 13	-133	1	1406	0	0	0
271	SLD 14	-111	7	1414	0	0	0
271	SLD 15	-141	-65	1054	0	0	0
271	SLD 16	-119	-60	1063	0	0	0
271	SLV 1	199	47	1422	0	0	0
271	SLV 2	233	56	1436	0	0	0
271	SLV 3	185	-67	823	0	0	0
271	SLV 4	220	-58	837	0	0	0
271	SLV 5	77	171	2168	0	0	0
271	SLV 6	100	177	2177	0	0	0
271	SLV 7	32	-209	171	0	0	0
271	SLV 8	56	-203	181	0	0	0
271	SLV 9	-46	163	2207	0	0	0
271	SLV 10	-22	169	2216	0	0	0
271	SLV 11	-90	-217	210	0	0	0
271	SLV 12	-67	-212	219	0	0	0
271	SLV 13	-210	18	1550	0	0	0
271	SLV 14	-175	27	1564	0	0	0
271	SLV 15	-223	-96	951	0	0	0
271	SLV 16	-189	-87	965	0	0	0
271	SLV FO 1	218	54	1445	0	0	0
271	SLV FO 2	256	63	1460	0	0	0
271	SLV FO 3	203	-72	786	0	0	0
271	SLV FO 4	241	-62	801	0	0	0
271	SLV FO 5	84	191	2266	0	0	0
271	SLV FO 6	110	197	2276	0	0	0
271	SLV FO 7	35	-228	69	0	0	0
271	SLV FO 8	61	-221	79	0	0	0
271	SLV FO 9	-51	181	2308	0	0	0
271	SLV FO 10	-25	187	2318	0	0	0
271	SLV FO 11	-100	-237	111	0	0	0
271	SLV FO 12	-74	-231	122	0	0	0
271	SLV FO 13	-232	22	1586	0	0	0
271	SLV FO 14	-193	32	1601	0	0	0
271	SLV FO 15	-246	-103	927	0	0	0
271	SLV FO 16	-208	-94	942	0	0	0
271	CRTFP Uy+	0	0	0	0	0	0
271	CRTFP Uy-	0	0	0	0	0	0
272	SLU 1	5	-21	1103	0	0	0
272	SLU 2	5	-15	1127	0	0	0
272	SLU 3	5	-21	1120	0	0	0
272	SLU 4	5	-18	1134	0	0	0
272	SLU 5	5	-16	1137	0	0	0
272	SLU 6	5	-21	1130	0	0	0
272	SLU 7	5	-18	1145	0	0	0
272	SLU 8	5	-21	1124	0	0	0
272	SLU 9	5	-18	1138	0	0	0
272	SLU 10	5	-18	1268	0	0	0
272	SLU 11	5	-23	1261	0	0	0
272	SLU 12	5	-20	1275	0	0	0
272	SLU 13	5	-18	1279	0	0	0
272	SLU 14	4	-24	1271	0	0	0
272	SLU 15	5	-21	1286	0	0	0
272	SLU 16	4	-24	1265	0	0	0
272	SLU 17	5	-20	1279	0	0	0
272	SLU 18	5	-24	1304	0	0	0
272	SLU 19	5	-21	1319	0	0	0
272	SLU 20	5	-24	1315	0	0	0
272	SLU 21	5	-21	1329	0	0	0
272	SLU 22	6	-23	1247	0	0	0
272	SLU 23	6	-18	1272	0	0	0
272	SLU 24	6	-24	1264	0	0	0
272	SLU 25	6	-20	1279	0	0	0
272	SLU 26	6	-18	1282	0	0	0
272	SLU 27	5	-24	1275	0	0	0
272	SLU 28	6	-21	1289	0	0	0
272	SLU 29	5	-24	1268	0	0	0
272	SLU 30	6	-21	1283	0	0	0
272	SLU 31	6	-20	1413	0	0	0
272	SLU 32	5	-26	1405	0	0	0
272	SLU 33	6	-23	1420	0	0	0
272	SLU 34	6	-21	1423	0	0	0
272	SLU 35	5	-26	1416	0	0	0
272	SLU 36	6	-23	1430	0	0	0
272	SLU 37	5	-26	1409	0	0	0
272	SLU 38	6	-23	1424	0	0	0
272	SLU 39	6	-26	1449	0	0	0
272	SLU 40	6	-23	1464	0	0	0
272	SLU 41	5	-27	1459	0	0	0
272	SLU 42	6	-24	1474	0	0	0
272	SLU 43	6	-26	1384	0	0	0
272	SLU 44	7	-21	1408	0	0	0
272	SLU 45	6	-26	1401	0	0	0
272	SLU 46	6	-23	1415	0	0	0
272	SLU 47	7	-21	1419	0	0	0
272	SLU 48	6	-27	1411	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
272	SLU 49	6	-24	1426	0	0	0
272	SLU 50	6	-27	1405	0	0	0
272	SLU 51	6	-23	1419	0	0	0
272	SLU 52	7	-23	1549	0	0	0
272	SLU 53	6	-29	1542	0	0	0
272	SLU 54	6	-26	1557	0	0	0
272	SLU 55	6	-23	1560	0	0	0
272	SLU 56	6	-29	1552	0	0	0
272	SLU 57	6	-26	1567	0	0	0
272	SLU 58	6	-29	1546	0	0	0
272	SLU 59	6	-26	1560	0	0	0
272	SLU 60	6	-29	1586	0	0	0
272	SLU 61	6	-26	1600	0	0	0
272	SLU 62	6	-30	1596	0	0	0
272	SLU 63	6	-26	1611	0	0	0
272	SLU 64	7	-28	1529	0	0	0
272	SLU 65	7	-23	1553	0	0	0
272	SLU 66	7	-29	1545	0	0	0
272	SLU 67	7	-26	1560	0	0	0
272	SLU 68	7	-24	1563	0	0	0
272	SLU 69	7	-29	1556	0	0	0
272	SLU 70	7	-26	1570	0	0	0
272	SLU 71	6	-29	1549	0	0	0
272	SLU 72	7	-26	1564	0	0	0
272	SLU 73	7	-25	1694	0	0	0
272	SLU 74	7	-31	1687	0	0	0
272	SLU 75	7	-28	1701	0	0	0
272	SLU 76	7	-26	1704	0	0	0
272	SLU 77	6	-32	1697	0	0	0
272	SLU 78	7	-28	1712	0	0	0
272	SLU 79	6	-31	1691	0	0	0
272	SLU 80	7	-28	1705	0	0	0
272	SLU 81	7	-32	1730	0	0	0
272	SLU 82	7	-29	1745	0	0	0
272	SLU 83	7	-32	1741	0	0	0
272	SLU 84	7	-29	1755	0	0	0
272	SLE RA 1	5	-21	1144	0	0	0
272	SLE RA 2	6	-18	1160	0	0	0
272	SLE RA 3	5	-22	1155	0	0	0
272	SLE RA 4	5	-20	1165	0	0	0
272	SLE RA 5	5	-18	1167	0	0	0
272	SLE RA 6	5	-22	1162	0	0	0
272	SLE RA 7	5	-20	1172	0	0	0
272	SLE RA 8	5	-22	1158	0	0	0
272	SLE RA 9	5	-20	1168	0	0	0
272	SLE RA 10	5	-19	1254	0	0	0
272	SLE RA 11	5	-23	1249	0	0	0
272	SLE RA 12	5	-21	1259	0	0	0
272	SLE RA 13	5	-20	1261	0	0	0
272	SLE RA 14	5	-23	1256	0	0	0
272	SLE RA 15	5	-21	1266	0	0	0
272	SLE RA 16	5	-23	1252	0	0	0
272	SLE RA 17	5	-21	1262	0	0	0
272	SLE RA 18	5	-23	1278	0	0	0
272	SLE RA 19	5	-21	1288	0	0	0
272	SLE RA 20	5	-24	1285	0	0	0
272	SLE RA 21	5	-22	1295	0	0	0
272	SLE FR 1	5	-21	1144	0	0	0
272	SLE FR 2	5	-21	1147	0	0	0
272	SLE FR 3	5	-21	1147	0	0	0
272	SLE FR 4	5	-21	1188	0	0	0
272	SLE FR 5	5	-22	1187	0	0	0
272	SLE FR 6	5	-22	1211	0	0	0
272	SLE QP 1	5	-21	1144	0	0	0
272	SLE QP 2	5	-22	1184	0	0	0
272	SLD 1	128	19	1309	0	0	0
272	SLD 2	150	26	1320	0	0	0
272	SLD 3	120	-46	960	0	0	0
272	SLD 4	142	-39	970	0	0	0
272	SLD 5	50	88	1750	0	0	0
272	SLD 6	64	92	1756	0	0	0
272	SLD 7	24	-129	586	0	0	0
272	SLD 8	38	-125	592	0	0	0
272	SLD 9	-28	81	1777	0	0	0
272	SLD 10	-14	85	1783	0	0	0
272	SLD 11	-54	-136	612	0	0	0
272	SLD 12	-40	-132	619	0	0	0
272	SLD 13	-132	-4	1398	0	0	0
272	SLD 14	-110	2	1408	0	0	0
272	SLD 15	-140	-69	1049	0	0	0
272	SLD 16	-118	-63	1059	0	0	0
272	SLV 1	198	47	1405	0	0	0
272	SLV 2	232	57	1421	0	0	0
272	SLV 3	184	-64	809	0	0	0
272	SLV 4	218	-54	825	0	0	0
272	SLV 5	77	165	2151	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
272	SLV 6	100	172	2162	0	0	0
272	SLV 7	32	-205	165	0	0	0
272	SLV 8	55	-198	175	0	0	0
272	SLV 9	-45	154	2193	0	0	0
272	SLV 10	-22	161	2204	0	0	0
272	SLV 11	-90	-216	207	0	0	0
272	SLV 12	-67	-209	217	0	0	0
272	SLV 13	-208	10	1544	0	0	0
272	SLV 14	-174	20	1560	0	0	0
272	SLV 15	-222	-101	948	0	0	0
272	SLV 16	-187	-91	964	0	0	0
272	SLV FO 1	217	54	1427	0	0	0
272	SLV FO 2	255	65	1444	0	0	0
272	SLV FO 3	202	-68	771	0	0	0
272	SLV FO 4	240	-57	789	0	0	0
272	SLV FO 5	84	184	2248	0	0	0
272	SLV FO 6	110	192	2260	0	0	0
272	SLV FO 7	34	-223	63	0	0	0
272	SLV FO 8	60	-216	75	0	0	0
272	SLV FO 9	-50	172	2294	0	0	0
272	SLV FO 10	-24	179	2306	0	0	0
272	SLV FO 11	-100	-235	109	0	0	0
272	SLV FO 12	-74	-228	121	0	0	0
272	SLV FO 13	-230	13	1580	0	0	0
272	SLV FO 14	-192	25	1597	0	0	0
272	SLV FO 15	-244	-109	924	0	0	0
272	SLV FO 16	-207	-98	942	0	0	0
272	CRTFP Uy+	0	0	0	0	0	0
272	CRTFP Uy-	0	0	0	0	0	0
273	SLU 1	5	-22	1099	0	0	0
273	SLU 2	6	-17	1123	0	0	0
273	SLU 3	5	-23	1115	0	0	0
273	SLU 4	5	-20	1130	0	0	0
273	SLU 5	6	-17	1133	0	0	0
273	SLU 6	5	-23	1126	0	0	0
273	SLU 7	5	-20	1140	0	0	0
273	SLU 8	5	-23	1119	0	0	0
273	SLU 9	5	-20	1134	0	0	0
273	SLU 10	6	-20	1263	0	0	0
273	SLU 11	5	-25	1255	0	0	0
273	SLU 12	5	-22	1270	0	0	0
273	SLU 13	6	-20	1273	0	0	0
273	SLU 14	5	-26	1266	0	0	0
273	SLU 15	5	-23	1280	0	0	0
273	SLU 16	5	-25	1259	0	0	0
273	SLU 17	5	-22	1274	0	0	0
273	SLU 18	5	-26	1299	0	0	0
273	SLU 19	5	-23	1313	0	0	0
273	SLU 20	5	-26	1309	0	0	0
273	SLU 21	5	-23	1324	0	0	0
273	SLU 22	6	-25	1243	0	0	0
273	SLU 23	7	-20	1268	0	0	0
273	SLU 24	6	-25	1260	0	0	0
273	SLU 25	6	-22	1275	0	0	0
273	SLU 26	6	-20	1278	0	0	0
273	SLU 27	6	-26	1270	0	0	0
273	SLU 28	6	-23	1285	0	0	0
273	SLU 29	6	-26	1264	0	0	0
273	SLU 30	6	-23	1279	0	0	0
273	SLU 31	7	-22	1408	0	0	0
273	SLU 32	6	-28	1400	0	0	0
273	SLU 33	6	-25	1415	0	0	0
273	SLU 34	6	-23	1418	0	0	0
273	SLU 35	6	-28	1411	0	0	0
273	SLU 36	6	-25	1425	0	0	0
273	SLU 37	6	-28	1404	0	0	0
273	SLU 38	6	-25	1419	0	0	0
273	SLU 39	6	-28	1444	0	0	0
273	SLU 40	6	-25	1458	0	0	0
273	SLU 41	6	-29	1454	0	0	0
273	SLU 42	6	-26	1468	0	0	0
273	SLU 43	6	-28	1378	0	0	0
273	SLU 44	7	-23	1403	0	0	0
273	SLU 45	6	-28	1395	0	0	0
273	SLU 46	7	-25	1410	0	0	0
273	SLU 47	7	-23	1413	0	0	0
273	SLU 48	6	-29	1406	0	0	0
273	SLU 49	6	-26	1420	0	0	0
273	SLU 50	6	-29	1399	0	0	0
273	SLU 51	6	-26	1414	0	0	0
273	SLU 52	7	-25	1543	0	0	0
273	SLU 53	6	-31	1535	0	0	0
273	SLU 54	7	-28	1550	0	0	0
273	SLU 55	7	-26	1553	0	0	0
273	SLU 56	6	-31	1546	0	0	0
273	SLU 57	6	-28	1560	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
273	SLU 58	6	-31	1539	0	0	0
273	SLU 59	6	-28	1554	0	0	0
273	SLU 60	6	-31	1579	0	0	0
273	SLU 61	7	-28	1593	0	0	0
273	SLU 62	6	-32	1589	0	0	0
273	SLU 63	6	-29	1604	0	0	0
273	SLU 64	7	-31	1523	0	0	0
273	SLU 65	8	-25	1548	0	0	0
273	SLU 66	7	-31	1540	0	0	0
273	SLU 67	7	-28	1555	0	0	0
273	SLU 68	8	-26	1558	0	0	0
273	SLU 69	7	-31	1550	0	0	0
273	SLU 70	7	-28	1565	0	0	0
273	SLU 71	7	-31	1544	0	0	0
273	SLU 72	7	-28	1558	0	0	0
273	SLU 73	8	-28	1688	0	0	0
273	SLU 74	7	-34	1680	0	0	0
273	SLU 75	7	-31	1695	0	0	0
273	SLU 76	8	-28	1698	0	0	0
273	SLU 77	7	-34	1690	0	0	0
273	SLU 78	7	-31	1705	0	0	0
273	SLU 79	7	-34	1684	0	0	0
273	SLU 80	7	-31	1699	0	0	0
273	SLU 81	7	-34	1723	0	0	0
273	SLU 82	7	-31	1738	0	0	0
273	SLU 83	7	-34	1734	0	0	0
273	SLU 84	7	-31	1748	0	0	0
273	SLE RA 1	5	-23	1140	0	0	0
273	SLE RA 2	6	-20	1156	0	0	0
273	SLE RA 3	5	-23	1151	0	0	0
273	SLE RA 4	6	-21	1161	0	0	0
273	SLE RA 5	6	-20	1163	0	0	0
273	SLE RA 6	5	-24	1158	0	0	0
273	SLE RA 7	5	-22	1168	0	0	0
273	SLE RA 8	5	-23	1154	0	0	0
273	SLE RA 9	5	-21	1163	0	0	0
273	SLE RA 10	6	-21	1250	0	0	0
273	SLE RA 11	5	-25	1245	0	0	0
273	SLE RA 12	6	-23	1254	0	0	0
273	SLE RA 13	6	-21	1256	0	0	0
273	SLE RA 14	5	-25	1251	0	0	0
273	SLE RA 15	5	-23	1261	0	0	0
273	SLE RA 16	5	-25	1247	0	0	0
273	SLE RA 17	5	-23	1257	0	0	0
273	SLE RA 18	5	-25	1273	0	0	0
273	SLE RA 19	6	-23	1283	0	0	0
273	SLE RA 20	5	-26	1280	0	0	0
273	SLE RA 21	5	-24	1290	0	0	0
273	SLE FR 1	5	-23	1140	0	0	0
273	SLE FR 2	5	-22	1143	0	0	0
273	SLE FR 3	5	-23	1143	0	0	0
273	SLE FR 4	5	-23	1183	0	0	0
273	SLE FR 5	5	-24	1183	0	0	0
273	SLE FR 6	5	-24	1207	0	0	0
273	SLE QP 1	5	-23	1140	0	0	0
273	SLE QP 2	5	-24	1180	0	0	0
273	SLD 1	127	18	1300	0	0	0
273	SLD 2	149	26	1312	0	0	0
273	SLD 3	119	-45	951	0	0	0
273	SLD 4	141	-37	962	0	0	0
273	SLD 5	50	84	1744	0	0	0
273	SLD 6	64	89	1751	0	0	0
273	SLD 7	23	-127	580	0	0	0
273	SLD 8	37	-122	587	0	0	0
273	SLD 9	-27	75	1773	0	0	0
273	SLD 10	-13	80	1780	0	0	0
273	SLD 11	-54	-136	609	0	0	0
273	SLD 12	-40	-131	616	0	0	0
273	SLD 13	-130	-10	1397	0	0	0
273	SLD 14	-108	-2	1409	0	0	0
273	SLD 15	-138	-73	1048	0	0	0
273	SLD 16	-116	-66	1060	0	0	0
273	SLV 1	196	47	1393	0	0	0
273	SLV 2	230	59	1411	0	0	0
273	SLV 3	182	-61	797	0	0	0
273	SLV 4	216	-49	815	0	0	0
273	SLV 5	77	159	2144	0	0	0
273	SLV 6	100	167	2156	0	0	0
273	SLV 7	31	-201	158	0	0	0
273	SLV 8	54	-193	170	0	0	0
273	SLV 9	-43	146	2190	0	0	0
273	SLV 10	-20	154	2202	0	0	0
273	SLV 11	-89	-214	204	0	0	0
273	SLV 12	-66	-206	216	0	0	0
273	SLV 13	-206	2	1545	0	0	0
273	SLV 14	-172	14	1563	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
273	SLV 15	-219	-106	949	0	0	0
273	SLV 16	-185	-94	967	0	0	0
273	SLV FO 1	215	54	1414	0	0	0
273	SLV FO 2	253	67	1434	0	0	0
273	SLV FO 3	200	-65	759	0	0	0
273	SLV FO 4	237	-52	778	0	0	0
273	SLV FO 5	84	177	2240	0	0	0
273	SLV FO 6	109	186	2254	0	0	0
273	SLV FO 7	34	-219	56	0	0	0
273	SLV FO 8	59	-210	69	0	0	0
273	SLV FO 9	-48	163	2291	0	0	0
273	SLV FO 10	-23	171	2304	0	0	0
273	SLV FO 11	-99	-233	106	0	0	0
273	SLV FO 12	-74	-224	119	0	0	0
273	SLV FO 13	-227	5	1581	0	0	0
273	SLV FO 14	-189	18	1601	0	0	0
273	SLV FO 15	-242	-114	926	0	0	0
273	SLV FO 16	-204	-101	946	0	0	0
273	CRTFP Uy+	0	0	0	0	0	0
273	CRTFP Uy-	0	0	0	0	0	0
274	SLU 1	5	-23	1090	0	0	0
274	SLU 2	6	-18	1114	0	0	0
274	SLU 3	5	-24	1106	0	0	0
274	SLU 4	6	-21	1121	0	0	0
274	SLU 5	6	-19	1124	0	0	0
274	SLU 6	5	-24	1116	0	0	0
274	SLU 7	6	-21	1131	0	0	0
274	SLU 8	5	-24	1110	0	0	0
274	SLU 9	5	-21	1125	0	0	0
274	SLU 10	6	-21	1253	0	0	0
274	SLU 11	5	-26	1245	0	0	0
274	SLU 12	6	-24	1260	0	0	0
274	SLU 13	6	-22	1263	0	0	0
274	SLU 14	5	-27	1255	0	0	0
274	SLU 15	6	-24	1270	0	0	0
274	SLU 16	5	-27	1249	0	0	0
274	SLU 17	5	-24	1263	0	0	0
274	SLU 18	5	-27	1288	0	0	0
274	SLU 19	6	-24	1303	0	0	0
274	SLU 20	5	-27	1298	0	0	0
274	SLU 21	6	-25	1313	0	0	0
274	SLU 22	6	-26	1234	0	0	0
274	SLU 23	7	-21	1258	0	0	0
274	SLU 24	6	-27	1251	0	0	0
274	SLU 25	7	-24	1265	0	0	0
274	SLU 26	7	-22	1269	0	0	0
274	SLU 27	6	-27	1261	0	0	0
274	SLU 28	6	-24	1276	0	0	0
274	SLU 29	6	-27	1254	0	0	0
274	SLU 30	6	-24	1269	0	0	0
274	SLU 31	7	-24	1397	0	0	0
274	SLU 32	6	-29	1390	0	0	0
274	SLU 33	7	-26	1404	0	0	0
274	SLU 34	7	-24	1407	0	0	0
274	SLU 35	6	-30	1400	0	0	0
274	SLU 36	6	-27	1414	0	0	0
274	SLU 37	6	-30	1393	0	0	0
274	SLU 38	6	-27	1408	0	0	0
274	SLU 39	6	-30	1432	0	0	0
274	SLU 40	7	-27	1447	0	0	0
274	SLU 41	6	-30	1443	0	0	0
274	SLU 42	6	-27	1457	0	0	0
274	SLU 43	7	-29	1367	0	0	0
274	SLU 44	7	-25	1391	0	0	0
274	SLU 45	7	-30	1384	0	0	0
274	SLU 46	7	-27	1398	0	0	0
274	SLU 47	7	-25	1402	0	0	0
274	SLU 48	6	-30	1394	0	0	0
274	SLU 49	7	-27	1408	0	0	0
274	SLU 50	6	-30	1387	0	0	0
274	SLU 51	7	-27	1402	0	0	0
274	SLU 52	7	-27	1530	0	0	0
274	SLU 53	7	-33	1522	0	0	0
274	SLU 54	7	-30	1537	0	0	0
274	SLU 55	7	-28	1540	0	0	0
274	SLU 56	6	-33	1533	0	0	0
274	SLU 57	7	-30	1547	0	0	0
274	SLU 58	6	-33	1526	0	0	0
274	SLU 59	7	-30	1541	0	0	0
274	SLU 60	7	-33	1565	0	0	0
274	SLU 61	7	-30	1580	0	0	0
274	SLU 62	7	-34	1575	0	0	0
274	SLU 63	7	-31	1590	0	0	0
274	SLU 64	8	-32	1511	0	0	0
274	SLU 65	8	-27	1536	0	0	0
274	SLU 66	8	-33	1528	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
274	SLU 67	8	-30	1543	0	0	0
274	SLU 68	8	-28	1546	0	0	0
274	SLU 69	7	-33	1538	0	0	0
274	SLU 70	8	-30	1553	0	0	0
274	SLU 71	7	-33	1532	0	0	0
274	SLU 72	8	-30	1546	0	0	0
274	SLU 73	8	-30	1675	0	0	0
274	SLU 74	8	-35	1667	0	0	0
274	SLU 75	8	-32	1682	0	0	0
274	SLU 76	8	-30	1685	0	0	0
274	SLU 77	7	-36	1677	0	0	0
274	SLU 78	8	-33	1692	0	0	0
274	SLU 79	7	-36	1671	0	0	0
274	SLU 80	8	-33	1685	0	0	0
274	SLU 81	8	-36	1710	0	0	0
274	SLU 82	8	-33	1724	0	0	0
274	SLU 83	7	-36	1720	0	0	0
274	SLU 84	8	-33	1735	0	0	0
274	SLE RA 1	6	-24	1131	0	0	0
274	SLE RA 2	6	-21	1147	0	0	0
274	SLE RA 3	6	-24	1142	0	0	0
274	SLE RA 4	6	-23	1152	0	0	0
274	SLE RA 5	6	-21	1154	0	0	0
274	SLE RA 6	5	-25	1149	0	0	0
274	SLE RA 7	6	-23	1159	0	0	0
274	SLE RA 8	5	-25	1144	0	0	0
274	SLE RA 9	6	-23	1154	0	0	0
274	SLE RA 10	6	-23	1240	0	0	0
274	SLE RA 11	6	-26	1235	0	0	0
274	SLE RA 12	6	-24	1244	0	0	0
274	SLE RA 13	6	-23	1246	0	0	0
274	SLE RA 14	5	-27	1241	0	0	0
274	SLE RA 15	6	-25	1251	0	0	0
274	SLE RA 16	5	-26	1237	0	0	0
274	SLE RA 17	6	-24	1247	0	0	0
274	SLE RA 18	6	-27	1263	0	0	0
274	SLE RA 19	6	-25	1273	0	0	0
274	SLE RA 20	6	-27	1270	0	0	0
274	SLE RA 21	6	-25	1280	0	0	0
274	SLE FR 1	6	-24	1131	0	0	0
274	SLE FR 2	6	-23	1134	0	0	0
274	SLE FR 3	6	-24	1134	0	0	0
274	SLE FR 4	6	-24	1174	0	0	0
274	SLE FR 5	6	-25	1173	0	0	0
274	SLE FR 6	6	-25	1197	0	0	0
274	SLE QP 1	6	-24	1131	0	0	0
274	SLE QP 2	6	-25	1171	0	0	0
274	SLD 1	125	18	1285	0	0	0
274	SLD 2	146	26	1298	0	0	0
274	SLD 3	117	-43	938	0	0	0
274	SLD 4	138	-35	950	0	0	0
274	SLD 5	50	79	1731	0	0	0
274	SLD 6	64	84	1739	0	0	0
274	SLD 7	23	-124	571	0	0	0
274	SLD 8	37	-119	579	0	0	0
274	SLD 9	-25	69	1762	0	0	0
274	SLD 10	-12	74	1770	0	0	0
274	SLD 11	-52	-134	602	0	0	0
274	SLD 12	-39	-128	611	0	0	0
274	SLD 13	-126	-15	1391	0	0	0
274	SLD 14	-105	-7	1404	0	0	0
274	SLD 15	-134	-76	1043	0	0	0
274	SLD 16	-113	-67	1056	0	0	0
274	SLV 1	192	46	1375	0	0	0
274	SLV 2	226	59	1395	0	0	0
274	SLV 3	178	-58	781	0	0	0
274	SLV 4	212	-45	801	0	0	0
274	SLV 5	76	151	2129	0	0	0
274	SLV 6	99	160	2142	0	0	0
274	SLV 7	30	-195	150	0	0	0
274	SLV 8	53	-186	163	0	0	0
274	SLV 9	-41	136	2178	0	0	0
274	SLV 10	-19	145	2191	0	0	0
274	SLV 11	-88	-210	199	0	0	0
274	SLV 12	-65	-201	213	0	0	0
274	SLV 13	-200	-5	1540	0	0	0
274	SLV 14	-167	8	1560	0	0	0
274	SLV 15	-214	-109	946	0	0	0
274	SLV 16	-181	-96	966	0	0	0
274	SLV FO 1	211	53	1395	0	0	0
274	SLV FO 2	248	68	1417	0	0	0
274	SLV FO 3	196	-61	742	0	0	0
274	SLV FO 4	232	-47	764	0	0	0
274	SLV FO 5	84	169	2224	0	0	0
274	SLV FO 6	108	179	2239	0	0	0
274	SLV FO 7	33	-212	48	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
274	SLV FO 8	57	-202	62	0	0	0
274	SLV FO 9	-46	152	2279	0	0	0
274	SLV FO 10	-21	162	2294	0	0	0
274	SLV FO 11	-97	-228	102	0	0	0
274	SLV FO 12	-72	-219	117	0	0	0
274	SLV FO 13	-221	-3	1577	0	0	0
274	SLV FO 14	-184	11	1599	0	0	0
274	SLV FO 15	-236	-117	924	0	0	0
274	SLV FO 16	-200	-103	946	0	0	0
274	CRTFP Uy+	0	0	0	0	0	0
274	CRTFP Uy-	0	0	0	0	0	0
275	SLU 1	5	-23	1027	0	0	0
275	SLU 2	6	-19	1051	0	0	0
275	SLU 3	5	-23	1043	0	0	0
275	SLU 4	6	-21	1057	0	0	0
275	SLU 5	6	-19	1060	0	0	0
275	SLU 6	5	-24	1053	0	0	0
275	SLU 7	6	-21	1067	0	0	0
275	SLU 8	5	-24	1047	0	0	0
275	SLU 9	6	-21	1060	0	0	0
275	SLU 10	6	-21	1181	0	0	0
275	SLU 11	5	-26	1174	0	0	0
275	SLU 12	6	-23	1188	0	0	0
275	SLU 13	6	-22	1191	0	0	0
275	SLU 14	5	-26	1183	0	0	0
275	SLU 15	6	-24	1197	0	0	0
275	SLU 16	5	-26	1177	0	0	0
275	SLU 17	6	-24	1191	0	0	0
275	SLU 18	6	-27	1214	0	0	0
275	SLU 19	6	-24	1228	0	0	0
275	SLU 20	5	-27	1224	0	0	0
275	SLU 21	6	-24	1238	0	0	0
275	SLU 22	6	-26	1165	0	0	0
275	SLU 23	7	-21	1188	0	0	0
275	SLU 24	6	-26	1180	0	0	0
275	SLU 25	7	-24	1194	0	0	0
275	SLU 26	7	-22	1197	0	0	0
275	SLU 27	6	-27	1190	0	0	0
275	SLU 28	6	-24	1204	0	0	0
275	SLU 29	6	-26	1184	0	0	0
275	SLU 30	6	-24	1198	0	0	0
275	SLU 31	7	-24	1319	0	0	0
275	SLU 32	6	-29	1311	0	0	0
275	SLU 33	7	-26	1325	0	0	0
275	SLU 34	7	-24	1328	0	0	0
275	SLU 35	6	-29	1321	0	0	0
275	SLU 36	7	-27	1334	0	0	0
275	SLU 37	6	-29	1314	0	0	0
275	SLU 38	6	-26	1328	0	0	0
275	SLU 39	6	-29	1351	0	0	0
275	SLU 40	7	-27	1365	0	0	0
275	SLU 41	6	-30	1361	0	0	0
275	SLU 42	7	-27	1375	0	0	0
275	SLU 43	7	-29	1289	0	0	0
275	SLU 44	7	-25	1312	0	0	0
275	SLU 45	7	-29	1304	0	0	0
275	SLU 46	7	-27	1318	0	0	0
275	SLU 47	7	-25	1321	0	0	0
275	SLU 48	7	-30	1314	0	0	0
275	SLU 49	7	-27	1328	0	0	0
275	SLU 50	7	-30	1308	0	0	0
275	SLU 51	7	-27	1322	0	0	0
275	SLU 52	7	-27	1443	0	0	0
275	SLU 53	7	-32	1435	0	0	0
275	SLU 54	7	-29	1449	0	0	0
275	SLU 55	7	-27	1452	0	0	0
275	SLU 56	7	-32	1445	0	0	0
275	SLU 57	7	-30	1459	0	0	0
275	SLU 58	7	-32	1439	0	0	0
275	SLU 59	7	-30	1453	0	0	0
275	SLU 60	7	-33	1476	0	0	0
275	SLU 61	7	-30	1490	0	0	0
275	SLU 62	7	-33	1485	0	0	0
275	SLU 63	7	-30	1499	0	0	0
275	SLU 64	8	-32	1426	0	0	0
275	SLU 65	8	-27	1449	0	0	0
275	SLU 66	8	-32	1441	0	0	0
275	SLU 67	8	-30	1455	0	0	0
275	SLU 68	8	-28	1459	0	0	0
275	SLU 69	7	-33	1451	0	0	0
275	SLU 70	8	-30	1465	0	0	0
275	SLU 71	7	-32	1445	0	0	0
275	SLU 72	8	-30	1459	0	0	0
275	SLU 73	8	-30	1580	0	0	0
275	SLU 74	8	-35	1572	0	0	0
275	SLU 75	8	-32	1586	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
275	SLU 76	8	-30	1589	0	0	0
275	SLU 77	7	-35	1582	0	0	0
275	SLU 78	8	-32	1596	0	0	0
275	SLU 79	7	-35	1576	0	0	0
275	SLU 80	8	-32	1590	0	0	0
275	SLU 81	8	-35	1613	0	0	0
275	SLU 82	8	-33	1627	0	0	0
275	SLU 83	8	-36	1622	0	0	0
275	SLU 84	8	-33	1636	0	0	0
275	SLE RA 1	6	-24	1067	0	0	0
275	SLE RA 2	6	-21	1082	0	0	0
275	SLE RA 3	6	-24	1077	0	0	0
275	SLE RA 4	6	-22	1086	0	0	0
275	SLE RA 5	6	-21	1088	0	0	0
275	SLE RA 6	6	-24	1083	0	0	0
275	SLE RA 7	6	-23	1093	0	0	0
275	SLE RA 8	6	-24	1079	0	0	0
275	SLE RA 9	6	-22	1089	0	0	0
275	SLE RA 10	6	-23	1169	0	0	0
275	SLE RA 11	6	-26	1164	0	0	0
275	SLE RA 12	6	-24	1174	0	0	0
275	SLE RA 13	6	-23	1176	0	0	0
275	SLE RA 14	6	-26	1171	0	0	0
275	SLE RA 15	6	-24	1180	0	0	0
275	SLE RA 16	6	-26	1167	0	0	0
275	SLE RA 17	6	-24	1176	0	0	0
275	SLE RA 18	6	-26	1191	0	0	0
275	SLE RA 19	6	-24	1201	0	0	0
275	SLE RA 20	6	-26	1198	0	0	0
275	SLE RA 21	6	-25	1207	0	0	0
275	SLE FR 1	6	-24	1067	0	0	0
275	SLE FR 2	6	-23	1070	0	0	0
275	SLE FR 3	6	-24	1069	0	0	0
275	SLE FR 4	6	-24	1107	0	0	0
275	SLE FR 5	6	-25	1107	0	0	0
275	SLE FR 6	6	-25	1129	0	0	0
275	SLE QP 1	6	-24	1067	0	0	0
275	SLE QP 2	6	-24	1104	0	0	0
275	SLD 1	116	16	1208	0	0	0
275	SLD 2	135	25	1221	0	0	0
275	SLD 3	108	-39	878	0	0	0
275	SLD 4	128	-31	891	0	0	0
275	SLD 5	47	70	1633	0	0	0
275	SLD 6	60	76	1642	0	0	0
275	SLD 7	21	-114	534	0	0	0
275	SLD 8	34	-109	542	0	0	0
275	SLD 9	-22	60	1666	0	0	0
275	SLD 10	-10	66	1674	0	0	0
275	SLD 11	-48	-125	566	0	0	0
275	SLD 12	-36	-119	575	0	0	0
275	SLD 13	-116	-18	1317	0	0	0
275	SLD 14	-97	-9	1330	0	0	0
275	SLD 15	-124	-74	987	0	0	0
275	SLD 16	-104	-65	1000	0	0	0
275	SLV 1	178	43	1290	0	0	0
275	SLV 2	209	56	1311	0	0	0
275	SLV 3	165	-52	727	0	0	0
275	SLV 4	196	-38	748	0	0	0
275	SLV 5	72	137	2010	0	0	0
275	SLV 6	92	146	2024	0	0	0
275	SLV 7	28	-179	133	0	0	0
275	SLV 8	48	-170	147	0	0	0
275	SLV 9	-37	121	2061	0	0	0
275	SLV 10	-16	130	2075	0	0	0
275	SLV 11	-81	-195	184	0	0	0
275	SLV 12	-60	-186	198	0	0	0
275	SLV 13	-184	-11	1460	0	0	0
275	SLV 14	-154	3	1481	0	0	0
275	SLV 15	-198	-105	897	0	0	0
275	SLV 16	-167	-92	918	0	0	0
275	SLV FO 1	195	49	1309	0	0	0
275	SLV FO 2	229	64	1332	0	0	0
275	SLV FO 3	181	-55	690	0	0	0
275	SLV FO 4	215	-40	712	0	0	0
275	SLV FO 5	78	153	2100	0	0	0
275	SLV FO 6	101	163	2116	0	0	0
275	SLV FO 7	30	-194	36	0	0	0
275	SLV FO 8	53	-184	52	0	0	0
275	SLV FO 9	-41	135	2156	0	0	0
275	SLV FO 10	-19	145	2172	0	0	0
275	SLV FO 11	-90	-212	92	0	0	0
275	SLV FO 12	-67	-202	108	0	0	0
275	SLV FO 13	-203	-9	1496	0	0	0
275	SLV FO 14	-169	6	1518	0	0	0
275	SLV FO 15	-218	-113	876	0	0	0
275	SLV FO 16	-184	-98	899	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
275	CRTFP Uy+	0	0	0	0	0	0
275	CRTFP Uy-	0	0	0	0	0	0
276	SLU 1	5	-21	920	0	0	0
276	SLU 2	6	-17	941	0	0	0
276	SLU 3	5	-22	934	0	0	0
276	SLU 4	5	-19	947	0	0	0
276	SLU 5	6	-18	950	0	0	0
276	SLU 6	5	-22	943	0	0	0
276	SLU 7	5	-20	955	0	0	0
276	SLU 8	5	-22	937	0	0	0
276	SLU 9	5	-20	950	0	0	0
276	SLU 10	6	-20	1058	0	0	0
276	SLU 11	5	-24	1051	0	0	0
276	SLU 12	6	-22	1064	0	0	0
276	SLU 13	6	-20	1067	0	0	0
276	SLU 14	5	-24	1060	0	0	0
276	SLU 15	5	-22	1072	0	0	0
276	SLU 16	5	-24	1054	0	0	0
276	SLU 17	5	-22	1067	0	0	0
276	SLU 18	5	-25	1087	0	0	0
276	SLU 19	6	-22	1100	0	0	0
276	SLU 20	5	-25	1096	0	0	0
276	SLU 21	6	-23	1108	0	0	0
276	SLU 22	6	-24	1043	0	0	0
276	SLU 23	7	-20	1064	0	0	0
276	SLU 24	6	-24	1057	0	0	0
276	SLU 25	6	-22	1070	0	0	0
276	SLU 26	6	-20	1073	0	0	0
276	SLU 27	6	-25	1066	0	0	0
276	SLU 28	6	-22	1079	0	0	0
276	SLU 29	6	-24	1061	0	0	0
276	SLU 30	6	-22	1073	0	0	0
276	SLU 31	7	-22	1182	0	0	0
276	SLU 32	6	-27	1175	0	0	0
276	SLU 33	6	-24	1187	0	0	0
276	SLU 34	7	-23	1190	0	0	0
276	SLU 35	6	-27	1183	0	0	0
276	SLU 36	6	-25	1196	0	0	0
276	SLU 37	6	-27	1178	0	0	0
276	SLU 38	6	-25	1190	0	0	0
276	SLU 39	6	-27	1211	0	0	0
276	SLU 40	6	-25	1223	0	0	0
276	SLU 41	6	-27	1219	0	0	0
276	SLU 42	6	-25	1232	0	0	0
276	SLU 43	6	-27	1154	0	0	0
276	SLU 44	7	-23	1175	0	0	0
276	SLU 45	6	-27	1168	0	0	0
276	SLU 46	7	-25	1180	0	0	0
276	SLU 47	7	-23	1183	0	0	0
276	SLU 48	6	-28	1176	0	0	0
276	SLU 49	7	-25	1189	0	0	0
276	SLU 50	6	-27	1171	0	0	0
276	SLU 51	7	-25	1183	0	0	0
276	SLU 52	7	-25	1292	0	0	0
276	SLU 53	7	-30	1285	0	0	0
276	SLU 54	7	-27	1297	0	0	0
276	SLU 55	7	-26	1300	0	0	0
276	SLU 56	6	-30	1293	0	0	0
276	SLU 57	7	-28	1306	0	0	0
276	SLU 58	6	-30	1288	0	0	0
276	SLU 59	7	-28	1300	0	0	0
276	SLU 60	7	-30	1321	0	0	0
276	SLU 61	7	-28	1334	0	0	0
276	SLU 62	6	-30	1330	0	0	0
276	SLU 63	7	-28	1342	0	0	0
276	SLU 64	7	-29	1277	0	0	0
276	SLU 65	8	-25	1298	0	0	0
276	SLU 66	7	-30	1291	0	0	0
276	SLU 67	8	-27	1304	0	0	0
276	SLU 68	8	-26	1307	0	0	0
276	SLU 69	7	-30	1300	0	0	0
276	SLU 70	7	-28	1312	0	0	0
276	SLU 71	7	-30	1294	0	0	0
276	SLU 72	7	-28	1307	0	0	0
276	SLU 73	8	-28	1415	0	0	0
276	SLU 74	7	-32	1408	0	0	0
276	SLU 75	8	-30	1421	0	0	0
276	SLU 76	8	-28	1424	0	0	0
276	SLU 77	7	-32	1417	0	0	0
276	SLU 78	8	-30	1429	0	0	0
276	SLU 79	7	-32	1411	0	0	0
276	SLU 80	7	-30	1424	0	0	0
276	SLU 81	7	-33	1445	0	0	0
276	SLU 82	8	-30	1457	0	0	0
276	SLU 83	7	-33	1453	0	0	0
276	SLU 84	8	-31	1466	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
276	SLE RA 1	5	-22	955	0	0	0
276	SLE RA 2	6	-19	969	0	0	0
276	SLE RA 3	5	-22	965	0	0	0
276	SLE RA 4	6	-21	973	0	0	0
276	SLE RA 5	6	-20	975	0	0	0
276	SLE RA 6	5	-22	970	0	0	0
276	SLE RA 7	6	-21	979	0	0	0
276	SLE RA 8	5	-22	967	0	0	0
276	SLE RA 9	5	-21	975	0	0	0
276	SLE RA 10	6	-21	1047	0	0	0
276	SLE RA 11	5	-24	1043	0	0	0
276	SLE RA 12	6	-22	1051	0	0	0
276	SLE RA 13	6	-21	1053	0	0	0
276	SLE RA 14	5	-24	1048	0	0	0
276	SLE RA 15	6	-23	1057	0	0	0
276	SLE RA 16	5	-24	1045	0	0	0
276	SLE RA 17	6	-22	1053	0	0	0
276	SLE RA 18	6	-24	1067	0	0	0
276	SLE RA 19	6	-23	1075	0	0	0
276	SLE RA 20	5	-24	1073	0	0	0
276	SLE RA 21	6	-23	1081	0	0	0
276	SLE FR 1	5	-22	955	0	0	0
276	SLE FR 2	5	-21	958	0	0	0
276	SLE FR 3	5	-22	958	0	0	0
276	SLE FR 4	6	-22	992	0	0	0
276	SLE FR 5	5	-23	991	0	0	0
276	SLE FR 6	5	-23	1011	0	0	0
276	SLE QP 1	5	-22	955	0	0	0
276	SLE QP 2	5	-23	989	0	0	0
276	SLD 1	102	14	1079	0	0	0
276	SLD 2	119	22	1091	0	0	0
276	SLD 3	95	-34	781	0	0	0
276	SLD 4	112	-26	794	0	0	0
276	SLD 5	42	60	1464	0	0	0
276	SLD 6	53	65	1473	0	0	0
276	SLD 7	19	-100	473	0	0	0
276	SLD 8	30	-95	482	0	0	0
276	SLD 9	-19	50	1496	0	0	0
276	SLD 10	-8	55	1504	0	0	0
276	SLD 11	-42	-110	505	0	0	0
276	SLD 12	-31	-105	513	0	0	0
276	SLD 13	-101	-19	1184	0	0	0
276	SLD 14	-84	-11	1196	0	0	0
276	SLD 15	-108	-67	886	0	0	0
276	SLD 16	-91	-59	899	0	0	0
276	SLV 1	157	38	1150	0	0	0
276	SLV 2	184	51	1170	0	0	0
276	SLV 3	145	-44	643	0	0	0
276	SLV 4	172	-31	663	0	0	0
276	SLV 5	64	118	1803	0	0	0
276	SLV 6	82	126	1816	0	0	0
276	SLV 7	24	-156	112	0	0	0
276	SLV 8	42	-147	125	0	0	0
276	SLV 9	-32	102	1852	0	0	0
276	SLV 10	-13	111	1866	0	0	0
276	SLV 11	-71	-172	161	0	0	0
276	SLV 12	-53	-163	175	0	0	0
276	SLV 13	-161	-14	1315	0	0	0
276	SLV 14	-134	-1	1334	0	0	0
276	SLV 15	-173	-96	807	0	0	0
276	SLV 16	-146	-83	827	0	0	0
276	SLV FO 1	172	44	1166	0	0	0
276	SLV FO 2	202	58	1188	0	0	0
276	SLV FO 3	159	-46	608	0	0	0
276	SLV FO 4	189	-32	630	0	0	0
276	SLV FO 5	70	132	1884	0	0	0
276	SLV FO 6	90	141	1899	0	0	0
276	SLV FO 7	26	-169	24	0	0	0
276	SLV FO 8	46	-160	39	0	0	0
276	SLV FO 9	-35	115	1938	0	0	0
276	SLV FO 10	-15	124	1953	0	0	0
276	SLV FO 11	-79	-186	79	0	0	0
276	SLV FO 12	-59	-177	93	0	0	0
276	SLV FO 13	-178	-13	1347	0	0	0
276	SLV FO 14	-148	1	1369	0	0	0
276	SLV FO 15	-191	-103	789	0	0	0
276	SLV FO 16	-161	-89	811	0	0	0
276	CRTFP Uy+	0	0	0	0	0	0
276	CRTFP Uy-	0	0	0	0	0	0
279	SLU 1	14	-37	3663	-87.76	1067.4	10.69
279	SLU 2	16	-18	3742	-89.8	1090.32	5.06
279	SLU 3	14	-38	3721	-89.13	1084.54	10.95
279	SLU 4	15	-26	3769	-90.36	1098.29	7.58
279	SLU 5	16	-18	3778	-90.65	1101.02	5.29
279	SLU 6	13	-39	3758	-89.98	1095.24	11.17
279	SLU 7	15	-27	3805	-91.21	1108.99	7.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
279	SLU 8	13	-38	3736	-89.46	1088.81	11.13
279	SLU 9	14	-27	3783	-90.69	1102.56	7.76
279	SLU 10	16	-21	4223	-101.36	1231.45	6.13
279	SLU 11	14	-42	4203	-100.69	1225.67	12.01
279	SLU 12	15	-30	4250	-101.91	1239.42	8.64
279	SLU 13	15	-22	4260	-102.21	1242.15	6.35
279	SLU 14	13	-42	4239	-101.54	1236.37	12.23
279	SLU 15	14	-31	4286	-102.76	1250.12	8.86
279	SLU 16	13	-42	4217	-101.02	1229.94	12.19
279	SLU 17	14	-31	4264	-102.25	1243.69	8.82
279	SLU 18	14	-42	4351	-104.27	1269.01	12.21
279	SLU 19	15	-31	4398	-105.5	1282.77	8.83
279	SLU 20	13	-43	4387	-105.12	1279.72	12.43
279	SLU 21	15	-32	4434	-106.35	1293.47	9.05
279	SLU 22	17	-42	4142	-99.17	1206.87	12.12
279	SLU 23	19	-22	4221	-101.21	1229.79	6.49
279	SLU 24	16	-43	4200	-100.54	1224.01	12.38
279	SLU 25	17	-31	4247	-101.77	1237.77	9.01
279	SLU 26	18	-23	4257	-102.06	1240.5	6.72
279	SLU 27	16	-44	4236	-101.39	1234.72	12.6
279	SLU 28	17	-32	4284	-102.62	1248.47	9.23
279	SLU 29	15	-43	4214	-100.87	1228.28	12.56
279	SLU 30	17	-32	4262	-102.1	1242.03	9.19
279	SLU 31	18	-26	4702	-112.77	1370.93	7.56
279	SLU 32	16	-47	4681	-112.1	1365.14	13.44
279	SLU 33	17	-35	4729	-113.32	1378.9	10.07
279	SLU 34	18	-27	4738	-113.62	1381.63	7.78
279	SLU 35	15	-47	4718	-112.95	1375.85	13.66
279	SLU 36	16	-36	4765	-114.17	1389.6	10.29
279	SLU 37	15	-47	4696	-112.43	1369.41	13.62
279	SLU 38	16	-36	4743	-113.65	1383.16	10.25
279	SLU 39	16	-47	4829	-115.68	1408.49	13.64
279	SLU 40	17	-36	4877	-116.91	1422.24	10.26
279	SLU 41	16	-48	4866	-116.53	1419.19	13.86
279	SLU 42	17	-36	4913	-117.76	1432.95	10.48
279	SLU 43	18	-46	4598	-110.18	1339.8	13.4
279	SLU 44	20	-27	4677	-112.22	1362.72	7.78
279	SLU 45	18	-47	4656	-111.55	1356.94	13.67
279	SLU 46	19	-36	4703	-112.77	1370.69	10.29
279	SLU 47	19	-28	4713	-113.07	1373.42	8
279	SLU 48	17	-48	4693	-112.4	1367.64	13.89
279	SLU 49	18	-36	4740	-113.62	1381.39	10.51
279	SLU 50	17	-48	4671	-111.88	1361.2	13.85
279	SLU 51	18	-36	4718	-113.1	1374.96	10.47
279	SLU 52	20	-31	5158	-123.78	1503.85	8.84
279	SLU 53	17	-51	5137	-123.11	1498.07	14.73
279	SLU 54	18	-39	5185	-124.33	1511.82	11.35
279	SLU 55	19	-32	5194	-124.63	1514.55	9.06
279	SLU 56	17	-52	5174	-123.96	1508.77	14.95
279	SLU 57	18	-40	5221	-125.18	1522.52	11.58
279	SLU 58	16	-52	5152	-123.44	1502.33	14.91
279	SLU 59	18	-40	5199	-124.66	1516.09	11.53
279	SLU 60	18	-52	5285	-126.69	1541.41	14.92
279	SLU 61	19	-40	5333	-127.91	1555.16	11.55
279	SLU 62	17	-53	5322	-127.54	1552.12	15.14
279	SLU 63	18	-41	5369	-128.76	1565.87	11.77
279	SLU 64	20	-51	5076	-121.59	1479.27	14.83
279	SLU 65	22	-32	5155	-123.63	1502.19	9.21
279	SLU 66	20	-52	5135	-122.96	1496.41	15.1
279	SLU 67	21	-40	5182	-124.18	1510.16	11.72
279	SLU 68	22	-33	5192	-124.48	1512.9	9.43
279	SLU 69	19	-53	5171	-123.81	1507.12	15.32
279	SLU 70	20	-41	5218	-125.03	1520.87	11.94
279	SLU 71	19	-53	5149	-123.29	1500.68	15.28
279	SLU 72	20	-41	5196	-124.51	1514.43	11.9
279	SLU 73	22	-36	5637	-135.19	1643.32	10.27
279	SLU 74	20	-56	5616	-134.52	1637.54	16.16
279	SLU 75	21	-44	5663	-135.74	1651.3	12.78
279	SLU 76	21	-36	5673	-136.04	1654.03	10.49
279	SLU 77	19	-57	5652	-135.37	1648.25	16.38
279	SLU 78	20	-45	5700	-136.59	1662	13.01
279	SLU 79	19	-57	5630	-134.85	1641.81	16.34
279	SLU 80	20	-45	5678	-136.07	1655.56	12.96
279	SLU 81	20	-57	5764	-138.1	1680.89	16.35
279	SLU 82	21	-45	5811	-139.32	1694.64	12.98
279	SLU 83	19	-57	5800	-138.95	1691.59	16.57
279	SLU 84	20	-46	5848	-140.17	1705.34	13.2
279	SLE RA 1	15	-38	3800	-91.02	1107.25	11.1
279	SLE RA 2	16	-25	3852	-92.38	1122.53	7.35
279	SLE RA 3	15	-39	3839	-91.94	1118.67	11.27
279	SLE RA 4	16	-31	3870	-92.75	1127.84	9.02
279	SLE RA 5	16	-26	3877	-92.95	1129.66	7.49
279	SLE RA 6	14	-39	3863	-92.5	1125.81	11.42
279	SLE RA 7	15	-32	3894	-93.32	1134.98	9.17
279	SLE RA 8	14	-39	3848	-92.16	1121.52	11.39
279	SLE RA 9	15	-32	3880	-92.97	1130.69	9.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
279	SLE RA 10	16	-28	4173	-100.09	1216.62	8.06
279	SLE RA 11	15	-41	4160	-99.64	1212.76	11.98
279	SLE RA 12	15	-34	4191	-100.46	1221.93	9.73
279	SLE RA 13	16	-28	4197	-100.65	1223.75	8.2
279	SLE RA 14	14	-42	4184	-100.21	1219.9	12.13
279	SLE RA 15	15	-34	4215	-101.02	1229.07	9.88
279	SLE RA 16	14	-42	4169	-99.86	1215.61	12.1
279	SLE RA 17	15	-34	4201	-100.68	1224.78	9.85
279	SLE RA 18	15	-42	4258	-102.03	1241.66	12.11
279	SLE RA 19	16	-34	4290	-102.84	1250.83	9.86
279	SLE RA 20	14	-42	4282	-102.6	1248.79	12.26
279	SLE RA 21	15	-35	4314	-103.41	1257.96	10.01
279	SLE FR 1	15	-38	3800	-91.02	1107.25	11.1
279	SLE FR 2	15	-36	3810	-91.29	1110.3	10.35
279	SLE FR 3	15	-38	3809	-91.25	1110.1	11.16
279	SLE FR 4	15	-37	3948	-94.6	1150.63	10.65
279	SLE FR 5	15	-40	3947	-94.55	1150.43	11.46
279	SLE FR 6	15	-40	4029	-96.53	1174.45	11.6
279	SLE QP 1	15	-38	3800	-91.02	1107.25	11.1
279	SLE QP 2	15	-39	3937	-94.32	1147.57	11.4
279	SLD 1	418	57	4415	-106.64	1290.49	-7.64
279	SLD 2	490	60	4427	-106.95	1292.57	-6.66
279	SLD 3	394	-180	3263	-76.94	954.72	61.29
279	SLD 4	466	-177	3275	-77.25	956.8	62.28
279	SLD 5	160	348	5826	-143.01	1699.34	-99.03
279	SLD 6	207	350	5833	-143.21	1700.68	-98.4
279	SLD 7	80	-441	1986	-44.01	580.1	130.75
279	SLD 8	126	-439	1993	-44.21	581.45	131.38
279	SLD 9	-96	360	5881	-144.44	1713.69	-108.58
279	SLD 10	-50	362	5889	-144.64	1715.04	-107.95
279	SLD 11	-177	-428	2041	-45.44	594.46	121.2
279	SLD 12	-130	-426	2049	-45.64	595.8	121.83
279	SLD 13	-436	98	4600	-111.4	1338.34	-39.48
279	SLD 14	-364	101	4612	-111.71	1340.43	-38.49
279	SLD 15	-460	-139	3448	-81.7	1002.57	29.46
279	SLD 16	-388	-135	3460	-82.01	1004.66	30.44
279	SLV 1	647	127	4764	-115.66	1394.35	-23.29
279	SLV 2	760	132	4783	-116.14	1397.64	-21.75
279	SLV 3	606	-276	2799	-64.97	821.36	94.27
279	SLV 4	719	-271	2818	-65.46	824.65	95.82
279	SLV 5	246	621	7163	-177.5	2090.01	-177.6
279	SLV 6	322	625	7176	-177.83	2092.23	-176.56
279	SLV 7	108	-723	611	-8.56	180.07	214.28
279	SLV 8	185	-720	623	-8.89	182.29	215.32
279	SLV 9	-155	641	7251	-179.76	2112.86	-192.52
279	SLV 10	-78	644	7264	-180.09	2115.07	-191.48
279	SLV 11	-292	-703	698	-10.82	202.91	199.36
279	SLV 12	-216	-700	711	-11.15	205.13	200.4
279	SLV 13	-689	192	5057	-123.19	1470.49	-73.02
279	SLV 14	-576	197	5076	-123.67	1473.78	-71.47
279	SLV 15	-730	-211	3091	-72.5	897.5	44.54
279	SLV 16	-617	-206	3110	-72.99	900.79	46.09
279	SLV FO 1	710	144	4847	-117.79	1419.03	-26.76
279	SLV FO 2	835	150	4868	-118.33	1422.64	-25.06
279	SLV FO 3	665	-300	2685	-62.04	788.74	102.56
279	SLV FO 4	789	-294	2706	-62.58	792.36	104.26
279	SLV FO 5	269	687	7486	-185.82	2184.26	-196.5
279	SLV FO 6	353	691	7500	-186.18	2186.7	-195.36
279	SLV FO 7	118	-791	278	0.02	83.32	234.57
279	SLV FO 8	202	-788	292	-0.34	85.76	235.71
279	SLV FO 9	-172	709	7582	-188.3	2209.39	-212.91
279	SLV FO 10	-88	713	7597	-188.67	2211.82	-211.77
279	SLV FO 11	-323	-770	375	-2.47	108.45	218.16
279	SLV FO 12	-239	-766	389	-2.83	110.88	219.3
279	SLV FO 13	-759	215	5169	-126.07	1502.78	-81.46
279	SLV FO 14	-635	221	5190	-126.61	1506.4	-79.76
279	SLV FO 15	-805	-228	3007	-70.32	872.5	47.86
279	SLV FO 16	-680	-223	3028	-70.86	876.12	49.56
279	CRTFP Ux+	0	0	0	0	0	0
279	CRTFP Ux-	0	0	0	0	0	0
279	CRTFP Uy+	0	0	0	0	0	0
279	CRTFP Uy-	0	0	0	0	0	0
280	SLU 1	3	-11	458	-8.5	-57.27	-1.35
280	SLU 2	3	-9	469	-8.69	-58.59	-1.12
280	SLU 3	3	-11	465	-8.63	-58.14	-1.38
280	SLU 4	3	-10	471	-8.75	-58.93	-1.25
280	SLU 5	3	-10	473	-8.77	-59.11	-1.14
280	SLU 6	2	-12	469	-8.71	-58.67	-1.41
280	SLU 7	3	-11	476	-8.82	-59.46	-1.27
280	SLU 8	2	-12	467	-8.66	-58.32	-1.4
280	SLU 9	3	-10	473	-8.77	-59.11	-1.26
280	SLU 10	3	-11	527	-9.78	-65.88	-1.28
280	SLU 11	3	-13	523	-9.71	-65.43	-1.54
280	SLU 12	3	-12	530	-9.83	-66.22	-1.4
280	SLU 13	3	-11	531	-9.86	-66.41	-1.3
280	SLU 14	2	-13	528	-9.79	-65.96	-1.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLU 15	3	-12	534	-9.91	-66.75	-1.43
280	SLU 16	2	-13	525	-9.74	-65.62	-1.56
280	SLU 17	3	-12	531	-9.86	-66.41	-1.42
280	SLU 18	3	-13	541	-10.04	-67.69	-1.57
280	SLU 19	3	-12	548	-10.16	-68.48	-1.44
280	SLU 20	3	-13	546	-10.12	-68.21	-1.6
280	SLU 21	3	-12	552	-10.24	-69.01	-1.46
280	SLU 22	3	-12	520	-9.64	-64.99	-1.51
280	SLU 23	3	-11	530	-9.84	-66.31	-1.27
280	SLU 24	3	-13	527	-9.77	-65.86	-1.54
280	SLU 25	3	-12	533	-9.89	-66.65	-1.4
280	SLU 26	3	-11	535	-9.92	-66.84	-1.3
280	SLU 27	3	-13	531	-9.85	-66.39	-1.56
280	SLU 28	3	-12	537	-9.97	-67.18	-1.43
280	SLU 29	3	-13	528	-9.8	-66.05	-1.56
280	SLU 30	3	-12	535	-9.92	-66.84	-1.42
280	SLU 31	3	-12	589	-10.92	-73.6	-1.43
280	SLU 32	3	-14	585	-10.86	-73.16	-1.7
280	SLU 33	3	-13	592	-10.97	-73.95	-1.56
280	SLU 34	3	-12	593	-11	-74.13	-1.46
280	SLU 35	3	-14	589	-10.93	-73.69	-1.72
280	SLU 36	3	-13	596	-11.05	-74.48	-1.58
280	SLU 37	3	-14	587	-10.88	-73.34	-1.71
280	SLU 38	3	-13	593	-11	-74.13	-1.57
280	SLU 39	3	-14	603	-11.19	-75.41	-1.73
280	SLU 40	3	-13	610	-11.31	-76.2	-1.59
280	SLU 41	3	-14	608	-11.27	-75.94	-1.75
280	SLU 42	3	-13	614	-11.39	-76.73	-1.62
280	SLU 43	3	-14	574	-10.65	-71.8	-1.7
280	SLU 44	3	-12	585	-10.85	-73.12	-1.47
280	SLU 45	3	-14	581	-10.78	-72.67	-1.74
280	SLU 46	3	-13	588	-10.9	-73.46	-1.6
280	SLU 47	3	-12	589	-10.93	-73.65	-1.5
280	SLU 48	3	-15	586	-10.86	-73.2	-1.76
280	SLU 49	3	-13	592	-10.98	-73.99	-1.62
280	SLU 50	3	-14	583	-10.81	-72.85	-1.75
280	SLU 51	3	-13	589	-10.93	-73.65	-1.61
280	SLU 52	3	-14	643	-11.93	-80.41	-1.63
280	SLU 53	3	-16	640	-11.87	-79.96	-1.89
280	SLU 54	3	-15	646	-11.98	-80.76	-1.75
280	SLU 55	3	-14	648	-12.01	-80.94	-1.65
280	SLU 56	3	-16	644	-11.95	-80.49	-1.92
280	SLU 57	3	-15	650	-12.06	-81.28	-1.78
280	SLU 58	3	-16	641	-11.89	-80.15	-1.91
280	SLU 59	3	-15	648	-12.01	-80.94	-1.77
280	SLU 60	3	-16	658	-12.2	-82.22	-1.93
280	SLU 61	3	-15	664	-12.32	-83.01	-1.79
280	SLU 62	3	-16	662	-12.28	-82.75	-1.95
280	SLU 63	3	-15	668	-12.4	-83.54	-1.81
280	SLU 64	4	-15	636	-11.8	-79.52	-1.86
280	SLU 65	4	-14	647	-12	-80.84	-1.63
280	SLU 66	4	-16	643	-11.93	-80.39	-1.89
280	SLU 67	4	-15	649	-12.05	-81.19	-1.75
280	SLU 68	4	-14	651	-12.08	-81.37	-1.65
280	SLU 69	3	-16	647	-12.01	-80.92	-1.92
280	SLU 70	4	-15	654	-12.13	-81.71	-1.78
280	SLU 71	3	-16	645	-11.96	-80.58	-1.91
280	SLU 72	4	-15	651	-12.08	-81.37	-1.77
280	SLU 73	4	-15	705	-13.08	-88.14	-1.78
280	SLU 74	4	-17	702	-13.01	-87.69	-2.05
280	SLU 75	4	-16	708	-13.13	-88.48	-1.91
280	SLU 76	4	-15	709	-13.16	-88.66	-1.81
280	SLU 77	3	-17	706	-13.09	-88.22	-2.07
280	SLU 78	4	-16	712	-13.21	-89.01	-1.93
280	SLU 79	3	-17	703	-13.04	-87.87	-2.06
280	SLU 80	4	-16	709	-13.16	-88.66	-1.93
280	SLU 81	4	-17	720	-13.35	-89.94	-2.08
280	SLU 82	4	-16	726	-13.47	-90.73	-1.94
280	SLU 83	4	-17	724	-13.43	-90.47	-2.11
280	SLU 84	4	-16	730	-13.54	-91.26	-1.97
280	SLE RA 1	3	-12	476	-8.83	-59.47	-1.4
280	SLE RA 2	3	-10	483	-8.96	-60.35	-1.24
280	SLE RA 3	3	-12	480	-8.91	-60.05	-1.42
280	SLE RA 4	3	-11	485	-8.99	-60.58	-1.32
280	SLE RA 5	3	-10	486	-9.01	-60.71	-1.26
280	SLE RA 6	3	-12	483	-8.96	-60.41	-1.43
280	SLE RA 7	3	-11	487	-9.04	-60.93	-1.34
280	SLE RA 8	3	-12	481	-8.93	-60.18	-1.43
280	SLE RA 9	3	-11	486	-9.01	-60.71	-1.34
280	SLE RA 10	3	-11	522	-9.68	-65.22	-1.35
280	SLE RA 11	3	-13	519	-9.63	-64.92	-1.52
280	SLE RA 12	3	-12	524	-9.71	-65.45	-1.43
280	SLE RA 13	3	-11	525	-9.73	-65.57	-1.36
280	SLE RA 14	3	-13	522	-9.69	-65.27	-1.54
280	SLE RA 15	3	-12	526	-9.76	-65.8	-1.45
280	SLE RA 16	3	-13	520	-9.65	-65.04	-1.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLE RA 17	3	-12	525	-9.73	-65.57	-1.44
280	SLE RA 18	3	-13	531	-9.86	-66.42	-1.54
280	SLE RA 19	3	-12	536	-9.94	-66.95	-1.45
280	SLE RA 20	3	-13	534	-9.91	-66.77	-1.56
280	SLE RA 21	3	-12	538	-9.99	-67.3	-1.47
280	SLE FR 1	3	-12	476	-8.83	-59.47	-1.4
280	SLE FR 2	3	-11	477	-8.85	-59.65	-1.36
280	SLE FR 3	3	-12	477	-8.85	-59.61	-1.4
280	SLE FR 4	3	-12	494	-9.16	-61.73	-1.41
280	SLE FR 5	3	-12	494	-9.16	-61.7	-1.45
280	SLE FR 6	3	-12	504	-9.34	-62.95	-1.47
280	SLE QP 1	3	-12	476	-8.83	-59.47	-1.4
280	SLE QP 2	3	-12	492	-9.14	-61.56	-1.44
280	SLD 1	50	7	535	-9.93	-66.93	1.72
280	SLD 2	58	11	542	-10.06	-67.77	2.42
280	SLD 3	47	-17	386	-7.17	-48.3	-1.23
280	SLD 4	55	-12	393	-7.29	-49.14	-0.53
280	SLD 5	21	28	730	-13.55	-91.28	3.86
280	SLD 6	26	31	735	-13.63	-91.82	4.31
280	SLD 7	9	-49	233	-4.33	-29.18	-5.97
280	SLD 8	15	-46	238	-4.41	-29.72	-5.52
280	SLD 9	-9	22	747	-13.86	-93.4	2.64
280	SLD 10	-4	25	751	-13.94	-93.94	3.09
280	SLD 11	-21	-55	250	-4.64	-31.29	-7.19
280	SLD 12	-15	-52	255	-4.72	-31.83	-6.74
280	SLD 13	-50	-12	592	-10.98	-73.98	-2.35
280	SLD 14	-41	-7	599	-11.1	-74.82	-1.65
280	SLD 15	-53	-35	443	-8.21	-55.35	-5.3
280	SLD 16	-45	-30	449	-8.34	-56.19	-4.6
280	SLV 1	77	19	570	-10.58	-71.29	3.7
280	SLV 2	90	25	581	-10.78	-72.61	4.8
280	SLV 3	71	-21	316	-5.86	-39.5	-1.33
280	SLV 4	84	-14	327	-6.06	-40.82	-0.23
280	SLV 5	31	56	900	-16.69	-112.44	7.52
280	SLV 6	40	60	907	-16.82	-113.34	8.27
280	SLV 7	12	-76	52	-0.96	-6.48	-9.24
280	SLV 8	21	-71	59	-1.09	-7.37	-8.5
280	SLV 9	-15	47	926	-17.18	-115.75	5.62
280	SLV 10	-7	52	933	-17.31	-116.64	6.36
280	SLV 11	-35	-84	78	-1.45	-9.78	-11.15
280	SLV 12	-26	-80	85	-1.58	-10.67	-10.4
280	SLV 13	-79	-10	658	-12.21	-82.29	-2.65
280	SLV 14	-66	-3	669	-12.41	-83.62	-1.55
280	SLV 15	-85	-49	404	-7.49	-50.5	-7.68
280	SLV 16	-72	-42	415	-7.69	-51.83	-6.58
280	SLV FO 1	84	22	578	-10.72	-72.26	4.21
280	SLV FO 2	99	29	590	-10.94	-73.72	5.43
280	SLV FO 3	78	-22	298	-5.53	-37.29	-1.32
280	SLV FO 4	92	-14	310	-5.75	-38.75	-0.1
280	SLV FO 5	34	62	940	-17.44	-117.53	8.42
280	SLV FO 6	44	68	948	-17.59	-118.51	9.24
280	SLV FO 7	13	-82	8	-0.14	-0.97	-10.02
280	SLV FO 8	23	-77	16	-0.29	-1.95	-9.2
280	SLV FO 9	-17	53	969	-17.98	-121.17	6.32
280	SLV FO 10	-7	58	977	-18.13	-122.15	7.14
280	SLV FO 11	-39	-91	37	-0.68	-4.6	-12.12
280	SLV FO 12	-29	-86	45	-0.83	-5.58	-11.3
280	SLV FO 13	-87	-10	675	-12.52	-84.37	-2.78
280	SLV FO 14	-73	-2	687	-12.74	-85.82	-1.56
280	SLV FO 15	-94	-53	395	-7.33	-49.4	-8.31
280	SLV FO 16	-79	-45	407	-7.55	-50.86	-7.09
280	CRTFP Ux+	0	0	0	0	0	0
280	CRTFP Ux-	0	0	0	0	0	0
280	CRTFP Uy+	0	0	0	0	0	0
280	CRTFP Uy-	0	0	0	0	0	0
283	SLU 1	-10	-15	713	0	0	0
283	SLU 2	-11	-12	729	0	0	0
283	SLU 3	-10	-15	725	0	0	0
283	SLU 4	-11	-13	734	0	0	0
283	SLU 5	-11	-12	736	0	0	0
283	SLU 6	-10	-15	732	0	0	0
283	SLU 7	-11	-13	742	0	0	0
283	SLU 8	-10	-15	728	0	0	0
283	SLU 9	-11	-13	737	0	0	0
283	SLU 10	-11	-13	823	0	0	0
283	SLU 11	-11	-17	818	0	0	0
283	SLU 12	-11	-15	828	0	0	0
283	SLU 13	-11	-14	830	0	0	0
283	SLU 14	-11	-17	826	0	0	0
283	SLU 15	-11	-15	835	0	0	0
283	SLU 16	-11	-17	821	0	0	0
283	SLU 17	-11	-15	831	0	0	0
283	SLU 18	-11	-17	847	0	0	0
283	SLU 19	-11	-15	856	0	0	0
283	SLU 20	-11	-17	854	0	0	0
283	SLU 21	-11	-15	864	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
283	SLU 22	-11	-16	811	0	0	0
283	SLU 23	-12	-14	827	0	0	0
283	SLU 24	-12	-17	823	0	0	0
283	SLU 25	-12	-15	832	0	0	0
283	SLU 26	-12	-14	835	0	0	0
283	SLU 27	-12	-17	830	0	0	0
283	SLU 28	-12	-15	840	0	0	0
283	SLU 29	-12	-17	826	0	0	0
283	SLU 30	-12	-15	835	0	0	0
283	SLU 31	-13	-15	921	0	0	0
283	SLU 32	-12	-18	916	0	0	0
283	SLU 33	-13	-17	926	0	0	0
283	SLU 34	-13	-15	928	0	0	0
283	SLU 35	-13	-19	924	0	0	0
283	SLU 36	-13	-17	933	0	0	0
283	SLU 37	-12	-19	919	0	0	0
283	SLU 38	-13	-17	929	0	0	0
283	SLU 39	-12	-19	945	0	0	0
283	SLU 40	-13	-17	954	0	0	0
283	SLU 41	-13	-19	952	0	0	0
283	SLU 42	-13	-17	962	0	0	0
283	SLU 43	-12	-18	893	0	0	0
283	SLU 44	-13	-16	909	0	0	0
283	SLU 45	-13	-19	905	0	0	0
283	SLU 46	-13	-17	915	0	0	0
283	SLU 47	-13	-16	917	0	0	0
283	SLU 48	-13	-19	912	0	0	0
283	SLU 49	-13	-17	922	0	0	0
283	SLU 50	-13	-19	908	0	0	0
283	SLU 51	-13	-17	918	0	0	0
283	SLU 52	-14	-17	1003	0	0	0
283	SLU 53	-13	-20	999	0	0	0
283	SLU 54	-14	-19	1008	0	0	0
283	SLU 55	-14	-17	1010	0	0	0
283	SLU 56	-14	-21	1006	0	0	0
283	SLU 57	-14	-19	1016	0	0	0
283	SLU 58	-13	-21	1002	0	0	0
283	SLU 59	-14	-19	1011	0	0	0
283	SLU 60	-13	-21	1027	0	0	0
283	SLU 61	-14	-19	1037	0	0	0
283	SLU 62	-14	-21	1034	0	0	0
283	SLU 63	-14	-19	1044	0	0	0
283	SLU 64	-14	-20	991	0	0	0
283	SLU 65	-15	-17	1007	0	0	0
283	SLU 66	-14	-21	1003	0	0	0
283	SLU 67	-15	-19	1013	0	0	0
283	SLU 68	-15	-18	1015	0	0	0
283	SLU 69	-14	-21	1010	0	0	0
283	SLU 70	-15	-19	1020	0	0	0
283	SLU 71	-14	-21	1006	0	0	0
283	SLU 72	-15	-19	1016	0	0	0
283	SLU 73	-15	-19	1101	0	0	0
283	SLU 74	-15	-22	1097	0	0	0
283	SLU 75	-15	-20	1106	0	0	0
283	SLU 76	-15	-19	1108	0	0	0
283	SLU 77	-15	-22	1104	0	0	0
283	SLU 78	-15	-21	1114	0	0	0
283	SLU 79	-15	-22	1100	0	0	0
283	SLU 80	-15	-21	1109	0	0	0
283	SLU 81	-15	-23	1125	0	0	0
283	SLU 82	-15	-21	1135	0	0	0
283	SLU 83	-15	-23	1132	0	0	0
283	SLU 84	-15	-21	1142	0	0	0
283	SLE RA 1	-10	-15	741	0	0	0
283	SLE RA 2	-11	-13	752	0	0	0
283	SLE RA 3	-11	-15	749	0	0	0
283	SLE RA 4	-11	-14	755	0	0	0
283	SLE RA 5	-11	-13	757	0	0	0
283	SLE RA 6	-11	-16	754	0	0	0
283	SLE RA 7	-11	-14	760	0	0	0
283	SLE RA 8	-11	-16	751	0	0	0
283	SLE RA 9	-11	-14	757	0	0	0
283	SLE RA 10	-11	-14	814	0	0	0
283	SLE RA 11	-11	-16	811	0	0	0
283	SLE RA 12	-11	-15	818	0	0	0
283	SLE RA 13	-11	-14	819	0	0	0
283	SLE RA 14	-11	-17	816	0	0	0
283	SLE RA 15	-11	-15	823	0	0	0
283	SLE RA 16	-11	-17	813	0	0	0
283	SLE RA 17	-11	-15	820	0	0	0
283	SLE RA 18	-11	-17	830	0	0	0
283	SLE RA 19	-11	-16	837	0	0	0
283	SLE RA 20	-11	-17	835	0	0	0
283	SLE RA 21	-11	-16	841	0	0	0
283	SLE FR 1	-10	-15	741	0	0	0
283	SLE FR 2	-10	-15	743	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
283	SLE FR 3	-10	-15	743	0	0	0
283	SLE FR 4	-11	-15	770	0	0	0
283	SLE FR 5	-11	-16	770	0	0	0
283	SLE FR 6	-11	-16	786	0	0	0
283	SLE QP 1	-10	-15	741	0	0	0
283	SLE QP 2	-11	-16	768	0	0	0
283	SLD 1	57	-6	918	0	0	0
283	SLD 2	70	-13	909	0	0	0
283	SLD 3	62	-43	686	0	0	0
283	SLD 4	76	-49	677	0	0	0
283	SLD 5	-1	44	1166	0	0	0
283	SLD 6	8	40	1160	0	0	0
283	SLD 7	17	-78	393	0	0	0
283	SLD 8	26	-83	387	0	0	0
283	SLD 9	-47	51	1148	0	0	0
283	SLD 10	-38	47	1142	0	0	0
283	SLD 11	-29	-71	375	0	0	0
283	SLD 12	-20	-75	369	0	0	0
283	SLD 13	-97	18	858	0	0	0
283	SLD 14	-83	11	849	0	0	0
283	SLD 15	-91	-19	626	0	0	0
283	SLD 16	-78	-25	617	0	0	0
283	SLV 1	95	2	1020	0	0	0
283	SLV 2	115	-8	1005	0	0	0
283	SLV 3	104	-61	624	0	0	0
283	SLV 4	125	-71	610	0	0	0
283	SLV 5	3	86	1446	0	0	0
283	SLV 6	17	80	1436	0	0	0
283	SLV 7	34	-122	127	0	0	0
283	SLV 8	48	-129	118	0	0	0
283	SLV 9	-69	98	1418	0	0	0
283	SLV 10	-55	91	1408	0	0	0
283	SLV 11	-38	-111	99	0	0	0
283	SLV 12	-24	-118	89	0	0	0
283	SLV 13	-146	40	926	0	0	0
283	SLV 14	-125	29	911	0	0	0
283	SLV 15	-137	-23	530	0	0	0
283	SLV 16	-116	-33	515	0	0	0
283	SLV FO 1	105	4	1045	0	0	0
283	SLV FO 2	128	-8	1029	0	0	0
283	SLV FO 3	115	-65	610	0	0	0
283	SLV FO 4	138	-76	594	0	0	0
283	SLV FO 5	5	97	1514	0	0	0
283	SLV FO 6	20	89	1503	0	0	0
283	SLV FO 7	38	-133	63	0	0	0
283	SLV FO 8	54	-140	53	0	0	0
283	SLV FO 9	-75	109	1483	0	0	0
283	SLV FO 10	-59	101	1472	0	0	0
283	SLV FO 11	-41	-120	32	0	0	0
283	SLV FO 12	-26	-128	21	0	0	0
283	SLV FO 13	-159	45	941	0	0	0
283	SLV FO 14	-136	34	925	0	0	0
283	SLV FO 15	-149	-24	506	0	0	0
283	SLV FO 16	-126	-35	490	0	0	0
283	CRTFP Uy+	0	0	0	0	0	0
283	CRTFP Uy-	0	0	0	0	0	0
284	SLU 1	-10	-14	763	0	0	0
284	SLU 2	-11	-11	780	0	0	0
284	SLU 3	-11	-15	775	0	0	0
284	SLU 4	-11	-13	786	0	0	0
284	SLU 5	-11	-11	788	0	0	0
284	SLU 6	-11	-15	783	0	0	0
284	SLU 7	-11	-13	793	0	0	0
284	SLU 8	-11	-15	778	0	0	0
284	SLU 9	-11	-13	789	0	0	0
284	SLU 10	-11	-13	880	0	0	0
284	SLU 11	-11	-16	875	0	0	0
284	SLU 12	-12	-14	886	0	0	0
284	SLU 13	-12	-13	888	0	0	0
284	SLU 14	-11	-16	883	0	0	0
284	SLU 15	-12	-14	894	0	0	0
284	SLU 16	-11	-16	879	0	0	0
284	SLU 17	-12	-14	889	0	0	0
284	SLU 18	-11	-17	906	0	0	0
284	SLU 19	-11	-15	916	0	0	0
284	SLU 20	-11	-17	914	0	0	0
284	SLU 21	-12	-15	924	0	0	0
284	SLU 22	-12	-16	867	0	0	0
284	SLU 23	-12	-13	884	0	0	0
284	SLU 24	-12	-16	880	0	0	0
284	SLU 25	-13	-14	890	0	0	0
284	SLU 26	-13	-13	892	0	0	0
284	SLU 27	-12	-17	888	0	0	0
284	SLU 28	-13	-15	898	0	0	0
284	SLU 29	-12	-16	883	0	0	0
284	SLU 30	-13	-14	893	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
284	SLU 31	-13	-14	985	0	0	0
284	SLU 32	-13	-18	980	0	0	0
284	SLU 33	-13	-16	990	0	0	0
284	SLU 34	-13	-14	992	0	0	0
284	SLU 35	-13	-18	988	0	0	0
284	SLU 36	-13	-16	998	0	0	0
284	SLU 37	-13	-18	983	0	0	0
284	SLU 38	-13	-16	993	0	0	0
284	SLU 39	-13	-18	1010	0	0	0
284	SLU 40	-13	-16	1021	0	0	0
284	SLU 41	-13	-18	1018	0	0	0
284	SLU 42	-13	-16	1028	0	0	0
284	SLU 43	-13	-18	956	0	0	0
284	SLU 44	-13	-15	973	0	0	0
284	SLU 45	-13	-18	968	0	0	0
284	SLU 46	-14	-16	978	0	0	0
284	SLU 47	-14	-15	981	0	0	0
284	SLU 48	-13	-19	976	0	0	0
284	SLU 49	-14	-17	986	0	0	0
284	SLU 50	-13	-19	971	0	0	0
284	SLU 51	-14	-17	982	0	0	0
284	SLU 52	-14	-16	1073	0	0	0
284	SLU 53	-14	-20	1068	0	0	0
284	SLU 54	-14	-18	1079	0	0	0
284	SLU 55	-14	-17	1081	0	0	0
284	SLU 56	-14	-20	1076	0	0	0
284	SLU 57	-14	-18	1087	0	0	0
284	SLU 58	-14	-20	1072	0	0	0
284	SLU 59	-14	-18	1082	0	0	0
284	SLU 60	-14	-20	1099	0	0	0
284	SLU 61	-14	-18	1109	0	0	0
284	SLU 62	-14	-20	1107	0	0	0
284	SLU 63	-14	-19	1117	0	0	0
284	SLU 64	-14	-20	1060	0	0	0
284	SLU 65	-15	-16	1077	0	0	0
284	SLU 66	-15	-20	1073	0	0	0
284	SLU 67	-15	-18	1083	0	0	0
284	SLU 68	-15	-17	1085	0	0	0
284	SLU 69	-15	-20	1081	0	0	0
284	SLU 70	-15	-18	1091	0	0	0
284	SLU 71	-15	-20	1076	0	0	0
284	SLU 72	-15	-18	1086	0	0	0
284	SLU 73	-16	-18	1178	0	0	0
284	SLU 74	-15	-22	1173	0	0	0
284	SLU 75	-16	-20	1183	0	0	0
284	SLU 76	-16	-18	1185	0	0	0
284	SLU 77	-15	-22	1181	0	0	0
284	SLU 78	-16	-20	1191	0	0	0
284	SLU 79	-15	-22	1176	0	0	0
284	SLU 80	-16	-20	1186	0	0	0
284	SLU 81	-15	-22	1203	0	0	0
284	SLU 82	-16	-20	1214	0	0	0
284	SLU 83	-15	-22	1211	0	0	0
284	SLU 84	-16	-20	1221	0	0	0
284	SLE RA 1	-11	-15	793	0	0	0
284	SLE RA 2	-11	-13	804	0	0	0
284	SLE RA 3	-11	-15	801	0	0	0
284	SLE RA 4	-11	-14	808	0	0	0
284	SLE RA 5	-11	-13	809	0	0	0
284	SLE RA 6	-11	-15	806	0	0	0
284	SLE RA 7	-11	-14	813	0	0	0
284	SLE RA 8	-11	-15	803	0	0	0
284	SLE RA 9	-11	-14	810	0	0	0
284	SLE RA 10	-12	-14	871	0	0	0
284	SLE RA 11	-11	-16	868	0	0	0
284	SLE RA 12	-12	-15	875	0	0	0
284	SLE RA 13	-12	-14	876	0	0	0
284	SLE RA 14	-11	-16	873	0	0	0
284	SLE RA 15	-12	-15	880	0	0	0
284	SLE RA 16	-11	-16	870	0	0	0
284	SLE RA 17	-12	-15	877	0	0	0
284	SLE RA 18	-11	-16	888	0	0	0
284	SLE RA 19	-12	-15	895	0	0	0
284	SLE RA 20	-11	-16	893	0	0	0
284	SLE RA 21	-12	-15	900	0	0	0
284	SLE FR 1	-11	-15	793	0	0	0
284	SLE FR 2	-11	-14	795	0	0	0
284	SLE FR 3	-11	-15	795	0	0	0
284	SLE FR 4	-11	-15	823	0	0	0
284	SLE FR 5	-11	-15	823	0	0	0
284	SLE FR 6	-11	-16	840	0	0	0
284	SLE QP 1	-11	-15	793	0	0	0
284	SLE QP 2	-11	-15	821	0	0	0
284	SLD 1	63	-4	976	0	0	0
284	SLD 2	77	-10	966	0	0	0
284	SLD 3	69	-45	729	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
284	SLD 4	83	-51	719	0	0	0
284	SLD 5	0	51	1244	0	0	0
284	SLD 6	10	47	1238	0	0	0
284	SLD 7	19	-85	420	0	0	0
284	SLD 8	28	-89	414	0	0	0
284	SLD 9	-50	59	1228	0	0	0
284	SLD 10	-41	54	1222	0	0	0
284	SLD 11	-31	-78	404	0	0	0
284	SLD 12	-22	-82	398	0	0	0
284	SLD 13	-105	21	923	0	0	0
284	SLD 14	-91	14	914	0	0	0
284	SLD 15	-99	-20	676	0	0	0
284	SLD 16	-85	-27	667	0	0	0
284	SLV 1	104	6	1081	0	0	0
284	SLV 2	127	-5	1067	0	0	0
284	SLV 3	114	-64	659	0	0	0
284	SLV 4	137	-74	645	0	0	0
284	SLV 5	5	99	1542	0	0	0
284	SLV 6	20	92	1532	0	0	0
284	SLV 7	37	-134	136	0	0	0
284	SLV 8	52	-141	126	0	0	0
284	SLV 9	-74	110	1517	0	0	0
284	SLV 10	-59	103	1507	0	0	0
284	SLV 11	-42	-122	110	0	0	0
284	SLV 12	-27	-129	101	0	0	0
284	SLV 13	-158	44	998	0	0	0
284	SLV 14	-136	33	983	0	0	0
284	SLV 15	-149	-26	576	0	0	0
284	SLV 16	-126	-36	561	0	0	0
284	SLV FO 1	116	8	1107	0	0	0
284	SLV FO 2	141	-4	1091	0	0	0
284	SLV FO 3	126	-69	643	0	0	0
284	SLV FO 4	151	-80	627	0	0	0
284	SLV FO 5	7	110	1614	0	0	0
284	SLV FO 6	23	102	1603	0	0	0
284	SLV FO 7	41	-146	67	0	0	0
284	SLV FO 8	58	-153	56	0	0	0
284	SLV FO 9	-80	123	1586	0	0	0
284	SLV FO 10	-63	115	1575	0	0	0
284	SLV FO 11	-45	-133	39	0	0	0
284	SLV FO 12	-28	-141	29	0	0	0
284	SLV FO 13	-173	50	1015	0	0	0
284	SLV FO 14	-148	38	999	0	0	0
284	SLV FO 15	-163	-27	551	0	0	0
284	SLV FO 16	-138	-38	535	0	0	0
284	CRTFP Uy+	0	0	0	0	0	0
284	CRTFP Uy-	0	0	0	0	0	0
285	SLU 1	-11	-14	846	0	0	0
285	SLU 2	-12	-10	865	0	0	0
285	SLU 3	-11	-14	860	0	0	0
285	SLU 4	-12	-12	871	0	0	0
285	SLU 5	-12	-10	874	0	0	0
285	SLU 6	-12	-14	868	0	0	0
285	SLU 7	-12	-12	880	0	0	0
285	SLU 8	-11	-14	863	0	0	0
285	SLU 9	-12	-12	875	0	0	0
285	SLU 10	-12	-11	976	0	0	0
285	SLU 11	-12	-16	971	0	0	0
285	SLU 12	-12	-13	982	0	0	0
285	SLU 13	-12	-12	985	0	0	0
285	SLU 14	-12	-16	980	0	0	0
285	SLU 15	-13	-13	991	0	0	0
285	SLU 16	-12	-16	975	0	0	0
285	SLU 17	-12	-13	986	0	0	0
285	SLU 18	-12	-16	1005	0	0	0
285	SLU 19	-12	-14	1016	0	0	0
285	SLU 20	-12	-16	1014	0	0	0
285	SLU 21	-12	-14	1025	0	0	0
285	SLU 22	-13	-15	961	0	0	0
285	SLU 23	-13	-11	980	0	0	0
285	SLU 24	-13	-16	975	0	0	0
285	SLU 25	-13	-13	987	0	0	0
285	SLU 26	-14	-12	989	0	0	0
285	SLU 27	-13	-16	984	0	0	0
285	SLU 28	-14	-14	995	0	0	0
285	SLU 29	-13	-16	979	0	0	0
285	SLU 30	-14	-13	990	0	0	0
285	SLU 31	-14	-13	1092	0	0	0
285	SLU 32	-14	-17	1087	0	0	0
285	SLU 33	-14	-15	1098	0	0	0
285	SLU 34	-14	-13	1100	0	0	0
285	SLU 35	-14	-17	1095	0	0	0
285	SLU 36	-14	-15	1107	0	0	0
285	SLU 37	-14	-17	1090	0	0	0
285	SLU 38	-14	-15	1102	0	0	0
285	SLU 39	-14	-17	1120	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
285	SLU 40	-14	-15	1132	0	0	0
285	SLU 41	-14	-18	1129	0	0	0
285	SLU 42	-14	-15	1140	0	0	0
285	SLU 43	-14	-17	1060	0	0	0
285	SLU 44	-14	-14	1079	0	0	0
285	SLU 45	-14	-18	1074	0	0	0
285	SLU 46	-14	-15	1085	0	0	0
285	SLU 47	-15	-14	1088	0	0	0
285	SLU 48	-14	-18	1083	0	0	0
285	SLU 49	-15	-16	1094	0	0	0
285	SLU 50	-14	-18	1077	0	0	0
285	SLU 51	-15	-16	1089	0	0	0
285	SLU 52	-15	-15	1190	0	0	0
285	SLU 53	-15	-19	1185	0	0	0
285	SLU 54	-15	-17	1197	0	0	0
285	SLU 55	-15	-15	1199	0	0	0
285	SLU 56	-15	-19	1194	0	0	0
285	SLU 57	-15	-17	1205	0	0	0
285	SLU 58	-15	-19	1189	0	0	0
285	SLU 59	-15	-17	1200	0	0	0
285	SLU 60	-15	-20	1219	0	0	0
285	SLU 61	-15	-17	1230	0	0	0
285	SLU 62	-15	-20	1228	0	0	0
285	SLU 63	-15	-17	1239	0	0	0
285	SLU 64	-15	-19	1175	0	0	0
285	SLU 65	-16	-15	1194	0	0	0
285	SLU 66	-16	-19	1189	0	0	0
285	SLU 67	-16	-17	1201	0	0	0
285	SLU 68	-16	-15	1203	0	0	0
285	SLU 69	-16	-19	1198	0	0	0
285	SLU 70	-16	-17	1210	0	0	0
285	SLU 71	-16	-19	1193	0	0	0
285	SLU 72	-16	-17	1204	0	0	0
285	SLU 73	-17	-17	1306	0	0	0
285	SLU 74	-16	-21	1301	0	0	0
285	SLU 75	-17	-18	1312	0	0	0
285	SLU 76	-17	-17	1314	0	0	0
285	SLU 77	-17	-21	1309	0	0	0
285	SLU 78	-17	-19	1321	0	0	0
285	SLU 79	-16	-21	1304	0	0	0
285	SLU 80	-17	-19	1316	0	0	0
285	SLU 81	-16	-21	1334	0	0	0
285	SLU 82	-17	-19	1346	0	0	0
285	SLU 83	-16	-21	1343	0	0	0
285	SLU 84	-17	-19	1355	0	0	0
285	SLE RA 1	-12	-14	879	0	0	0
285	SLE RA 2	-12	-12	891	0	0	0
285	SLE RA 3	-12	-14	888	0	0	0
285	SLE RA 4	-12	-13	896	0	0	0
285	SLE RA 5	-12	-12	897	0	0	0
285	SLE RA 6	-12	-15	894	0	0	0
285	SLE RA 7	-12	-13	902	0	0	0
285	SLE RA 8	-12	-15	890	0	0	0
285	SLE RA 9	-12	-13	898	0	0	0
285	SLE RA 10	-12	-13	966	0	0	0
285	SLE RA 11	-12	-15	962	0	0	0
285	SLE RA 12	-12	-14	970	0	0	0
285	SLE RA 13	-12	-13	971	0	0	0
285	SLE RA 14	-12	-16	968	0	0	0
285	SLE RA 15	-13	-14	976	0	0	0
285	SLE RA 16	-12	-16	965	0	0	0
285	SLE RA 17	-12	-14	972	0	0	0
285	SLE RA 18	-12	-16	985	0	0	0
285	SLE RA 19	-12	-14	992	0	0	0
285	SLE RA 20	-12	-16	991	0	0	0
285	SLE RA 21	-12	-14	998	0	0	0
285	SLE FR 1	-12	-14	879	0	0	0
285	SLE FR 2	-12	-14	881	0	0	0
285	SLE FR 3	-12	-14	881	0	0	0
285	SLE FR 4	-12	-14	913	0	0	0
285	SLE FR 5	-12	-15	913	0	0	0
285	SLE FR 6	-12	-15	932	0	0	0
285	SLE QP 1	-12	-14	879	0	0	0
285	SLE QP 2	-12	-15	911	0	0	0
285	SLD 1	72	0	1075	0	0	0
285	SLD 2	89	-7	1065	0	0	0
285	SLD 3	78	-47	801	0	0	0
285	SLD 4	95	-54	791	0	0	0
285	SLD 5	1	63	1377	0	0	0
285	SLD 6	12	59	1370	0	0	0
285	SLD 7	22	-95	464	0	0	0
285	SLD 8	32	-100	458	0	0	0
285	SLD 9	-56	70	1363	0	0	0
285	SLD 10	-45	66	1357	0	0	0
285	SLD 11	-35	-88	451	0	0	0
285	SLD 12	-25	-92	445	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
285	SLD 13	-118	25	1030	0	0	0
285	SLD 14	-102	18	1020	0	0	0
285	SLD 15	-112	-23	756	0	0	0
285	SLD 16	-96	-29	747	0	0	0
285	SLV 1	119	12	1188	0	0	0
285	SLV 2	145	1	1173	0	0	0
285	SLV 3	129	-69	720	0	0	0
285	SLV 4	155	-80	705	0	0	0
285	SLV 5	7	118	1705	0	0	0
285	SLV 6	25	111	1695	0	0	0
285	SLV 7	41	-152	148	0	0	0
285	SLV 8	59	-159	138	0	0	0
285	SLV 9	-82	130	1683	0	0	0
285	SLV 10	-65	122	1673	0	0	0
285	SLV 11	-48	-140	126	0	0	0
285	SLV 12	-31	-147	116	0	0	0
285	SLV 13	-179	50	1116	0	0	0
285	SLV 14	-153	40	1101	0	0	0
285	SLV 15	-168	-30	649	0	0	0
285	SLV 16	-143	-41	634	0	0	0
285	SLV FO 1	132	14	1215	0	0	0
285	SLV FO 2	161	3	1199	0	0	0
285	SLV FO 3	144	-75	701	0	0	0
285	SLV FO 4	172	-86	685	0	0	0
285	SLV FO 5	9	131	1784	0	0	0
285	SLV FO 6	28	123	1773	0	0	0
285	SLV FO 7	47	-166	72	0	0	0
285	SLV FO 8	66	-173	61	0	0	0
285	SLV FO 9	-89	144	1761	0	0	0
285	SLV FO 10	-70	136	1750	0	0	0
285	SLV FO 11	-51	-153	48	0	0	0
285	SLV FO 12	-32	-160	37	0	0	0
285	SLV FO 13	-195	57	1136	0	0	0
285	SLV FO 14	-167	45	1120	0	0	0
285	SLV FO 15	-184	-32	622	0	0	0
285	SLV FO 16	-156	-44	606	0	0	0
285	CRTFP Uy+	0	0	0	0	0	0
285	CRTFP Uy-	0	0	0	0	0	0
286	SLU 1	-11	-11	852	0	0	0
286	SLU 2	-11	-7	871	0	0	0
286	SLU 3	-11	-11	866	0	0	0
286	SLU 4	-12	-9	877	0	0	0
286	SLU 5	-12	-7	880	0	0	0
286	SLU 6	-11	-12	875	0	0	0
286	SLU 7	-12	-9	886	0	0	0
286	SLU 8	-11	-12	870	0	0	0
286	SLU 9	-12	-9	881	0	0	0
286	SLU 10	-12	-8	983	0	0	0
286	SLU 11	-12	-13	978	0	0	0
286	SLU 12	-12	-10	990	0	0	0
286	SLU 13	-12	-9	992	0	0	0
286	SLU 14	-12	-13	987	0	0	0
286	SLU 15	-12	-10	999	0	0	0
286	SLU 16	-12	-13	982	0	0	0
286	SLU 17	-12	-10	993	0	0	0
286	SLU 18	-12	-13	1012	0	0	0
286	SLU 19	-12	-10	1024	0	0	0
286	SLU 20	-12	-13	1021	0	0	0
286	SLU 21	-12	-11	1033	0	0	0
286	SLU 22	-12	-12	968	0	0	0
286	SLU 23	-13	-8	987	0	0	0
286	SLU 24	-13	-13	982	0	0	0
286	SLU 25	-13	-10	993	0	0	0
286	SLU 26	-13	-8	996	0	0	0
286	SLU 27	-13	-13	991	0	0	0
286	SLU 28	-13	-10	1002	0	0	0
286	SLU 29	-13	-13	986	0	0	0
286	SLU 30	-13	-10	997	0	0	0
286	SLU 31	-14	-9	1099	0	0	0
286	SLU 32	-13	-14	1094	0	0	0
286	SLU 33	-14	-11	1106	0	0	0
286	SLU 34	-14	-10	1108	0	0	0
286	SLU 35	-14	-14	1103	0	0	0
286	SLU 36	-14	-11	1115	0	0	0
286	SLU 37	-13	-14	1098	0	0	0
286	SLU 38	-14	-11	1110	0	0	0
286	SLU 39	-13	-14	1129	0	0	0
286	SLU 40	-14	-12	1140	0	0	0
286	SLU 41	-13	-14	1137	0	0	0
286	SLU 42	-14	-12	1149	0	0	0
286	SLU 43	-13	-14	1067	0	0	0
286	SLU 44	-14	-10	1087	0	0	0
286	SLU 45	-14	-14	1082	0	0	0
286	SLU 46	-14	-12	1093	0	0	0
286	SLU 47	-14	-10	1095	0	0	0
286	SLU 48	-14	-15	1090	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
286	SLU 49	-14	-12	1102	0	0	0
286	SLU 50	-14	-15	1085	0	0	0
286	SLU 51	-14	-12	1097	0	0	0
286	SLU 52	-15	-11	1199	0	0	0
286	SLU 53	-14	-16	1194	0	0	0
286	SLU 54	-15	-13	1206	0	0	0
286	SLU 55	-15	-12	1208	0	0	0
286	SLU 56	-15	-16	1203	0	0	0
286	SLU 57	-15	-13	1214	0	0	0
286	SLU 58	-14	-16	1198	0	0	0
286	SLU 59	-15	-13	1209	0	0	0
286	SLU 60	-14	-16	1228	0	0	0
286	SLU 61	-15	-13	1240	0	0	0
286	SLU 62	-15	-16	1237	0	0	0
286	SLU 63	-15	-14	1248	0	0	0
286	SLU 64	-15	-15	1184	0	0	0
286	SLU 65	-16	-11	1203	0	0	0
286	SLU 66	-15	-16	1198	0	0	0
286	SLU 67	-16	-13	1209	0	0	0
286	SLU 68	-16	-11	1211	0	0	0
286	SLU 69	-16	-16	1207	0	0	0
286	SLU 70	-16	-13	1218	0	0	0
286	SLU 71	-16	-16	1201	0	0	0
286	SLU 72	-16	-13	1213	0	0	0
286	SLU 73	-16	-12	1315	0	0	0
286	SLU 74	-16	-17	1310	0	0	0
286	SLU 75	-16	-14	1322	0	0	0
286	SLU 76	-17	-13	1324	0	0	0
286	SLU 77	-16	-17	1319	0	0	0
286	SLU 78	-17	-14	1330	0	0	0
286	SLU 79	-16	-17	1314	0	0	0
286	SLU 80	-17	-14	1325	0	0	0
286	SLU 81	-16	-17	1344	0	0	0
286	SLU 82	-16	-15	1356	0	0	0
286	SLU 83	-16	-17	1353	0	0	0
286	SLU 84	-17	-15	1365	0	0	0
286	SLE RA 1	-11	-12	885	0	0	0
286	SLE RA 2	-12	-9	898	0	0	0
286	SLE RA 3	-11	-12	894	0	0	0
286	SLE RA 4	-12	-10	902	0	0	0
286	SLE RA 5	-12	-9	904	0	0	0
286	SLE RA 6	-12	-12	900	0	0	0
286	SLE RA 7	-12	-10	908	0	0	0
286	SLE RA 8	-12	-12	897	0	0	0
286	SLE RA 9	-12	-10	904	0	0	0
286	SLE RA 10	-12	-10	973	0	0	0
286	SLE RA 11	-12	-12	969	0	0	0
286	SLE RA 12	-12	-11	977	0	0	0
286	SLE RA 13	-12	-10	979	0	0	0
286	SLE RA 14	-12	-13	975	0	0	0
286	SLE RA 15	-12	-11	983	0	0	0
286	SLE RA 16	-12	-13	972	0	0	0
286	SLE RA 17	-12	-11	979	0	0	0
286	SLE RA 18	-12	-13	992	0	0	0
286	SLE RA 19	-12	-11	1000	0	0	0
286	SLE RA 20	-12	-13	998	0	0	0
286	SLE RA 21	-12	-11	1006	0	0	0
286	SLE FR 1	-11	-12	885	0	0	0
286	SLE FR 2	-11	-11	887	0	0	0
286	SLE FR 3	-11	-12	887	0	0	0
286	SLE FR 4	-12	-11	920	0	0	0
286	SLE FR 5	-11	-12	919	0	0	0
286	SLE FR 6	-12	-12	938	0	0	0
286	SLE QP 1	-11	-12	885	0	0	0
286	SLE QP 2	-11	-12	917	0	0	0
286	SLD 1	74	5	1076	0	0	0
286	SLD 2	91	-1	1067	0	0	0
286	SLD 3	80	-45	800	0	0	0
286	SLD 4	97	-51	791	0	0	0
286	SLD 5	2	70	1384	0	0	0
286	SLD 6	13	66	1378	0	0	0
286	SLD 7	22	-96	465	0	0	0
286	SLD 8	33	-100	460	0	0	0
286	SLD 9	-56	76	1374	0	0	0
286	SLD 10	-45	72	1369	0	0	0
286	SLD 11	-36	-90	456	0	0	0
286	SLD 12	-25	-93	450	0	0	0
286	SLD 13	-120	27	1043	0	0	0
286	SLD 14	-103	21	1034	0	0	0
286	SLD 15	-114	-23	767	0	0	0
286	SLD 16	-97	-29	759	0	0	0
286	SLV 1	122	18	1186	0	0	0
286	SLV 2	148	9	1172	0	0	0
286	SLV 3	132	-67	715	0	0	0
286	SLV 4	159	-76	702	0	0	0
286	SLV 5	8	128	1714	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
286	SLV 6	26	121	1704	0	0	0
286	SLV 7	42	-155	146	0	0	0
286	SLV 8	60	-162	136	0	0	0
286	SLV 9	-83	138	1698	0	0	0
286	SLV 10	-65	132	1688	0	0	0
286	SLV 11	-49	-145	130	0	0	0
286	SLV 12	-31	-151	121	0	0	0
286	SLV 13	-181	52	1133	0	0	0
286	SLV 14	-155	43	1119	0	0	0
286	SLV 15	-171	-32	662	0	0	0
286	SLV 16	-145	-42	648	0	0	0
286	SLV FO 1	136	21	1213	0	0	0
286	SLV FO 2	164	11	1197	0	0	0
286	SLV FO 3	147	-72	695	0	0	0
286	SLV FO 4	176	-83	680	0	0	0
286	SLV FO 5	10	142	1793	0	0	0
286	SLV FO 6	30	135	1783	0	0	0
286	SLV FO 7	47	-170	69	0	0	0
286	SLV FO 8	67	-177	58	0	0	0
286	SLV FO 9	-90	153	1776	0	0	0
286	SLV FO 10	-70	146	1766	0	0	0
286	SLV FO 11	-53	-158	51	0	0	0
286	SLV FO 12	-33	-165	41	0	0	0
286	SLV FO 13	-198	59	1154	0	0	0
286	SLV FO 14	-170	49	1139	0	0	0
286	SLV FO 15	-187	-34	637	0	0	0
286	SLV FO 16	-158	-45	622	0	0	0
286	CRTFP Uy+	0	0	0	0	0	0
286	CRTFP Uy-	0	0	0	0	0	0
287	SLU 1	-11	-8	861	0	0	0
287	SLU 2	-11	-4	880	0	0	0
287	SLU 3	-11	-9	875	0	0	0
287	SLU 4	-11	-6	887	0	0	0
287	SLU 5	-12	-4	889	0	0	0
287	SLU 6	-11	-9	884	0	0	0
287	SLU 7	-12	-6	896	0	0	0
287	SLU 8	-11	-9	879	0	0	0
287	SLU 9	-11	-6	890	0	0	0
287	SLU 10	-12	-5	994	0	0	0
287	SLU 11	-12	-9	990	0	0	0
287	SLU 12	-12	-7	1001	0	0	0
287	SLU 13	-12	-5	1003	0	0	0
287	SLU 14	-12	-10	999	0	0	0
287	SLU 15	-12	-7	1010	0	0	0
287	SLU 16	-12	-10	993	0	0	0
287	SLU 17	-12	-7	1005	0	0	0
287	SLU 18	-11	-10	1024	0	0	0
287	SLU 19	-12	-7	1036	0	0	0
287	SLU 20	-12	-10	1033	0	0	0
287	SLU 21	-12	-7	1045	0	0	0
287	SLU 22	-12	-9	978	0	0	0
287	SLU 23	-13	-5	997	0	0	0
287	SLU 24	-13	-9	993	0	0	0
287	SLU 25	-13	-7	1004	0	0	0
287	SLU 26	-13	-5	1006	0	0	0
287	SLU 27	-13	-9	1002	0	0	0
287	SLU 28	-13	-7	1013	0	0	0
287	SLU 29	-13	-9	996	0	0	0
287	SLU 30	-13	-7	1008	0	0	0
287	SLU 31	-13	-6	1112	0	0	0
287	SLU 32	-13	-10	1107	0	0	0
287	SLU 33	-14	-7	1118	0	0	0
287	SLU 34	-14	-6	1121	0	0	0
287	SLU 35	-13	-10	1116	0	0	0
287	SLU 36	-14	-8	1127	0	0	0
287	SLU 37	-13	-10	1111	0	0	0
287	SLU 38	-14	-8	1122	0	0	0
287	SLU 39	-13	-10	1142	0	0	0
287	SLU 40	-13	-8	1153	0	0	0
287	SLU 41	-13	-10	1151	0	0	0
287	SLU 42	-14	-8	1162	0	0	0
287	SLU 43	-13	-11	1079	0	0	0
287	SLU 44	-14	-6	1098	0	0	0
287	SLU 45	-14	-11	1093	0	0	0
287	SLU 46	-14	-8	1105	0	0	0
287	SLU 47	-14	-7	1107	0	0	0
287	SLU 48	-14	-11	1102	0	0	0
287	SLU 49	-14	-8	1114	0	0	0
287	SLU 50	-14	-11	1097	0	0	0
287	SLU 51	-14	-8	1109	0	0	0
287	SLU 52	-14	-7	1212	0	0	0
287	SLU 53	-14	-12	1208	0	0	0
287	SLU 54	-15	-9	1219	0	0	0
287	SLU 55	-15	-7	1222	0	0	0
287	SLU 56	-14	-12	1217	0	0	0
287	SLU 57	-15	-9	1228	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	SLU 58	-14	-12	1211	0	0	0
287	SLU 59	-15	-9	1223	0	0	0
287	SLU 60	-14	-12	1242	0	0	0
287	SLU 61	-14	-9	1254	0	0	0
287	SLU 62	-14	-12	1251	0	0	0
287	SLU 63	-15	-9	1263	0	0	0
287	SLU 64	-15	-11	1196	0	0	0
287	SLU 65	-16	-7	1215	0	0	0
287	SLU 66	-15	-12	1211	0	0	0
287	SLU 67	-16	-9	1222	0	0	0
287	SLU 68	-16	-7	1224	0	0	0
287	SLU 69	-15	-12	1220	0	0	0
287	SLU 70	-16	-9	1231	0	0	0
287	SLU 71	-15	-12	1214	0	0	0
287	SLU 72	-16	-9	1226	0	0	0
287	SLU 73	-16	-8	1330	0	0	0
287	SLU 74	-16	-12	1325	0	0	0
287	SLU 75	-16	-10	1336	0	0	0
287	SLU 76	-16	-8	1339	0	0	0
287	SLU 77	-16	-12	1334	0	0	0
287	SLU 78	-16	-10	1346	0	0	0
287	SLU 79	-16	-12	1329	0	0	0
287	SLU 80	-16	-10	1340	0	0	0
287	SLU 81	-16	-13	1360	0	0	0
287	SLU 82	-16	-10	1371	0	0	0
287	SLU 83	-16	-13	1369	0	0	0
287	SLU 84	-16	-10	1380	0	0	0
287	SLE RA 1	-11	-9	894	0	0	0
287	SLE RA 2	-12	-6	907	0	0	0
287	SLE RA 3	-11	-9	904	0	0	0
287	SLE RA 4	-12	-7	912	0	0	0
287	SLE RA 5	-12	-6	913	0	0	0
287	SLE RA 6	-11	-9	910	0	0	0
287	SLE RA 7	-12	-7	918	0	0	0
287	SLE RA 8	-11	-9	906	0	0	0
287	SLE RA 9	-12	-7	914	0	0	0
287	SLE RA 10	-12	-6	983	0	0	0
287	SLE RA 11	-12	-9	980	0	0	0
287	SLE RA 12	-12	-8	988	0	0	0
287	SLE RA 13	-12	-6	989	0	0	0
287	SLE RA 14	-12	-9	986	0	0	0
287	SLE RA 15	-12	-8	994	0	0	0
287	SLE RA 16	-12	-9	983	0	0	0
287	SLE RA 17	-12	-8	990	0	0	0
287	SLE RA 18	-12	-9	1003	0	0	0
287	SLE RA 19	-12	-8	1011	0	0	0
287	SLE RA 20	-12	-9	1009	0	0	0
287	SLE RA 21	-12	-8	1017	0	0	0
287	SLE FR 1	-11	-9	894	0	0	0
287	SLE FR 2	-11	-8	897	0	0	0
287	SLE FR 3	-11	-9	897	0	0	0
287	SLE FR 4	-11	-8	930	0	0	0
287	SLE FR 5	-11	-9	929	0	0	0
287	SLE FR 6	-11	-9	949	0	0	0
287	SLE QP 1	-11	-9	894	0	0	0
287	SLE QP 2	-11	-9	927	0	0	0
287	SLD 1	75	10	1083	0	0	0
287	SLD 2	92	5	1075	0	0	0
287	SLD 3	81	-41	804	0	0	0
287	SLD 4	98	-47	796	0	0	0
287	SLD 5	3	76	1398	0	0	0
287	SLD 6	14	73	1393	0	0	0
287	SLD 7	23	-96	469	0	0	0
287	SLD 8	33	-100	464	0	0	0
287	SLD 9	-56	82	1391	0	0	0
287	SLD 10	-45	79	1385	0	0	0
287	SLD 11	-36	-91	461	0	0	0
287	SLD 12	-25	-94	456	0	0	0
287	SLD 13	-121	29	1058	0	0	0
287	SLD 14	-104	24	1050	0	0	0
287	SLD 15	-115	-23	779	0	0	0
287	SLD 16	-98	-28	771	0	0	0
287	SLV 1	124	25	1192	0	0	0
287	SLV 2	150	17	1179	0	0	0
287	SLV 3	134	-64	716	0	0	0
287	SLV 4	160	-72	703	0	0	0
287	SLV 5	9	137	1730	0	0	0
287	SLV 6	27	131	1722	0	0	0
287	SLV 7	42	-158	145	0	0	0
287	SLV 8	60	-163	136	0	0	0
287	SLV 9	-83	146	1718	0	0	0
287	SLV 10	-65	140	1710	0	0	0
287	SLV 11	-50	-149	132	0	0	0
287	SLV 12	-32	-155	124	0	0	0
287	SLV 13	-183	54	1151	0	0	0
287	SLV 14	-156	46	1138	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	SLV 15	-173	-34	675	0	0	0
287	SLV 16	-146	-43	662	0	0	0
287	SLV FO 1	137	28	1218	0	0	0
287	SLV FO 2	166	19	1204	0	0	0
287	SLV FO 3	148	-69	695	0	0	0
287	SLV FO 4	177	-78	681	0	0	0
287	SLV FO 5	11	152	1811	0	0	0
287	SLV FO 6	31	145	1801	0	0	0
287	SLV FO 7	48	-173	66	0	0	0
287	SLV FO 8	67	-179	57	0	0	0
287	SLV FO 9	-90	161	1797	0	0	0
287	SLV FO 10	-70	155	1788	0	0	0
287	SLV FO 11	-53	-163	53	0	0	0
287	SLV FO 12	-34	-169	43	0	0	0
287	SLV FO 13	-200	60	1173	0	0	0
287	SLV FO 14	-171	51	1159	0	0	0
287	SLV FO 15	-189	-37	650	0	0	0
287	SLV FO 16	-160	-46	636	0	0	0
287	CRTFP Uy+	0	0	0	0	0	0
287	CRTFP Uy-	0	0	0	0	0	0
288	SLU 1	-11	-5	880	0	0	0
288	SLU 2	-11	-1	900	0	0	0
288	SLU 3	-11	-6	895	0	0	0
288	SLU 4	-11	-3	907	0	0	0
288	SLU 5	-11	-1	909	0	0	0
288	SLU 6	-11	-6	905	0	0	0
288	SLU 7	-11	-3	916	0	0	0
288	SLU 8	-11	-6	899	0	0	0
288	SLU 9	-11	-3	911	0	0	0
288	SLU 10	-12	-1	1018	0	0	0
288	SLU 11	-11	-6	1013	0	0	0
288	SLU 12	-12	-3	1025	0	0	0
288	SLU 13	-12	-2	1027	0	0	0
288	SLU 14	-12	-6	1023	0	0	0
288	SLU 15	-12	-3	1034	0	0	0
288	SLU 16	-12	-6	1017	0	0	0
288	SLU 17	-12	-3	1029	0	0	0
288	SLU 18	-11	-6	1049	0	0	0
288	SLU 19	-12	-3	1061	0	0	0
288	SLU 20	-12	-6	1058	0	0	0
288	SLU 21	-12	-4	1070	0	0	0
288	SLU 22	-12	-6	1001	0	0	0
288	SLU 23	-13	-1	1020	0	0	0
288	SLU 24	-12	-6	1016	0	0	0
288	SLU 25	-13	-3	1027	0	0	0
288	SLU 26	-13	-1	1030	0	0	0
288	SLU 27	-13	-6	1025	0	0	0
288	SLU 28	-13	-3	1037	0	0	0
288	SLU 29	-13	-6	1019	0	0	0
288	SLU 30	-13	-3	1031	0	0	0
288	SLU 31	-13	-2	1138	0	0	0
288	SLU 32	-13	-6	1133	0	0	0
288	SLU 33	-13	-4	1145	0	0	0
288	SLU 34	-14	-2	1147	0	0	0
288	SLU 35	-13	-6	1143	0	0	0
288	SLU 36	-14	-4	1154	0	0	0
288	SLU 37	-13	-6	1137	0	0	0
288	SLU 38	-14	-4	1149	0	0	0
288	SLU 39	-13	-6	1169	0	0	0
288	SLU 40	-13	-4	1181	0	0	0
288	SLU 41	-13	-6	1178	0	0	0
288	SLU 42	-14	-4	1190	0	0	0
288	SLU 43	-13	-7	1103	0	0	0
288	SLU 44	-14	-3	1123	0	0	0
288	SLU 45	-14	-7	1118	0	0	0
288	SLU 46	-14	-4	1130	0	0	0
288	SLU 47	-14	-3	1132	0	0	0
288	SLU 48	-14	-7	1128	0	0	0
288	SLU 49	-14	-5	1139	0	0	0
288	SLU 50	-14	-7	1122	0	0	0
288	SLU 51	-14	-5	1134	0	0	0
288	SLU 52	-14	-3	1241	0	0	0
288	SLU 53	-14	-8	1236	0	0	0
288	SLU 54	-14	-5	1248	0	0	0
288	SLU 55	-15	-3	1250	0	0	0
288	SLU 56	-14	-8	1245	0	0	0
288	SLU 57	-15	-5	1257	0	0	0
288	SLU 58	-14	-8	1240	0	0	0
288	SLU 59	-15	-5	1252	0	0	0
288	SLU 60	-14	-8	1272	0	0	0
288	SLU 61	-14	-5	1283	0	0	0
288	SLU 62	-14	-8	1281	0	0	0
288	SLU 63	-15	-5	1293	0	0	0
288	SLU 64	-15	-7	1224	0	0	0
288	SLU 65	-15	-3	1243	0	0	0
288	SLU 66	-15	-7	1238	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
288	SLU 67	-15	-5	1250	0	0	0
288	SLU 68	-16	-3	1253	0	0	0
288	SLU 69	-15	-7	1248	0	0	0
288	SLU 70	-16	-5	1260	0	0	0
288	SLU 71	-15	-7	1242	0	0	0
288	SLU 72	-16	-5	1254	0	0	0
288	SLU 73	-16	-3	1361	0	0	0
288	SLU 74	-16	-8	1356	0	0	0
288	SLU 75	-16	-5	1368	0	0	0
288	SLU 76	-16	-3	1370	0	0	0
288	SLU 77	-16	-8	1366	0	0	0
288	SLU 78	-16	-5	1377	0	0	0
288	SLU 79	-16	-8	1360	0	0	0
288	SLU 80	-16	-5	1372	0	0	0
288	SLU 81	-16	-8	1392	0	0	0
288	SLU 82	-16	-5	1404	0	0	0
288	SLU 83	-16	-8	1401	0	0	0
288	SLU 84	-16	-5	1413	0	0	0
288	SLE RA 1	-11	-5	915	0	0	0
288	SLE RA 2	-11	-3	928	0	0	0
288	SLE RA 3	-11	-6	925	0	0	0
288	SLE RA 4	-11	-4	933	0	0	0
288	SLE RA 5	-12	-3	934	0	0	0
288	SLE RA 6	-11	-6	931	0	0	0
288	SLE RA 7	-12	-4	939	0	0	0
288	SLE RA 8	-11	-6	927	0	0	0
288	SLE RA 9	-12	-4	935	0	0	0
288	SLE RA 10	-12	-3	1006	0	0	0
288	SLE RA 11	-12	-6	1003	0	0	0
288	SLE RA 12	-12	-4	1011	0	0	0
288	SLE RA 13	-12	-3	1013	0	0	0
288	SLE RA 14	-12	-6	1010	0	0	0
288	SLE RA 15	-12	-4	1017	0	0	0
288	SLE RA 16	-12	-6	1006	0	0	0
288	SLE RA 17	-12	-4	1014	0	0	0
288	SLE RA 18	-12	-6	1027	0	0	0
288	SLE RA 19	-12	-4	1035	0	0	0
288	SLE RA 20	-12	-6	1033	0	0	0
288	SLE RA 21	-12	-4	1041	0	0	0
288	SLE FR 1	-11	-5	915	0	0	0
288	SLE FR 2	-11	-5	917	0	0	0
288	SLE FR 3	-11	-6	917	0	0	0
288	SLE FR 4	-11	-5	951	0	0	0
288	SLE FR 5	-11	-6	951	0	0	0
288	SLE FR 6	-11	-6	971	0	0	0
288	SLE QP 1	-11	-5	915	0	0	0
288	SLE QP 2	-11	-6	948	0	0	0
288	SLD 1	76	16	1108	0	0	0
288	SLD 2	93	12	1101	0	0	0
288	SLD 3	82	-38	823	0	0	0
288	SLD 4	99	-42	815	0	0	0
288	SLD 5	3	84	1430	0	0	0
288	SLD 6	14	81	1425	0	0	0
288	SLD 7	23	-96	479	0	0	0
288	SLD 8	34	-99	475	0	0	0
288	SLD 9	-56	88	1422	0	0	0
288	SLD 10	-45	85	1418	0	0	0
288	SLD 11	-36	-92	471	0	0	0
288	SLD 12	-26	-95	467	0	0	0
288	SLD 13	-122	31	1082	0	0	0
288	SLD 14	-105	27	1074	0	0	0
288	SLD 15	-116	-23	796	0	0	0
288	SLD 16	-99	-27	789	0	0	0
288	SLV 1	125	32	1219	0	0	0
288	SLV 2	152	25	1208	0	0	0
288	SLV 3	135	-60	732	0	0	0
288	SLV 4	162	-67	721	0	0	0
288	SLV 5	10	147	1770	0	0	0
288	SLV 6	28	142	1762	0	0	0
288	SLV 7	43	-160	147	0	0	0
288	SLV 8	61	-165	140	0	0	0
288	SLV 9	-83	154	1757	0	0	0
288	SLV 10	-65	149	1750	0	0	0
288	SLV 11	-50	-153	135	0	0	0
288	SLV 12	-32	-158	127	0	0	0
288	SLV 13	-184	56	1176	0	0	0
288	SLV 14	-157	49	1165	0	0	0
288	SLV 15	-174	-36	689	0	0	0
288	SLV 16	-148	-43	678	0	0	0
288	SLV FO 1	139	36	1246	0	0	0
288	SLV FO 2	168	28	1234	0	0	0
288	SLV FO 3	150	-65	711	0	0	0
288	SLV FO 4	179	-73	698	0	0	0
288	SLV FO 5	12	162	1852	0	0	0
288	SLV FO 6	32	157	1844	0	0	0
288	SLV FO 7	48	-176	67	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
288	SLV FO 8	68	-181	59	0	0	0
288	SLV FO 9	-90	170	1838	0	0	0
288	SLV FO 10	-71	165	1830	0	0	0
288	SLV FO 11	-54	-168	53	0	0	0
288	SLV FO 12	-34	-173	45	0	0	0
288	SLV FO 13	-202	62	1199	0	0	0
288	SLV FO 14	-172	54	1186	0	0	0
288	SLV FO 15	-191	-39	663	0	0	0
288	SLV FO 16	-161	-47	651	0	0	0
288	CRTFP Uy+	0	0	0	0	0	0
288	CRTFP Uy-	0	0	0	0	0	0
289	SLU 1	-11	-2	917	0	0	0
289	SLU 2	-11	2	937	0	0	0
289	SLU 3	-11	-3	933	0	0	0
289	SLU 4	-11	0	945	0	0	0
289	SLU 5	-11	2	947	0	0	0
289	SLU 6	-11	-3	942	0	0	0
289	SLU 7	-12	0	955	0	0	0
289	SLU 8	-11	-3	937	0	0	0
289	SLU 9	-11	0	949	0	0	0
289	SLU 10	-12	2	1061	0	0	0
289	SLU 11	-11	-3	1056	0	0	0
289	SLU 12	-12	0	1069	0	0	0
289	SLU 13	-12	2	1071	0	0	0
289	SLU 14	-12	-3	1066	0	0	0
289	SLU 15	-12	0	1078	0	0	0
289	SLU 16	-12	-3	1060	0	0	0
289	SLU 17	-12	0	1073	0	0	0
289	SLU 18	-11	-3	1094	0	0	0
289	SLU 19	-12	0	1106	0	0	0
289	SLU 20	-12	-3	1104	0	0	0
289	SLU 21	-12	0	1116	0	0	0
289	SLU 22	-12	-2	1043	0	0	0
289	SLU 23	-13	2	1063	0	0	0
289	SLU 24	-12	-2	1058	0	0	0
289	SLU 25	-13	1	1070	0	0	0
289	SLU 26	-13	2	1073	0	0	0
289	SLU 27	-13	-2	1068	0	0	0
289	SLU 28	-13	0	1080	0	0	0
289	SLU 29	-13	-2	1062	0	0	0
289	SLU 30	-13	0	1074	0	0	0
289	SLU 31	-13	2	1187	0	0	0
289	SLU 32	-13	-2	1182	0	0	0
289	SLU 33	-13	0	1194	0	0	0
289	SLU 34	-14	2	1197	0	0	0
289	SLU 35	-13	-2	1192	0	0	0
289	SLU 36	-14	0	1204	0	0	0
289	SLU 37	-13	-3	1186	0	0	0
289	SLU 38	-14	0	1198	0	0	0
289	SLU 39	-13	-2	1219	0	0	0
289	SLU 40	-13	0	1232	0	0	0
289	SLU 41	-13	-2	1229	0	0	0
289	SLU 42	-14	0	1241	0	0	0
289	SLU 43	-13	-3	1149	0	0	0
289	SLU 44	-14	1	1169	0	0	0
289	SLU 45	-14	-3	1165	0	0	0
289	SLU 46	-14	-1	1177	0	0	0
289	SLU 47	-14	1	1179	0	0	0
289	SLU 48	-14	-3	1174	0	0	0
289	SLU 49	-14	-1	1187	0	0	0
289	SLU 50	-14	-3	1169	0	0	0
289	SLU 51	-14	-1	1181	0	0	0
289	SLU 52	-14	1	1293	0	0	0
289	SLU 53	-14	-3	1288	0	0	0
289	SLU 54	-14	-1	1301	0	0	0
289	SLU 55	-15	1	1303	0	0	0
289	SLU 56	-14	-4	1298	0	0	0
289	SLU 57	-15	-1	1310	0	0	0
289	SLU 58	-14	-4	1292	0	0	0
289	SLU 59	-15	-1	1305	0	0	0
289	SLU 60	-14	-3	1326	0	0	0
289	SLU 61	-14	-1	1338	0	0	0
289	SLU 62	-14	-4	1336	0	0	0
289	SLU 63	-15	-1	1348	0	0	0
289	SLU 64	-15	-3	1275	0	0	0
289	SLU 65	-15	2	1295	0	0	0
289	SLU 66	-15	-3	1290	0	0	0
289	SLU 67	-16	0	1302	0	0	0
289	SLU 68	-16	2	1305	0	0	0
289	SLU 69	-15	-3	1300	0	0	0
289	SLU 70	-16	0	1312	0	0	0
289	SLU 71	-15	-3	1294	0	0	0
289	SLU 72	-16	0	1306	0	0	0
289	SLU 73	-16	1	1419	0	0	0
289	SLU 74	-16	-3	1414	0	0	0
289	SLU 75	-16	0	1426	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
289	SLU 76	-16	1	1429	0	0	0
289	SLU 77	-16	-3	1424	0	0	0
289	SLU 78	-16	0	1436	0	0	0
289	SLU 79	-16	-3	1418	0	0	0
289	SLU 80	-16	-1	1430	0	0	0
289	SLU 81	-16	-3	1451	0	0	0
289	SLU 82	-16	0	1464	0	0	0
289	SLU 83	-16	-3	1461	0	0	0
289	SLU 84	-16	-1	1473	0	0	0
289	SLE RA 1	-11	-2	953	0	0	0
289	SLE RA 2	-11	1	966	0	0	0
289	SLE RA 3	-11	-2	963	0	0	0
289	SLE RA 4	-12	-1	971	0	0	0
289	SLE RA 5	-12	1	973	0	0	0
289	SLE RA 6	-11	-2	970	0	0	0
289	SLE RA 7	-12	-1	978	0	0	0
289	SLE RA 8	-11	-3	966	0	0	0
289	SLE RA 9	-12	-1	974	0	0	0
289	SLE RA 10	-12	1	1049	0	0	0
289	SLE RA 11	-12	-2	1046	0	0	0
289	SLE RA 12	-12	-1	1054	0	0	0
289	SLE RA 13	-12	1	1055	0	0	0
289	SLE RA 14	-12	-3	1052	0	0	0
289	SLE RA 15	-12	-1	1060	0	0	0
289	SLE RA 16	-12	-3	1048	0	0	0
289	SLE RA 17	-12	-1	1057	0	0	0
289	SLE RA 18	-12	-3	1071	0	0	0
289	SLE RA 19	-12	-1	1079	0	0	0
289	SLE RA 20	-12	-3	1077	0	0	0
289	SLE RA 21	-12	-1	1085	0	0	0
289	SLE FR 1	-11	-2	953	0	0	0
289	SLE FR 2	-11	-2	956	0	0	0
289	SLE FR 3	-11	-2	955	0	0	0
289	SLE FR 4	-11	-2	991	0	0	0
289	SLE FR 5	-11	-2	991	0	0	0
289	SLE FR 6	-11	-2	1012	0	0	0
289	SLE QP 1	-11	-2	953	0	0	0
289	SLE QP 2	-11	-2	988	0	0	0
289	SLD 1	77	22	1122	0	0	0
289	SLD 2	95	18	1115	0	0	0
289	SLD 3	83	-35	825	0	0	0
289	SLD 4	101	-38	818	0	0	0
289	SLD 5	3	91	1480	0	0	0
289	SLD 6	14	89	1475	0	0	0
289	SLD 7	23	-97	490	0	0	0
289	SLD 8	34	-99	486	0	0	0
289	SLD 9	-57	94	1491	0	0	0
289	SLD 10	-46	92	1486	0	0	0
289	SLD 11	-37	-94	501	0	0	0
289	SLD 12	-26	-96	497	0	0	0
289	SLD 13	-123	33	1158	0	0	0
289	SLD 14	-106	30	1151	0	0	0
289	SLD 15	-117	-23	861	0	0	0
289	SLD 16	-100	-27	855	0	0	0
289	SLV 1	127	40	1218	0	0	0
289	SLV 2	154	34	1207	0	0	0
289	SLV 3	137	-57	711	0	0	0
289	SLV 4	164	-62	700	0	0	0
289	SLV 5	10	157	1827	0	0	0
289	SLV 6	28	153	1820	0	0	0
289	SLV 7	43	-164	139	0	0	0
289	SLV 8	62	-167	132	0	0	0
289	SLV 9	-84	163	1845	0	0	0
289	SLV 10	-66	159	1838	0	0	0
289	SLV 11	-51	-158	156	0	0	0
289	SLV 12	-32	-162	149	0	0	0
289	SLV 13	-187	57	1276	0	0	0
289	SLV 14	-159	52	1265	0	0	0
289	SLV 15	-176	-39	769	0	0	0
289	SLV 16	-149	-44	759	0	0	0
289	SLV FO 1	141	44	1241	0	0	0
289	SLV FO 2	171	38	1229	0	0	0
289	SLV FO 3	152	-62	683	0	0	0
289	SLV FO 4	182	-68	672	0	0	0
289	SLV FO 5	12	173	1911	0	0	0
289	SLV FO 6	32	169	1903	0	0	0
289	SLV FO 7	49	-180	54	0	0	0
289	SLV FO 8	69	-184	46	0	0	0
289	SLV FO 9	-91	179	1931	0	0	0
289	SLV FO 10	-71	175	1923	0	0	0
289	SLV FO 11	-55	-174	73	0	0	0
289	SLV FO 12	-34	-178	65	0	0	0
289	SLV FO 13	-204	63	1305	0	0	0
289	SLV FO 14	-174	57	1293	0	0	0
289	SLV FO 15	-193	-42	747	0	0	0
289	SLV FO 16	-163	-49	736	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
289	CRTFP Uy+	0	0	0	0	0	0
289	CRTFP Uy-	0	0	0	0	0	0
290	SLU 1	-11	1	988	0	0	0
290	SLU 2	-11	6	1010	0	0	0
290	SLU 3	-11	1	1005	0	0	0
290	SLU 4	-12	4	1018	0	0	0
290	SLU 5	-12	6	1020	0	0	0
290	SLU 6	-11	1	1016	0	0	0
290	SLU 7	-12	4	1029	0	0	0
290	SLU 8	-11	1	1009	0	0	0
290	SLU 9	-12	4	1022	0	0	0
290	SLU 10	-12	6	1144	0	0	0
290	SLU 11	-12	1	1140	0	0	0
290	SLU 12	-12	4	1153	0	0	0
290	SLU 13	-12	6	1155	0	0	0
290	SLU 14	-12	1	1150	0	0	0
290	SLU 15	-12	4	1163	0	0	0
290	SLU 16	-12	1	1144	0	0	0
290	SLU 17	-12	4	1157	0	0	0
290	SLU 18	-12	1	1180	0	0	0
290	SLU 19	-12	4	1193	0	0	0
290	SLU 20	-12	1	1191	0	0	0
290	SLU 21	-12	4	1204	0	0	0
290	SLU 22	-12	1	1124	0	0	0
290	SLU 23	-13	6	1146	0	0	0
290	SLU 24	-13	2	1141	0	0	0
290	SLU 25	-13	4	1154	0	0	0
290	SLU 26	-13	6	1156	0	0	0
290	SLU 27	-13	1	1152	0	0	0
290	SLU 28	-13	4	1165	0	0	0
290	SLU 29	-13	1	1145	0	0	0
290	SLU 30	-13	4	1158	0	0	0
290	SLU 31	-14	7	1280	0	0	0
290	SLU 32	-13	2	1276	0	0	0
290	SLU 33	-14	5	1289	0	0	0
290	SLU 34	-14	7	1291	0	0	0
290	SLU 35	-13	2	1287	0	0	0
290	SLU 36	-14	5	1300	0	0	0
290	SLU 37	-13	2	1280	0	0	0
290	SLU 38	-14	5	1293	0	0	0
290	SLU 39	-13	2	1316	0	0	0
290	SLU 40	-14	5	1329	0	0	0
290	SLU 41	-13	2	1327	0	0	0
290	SLU 42	-14	5	1340	0	0	0
290	SLU 43	-13	1	1237	0	0	0
290	SLU 44	-14	6	1259	0	0	0
290	SLU 45	-14	1	1255	0	0	0
290	SLU 46	-14	4	1268	0	0	0
290	SLU 47	-14	6	1270	0	0	0
290	SLU 48	-14	1	1265	0	0	0
290	SLU 49	-14	4	1278	0	0	0
290	SLU 50	-14	1	1259	0	0	0
290	SLU 51	-14	4	1272	0	0	0
290	SLU 52	-15	6	1394	0	0	0
290	SLU 53	-14	1	1389	0	0	0
290	SLU 54	-15	4	1402	0	0	0
290	SLU 55	-15	6	1405	0	0	0
290	SLU 56	-15	1	1400	0	0	0
290	SLU 57	-15	4	1413	0	0	0
290	SLU 58	-14	1	1394	0	0	0
290	SLU 59	-15	4	1407	0	0	0
290	SLU 60	-14	1	1430	0	0	0
290	SLU 61	-15	4	1443	0	0	0
290	SLU 62	-14	1	1441	0	0	0
290	SLU 63	-15	4	1454	0	0	0
290	SLU 64	-15	1	1374	0	0	0
290	SLU 65	-16	6	1395	0	0	0
290	SLU 66	-15	1	1391	0	0	0
290	SLU 67	-16	4	1404	0	0	0
290	SLU 68	-16	6	1406	0	0	0
290	SLU 69	-16	1	1401	0	0	0
290	SLU 70	-16	4	1414	0	0	0
290	SLU 71	-16	1	1395	0	0	0
290	SLU 72	-16	4	1408	0	0	0
290	SLU 73	-16	7	1530	0	0	0
290	SLU 74	-16	2	1525	0	0	0
290	SLU 75	-16	5	1538	0	0	0
290	SLU 76	-17	7	1541	0	0	0
290	SLU 77	-16	2	1536	0	0	0
290	SLU 78	-17	5	1549	0	0	0
290	SLU 79	-16	2	1530	0	0	0
290	SLU 80	-16	5	1543	0	0	0
290	SLU 81	-16	2	1566	0	0	0
290	SLU 82	-16	5	1579	0	0	0
290	SLU 83	-16	2	1577	0	0	0
290	SLU 84	-16	5	1590	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
290	SLE RA 1	-11	1	1027	0	0	0
290	SLE RA 2	-12	4	1041	0	0	0
290	SLE RA 3	-11	1	1038	0	0	0
290	SLE RA 4	-12	3	1047	0	0	0
290	SLE RA 5	-12	4	1048	0	0	0
290	SLE RA 6	-12	1	1045	0	0	0
290	SLE RA 7	-12	3	1054	0	0	0
290	SLE RA 8	-12	1	1041	0	0	0
290	SLE RA 9	-12	3	1050	0	0	0
290	SLE RA 10	-12	4	1131	0	0	0
290	SLE RA 11	-12	1	1128	0	0	0
290	SLE RA 12	-12	3	1137	0	0	0
290	SLE RA 13	-12	4	1138	0	0	0
290	SLE RA 14	-12	1	1135	0	0	0
290	SLE RA 15	-12	3	1144	0	0	0
290	SLE RA 16	-12	1	1131	0	0	0
290	SLE RA 17	-12	3	1140	0	0	0
290	SLE RA 18	-12	1	1155	0	0	0
290	SLE RA 19	-12	3	1164	0	0	0
290	SLE RA 20	-12	1	1162	0	0	0
290	SLE RA 21	-12	3	1171	0	0	0
290	SLE FR 1	-11	1	1027	0	0	0
290	SLE FR 2	-11	2	1030	0	0	0
290	SLE FR 3	-11	1	1030	0	0	0
290	SLE FR 4	-11	2	1068	0	0	0
290	SLE FR 5	-11	1	1068	0	0	0
290	SLE FR 6	-11	1	1091	0	0	0
290	SLE QP 1	-11	1	1027	0	0	0
290	SLE QP 2	-11	1	1065	0	0	0
290	SLD 1	81	37	1202	0	0	0
290	SLD 2	98	34	1195	0	0	0
290	SLD 3	87	-24	883	0	0	0
290	SLD 4	105	-27	876	0	0	0
290	SLD 5	4	104	1591	0	0	0
290	SLD 6	15	102	1587	0	0	0
290	SLD 7	24	-98	527	0	0	0
290	SLD 8	36	-99	523	0	0	0
290	SLD 9	-58	101	1607	0	0	0
290	SLD 10	-47	100	1603	0	0	0
290	SLD 11	-38	-100	543	0	0	0
290	SLD 12	-27	-102	539	0	0	0
290	SLD 13	-127	29	1254	0	0	0
290	SLD 14	-109	26	1248	0	0	0
290	SLD 15	-121	-32	935	0	0	0
290	SLD 16	-103	-35	929	0	0	0
290	SLV 1	132	61	1301	0	0	0
290	SLV 2	160	57	1291	0	0	0
290	SLV 3	142	-42	756	0	0	0
290	SLV 4	170	-46	746	0	0	0
290	SLV 5	11	176	1964	0	0	0
290	SLV 6	30	173	1957	0	0	0
290	SLV 7	45	-167	148	0	0	0
290	SLV 8	64	-170	142	0	0	0
290	SLV 9	-87	172	1989	0	0	0
290	SLV 10	-68	169	1982	0	0	0
290	SLV 11	-53	-171	173	0	0	0
290	SLV 12	-34	-174	167	0	0	0
290	SLV 13	-193	48	1384	0	0	0
290	SLV 14	-165	44	1374	0	0	0
290	SLV 15	-183	-55	839	0	0	0
290	SLV 16	-155	-59	829	0	0	0
290	SLV FO 1	146	67	1325	0	0	0
290	SLV FO 2	177	62	1314	0	0	0
290	SLV FO 3	158	-46	725	0	0	0
290	SLV FO 4	189	-51	715	0	0	0
290	SLV FO 5	13	194	2054	0	0	0
290	SLV FO 6	34	190	2046	0	0	0
290	SLV FO 7	51	-184	57	0	0	0
290	SLV FO 8	71	-187	49	0	0	0
290	SLV FO 9	-94	189	2081	0	0	0
290	SLV FO 10	-73	186	2074	0	0	0
290	SLV FO 11	-57	-189	84	0	0	0
290	SLV FO 12	-36	-192	77	0	0	0
290	SLV FO 13	-211	53	1416	0	0	0
290	SLV FO 14	-180	48	1405	0	0	0
290	SLV FO 15	-200	-60	817	0	0	0
290	SLV FO 16	-169	-65	806	0	0	0
290	CRTFP Uy+	0	0	0	0	0	0
290	CRTFP Uy-	0	0	0	0	0	0
291	SLU 1	-5	-8	360	-5.4	45.86	0.99
291	SLU 2	-5	-7	368	-5.53	46.91	0.81
291	SLU 3	-5	-9	366	-5.49	46.62	1.01
291	SLU 4	-5	-8	371	-5.56	47.25	0.9
291	SLU 5	-5	-7	372	-5.58	47.39	0.82
291	SLU 6	-5	-9	370	-5.55	47.09	1.03
291	SLU 7	-5	-8	375	-5.62	47.72	0.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
291	SLU 8	-5	-9	367	-5.51	46.81	1.02
291	SLU 9	-5	-8	372	-5.59	47.44	0.91
291	SLU 10	-6	-8	416	-6.23	52.93	0.92
291	SLU 11	-5	-9	413	-6.2	52.63	1.13
291	SLU 12	-6	-9	418	-6.27	53.26	1.01
291	SLU 13	-6	-8	419	-6.29	53.4	0.93
291	SLU 14	-6	-10	417	-6.25	53.11	1.14
291	SLU 15	-6	-9	422	-6.33	53.74	1.03
291	SLU 16	-5	-10	415	-6.22	52.82	1.13
291	SLU 17	-6	-9	420	-6.3	53.45	1.02
291	SLU 18	-5	-10	428	-6.41	54.46	1.15
291	SLU 19	-6	-9	433	-6.49	55.09	1.04
291	SLU 20	-5	-10	431	-6.47	54.93	1.17
291	SLU 21	-6	-9	436	-6.54	55.56	1.06
291	SLU 22	-6	-9	410	-6.15	52.19	1.12
291	SLU 23	-6	-8	418	-6.27	53.24	0.93
291	SLU 24	-6	-10	416	-6.24	52.94	1.14
291	SLU 25	-6	-9	421	-6.31	53.57	1.03
291	SLU 26	-6	-8	422	-6.33	53.71	0.94
291	SLU 27	-6	-10	419	-6.29	53.41	1.15
291	SLU 28	-6	-9	424	-6.36	54.04	1.04
291	SLU 29	-6	-10	417	-6.26	53.13	1.14
291	SLU 30	-6	-9	422	-6.33	53.76	1.03
291	SLU 31	-6	-9	465	-6.98	59.26	1.04
291	SLU 32	-6	-11	463	-6.94	58.96	1.25
291	SLU 33	-6	-10	468	-7.02	59.59	1.14
291	SLU 34	-6	-9	469	-7.03	59.73	1.06
291	SLU 35	-6	-11	467	-7	59.43	1.26
291	SLU 36	-6	-10	472	-7.07	60.06	1.15
291	SLU 37	-6	-11	464	-6.97	59.15	1.26
291	SLU 38	-6	-10	469	-7.04	59.78	1.15
291	SLU 39	-6	-11	477	-7.16	60.79	1.28
291	SLU 40	-6	-10	482	-7.23	61.42	1.17
291	SLU 41	-6	-11	481	-7.21	61.26	1.29
291	SLU 42	-6	-10	486	-7.29	61.89	1.18
291	SLU 43	-6	-11	451	-6.77	57.45	1.25
291	SLU 44	-7	-9	459	-6.89	58.5	1.06
291	SLU 45	-6	-11	457	-6.86	58.21	1.27
291	SLU 46	-7	-10	462	-6.93	58.84	1.16
291	SLU 47	-7	-9	463	-6.95	58.98	1.08
291	SLU 48	-6	-11	461	-6.91	58.68	1.28
291	SLU 49	-7	-10	466	-6.98	59.31	1.17
291	SLU 50	-6	-11	458	-6.88	58.4	1.28
291	SLU 51	-7	-10	463	-6.95	59.03	1.16
291	SLU 52	-7	-10	507	-7.6	64.52	1.18
291	SLU 53	-7	-12	504	-7.56	64.22	1.38
291	SLU 54	-7	-11	509	-7.64	64.85	1.27
291	SLU 55	-7	-10	510	-7.65	64.99	1.19
291	SLU 56	-7	-12	508	-7.62	64.7	1.4
291	SLU 57	-7	-11	513	-7.69	65.33	1.28
291	SLU 58	-7	-12	506	-7.59	64.41	1.39
291	SLU 59	-7	-11	511	-7.66	65.04	1.28
291	SLU 60	-7	-12	519	-7.78	66.05	1.41
291	SLU 61	-7	-11	524	-7.85	66.68	1.3
291	SLU 62	-7	-12	522	-7.83	66.52	1.42
291	SLU 63	-7	-11	527	-7.91	67.15	1.31
291	SLU 64	-7	-12	501	-7.51	63.78	1.37
291	SLU 65	-7	-10	509	-7.64	64.83	1.19
291	SLU 66	-7	-12	507	-7.6	64.53	1.39
291	SLU 67	-7	-11	512	-7.67	65.16	1.28
291	SLU 68	-7	-10	513	-7.69	65.3	1.2
291	SLU 69	-7	-12	510	-7.66	65	1.41
291	SLU 70	-7	-11	515	-7.73	65.63	1.29
291	SLU 71	-7	-12	508	-7.62	64.72	1.4
291	SLU 72	-7	-11	513	-7.7	65.35	1.29
291	SLU 73	-8	-11	556	-8.34	70.85	1.3
291	SLU 74	-7	-13	554	-8.31	70.55	1.5
291	SLU 75	-8	-12	559	-8.38	71.18	1.39
291	SLU 76	-8	-11	560	-8.4	71.32	1.31
291	SLU 77	-7	-13	558	-8.36	71.02	1.52
291	SLU 78	-8	-12	563	-8.44	71.65	1.41
291	SLU 79	-7	-13	555	-8.33	70.74	1.51
291	SLU 80	-8	-12	560	-8.41	71.37	1.4
291	SLU 81	-7	-13	568	-8.52	72.38	1.53
291	SLU 82	-8	-12	573	-8.6	73.01	1.42
291	SLU 83	-7	-13	572	-8.58	72.85	1.55
291	SLU 84	-8	-12	577	-8.65	73.48	1.44
291	SLE RA 1	-5	-9	374	-5.61	47.67	1.03
291	SLE RA 2	-5	-8	380	-5.7	48.37	0.9
291	SLE RA 3	-5	-9	378	-5.67	48.17	1.04
291	SLE RA 4	-5	-8	382	-5.72	48.59	0.97
291	SLE RA 5	-5	-8	382	-5.73	48.69	0.91
291	SLE RA 6	-5	-9	381	-5.71	48.49	1.05
291	SLE RA 7	-5	-8	384	-5.76	48.91	0.98
291	SLE RA 8	-5	-9	379	-5.69	48.3	1.05
291	SLE RA 9	-5	-8	383	-5.74	48.72	0.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
291	SLE RA 10	-6	-8	411	-6.17	52.38	0.98
291	SLE RA 11	-5	-9	410	-6.15	52.19	1.12
291	SLE RA 12	-6	-9	413	-6.2	52.61	1.04
291	SLE RA 13	-6	-8	414	-6.21	52.7	0.99
291	SLE RA 14	-6	-9	412	-6.18	52.5	1.13
291	SLE RA 15	-6	-9	415	-6.23	52.92	1.05
291	SLE RA 16	-6	-9	411	-6.16	52.31	1.12
291	SLE RA 17	-6	-9	414	-6.21	52.73	1.05
291	SLE RA 18	-5	-10	419	-6.29	53.4	1.14
291	SLE RA 19	-6	-9	423	-6.34	53.82	1.06
291	SLE RA 20	-6	-10	422	-6.33	53.72	1.14
291	SLE RA 21	-6	-9	425	-6.38	54.14	1.07
291	SLE FR 1	-5	-9	374	-5.61	47.67	1.03
291	SLE FR 2	-5	-8	375	-5.63	47.81	1
291	SLE FR 3	-5	-9	375	-5.63	47.8	1.03
291	SLE FR 4	-5	-9	389	-5.83	49.53	1.04
291	SLE FR 5	-5	-9	389	-5.83	49.52	1.06
291	SLE FR 6	-5	-9	397	-5.95	50.54	1.08
291	SLE QP 1	-5	-9	374	-5.61	47.67	1.03
291	SLE QP 2	-5	-9	388	-5.82	49.39	1.06
291	SLD 1	28	-5	467	-7	59.45	1.04
291	SLD 2	35	-8	462	-6.93	58.82	1.58
291	SLD 3	31	-23	349	-5.24	44.47	3.32
291	SLD 4	37	-26	344	-5.16	43.85	3.86
291	SLD 5	0	20	591	-8.86	75.23	-2.5
291	SLD 6	4	17	588	-8.81	74.83	-2.16
291	SLD 7	9	-39	199	-2.98	25.31	5.11
291	SLD 8	13	-41	196	-2.93	24.9	5.46
291	SLD 9	-23	24	580	-8.7	73.88	-3.34
291	SLD 10	-19	21	577	-8.65	73.47	-2.99
291	SLD 11	-14	-35	188	-2.82	23.95	4.28
291	SLD 12	-10	-37	185	-2.77	23.55	4.63
291	SLD 13	-48	8	431	-6.47	54.94	-1.74
291	SLD 14	-41	5	426	-6.4	54.31	-1.2
291	SLD 15	-45	-9	314	-4.71	39.96	0.54
291	SLD 16	-39	-13	309	-4.63	39.33	1.08
291	SLV 1	47	-1	520	-7.8	66.22	0.85
291	SLV 2	57	-7	512	-7.68	65.23	1.71
291	SLV 3	51	-32	319	-4.79	40.66	4.75
291	SLV 4	62	-37	311	-4.67	39.67	5.6
291	SLV 5	2	40	733	-11	93.39	-5.07
291	SLV 6	8	36	728	-10.92	92.73	-4.5
291	SLV 7	17	-60	64	-0.96	8.19	7.92
291	SLV 8	24	-64	59	-0.89	7.52	8.49
291	SLV 9	-34	46	717	-10.75	91.26	-6.37
291	SLV 10	-27	42	711	-10.67	90.59	-5.8
291	SLV 11	-19	-54	48	-0.71	6.06	6.62
291	SLV 12	-12	-58	42	-0.63	5.39	7.19
291	SLV 13	-72	19	464	-6.96	59.11	-3.48
291	SLV 14	-62	14	456	-6.84	58.12	-2.63
291	SLV 15	-68	-11	263	-3.95	33.55	0.41
291	SLV 16	-57	-16	256	-3.83	32.56	1.27
291	SLV FO 1	52	-1	533	-8	67.91	0.83
291	SLV FO 2	63	-7	525	-7.87	66.82	1.77
291	SLV FO 3	57	-34	312	-4.69	39.79	5.12
291	SLV FO 4	68	-40	304	-4.56	38.7	6.06
291	SLV FO 5	2	45	768	-11.52	97.79	-5.68
291	SLV FO 6	10	41	762	-11.43	97.06	-5.05
291	SLV FO 7	19	-65	32	-0.48	4.07	8.6
291	SLV FO 8	27	-70	26	-0.39	3.34	9.24
291	SLV FO 9	-37	52	749	-11.24	95.45	-7.12
291	SLV FO 10	-29	48	744	-11.15	94.71	-6.48
291	SLV FO 11	-20	-59	14	-0.2	1.72	7.17
291	SLV FO 12	-13	-63	8	-0.12	0.99	7.8
291	SLV FO 13	-79	22	472	-7.08	60.08	-3.94
291	SLV FO 14	-68	16	463	-6.95	58.99	-3
291	SLV FO 15	-74	-11	251	-3.76	31.97	0.35
291	SLV FO 16	-63	-17	242	-3.64	30.88	1.29
291	CRTFP Ux+	0	0	0	0	0	0
291	CRTFP Ux-	0	0	0	0	0	0
291	CRTFP Uy+	0	0	0	0	0	0
291	CRTFP Uy-	0	0	0	0	0	0
292	SLU 1	-6	2	538	0	0	0
292	SLU 2	-6	5	550	0	0	0
292	SLU 3	-6	2	547	0	0	0
292	SLU 4	-6	4	554	0	0	0
292	SLU 5	-6	5	556	0	0	0
292	SLU 6	-6	2	553	0	0	0
292	SLU 7	-6	4	560	0	0	0
292	SLU 8	-6	2	550	0	0	0
292	SLU 9	-6	4	557	0	0	0
292	SLU 10	-6	5	624	0	0	0
292	SLU 11	-6	2	622	0	0	0
292	SLU 12	-6	4	629	0	0	0
292	SLU 13	-6	5	630	0	0	0
292	SLU 14	-6	2	628	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
292	SLU 15	-6	4	635	0	0	0
292	SLU 16	-6	2	624	0	0	0
292	SLU 17	-6	4	631	0	0	0
292	SLU 18	-6	2	644	0	0	0
292	SLU 19	-6	4	651	0	0	0
292	SLU 20	-6	2	650	0	0	0
292	SLU 21	-6	4	657	0	0	0
292	SLU 22	-7	3	613	0	0	0
292	SLU 23	-7	5	624	0	0	0
292	SLU 24	-7	3	622	0	0	0
292	SLU 25	-7	4	629	0	0	0
292	SLU 26	-7	5	630	0	0	0
292	SLU 27	-7	3	628	0	0	0
292	SLU 28	-7	4	635	0	0	0
292	SLU 29	-7	3	625	0	0	0
292	SLU 30	-7	4	632	0	0	0
292	SLU 31	-7	6	699	0	0	0
292	SLU 32	-7	3	696	0	0	0
292	SLU 33	-7	5	703	0	0	0
292	SLU 34	-7	6	704	0	0	0
292	SLU 35	-7	3	702	0	0	0
292	SLU 36	-7	5	709	0	0	0
292	SLU 37	-7	3	699	0	0	0
292	SLU 38	-7	5	706	0	0	0
292	SLU 39	-7	3	719	0	0	0
292	SLU 40	-7	5	726	0	0	0
292	SLU 41	-7	3	725	0	0	0
292	SLU 42	-7	5	732	0	0	0
292	SLU 43	-7	2	674	0	0	0
292	SLU 44	-7	5	686	0	0	0
292	SLU 45	-7	2	683	0	0	0
292	SLU 46	-7	4	690	0	0	0
292	SLU 47	-8	5	691	0	0	0
292	SLU 48	-7	2	689	0	0	0
292	SLU 49	-8	4	696	0	0	0
292	SLU 50	-7	2	686	0	0	0
292	SLU 51	-8	4	693	0	0	0
292	SLU 52	-8	5	760	0	0	0
292	SLU 53	-8	3	757	0	0	0
292	SLU 54	-8	4	764	0	0	0
292	SLU 55	-8	5	766	0	0	0
292	SLU 56	-8	3	763	0	0	0
292	SLU 57	-8	4	770	0	0	0
292	SLU 58	-8	3	760	0	0	0
292	SLU 59	-8	4	767	0	0	0
292	SLU 60	-7	3	780	0	0	0
292	SLU 61	-8	4	787	0	0	0
292	SLU 62	-8	3	786	0	0	0
292	SLU 63	-8	4	793	0	0	0
292	SLU 64	-8	3	748	0	0	0
292	SLU 65	-8	6	760	0	0	0
292	SLU 66	-8	3	758	0	0	0
292	SLU 67	-8	5	765	0	0	0
292	SLU 68	-8	6	766	0	0	0
292	SLU 69	-8	3	764	0	0	0
292	SLU 70	-8	5	771	0	0	0
292	SLU 71	-8	3	760	0	0	0
292	SLU 72	-8	5	767	0	0	0
292	SLU 73	-9	6	834	0	0	0
292	SLU 74	-8	3	832	0	0	0
292	SLU 75	-9	5	839	0	0	0
292	SLU 76	-9	6	840	0	0	0
292	SLU 77	-8	3	838	0	0	0
292	SLU 78	-9	5	845	0	0	0
292	SLU 79	-8	3	834	0	0	0
292	SLU 80	-9	5	842	0	0	0
292	SLU 81	-8	4	854	0	0	0
292	SLU 82	-9	5	861	0	0	0
292	SLU 83	-8	4	860	0	0	0
292	SLU 84	-9	5	867	0	0	0
292	SLE RA 1	-6	2	559	0	0	0
292	SLE RA 2	-6	4	567	0	0	0
292	SLE RA 3	-6	2	566	0	0	0
292	SLE RA 4	-6	3	570	0	0	0
292	SLE RA 5	-6	4	571	0	0	0
292	SLE RA 6	-6	2	570	0	0	0
292	SLE RA 7	-6	3	574	0	0	0
292	SLE RA 8	-6	2	567	0	0	0
292	SLE RA 9	-6	3	572	0	0	0
292	SLE RA 10	-6	4	617	0	0	0
292	SLE RA 11	-6	2	615	0	0	0
292	SLE RA 12	-6	4	620	0	0	0
292	SLE RA 13	-6	4	621	0	0	0
292	SLE RA 14	-6	2	619	0	0	0
292	SLE RA 15	-6	4	624	0	0	0
292	SLE RA 16	-6	2	617	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
292	SLE RA 17	-6	3	621	0	0	0
292	SLE RA 18	-6	3	630	0	0	0
292	SLE RA 19	-6	4	635	0	0	0
292	SLE RA 20	-6	3	634	0	0	0
292	SLE RA 21	-6	4	639	0	0	0
292	SLE FR 1	-6	2	559	0	0	0
292	SLE FR 2	-6	3	561	0	0	0
292	SLE FR 3	-6	2	561	0	0	0
292	SLE FR 4	-6	3	582	0	0	0
292	SLE FR 5	-6	2	582	0	0	0
292	SLE FR 6	-6	2	595	0	0	0
292	SLE QP 1	-6	2	559	0	0	0
292	SLE QP 2	-6	2	581	0	0	0
292	SLD 1	42	21	650	0	0	0
292	SLD 2	51	20	647	0	0	0
292	SLD 3	45	-12	477	0	0	0
292	SLD 4	54	-13	474	0	0	0
292	SLD 5	2	57	864	0	0	0
292	SLD 6	8	57	862	0	0	0
292	SLD 7	13	-51	288	0	0	0
292	SLD 8	19	-52	286	0	0	0
292	SLD 9	-31	56	875	0	0	0
292	SLD 10	-25	56	873	0	0	0
292	SLD 11	-20	-52	299	0	0	0
292	SLD 12	-14	-53	297	0	0	0
292	SLD 13	-66	17	687	0	0	0
292	SLD 14	-57	17	684	0	0	0
292	SLD 15	-63	-15	514	0	0	0
292	SLD 16	-54	-16	511	0	0	0
292	SLV 1	69	33	701	0	0	0
292	SLV 2	83	32	697	0	0	0
292	SLV 3	74	-22	407	0	0	0
292	SLV 4	89	-23	402	0	0	0
292	SLV 5	5	96	1065	0	0	0
292	SLV 6	15	95	1062	0	0	0
292	SLV 7	24	-89	82	0	0	0
292	SLV 8	33	-90	79	0	0	0
292	SLV 9	-45	94	1082	0	0	0
292	SLV 10	-36	94	1079	0	0	0
292	SLV 11	-27	-91	99	0	0	0
292	SLV 12	-17	-91	96	0	0	0
292	SLV 13	-101	28	759	0	0	0
292	SLV 14	-86	27	754	0	0	0
292	SLV 15	-95	-27	464	0	0	0
292	SLV 16	-81	-29	460	0	0	0
292	SLV FO 1	76	36	713	0	0	0
292	SLV FO 2	92	35	708	0	0	0
292	SLV FO 3	82	-25	389	0	0	0
292	SLV FO 4	98	-26	384	0	0	0
292	SLV FO 5	7	105	1113	0	0	0
292	SLV FO 6	17	104	1110	0	0	0
292	SLV FO 7	26	-98	32	0	0	0
292	SLV FO 8	37	-99	29	0	0	0
292	SLV FO 9	-49	104	1132	0	0	0
292	SLV FO 10	-38	103	1129	0	0	0
292	SLV FO 11	-29	-100	51	0	0	0
292	SLV FO 12	-19	-101	48	0	0	0
292	SLV FO 13	-110	31	777	0	0	0
292	SLV FO 14	-94	29	772	0	0	0
292	SLV FO 15	-104	-30	453	0	0	0
292	SLV FO 16	-88	-32	448	0	0	0
292	CRTFP Uy+	0	0	0	0	0	0
292	CRTFP Uy-	0	0	0	0	0	0
293	SLU 1	-134	36	5301	1210.86	-892.49	39.01
293	SLU 2	-140	62	5437	1239.07	-915.81	45.14
293	SLU 3	-138	37	5394	1232.72	-907.94	40.02
293	SLU 4	-141	53	5476	1249.65	-921.93	43.7
293	SLU 5	-142	63	5493	1252.21	-925.02	45.83
293	SLU 6	-140	38	5450	1245.86	-917.15	40.72
293	SLU 7	-143	53	5532	1262.79	-931.14	44.39
293	SLU 8	-138	38	5412	1237.14	-910.9	40.4
293	SLU 9	-142	53	5494	1254.07	-924.89	44.08
293	SLU 10	-151	68	6096	1388.79	-1026.24	48.92
293	SLU 11	-149	43	6053	1382.44	-1018.37	43.8
293	SLU 12	-152	59	6135	1399.37	-1032.36	47.48
293	SLU 13	-153	69	6152	1401.93	-1035.44	49.61
293	SLU 14	-151	44	6109	1395.58	-1027.57	44.5
293	SLU 15	-154	60	6191	1412.51	-1041.57	48.17
293	SLU 16	-149	44	6071	1386.85	-1021.33	44.18
293	SLU 17	-153	60	6153	1403.78	-1035.32	47.86
293	SLU 18	-150	45	6242	1424.74	-1050.24	44.41
293	SLU 19	-153	60	6324	1441.67	-1064.23	48.09
293	SLU 20	-152	46	6298	1437.88	-1059.45	45.11
293	SLU 21	-155	61	6380	1454.81	-1073.44	48.78
293	SLU 22	-154	40	6058	1384.44	-1018.9	44.45
293	SLU 23	-159	66	6194	1412.66	-1042.22	50.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
293	SLU 24	-157	41	6152	1406.31	-1034.36	45.46
293	SLU 25	-161	56	6233	1423.24	-1048.35	49.14
293	SLU 26	-162	67	6250	1425.8	-1051.43	51.28
293	SLU 27	-159	41	6207	1419.45	-1043.56	46.16
293	SLU 28	-163	57	6289	1436.38	-1057.55	49.84
293	SLU 29	-158	42	6170	1410.72	-1037.31	45.85
293	SLU 30	-162	57	6251	1427.65	-1051.31	49.52
293	SLU 31	-170	72	6853	1562.37	-1152.65	54.36
293	SLU 32	-168	47	6810	1556.02	-1144.78	49.24
293	SLU 33	-172	62	6892	1572.95	-1158.77	52.92
293	SLU 34	-173	73	6909	1575.51	-1161.86	55.06
293	SLU 35	-170	48	6866	1569.16	-1153.99	49.94
293	SLU 36	-174	63	6948	1586.09	-1167.98	53.62
293	SLU 37	-169	48	6828	1560.44	-1147.74	49.63
293	SLU 38	-173	63	6910	1577.37	-1161.73	53.3
293	SLU 39	-169	49	6999	1598.32	-1176.66	49.85
293	SLU 40	-173	64	7081	1615.25	-1190.65	53.53
293	SLU 41	-172	49	7055	1611.46	-1185.86	50.55
293	SLU 42	-175	65	7137	1628.39	-1199.85	54.23
293	SLU 43	-167	46	6632	1514.6	-1116.89	48.85
293	SLU 44	-173	72	6768	1542.81	-1140.21	54.97
293	SLU 45	-171	46	6725	1536.46	-1132.35	49.86
293	SLU 46	-174	62	6807	1553.39	-1146.34	53.53
293	SLU 47	-175	73	6824	1555.95	-1149.42	55.67
293	SLU 48	-173	47	6781	1549.6	-1141.55	50.56
293	SLU 49	-177	63	6862	1566.53	-1155.54	54.23
293	SLU 50	-172	47	6743	1540.88	-1135.31	50.24
293	SLU 51	-175	63	6825	1557.81	-1149.3	53.92
293	SLU 52	-184	78	7427	1692.53	-1250.64	58.75
293	SLU 53	-182	53	7384	1686.18	-1242.77	53.64
293	SLU 54	-185	68	7466	1703.11	-1256.77	57.31
293	SLU 55	-186	79	7482	1705.67	-1259.85	59.45
293	SLU 56	-184	53	7440	1699.32	-1251.98	54.34
293	SLU 57	-188	69	7521	1716.25	-1265.97	58.01
293	SLU 58	-183	54	7402	1690.6	-1245.73	54.02
293	SLU 59	-186	69	7484	1707.53	-1259.72	57.7
293	SLU 60	-183	54	7573	1728.48	-1274.65	54.25
293	SLU 61	-187	70	7655	1745.41	-1288.64	57.92
293	SLU 62	-185	55	7629	1741.62	-1283.85	54.94
293	SLU 63	-189	71	7710	1758.55	-1297.84	58.62
293	SLU 64	-187	49	7389	1688.18	-1243.31	54.29
293	SLU 65	-193	75	7525	1716.4	-1266.63	60.42
293	SLU 66	-191	50	7482	1710.05	-1258.76	55.3
293	SLU 67	-194	66	7564	1726.98	-1272.75	58.98
293	SLU 68	-195	76	7581	1729.54	-1275.83	61.11
293	SLU 69	-193	51	7538	1723.19	-1267.97	56
293	SLU 70	-196	67	7620	1740.12	-1281.96	59.67
293	SLU 71	-192	51	7500	1714.46	-1261.72	55.68
293	SLU 72	-195	67	7582	1731.39	-1275.71	59.36
293	SLU 73	-204	81	8184	1866.12	-1377.05	64.2
293	SLU 74	-202	56	8141	1859.77	-1369.19	59.08
293	SLU 75	-205	72	8223	1876.69	-1383.18	62.76
293	SLU 76	-206	82	8239	1879.26	-1386.26	64.89
293	SLU 77	-204	57	8197	1872.91	-1378.39	59.78
293	SLU 78	-207	73	8278	1889.83	-1392.39	63.45
293	SLU 79	-203	57	8159	1864.18	-1372.15	59.46
293	SLU 80	-206	73	8241	1881.11	-1386.14	63.14
293	SLU 81	-203	58	8330	1902.06	-1401.06	59.69
293	SLU 82	-206	74	8412	1918.99	-1415.05	63.36
293	SLU 83	-205	59	8386	1915.21	-1410.27	60.39
293	SLU 84	-209	75	8467	1932.13	-1424.26	64.06
293	SLE RA 1	-140	37	5517	1260.45	-928.61	40.56
293	SLE RA 2	-143	54	5608	1279.26	-944.15	44.65
293	SLE RA 3	-142	38	5580	1275.03	-938.91	41.24
293	SLE RA 4	-144	48	5634	1286.31	-948.24	43.69
293	SLE RA 5	-145	55	5645	1288.02	-950.29	45.11
293	SLE RA 6	-143	38	5617	1283.79	-945.05	41.7
293	SLE RA 7	-146	49	5671	1295.07	-954.37	44.15
293	SLE RA 8	-143	38	5592	1277.97	-940.88	41.49
293	SLE RA 9	-145	49	5646	1289.26	-950.21	43.95
293	SLE RA 10	-151	59	6047	1379.07	-1017.77	47.17
293	SLE RA 11	-149	42	6019	1374.84	-1012.53	43.76
293	SLE RA 12	-152	52	6073	1386.13	-1021.86	46.21
293	SLE RA 13	-152	59	6084	1387.83	-1023.91	47.63
293	SLE RA 14	-151	42	6056	1383.6	-1018.66	44.22
293	SLE RA 15	-153	53	6110	1394.89	-1027.99	46.67
293	SLE RA 16	-150	42	6031	1377.78	-1014.5	44.01
293	SLE RA 17	-152	53	6085	1389.07	-1023.83	46.46
293	SLE RA 18	-150	43	6145	1403.04	-1033.78	44.16
293	SLE RA 19	-152	53	6199	1414.33	-1043.1	46.62
293	SLE RA 20	-152	44	6182	1411.8	-1039.91	44.63
293	SLE RA 21	-154	54	6236	1423.09	-1049.24	47.08
293	SLE FR 1	-140	37	5517	1260.45	-928.61	40.56
293	SLE FR 2	-140	41	5536	1264.21	-931.72	41.38
293	SLE FR 3	-140	37	5532	1263.96	-931.06	40.75
293	SLE FR 4	-143	42	5724	1306.99	-963.27	42.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
293	SLE FR 5	-143	39	5720	1306.73	-962.61	41.83
293	SLE FR 6	-145	40	5831	1331.75	-981.19	42.36
293	SLE QP 1	-140	37	5517	1260.45	-928.61	40.56
293	SLE QP 2	-143	39	5706	1303.23	-960.16	41.64
293	SLD 1	262	421	8346	1891.03	-1398.02	-32.23
293	SLD 2	348	279	8193	1859.36	-1372.1	-78.82
293	SLD 3	341	88	6473	1498.2	-1080.13	-111.22
293	SLD 4	426	-54	6319	1466.53	-1054.21	-157.8
293	SLD 5	-155	684	9365	2080.8	-1578.1	147.29
293	SLD 6	-100	592	9266	2060.41	-1561.41	117.29
293	SLD 7	107	-427	3121	771.38	-518.48	-115.99
293	SLD 8	162	-519	3022	750.98	-501.79	-145.99
293	SLD 9	-448	597	8389	1855.47	-1418.53	229.28
293	SLD 10	-392	505	8290	1835.08	-1401.84	199.28
293	SLD 11	-185	-514	2145	546.04	-358.9	-34
293	SLD 12	-130	-606	2046	525.65	-342.21	-64
293	SLD 13	-712	132	5092	1139.92	-866.1	241.09
293	SLD 14	-626	-10	4938	1108.26	-840.18	194.51
293	SLD 15	-633	-201	3219	747.09	-548.21	162.11
293	SLD 16	-547	-344	3065	715.43	-522.29	115.52
293	SLV 1	485	661	9966	2249.82	-1667.18	-67.99
293	SLV 2	620	437	9724	2199.9	-1626.32	-141.43
293	SLV 3	619	93	6769	1579.38	-1124.68	-202.66
293	SLV 4	754	-132	6527	1529.46	-1083.82	-276.09
293	SLV 5	-183	1130	11877	2613.36	-2002.68	226.7
293	SLV 6	-92	979	11714	2579.76	-1975.18	177.26
293	SLV 7	264	-766	1221	378.55	-194.34	-222.18
293	SLV 8	355	-917	1059	344.94	-166.84	-271.62
293	SLV 9	-640	995	10353	2261.51	-1753.48	354.91
293	SLV 10	-549	843	10190	2227.91	-1725.97	305.47
293	SLV 11	-194	-901	-303	26.7	54.86	-93.97
293	SLV 12	-103	-1052	-466	-6.91	82.37	-143.41
293	SLV 13	-1039	210	4884	1077	-836.5	359.38
293	SLV 14	-904	-15	4642	1027.08	-795.64	285.95
293	SLV 15	-905	-359	1687	406.55	-293.99	224.72
293	SLV 16	-770	-584	1445	356.64	-253.14	151.28
293	SLV FO 1	547	724	10392	2344.48	-1737.88	-78.96
293	SLV FO 2	696	476	10126	2289.57	-1692.94	-159.73
293	SLV FO 3	695	98	6875	1606.99	-1141.13	-227.09
293	SLV FO 4	844	-149	6609	1552.08	-1096.19	-307.86
293	SLV FO 5	-187	1239	12494	2744.37	-2106.93	245.2
293	SLV FO 6	-87	1073	12315	2707.41	-2076.68	190.82
293	SLV FO 7	304	-846	773	286.08	-117.76	-248.57
293	SLV FO 8	404	-1012	594	249.11	-87.51	-302.95
293	SLV FO 9	-690	1090	10817	2357.34	-1832.81	386.23
293	SLV FO 10	-590	924	10638	2320.38	-1802.55	331.85
293	SLV FO 11	-199	-995	-904	-100.95	156.36	-107.53
293	SLV FO 12	-99	-1162	-1083	-137.92	186.62	-161.91
293	SLV FO 13	-1129	227	4802	1054.37	-824.13	391.15
293	SLV FO 14	-980	-20	4536	999.47	-779.19	310.38
293	SLV FO 15	-982	-399	1285	316.88	-227.38	243.02
293	SLV FO 16	-833	-646	1019	261.98	-182.44	162.25
293	CRTFP Ux+	0	0	0	0	0	0
293	CRTFP Ux-	0	0	0	0	0	0
293	CRTFP Uy+	0	0	0	-0.01	0	0
293	CRTFP Uy-	0	0	0	0.01	0	0
295	SLU 1	-92	21	3457	958.52	-88.91	32.81
295	SLU 2	-96	39	3543	979.7	-91.15	34.65
295	SLU 3	-95	22	3517	975.68	-90.45	33.67
295	SLU 4	-97	33	3569	988.38	-91.8	34.78
295	SLU 5	-98	40	3580	990.04	-92.07	35.19
295	SLU 6	-96	22	3554	986.02	-91.38	34.21
295	SLU 7	-99	33	3606	998.72	-92.72	35.32
295	SLU 8	-95	23	3529	979.2	-90.76	33.89
295	SLU 9	-98	33	3581	991.91	-92.1	35
295	SLU 10	-104	43	3971	1095.7	-102.11	37.39
295	SLU 11	-102	26	3945	1091.69	-101.41	36.41
295	SLU 12	-105	37	3997	1104.39	-102.75	37.52
295	SLU 13	-105	44	4007	1106.04	-103.03	37.94
295	SLU 14	-104	26	3981	1102.03	-102.33	36.96
295	SLU 15	-106	37	4033	1114.73	-103.67	38.06
295	SLU 16	-103	26	3957	1095.21	-101.71	36.64
295	SLU 17	-105	37	4009	1107.91	-103.05	37.74
295	SLU 18	-103	27	4068	1124.25	-104.56	36.73
295	SLU 19	-106	38	4120	1136.95	-105.9	37.83
295	SLU 20	-105	28	4104	1134.59	-105.48	37.27
295	SLU 21	-107	38	4156	1147.29	-106.82	38.37
295	SLU 22	-106	24	3948	1093.58	-101.47	37.61
295	SLU 23	-110	41	4035	1114.75	-103.71	39.45
295	SLU 24	-108	24	4009	1110.73	-103.01	38.47
295	SLU 25	-111	35	4061	1123.44	-104.35	39.58
295	SLU 26	-111	42	4071	1125.09	-104.63	40
295	SLU 27	-110	25	4045	1121.07	-103.93	39.01
295	SLU 28	-112	35	4097	1133.78	-105.27	40.12
295	SLU 29	-109	25	4021	1114.26	-103.31	38.7
295	SLU 30	-111	35	4073	1126.96	-104.65	39.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
295	SLU 31	-117	45	4463	1230.76	-114.66	42.2
295	SLU 32	-116	28	4437	1226.74	-113.96	41.21
295	SLU 33	-118	39	4489	1239.44	-115.31	42.32
295	SLU 34	-119	46	4499	1241.1	-115.58	42.74
295	SLU 35	-118	28	4473	1237.08	-114.88	41.76
295	SLU 36	-120	39	4525	1249.78	-116.23	42.86
295	SLU 37	-117	28	4449	1230.26	-114.26	41.44
295	SLU 38	-119	39	4501	1242.97	-115.61	42.54
295	SLU 39	-117	29	4559	1259.3	-117.11	41.53
295	SLU 40	-119	40	4612	1272	-118.46	42.63
295	SLU 41	-118	30	4596	1269.64	-118.04	42.07
295	SLU 42	-121	40	4648	1282.34	-119.38	43.18
295	SLU 43	-115	27	4325	1199.78	-111.28	41
295	SLU 44	-119	45	4412	1220.95	-113.52	42.85
295	SLU 45	-118	28	4386	1216.93	-112.82	41.86
295	SLU 46	-120	38	4438	1229.64	-114.17	42.97
295	SLU 47	-121	46	4448	1231.29	-114.44	43.39
295	SLU 48	-119	28	4422	1227.27	-113.74	42.41
295	SLU 49	-122	39	4474	1239.98	-115.09	43.51
295	SLU 50	-119	28	4398	1220.46	-113.12	42.09
295	SLU 51	-121	39	4450	1233.16	-114.47	43.19
295	SLU 52	-127	49	4839	1336.95	-124.47	45.59
295	SLU 53	-126	32	4813	1332.94	-123.78	44.61
295	SLU 54	-128	42	4865	1345.64	-125.12	45.71
295	SLU 55	-128	50	4876	1347.29	-125.4	46.13
295	SLU 56	-127	32	4850	1343.28	-124.7	45.15
295	SLU 57	-129	43	4902	1355.98	-126.04	46.26
295	SLU 58	-126	32	4825	1336.46	-124.08	44.83
295	SLU 59	-128	43	4877	1349.17	-125.42	45.94
295	SLU 60	-126	33	4936	1365.5	-126.93	44.92
295	SLU 61	-129	44	4988	1378.2	-128.27	46.03
295	SLU 62	-128	33	4972	1375.84	-127.85	45.46
295	SLU 63	-130	44	5024	1388.54	-129.19	46.57
295	SLU 64	-129	29	4817	1334.83	-123.84	45.8
295	SLU 65	-133	47	4903	1356	-126.08	47.65
295	SLU 66	-132	30	4877	1351.99	-125.38	46.67
295	SLU 67	-134	40	4930	1364.69	-126.72	47.77
295	SLU 68	-135	48	4940	1366.34	-127	48.19
295	SLU 69	-133	30	4914	1362.33	-126.3	47.21
295	SLU 70	-135	41	4966	1375.03	-127.64	48.32
295	SLU 71	-132	30	4889	1355.51	-125.68	46.89
295	SLU 72	-134	41	4941	1368.21	-127.02	48
295	SLU 73	-141	51	5331	1472.01	-137.03	50.39
295	SLU 74	-139	34	5305	1467.99	-136.33	49.41
295	SLU 75	-141	44	5357	1480.7	-137.67	50.52
295	SLU 76	-142	52	5368	1482.35	-137.95	50.93
295	SLU 77	-141	34	5342	1478.33	-137.25	49.95
295	SLU 78	-143	45	5394	1491.04	-138.6	51.06
295	SLU 79	-140	34	5317	1471.52	-136.63	49.63
295	SLU 80	-142	45	5369	1484.22	-137.98	50.74
295	SLU 81	-140	35	5428	1500.55	-139.48	49.72
295	SLU 82	-142	46	5480	1513.26	-140.83	50.83
295	SLU 83	-141	35	5464	1510.89	-140.4	50.27
295	SLU 84	-144	46	5516	1523.6	-141.75	51.37
295	SLE RA 1	-96	22	3597	997.11	-92.5	34.18
295	SLE RA 2	-99	34	3655	1011.22	-93.99	35.41
295	SLE RA 3	-98	22	3638	1008.55	-93.53	34.75
295	SLE RA 4	-99	30	3672	1017.02	-94.42	35.49
295	SLE RA 5	-100	34	3679	1018.12	-94.61	35.77
295	SLE RA 6	-99	23	3662	1015.44	-94.14	35.12
295	SLE RA 7	-101	30	3696	1023.91	-95.04	35.85
295	SLE RA 8	-98	23	3646	1010.9	-93.73	34.9
295	SLE RA 9	-100	30	3680	1019.37	-94.62	35.64
295	SLE RA 10	-104	37	3940	1088.56	-101.29	37.24
295	SLE RA 11	-103	25	3923	1085.88	-100.83	36.58
295	SLE RA 12	-105	32	3957	1094.35	-101.73	37.32
295	SLE RA 13	-105	37	3964	1095.46	-101.91	37.6
295	SLE RA 14	-104	25	3947	1092.78	-101.44	36.94
295	SLE RA 15	-106	32	3982	1101.25	-102.34	37.68
295	SLE RA 16	-103	25	3931	1088.23	-101.03	36.73
295	SLE RA 17	-105	33	3965	1096.7	-101.93	37.47
295	SLE RA 18	-104	26	4004	1107.59	-102.93	36.79
295	SLE RA 19	-105	33	4039	1116.06	-103.83	37.53
295	SLE RA 20	-105	26	4029	1114.48	-103.55	37.15
295	SLE RA 21	-106	33	4063	1122.95	-104.44	37.89
295	SLE FR 1	-96	22	3597	997.11	-92.5	34.18
295	SLE FR 2	-97	24	3609	999.93	-92.8	34.42
295	SLE FR 3	-97	22	3607	999.87	-92.75	34.32
295	SLE FR 4	-99	26	3731	1033.08	-95.93	35.21
295	SLE FR 5	-99	23	3729	1033.01	-95.87	35.11
295	SLE FR 6	-100	24	3801	1052.35	-97.72	35.48
295	SLE QP 1	-96	22	3597	997.11	-92.5	34.18
295	SLE QP 2	-98	23	3719	1030.25	-95.63	34.96
295	SLD 1	188	280	5402	1484.9	-137.85	-62.49
295	SLD 2	246	185	5305	1461.22	-135.42	-85.37
295	SLD 3	239	54	4213	1190.21	-107.47	-86.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
295	SLD 4	298	-41	4116	1166.53	-105.04	-109.29
295	SLD 5	-101	460	6044	1617.67	-154.79	45.95
295	SLD 6	-63	398	5982	1602.42	-153.22	31.22
295	SLD 7	71	-294	2081	635.37	-53.52	-33.8
295	SLD 8	109	-355	2019	620.12	-51.96	-48.53
295	SLD 9	-305	402	5420	1440.39	-139.3	118.46
295	SLD 10	-268	340	5358	1425.14	-137.73	103.73
295	SLD 11	-134	-352	1457	458.09	-38.04	38.71
295	SLD 12	-96	-413	1395	442.84	-36.47	23.98
295	SLD 13	-495	87	3322	893.98	-86.22	179.22
295	SLD 14	-436	-8	3226	870.3	-83.79	156.34
295	SLD 15	-443	-139	2133	599.29	-55.84	155.29
295	SLD 16	-385	-234	2037	575.61	-53.41	132.42
295	SLV 1	346	442	6433	1761.73	-163.79	-115.77
295	SLV 2	438	291	6281	1724.39	-159.95	-151.83
295	SLV 3	433	56	4404	1258.77	-111.94	-156.5
295	SLV 4	525	-94	4253	1221.44	-108.1	-192.56
295	SLV 5	-115	762	7639	2019.47	-195.42	58.25
295	SLV 6	-53	660	7537	1994.34	-192.84	33.97
295	SLV 7	177	-524	876	342.96	-22.61	-77.52
295	SLV 8	239	-625	774	317.83	-20.02	-101.8
295	SLV 9	-436	671	6665	1742.68	-171.24	171.72
295	SLV 10	-374	570	6563	1717.54	-168.65	147.45
295	SLV 11	-143	-614	-98	66.17	1.58	35.95
295	SLV 12	-82	-715	-200	41.03	4.17	11.68
295	SLV 13	-722	141	3186	839.07	-83.16	262.48
295	SLV 14	-630	-10	3034	801.74	-79.32	226.43
295	SLV 15	-635	-245	1157	336.11	-31.31	221.75
295	SLV 16	-543	-396	1005	298.78	-27.47	185.69
295	SLV FO 1	390	484	6705	1834.87	-170.6	-130.84
295	SLV FO 2	491	318	6538	1793.81	-166.38	-170.51
295	SLV FO 3	487	60	4473	1281.62	-113.57	-175.65
295	SLV FO 4	588	-106	4306	1240.56	-109.35	-215.31
295	SLV FO 5	-117	836	8031	2118.4	-205.4	60.58
295	SLV FO 6	-49	724	7919	2090.75	-202.56	33.87
295	SLV FO 7	204	-578	592	274.23	-15.3	-88.77
295	SLV FO 8	272	-690	479	246.59	-12.46	-115.47
295	SLV FO 9	-469	736	6959	1813.92	-178.8	185.4
295	SLV FO 10	-401	625	6847	1786.27	-175.95	158.7
295	SLV FO 11	-148	-678	-480	-30.24	11.3	36.05
295	SLV FO 12	-80	-789	-592	-57.89	14.14	9.35
295	SLV FO 13	-785	152	3133	819.95	-81.91	285.23
295	SLV FO 14	-684	-13	2966	778.88	-77.69	245.57
295	SLV FO 15	-688	-272	901	266.7	-24.88	240.43
295	SLV FO 16	-587	-437	734	225.63	-20.66	200.77
295	CRTFP Ux+	0	0	0	0	0	0
295	CRTFP Ux-	0	0	0	0	0	0
295	CRTFP Uy+	0	0	0	0	0	0
295	CRTFP Uy-	0	0	0	0	0	0
296	SLU 1	-108	19	3710	881.73	10.71	37.73
296	SLU 2	-113	39	3803	900.93	10.97	39.3
296	SLU 3	-111	19	3774	897.03	10.93	38.72
296	SLU 4	-114	31	3830	908.55	11.08	39.66
296	SLU 5	-115	40	3841	910.15	11.1	39.92
296	SLU 6	-113	20	3812	906.25	11.06	39.34
296	SLU 7	-116	32	3868	917.77	11.21	40.28
296	SLU 8	-112	20	3786	900.17	10.97	38.96
296	SLU 9	-115	32	3842	911.7	11.13	39.91
296	SLU 10	-122	43	4260	1004.63	12.36	42.39
296	SLU 11	-120	23	4231	1000.72	12.32	41.81
296	SLU 12	-123	35	4287	1012.25	12.48	42.75
296	SLU 13	-124	43	4298	1013.85	12.49	43
296	SLU 14	-122	24	4269	1009.95	12.45	42.43
296	SLU 15	-125	36	4325	1021.47	12.61	43.37
296	SLU 16	-121	24	4243	1003.87	12.37	42.05
296	SLU 17	-124	36	4299	1015.39	12.52	42.99
296	SLU 18	-121	25	4362	1029.87	12.7	42.14
296	SLU 19	-124	37	4418	1041.39	12.85	43.08
296	SLU 20	-123	25	4401	1039.09	12.83	42.76
296	SLU 21	-126	37	4457	1050.61	12.98	43.7
296	SLU 22	-124	21	4233	1002.42	12.37	43.29
296	SLU 23	-129	41	4327	1021.62	12.62	44.86
296	SLU 24	-127	21	4297	1017.72	12.59	44.28
296	SLU 25	-130	33	4353	1029.24	12.74	45.23
296	SLU 26	-131	41	4365	1030.84	12.76	45.48
296	SLU 27	-129	21	4336	1026.94	12.72	44.9
296	SLU 28	-132	34	4392	1038.46	12.87	45.84
296	SLU 29	-128	22	4310	1020.86	12.63	44.53
296	SLU 30	-131	34	4366	1032.38	12.79	45.47
296	SLU 31	-138	45	4783	1125.32	14.02	47.95
296	SLU 32	-136	25	4754	1121.41	13.98	47.37
296	SLU 33	-139	37	4810	1132.93	14.14	48.32
296	SLU 34	-140	45	4822	1134.54	14.15	48.57
296	SLU 35	-138	25	4793	1130.63	14.11	47.99
296	SLU 36	-141	37	4849	1142.16	14.27	48.93
296	SLU 37	-137	25	4767	1124.56	14.03	47.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
296	SLU 38	-139	38	4823	1136.08	14.18	48.56
296	SLU 39	-137	26	4886	1150.55	14.36	47.7
296	SLU 40	-140	38	4942	1162.08	14.51	48.65
296	SLU 41	-139	27	4924	1159.78	14.49	48.32
296	SLU 42	-142	39	4980	1171.3	14.64	49.26
296	SLU 43	-135	24	4643	1104.87	13.35	47.14
296	SLU 44	-140	44	4736	1124.07	13.61	48.71
296	SLU 45	-138	24	4707	1120.17	13.57	48.13
296	SLU 46	-141	37	4763	1131.69	13.73	49.08
296	SLU 47	-142	45	4775	1133.29	13.74	49.33
296	SLU 48	-140	25	4746	1129.39	13.7	48.75
296	SLU 49	-143	37	4802	1140.91	13.86	49.69
296	SLU 50	-139	25	4720	1123.31	13.62	48.37
296	SLU 51	-142	37	4776	1134.83	13.77	49.32
296	SLU 52	-149	48	5193	1227.77	15	51.8
296	SLU 53	-147	28	5164	1223.86	14.97	51.22
296	SLU 54	-150	40	5220	1235.39	15.12	52.16
296	SLU 55	-151	49	5232	1236.99	15.13	52.42
296	SLU 56	-149	29	5202	1233.09	15.1	51.84
296	SLU 57	-152	41	5259	1244.61	15.25	52.78
296	SLU 58	-148	29	5177	1227.01	15.01	51.46
296	SLU 59	-151	41	5233	1238.53	15.16	52.41
296	SLU 60	-148	30	5296	1253	15.34	51.55
296	SLU 61	-151	42	5352	1264.53	15.5	52.49
296	SLU 62	-150	30	5334	1262.23	15.48	52.17
296	SLU 63	-153	42	5390	1273.75	15.63	53.11
296	SLU 64	-151	26	5167	1225.55	15.01	52.7
296	SLU 65	-156	46	5260	1244.76	15.27	54.27
296	SLU 66	-154	26	5231	1240.85	15.23	53.7
296	SLU 67	-157	38	5287	1252.38	15.39	54.64
296	SLU 68	-158	46	5298	1253.98	15.4	54.89
296	SLU 69	-156	27	5269	1250.08	15.36	54.31
296	SLU 70	-159	39	5325	1261.6	15.52	55.26
296	SLU 71	-155	27	5243	1244	15.28	53.94
296	SLU 72	-158	39	5299	1255.52	15.43	54.88
296	SLU 73	-165	50	5717	1348.46	16.66	57.36
296	SLU 74	-163	30	5688	1344.55	16.63	56.78
296	SLU 75	-166	42	5744	1356.07	16.78	57.73
296	SLU 76	-167	50	5755	1357.68	16.79	57.98
296	SLU 77	-165	30	5726	1353.77	16.76	57.4
296	SLU 78	-168	43	5782	1365.3	16.91	58.34
296	SLU 79	-164	31	5700	1347.7	16.67	57.03
296	SLU 80	-167	43	5756	1359.22	16.82	57.97
296	SLU 81	-164	31	5819	1373.69	17	57.11
296	SLU 82	-167	43	5875	1385.21	17.16	58.06
296	SLU 83	-166	32	5858	1382.92	17.13	57.73
296	SLU 84	-169	44	5914	1394.44	17.29	58.67
296	SLE RA 1	-113	20	3859	916.21	11.18	39.32
296	SLE RA 2	-116	33	3922	929.01	11.35	40.37
296	SLE RA 3	-115	20	3902	926.41	11.33	39.98
296	SLE RA 4	-117	28	3939	934.09	11.43	40.61
296	SLE RA 5	-117	33	3947	935.16	11.44	40.78
296	SLE RA 6	-116	20	3928	932.56	11.42	40.39
296	SLE RA 7	-118	28	3965	940.24	11.52	41.02
296	SLE RA 8	-115	20	3910	928.51	11.36	40.14
296	SLE RA 9	-117	28	3948	936.19	11.46	40.77
296	SLE RA 10	-122	36	4226	998.14	12.28	42.42
296	SLE RA 11	-121	22	4207	995.54	12.26	42.04
296	SLE RA 12	-123	30	4244	1003.22	12.36	42.67
296	SLE RA 13	-123	36	4252	1004.29	12.37	42.84
296	SLE RA 14	-122	23	4232	1001.69	12.35	42.45
296	SLE RA 15	-124	31	4270	1009.37	12.45	43.08
296	SLE RA 16	-121	23	4215	997.64	12.29	42.2
296	SLE RA 17	-123	31	4252	1005.32	12.39	42.83
296	SLE RA 18	-121	23	4294	1014.97	12.51	42.26
296	SLE RA 19	-123	31	4332	1022.65	12.61	42.89
296	SLE RA 20	-123	23	4320	1021.12	12.6	42.67
296	SLE RA 21	-124	32	4357	1028.8	12.7	43.3
296	SLE FR 1	-113	20	3859	916.21	11.18	39.32
296	SLE FR 2	-114	22	3872	918.77	11.22	39.53
296	SLE FR 3	-113	20	3869	918.67	11.22	39.48
296	SLE FR 4	-116	23	4002	948.4	11.62	40.41
296	SLE FR 5	-116	21	4000	948.3	11.62	40.36
296	SLE FR 6	-117	21	4077	965.59	11.85	40.79
296	SLE QP 1	-113	20	3859	916.21	11.18	39.32
296	SLE QP 2	-115	21	3990	945.84	11.58	40.2
296	SLD 1	221	301	5746	1354.25	18.45	-77.63
296	SLD 2	289	197	5644	1333	18.09	-101.24
296	SLD 3	281	52	4479	1090.02	14.44	-98.17
296	SLD 4	349	-51	4378	1068.78	14.07	-121.78
296	SLD 5	-118	500	6454	1472.76	19.79	40.07
296	SLD 6	-74	433	6389	1459.08	19.56	24.86
296	SLD 7	83	-330	2234	592	6.41	-28.41
296	SLD 8	127	-396	2168	578.32	6.18	-43.61
296	SLD 9	-358	437	5811	1313.35	16.99	124.01
296	SLD 10	-314	371	5746	1299.67	16.75	108.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
296	SLD 11	-157	-392	1590	432.6	3.61	55.54
296	SLD 12	-113	-459	1525	418.92	3.37	40.34
296	SLD 13	-580	93	3601	822.9	9.09	202.18
296	SLD 14	-512	-10	3500	801.65	8.73	178.58
296	SLD 15	-520	-156	2335	558.67	5.08	181.64
296	SLD 16	-451	-259	2234	537.43	4.71	158.03
296	SLV 1	406	476	6824	1602.87	22.6	-142.69
296	SLV 2	514	314	6665	1569.38	22.03	-179.9
296	SLV 3	508	52	4663	1151.93	15.75	-177.64
296	SLV 4	616	-111	4504	1118.44	15.17	-214.84
296	SLV 5	-134	832	8147	1833.13	25.39	45.28
296	SLV 6	-62	722	8040	1810.58	25	20.23
296	SLV 7	207	-584	944	329.98	2.55	-71.21
296	SLV 8	279	-693	837	307.44	2.16	-96.26
296	SLV 9	-510	734	7143	1584.23	21	176.66
296	SLV 10	-438	625	7035	1561.69	20.62	151.61
296	SLV 11	-169	-681	-60	81.09	-1.84	60.17
296	SLV 12	-97	-790	-168	58.55	-2.23	35.12
296	SLV 13	-847	152	3476	773.23	7.99	295.24
296	SLV 14	-739	-11	3316	739.74	7.41	258.04
296	SLV 15	-744	-273	1315	322.29	1.14	260.3
296	SLV 16	-637	-435	1155	288.8	0.56	223.09
296	SLV FO 1	458	522	7108	1668.58	23.71	-160.98
296	SLV FO 2	577	343	6932	1631.74	23.07	-201.91
296	SLV FO 3	571	55	4731	1172.54	16.17	-199.42
296	SLV FO 4	689	-124	4555	1135.7	15.53	-240.35
296	SLV FO 5	-136	913	8563	1921.85	26.77	45.79
296	SLV FO 6	-57	792	8445	1897.06	26.34	18.23
296	SLV FO 7	239	-644	640	268.4	1.64	-82.35
296	SLV FO 8	319	-765	522	243.6	1.22	-109.91
296	SLV FO 9	-550	806	7458	1648.07	21.95	190.31
296	SLV FO 10	-470	685	7340	1623.27	21.52	162.75
296	SLV FO 11	-174	-751	-465	-5.38	-3.18	62.17
296	SLV FO 12	-95	-872	-584	-30.18	-3.61	34.61
296	SLV FO 13	-920	165	3424	755.97	7.63	320.75
296	SLV FO 14	-802	-14	3249	719.14	6.99	279.82
296	SLV FO 15	-807	-302	1047	259.93	0.09	282.31
296	SLV FO 16	-689	-481	872	223.1	-0.54	241.38
296	CRTFP Ux+	0	0	0	0	0	0
296	CRTFP Ux-	0	0	0	0	0	0
296	CRTFP Uy+	0	0	0	0	0	0
296	CRTFP Uy-	0	0	0	0	0	0
297	SLU 1	-108	14	3397	671.42	8.87	37.7
297	SLU 2	-113	33	3483	685.71	9.09	39.28
297	SLU 3	-111	14	3454	682.52	9.06	38.69
297	SLU 4	-114	25	3506	691.1	9.18	39.63
297	SLU 5	-114	33	3517	692.41	9.19	39.89
297	SLU 6	-113	14	3489	689.22	9.17	39.3
297	SLU 7	-115	26	3541	697.79	9.29	40.25
297	SLU 8	-112	14	3466	684.81	9.09	38.93
297	SLU 9	-114	26	3517	693.39	9.22	39.87
297	SLU 10	-122	36	3899	761.35	10.23	42.36
297	SLU 11	-120	17	3871	758.16	10.2	41.77
297	SLU 12	-123	29	3922	766.74	10.33	42.72
297	SLU 13	-123	36	3933	768.05	10.34	42.98
297	SLU 14	-122	17	3905	764.86	10.31	42.39
297	SLU 15	-124	29	3957	773.43	10.44	43.34
297	SLU 16	-121	17	3882	760.45	10.24	42.01
297	SLU 17	-123	29	3934	769.03	10.37	42.96
297	SLU 18	-121	18	3991	779.47	10.51	42.11
297	SLU 19	-124	30	4043	788.05	10.64	43.05
297	SLU 20	-123	18	4026	786.17	10.62	42.72
297	SLU 21	-125	30	4077	794.74	10.75	43.67
297	SLU 22	-124	15	3872	759.37	10.25	43.26
297	SLU 23	-129	34	3958	773.67	10.46	44.84
297	SLU 24	-127	15	3929	770.48	10.43	44.25
297	SLU 25	-130	26	3981	779.05	10.56	45.2
297	SLU 26	-130	34	3992	780.36	10.57	45.45
297	SLU 27	-129	15	3964	777.18	10.54	44.86
297	SLU 28	-131	27	4016	785.75	10.67	45.81
297	SLU 29	-128	15	3941	772.77	10.47	44.49
297	SLU 30	-130	27	3992	781.34	10.59	45.44
297	SLU 31	-138	37	4374	849.31	11.61	47.92
297	SLU 32	-136	18	4346	846.12	11.58	47.34
297	SLU 33	-139	30	4397	854.69	11.7	48.28
297	SLU 34	-139	37	4408	856	11.72	48.54
297	SLU 35	-138	18	4380	852.82	11.69	47.95
297	SLU 36	-140	30	4432	861.39	11.81	48.9
297	SLU 37	-136	18	4357	848.41	11.61	47.58
297	SLU 38	-139	30	4409	856.98	11.74	48.52
297	SLU 39	-137	19	4466	867.43	11.89	47.67
297	SLU 40	-139	31	4518	876.01	12.01	48.62
297	SLU 41	-139	20	4501	874.13	11.99	48.28
297	SLU 42	-141	31	4552	882.7	12.12	49.23
297	SLU 43	-135	17	4253	842.68	11.06	47.1
297	SLU 44	-140	37	4339	856.98	11.28	48.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
297	SLU 45	-138	18	4311	853.79	11.25	48.09
297	SLU 46	-141	29	4362	862.36	11.37	49.04
297	SLU 47	-141	37	4373	863.67	11.39	49.29
297	SLU 48	-140	18	4345	860.49	11.36	48.7
297	SLU 49	-142	29	4397	869.06	11.48	49.65
297	SLU 50	-139	18	4322	856.08	11.28	48.33
297	SLU 51	-141	30	4373	864.65	11.41	49.28
297	SLU 52	-149	40	4755	932.62	12.42	51.76
297	SLU 53	-147	21	4727	929.43	12.39	51.17
297	SLU 54	-150	32	4778	938	12.52	52.12
297	SLU 55	-150	40	4790	939.31	12.53	52.38
297	SLU 56	-149	21	4761	936.13	12.5	51.79
297	SLU 57	-151	33	4813	944.7	12.63	52.74
297	SLU 58	-148	21	4738	931.72	12.43	51.42
297	SLU 59	-150	33	4790	940.29	12.56	52.36
297	SLU 60	-148	22	4847	950.74	12.7	51.51
297	SLU 61	-151	34	4899	959.32	12.83	52.45
297	SLU 62	-150	22	4882	957.44	12.81	52.12
297	SLU 63	-152	34	4934	966.01	12.94	53.07
297	SLU 64	-151	18	4728	930.64	12.44	52.66
297	SLU 65	-156	38	4814	944.93	12.65	54.24
297	SLU 66	-154	19	4786	941.75	12.62	53.65
297	SLU 67	-157	30	4837	950.32	12.75	54.6
297	SLU 68	-157	38	4848	951.63	12.76	54.86
297	SLU 69	-156	19	4820	948.44	12.73	54.27
297	SLU 70	-158	30	4872	957.02	12.86	55.21
297	SLU 71	-155	19	4797	944.04	12.66	53.89
297	SLU 72	-157	31	4848	952.61	12.78	54.84
297	SLU 73	-165	41	5230	1020.57	13.8	57.33
297	SLU 74	-163	22	5202	1017.39	13.77	56.74
297	SLU 75	-166	33	5253	1025.96	13.9	57.68
297	SLU 76	-166	41	5265	1027.27	13.91	57.94
297	SLU 77	-165	22	5236	1024.08	13.88	57.35
297	SLU 78	-167	34	5288	1032.66	14	58.3
297	SLU 79	-163	22	5213	1019.68	13.8	56.98
297	SLU 80	-166	34	5265	1028.25	13.93	57.93
297	SLU 81	-164	23	5322	1038.7	14.08	57.07
297	SLU 82	-166	35	5374	1047.27	14.2	58.02
297	SLU 83	-165	23	5357	1045.39	14.19	57.68
297	SLU 84	-168	35	5409	1053.97	14.31	58.63
297	SLE RA 1	-113	14	3532	696.55	9.27	39.29
297	SLE RA 2	-116	27	3590	706.07	9.41	40.34
297	SLE RA 3	-115	14	3571	703.95	9.39	39.95
297	SLE RA 4	-116	22	3605	709.67	9.47	40.58
297	SLE RA 5	-117	27	3613	710.54	9.48	40.75
297	SLE RA 6	-116	14	3594	708.42	9.46	40.36
297	SLE RA 7	-118	22	3628	714.13	9.55	40.99
297	SLE RA 8	-115	14	3578	705.48	9.41	40.11
297	SLE RA 9	-117	22	3613	711.19	9.5	40.74
297	SLE RA 10	-122	29	3867	756.5	10.17	42.4
297	SLE RA 11	-120	16	3848	754.38	10.15	42
297	SLE RA 12	-122	24	3883	760.09	10.24	42.64
297	SLE RA 13	-123	29	3890	760.97	10.24	42.81
297	SLE RA 14	-122	16	3871	758.84	10.23	42.41
297	SLE RA 15	-124	24	3906	764.56	10.31	43.05
297	SLE RA 16	-121	16	3856	755.9	10.18	42.16
297	SLE RA 17	-123	24	3890	761.62	10.26	42.8
297	SLE RA 18	-121	17	3929	768.58	10.36	42.22
297	SLE RA 19	-123	25	3963	774.3	10.44	42.86
297	SLE RA 20	-122	17	3952	773.05	10.43	42.64
297	SLE RA 21	-124	25	3986	778.77	10.52	43.27
297	SLE FR 1	-113	14	3532	696.55	9.27	39.29
297	SLE FR 2	-113	17	3544	698.45	9.29	39.5
297	SLE FR 3	-113	14	3542	698.33	9.29	39.45
297	SLE FR 4	-116	17	3663	720.06	9.62	40.38
297	SLE FR 5	-116	15	3661	719.94	9.62	40.33
297	SLE FR 6	-117	15	3731	732.57	9.81	40.76
297	SLE QP 1	-113	14	3532	696.55	9.27	39.29
297	SLE QP 2	-115	15	3651	718.16	9.59	40.17
297	SLD 1	222	273	5203	1016.85	15.53	-78
297	SLD 2	290	179	5112	1001.41	15.22	-101.64
297	SLD 3	282	41	4055	823.76	12.15	-98.48
297	SLD 4	350	-53	3964	808.32	11.84	-122.11
297	SLD 5	-117	462	5873	1103.27	16.55	39.83
297	SLD 6	-73	401	5815	1093.33	16.35	24.61
297	SLD 7	83	-314	2047	459.64	5.29	-28.41
297	SLD 8	127	-375	1988	449.7	5.09	-43.63
297	SLD 9	-357	404	5314	986.62	14.1	123.97
297	SLD 10	-313	344	5256	976.67	13.9	108.75
297	SLD 11	-158	-371	1487	342.99	2.83	55.72
297	SLD 12	-114	-432	1429	333.04	2.63	40.5
297	SLD 13	-580	83	3338	628	7.35	202.44
297	SLD 14	-512	-11	3248	612.56	7.03	178.81
297	SLD 15	-520	-150	2190	434.91	3.97	181.97
297	SLD 16	-452	-244	2100	419.47	3.65	158.34
297	SLV 1	408	436	6158	1198.65	19.11	-143.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
297	SLV 2	515	288	6015	1174.31	18.62	-180.51
297	SLV 3	509	39	4199	869.13	13.35	-178.08
297	SLV 4	617	-109	4056	844.79	12.85	-215.33
297	SLV 5	-133	771	7401	1366.62	21.29	44.92
297	SLV 6	-60	671	7305	1350.23	20.96	19.84
297	SLV 7	207	-552	871	268.22	2.06	-71.18
297	SLV 8	279	-652	775	251.84	1.73	-96.26
297	SLV 9	-509	682	6528	1184.48	17.46	176.59
297	SLV 10	-437	582	6432	1168.09	17.12	151.51
297	SLV 11	-170	-641	-3	86.08	-1.77	60.5
297	SLV 12	-98	-741	-99	69.7	-2.1	35.42
297	SLV 13	-848	139	3246	591.52	6.34	295.67
297	SLV 14	-740	-9	3104	567.18	5.84	258.41
297	SLV 15	-746	-258	1287	262	0.57	260.84
297	SLV 16	-638	-406	1145	237.67	0.07	223.59
297	SLV FO 1	460	478	6408	1246.7	20.07	-161.59
297	SLV FO 2	578	315	6252	1219.93	19.52	-202.57
297	SLV FO 3	572	42	4253	884.23	13.72	-199.9
297	SLV FO 4	690	-122	4097	857.46	13.18	-240.88
297	SLV FO 5	-135	847	7776	1431.46	22.46	45.39
297	SLV FO 6	-55	737	7671	1413.44	22.09	17.8
297	SLV FO 7	239	-609	593	223.23	1.31	-82.31
297	SLV FO 8	318	-719	487	205.2	0.94	-109.9
297	SLV FO 9	-549	749	6816	1231.11	18.24	190.24
297	SLV FO 10	-469	639	6710	1213.09	17.88	162.65
297	SLV FO 11	-176	-707	-368	22.88	-2.91	62.53
297	SLV FO 12	-96	-817	-474	4.85	-3.27	34.94
297	SLV FO 13	-921	151	3206	578.86	6.01	321.22
297	SLV FO 14	-802	-12	3049	552.09	5.47	280.24
297	SLV FO 15	-809	-285	1051	216.39	-0.34	282.91
297	SLV FO 16	-690	-448	894	189.62	-0.88	241.93
297	CRTFP Ux+	0	0	0	0	0	0
297	CRTFP Ux-	0	0	0	0	0	0
297	CRTFP Uy+	0	0	0	0	0	0
297	CRTFP Uy-	0	0	0	0	0	0
298	SLU 1	-108	9	3144	508.53	6.95	37.53
298	SLU 2	-112	28	3224	519.03	7.12	39.13
298	SLU 3	-110	9	3197	516.38	7.09	38.52
298	SLU 4	-113	21	3245	522.68	7.19	39.47
298	SLU 5	-114	28	3255	523.76	7.2	39.74
298	SLU 6	-112	10	3228	521.11	7.18	39.13
298	SLU 7	-115	21	3276	527.41	7.28	40.08
298	SLU 8	-111	10	3207	518	7.12	38.76
298	SLU 9	-114	21	3255	524.3	7.22	39.71
298	SLU 10	-121	31	3608	572.98	8	42.2
298	SLU 11	-119	12	3580	570.33	7.98	41.59
298	SLU 12	-122	23	3628	576.63	8.08	42.54
298	SLU 13	-123	31	3639	577.71	8.09	42.81
298	SLU 14	-121	12	3612	575.06	8.07	42.2
298	SLU 15	-124	23	3660	581.36	8.17	43.15
298	SLU 16	-120	12	3591	571.95	8.01	41.83
298	SLU 17	-123	24	3639	578.25	8.11	42.78
298	SLU 18	-120	13	3692	585.6	8.22	41.92
298	SLU 19	-123	24	3740	591.9	8.32	42.88
298	SLU 20	-122	13	3724	590.34	8.3	42.53
298	SLU 21	-125	25	3772	596.64	8.4	43.49
298	SLU 22	-123	10	3580	571.14	8.02	43.08
298	SLU 23	-128	29	3660	581.63	8.19	44.67
298	SLU 24	-126	10	3633	578.98	8.17	44.06
298	SLU 25	-129	21	3680	585.28	8.27	45.02
298	SLU 26	-130	29	3691	586.37	8.28	45.28
298	SLU 27	-128	10	3664	583.71	8.25	44.67
298	SLU 28	-131	21	3712	590.01	8.35	45.63
298	SLU 29	-127	10	3643	580.6	8.19	44.3
298	SLU 30	-130	22	3691	586.9	8.29	45.25
298	SLU 31	-137	31	4044	635.58	9.08	47.74
298	SLU 32	-135	13	4016	632.93	9.06	47.13
298	SLU 33	-138	24	4064	639.23	9.16	48.09
298	SLU 34	-139	31	4075	640.32	9.16	48.35
298	SLU 35	-137	13	4048	637.66	9.14	47.74
298	SLU 36	-140	24	4096	643.96	9.24	48.7
298	SLU 37	-136	13	4027	634.55	9.08	47.37
298	SLU 38	-139	24	4075	640.85	9.18	48.33
298	SLU 39	-136	14	4128	648.21	9.29	47.46
298	SLU 40	-139	25	4176	654.5	9.39	48.42
298	SLU 41	-138	14	4160	652.94	9.38	48.08
298	SLU 42	-141	25	4208	659.24	9.48	49.03
298	SLU 43	-134	12	3938	639.63	8.66	46.89
298	SLU 44	-139	31	4018	650.13	8.83	48.49
298	SLU 45	-137	12	3990	647.47	8.81	47.88
298	SLU 46	-140	23	4038	653.77	8.91	48.83
298	SLU 47	-141	31	4049	654.86	8.92	49.1
298	SLU 48	-139	12	4022	652.21	8.89	48.49
298	SLU 49	-142	23	4070	658.51	9	49.44
298	SLU 50	-138	12	4001	649.1	8.84	48.12
298	SLU 51	-141	24	4049	655.4	8.94	49.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
298	SLU 52	-148	33	4401	704.08	9.72	51.56
298	SLU 53	-146	15	4374	701.42	9.7	50.95
298	SLU 54	-149	26	4422	707.72	9.8	51.9
298	SLU 55	-150	34	4433	708.81	9.81	52.17
298	SLU 56	-148	15	4405	706.16	9.78	51.56
298	SLU 57	-151	26	4453	712.46	9.88	52.51
298	SLU 58	-147	15	4384	703.05	9.72	51.19
298	SLU 59	-149	26	4432	709.35	9.83	52.14
298	SLU 60	-147	16	4486	716.7	9.93	51.28
298	SLU 61	-150	27	4534	723	10.03	52.24
298	SLU 62	-149	16	4517	721.43	10.02	51.89
298	SLU 63	-152	27	4565	727.73	10.12	52.85
298	SLU 64	-150	13	4374	702.23	9.74	52.44
298	SLU 65	-155	31	4454	712.73	9.91	54.03
298	SLU 66	-153	13	4426	710.08	9.88	53.42
298	SLU 67	-156	24	4474	716.37	9.98	54.38
298	SLU 68	-157	31	4485	717.46	9.99	54.64
298	SLU 69	-155	13	4458	714.81	9.97	54.03
298	SLU 70	-158	24	4506	721.11	10.07	54.99
298	SLU 71	-154	13	4437	711.7	9.91	53.66
298	SLU 72	-157	24	4485	718	10.01	54.61
298	SLU 73	-164	34	4837	766.68	10.79	57.1
298	SLU 74	-162	15	4810	764.03	10.77	56.49
298	SLU 75	-165	26	4858	770.32	10.87	57.45
298	SLU 76	-165	34	4869	771.41	10.88	57.71
298	SLU 77	-164	15	4841	768.76	10.86	57.1
298	SLU 78	-166	27	4889	775.06	10.96	58.06
298	SLU 79	-163	16	4820	765.65	10.8	56.73
298	SLU 80	-165	27	4868	771.95	10.9	57.69
298	SLU 81	-163	16	4922	779.3	11.01	56.82
298	SLU 82	-166	28	4970	785.6	11.11	57.78
298	SLU 83	-165	17	4953	784.04	11.09	57.44
298	SLU 84	-167	28	5001	790.33	11.19	58.39
298	SLE RA 1	-112	10	3269	526.42	7.25	39.12
298	SLE RA 2	-115	22	3322	533.42	7.37	40.18
298	SLE RA 3	-114	10	3304	531.65	7.35	39.77
298	SLE RA 4	-116	17	3336	535.85	7.42	40.41
298	SLE RA 5	-116	22	3343	536.57	7.42	40.59
298	SLE RA 6	-115	10	3325	534.81	7.41	40.18
298	SLE RA 7	-117	17	3357	539	7.48	40.82
298	SLE RA 8	-114	10	3310	532.73	7.37	39.93
298	SLE RA 9	-116	17	3342	536.93	7.44	40.57
298	SLE RA 10	-121	24	3578	569.38	7.96	42.23
298	SLE RA 11	-120	11	3559	567.62	7.94	41.82
298	SLE RA 12	-122	19	3591	571.81	8.01	42.46
298	SLE RA 13	-122	24	3599	572.54	8.02	42.63
298	SLE RA 14	-121	11	3580	570.77	8	42.23
298	SLE RA 15	-123	19	3612	574.97	8.07	42.87
298	SLE RA 16	-120	12	3566	568.7	7.96	41.98
298	SLE RA 17	-122	19	3598	572.9	8.03	42.62
298	SLE RA 18	-121	12	3634	577.8	8.1	42.04
298	SLE RA 19	-122	20	3666	582	8.17	42.68
298	SLE RA 20	-122	12	3655	580.96	8.16	42.45
298	SLE RA 21	-124	20	3687	585.15	8.23	43.09
298	SLE FR 1	-112	10	3269	526.42	7.25	39.12
298	SLE FR 2	-113	12	3279	527.82	7.28	39.33
298	SLE FR 3	-113	10	3277	527.68	7.28	39.28
298	SLE FR 4	-115	13	3389	543.23	7.53	40.21
298	SLE FR 5	-115	10	3387	543.1	7.53	40.16
298	SLE FR 6	-116	11	3451	552.11	7.68	40.58
298	SLE QP 1	-112	10	3269	526.42	7.25	39.12
298	SLE QP 2	-115	10	3378	541.83	7.51	40
298	SLD 1	223	250	4756	753.75	12.48	-78.55
298	SLD 2	292	164	4674	742.84	12.22	-102.22
298	SLD 3	283	32	3705	615.77	9.78	-98.93
298	SLD 4	351	-54	3623	604.86	9.52	-122.6
298	SLD 5	-115	428	5399	816.55	13.15	39.41
298	SLD 6	-71	373	5347	809.53	12.98	24.16
298	SLD 7	83	-300	1896	356.62	4.13	-28.51
298	SLD 8	127	-355	1844	349.6	3.96	-43.76
298	SLD 9	-356	376	4913	734.07	11.05	123.75
298	SLD 10	-312	320	4860	727.05	10.89	108.51
298	SLD 11	-158	-352	1409	274.14	2.04	55.83
298	SLD 12	-114	-407	1357	267.12	1.87	40.58
298	SLD 13	-580	75	3133	478.8	5.5	202.59
298	SLD 14	-512	-11	3052	467.9	5.24	178.92
298	SLD 15	-521	-143	2082	340.82	2.79	182.21
298	SLD 16	-453	-229	2001	329.92	2.54	158.54
298	SLV 1	410	401	5606	882.79	15.47	-144.02
298	SLV 2	518	266	5478	865.61	15.06	-181.33
298	SLV 3	511	28	3812	647.34	10.85	-178.68
298	SLV 4	619	-107	3684	630.16	10.45	-215.99
298	SLV 5	-131	718	6790	1004.43	16.98	44.33
298	SLV 6	-58	627	6704	992.86	16.7	19.21
298	SLV 7	206	-524	812	219.59	1.58	-71.21
298	SLV 8	279	-615	726	208.02	1.31	-96.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
298	SLV 9	-508	636	6030	875.65	13.71	176.33
298	SLV 10	-435	545	5944	864.08	13.43	151.21
298	SLV 11	-171	-606	52	90.81	-1.69	60.79
298	SLV 12	-99	-697	-34	79.24	-1.96	35.67
298	SLV 13	-848	128	3072	453.51	4.57	295.98
298	SLV 14	-740	-8	2944	436.33	4.16	258.67
298	SLV 15	-747	-245	1279	218.06	-0.05	261.32
298	SLV 16	-639	-380	1151	200.88	-0.45	224.01
298	SLV FO 1	462	440	5829	916.88	16.27	-162.42
298	SLV FO 2	581	291	5688	897.98	15.82	-203.46
298	SLV FO 3	574	30	3856	657.89	11.19	-200.54
298	SLV FO 4	692	-119	3715	638.99	10.74	-241.59
298	SLV FO 5	-132	788	7132	1050.69	17.92	44.76
298	SLV FO 6	-52	688	7037	1037.96	17.62	17.13
298	SLV FO 7	238	-577	556	187.37	0.99	-82.34
298	SLV FO 8	318	-677	461	174.64	0.69	-109.97
298	SLV FO 9	-547	698	6295	909.03	14.33	189.96
298	SLV FO 10	-467	598	6201	896.3	14.03	162.33
298	SLV FO 11	-177	-667	-280	45.71	-2.61	62.86
298	SLV FO 12	-97	-768	-375	32.98	-2.91	35.23
298	SLV FO 13	-921	139	3041	444.68	4.28	321.58
298	SLV FO 14	-803	-9	2901	425.78	3.83	280.54
298	SLV FO 15	-810	-270	1069	185.68	-0.8	283.45
298	SLV FO 16	-692	-419	928	166.78	-1.25	242.41
298	CRTFP Ux+	0	0	0	0	0	0
298	CRTFP Ux-	0	0	0	0	0	0
298	CRTFP Uy+	0	0	0	0	0	0
298	CRTFP Uy-	0	0	0	0	0	0
299	SLU 1	-107	6	2953	391.58	5.05	37.24
299	SLU 2	-111	24	3028	399.36	5.17	38.84
299	SLU 3	-109	6	3001	397.07	5.15	38.21
299	SLU 4	-112	17	3046	401.74	5.23	39.17
299	SLU 5	-113	24	3057	402.68	5.24	39.45
299	SLU 6	-111	6	3030	400.39	5.22	38.82
299	SLU 7	-114	17	3075	405.06	5.29	39.78
299	SLU 8	-110	7	3011	398.22	5.17	38.45
299	SLU 9	-113	17	3056	402.88	5.25	39.41
299	SLU 10	-120	27	3387	437.8	5.81	41.88
299	SLU 11	-118	8	3361	435.51	5.79	41.25
299	SLU 12	-121	19	3406	440.18	5.86	42.21
299	SLU 13	-122	27	3416	441.12	5.87	42.49
299	SLU 14	-120	9	3390	438.83	5.85	41.86
299	SLU 15	-123	19	3435	443.49	5.93	42.82
299	SLU 16	-119	9	3370	436.66	5.81	41.49
299	SLU 17	-122	20	3415	441.32	5.88	42.45
299	SLU 18	-119	10	3466	446.49	5.95	41.58
299	SLU 19	-122	20	3511	451.16	6.03	42.54
299	SLU 20	-121	10	3495	449.81	6.02	42.19
299	SLU 21	-124	20	3540	454.48	6.09	43.15
299	SLU 22	-122	7	3359	435.98	5.83	42.74
299	SLU 23	-127	25	3434	443.75	5.95	44.35
299	SLU 24	-125	7	3408	441.46	5.93	43.72
299	SLU 25	-128	17	3453	446.13	6.01	44.68
299	SLU 26	-129	25	3463	447.07	6.01	44.95
299	SLU 27	-127	7	3437	444.78	6	44.32
299	SLU 28	-130	17	3482	449.45	6.07	45.28
299	SLU 29	-126	7	3417	442.61	5.95	43.95
299	SLU 30	-129	18	3462	447.28	6.03	44.91
299	SLU 31	-136	27	3794	482.19	6.59	47.39
299	SLU 32	-134	9	3767	479.9	6.57	46.76
299	SLU 33	-137	20	3812	484.57	6.64	47.72
299	SLU 34	-137	27	3823	485.51	6.65	47.99
299	SLU 35	-136	9	3796	483.22	6.63	47.36
299	SLU 36	-138	20	3841	487.89	6.7	48.32
299	SLU 37	-135	9	3777	481.05	6.59	46.99
299	SLU 38	-137	20	3822	485.72	6.66	47.96
299	SLU 39	-135	10	3873	490.89	6.73	47.09
299	SLU 40	-138	21	3918	495.55	6.81	48.05
299	SLU 41	-137	10	3902	494.2	6.79	47.69
299	SLU 42	-139	21	3947	498.87	6.87	48.65
299	SLU 43	-133	8	3699	493.84	6.3	46.52
299	SLU 44	-138	26	3774	501.62	6.42	48.13
299	SLU 45	-136	8	3748	499.32	6.4	47.5
299	SLU 46	-139	19	3793	503.99	6.48	48.46
299	SLU 47	-140	26	3803	504.93	6.48	48.73
299	SLU 48	-138	8	3777	502.64	6.47	48.1
299	SLU 49	-141	19	3822	507.31	6.54	49.06
299	SLU 50	-137	8	3757	500.47	6.42	47.73
299	SLU 51	-139	19	3802	505.14	6.5	48.69
299	SLU 52	-147	28	4134	540.05	7.05	51.17
299	SLU 53	-145	10	4107	537.76	7.04	50.54
299	SLU 54	-147	21	4152	542.43	7.11	51.5
299	SLU 55	-148	29	4163	543.37	7.12	51.77
299	SLU 56	-146	10	4136	541.08	7.1	51.14
299	SLU 57	-149	21	4181	545.75	7.17	52.1
299	SLU 58	-145	11	4117	538.91	7.05	50.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
299	SLU 59	-148	21	4162	543.58	7.13	51.74
299	SLU 60	-146	11	4213	548.75	7.2	50.87
299	SLU 61	-148	22	4258	553.42	7.28	51.83
299	SLU 62	-147	11	4242	552.07	7.26	51.47
299	SLU 63	-150	22	4287	556.73	7.34	52.43
299	SLU 64	-149	9	4106	538.23	7.07	52.03
299	SLU 65	-154	27	4181	546.01	7.2	53.63
299	SLU 66	-152	8	4154	543.72	7.18	53
299	SLU 67	-155	19	4199	548.39	7.26	53.96
299	SLU 68	-155	27	4210	549.33	7.26	54.24
299	SLU 69	-153	8	4183	547.04	7.24	53.61
299	SLU 70	-156	19	4228	551.7	7.32	54.57
299	SLU 71	-152	9	4164	544.86	7.2	53.24
299	SLU 72	-155	19	4209	549.53	7.28	54.2
299	SLU 73	-162	29	4540	584.45	7.83	56.67
299	SLU 74	-160	11	4514	582.16	7.81	56.04
299	SLU 75	-163	21	4559	586.82	7.89	57
299	SLU 76	-164	29	4569	587.76	7.9	57.28
299	SLU 77	-162	11	4543	585.47	7.88	56.65
299	SLU 78	-165	21	4588	590.14	7.95	57.61
299	SLU 79	-161	11	4523	583.3	7.83	56.28
299	SLU 80	-164	22	4568	587.97	7.91	57.24
299	SLU 81	-161	12	4619	593.14	7.98	56.37
299	SLU 82	-164	23	4664	597.81	8.05	57.33
299	SLU 83	-163	12	4648	596.46	8.04	56.98
299	SLU 84	-166	23	4693	601.13	8.12	57.94
299	SLE RA 1	-111	6	3069	404.27	5.27	38.81
299	SLE RA 2	-114	19	3119	409.45	5.35	39.88
299	SLE RA 3	-113	6	3101	407.92	5.34	39.46
299	SLE RA 4	-115	14	3131	411.04	5.39	40.1
299	SLE RA 5	-115	19	3138	411.66	5.4	40.28
299	SLE RA 6	-114	6	3120	410.14	5.38	39.86
299	SLE RA 7	-116	14	3151	413.25	5.43	40.5
299	SLE RA 8	-113	7	3107	408.69	5.35	39.62
299	SLE RA 9	-115	14	3138	411.8	5.4	40.26
299	SLE RA 10	-120	20	3359	435.08	5.78	41.91
299	SLE RA 11	-119	8	3341	433.55	5.76	41.49
299	SLE RA 12	-121	15	3371	436.66	5.81	42.13
299	SLE RA 13	-121	20	3378	437.29	5.82	42.31
299	SLE RA 14	-120	8	3360	435.76	5.81	41.89
299	SLE RA 15	-122	15	3390	438.87	5.86	42.53
299	SLE RA 16	-119	8	3347	434.31	5.78	41.65
299	SLE RA 17	-121	15	3377	437.43	5.83	42.29
299	SLE RA 18	-119	9	3411	440.87	5.87	41.71
299	SLE RA 19	-121	16	3441	443.99	5.92	42.35
299	SLE RA 20	-121	9	3430	443.09	5.92	42.11
299	SLE RA 21	-122	16	3461	446.2	5.97	42.75
299	SLE FR 1	-111	6	3069	404.27	5.27	38.81
299	SLE FR 2	-112	9	3079	405.3	5.29	39.03
299	SLE FR 3	-112	7	3077	405.15	5.29	38.97
299	SLE FR 4	-114	10	3182	416.29	5.47	39.89
299	SLE FR 5	-114	7	3179	416.13	5.47	39.84
299	SLE FR 6	-115	8	3240	422.57	5.57	40.26
299	SLE QP 1	-111	6	3069	404.27	5.27	38.81
299	SLE QP 2	-114	7	3171	415.25	5.45	39.68
299	SLD 1	226	68	4405	562.04	9.49	-79.28
299	SLD 2	294	-10	4331	554.42	9.29	-102.99
299	SLD 3	284	-138	3430	463.58	7.45	-99.52
299	SLD 4	353	-216	3356	455.96	7.25	-123.23
299	SLD 5	-113	352	5034	609.92	9.78	38.77
299	SLD 6	-69	302	4986	605.01	9.65	23.5
299	SLD 7	83	-336	1782	281.74	3	-28.7
299	SLD 8	127	-387	1735	276.83	2.87	-43.97
299	SLD 9	-354	401	4608	553.67	8.03	123.33
299	SLD 10	-310	350	4561	548.76	7.9	108.06
299	SLD 11	-159	-287	1357	225.49	1.25	55.86
299	SLD 12	-115	-338	1309	220.58	1.12	40.59
299	SLD 13	-580	231	2987	374.54	3.65	202.59
299	SLD 14	-512	152	2913	366.91	3.45	178.88
299	SLD 15	-521	24	2012	276.08	1.62	182.35
299	SLD 16	-453	-54	1938	268.46	1.41	158.64
299	SLV 1	413	118	5169	651.63	11.9	-144.99
299	SLV 2	521	-5	5053	639.61	11.59	-182.36
299	SLV 3	513	-234	3505	483.64	8.43	-179.42
299	SLV 4	621	-357	3389	471.63	8.11	-216.79
299	SLV 5	-127	598	6317	743.18	12.71	43.48
299	SLV 6	-55	515	6238	735.09	12.5	18.31
299	SLV 7	206	-576	769	183.24	1.14	-71.29
299	SLV 8	278	-659	691	175.15	0.92	-96.46
299	SLV 9	-506	674	5652	655.35	9.98	175.82
299	SLV 10	-433	590	5574	647.26	9.77	150.65
299	SLV 11	-172	-500	105	95.41	-1.6	61.05
299	SLV 12	-100	-583	26	87.32	-1.81	35.88
299	SLV 13	-848	372	2954	358.87	2.79	296.15
299	SLV 14	-740	248	2838	346.85	2.47	258.78
299	SLV 15	-748	19	1290	190.89	-0.68	261.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
299	SLV 16	-640	-104	1174	178.87	-1	224.35
299	SLV FO 1	466	130	5369	675.26	12.55	-163.45
299	SLV FO 2	584	-6	5241	662.05	12.2	-204.57
299	SLV FO 3	576	-258	3538	490.48	8.73	-201.33
299	SLV FO 4	694	-394	3410	477.27	8.38	-242.44
299	SLV FO 5	-129	657	6631	775.97	13.44	43.85
299	SLV FO 6	-49	565	6545	767.07	13.2	16.18
299	SLV FO 7	238	-635	529	160.04	0.71	-82.39
299	SLV FO 8	318	-726	443	151.14	0.47	-110.07
299	SLV FO 9	-545	740	5900	679.36	10.43	189.43
299	SLV FO 10	-465	649	5814	670.46	10.2	161.75
299	SLV FO 11	-178	-551	-202	63.43	-2.3	63.19
299	SLV FO 12	-99	-643	-288	54.53	-2.54	35.51
299	SLV FO 13	-921	408	2933	353.23	2.53	321.8
299	SLV FO 14	-803	272	2805	340.01	2.17	280.69
299	SLV FO 15	-811	21	1102	168.45	-1.29	283.93
299	SLV FO 16	-693	-115	974	155.23	-1.65	242.81
299	CRTFP Ux+	0	0	0	0	0	0
299	CRTFP Ux-	0	0	0	0	0	0
299	CRTFP Uy+	0	0	0	0	0	0
299	CRTFP Uy-	0	0	0	0	0	0
300	SLU 1	-105	4	2821	318.05	3.23	36.81
300	SLU 2	-110	22	2893	324.12	3.31	38.43
300	SLU 3	-108	4	2866	322.04	3.3	37.77
300	SLU 4	-111	15	2910	325.68	3.35	38.74
300	SLU 5	-112	22	2920	326.53	3.36	39.02
300	SLU 6	-110	4	2894	324.46	3.34	38.37
300	SLU 7	-113	15	2937	328.1	3.39	39.34
300	SLU 8	-109	4	2876	322.89	3.31	38
300	SLU 9	-112	15	2919	326.53	3.36	38.97
300	SLU 10	-119	24	3236	352.89	3.7	41.42
300	SLU 11	-117	6	3210	350.82	3.69	40.77
300	SLU 12	-119	17	3253	354.46	3.74	41.74
300	SLU 13	-120	24	3263	355.31	3.74	42.02
300	SLU 14	-118	6	3237	353.23	3.73	41.36
300	SLU 15	-121	17	3280	356.88	3.78	42.33
300	SLU 16	-117	6	3219	351.66	3.7	41
300	SLU 17	-120	17	3262	355.31	3.75	41.97
300	SLU 18	-118	7	3311	359.16	3.78	41.09
300	SLU 19	-120	18	3354	362.8	3.83	42.06
300	SLU 20	-119	7	3338	361.58	3.82	41.69
300	SLU 21	-122	18	3382	365.22	3.87	42.66
300	SLU 22	-121	5	3207	350.98	3.73	42.26
300	SLU 23	-126	22	3279	357.05	3.81	43.87
300	SLU 24	-124	4	3253	354.97	3.8	43.22
300	SLU 25	-126	15	3296	358.61	3.85	44.19
300	SLU 26	-127	22	3306	359.47	3.85	44.47
300	SLU 27	-125	4	3280	357.39	3.84	43.81
300	SLU 28	-128	15	3323	361.03	3.89	44.78
300	SLU 29	-124	5	3262	355.82	3.81	43.45
300	SLU 30	-127	15	3305	359.46	3.86	44.42
300	SLU 31	-134	24	3622	385.83	4.2	46.87
300	SLU 32	-132	6	3596	383.75	4.18	46.21
300	SLU 33	-135	17	3639	387.39	4.23	47.18
300	SLU 34	-136	24	3649	388.25	4.24	47.47
300	SLU 35	-134	6	3623	386.17	4.22	46.81
300	SLU 36	-137	17	3666	389.81	4.27	47.78
300	SLU 37	-133	7	3605	384.6	4.19	46.45
300	SLU 38	-136	17	3648	388.24	4.24	47.42
300	SLU 39	-133	7	3697	392.1	4.28	46.54
300	SLU 40	-136	18	3740	395.74	4.33	47.51
300	SLU 41	-135	7	3724	394.52	4.32	47.13
300	SLU 42	-138	18	3768	398.16	4.37	48.1
300	SLU 43	-132	6	3535	402.17	4.03	45.99
300	SLU 44	-136	23	3606	408.24	4.11	47.6
300	SLU 45	-134	6	3580	406.16	4.1	46.95
300	SLU 46	-137	16	3623	409.8	4.15	47.92
300	SLU 47	-138	23	3634	410.66	4.15	48.2
300	SLU 48	-136	6	3608	408.58	4.14	47.54
300	SLU 49	-139	16	3651	412.22	4.19	48.51
300	SLU 50	-135	6	3589	407.01	4.11	47.18
300	SLU 51	-138	16	3633	410.65	4.16	48.15
300	SLU 52	-145	25	3950	437.02	4.5	50.6
300	SLU 53	-143	7	3923	434.94	4.49	49.94
300	SLU 54	-146	18	3967	438.58	4.54	50.91
300	SLU 55	-146	25	3977	439.43	4.54	51.19
300	SLU 56	-145	7	3951	437.36	4.53	50.54
300	SLU 57	-147	18	3994	441	4.58	51.51
300	SLU 58	-144	8	3933	435.79	4.5	50.18
300	SLU 59	-146	18	3976	439.43	4.55	51.15
300	SLU 60	-144	9	4025	443.28	4.58	50.27
300	SLU 61	-147	19	4068	446.92	4.63	51.24
300	SLU 62	-146	9	4052	445.7	4.62	50.86
300	SLU 63	-148	19	4095	449.34	4.67	51.83
300	SLU 64	-147	6	3921	435.11	4.52	51.43
300	SLU 65	-152	24	3993	441.17	4.61	53.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
300	SLU 66	-150	6	3966	439.09	4.59	52.39
300	SLU 67	-153	16	4010	442.74	4.65	53.36
300	SLU 68	-153	24	4020	443.59	4.65	53.65
300	SLU 69	-152	6	3994	441.51	4.63	52.99
300	SLU 70	-154	16	4037	445.16	4.69	53.96
300	SLU 71	-151	6	3975	439.94	4.61	52.63
300	SLU 72	-153	17	4019	443.59	4.66	53.6
300	SLU 73	-160	25	4336	469.95	5	56.04
300	SLU 74	-158	8	4310	467.87	4.98	55.39
300	SLU 75	-161	18	4353	471.52	5.03	56.36
300	SLU 76	-162	25	4363	472.37	5.04	56.64
300	SLU 77	-160	8	4337	470.29	5.02	55.99
300	SLU 78	-163	18	4380	473.93	5.07	56.95
300	SLU 79	-159	8	4319	468.72	4.99	55.62
300	SLU 80	-162	18	4362	472.36	5.04	56.59
300	SLU 81	-159	9	4411	476.22	5.08	55.71
300	SLU 82	-162	19	4454	479.86	5.13	56.68
300	SLU 83	-161	9	4438	478.64	5.12	56.31
300	SLU 84	-164	19	4481	482.28	5.17	57.28
300	SLE RA 1	-110	5	2931	327.46	3.37	38.37
300	SLE RA 2	-113	16	2979	331.5	3.43	39.44
300	SLE RA 3	-112	4	2962	330.12	3.42	39.01
300	SLE RA 4	-113	11	2990	332.54	3.45	39.65
300	SLE RA 5	-114	16	2997	333.12	3.46	39.84
300	SLE RA 6	-113	4	2980	331.73	3.44	39.4
300	SLE RA 7	-115	11	3009	334.16	3.48	40.05
300	SLE RA 8	-112	5	2968	330.68	3.43	39.16
300	SLE RA 9	-114	12	2996	333.11	3.46	39.81
300	SLE RA 10	-119	18	3208	350.69	3.69	41.44
300	SLE RA 11	-117	6	3190	349.3	3.68	41
300	SLE RA 12	-119	13	3219	351.73	3.71	41.65
300	SLE RA 13	-120	18	3226	352.3	3.71	41.84
300	SLE RA 14	-118	6	3209	350.92	3.7	41.4
300	SLE RA 15	-120	13	3237	353.34	3.74	42.05
300	SLE RA 16	-118	6	3196	349.87	3.68	41.16
300	SLE RA 17	-120	13	3225	352.3	3.72	41.81
300	SLE RA 18	-118	6	3258	354.87	3.74	41.22
300	SLE RA 19	-120	13	3287	357.29	3.77	41.87
300	SLE RA 20	-119	6	3276	356.48	3.77	41.62
300	SLE RA 21	-121	13	3305	358.91	3.8	42.26
300	SLE FR 1	-110	5	2931	327.46	3.37	38.37
300	SLE FR 2	-110	7	2941	328.27	3.38	38.58
300	SLE FR 3	-110	5	2938	328.1	3.38	38.53
300	SLE FR 4	-113	7	3039	336.49	3.49	39.44
300	SLE FR 5	-113	5	3036	336.33	3.49	39.38
300	SLE FR 6	-114	5	3094	341.16	3.56	39.79
300	SLE QP 1	-110	5	2931	327.46	3.37	38.37
300	SLE QP 2	-112	5	3029	335.68	3.48	39.22
300	SLD 1	228	64	4148	437.22	6.65	-80.18
300	SLD 2	297	-8	4080	431.69	6.5	-103.94
300	SLD 3	286	-134	3227	363.58	5.26	-100.25
300	SLD 4	355	-206	3159	358.04	5.11	-124
300	SLD 5	-110	335	4773	478.79	6.56	37.92
300	SLD 6	-66	289	4729	475.22	6.47	22.62
300	SLD 7	84	-324	1704	233.31	1.94	-28.96
300	SLD 8	128	-370	1660	229.75	1.84	-44.26
300	SLD 9	-352	381	4398	441.61	5.12	122.71
300	SLD 10	-308	334	4354	438.05	5.03	107.41
300	SLD 11	-159	-278	1329	196.14	0.5	55.82
300	SLD 12	-115	-325	1285	192.57	0.4	40.53
300	SLD 13	-579	216	2899	313.32	1.85	202.45
300	SLD 14	-511	144	2831	307.78	1.7	178.69
300	SLD 15	-521	18	1978	239.67	0.46	182.38
300	SLD 16	-453	-54	1910	234.14	0.31	158.63
300	SLV 1	417	112	4844	499.6	8.53	-146.15
300	SLV 2	524	-1	4736	490.87	8.3	-183.59
300	SLV 3	515	-225	3273	373.97	6.16	-180.28
300	SLV 4	623	-339	3165	365.24	5.93	-217.72
300	SLV 5	-123	570	5977	577.02	8.64	42.35
300	SLV 6	-51	493	5904	571.14	8.48	17.14
300	SLV 7	205	-554	739	158.26	0.73	-71.39
300	SLV 8	278	-631	667	152.39	0.58	-96.6
300	SLV 9	-502	641	5391	518.97	6.39	175.05
300	SLV 10	-430	564	5319	513.1	6.23	149.84
300	SLV 11	-174	-483	154	100.22	-1.51	61.3
300	SLV 12	-101	-560	82	94.34	-1.67	36.09
300	SLV 13	-847	349	2893	306.12	1.04	296.16
300	SLV 14	-740	235	2785	297.39	0.8	258.72
300	SLV 15	-749	12	1322	180.49	-1.33	262.04
300	SLV 16	-641	-102	1214	171.76	-1.57	224.6
300	SLV FO 1	470	123	5025	515.99	9.04	-164.69
300	SLV FO 2	588	-2	4907	506.39	8.78	-205.88
300	SLV FO 3	578	-248	3297	377.8	6.43	-202.23
300	SLV FO 4	697	-373	3179	368.2	6.17	-243.41
300	SLV FO 5	-124	626	6271	601.15	9.15	42.66
300	SLV FO 6	-44	542	6192	594.69	8.98	14.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
300	SLV FO 7	237	-610	510	140.52	0.46	-82.46
300	SLV FO 8	317	-694	431	134.06	0.29	-110.18
300	SLV FO 9	-541	704	5628	537.3	6.68	188.63
300	SLV FO 10	-462	620	5548	530.84	6.51	160.9
300	SLV FO 11	-180	-532	-133	76.67	-2.01	63.51
300	SLV FO 12	-100	-616	-213	70.21	-2.19	35.78
300	SLV FO 13	-921	383	2880	303.16	0.79	321.86
300	SLV FO 14	-802	258	2761	293.56	0.54	280.67
300	SLV FO 15	-813	12	1151	164.97	-1.81	284.32
300	SLV FO 16	-694	-113	1033	155.37	-2.07	243.14
300	CRTFP Ux+	0	0	0	0	0	0
300	CRTFP Ux-	0	0	0	0	0	0
300	CRTFP Uy+	0	0	0	0	0	0
300	CRTFP Uy-	0	0	0	0	0	0
301	SLU 1	-104	4	2745	284.8	1.51	36.26
301	SLU 2	-108	21	2815	290.07	1.56	37.88
301	SLU 3	-106	3	2789	288.09	1.55	37.2
301	SLU 4	-109	14	2831	291.25	1.58	38.18
301	SLU 5	-110	21	2841	292.08	1.58	38.47
301	SLU 6	-108	3	2816	290.09	1.57	37.79
301	SLU 7	-111	14	2858	293.26	1.6	38.76
301	SLU 8	-107	4	2798	288.81	1.55	37.43
301	SLU 9	-110	14	2840	291.97	1.58	38.41
301	SLU 10	-117	23	3150	314.64	1.72	40.82
301	SLU 11	-115	5	3124	312.66	1.7	40.14
301	SLU 12	-118	16	3166	315.82	1.73	41.11
301	SLU 13	-118	23	3176	316.65	1.74	41.41
301	SLU 14	-116	5	3150	314.66	1.72	40.72
301	SLU 15	-119	15	3192	317.83	1.75	41.7
301	SLU 16	-115	5	3133	313.38	1.71	40.37
301	SLU 17	-118	16	3175	316.54	1.74	41.35
301	SLU 18	-116	6	3223	319.9	1.74	40.45
301	SLU 19	-118	17	3265	323.06	1.76	41.43
301	SLU 20	-117	6	3250	321.91	1.75	41.04
301	SLU 21	-120	16	3292	325.07	1.78	42.02
301	SLU 22	-119	4	3120	312.55	1.74	41.63
301	SLU 23	-124	21	3190	317.82	1.79	43.25
301	SLU 24	-122	4	3164	315.83	1.78	42.57
301	SLU 25	-124	14	3206	319	1.81	43.55
301	SLU 26	-125	21	3216	319.82	1.81	43.84
301	SLU 27	-123	4	3190	317.84	1.8	43.16
301	SLU 28	-126	14	3232	321	1.83	44.13
301	SLU 29	-122	4	3173	316.56	1.78	42.8
301	SLU 30	-125	14	3215	319.72	1.81	43.78
301	SLU 31	-132	23	3524	342.39	1.95	46.19
301	SLU 32	-130	5	3498	340.4	1.93	45.51
301	SLU 33	-133	16	3540	343.57	1.96	46.48
301	SLU 34	-134	23	3551	344.39	1.96	46.78
301	SLU 35	-132	5	3525	342.41	1.95	46.09
301	SLU 36	-135	16	3567	345.57	1.98	47.07
301	SLU 37	-131	6	3507	341.13	1.94	45.74
301	SLU 38	-134	16	3549	344.29	1.96	46.72
301	SLU 39	-131	6	3598	347.65	1.96	45.82
301	SLU 40	-134	17	3640	350.81	1.99	46.8
301	SLU 41	-133	6	3624	349.65	1.98	46.41
301	SLU 42	-135	17	3666	352.82	2.01	47.39
301	SLU 43	-129	5	3440	360.73	1.89	45.29
301	SLU 44	-134	22	3510	366	1.94	46.92
301	SLU 45	-132	4	3484	364.01	1.93	46.24
301	SLU 46	-135	15	3526	367.18	1.95	47.21
301	SLU 47	-136	22	3537	368	1.96	47.51
301	SLU 48	-134	4	3511	366.02	1.94	46.82
301	SLU 49	-137	15	3553	369.18	1.97	47.8
301	SLU 50	-133	5	3493	364.74	1.93	46.47
301	SLU 51	-136	15	3535	367.9	1.96	47.44
301	SLU 52	-143	24	3845	390.57	2.09	49.86
301	SLU 53	-141	6	3819	388.58	2.08	49.17
301	SLU 54	-143	17	3861	391.75	2.11	50.15
301	SLU 55	-144	24	3871	392.57	2.11	50.44
301	SLU 56	-142	6	3845	390.59	2.1	49.76
301	SLU 57	-145	16	3887	393.75	2.13	50.74
301	SLU 58	-141	6	3828	389.31	2.08	49.4
301	SLU 59	-144	17	3870	392.47	2.11	50.38
301	SLU 60	-141	7	3918	395.83	2.11	49.49
301	SLU 61	-144	18	3960	398.99	2.14	50.47
301	SLU 62	-143	7	3945	397.83	2.13	50.08
301	SLU 63	-146	17	3987	401	2.16	51.05
301	SLU 64	-145	5	3815	388.47	2.12	50.66
301	SLU 65	-149	22	3885	393.75	2.17	52.29
301	SLU 66	-147	5	3859	391.76	2.15	51.61
301	SLU 67	-150	15	3901	394.92	2.18	52.58
301	SLU 68	-151	22	3911	395.75	2.19	52.88
301	SLU 69	-149	5	3885	393.77	2.17	52.19
301	SLU 70	-152	15	3927	396.93	2.2	53.17
301	SLU 71	-148	5	3868	392.48	2.16	51.84
301	SLU 72	-151	15	3910	395.65	2.19	52.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
301	SLU 73	-158	24	4219	418.32	2.32	55.23
301	SLU 74	-156	6	4194	416.33	2.31	54.54
301	SLU 75	-159	17	4235	419.49	2.34	55.52
301	SLU 76	-160	24	4246	420.32	2.34	55.81
301	SLU 77	-158	6	4220	418.34	2.33	55.13
301	SLU 78	-160	17	4262	421.5	2.36	56.11
301	SLU 79	-157	7	4202	417.05	2.31	54.77
301	SLU 80	-159	17	4244	420.22	2.34	55.75
301	SLU 81	-157	7	4293	423.57	2.34	54.86
301	SLU 82	-160	18	4335	426.74	2.37	55.84
301	SLU 83	-158	7	4319	425.58	2.36	55.45
301	SLU 84	-161	18	4361	428.74	2.39	56.42
301	SLE RA 1	-108	4	2852	292.73	1.58	37.79
301	SLE RA 2	-111	15	2899	296.24	1.61	38.88
301	SLE RA 3	-110	4	2882	294.92	1.6	38.42
301	SLE RA 4	-112	10	2910	297.03	1.62	39.07
301	SLE RA 5	-112	15	2916	297.58	1.62	39.27
301	SLE RA 6	-111	3	2899	296.26	1.62	38.81
301	SLE RA 7	-113	10	2927	298.36	1.63	39.46
301	SLE RA 8	-110	4	2887	295.4	1.61	38.57
301	SLE RA 9	-112	11	2915	297.51	1.62	39.23
301	SLE RA 10	-117	16	3122	312.62	1.72	40.83
301	SLE RA 11	-115	5	3105	311.3	1.71	40.38
301	SLE RA 12	-117	12	3133	313.41	1.73	41.03
301	SLE RA 13	-118	16	3139	313.96	1.73	41.23
301	SLE RA 14	-117	5	3122	312.64	1.72	40.77
301	SLE RA 15	-118	12	3150	314.74	1.74	41.42
301	SLE RA 16	-116	5	3111	311.78	1.71	40.53
301	SLE RA 17	-118	12	3138	313.89	1.73	41.18
301	SLE RA 18	-116	5	3171	316.13	1.73	40.59
301	SLE RA 19	-118	12	3199	318.24	1.75	41.24
301	SLE RA 20	-117	5	3189	317.46	1.74	40.98
301	SLE RA 21	-119	12	3216	319.57	1.76	41.63
301	SLE FR 1	-108	4	2852	292.73	1.58	37.79
301	SLE FR 2	-109	6	2862	293.43	1.59	38.01
301	SLE FR 3	-108	4	2859	293.26	1.58	37.95
301	SLE FR 4	-111	7	2957	300.45	1.63	38.85
301	SLE FR 5	-111	4	2955	300.28	1.63	38.79
301	SLE FR 6	-112	5	3012	304.43	1.65	39.19
301	SLE QP 1	-108	4	2852	292.73	1.58	37.79
301	SLE QP 2	-110	4	2948	299.75	1.62	38.63
301	SLD 1	232	62	3978	373.88	4.01	-81.25
301	SLD 2	300	-5	3914	369.36	3.91	-105.04
301	SLD 3	289	-130	3092	311.53	3.23	-101.09
301	SLD 4	357	-197	3028	307.01	3.13	-124.88
301	SLD 5	-106	325	4612	417.33	3.54	36.84
301	SLD 6	-62	282	4571	414.42	3.48	21.52
301	SLD 7	84	-316	1658	209.5	0.94	-29.28
301	SLD 8	128	-359	1617	206.59	0.87	-44.6
301	SLD 9	-349	368	4279	392.91	2.37	121.86
301	SLD 10	-305	325	4238	390	2.31	106.54
301	SLD 11	-159	-273	1325	185.08	-0.23	55.74
301	SLD 12	-115	-316	1283	182.17	-0.29	40.42
301	SLD 13	-578	205	2868	292.48	0.12	202.14
301	SLD 14	-510	139	2803	287.96	0.02	178.35
301	SLD 15	-521	13	1982	230.13	-0.66	182.3
301	SLD 16	-453	-54	1917	225.62	-0.76	158.51
301	SLV 1	421	109	4622	420.05	5.41	-147.5
301	SLV 2	529	3	4521	412.93	5.25	-185
301	SLV 3	518	-219	3110	313.7	4.07	-181.23
301	SLV 4	626	-324	3008	306.58	3.92	-218.73
301	SLV 5	-118	552	5763	498.46	4.81	40.95
301	SLV 6	-46	482	5694	493.66	4.71	15.7
301	SLV 7	205	-540	722	143.97	0.37	-71.49
301	SLV 8	278	-611	654	139.18	0.26	-96.74
301	SLV 9	-498	620	5242	460.32	2.99	174
301	SLV 10	-426	549	5174	455.52	2.88	148.75
301	SLV 11	-175	-473	201	105.83	-1.46	61.56
301	SLV 12	-103	-544	133	101.04	-1.56	36.31
301	SLV 13	-846	333	2887	292.91	-0.67	295.99
301	SLV 14	-739	228	2786	285.79	-0.83	258.49
301	SLV 15	-749	5	1375	186.57	-2	262.26
301	SLV 16	-642	-100	1273	179.45	-2.16	224.76
301	SLV FO 1	474	119	4790	432.08	5.79	-166.11
301	SLV FO 2	593	3	4678	424.24	5.61	-207.36
301	SLV FO 3	581	-241	3126	315.1	4.32	-203.22
301	SLV FO 4	699	-357	3015	307.26	4.15	-244.47
301	SLV FO 5	-119	607	6044	518.33	5.13	41.18
301	SLV FO 6	-39	529	5969	513.05	5.01	13.41
301	SLV FO 7	236	-595	499	128.4	0.24	-82.5
301	SLV FO 8	316	-673	424	123.12	0.12	-110.27
301	SLV FO 9	-537	681	5472	476.37	3.12	187.53
301	SLV FO 10	-457	603	5396	471.1	3.01	159.76
301	SLV FO 11	-182	-521	-73	86.44	-1.77	63.85
301	SLV FO 12	-102	-599	-148	81.17	-1.88	36.08
301	SLV FO 13	-920	366	2881	292.23	-0.9	321.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
301	SLV FO 14	-801	250	2769	284.4	-1.07	280.48
301	SLV FO 15	-813	5	1218	175.25	-2.37	284.62
301	SLV FO 16	-695	-111	1106	167.42	-2.54	243.38
301	CRTFP Ux+	0	0	0	0	0	0
301	CRTFP Ux-	0	0	0	0	0	0
301	CRTFP Uy+	0	0	0	0	0	0
301	CRTFP Uy-	0	0	0	0	0	0
302	SLU 1	-102	4	2723	288.78	-0.09	35.59
302	SLU 2	-106	21	2792	294.09	-0.08	37.23
302	SLU 3	-104	3	2766	292.1	-0.09	36.51
302	SLU 4	-107	14	2808	295.29	-0.08	37.5
302	SLU 5	-108	21	2818	296.12	-0.08	37.8
302	SLU 6	-106	3	2792	294.14	-0.09	37.09
302	SLU 7	-109	14	2834	297.32	-0.08	38.07
302	SLU 8	-105	3	2775	292.86	-0.1	36.74
302	SLU 9	-108	14	2816	296.04	-0.09	37.72
302	SLU 10	-115	23	3125	319.52	-0.14	40.09
302	SLU 11	-112	5	3099	317.54	-0.16	39.38
302	SLU 12	-115	15	3141	320.72	-0.15	40.36
302	SLU 13	-116	22	3151	321.55	-0.14	40.67
302	SLU 14	-114	5	3126	319.57	-0.16	39.96
302	SLU 15	-117	15	3167	322.75	-0.15	40.94
302	SLU 16	-113	5	3108	318.29	-0.16	39.61
302	SLU 17	-116	16	3150	321.47	-0.15	40.59
302	SLU 18	-113	6	3199	325.11	-0.19	39.69
302	SLU 19	-116	16	3240	328.3	-0.18	40.67
302	SLU 20	-115	6	3225	327.15	-0.19	40.26
302	SLU 21	-118	16	3266	330.33	-0.18	41.24
302	SLU 22	-117	4	3094	317.14	-0.12	40.87
302	SLU 23	-121	21	3163	322.44	-0.1	42.51
302	SLU 24	-119	4	3138	320.46	-0.11	41.79
302	SLU 25	-122	14	3179	323.64	-0.11	42.77
302	SLU 26	-123	21	3189	324.48	-0.1	43.08
302	SLU 27	-121	4	3164	322.49	-0.12	42.37
302	SLU 28	-124	14	3205	325.68	-0.11	43.35
302	SLU 29	-120	4	3146	321.21	-0.12	42.02
302	SLU 30	-123	14	3188	324.39	-0.11	43
302	SLU 31	-130	23	3496	347.87	-0.17	45.37
302	SLU 32	-128	6	3471	345.89	-0.18	44.66
302	SLU 33	-130	16	3512	349.07	-0.17	45.64
302	SLU 34	-131	23	3522	349.91	-0.17	45.95
302	SLU 35	-129	5	3497	347.93	-0.18	45.23
302	SLU 36	-132	16	3538	351.11	-0.17	46.22
302	SLU 37	-128	6	3480	346.64	-0.18	44.89
302	SLU 38	-131	16	3521	349.82	-0.17	45.87
302	SLU 39	-128	7	3570	353.47	-0.21	44.96
302	SLU 40	-131	17	3611	356.65	-0.2	45.95
302	SLU 41	-130	6	3596	355.5	-0.21	45.54
302	SLU 42	-133	17	3637	358.69	-0.2	46.52
302	SLU 43	-127	5	3412	365.7	-0.11	44.46
302	SLU 44	-132	22	3481	371	-0.1	46.1
302	SLU 45	-130	4	3456	369.02	-0.11	45.38
302	SLU 46	-132	15	3497	372.2	-0.1	46.36
302	SLU 47	-133	22	3507	373.04	-0.1	46.67
302	SLU 48	-131	4	3482	371.06	-0.11	45.96
302	SLU 49	-134	15	3523	374.24	-0.1	46.94
302	SLU 50	-130	4	3465	369.77	-0.12	45.61
302	SLU 51	-133	15	3506	372.95	-0.11	46.59
302	SLU 52	-140	23	3814	396.43	-0.16	48.96
302	SLU 53	-138	6	3789	394.45	-0.18	48.25
302	SLU 54	-141	16	3830	397.63	-0.17	49.23
302	SLU 55	-142	23	3840	398.47	-0.16	49.54
302	SLU 56	-139	6	3815	396.49	-0.18	48.82
302	SLU 57	-142	16	3856	399.67	-0.17	49.81
302	SLU 58	-138	6	3798	395.2	-0.18	48.48
302	SLU 59	-141	16	3839	398.38	-0.17	49.46
302	SLU 60	-139	7	3888	402.03	-0.21	48.55
302	SLU 61	-142	17	3930	405.21	-0.2	49.54
302	SLU 62	-140	7	3914	404.07	-0.21	49.13
302	SLU 63	-143	17	3956	407.25	-0.2	50.11
302	SLU 64	-142	5	3784	394.05	-0.14	49.74
302	SLU 65	-147	22	3852	399.35	-0.12	51.37
302	SLU 66	-145	5	3827	397.37	-0.14	50.66
302	SLU 67	-147	15	3868	400.55	-0.13	51.64
302	SLU 68	-148	22	3879	401.39	-0.12	51.95
302	SLU 69	-146	5	3853	399.41	-0.14	51.23
302	SLU 70	-149	15	3895	402.59	-0.13	52.22
302	SLU 71	-145	5	3836	398.12	-0.14	50.89
302	SLU 72	-148	15	3877	401.31	-0.13	51.87
302	SLU 73	-155	24	4186	424.78	-0.19	54.24
302	SLU 74	-153	6	4160	422.8	-0.2	53.53
302	SLU 75	-156	17	4202	425.98	-0.19	54.51
302	SLU 76	-157	24	4212	426.82	-0.19	54.82
302	SLU 77	-155	6	4186	424.84	-0.2	54.1
302	SLU 78	-157	17	4228	428.02	-0.19	55.08
302	SLU 79	-154	7	4169	423.56	-0.2	53.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
302	SLU 80	-156	17	4210	426.74	-0.19	54.74
302	SLU 81	-154	7	4260	430.38	-0.23	53.83
302	SLU 82	-157	18	4301	433.56	-0.22	54.81
302	SLU 83	-155	7	4286	432.42	-0.23	54.41
302	SLU 84	-158	18	4327	435.6	-0.22	55.39
302	SLE RA 1	-106	4	2829	296.88	-0.1	37.1
302	SLE RA 2	-109	15	2875	300.42	-0.09	38.19
302	SLE RA 3	-108	4	2858	299.1	-0.1	37.71
302	SLE RA 4	-110	10	2885	301.22	-0.09	38.37
302	SLE RA 5	-110	15	2892	301.78	-0.09	38.57
302	SLE RA 6	-109	4	2875	300.46	-0.1	38.1
302	SLE RA 7	-111	10	2903	302.58	-0.09	38.75
302	SLE RA 8	-108	4	2864	299.6	-0.1	37.87
302	SLE RA 9	-110	11	2891	301.72	-0.1	38.52
302	SLE RA 10	-115	16	3097	317.37	-0.13	40.1
302	SLE RA 11	-113	5	3080	316.05	-0.14	39.63
302	SLE RA 12	-115	12	3107	318.17	-0.14	40.28
302	SLE RA 13	-116	16	3114	318.73	-0.13	40.49
302	SLE RA 14	-114	5	3097	317.41	-0.14	40.01
302	SLE RA 15	-116	12	3125	319.53	-0.14	40.66
302	SLE RA 16	-114	5	3086	316.55	-0.14	39.78
302	SLE RA 17	-115	12	3113	318.68	-0.14	40.43
302	SLE RA 18	-114	5	3146	321.11	-0.16	39.83
302	SLE RA 19	-116	12	3174	323.23	-0.16	40.48
302	SLE RA 20	-115	5	3164	322.46	-0.16	40.21
302	SLE RA 21	-117	12	3191	324.58	-0.16	40.87
302	SLE FR 1	-106	4	2829	296.88	-0.1	37.1
302	SLE FR 2	-107	6	2838	297.59	-0.1	37.32
302	SLE FR 3	-106	4	2836	297.43	-0.1	37.25
302	SLE FR 4	-109	7	2933	304.86	-0.12	38.14
302	SLE FR 5	-109	4	2931	304.69	-0.12	38.07
302	SLE FR 6	-110	5	2988	309	-0.13	38.46
302	SLE QP 1	-106	4	2829	296.88	-0.1	37.1
302	SLE QP 2	-108	4	2924	304.15	-0.12	37.92
302	SLD 1	235	62	3890	366.65	1.57	-82.46
302	SLD 2	304	-1	3828	362.24	1.52	-106.28
302	SLD 3	291	-128	3020	303.36	1.36	-102.02
302	SLD 4	360	-191	2958	298.94	1.3	-125.84
302	SLD 5	-102	321	4545	419.66	0.73	35.56
302	SLD 6	-58	280	4505	416.82	0.69	20.23
302	SLD 7	85	-313	1643	208.67	0	-29.63
302	SLD 8	129	-354	1603	205.83	-0.03	-44.97
302	SLD 9	-345	362	4245	402.47	-0.21	120.8
302	SLD 10	-301	322	4205	399.63	-0.24	105.47
302	SLD 11	-159	-272	1343	191.48	-0.93	55.61
302	SLD 12	-115	-312	1303	188.64	-0.97	40.27
302	SLD 13	-576	199	2891	309.36	-1.54	201.67
302	SLD 14	-508	137	2829	304.94	-1.59	177.85
302	SLD 15	-520	9	2020	246.06	-1.76	182.12
302	SLD 16	-452	-53	1958	241.65	-1.81	158.3
302	SLV 1	425	108	4496	406.38	2.54	-149.01
302	SLV 2	533	10	4399	399.42	2.46	-186.56
302	SLV 3	521	-216	3011	298.42	2.17	-182.26
302	SLV 4	628	-315	2913	291.46	2.08	-219.81
302	SLV 5	-112	546	5667	499.86	1.26	39.28
302	SLV 6	-40	479	5601	495.17	1.2	14
302	SLV 7	204	-535	716	139.99	0.02	-71.56
302	SLV 8	277	-602	650	135.3	-0.04	-96.84
302	SLV 9	-494	610	5198	473	-0.2	172.68
302	SLV 10	-421	544	5132	468.31	-0.26	147.4
302	SLV 11	-177	-471	247	113.13	-1.44	61.83
302	SLV 12	-104	-537	182	108.44	-1.5	36.56
302	SLV 13	-845	323	2935	316.84	-2.32	295.64
302	SLV 14	-737	224	2837	309.88	-2.41	258.1
302	SLV 15	-750	-1	1449	208.88	-2.69	262.39
302	SLV 16	-642	-100	1352	201.92	-2.78	224.85
302	SLV FO 1	479	119	4653	416.61	2.81	-167.7
302	SLV FO 2	597	10	4546	408.95	2.71	-209
302	SLV FO 3	583	-238	3020	297.85	2.4	-204.28
302	SLV FO 4	702	-346	2912	290.19	2.3	-245.58
302	SLV FO 5	-113	600	5941	519.43	1.4	39.42
302	SLV FO 6	-33	527	5869	514.28	1.33	11.61
302	SLV FO 7	236	-589	495	123.57	0.03	-82.51
302	SLV FO 8	315	-662	423	118.42	-0.03	-110.32
302	SLV FO 9	-532	671	5426	489.88	-0.21	186.15
302	SLV FO 10	-452	598	5353	484.73	-0.27	158.35
302	SLV FO 11	-184	-518	-20	94.02	-1.57	64.22
302	SLV FO 12	-104	-591	-93	88.87	-1.63	36.42
302	SLV FO 13	-919	355	2936	318.11	-2.54	321.42
302	SLV FO 14	-800	246	2828	310.45	-2.63	280.12
302	SLV FO 15	-814	-2	1302	199.35	-2.95	284.84
302	SLV FO 16	-695	-110	1195	191.69	-3.04	243.54
302	CRTFP Ux+	0	0	0	0	0	0
302	CRTFP Ux-	0	0	0	0	0	0
302	CRTFP Uy+	0	0	0	0	0	0
302	CRTFP Uy-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
303	SLU 1	-99	4	2750	327.33	-1.59	34.83
303	SLU 2	-104	21	2819	333.41	-1.6	36.47
303	SLU 3	-102	4	2794	331.37	-1.62	35.73
303	SLU 4	-105	14	2835	335.02	-1.63	36.71
303	SLU 5	-106	21	2845	335.9	-1.62	37.03
303	SLU 6	-104	4	2820	333.85	-1.64	36.29
303	SLU 7	-106	14	2862	337.5	-1.65	37.28
303	SLU 8	-103	4	2803	332.3	-1.63	35.95
303	SLU 9	-105	14	2844	335.95	-1.64	36.94
303	SLU 10	-112	23	3157	364.46	-1.87	39.26
303	SLU 11	-110	6	3132	362.41	-1.89	38.51
303	SLU 12	-113	16	3174	366.06	-1.9	39.5
303	SLU 13	-114	23	3184	366.94	-1.89	39.82
303	SLU 14	-112	6	3159	364.89	-1.91	39.08
303	SLU 15	-114	16	3200	368.54	-1.92	40.06
303	SLU 16	-111	6	3141	363.34	-1.9	38.74
303	SLU 17	-113	16	3183	366.99	-1.91	39.72
303	SLU 18	-111	7	3234	371.68	-1.97	38.81
303	SLU 19	-114	17	3275	375.33	-1.98	39.79
303	SLU 20	-112	6	3260	374.16	-1.99	39.37
303	SLU 21	-115	17	3301	377.81	-2	40.36
303	SLU 22	-114	5	3126	361.69	-1.84	40
303	SLU 23	-119	22	3195	367.77	-1.86	41.64
303	SLU 24	-117	5	3170	365.72	-1.87	40.9
303	SLU 25	-120	15	3211	369.37	-1.88	41.89
303	SLU 26	-121	22	3221	370.25	-1.88	42.2
303	SLU 27	-118	5	3196	368.21	-1.89	41.46
303	SLU 28	-121	15	3237	371.86	-1.9	42.45
303	SLU 29	-117	5	3179	366.66	-1.88	41.12
303	SLU 30	-120	15	3220	370.31	-1.89	42.11
303	SLU 31	-127	24	3533	398.81	-2.13	44.43
303	SLU 32	-125	6	3508	396.76	-2.14	43.69
303	SLU 33	-128	17	3549	400.41	-2.15	44.67
303	SLU 34	-128	24	3560	401.29	-2.15	44.99
303	SLU 35	-126	6	3535	399.25	-2.16	44.25
303	SLU 36	-129	17	3576	402.9	-2.17	45.23
303	SLU 37	-125	6	3517	397.7	-2.15	43.91
303	SLU 38	-128	17	3558	401.35	-2.16	44.9
303	SLU 39	-126	7	3609	406.03	-2.23	43.98
303	SLU 40	-128	18	3651	409.68	-2.24	44.97
303	SLU 41	-127	7	3636	408.52	-2.25	44.54
303	SLU 42	-130	17	3677	412.17	-2.26	45.53
303	SLU 43	-124	5	3446	413.75	-1.98	43.5
303	SLU 44	-129	22	3515	419.84	-1.99	45.14
303	SLU 45	-127	5	3490	417.79	-2.01	44.4
303	SLU 46	-130	15	3531	421.44	-2.02	45.39
303	SLU 47	-131	22	3541	422.32	-2.01	45.71
303	SLU 48	-128	5	3516	420.27	-2.03	44.96
303	SLU 49	-131	15	3558	423.92	-2.04	45.95
303	SLU 50	-127	5	3499	418.72	-2.02	44.62
303	SLU 51	-130	15	3540	422.37	-2.03	45.61
303	SLU 52	-137	24	3853	450.88	-2.26	47.93
303	SLU 53	-135	7	3829	448.83	-2.28	47.19
303	SLU 54	-138	17	3870	452.48	-2.28	48.17
303	SLU 55	-138	24	3880	453.36	-2.28	48.49
303	SLU 56	-136	7	3855	451.32	-2.3	47.75
303	SLU 57	-139	17	3896	454.97	-2.3	48.74
303	SLU 58	-135	7	3838	449.77	-2.29	47.41
303	SLU 59	-138	17	3879	453.41	-2.3	48.4
303	SLU 60	-136	8	3930	458.1	-2.36	47.48
303	SLU 61	-138	18	3971	461.75	-2.37	48.47
303	SLU 62	-137	7	3956	460.58	-2.38	48.04
303	SLU 63	-140	18	3997	464.23	-2.39	49.03
303	SLU 64	-139	6	3822	448.11	-2.23	48.67
303	SLU 65	-144	23	3891	454.19	-2.25	50.32
303	SLU 66	-142	6	3866	452.14	-2.26	49.57
303	SLU 67	-144	16	3907	455.79	-2.27	50.56
303	SLU 68	-145	23	3917	456.67	-2.27	50.88
303	SLU 69	-143	5	3892	454.63	-2.28	50.14
303	SLU 70	-146	16	3934	458.28	-2.29	51.12
303	SLU 71	-142	6	3875	453.08	-2.27	49.8
303	SLU 72	-145	16	3916	456.73	-2.28	50.78
303	SLU 73	-152	25	4229	485.23	-2.52	53.1
303	SLU 74	-150	7	4204	483.18	-2.53	52.36
303	SLU 75	-152	18	4246	486.83	-2.54	53.35
303	SLU 76	-153	25	4256	487.72	-2.54	53.67
303	SLU 77	-151	7	4231	485.67	-2.55	52.92
303	SLU 78	-154	18	4272	489.32	-2.56	53.91
303	SLU 79	-150	7	4213	484.12	-2.54	52.58
303	SLU 80	-153	18	4255	487.77	-2.55	53.57
303	SLU 81	-150	8	4305	492.45	-2.62	52.65
303	SLU 82	-153	19	4347	496.1	-2.63	53.64
303	SLU 83	-152	8	4332	494.94	-2.64	53.22
303	SLU 84	-155	18	4373	498.59	-2.65	54.2
303	SLE RA 1	-104	4	2857	337.15	-1.66	36.3
303	SLE RA 2	-107	16	2903	341.2	-1.67	37.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
303	SLE RA 3	-105	4	2887	339.84	-1.68	36.9
303	SLE RA 4	-107	11	2914	342.27	-1.69	37.56
303	SLE RA 5	-108	16	2921	342.86	-1.68	37.77
303	SLE RA 6	-106	4	2904	341.49	-1.69	37.28
303	SLE RA 7	-108	11	2932	343.93	-1.7	37.94
303	SLE RA 8	-106	4	2893	340.46	-1.69	37.05
303	SLE RA 9	-108	11	2920	342.89	-1.69	37.71
303	SLE RA 10	-112	17	3129	361.9	-1.85	39.26
303	SLE RA 11	-111	5	3112	360.53	-1.86	38.76
303	SLE RA 12	-113	12	3140	362.97	-1.87	39.42
303	SLE RA 13	-113	17	3146	363.55	-1.86	39.63
303	SLE RA 14	-112	5	3130	362.19	-1.87	39.14
303	SLE RA 15	-114	12	3157	364.62	-1.88	39.79
303	SLE RA 16	-111	5	3118	361.16	-1.87	38.91
303	SLE RA 17	-113	12	3146	363.59	-1.87	39.57
303	SLE RA 18	-111	6	3180	366.71	-1.92	38.96
303	SLE RA 19	-113	13	3207	369.14	-1.92	39.61
303	SLE RA 20	-112	6	3197	368.37	-1.93	39.33
303	SLE RA 21	-114	13	3225	370.8	-1.94	39.99
303	SLE FR 1	-104	4	2857	337.15	-1.66	36.3
303	SLE FR 2	-104	7	2866	337.96	-1.66	36.52
303	SLE FR 3	-104	4	2864	337.81	-1.67	36.45
303	SLE FR 4	-107	7	2963	346.83	-1.74	37.32
303	SLE FR 5	-106	5	2961	346.68	-1.74	37.25
303	SLE FR 6	-107	5	3018	351.93	-1.79	37.63
303	SLE QP 1	-104	4	2857	337.15	-1.66	36.3
303	SLE QP 2	-106	5	2954	346.02	-1.74	37.1
303	SLD 1	239	63	3876	410.7	-0.65	-83.8
303	SLD 2	308	4	3815	405.61	-0.66	-107.64
303	SLD 3	294	-128	3004	335.44	-0.35	-103.03
303	SLD 4	362	-187	2943	330.35	-0.36	-126.86
303	SLD 5	-97	323	4563	480.44	-1.86	34.09
303	SLD 6	-53	285	4524	477.16	-1.87	18.74
303	SLD 7	85	-315	1657	229.57	-0.87	-30
303	SLD 8	129	-353	1618	226.3	-0.88	-45.35
303	SLD 9	-341	363	4290	465.74	-2.6	119.55
303	SLD 10	-297	325	4251	462.46	-2.61	104.2
303	SLD 11	-159	-275	1384	214.87	-1.61	55.46
303	SLD 12	-115	-313	1345	211.59	-1.62	40.11
303	SLD 13	-574	197	2965	361.68	-3.11	201.06
303	SLD 14	-506	137	2904	356.59	-3.13	177.22
303	SLD 15	-520	6	2093	286.42	-2.82	181.84
303	SLD 16	-451	-54	2032	281.33	-2.83	158
303	SLV 1	430	111	4458	452.56	-0.06	-150.66
303	SLV 2	538	17	4362	444.54	-0.08	-188.24
303	SLV 3	523	-216	2970	324.18	0.45	-183.34
303	SLV 4	631	-309	2874	316.16	0.43	-220.92
303	SLV 5	-106	549	5679	574.18	-2	37.36
303	SLV 6	-34	486	5615	568.79	-2.01	12.06
303	SLV 7	204	-539	720	146.25	-0.31	-71.59
303	SLV 8	276	-602	656	140.85	-0.32	-96.89
303	SLV 9	-488	611	5252	551.18	-3.15	171.09
303	SLV 10	-416	548	5188	545.78	-3.17	145.79
303	SLV 11	-178	-476	293	123.25	-1.46	62.14
303	SLV 12	-106	-539	229	117.85	-1.48	36.84
303	SLV 13	-843	319	3034	375.87	-3.9	295.12
303	SLV 14	-735	225	2938	367.86	-3.92	257.54
303	SLV 15	-750	-7	1546	247.49	-3.4	262.43
303	SLV 16	-642	-101	1450	239.48	-3.42	224.86
303	SLV FO 1	484	121	4608	463.21	0.11	-169.43
303	SLV FO 2	603	18	4503	454.39	0.09	-210.77
303	SLV FO 3	586	-238	2972	321.99	0.67	-205.39
303	SLV FO 4	705	-341	2866	313.17	0.64	-246.72
303	SLV FO 5	-106	603	5952	597	-2.03	37.38
303	SLV FO 6	-26	534	5881	591.06	-2.04	9.56
303	SLV FO 7	235	-593	497	126.28	-0.17	-82.46
303	SLV FO 8	315	-662	426	120.34	-0.18	-110.29
303	SLV FO 9	-526	672	5482	571.7	-3.3	184.49
303	SLV FO 10	-447	603	5411	565.76	-3.31	156.66
303	SLV FO 11	-186	-524	27	100.97	-1.44	64.64
303	SLV FO 12	-106	-594	-44	95.03	-1.45	36.82
303	SLV FO 13	-917	350	3042	378.86	-4.12	320.92
303	SLV FO 14	-798	247	2936	370.04	-4.14	279.59
303	SLV FO 15	-815	-9	1405	237.64	-3.56	284.97
303	SLV FO 16	-696	-112	1300	228.82	-3.59	243.63
303	CRTFP Ux+	0	0	0	0	0	0
303	CRTFP Ux-	0	0	0	0	0	0
303	CRTFP Uy+	0	0	0	0	0	0
303	CRTFP Uy-	0	0	0	0	0	0
304	SLU 1	-97	4	2823	397.98	-2.95	33.98
304	SLU 2	-102	22	2892	405.51	-2.99	35.62
304	SLU 3	-100	4	2868	403.36	-3.01	34.85
304	SLU 4	-102	15	2910	407.88	-3.03	35.84
304	SLU 5	-103	22	2920	408.84	-3.03	36.17
304	SLU 6	-101	4	2895	406.68	-3.04	35.4
304	SLU 7	-104	15	2937	411.21	-3.07	36.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
304	SLU 8	-100	4	2878	404.62	-3.02	35.07
304	SLU 9	-103	15	2919	409.14	-3.05	36.06
304	SLU 10	-109	24	3243	446.62	-3.44	38.32
304	SLU 11	-107	6	3218	444.47	-3.46	37.55
304	SLU 12	-110	16	3260	448.99	-3.48	38.54
304	SLU 13	-111	23	3270	449.94	-3.48	38.87
304	SLU 14	-109	6	3246	447.79	-3.5	38.1
304	SLU 15	-112	16	3287	452.31	-3.52	39.09
304	SLU 16	-108	6	3228	445.73	-3.48	37.77
304	SLU 17	-111	16	3269	450.25	-3.5	38.76
304	SLU 18	-108	7	3323	456.7	-3.6	37.83
304	SLU 19	-111	17	3365	461.22	-3.62	38.82
304	SLU 20	-110	7	3350	460.02	-3.64	38.38
304	SLU 21	-112	17	3392	464.54	-3.66	39.37
304	SLU 22	-111	5	3210	443.36	-3.42	39.03
304	SLU 23	-116	23	3280	450.9	-3.45	40.68
304	SLU 24	-114	5	3255	448.74	-3.47	39.91
304	SLU 25	-117	16	3297	453.27	-3.5	40.9
304	SLU 26	-118	23	3307	454.22	-3.49	41.23
304	SLU 27	-116	5	3283	452.06	-3.51	40.46
304	SLU 28	-118	16	3325	456.59	-3.53	41.45
304	SLU 29	-115	5	3265	450	-3.49	40.13
304	SLU 30	-117	16	3307	454.53	-3.51	41.12
304	SLU 31	-124	24	3630	492	-3.91	43.38
304	SLU 32	-122	7	3606	489.85	-3.93	42.61
304	SLU 33	-125	17	3647	494.37	-3.95	43.6
304	SLU 34	-125	24	3657	495.32	-3.95	43.93
304	SLU 35	-123	7	3633	493.17	-3.96	43.16
304	SLU 36	-126	17	3675	497.69	-3.99	44.14
304	SLU 37	-122	7	3615	491.11	-3.94	42.83
304	SLU 38	-125	17	3657	495.63	-3.97	43.81
304	SLU 39	-123	8	3710	502.08	-4.07	42.89
304	SLU 40	-125	18	3752	506.6	-4.09	43.87
304	SLU 41	-124	8	3738	505.4	-4.1	43.43
304	SLU 42	-127	18	3779	509.93	-4.13	44.42
304	SLU 43	-121	5	3537	501.81	-3.67	42.44
304	SLU 44	-126	23	3606	509.35	-3.71	44.08
304	SLU 45	-124	5	3582	507.19	-3.73	43.31
304	SLU 46	-127	16	3624	511.72	-3.75	44.3
304	SLU 47	-127	23	3634	512.67	-3.75	44.63
304	SLU 48	-125	5	3609	510.52	-3.77	43.86
304	SLU 49	-128	16	3651	515.04	-3.79	44.85
304	SLU 50	-124	5	3592	508.45	-3.75	43.53
304	SLU 51	-127	16	3633	512.98	-3.77	44.52
304	SLU 52	-134	25	3957	550.45	-4.17	46.78
304	SLU 53	-131	7	3932	548.3	-4.19	46.01
304	SLU 54	-134	17	3974	552.82	-4.21	47
304	SLU 55	-135	25	3984	553.78	-4.21	47.33
304	SLU 56	-133	7	3960	551.62	-4.22	46.56
304	SLU 57	-136	17	4001	556.14	-4.25	47.55
304	SLU 58	-132	7	3942	549.56	-4.2	46.23
304	SLU 59	-135	18	3983	554.08	-4.23	47.22
304	SLU 60	-132	8	4037	560.53	-4.32	46.29
304	SLU 61	-135	18	4079	565.05	-4.35	47.28
304	SLU 62	-134	8	4064	563.85	-4.36	46.84
304	SLU 63	-137	18	4106	568.38	-4.38	47.83
304	SLU 64	-136	6	3924	547.19	-4.14	47.49
304	SLU 65	-140	24	3994	554.73	-4.18	49.14
304	SLU 66	-138	6	3969	552.58	-4.2	48.37
304	SLU 67	-141	17	4011	557.1	-4.22	49.36
304	SLU 68	-142	24	4021	558.05	-4.22	49.69
304	SLU 69	-140	6	3997	555.9	-4.23	48.92
304	SLU 70	-143	17	4039	560.42	-4.26	49.91
304	SLU 71	-139	6	3979	553.84	-4.21	48.59
304	SLU 72	-142	17	4021	558.36	-4.24	49.58
304	SLU 73	-148	25	4344	595.84	-4.63	51.84
304	SLU 74	-146	8	4320	593.68	-4.65	51.07
304	SLU 75	-149	18	4361	598.2	-4.68	52.05
304	SLU 76	-150	25	4371	599.16	-4.67	52.39
304	SLU 77	-147	8	4347	597	-4.69	51.61
304	SLU 78	-150	18	4389	601.53	-4.71	52.6
304	SLU 79	-147	8	4329	594.94	-4.67	51.29
304	SLU 80	-149	18	4371	599.46	-4.69	52.27
304	SLU 81	-147	9	4424	605.91	-4.79	51.35
304	SLU 82	-149	19	4466	610.44	-4.81	52.33
304	SLU 83	-148	9	4452	609.24	-4.83	51.89
304	SLU 84	-151	19	4493	613.76	-4.85	52.88
304	SLE RA 1	-101	5	2933	410.94	-3.08	35.42
304	SLE RA 2	-104	16	2980	415.97	-3.11	36.52
304	SLE RA 3	-103	5	2964	414.53	-3.12	36.01
304	SLE RA 4	-105	12	2991	417.55	-3.14	36.66
304	SLE RA 5	-105	16	2998	418.18	-3.13	36.89
304	SLE RA 6	-104	5	2982	416.75	-3.14	36.37
304	SLE RA 7	-106	12	3010	419.76	-3.16	37.03
304	SLE RA 8	-103	5	2970	415.37	-3.13	36.15
304	SLE RA 9	-105	12	2998	418.39	-3.15	36.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
304	SLE RA 10	-109	17	3213	443.37	-3.41	38.32
304	SLE RA 11	-108	6	3197	441.94	-3.42	37.8
304	SLE RA 12	-110	13	3225	444.95	-3.44	38.46
304	SLE RA 13	-110	17	3232	445.59	-3.44	38.68
304	SLE RA 14	-109	6	3215	444.15	-3.45	38.17
304	SLE RA 15	-111	13	3243	447.17	-3.46	38.83
304	SLE RA 16	-108	6	3203	442.78	-3.43	37.95
304	SLE RA 17	-110	13	3231	445.79	-3.45	38.61
304	SLE RA 18	-109	6	3267	450.09	-3.52	37.99
304	SLE RA 19	-110	13	3295	453.11	-3.53	38.65
304	SLE RA 20	-110	6	3285	452.31	-3.54	38.36
304	SLE RA 21	-111	13	3313	455.32	-3.56	39.01
304	SLE FR 1	-101	5	2933	410.94	-3.08	35.42
304	SLE FR 2	-102	7	2943	411.95	-3.09	35.64
304	SLE FR 3	-102	5	2941	411.83	-3.09	35.57
304	SLE FR 4	-104	8	3043	423.69	-3.22	36.41
304	SLE FR 5	-104	5	3041	423.57	-3.22	36.34
304	SLE FR 6	-105	6	3100	430.52	-3.3	36.71
304	SLE QP 1	-101	5	2933	410.94	-3.08	35.42
304	SLE QP 2	-103	5	3033	422.69	-3.21	36.19
304	SLD 1	244	66	3929	501.36	-2.63	-85.24
304	SLD 2	312	9	3868	494.95	-2.61	-109.09
304	SLD 3	297	-129	3041	404.34	-1.88	-104.09
304	SLD 4	365	-186	2980	397.93	-1.86	-127.93
304	SLD 5	-92	329	4661	594.54	-4.17	32.45
304	SLD 6	-48	293	4621	590.41	-4.16	17.09
304	SLD 7	86	-321	1698	271.13	-1.69	-30.37
304	SLD 8	130	-358	1659	267.01	-1.67	-45.73
304	SLD 9	-337	369	4408	578.36	-4.75	118.11
304	SLD 10	-293	332	4369	574.24	-4.74	102.76
304	SLD 11	-159	-282	1446	254.96	-2.27	55.29
304	SLD 12	-115	-319	1406	250.84	-2.25	39.94
304	SLD 13	-572	197	3087	447.44	-4.56	200.32
304	SLD 14	-504	140	3026	441.04	-4.54	176.47
304	SLD 15	-519	2	2199	350.42	-3.82	181.47
304	SLD 16	-450	-55	2138	344.02	-3.79	157.62
304	SLV 1	436	114	4498	552.69	-2.36	-152.43
304	SLV 2	543	24	4401	542.6	-2.33	-190.02
304	SLV 3	526	-219	2981	387.17	-1.09	-184.46
304	SLV 4	634	-309	2885	377.08	-1.05	-222.05
304	SLV 5	-99	560	5790	714.61	-4.89	35.2
304	SLV 6	-27	499	5726	707.81	-4.87	9.89
304	SLV 7	203	-550	736	162.88	-0.65	-71.57
304	SLV 8	276	-611	671	156.08	-0.63	-96.87
304	SLV 9	-482	621	5396	689.29	-5.8	169.26
304	SLV 10	-410	560	5331	682.5	-5.77	143.95
304	SLV 11	-180	-489	341	137.56	-1.56	62.49
304	SLV 12	-107	-549	276	130.76	-1.53	37.18
304	SLV 13	-841	319	3182	468.3	-5.37	294.43
304	SLV 14	-733	229	3085	458.2	-5.34	256.84
304	SLV 15	-750	-14	1665	302.78	-4.1	262.4
304	SLV 16	-642	-104	1569	292.68	-4.07	224.81
304	SLV FO 1	490	125	4644	565.69	-2.27	-171.29
304	SLV FO 2	608	26	4538	554.59	-2.24	-212.64
304	SLV FO 3	589	-241	2976	383.62	-0.87	-206.52
304	SLV FO 4	708	-340	2870	372.52	-0.84	-247.87
304	SLV FO 5	-99	615	6066	743.8	-5.06	35.1
304	SLV FO 6	-19	548	5995	736.33	-5.03	7.26
304	SLV FO 7	234	-605	506	136.9	-0.4	-82.34
304	SLV FO 8	313	-672	435	129.42	-0.37	-110.18
304	SLV FO 9	-520	683	5632	715.95	-6.05	182.56
304	SLV FO 10	-441	616	5561	708.48	-6.03	154.73
304	SLV FO 11	-188	-538	72	109.05	-1.39	65.12
304	SLV FO 12	-108	-605	1	101.57	-1.36	37.28
304	SLV FO 13	-915	350	3197	472.86	-5.59	320.26
304	SLV FO 14	-796	251	3091	461.75	-5.55	278.91
304	SLV FO 15	-815	-16	1529	290.79	-4.19	285.02
304	SLV FO 16	-696	-115	1423	279.68	-4.15	243.67
304	CRTFP Ux+	0	0	0	0	0	0
304	CRTFP Ux-	0	0	0	0	0	0
304	CRTFP Uy+	0	0	0	0	0	0
304	CRTFP Uy-	0	0	0	0	0	0
305	SLU 1	-95	4	2936	497.92	-4.12	33.06
305	SLU 2	-99	22	3007	507.5	-4.18	34.7
305	SLU 3	-97	4	2984	505.23	-4.2	33.91
305	SLU 4	-100	15	3026	510.98	-4.24	34.89
305	SLU 5	-101	22	3036	512.02	-4.23	35.23
305	SLU 6	-98	4	3012	509.75	-4.25	34.44
305	SLU 7	-101	14	3055	515.5	-4.29	35.43
305	SLU 8	-98	4	2994	506.95	-4.22	34.12
305	SLU 9	-100	15	3036	512.7	-4.26	35.11
305	SLU 10	-107	23	3375	562.77	-4.79	37.3
305	SLU 11	-104	6	3351	560.5	-4.82	36.51
305	SLU 12	-107	16	3394	566.25	-4.85	37.5
305	SLU 13	-108	23	3403	567.29	-4.85	37.84
305	SLU 14	-106	6	3380	565.02	-4.87	37.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
305	SLU 15	-109	16	3422	570.77	-4.9	38.03
305	SLU 16	-105	6	3361	562.22	-4.84	36.72
305	SLU 17	-108	16	3404	567.97	-4.87	37.71
305	SLU 18	-105	6	3461	576.87	-5	36.77
305	SLU 19	-108	17	3504	582.62	-5.04	37.76
305	SLU 20	-107	6	3490	581.39	-5.05	37.3
305	SLU 21	-110	17	3532	587.14	-5.09	38.29
305	SLU 22	-109	5	3341	558.93	-4.77	37.98
305	SLU 23	-113	23	3413	568.52	-4.83	39.63
305	SLU 24	-111	5	3389	566.25	-4.85	38.84
305	SLU 25	-114	16	3432	572	-4.88	39.82
305	SLU 26	-115	23	3441	573.03	-4.88	40.16
305	SLU 27	-113	5	3418	570.76	-4.9	39.37
305	SLU 28	-115	15	3460	576.51	-4.93	40.36
305	SLU 29	-112	5	3399	567.97	-4.87	39.05
305	SLU 30	-114	16	3442	573.72	-4.91	40.04
305	SLU 31	-121	24	3780	623.78	-5.44	42.23
305	SLU 32	-118	7	3756	621.51	-5.46	41.44
305	SLU 33	-121	17	3799	627.26	-5.5	42.42
305	SLU 34	-122	24	3809	628.3	-5.49	42.76
305	SLU 35	-120	7	3785	626.03	-5.52	41.97
305	SLU 36	-123	17	3828	631.78	-5.55	42.96
305	SLU 37	-119	7	3766	623.23	-5.49	41.65
305	SLU 38	-122	17	3809	628.98	-5.52	42.64
305	SLU 39	-119	7	3866	637.89	-5.65	41.7
305	SLU 40	-122	18	3909	643.64	-5.68	42.69
305	SLU 41	-121	7	3895	642.4	-5.7	42.23
305	SLU 42	-124	18	3938	648.15	-5.73	43.22
305	SLU 43	-118	5	3678	626.38	-5.13	41.28
305	SLU 44	-123	23	3749	635.96	-5.19	42.93
305	SLU 45	-120	5	3725	633.69	-5.21	42.13
305	SLU 46	-123	15	3768	639.44	-5.25	43.12
305	SLU 47	-124	22	3778	640.48	-5.24	43.46
305	SLU 48	-122	5	3754	638.21	-5.27	42.67
305	SLU 49	-125	15	3797	643.96	-5.3	43.66
305	SLU 50	-121	5	3736	635.41	-5.24	42.35
305	SLU 51	-124	15	3778	641.16	-5.27	43.34
305	SLU 52	-130	24	4117	691.23	-5.81	45.53
305	SLU 53	-128	6	4093	688.96	-5.83	44.74
305	SLU 54	-131	17	4136	694.71	-5.87	45.72
305	SLU 55	-132	24	4145	695.74	-5.86	46.06
305	SLU 56	-129	6	4122	693.47	-5.88	45.27
305	SLU 57	-132	17	4164	699.22	-5.92	46.26
305	SLU 58	-129	6	4103	690.68	-5.85	44.95
305	SLU 59	-131	17	4146	696.43	-5.89	45.94
305	SLU 60	-129	7	4203	705.33	-6.01	45
305	SLU 61	-132	18	4245	711.08	-6.05	45.99
305	SLU 62	-130	7	4232	709.85	-6.07	45.53
305	SLU 63	-133	18	4274	715.6	-6.1	46.52
305	SLU 64	-132	6	4083	687.39	-5.78	46.21
305	SLU 65	-137	24	4154	696.97	-5.84	47.86
305	SLU 66	-135	6	4131	694.7	-5.86	47.06
305	SLU 67	-137	16	4173	700.45	-5.9	48.05
305	SLU 68	-138	23	4183	701.49	-5.89	48.39
305	SLU 69	-136	6	4160	699.22	-5.91	47.6
305	SLU 70	-139	16	4202	704.97	-5.95	48.58
305	SLU 71	-135	6	4141	696.42	-5.88	47.28
305	SLU 72	-138	16	4184	702.17	-5.92	48.27
305	SLU 73	-144	25	4522	752.24	-6.46	50.46
305	SLU 74	-142	7	4498	749.97	-6.48	49.66
305	SLU 75	-145	18	4541	755.72	-6.51	50.65
305	SLU 76	-146	25	4551	756.76	-6.51	50.99
305	SLU 77	-144	7	4527	754.49	-6.53	50.2
305	SLU 78	-146	18	4570	760.24	-6.57	51.18
305	SLU 79	-143	7	4508	751.69	-6.5	49.88
305	SLU 80	-145	18	4551	757.44	-6.54	50.87
305	SLU 81	-143	8	4608	766.34	-6.66	49.93
305	SLU 82	-146	19	4651	772.09	-6.7	50.91
305	SLU 83	-144	8	4637	770.86	-6.71	50.46
305	SLU 84	-147	19	4679	776.61	-6.75	51.45
305	SLE RA 1	-99	4	3052	515.35	-4.3	34.46
305	SLE RA 2	-102	16	3099	521.74	-4.34	35.56
305	SLE RA 3	-100	4	3084	520.23	-4.36	35.03
305	SLE RA 4	-102	11	3112	524.06	-4.38	35.69
305	SLE RA 5	-103	16	3119	524.75	-4.38	35.92
305	SLE RA 6	-101	4	3103	523.24	-4.39	35.39
305	SLE RA 7	-103	11	3131	527.07	-4.42	36.05
305	SLE RA 8	-101	4	3090	521.38	-4.37	35.17
305	SLE RA 9	-102	11	3119	525.21	-4.4	35.83
305	SLE RA 10	-107	17	3344	558.59	-4.75	37.29
305	SLE RA 11	-105	5	3328	557.07	-4.77	36.77
305	SLE RA 12	-107	12	3357	560.9	-4.79	37.42
305	SLE RA 13	-108	17	3363	561.6	-4.79	37.65
305	SLE RA 14	-106	5	3348	560.08	-4.8	37.12
305	SLE RA 15	-108	12	3376	563.92	-4.83	37.78
305	SLE RA 16	-106	5	3335	558.22	-4.78	36.91

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
305	SLE RA 17	-107	12	3364	562.05	-4.81	37.57
305	SLE RA 18	-106	6	3402	567.99	-4.89	36.94
305	SLE RA 19	-108	13	3430	571.82	-4.91	37.6
305	SLE RA 20	-107	6	3421	571	-4.93	37.3
305	SLE RA 21	-109	13	3449	574.83	-4.95	37.95
305	SLE FR 1	-99	4	3052	515.35	-4.3	34.46
305	SLE FR 2	-99	7	3061	516.63	-4.31	34.68
305	SLE FR 3	-99	4	3060	516.56	-4.32	34.61
305	SLE FR 4	-101	7	3166	532.42	-4.49	35.43
305	SLE FR 5	-101	5	3164	532.35	-4.49	35.35
305	SLE FR 6	-102	5	3227	541.67	-4.6	35.7
305	SLE QP 1	-99	4	3052	515.35	-4.3	34.46
305	SLE QP 2	-101	5	3157	531.14	-4.48	35.21
305	SLD 1	248	68	4041	633.52	-4.3	-86.78
305	SLD 2	316	13	3979	625.27	-4.25	-110.62
305	SLD 3	300	-133	3123	506.33	-3.19	-105.19
305	SLD 4	368	-188	3061	498.07	-3.15	-129.03
305	SLD 5	-87	338	4826	756.18	-6.11	30.64
305	SLD 6	-43	303	4786	750.87	-6.08	15.28
305	SLD 7	87	-332	1764	332.21	-2.43	-30.74
305	SLD 8	131	-368	1724	326.9	-2.4	-46.09
305	SLD 9	-332	377	4589	735.39	-6.56	116.5
305	SLD 10	-288	342	4549	730.07	-6.53	101.15
305	SLD 11	-159	-293	1528	311.42	-2.88	55.13
305	SLD 12	-115	-329	1488	306.1	-2.85	39.78
305	SLD 13	-570	198	3253	564.21	-5.81	199.45
305	SLD 14	-501	143	3191	555.95	-5.77	175.6
305	SLD 15	-518	-3	2335	437.02	-4.71	181.03
305	SLD 16	-449	-59	2272	428.76	-4.66	157.19
305	SLV 1	441	119	4605	700.41	-4.28	-154.3
305	SLV 2	549	31	4507	687.39	-4.21	-191.89
305	SLV 3	529	-224	3038	483.39	-2.39	-185.59
305	SLV 4	637	-312	2940	470.38	-2.32	-223.17
305	SLV 5	-92	575	5986	913.49	-7.3	32.82
305	SLV 6	-20	516	5920	904.72	-7.25	7.51
305	SLV 7	202	-568	763	190.11	-1.01	-71.47
305	SLV 8	275	-626	697	181.35	-0.96	-96.77
305	SLV 9	-476	636	5617	880.94	-8	167.18
305	SLV 10	-404	577	5551	872.17	-7.95	141.88
305	SLV 11	-182	-507	393	157.56	-1.71	62.9
305	SLV 12	-109	-566	327	148.8	-1.66	37.6
305	SLV 13	-838	321	3373	591.91	-6.64	293.58
305	SLV 14	-731	234	3275	578.89	-6.57	256
305	SLV 15	-750	-22	1806	374.89	-4.75	262.3
305	SLV 16	-642	-109	1708	361.88	-4.68	224.71
305	SLV FO 1	495	130	4750	717.33	-4.26	-173.25
305	SLV FO 2	614	34	4642	703.02	-4.18	-214.59
305	SLV FO 3	592	-247	3027	478.62	-2.18	-207.66
305	SLV FO 4	711	-343	2919	464.3	-2.1	-249.01
305	SLV FO 5	-91	632	6269	951.72	-7.58	32.58
305	SLV FO 6	-12	568	6197	942.08	-7.52	4.75
305	SLV FO 7	233	-625	523	156.01	-0.66	-82.13
305	SLV FO 8	312	-690	451	146.37	-0.6	-109.97
305	SLV FO 9	-514	699	5863	915.92	-8.36	180.38
305	SLV FO 10	-434	635	5790	906.28	-8.3	152.55
305	SLV FO 11	-190	-558	117	120.2	-1.44	65.67
305	SLV FO 12	-110	-623	44	110.57	-1.38	37.83
305	SLV FO 13	-912	353	3395	597.98	-6.86	319.42
305	SLV FO 14	-794	257	3287	583.67	-6.78	278.08
305	SLV FO 15	-815	-24	1671	359.27	-4.78	285.01
305	SLV FO 16	-697	-120	1563	344.95	-4.7	243.66
305	CRTFP Ux+	0	0	0	0	0	0
305	CRTFP Ux-	0	0	0	0	0	0
305	CRTFP Uy+	0	0	0	0	0	0
305	CRTFP Uy-	0	0	0	0	0	0
306	SLU 1	-92	2	3082	622.97	-5	32.07
306	SLU 2	-97	20	3156	635.06	-5.07	33.71
306	SLU 3	-94	2	3133	632.71	-5.1	32.89
306	SLU 4	-97	13	3177	639.97	-5.14	33.88
306	SLU 5	-98	20	3186	641.09	-5.13	34.22
306	SLU 6	-96	2	3164	638.74	-5.16	33.41
306	SLU 7	-99	13	3208	645.99	-5.2	34.39
306	SLU 8	-95	2	3144	635.02	-5.13	33.1
306	SLU 9	-98	13	3188	642.27	-5.17	34.09
306	SLU 10	-104	21	3545	708.03	-5.81	36.2
306	SLU 11	-101	3	3522	705.68	-5.84	35.39
306	SLU 12	-104	14	3566	712.93	-5.88	36.37
306	SLU 13	-105	21	3575	714.05	-5.87	36.72
306	SLU 14	-103	3	3553	711.7	-5.9	35.91
306	SLU 15	-106	14	3597	718.96	-5.94	36.89
306	SLU 16	-102	3	3533	707.98	-5.86	35.6
306	SLU 17	-105	14	3577	715.24	-5.91	36.59
306	SLU 18	-102	4	3638	727.21	-6.05	35.64
306	SLU 19	-105	15	3682	734.46	-6.1	36.62
306	SLU 20	-104	4	3669	733.23	-6.12	36.16
306	SLU 21	-106	15	3713	740.48	-6.16	37.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
306	SLU 22	-106	3	3511	703.57	-5.78	36.86
306	SLU 23	-110	21	3584	715.66	-5.85	38.5
306	SLU 24	-108	3	3561	713.31	-5.88	37.69
306	SLU 25	-111	14	3605	720.57	-5.92	38.67
306	SLU 26	-112	21	3615	721.68	-5.92	39.02
306	SLU 27	-109	3	3592	719.34	-5.95	38.2
306	SLU 28	-112	13	3636	726.59	-5.99	39.19
306	SLU 29	-109	3	3572	715.62	-5.91	37.9
306	SLU 30	-111	14	3616	722.87	-5.95	38.88
306	SLU 31	-117	22	3973	788.63	-6.59	41
306	SLU 32	-115	4	3950	786.28	-6.62	40.18
306	SLU 33	-118	15	3994	793.53	-6.66	41.17
306	SLU 34	-119	22	4004	794.65	-6.66	41.51
306	SLU 35	-117	4	3981	792.3	-6.68	40.7
306	SLU 36	-119	15	4025	799.55	-6.73	41.69
306	SLU 37	-116	4	3961	788.58	-6.65	40.4
306	SLU 38	-119	15	4005	795.84	-6.69	41.38
306	SLU 39	-116	5	4066	807.81	-6.84	40.43
306	SLU 40	-119	16	4110	815.06	-6.88	41.41
306	SLU 41	-117	5	4097	813.83	-6.9	40.95
306	SLU 42	-120	15	4141	821.08	-6.94	41.93
306	SLU 43	-115	2	3860	782.23	-6.23	40.05
306	SLU 44	-119	20	3934	794.32	-6.3	41.68
306	SLU 45	-117	2	3911	791.97	-6.33	40.87
306	SLU 46	-120	13	3955	799.23	-6.37	41.85
306	SLU 47	-121	20	3964	800.34	-6.36	42.2
306	SLU 48	-119	2	3941	798	-6.39	41.39
306	SLU 49	-121	13	3985	805.25	-6.44	42.37
306	SLU 50	-118	2	3922	794.28	-6.36	41.08
306	SLU 51	-121	13	3966	801.53	-6.4	42.06
306	SLU 52	-127	22	4323	867.29	-7.04	44.18
306	SLU 53	-124	4	4300	864.94	-7.07	43.37
306	SLU 54	-127	14	4344	872.19	-7.11	44.35
306	SLU 55	-128	22	4353	873.31	-7.1	44.7
306	SLU 56	-126	4	4331	870.96	-7.13	43.89
306	SLU 57	-129	14	4375	878.21	-7.17	44.87
306	SLU 58	-125	4	4311	867.24	-7.1	43.58
306	SLU 59	-128	14	4355	874.5	-7.14	44.56
306	SLU 60	-125	4	4416	886.47	-7.28	43.61
306	SLU 61	-128	15	4460	893.72	-7.33	44.6
306	SLU 62	-126	4	4447	892.49	-7.35	44.13
306	SLU 63	-129	15	4491	899.74	-7.39	45.11
306	SLU 64	-128	3	4289	862.83	-7.01	44.84
306	SLU 65	-133	21	4362	874.92	-7.08	46.48
306	SLU 66	-131	3	4339	872.57	-7.11	45.66
306	SLU 67	-134	14	4383	879.83	-7.16	46.65
306	SLU 68	-135	21	4393	880.94	-7.15	46.99
306	SLU 69	-132	3	4370	878.59	-7.18	46.18
306	SLU 70	-135	14	4414	885.85	-7.22	47.16
306	SLU 71	-131	3	4350	874.88	-7.14	45.87
306	SLU 72	-134	14	4394	882.13	-7.18	46.86
306	SLU 73	-140	22	4751	947.88	-7.82	48.97
306	SLU 74	-138	4	4728	945.53	-7.85	48.16
306	SLU 75	-141	15	4772	952.79	-7.89	49.14
306	SLU 76	-142	22	4782	953.91	-7.89	49.49
306	SLU 77	-139	4	4759	951.56	-7.91	48.68
306	SLU 78	-142	15	4803	958.81	-7.96	49.66
306	SLU 79	-139	4	4739	947.84	-7.88	48.37
306	SLU 80	-141	15	4783	955.09	-7.92	49.35
306	SLU 81	-139	5	4844	967.06	-8.07	48.41
306	SLU 82	-142	16	4888	974.32	-8.11	49.39
306	SLU 83	-140	5	4875	973.09	-8.13	48.92
306	SLU 84	-143	16	4919	980.34	-8.17	49.91
306	SLE RA 1	-96	2	3205	646	-5.22	33.44
306	SLE RA 2	-99	14	3254	654.06	-5.27	34.53
306	SLE RA 3	-97	2	3238	652.5	-5.29	33.99
306	SLE RA 4	-99	9	3268	657.33	-5.32	34.64
306	SLE RA 5	-100	14	3274	658.08	-5.31	34.87
306	SLE RA 6	-98	2	3259	656.51	-5.33	34.33
306	SLE RA 7	-100	9	3288	661.35	-5.36	34.99
306	SLE RA 8	-98	2	3246	654.03	-5.31	34.13
306	SLE RA 9	-100	9	3275	658.87	-5.34	34.78
306	SLE RA 10	-104	15	3513	702.7	-5.76	36.19
306	SLE RA 11	-102	3	3498	701.14	-5.78	35.65
306	SLE RA 12	-104	10	3527	705.97	-5.81	36.31
306	SLE RA 13	-105	15	3533	706.72	-5.8	36.54
306	SLE RA 14	-103	3	3518	705.15	-5.82	36
306	SLE RA 15	-105	10	3548	709.99	-5.85	36.65
306	SLE RA 16	-103	3	3505	702.67	-5.8	35.79
306	SLE RA 17	-104	10	3534	707.51	-5.83	36.45
306	SLE RA 18	-103	4	3575	715.49	-5.93	35.82
306	SLE RA 19	-105	11	3605	720.33	-5.95	36.47
306	SLE RA 20	-104	4	3596	719.51	-5.97	36.16
306	SLE RA 21	-105	11	3625	724.34	-6	36.82
306	SLE FR 1	-96	2	3205	646	-5.22	33.44
306	SLE FR 2	-96	5	3215	647.61	-5.23	33.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
306	SLE FR 3	-96	2	3213	647.61	-5.24	33.58
306	SLE FR 4	-98	5	3326	668.46	-5.44	34.37
306	SLE FR 5	-98	3	3324	668.45	-5.45	34.29
306	SLE FR 6	-99	3	3390	680.75	-5.57	34.63
306	SLE QP 1	-96	2	3205	646	-5.22	33.44
306	SLE QP 2	-98	3	3316	666.85	-5.43	34.15
306	SLD 1	252	69	4200	800.23	-5.52	-88.4
306	SLD 2	321	15	4136	789.72	-5.46	-112.22
306	SLD 3	303	-139	3242	636.38	-4.19	-106.32
306	SLD 4	371	-193	3178	625.87	-4.12	-130.15
306	SLD 5	-81	347	5045	957.19	-7.5	28.67
306	SLD 6	-37	312	5004	950.42	-7.46	13.32
306	SLD 7	87	-346	1852	411	-3.04	-31.08
306	SLD 8	131	-381	1811	404.23	-3	-46.42
306	SLD 9	-327	386	4821	929.47	-7.87	114.72
306	SLD 10	-283	351	4780	922.7	-7.83	99.38
306	SLD 11	-158	-307	1628	383.28	-3.41	54.98
306	SLD 12	-115	-342	1587	376.51	-3.37	39.63
306	SLD 13	-567	198	3454	707.83	-6.74	198.45
306	SLD 14	-499	144	3390	697.32	-6.68	174.62
306	SLD 15	-516	-10	2496	543.97	-5.41	180.53
306	SLD 16	-448	-64	2432	533.46	-5.34	156.7
306	SLV 1	447	122	4767	887.24	-5.67	-156.27
306	SLV 2	554	36	4666	870.67	-5.58	-193.83
306	SLV 3	532	-233	3132	607.65	-3.39	-186.72
306	SLV 4	640	-318	3032	591.08	-3.29	-224.28
306	SLV 5	-85	592	6249	1160.1	-8.99	30.21
306	SLV 6	-13	535	6181	1148.95	-8.92	4.93
306	SLV 7	202	-590	801	228.13	-1.37	-71.28
306	SLV 8	274	-647	733	216.98	-1.31	-96.56
306	SLV 9	-470	653	5899	1116.72	-9.56	164.87
306	SLV 10	-397	595	5831	1105.57	-9.49	139.58
306	SLV 11	-183	-529	451	184.74	-1.94	63.38
306	SLV 12	-111	-587	383	173.59	-1.88	38.09
306	SLV 13	-836	324	3600	742.61	-7.58	292.58
306	SLV 14	-728	238	3499	726.05	-7.48	255.02
306	SLV 15	-750	-31	1966	463.02	-5.29	262.13
306	SLV 16	-642	-116	1865	446.46	-5.19	224.57
306	SLV FO 1	501	134	4912	909.28	-5.7	-175.31
306	SLV FO 2	619	40	4801	891.06	-5.59	-216.63
306	SLV FO 3	596	-256	3114	601.73	-3.18	-208.81
306	SLV FO 4	714	-350	3003	583.5	-3.08	-250.12
306	SLV FO 5	-84	651	6542	1209.43	-9.35	29.82
306	SLV FO 6	-4	588	6467	1197.16	-9.27	2
306	SLV FO 7	231	-649	550	184.26	-0.97	-81.82
306	SLV FO 8	311	-712	475	171.99	-0.89	-109.64
306	SLV FO 9	-507	718	6157	1161.7	-9.97	177.94
306	SLV FO 10	-427	654	6082	1149.44	-9.9	150.12
306	SLV FO 11	-192	-583	165	136.53	-1.6	66.3
306	SLV FO 12	-112	-646	90	124.27	-1.52	38.49
306	SLV FO 13	-909	356	3629	750.19	-7.79	318.42
306	SLV FO 14	-791	262	3518	731.97	-7.68	277.11
306	SLV FO 15	-815	-34	1831	442.64	-5.28	284.93
306	SLV FO 16	-697	-128	1720	424.42	-5.17	243.62
306	CRTFP Ux+	0	0	0	0	0	0
306	CRTFP Ux-	0	0	0	0	0	0
306	CRTFP Uy+	0	0	0	0	0	0
306	CRTFP Uy-	0	0	0	0	0	0
307	SLU 1	-89	-2	3250	766.59	-5.43	31.01
307	SLU 2	-94	16	3326	781.47	-5.5	32.64
307	SLU 3	-91	-2	3304	779.14	-5.54	31.81
307	SLU 4	-94	8	3349	788.07	-5.58	32.78
307	SLU 5	-95	16	3359	789.24	-5.57	33.14
307	SLU 6	-93	-2	3337	786.91	-5.61	32.31
307	SLU 7	-96	8	3382	795.83	-5.65	33.29
307	SLU 8	-92	-2	3316	782.13	-5.57	32.02
307	SLU 9	-95	8	3361	791.05	-5.61	32.99
307	SLU 10	-101	17	3739	874.77	-6.3	35.02
307	SLU 11	-98	-2	3718	872.44	-6.33	34.2
307	SLU 12	-101	9	3763	881.36	-6.38	35.17
307	SLU 13	-102	16	3772	882.53	-6.37	35.53
307	SLU 14	-100	-2	3750	880.21	-6.4	34.7
307	SLU 15	-103	9	3796	889.13	-6.45	35.68
307	SLU 16	-99	-2	3729	875.43	-6.37	34.41
307	SLU 17	-102	9	3775	884.35	-6.41	35.38
307	SLU 18	-99	-1	3841	899.88	-6.57	34.43
307	SLU 19	-102	10	3887	908.8	-6.61	35.4
307	SLU 20	-100	-1	3874	907.64	-6.64	34.93
307	SLU 21	-103	10	3919	916.57	-6.68	35.9
307	SLU 22	-102	-2	3705	869.72	-6.28	35.66
307	SLU 23	-107	16	3780	884.59	-6.35	37.28
307	SLU 24	-105	-2	3758	882.26	-6.39	36.46
307	SLU 25	-108	9	3804	891.19	-6.43	37.43
307	SLU 26	-109	16	3813	892.36	-6.42	37.79
307	SLU 27	-106	-2	3791	890.03	-6.46	36.96
307	SLU 28	-109	9	3837	898.95	-6.5	37.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
307	SLU 29	-105	-2	3770	885.25	-6.42	36.67
307	SLU 30	-108	9	3816	894.17	-6.46	37.64
307	SLU 31	-114	17	4194	977.89	-7.15	39.67
307	SLU 32	-112	-1	4172	975.56	-7.18	38.85
307	SLU 33	-114	9	4217	984.49	-7.23	39.82
307	SLU 34	-115	17	4227	985.66	-7.22	40.17
307	SLU 35	-113	-1	4205	983.33	-7.25	39.35
307	SLU 36	-116	9	4250	992.25	-7.3	40.32
307	SLU 37	-112	-1	4184	978.55	-7.21	39.05
307	SLU 38	-115	9	4229	987.47	-7.26	40.03
307	SLU 39	-112	-1	4296	1003	-7.42	39.07
307	SLU 40	-115	10	4341	1011.93	-7.46	40.05
307	SLU 41	-114	-1	4328	1010.77	-7.49	39.58
307	SLU 42	-117	10	4374	1019.69	-7.53	40.55
307	SLU 43	-111	-3	4069	961.22	-6.76	38.72
307	SLU 44	-116	15	4145	976.09	-6.84	40.35
307	SLU 45	-114	-3	4123	973.76	-6.87	39.52
307	SLU 46	-116	8	4168	982.69	-6.92	40.5
307	SLU 47	-117	15	4178	983.86	-6.91	40.85
307	SLU 48	-115	-3	4156	981.53	-6.94	40.02
307	SLU 49	-118	8	4201	990.45	-6.99	41
307	SLU 50	-114	-3	4135	976.75	-6.91	39.73
307	SLU 51	-117	8	4180	985.67	-6.95	40.7
307	SLU 52	-123	16	4559	1069.39	-7.63	42.74
307	SLU 53	-120	-2	4537	1067.06	-7.67	41.91
307	SLU 54	-123	8	4582	1075.99	-7.71	42.88
307	SLU 55	-124	16	4592	1077.16	-7.7	43.24
307	SLU 56	-122	-2	4570	1074.83	-7.74	42.41
307	SLU 57	-125	8	4615	1083.75	-7.78	43.39
307	SLU 58	-121	-2	4549	1070.05	-7.7	42.12
307	SLU 59	-124	8	4594	1078.97	-7.75	43.09
307	SLU 60	-121	-2	4660	1094.5	-7.9	42.14
307	SLU 61	-124	9	4706	1103.43	-7.95	43.11
307	SLU 62	-123	-2	4693	1102.27	-7.97	42.64
307	SLU 63	-125	9	4739	1111.19	-8.02	43.61
307	SLU 64	-125	-3	4524	1064.34	-7.61	43.37
307	SLU 65	-129	15	4599	1079.21	-7.68	44.99
307	SLU 66	-127	-3	4578	1076.88	-7.72	44.17
307	SLU 67	-130	8	4623	1085.81	-7.77	45.14
307	SLU 68	-131	15	4632	1086.98	-7.75	45.5
307	SLU 69	-128	-3	4610	1084.65	-7.79	44.67
307	SLU 70	-131	8	4656	1093.58	-7.84	45.65
307	SLU 71	-128	-3	4589	1079.87	-7.75	44.38
307	SLU 72	-130	8	4635	1088.79	-7.8	45.35
307	SLU 73	-136	16	5013	1172.51	-8.48	47.38
307	SLU 74	-134	-2	4991	1170.18	-8.52	46.56
307	SLU 75	-137	9	5037	1179.11	-8.56	47.53
307	SLU 76	-138	16	5046	1180.28	-8.55	47.88
307	SLU 77	-135	-2	5024	1177.95	-8.59	47.06
307	SLU 78	-138	9	5069	1186.87	-8.63	48.03
307	SLU 79	-134	-2	5003	1173.17	-8.55	46.76
307	SLU 80	-137	9	5049	1182.09	-8.59	47.74
307	SLU 81	-134	-2	5115	1197.62	-8.75	46.78
307	SLU 82	-137	9	5160	1206.55	-8.8	47.76
307	SLU 83	-136	-2	5148	1205.39	-8.82	47.29
307	SLU 84	-139	9	5193	1214.31	-8.87	48.26
307	SLE RA 1	-93	-2	3380	796.06	-5.67	32.34
307	SLE RA 2	-96	10	3430	805.97	-5.72	33.42
307	SLE RA 3	-94	-2	3416	804.42	-5.74	32.87
307	SLE RA 4	-96	5	3446	810.37	-5.77	33.52
307	SLE RA 5	-97	10	3452	811.15	-5.76	33.76
307	SLE RA 6	-95	-2	3438	809.6	-5.79	33.21
307	SLE RA 7	-97	5	3468	815.55	-5.82	33.86
307	SLE RA 8	-95	-2	3424	806.41	-5.76	33.01
307	SLE RA 9	-97	5	3454	812.36	-5.79	33.66
307	SLE RA 10	-101	10	3706	868.17	-6.25	35.02
307	SLE RA 11	-99	-2	3692	866.62	-6.27	34.47
307	SLE RA 12	-101	5	3722	872.57	-6.3	35.11
307	SLE RA 13	-102	10	3728	873.35	-6.3	35.35
307	SLE RA 14	-100	-2	3713	871.8	-6.32	34.8
307	SLE RA 15	-102	5	3744	877.75	-6.35	35.45
307	SLE RA 16	-99	-2	3700	868.61	-6.3	34.6
307	SLE RA 17	-101	5	3730	874.56	-6.32	35.25
307	SLE RA 18	-100	-1	3774	884.91	-6.43	34.62
307	SLE RA 19	-101	6	3804	890.86	-6.46	35.27
307	SLE RA 20	-100	-2	3796	890.09	-6.48	34.95
307	SLE RA 21	-102	6	3826	896.04	-6.51	35.6
307	SLE FR 1	-93	-2	3380	796.06	-5.67	32.34
307	SLE FR 2	-94	0	3390	798.04	-5.68	32.56
307	SLE FR 3	-93	-2	3389	798.13	-5.69	32.48
307	SLE FR 4	-96	0	3508	824.7	-5.91	33.24
307	SLE FR 5	-95	-2	3507	824.79	-5.92	33.16
307	SLE FR 6	-96	-2	3577	840.49	-6.05	33.48
307	SLE QP 1	-93	-2	3380	796.06	-5.67	32.34
307	SLE QP 2	-95	-2	3498	822.71	-5.9	33.02
307	SLD 1	257	68	4388	991.35	-6.09	-90.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
307	SLD 2	325	15	4322	978.36	-6.02	-113.9
307	SLD 3	306	-147	3386	787.07	-4.7	-107.48
307	SLD 4	374	-200	3320	774.08	-4.64	-131.27
307	SLD 5	-76	354	5296	1185.36	-8.07	26.53
307	SLD 6	-32	319	5253	1177	-8.03	11.21
307	SLD 7	88	-362	1956	504.43	-3.45	-31.39
307	SLD 8	132	-396	1914	496.06	-3.41	-46.71
307	SLD 9	-322	392	5082	1149.37	-8.39	112.76
307	SLD 10	-278	358	5040	1141	-8.35	97.44
307	SLD 11	-158	-323	1743	468.43	-3.77	54.84
307	SLD 12	-114	-357	1701	460.06	-3.73	39.52
307	SLD 13	-564	196	3676	871.35	-7.16	197.32
307	SLD 14	-496	143	3610	858.36	-7.09	173.53
307	SLD 15	-515	-19	2675	667.07	-5.77	179.95
307	SLD 16	-447	-72	2609	654.08	-5.71	156.15
307	SLV 1	452	123	4961	1101.13	-6.3	-158.34
307	SLV 2	559	39	4857	1080.66	-6.2	-195.84
307	SLV 3	536	-243	3252	752.55	-3.93	-187.85
307	SLV 4	643	-327	3148	732.08	-3.83	-225.35
307	SLV 5	-77	606	6549	1438.75	-9.63	27.36
307	SLV 6	-5	550	6479	1424.97	-9.56	2.12
307	SLV 7	201	-614	851	276.8	-1.74	-70.99
307	SLV 8	273	-670	781	263.01	-1.67	-96.24
307	SLV 9	-463	666	6215	1382.41	-10.13	162.29
307	SLV 10	-391	610	6145	1368.63	-10.06	137.04
307	SLV 11	-185	-554	517	220.46	-2.24	63.93
307	SLV 12	-113	-610	447	206.68	-2.17	38.68
307	SLV 13	-833	323	3849	913.35	-7.97	291.4
307	SLV 14	-725	239	3745	892.88	-7.87	253.9
307	SLV 15	-749	-43	2139	564.77	-5.6	261.89
307	SLV 16	-642	-127	2035	544.3	-5.5	224.39
307	SLV FO 1	507	135	5107	1128.97	-6.34	-177.48
307	SLV FO 2	625	43	4993	1106.46	-6.23	-218.73
307	SLV FO 3	599	-267	3227	745.53	-3.73	-209.94
307	SLV FO 4	717	-359	3113	723.01	-3.62	-251.19
307	SLV FO 5	-76	667	6854	1500.35	-10	26.8
307	SLV FO 6	4	605	6777	1485.19	-9.93	-0.97
307	SLV FO 7	230	-675	586	222.2	-1.32	-81.39
307	SLV FO 8	310	-737	509	207.04	-1.25	-109.17
307	SLV FO 9	-500	733	6487	1438.38	-10.55	175.21
307	SLV FO 10	-420	671	6410	1423.22	-10.48	147.44
307	SLV FO 11	-194	-609	219	160.24	-1.87	67.02
307	SLV FO 12	-114	-671	142	145.08	-1.8	39.25
307	SLV FO 13	-906	356	3884	922.42	-8.17	317.24
307	SLV FO 14	-788	264	3769	899.9	-8.06	275.99
307	SLV FO 15	-815	-47	2003	538.97	-5.57	284.78
307	SLV FO 16	-697	-139	1889	516.45	-5.46	243.53
307	CRTFP Ux+	0	0	0	0	0	0
307	CRTFP Ux-	0	0	0	0	0	0
307	CRTFP Uy+	0	0	0	0	0	0
307	CRTFP Uy-	0	0	0	0	0	0
308	SLU 1	-86	-10	3421	918.88	-5.17	29.88
308	SLU 2	-91	9	3499	936.56	-5.22	31.48
308	SLU 3	-88	-10	3478	934.42	-5.27	30.65
308	SLU 4	-91	1	3525	945.03	-5.31	31.61
308	SLU 5	-92	8	3534	946.19	-5.29	31.96
308	SLU 6	-90	-10	3513	944.05	-5.34	31.13
308	SLU 7	-93	1	3560	954.66	-5.38	32.09
308	SLU 8	-89	-10	3491	938.14	-5.31	30.85
308	SLU 9	-92	1	3538	948.75	-5.34	31.81
308	SLU 10	-97	8	3938	1051.46	-5.98	33.75
308	SLU 11	-95	-10	3917	1049.32	-6.04	32.92
308	SLU 12	-98	1	3964	1059.93	-6.07	33.88
308	SLU 13	-99	8	3973	1061.09	-6.05	34.23
308	SLU 14	-96	-10	3952	1058.95	-6.1	33.4
308	SLU 15	-99	1	3999	1069.56	-6.14	34.36
308	SLU 16	-96	-10	3930	1053.04	-6.07	33.12
308	SLU 17	-98	1	3977	1063.65	-6.1	34.08
308	SLU 18	-96	-10	4048	1083.02	-6.26	33.12
308	SLU 19	-98	1	4095	1093.63	-6.29	34.08
308	SLU 20	-97	-10	4083	1092.66	-6.32	33.61
308	SLU 21	-100	1	4130	1103.27	-6.36	34.57
308	SLU 22	-99	-10	3902	1045.92	-5.97	34.37
308	SLU 23	-104	8	3980	1063.6	-6.03	35.97
308	SLU 24	-101	-11	3959	1061.46	-6.08	35.14
308	SLU 25	-104	0	4006	1072.07	-6.11	36.1
308	SLU 26	-105	8	4015	1073.23	-6.1	36.45
308	SLU 27	-103	-11	3994	1071.09	-6.15	35.62
308	SLU 28	-105	0	4041	1081.7	-6.18	36.58
308	SLU 29	-102	-11	3972	1065.18	-6.11	35.34
308	SLU 30	-105	0	4019	1075.79	-6.14	36.3
308	SLU 31	-110	8	4419	1178.5	-6.79	38.24
308	SLU 32	-108	-11	4398	1176.36	-6.84	37.41
308	SLU 33	-111	0	4445	1186.97	-6.87	38.37
308	SLU 34	-112	7	4454	1188.14	-6.86	38.72
308	SLU 35	-109	-11	4433	1185.99	-6.91	37.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
308	SLU 36	-112	0	4480	1196.6	-6.94	38.85
308	SLU 37	-109	-11	4411	1180.08	-6.87	37.61
308	SLU 38	-111	0	4458	1190.69	-6.91	38.57
308	SLU 39	-109	-11	4529	1210.06	-7.06	37.61
308	SLU 40	-111	0	4576	1220.67	-7.1	38.57
308	SLU 41	-110	-11	4564	1219.7	-7.13	38.1
308	SLU 42	-113	0	4611	1230.31	-7.16	39.06
308	SLU 43	-108	-12	4282	1150.98	-6.44	37.3
308	SLU 44	-112	6	4360	1168.67	-6.5	38.9
308	SLU 45	-110	-12	4340	1166.52	-6.55	38.07
308	SLU 46	-113	-2	4386	1177.13	-6.58	39.03
308	SLU 47	-114	6	4395	1178.3	-6.57	39.39
308	SLU 48	-111	-13	4375	1176.15	-6.62	38.56
308	SLU 49	-114	-2	4421	1186.76	-6.65	39.52
308	SLU 50	-110	-13	4353	1170.25	-6.58	38.27
308	SLU 51	-113	-2	4399	1180.86	-6.61	39.23
308	SLU 52	-119	6	4799	1283.57	-7.26	41.17
308	SLU 53	-116	-13	4779	1281.43	-7.31	40.34
308	SLU 54	-119	-2	4825	1292.04	-7.34	41.3
308	SLU 55	-120	6	4834	1293.2	-7.33	41.66
308	SLU 56	-118	-13	4814	1291.06	-7.38	40.83
308	SLU 57	-121	-2	4860	1301.67	-7.41	41.79
308	SLU 58	-117	-13	4791	1285.15	-7.34	40.54
308	SLU 59	-120	-2	4838	1295.76	-7.37	41.5
308	SLU 60	-117	-12	4909	1315.13	-7.53	40.55
308	SLU 61	-120	-2	4956	1325.74	-7.56	41.51
308	SLU 62	-118	-13	4944	1324.76	-7.6	41.03
308	SLU 63	-121	-2	4991	1335.37	-7.63	41.99
308	SLU 64	-121	-13	4764	1278.02	-7.25	41.79
308	SLU 65	-125	5	4841	1295.71	-7.3	43.39
308	SLU 66	-123	-13	4821	1293.56	-7.35	42.56
308	SLU 67	-125	-2	4867	1304.17	-7.39	43.52
308	SLU 68	-127	5	4876	1305.34	-7.37	43.88
308	SLU 69	-124	-13	4856	1303.2	-7.42	43.05
308	SLU 70	-127	-3	4902	1313.81	-7.46	44.01
308	SLU 71	-123	-13	4834	1297.29	-7.39	42.76
308	SLU 72	-126	-2	4880	1307.9	-7.42	43.72
308	SLU 73	-132	5	5280	1410.61	-8.06	45.66
308	SLU 74	-129	-13	5260	1408.47	-8.12	44.83
308	SLU 75	-132	-3	5306	1419.08	-8.15	45.79
308	SLU 76	-133	5	5315	1420.24	-8.13	46.15
308	SLU 77	-131	-14	5295	1418.1	-8.18	45.32
308	SLU 78	-133	-3	5341	1428.71	-8.22	46.28
308	SLU 79	-130	-14	5273	1412.19	-8.15	45.03
308	SLU 80	-133	-3	5319	1422.8	-8.18	45.99
308	SLU 81	-130	-13	5391	1442.17	-8.34	45.04
308	SLU 82	-133	-2	5437	1452.78	-8.37	46
308	SLU 83	-131	-13	5426	1451.8	-8.4	45.52
308	SLU 84	-134	-3	5472	1462.41	-8.44	46.48
308	SLE RA 1	-90	-10	3559	955.17	-5.4	31.16
308	SLE RA 2	-93	2	3610	966.96	-5.44	32.23
308	SLE RA 3	-91	-10	3597	965.53	-5.47	31.68
308	SLE RA 4	-93	-3	3628	972.61	-5.49	32.31
308	SLE RA 5	-94	2	3634	973.38	-5.48	32.55
308	SLE RA 6	-92	-10	3620	971.95	-5.51	32
308	SLE RA 7	-94	-3	3651	979.03	-5.54	32.64
308	SLE RA 8	-92	-10	3605	968.02	-5.49	31.81
308	SLE RA 9	-94	-3	3636	975.09	-5.51	32.45
308	SLE RA 10	-97	2	3903	1043.56	-5.94	33.74
308	SLE RA 11	-96	-10	3889	1042.14	-5.98	33.19
308	SLE RA 12	-98	-3	3920	1049.21	-6	33.83
308	SLE RA 13	-98	2	3926	1049.99	-5.99	34.06
308	SLE RA 14	-97	-10	3913	1048.56	-6.02	33.51
308	SLE RA 15	-99	-3	3944	1055.63	-6.04	34.15
308	SLE RA 16	-96	-10	3898	1044.62	-6	33.32
308	SLE RA 17	-98	-3	3929	1051.69	-6.02	33.96
308	SLE RA 18	-96	-10	3977	1064.61	-6.12	33.32
308	SLE RA 19	-98	-3	4008	1071.68	-6.15	33.96
308	SLE RA 20	-97	-10	4000	1071.03	-6.17	33.65
308	SLE RA 21	-99	-3	4031	1078.1	-6.19	34.29
308	SLE FR 1	-90	-10	3559	955.17	-5.4	31.16
308	SLE FR 2	-90	-7	3569	957.53	-5.41	31.38
308	SLE FR 3	-90	-10	3568	957.74	-5.42	31.29
308	SLE FR 4	-92	-7	3694	990.36	-5.62	32.02
308	SLE FR 5	-92	-10	3693	990.57	-5.63	31.94
308	SLE FR 6	-93	-10	3768	1009.89	-5.76	32.24
308	SLE QP 1	-90	-10	3559	955.17	-5.4	31.16
308	SLE QP 2	-92	-10	3684	988	-5.62	31.81
308	SLD 1	262	62	4578	1192.19	-5.67	-91.92
308	SLD 2	330	11	4511	1176.73	-5.63	-115.66
308	SLD 3	309	-157	3535	947.56	-4.5	-108.68
308	SLD 4	377	-209	3468	932.09	-4.46	-132.42
308	SLD 5	-70	354	5546	1422.95	-7.41	24.19
308	SLD 6	-26	320	5503	1412.99	-7.38	8.9
308	SLD 7	89	-378	2069	607.5	-3.52	-31.67
308	SLD 8	133	-411	2025	597.54	-3.49	-46.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
308	SLD 9	-316	392	5343	1378.46	-7.74	110.58
308	SLD 10	-273	358	5299	1368.5	-7.72	95.29
308	SLD 11	-158	-340	1865	563.02	-3.85	54.72
308	SLD 12	-114	-373	1822	553.06	-3.82	39.43
308	SLD 13	-561	189	3900	1043.91	-6.77	196.04
308	SLD 14	-493	137	3833	1028.45	-6.73	172.3
308	SLD 15	-513	-31	2857	799.28	-5.61	179.28
308	SLD 16	-445	-82	2789	783.81	-5.56	155.54
308	SLV 1	458	119	5158	1324.93	-5.79	-160.53
308	SLV 2	565	38	5051	1300.55	-5.72	-197.95
308	SLV 3	539	-255	3378	907.47	-3.79	-188.99
308	SLV 4	646	-337	3271	883.1	-3.72	-226.4
308	SLV 5	-69	612	6846	1726.77	-8.71	24.24
308	SLV 6	3	557	6774	1710.36	-8.66	-0.95
308	SLV 7	200	-636	912	335.25	-2.05	-70.6
308	SLV 8	272	-691	840	318.84	-2.01	-95.79
308	SLV 9	-456	671	6527	1657.17	-9.22	159.41
308	SLV 10	-383	617	6456	1640.76	-9.18	134.22
308	SLV 11	-186	-577	594	265.65	-2.57	64.57
308	SLV 12	-114	-632	522	249.23	-2.53	39.38
308	SLV 13	-829	317	4097	1092.91	-7.51	290.03
308	SLV 14	-722	236	3990	1068.53	-7.44	252.61
308	SLV 15	-749	-58	2317	675.45	-5.51	261.57
308	SLV 16	-642	-139	2210	651.08	-5.45	224.16
308	SLV FO 1	513	132	5305	1358.62	-5.8	-179.77
308	SLV FO 2	631	43	5188	1331.81	-5.73	-220.93
308	SLV FO 3	602	-280	3347	899.42	-3.61	-211.06
308	SLV FO 4	720	-369	3230	872.6	-3.53	-252.22
308	SLV FO 5	-67	674	7162	1800.65	-9.01	23.48
308	SLV FO 6	12	614	7083	1782.6	-8.97	-4.22
308	SLV FO 7	229	-699	635	269.98	-1.7	-80.84
308	SLV FO 8	308	-759	556	251.92	-1.65	-108.55
308	SLV FO 9	-492	739	6812	1724.08	-9.58	172.17
308	SLV FO 10	-413	679	6733	1706.03	-9.53	144.46
308	SLV FO 11	-196	-634	285	193.41	-2.27	67.85
308	SLV FO 12	-116	-694	206	175.36	-2.22	40.14
308	SLV FO 13	-903	350	4138	1103.4	-7.7	315.85
308	SLV FO 14	-785	260	4021	1076.59	-7.62	274.69
308	SLV FO 15	-814	-62	2180	644.2	-5.5	284.55
308	SLV FO 16	-696	-152	2063	617.39	-5.43	243.39
308	CRTFP Ux+	0	0	0	0	0	0
308	CRTFP Ux-	0	0	0	0	0	0
308	CRTFP Uy+	0	0	0	0	0	0
308	CRTFP Uy-	0	0	0	0	0	0
309	SLU 1	-75	-18	3215	959.14	56.9	26.29
309	SLU 2	-79	-2	3287	977.32	58.21	27.4
309	SLU 3	-77	-18	3270	975.74	57.85	26.97
309	SLU 4	-79	-8	3313	986.65	58.64	27.64
309	SLU 5	-80	-2	3320	987.63	58.79	27.83
309	SLU 6	-78	-18	3303	986.05	58.43	27.4
309	SLU 7	-81	-9	3346	996.96	59.22	28.06
309	SLU 8	-77	-18	3282	979.76	58.06	27.15
309	SLU 9	-80	-9	3325	990.67	58.85	27.82
309	SLU 10	-85	-3	3702	1099.52	65.5	29.37
309	SLU 11	-83	-20	3685	1097.94	65.13	28.94
309	SLU 12	-85	-10	3728	1108.85	65.92	29.6
309	SLU 13	-86	-3	3735	1109.82	66.08	29.8
309	SLU 14	-84	-20	3718	1108.24	65.71	29.36
309	SLU 15	-86	-10	3761	1119.15	66.5	30.03
309	SLU 16	-83	-20	3697	1101.95	65.34	29.12
309	SLU 17	-86	-10	3740	1112.86	66.13	29.78
309	SLU 18	-83	-20	3808	1133.7	67.31	29.1
309	SLU 19	-85	-10	3851	1144.61	68.09	29.77
309	SLU 20	-84	-20	3842	1144.01	67.89	29.53
309	SLU 21	-87	-10	3885	1154.92	68.67	30.2
309	SLU 22	-86	-20	3670	1094.26	64.9	30.24
309	SLU 23	-90	-4	3741	1112.44	66.21	31.35
309	SLU 24	-88	-20	3724	1110.86	65.84	30.92
309	SLU 25	-91	-10	3767	1121.77	66.63	31.59
309	SLU 26	-92	-4	3774	1122.75	66.79	31.78
309	SLU 27	-89	-20	3757	1121.17	66.42	31.35
309	SLU 28	-92	-11	3800	1132.08	67.21	32.01
309	SLU 29	-89	-20	3736	1114.87	66.06	31.1
309	SLU 30	-91	-11	3779	1125.78	66.84	31.77
309	SLU 31	-96	-5	4156	1234.63	73.49	33.32
309	SLU 32	-94	-22	4139	1233.05	73.13	32.89
309	SLU 33	-96	-12	4182	1243.96	73.92	33.55
309	SLU 34	-97	-5	4189	1244.94	74.07	33.75
309	SLU 35	-95	-22	4172	1243.36	73.71	33.31
309	SLU 36	-98	-12	4215	1254.27	74.5	33.98
309	SLU 37	-94	-22	4151	1237.06	73.34	33.07
309	SLU 38	-97	-12	4194	1247.97	74.13	33.73
309	SLU 39	-94	-22	4263	1268.82	75.3	33.05
309	SLU 40	-97	-12	4305	1279.73	76.09	33.72
309	SLU 41	-96	-22	4296	1279.12	75.88	33.48
309	SLU 42	-98	-12	4339	1290.03	76.67	34.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
309	SLU 43	-94	-22	4024	1200.56	71.23	32.83
309	SLU 44	-98	-6	4096	1218.74	72.54	33.94
309	SLU 45	-96	-23	4079	1217.16	72.18	33.5
309	SLU 46	-98	-13	4121	1228.07	72.97	34.17
309	SLU 47	-99	-6	4129	1229.05	73.12	34.37
309	SLU 48	-97	-23	4112	1227.47	72.76	33.93
309	SLU 49	-99	-13	4155	1238.38	73.55	34.6
309	SLU 50	-96	-23	4091	1221.17	72.39	33.68
309	SLU 51	-98	-13	4134	1232.08	73.18	34.35
309	SLU 52	-103	-8	4511	1340.93	79.83	35.9
309	SLU 53	-101	-24	4494	1339.35	79.46	35.47
309	SLU 54	-104	-14	4537	1350.26	80.25	36.14
309	SLU 55	-105	-8	4544	1351.24	80.41	36.33
309	SLU 56	-102	-24	4527	1349.66	80.04	35.9
309	SLU 57	-105	-15	4570	1360.57	80.83	36.56
309	SLU 58	-102	-24	4506	1343.36	79.67	35.65
309	SLU 59	-104	-15	4549	1354.27	80.46	36.32
309	SLU 60	-102	-24	4617	1375.12	81.64	35.64
309	SLU 61	-104	-15	4660	1386.03	82.42	36.3
309	SLU 62	-103	-25	4651	1385.43	82.22	36.06
309	SLU 63	-105	-15	4693	1396.34	83	36.73
309	SLU 64	-105	-24	4479	1335.67	79.22	36.78
309	SLU 65	-109	-8	4550	1353.86	80.54	37.89
309	SLU 66	-107	-25	4533	1352.28	80.17	37.45
309	SLU 67	-109	-15	4576	1363.19	80.96	38.12
309	SLU 68	-110	-8	4583	1364.16	81.12	38.32
309	SLU 69	-108	-25	4566	1362.58	80.75	37.88
309	SLU 70	-110	-15	4609	1373.49	81.54	38.55
309	SLU 71	-107	-25	4545	1356.29	80.38	37.63
309	SLU 72	-110	-15	4588	1367.2	81.17	38.3
309	SLU 73	-115	-10	4965	1476.05	87.82	39.85
309	SLU 74	-112	-26	4948	1474.47	87.46	39.42
309	SLU 75	-115	-16	4991	1485.38	88.24	40.09
309	SLU 76	-116	-10	4998	1486.36	88.4	40.28
309	SLU 77	-114	-26	4981	1484.78	88.04	39.85
309	SLU 78	-116	-17	5024	1495.69	88.82	40.51
309	SLU 79	-113	-26	4960	1478.48	87.67	39.6
309	SLU 80	-115	-17	5003	1489.39	88.46	40.27
309	SLU 81	-113	-26	5072	1510.23	89.63	39.59
309	SLU 82	-115	-17	5114	1521.14	90.42	40.25
309	SLU 83	-114	-27	5105	1520.54	90.21	40.01
309	SLU 84	-117	-17	5148	1531.45	91	40.68
309	SLE RA 1	-78	-18	3345	997.74	59.19	27.42
309	SLE RA 2	-81	-8	3393	1009.87	60.06	28.16
309	SLE RA 3	-79	-19	3381	1008.81	59.82	27.87
309	SLE RA 4	-81	-12	3410	1016.09	60.34	28.32
309	SLE RA 5	-82	-8	3415	1016.74	60.45	28.45
309	SLE RA 6	-80	-19	3404	1015.69	60.2	28.16
309	SLE RA 7	-82	-12	3432	1022.96	60.73	28.6
309	SLE RA 8	-80	-19	3390	1011.49	59.96	27.99
309	SLE RA 9	-81	-12	3418	1018.76	60.48	28.44
309	SLE RA 10	-85	-8	3669	1091.33	64.92	29.47
309	SLE RA 11	-83	-20	3658	1090.28	64.67	29.18
309	SLE RA 12	-85	-13	3687	1097.55	65.2	29.63
309	SLE RA 13	-85	-9	3692	1098.2	65.3	29.76
309	SLE RA 14	-84	-20	3680	1097.15	65.06	29.47
309	SLE RA 15	-86	-13	3709	1104.42	65.58	29.91
309	SLE RA 16	-84	-20	3666	1092.95	64.81	29.3
309	SLE RA 17	-85	-13	3695	1100.22	65.34	29.75
309	SLE RA 18	-84	-20	3741	1114.12	66.12	29.29
309	SLE RA 19	-85	-13	3769	1121.39	66.65	29.74
309	SLE RA 20	-84	-20	3763	1120.99	66.51	29.58
309	SLE RA 21	-86	-13	3791	1128.26	67.03	30.02
309	SLE FR 1	-78	-18	3345	997.74	59.19	27.42
309	SLE FR 2	-79	-16	3355	1000.17	59.36	27.57
309	SLE FR 3	-79	-18	3354	1000.49	59.34	27.54
309	SLE FR 4	-80	-17	3473	1035.08	61.44	28.13
309	SLE FR 5	-80	-19	3473	1035.41	61.42	28.1
309	SLE FR 6	-81	-19	3543	1055.93	62.65	28.36
309	SLE QP 1	-78	-18	3345	997.74	59.19	27.42
309	SLE QP 2	-80	-19	3464	1032.66	61.27	27.98
309	SLD 1	241	48	4268	1244.66	76.5	-85.65
309	SLD 2	302	3	4206	1228.74	75.35	-106.19
309	SLD 3	282	-152	3301	992.61	58.96	-96.56
309	SLD 4	344	-197	3239	976.69	57.81	-117.1
309	SLD 5	-57	312	5182	1481.27	92.63	13.97
309	SLD 6	-18	283	5142	1471.02	91.89	0.75
309	SLD 7	81	-354	1959	641.11	34.17	-22.4
309	SLD 8	121	-383	1919	630.85	33.43	-35.62
309	SLD 9	-280	345	5008	1434.46	89.1	91.59
309	SLD 10	-241	316	4968	1424.21	88.36	78.36
309	SLD 11	-142	-321	1785	594.3	30.64	55.22
309	SLD 12	-102	-349	1746	584.04	29.9	41.99
309	SLD 13	-503	159	3688	1088.63	64.72	173.07
309	SLD 14	-442	114	3627	1072.7	63.57	152.53
309	SLD 15	-462	-41	2721	836.58	47.19	162.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
309	SLD 16	-400	-85	2660	820.65	46.04	141.62
309	SLV 1	419	100	4791	1382.34	86.34	-148.99
309	SLV 2	515	29	4694	1357.23	84.53	-181.37
309	SLV 3	489	-241	3141	952.22	56.42	-167.48
309	SLV 4	586	-311	3044	927.11	54.61	-199.86
309	SLV 5	-55	547	6383	1794.59	114.51	8.96
309	SLV 6	10	499	6317	1777.69	113.29	-12.84
309	SLV 7	180	-589	883	360.86	14.77	-52.64
309	SLV 8	245	-637	817	343.96	13.55	-74.44
309	SLV 9	-404	599	6110	1721.35	108.99	130.41
309	SLV 10	-339	551	6045	1704.45	107.77	108.61
309	SLV 11	-169	-537	611	287.62	9.24	68.8
309	SLV 12	-104	-584	545	270.72	8.02	47
309	SLV 13	-745	274	3884	1138.2	67.92	255.82
309	SLV 14	-649	203	3786	1113.1	66.11	223.44
309	SLV 15	-675	-67	2234	708.08	38	237.34
309	SLV 16	-578	-137	2137	682.98	36.19	204.96
309	SLV FO 1	468	112	4924	1417.31	88.85	-166.69
309	SLV FO 2	575	34	4817	1389.69	86.86	-202.31
309	SLV FO 3	546	-263	3109	944.17	55.94	-187.02
309	SLV FO 4	652	-341	3002	916.56	53.94	-222.64
309	SLV FO 5	-53	603	6674	1870.79	119.84	7.06
309	SLV FO 6	19	551	6602	1852.2	118.5	-16.92
309	SLV FO 7	206	-646	625	293.68	10.12	-60.7
309	SLV FO 8	277	-698	553	275.09	8.77	-84.68
309	SLV FO 9	-437	661	6375	1790.22	113.76	140.65
309	SLV FO 10	-365	609	6303	1771.63	112.42	116.67
309	SLV FO 11	-178	-589	325	213.12	4.04	72.88
309	SLV FO 12	-107	-641	253	194.52	2.7	48.91
309	SLV FO 13	-812	303	3926	1148.76	68.59	278.61
309	SLV FO 14	-706	225	3819	1121.14	66.6	242.99
309	SLV FO 15	-734	-72	2111	675.62	35.67	258.28
309	SLV FO 16	-628	-149	2004	648.01	33.68	222.66
309	CRTFP Ux+	0	0	0	0	0	0
309	CRTFP Ux-	0	0	0	0	0	0
309	CRTFP Uy+	0	0	0	0	0	0
309	CRTFP Uy-	0	0	0	0	0	0
311	SLU 1	-191	-77	8450	1927.78	5.62	41.71
311	SLU 2	-202	-36	8637	1965.85	7.07	43.86
311	SLU 3	-196	-78	8592	1961.32	5.49	42.8
311	SLU 4	-203	-54	8705	1984.17	6.36	44.08
311	SLU 5	-205	-38	8725	1986.66	6.91	44.54
311	SLU 6	-200	-79	8680	1982.12	5.33	43.49
311	SLU 7	-206	-55	8793	2004.97	6.2	44.77
311	SLU 8	-198	-79	8626	1969.38	5.29	43.09
311	SLU 9	-204	-55	8738	1992.23	6.16	44.38
311	SLU 10	-216	-44	9734	2215.44	6.8	46.85
311	SLU 11	-211	-85	9689	2210.91	5.22	45.79
311	SLU 12	-217	-61	9802	2233.75	6.09	47.07
311	SLU 13	-220	-45	9822	2236.24	6.64	47.53
311	SLU 14	-214	-87	9777	2231.71	5.06	46.47
311	SLU 15	-220	-62	9889	2254.56	5.93	47.76
311	SLU 16	-212	-86	9722	2218.97	5.02	46.08
311	SLU 17	-219	-62	9835	2241.82	5.89	47.36
311	SLU 18	-212	-87	10017	2284.33	5.23	45.98
311	SLU 19	-219	-63	10129	2307.17	6.1	47.27
311	SLU 20	-215	-88	10104	2305.13	5.07	46.67
311	SLU 21	-222	-64	10217	2327.98	5.94	47.96
311	SLU 22	-220	-86	9643	2202.27	6	48.02
311	SLU 23	-231	-46	9831	2240.35	7.46	50.16
311	SLU 24	-225	-88	9786	2235.82	5.88	49.1
311	SLU 25	-231	-64	9898	2258.66	6.75	50.39
311	SLU 26	-234	-47	9918	2261.15	7.3	50.85
311	SLU 27	-228	-89	9874	2256.62	5.71	49.79
311	SLU 28	-235	-65	9986	2279.47	6.59	51.08
311	SLU 29	-227	-89	9819	2243.88	5.68	49.39
311	SLU 30	-233	-64	9931	2266.72	6.55	50.68
311	SLU 31	-245	-53	10927	2489.94	7.19	53.15
311	SLU 32	-240	-95	10882	2485.4	5.61	52.09
311	SLU 33	-246	-71	10995	2508.25	6.48	53.38
311	SLU 34	-248	-54	11015	2510.74	7.03	53.84
311	SLU 35	-243	-96	10970	2506.21	5.44	52.78
311	SLU 36	-249	-72	11083	2529.05	6.32	54.06
311	SLU 37	-241	-96	10915	2493.46	5.41	52.38
311	SLU 38	-247	-72	11028	2516.31	6.28	53.67
311	SLU 39	-241	-97	11210	2558.82	5.62	52.29
311	SLU 40	-247	-72	11322	2581.67	6.49	53.57
311	SLU 41	-244	-98	11298	2579.63	5.45	52.98
311	SLU 42	-251	-74	11410	2602.47	6.33	54.26
311	SLU 43	-239	-96	10576	2412	7.17	52.07
311	SLU 44	-249	-56	10763	2450.08	8.62	54.21
311	SLU 45	-244	-98	10718	2445.54	7.04	53.15
311	SLU 46	-250	-74	10831	2468.39	7.92	54.44
311	SLU 47	-253	-57	10851	2470.88	8.46	54.9
311	SLU 48	-247	-99	10806	2466.35	6.88	53.84
311	SLU 49	-253	-75	10919	2489.19	7.75	55.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
311	SLU 50	-245	-99	10751	2453.6	6.84	53.44
311	SLU 51	-252	-74	10864	2476.45	7.71	54.73
311	SLU 52	-264	-63	11860	2699.66	8.35	57.2
311	SLU 53	-259	-105	11815	2695.13	6.77	56.14
311	SLU 54	-265	-81	11928	2717.97	7.65	57.42
311	SLU 55	-267	-64	11948	2720.46	8.19	57.89
311	SLU 56	-262	-106	11903	2715.93	6.61	56.83
311	SLU 57	-268	-82	12015	2738.78	7.48	58.11
311	SLU 58	-260	-106	11848	2703.19	6.57	56.43
311	SLU 59	-266	-82	11961	2726.04	7.44	57.72
311	SLU 60	-260	-107	12143	2768.55	6.78	56.34
311	SLU 61	-266	-82	12255	2791.4	7.66	57.62
311	SLU 62	-263	-108	12230	2789.35	6.62	57.02
311	SLU 63	-269	-84	12343	2812.2	7.49	58.31
311	SLU 64	-268	-106	11769	2686.49	7.56	58.37
311	SLU 65	-278	-66	11957	2724.57	9.01	60.51
311	SLU 66	-273	-108	11912	2720.04	7.43	59.46
311	SLU 67	-279	-84	12024	2742.88	8.3	60.74
311	SLU 68	-281	-67	12044	2745.37	8.85	61.2
311	SLU 69	-276	-109	11999	2740.84	7.27	60.14
311	SLU 70	-282	-85	12112	2763.69	8.14	61.43
311	SLU 71	-274	-108	11945	2728.1	7.23	59.75
311	SLU 72	-280	-84	12057	2750.94	8.1	61.03
311	SLU 73	-293	-73	13053	2974.16	8.74	63.5
311	SLU 74	-287	-115	13008	2969.62	7.16	62.44
311	SLU 75	-294	-91	13121	2992.47	8.03	63.73
311	SLU 76	-296	-74	13141	2994.96	8.58	64.19
311	SLU 77	-291	-116	13096	2990.43	7	63.13
311	SLU 78	-297	-92	13209	3013.27	7.87	64.42
311	SLU 79	-289	-115	13041	2977.68	6.96	62.74
311	SLU 80	-295	-91	13154	3000.53	7.83	64.02
311	SLU 81	-289	-116	13336	3043.04	7.17	62.64
311	SLU 82	-295	-92	13448	3065.89	8.04	63.93
311	SLU 83	-292	-117	13424	3063.85	7.01	63.33
311	SLU 84	-298	-93	13536	3086.69	7.88	64.61
311	SLE RA 1	-200	-79	8791	2006.2	5.73	43.52
311	SLE RA 2	-207	-53	8916	2031.59	6.7	44.94
311	SLE RA 3	-203	-81	8886	2028.57	5.64	44.24
311	SLE RA 4	-207	-64	8961	2043.8	6.23	45.1
311	SLE RA 5	-209	-53	8974	2045.46	6.59	45.4
311	SLE RA 6	-205	-81	8944	2042.44	5.53	44.7
311	SLE RA 7	-209	-65	9019	2057.67	6.12	45.55
311	SLE RA 8	-204	-81	8908	2033.94	5.51	44.43
311	SLE RA 9	-208	-65	8983	2049.17	6.09	45.29
311	SLE RA 10	-216	-57	9647	2197.98	6.52	46.94
311	SLE RA 11	-213	-85	9617	2194.96	5.46	46.23
311	SLE RA 12	-217	-69	9692	2210.19	6.05	47.09
311	SLE RA 13	-218	-58	9706	2211.85	6.41	47.39
311	SLE RA 14	-215	-86	9676	2208.83	5.35	46.69
311	SLE RA 15	-219	-70	9751	2224.06	5.94	47.55
311	SLE RA 16	-214	-86	9639	2200.33	5.33	46.42
311	SLE RA 17	-218	-70	9714	2215.56	5.91	47.28
311	SLE RA 18	-214	-86	9835	2243.9	5.47	46.36
311	SLE RA 19	-218	-70	9910	2259.14	6.05	47.22
311	SLE RA 20	-216	-87	9894	2257.77	5.36	46.82
311	SLE RA 21	-220	-71	9969	2273	5.94	47.68
311	SLE FR 1	-200	-79	8791	2006.2	5.73	43.52
311	SLE FR 2	-201	-74	8816	2011.28	5.92	43.8
311	SLE FR 3	-201	-80	8814	2011.75	5.68	43.7
311	SLE FR 4	-205	-76	9129	2082.59	5.84	44.66
311	SLE FR 5	-205	-82	9128	2083.06	5.61	44.55
311	SLE FR 6	-207	-83	9313	2125.05	5.6	44.94
311	SLE QP 1	-200	-79	8791	2006.2	5.73	43.52
311	SLE QP 2	-204	-81	9104	2077.51	5.65	44.37
311	SLD 1	608	87	11149	2510.98	32.53	-151.82
311	SLD 2	765	-18	10989	2477.8	30.78	-187.75
311	SLD 3	712	-411	8581	1985.97	17.52	-173.14
311	SLD 4	869	-517	8422	1952.79	15.77	-209.07
311	SLD 5	-146	743	13638	3009.52	36.78	24.02
311	SLD 6	-45	675	13535	2988.15	35.65	0.89
311	SLD 7	203	-918	5082	1259.5	-13.26	-47.04
311	SLD 8	304	-986	4979	1238.13	-14.38	-70.17
311	SLD 9	-711	823	13230	2916.9	25.68	158.91
311	SLD 10	-610	755	13127	2895.53	24.55	135.78
311	SLD 11	-363	-838	4673	1166.87	-24.36	87.85
311	SLD 12	-262	-906	4570	1145.51	-25.49	64.72
311	SLD 13	-1277	354	9787	2202.23	-4.47	297.81
311	SLD 14	-1120	248	9627	2169.06	-6.22	261.88
311	SLD 15	-1172	-145	7220	1677.23	-19.48	276.49
311	SLD 16	-1016	-250	7060	1644.05	-21.24	240.56
311	SLV 1	1058	219	12487	2793.24	48.71	-260.99
311	SLV 2	1306	52	12235	2740.94	45.95	-317.62
311	SLV 3	1236	-631	8106	1897.32	23.12	-297.13
311	SLV 4	1483	-798	7854	1845.02	20.35	-353.76
311	SLV 5	-141	1329	16810	3660.79	57.9	18.14
311	SLV 6	26	1217	16640	3625.59	56.04	-19.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
311	SLV 7	451	-1505	2208	674.41	-27.41	-102.32
311	SLV 8	617	-1617	2039	639.2	-29.27	-140.44
311	SLV 9	-1025	1454	16170	3515.82	40.57	229.18
311	SLV 10	-859	1342	16000	3480.62	38.71	191.06
311	SLV 11	-434	-1380	1568	529.44	-44.74	108.73
311	SLV 12	-267	-1492	1399	494.23	-46.6	70.6
311	SLV 13	-1891	635	10354	2310.01	-9.05	442.5
311	SLV 14	-1644	469	10102	2257.71	-11.82	385.87
311	SLV 15	-1713	-215	5974	1414.09	-34.65	406.36
311	SLV 16	-1466	-382	5722	1361.79	-37.41	349.73
311	SLV FO 1	1185	249	12825	2864.81	53.02	-291.53
311	SLV FO 2	1456	66	12548	2807.28	49.98	-353.82
311	SLV FO 3	1380	-687	8006	1879.3	24.87	-331.28
311	SLV FO 4	1652	-869	7729	1821.77	21.82	-393.57
311	SLV FO 5	-134	1470	17580	3819.12	63.13	15.51
311	SLV FO 6	49	1347	17394	3780.39	61.08	-26.42
311	SLV FO 7	516	-1647	1518	534.1	-30.72	-116.99
311	SLV FO 8	700	-1770	1332	495.37	-32.77	-158.92
311	SLV FO 9	-1107	1608	16877	3659.66	44.06	247.66
311	SLV FO 10	-924	1484	16690	3620.93	42.02	205.73
311	SLV FO 11	-457	-1510	815	374.64	-49.78	115.16
311	SLV FO 12	-274	-1633	628	335.91	-51.83	73.23
311	SLV FO 13	-2059	707	10479	2333.25	-10.53	482.31
311	SLV FO 14	-1788	524	10202	2275.73	-13.57	420.02
311	SLV FO 15	-1864	-229	5661	1347.75	-38.68	442.56
311	SLV FO 16	-1592	-412	5384	1290.22	-41.72	380.27
311	CRTFP Ux+	0	0	0	0	0	0
311	CRTFP Ux-	0	0	0	0	0	0
311	CRTFP Uy+	0	0	0	-0.01	0	0
311	CRTFP Uy-	0	0	0	0.01	0	0
313	SLU 1	-62	-40	2986	962.65	-55.8	20.74
313	SLU 2	-66	-26	3048	979.88	-56.91	22.21
313	SLU 3	-64	-41	3037	979.7	-56.76	21.28
313	SLU 4	-66	-32	3074	990.04	-57.43	22.16
313	SLU 5	-67	-27	3080	990.52	-57.51	22.55
313	SLU 6	-65	-41	3069	990.34	-57.36	21.63
313	SLU 7	-67	-33	3106	1000.68	-58.02	22.51
313	SLU 8	-64	-41	3050	983.93	-57	21.43
313	SLU 9	-66	-33	3087	994.27	-57.66	22.31
313	SLU 10	-70	-30	3437	1104.37	-64.19	23.68
313	SLU 11	-68	-45	3426	1104.19	-64.04	22.75
313	SLU 12	-70	-36	3463	1114.53	-64.71	23.63
313	SLU 13	-71	-31	3468	1115.01	-64.79	24.03
313	SLU 14	-69	-45	3458	1114.83	-64.64	23.1
313	SLU 15	-71	-37	3495	1125.17	-65.3	23.98
313	SLU 16	-69	-45	3438	1108.42	-64.28	22.9
313	SLU 17	-71	-37	3475	1118.76	-64.94	23.78
313	SLU 18	-69	-46	3541	1140.49	-66.2	22.84
313	SLU 19	-71	-37	3578	1150.83	-66.87	23.72
313	SLU 20	-70	-46	3573	1151.13	-66.8	23.18
313	SLU 21	-72	-38	3610	1161.47	-67.47	24.07
313	SLU 22	-72	-45	3409	1100.21	-63.7	23.9
313	SLU 23	-75	-31	3471	1117.45	-64.81	25.37
313	SLU 24	-73	-46	3460	1117.26	-64.66	24.44
313	SLU 25	-75	-38	3498	1127.6	-65.33	25.33
313	SLU 26	-76	-32	3503	1128.09	-65.41	25.72
313	SLU 27	-74	-46	3492	1127.9	-65.26	24.79
313	SLU 28	-76	-38	3529	1138.24	-65.92	25.67
313	SLU 29	-74	-46	3473	1121.49	-64.9	24.59
313	SLU 30	-76	-38	3510	1131.83	-65.56	25.48
313	SLU 31	-80	-35	3860	1241.93	-72.09	26.84
313	SLU 32	-78	-50	3849	1241.75	-71.94	25.92
313	SLU 33	-80	-42	3886	1252.09	-72.61	26.8
313	SLU 34	-81	-36	3891	1252.58	-72.69	27.19
313	SLU 35	-79	-50	3881	1252.39	-72.54	26.26
313	SLU 36	-81	-42	3918	1262.73	-73.21	27.14
313	SLU 37	-78	-50	3861	1245.98	-72.18	26.06
313	SLU 38	-80	-42	3898	1256.32	-72.84	26.95
313	SLU 39	-78	-51	3964	1278.05	-74.1	26
313	SLU 40	-80	-42	4002	1288.39	-74.77	26.89
313	SLU 41	-79	-51	3996	1288.69	-74.7	26.35
313	SLU 42	-81	-43	4033	1299.03	-75.37	27.23
313	SLU 43	-78	-50	3737	1204.28	-69.83	25.87
313	SLU 44	-81	-36	3799	1221.51	-70.94	27.34
313	SLU 45	-79	-51	3788	1221.33	-70.79	26.42
313	SLU 46	-81	-43	3825	1231.67	-71.46	27.3
313	SLU 47	-82	-37	3831	1232.15	-71.54	27.69
313	SLU 48	-80	-51	3820	1231.97	-71.39	26.76
313	SLU 49	-82	-43	3857	1242.31	-72.06	27.64
313	SLU 50	-80	-51	3800	1225.56	-71.03	26.56
313	SLU 51	-82	-43	3837	1235.9	-71.69	27.45
313	SLU 52	-86	-40	4187	1346	-78.22	28.82
313	SLU 53	-84	-55	4177	1345.82	-78.07	27.89
313	SLU 54	-86	-47	4214	1356.16	-78.74	28.77
313	SLU 55	-87	-41	4219	1356.64	-78.82	29.16
313	SLU 56	-85	-55	4208	1356.46	-78.67	28.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
313	SLU 57	-87	-47	4246	1366.8	-79.34	29.12
313	SLU 58	-84	-55	4189	1350.05	-78.31	28.04
313	SLU 59	-86	-47	4226	1360.39	-78.97	28.92
313	SLU 60	-84	-56	4292	1382.12	-80.23	27.98
313	SLU 61	-86	-47	4329	1392.46	-80.9	28.86
313	SLU 62	-85	-56	4324	1392.76	-80.83	28.32
313	SLU 63	-87	-48	4361	1403.1	-81.5	29.2
313	SLU 64	-87	-55	4160	1341.84	-77.73	29.04
313	SLU 65	-91	-41	4222	1359.08	-78.84	30.51
313	SLU 66	-89	-56	4211	1358.89	-78.69	29.58
313	SLU 67	-91	-48	4248	1369.23	-79.36	30.46
313	SLU 68	-92	-42	4254	1369.72	-79.44	30.85
313	SLU 69	-90	-57	4243	1369.53	-79.29	29.93
313	SLU 70	-92	-48	4280	1379.87	-79.96	30.81
313	SLU 71	-89	-56	4223	1363.12	-78.93	29.73
313	SLU 72	-91	-48	4261	1373.46	-79.59	30.61
313	SLU 73	-95	-45	4611	1483.56	-86.12	31.98
313	SLU 74	-93	-60	4600	1483.38	-85.97	31.05
313	SLU 75	-95	-52	4637	1493.72	-86.64	31.93
313	SLU 76	-96	-46	4642	1494.21	-86.72	32.33
313	SLU 77	-94	-61	4631	1494.02	-86.57	31.4
313	SLU 78	-96	-52	4669	1504.36	-87.24	32.28
313	SLU 79	-94	-60	4612	1487.61	-86.21	31.2
313	SLU 80	-96	-52	4649	1497.95	-86.87	32.08
313	SLU 81	-94	-61	4715	1519.68	-88.13	31.14
313	SLU 82	-96	-53	4752	1530.02	-88.8	32.02
313	SLU 83	-95	-61	4747	1530.32	-88.73	31.49
313	SLU 84	-97	-53	4784	1540.66	-89.4	32.37
313	SLE RA 1	-65	-41	3107	1001.95	-58.06	21.64
313	SLE RA 2	-67	-32	3148	1013.44	-58.8	22.62
313	SLE RA 3	-66	-42	3141	1013.32	-58.7	22
313	SLE RA 4	-67	-36	3166	1020.21	-59.14	22.59
313	SLE RA 5	-68	-32	3169	1020.54	-59.2	22.85
313	SLE RA 6	-67	-42	3162	1020.41	-59.1	22.23
313	SLE RA 7	-68	-37	3187	1027.31	-59.54	22.82
313	SLE RA 8	-66	-42	3149	1016.14	-58.86	22.1
313	SLE RA 9	-68	-36	3174	1023.03	-59.3	22.69
313	SLE RA 10	-70	-35	3407	1096.43	-63.65	23.6
313	SLE RA 11	-69	-44	3400	1096.31	-63.55	22.98
313	SLE RA 12	-70	-39	3425	1103.21	-64	23.57
313	SLE RA 13	-71	-35	3429	1103.53	-64.05	23.83
313	SLE RA 14	-70	-45	3421	1103.41	-63.95	23.21
313	SLE RA 15	-71	-39	3446	1110.3	-64.39	23.8
313	SLE RA 16	-69	-45	3408	1099.13	-63.71	23.08
313	SLE RA 17	-71	-39	3433	1106.03	-64.15	23.67
313	SLE RA 18	-69	-45	3477	1120.51	-64.99	23.04
313	SLE RA 19	-71	-40	3502	1127.41	-65.44	23.63
313	SLE RA 20	-70	-45	3498	1127.61	-65.39	23.27
313	SLE RA 21	-71	-40	3523	1134.5	-65.83	23.86
313	SLE FR 1	-65	-41	3107	1001.95	-58.06	21.64
313	SLE FR 2	-65	-39	3115	1004.25	-58.21	21.84
313	SLE FR 3	-65	-41	3115	1004.79	-58.22	21.73
313	SLE FR 4	-67	-41	3226	1039.82	-60.29	22.26
313	SLE FR 5	-66	-43	3227	1040.36	-60.3	22.15
313	SLE FR 6	-67	-43	3292	1061.23	-61.52	22.34
313	SLE QP 1	-65	-41	3107	1001.95	-58.06	21.64
313	SLE QP 2	-66	-42	3218	1037.52	-60.14	22.06
313	SLD 1	224	15	3886	1233.26	-71.73	-78.3
313	SLD 2	278	-20	3834	1217.64	-70.82	-98.09
313	SLD 3	259	-157	3028	993.83	-56.18	-93.57
313	SLD 4	313	-192	2976	978.2	-55.28	-113.35
313	SLD 5	-42	242	4728	1462.07	-87.34	18.51
313	SLD 6	-6	219	4694	1452	-86.76	5.77
313	SLD 7	75	-332	1869	663.96	-35.54	-32.38
313	SLD 8	110	-354	1836	653.9	-34.95	-45.12
313	SLD 9	-242	269	4600	1421.14	-85.32	89.24
313	SLD 10	-207	247	4567	1411.07	-84.74	76.5
313	SLD 11	-126	-304	1742	623.03	-33.52	38.36
313	SLD 12	-91	-326	1708	612.97	-32.93	25.61
313	SLD 13	-446	107	3460	1096.83	-65	157.48
313	SLD 14	-391	72	3408	1081.2	-64.09	137.69
313	SLD 15	-411	-65	2602	857.4	-49.46	142.21
313	SLD 16	-356	-100	2550	841.77	-48.55	122.42
313	SLV 1	385	60	4324	1360.91	-79.39	-133.81
313	SLV 2	471	5	4242	1336.28	-77.96	-165
313	SLV 3	444	-234	2861	952.32	-52.87	-159.74
313	SLV 4	530	-289	2779	927.68	-51.44	-190.93
313	SLV 5	-37	443	5785	1758.84	-106.41	20.44
313	SLV 6	21	406	5730	1742.25	-105.44	-0.56
313	SLV 7	161	-535	907	396.85	-18	-65.98
313	SLV 8	219	-572	851	380.27	-17.04	-86.98
313	SLV 9	-351	487	5585	1694.77	-103.24	131.1
313	SLV 10	-293	450	5530	1678.19	-102.28	110.1
313	SLV 11	-153	-491	706	332.78	-14.83	44.68
313	SLV 12	-95	-528	651	316.2	-13.87	23.68
313	SLV 13	-663	204	3657	1147.35	-68.84	235.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
313	SLV 14	-576	149	3575	1122.72	-67.41	203.86
313	SLV 15	-603	-89	2194	738.76	-42.31	209.12
313	SLV 16	-517	-144	2112	714.12	-40.89	177.93
313	SLV FO 1	430	70	4435	1393.25	-81.31	-149.4
313	SLV FO 2	525	9	4345	1366.15	-79.74	-183.71
313	SLV FO 3	495	-253	2825	943.8	-52.14	-177.92
313	SLV FO 4	590	-313	2735	916.7	-50.57	-212.23
313	SLV FO 5	-34	492	6042	1830.97	-111.03	20.28
313	SLV FO 6	30	451	5981	1812.73	-109.98	-2.82
313	SLV FO 7	183	-584	675	332.79	-13.78	-74.78
313	SLV FO 8	247	-624	615	314.54	-12.73	-97.88
313	SLV FO 9	-380	540	5822	1760.49	-107.55	142
313	SLV FO 10	-316	499	5761	1742.25	-106.49	118.91
313	SLV FO 11	-162	-536	455	262.31	-10.3	46.94
313	SLV FO 12	-98	-577	394	244.07	-9.24	23.84
313	SLV FO 13	-722	229	3701	1158.34	-69.71	256.35
313	SLV FO 14	-627	168	3611	1131.24	-68.14	222.04
313	SLV FO 15	-657	-94	2091	708.88	-40.53	227.83
313	SLV FO 16	-562	-155	2001	681.78	-38.96	193.52
313	CRTFP Ux+	0	0	0	0	0	0
313	CRTFP Ux-	0	0	0	0	0	0
313	CRTFP Uy+	0	0	0	0	0	0
313	CRTFP Uy-	0	0	0	0	0	0
314	SLU 1	-67	-58	3342	1064.87	0.57	23.22
314	SLU 2	-71	-43	3409	1083.24	0.65	24.55
314	SLU 3	-69	-60	3399	1083.77	0.57	23.83
314	SLU 4	-72	-51	3439	1094.79	0.62	24.63
314	SLU 5	-72	-44	3444	1095.06	0.65	24.94
314	SLU 6	-70	-60	3435	1095.6	0.57	24.22
314	SLU 7	-73	-51	3475	1106.62	0.62	25.02
314	SLU 8	-70	-60	3413	1088.53	0.57	24
314	SLU 9	-72	-51	3453	1099.55	0.62	24.8
314	SLU 10	-76	-49	3844	1220.89	0.71	26.2
314	SLU 11	-74	-66	3835	1221.42	0.63	25.47
314	SLU 12	-76	-57	3875	1232.44	0.68	26.27
314	SLU 13	-77	-50	3880	1232.71	0.71	26.59
314	SLU 14	-75	-67	3870	1233.25	0.63	25.86
314	SLU 15	-78	-58	3911	1244.27	0.68	26.66
314	SLU 16	-75	-66	3849	1226.18	0.63	25.64
314	SLU 17	-77	-57	3889	1237.2	0.68	26.44
314	SLU 18	-74	-67	3964	1261.52	0.65	25.57
314	SLU 19	-77	-58	4004	1272.54	0.7	26.37
314	SLU 20	-76	-68	4000	1273.34	0.65	25.96
314	SLU 21	-78	-59	4040	1284.36	0.7	26.76
314	SLU 22	-78	-66	3815	1216.84	0.68	26.76
314	SLU 23	-82	-51	3882	1235.2	0.76	28.1
314	SLU 24	-79	-67	3872	1235.74	0.68	27.37
314	SLU 25	-82	-58	3912	1246.76	0.73	28.17
314	SLU 26	-83	-52	3917	1247.03	0.76	28.49
314	SLU 27	-81	-68	3908	1247.56	0.68	27.76
314	SLU 28	-83	-59	3948	1258.58	0.73	28.56
314	SLU 29	-80	-68	3886	1240.49	0.68	27.54
314	SLU 30	-82	-59	3926	1251.51	0.72	28.34
314	SLU 31	-86	-57	4317	1372.85	0.82	29.74
314	SLU 32	-84	-73	4307	1373.39	0.74	29.01
314	SLU 33	-87	-64	4348	1384.41	0.79	29.82
314	SLU 34	-88	-58	4353	1384.68	0.82	30.13
314	SLU 35	-85	-74	4343	1385.21	0.74	29.4
314	SLU 36	-88	-65	4383	1396.23	0.79	30.21
314	SLU 37	-85	-74	4321	1378.14	0.74	29.19
314	SLU 38	-87	-65	4362	1389.16	0.78	29.99
314	SLU 39	-85	-75	4437	1413.48	0.76	29.11
314	SLU 40	-87	-66	4477	1424.5	0.81	29.91
314	SLU 41	-86	-75	4472	1425.31	0.76	29.5
314	SLU 42	-88	-66	4513	1436.33	0.81	30.3
314	SLU 43	-84	-73	4182	1332.23	0.7	28.97
314	SLU 44	-88	-58	4249	1350.6	0.78	30.3
314	SLU 45	-86	-75	4239	1351.13	0.71	29.58
314	SLU 46	-88	-66	4280	1362.15	0.76	30.38
314	SLU 47	-89	-59	4285	1362.42	0.78	30.69
314	SLU 48	-87	-75	4275	1362.96	0.71	29.97
314	SLU 49	-89	-66	4315	1373.98	0.76	30.77
314	SLU 50	-86	-75	4254	1355.89	0.7	29.75
314	SLU 51	-89	-66	4294	1366.91	0.75	30.55
314	SLU 52	-93	-64	4685	1488.25	0.84	31.95
314	SLU 53	-91	-81	4675	1488.78	0.77	31.22
314	SLU 54	-93	-72	4715	1499.8	0.82	32.02
314	SLU 55	-94	-65	4720	1500.07	0.84	32.34
314	SLU 56	-92	-81	4711	1500.61	0.77	31.61
314	SLU 57	-94	-72	4751	1511.63	0.82	32.41
314	SLU 58	-91	-81	4689	1493.54	0.76	31.39
314	SLU 59	-94	-72	4729	1504.56	0.81	32.19
314	SLU 60	-91	-82	4804	1528.88	0.79	31.32
314	SLU 61	-93	-73	4845	1539.9	0.84	32.12
314	SLU 62	-92	-83	4840	1540.7	0.79	31.71
314	SLU 63	-95	-74	4880	1551.72	0.84	32.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
314	SLU 64	-94	-81	4655	1484.2	0.81	32.51
314	SLU 65	-98	-66	4722	1502.56	0.89	33.85
314	SLU 66	-96	-82	4712	1503.1	0.82	33.12
314	SLU 67	-99	-73	4753	1514.12	0.86	33.92
314	SLU 68	-99	-67	4758	1514.39	0.89	34.24
314	SLU 69	-97	-83	4748	1514.92	0.82	33.51
314	SLU 70	-100	-74	4788	1525.94	0.86	34.31
314	SLU 71	-97	-82	4726	1507.85	0.81	33.29
314	SLU 72	-99	-73	4767	1518.87	0.86	34.09
314	SLU 73	-103	-72	5158	1640.21	0.95	35.49
314	SLU 74	-101	-88	5148	1640.75	0.88	34.76
314	SLU 75	-103	-79	5188	1651.77	0.92	35.57
314	SLU 76	-104	-73	5193	1652.04	0.95	35.88
314	SLU 77	-102	-89	5184	1652.57	0.88	35.16
314	SLU 78	-104	-80	5224	1663.59	0.92	35.96
314	SLU 79	-102	-89	5162	1645.5	0.87	34.94
314	SLU 80	-104	-80	5202	1656.52	0.92	35.74
314	SLU 81	-101	-90	5277	1680.84	0.9	34.86
314	SLU 82	-104	-81	5317	1691.86	0.94	35.66
314	SLU 83	-102	-90	5313	1692.67	0.9	35.25
314	SLU 84	-105	-81	5353	1703.69	0.94	36.05
314	SLE RA 1	-70	-61	3477	1108.29	0.6	24.23
314	SLE RA 2	-73	-50	3522	1120.53	0.65	25.12
314	SLE RA 3	-72	-61	3515	1120.89	0.6	24.64
314	SLE RA 4	-73	-55	3542	1128.24	0.64	25.17
314	SLE RA 5	-74	-51	3545	1128.42	0.65	25.38
314	SLE RA 6	-72	-62	3539	1128.78	0.6	24.9
314	SLE RA 7	-74	-56	3566	1136.12	0.63	25.43
314	SLE RA 8	-72	-62	3524	1124.06	0.6	24.75
314	SLE RA 9	-73	-56	3551	1131.41	0.63	25.28
314	SLE RA 10	-76	-55	3812	1212.3	0.69	26.22
314	SLE RA 11	-75	-65	3805	1212.66	0.64	25.73
314	SLE RA 12	-76	-59	3832	1220	0.68	26.27
314	SLE RA 13	-77	-55	3836	1220.19	0.69	26.48
314	SLE RA 14	-76	-66	3829	1220.54	0.64	25.99
314	SLE RA 15	-77	-60	3856	1227.89	0.67	26.53
314	SLE RA 16	-75	-66	3815	1215.83	0.64	25.85
314	SLE RA 17	-77	-60	3842	1223.17	0.67	26.38
314	SLE RA 18	-75	-66	3892	1239.39	0.66	25.8
314	SLE RA 19	-77	-60	3918	1246.73	0.69	26.33
314	SLE RA 20	-76	-67	3915	1247.27	0.66	26.06
314	SLE RA 21	-77	-61	3942	1254.62	0.69	26.59
314	SLE FR 1	-70	-61	3477	1108.29	0.6	24.23
314	SLE FR 2	-71	-59	3486	1110.74	0.61	24.41
314	SLE FR 3	-71	-61	3486	1111.45	0.6	24.33
314	SLE FR 4	-72	-60	3610	1150.07	0.63	24.88
314	SLE FR 5	-72	-62	3611	1150.78	0.62	24.8
314	SLE FR 6	-73	-63	3684	1173.84	0.63	25.01
314	SLE QP 1	-70	-61	3477	1108.29	0.6	24.23
314	SLE QP 2	-72	-62	3601	1147.62	0.62	24.7
314	SLD 1	255	-4	4305	1350.18	2.07	-89.93
314	SLD 2	317	-42	4250	1333.36	1.95	-111.43
314	SLD 3	293	-192	3369	1093.92	1.2	-103.1
314	SLD 4	355	-229	3314	1077.1	1.08	-124.6
314	SLD 5	-42	246	5242	1599.95	2.39	13.99
314	SLD 6	-2	222	5207	1589.12	2.31	0.14
314	SLD 7	85	-379	2121	745.74	-0.5	-29.92
314	SLD 8	124	-403	2086	734.9	-0.58	-43.77
314	SLD 9	-268	279	5117	1560.34	1.81	93.17
314	SLD 10	-228	255	5082	1549.51	1.74	79.32
314	SLD 11	-141	-346	1996	706.13	-1.08	49.26
314	SLD 12	-101	-370	1960	695.29	-1.16	35.41
314	SLD 13	-498	105	3888	1218.15	0.15	174
314	SLD 14	-437	67	3834	1201.33	0.03	152.5
314	SLD 15	-460	-83	2952	961.88	-0.72	160.83
314	SLD 16	-399	-120	2897	945.06	-0.84	139.33
314	SLV 1	437	42	4770	1482.94	2.95	-153.65
314	SLV 2	534	-17	4684	1456.43	2.76	-187.54
314	SLV 3	501	-278	3172	1045.61	1.47	-175.98
314	SLV 4	598	-337	3086	1019.1	1.28	-209.87
314	SLV 5	-35	465	6392	1916.45	3.6	11.39
314	SLV 6	30	425	6333	1898.6	3.47	-11.42
314	SLV 7	180	-601	1065	458.68	-1.34	-63.06
314	SLV 8	245	-641	1007	440.84	-1.46	-85.87
314	SLV 9	-389	516	6196	1854.41	2.7	135.27
314	SLV 10	-323	476	6137	1836.56	2.57	112.45
314	SLV 11	-174	-550	869	396.65	-2.24	60.82
314	SLV 12	-108	-590	811	378.8	-2.36	38.01
314	SLV 13	-742	212	4117	1276.15	-0.05	259.27
314	SLV 14	-645	153	4030	1249.63	-0.24	225.38
314	SLV 15	-677	-107	2519	838.82	-1.53	236.94
314	SLV 16	-580	-166	2432	812.31	-1.72	203.05
314	SLV FO 1	487	52	4887	1516.47	3.18	-171.48
314	SLV FO 2	594	-13	4792	1487.31	2.98	-208.76
314	SLV FO 3	558	-300	3129	1035.41	1.56	-196.05
314	SLV FO 4	665	-364	3034	1006.24	1.35	-233.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
314	SLV FO 5	-32	518	6671	1993.33	3.9	10.06
314	SLV FO 6	40	474	6607	1973.69	3.76	-15.03
314	SLV FO 7	205	-655	812	389.79	-1.53	-71.83
314	SLV FO 8	277	-699	748	370.16	-1.67	-96.93
314	SLV FO 9	-420	574	6455	1925.09	2.91	146.33
314	SLV FO 10	-349	530	6391	1905.45	2.77	121.23
314	SLV FO 11	-184	-599	596	321.55	-2.52	64.43
314	SLV FO 12	-112	-642	532	301.92	-2.66	39.34
314	SLV FO 13	-809	240	4168	1289	-0.11	282.73
314	SLV FO 14	-702	175	4073	1259.84	-0.32	245.45
314	SLV FO 15	-738	-112	2410	807.94	-1.74	258.16
314	SLV FO 16	-631	-177	2315	778.77	-1.95	220.88
314	CRTFP Ux+	0	0	0	0	0	0
314	CRTFP Ux-	0	0	0	0	0	0
314	CRTFP Uy+	0	0	0	0	0	0
314	CRTFP Uy-	0	0	0	0	0	0
315	SLU 1	-55	-58	2777	880.65	78.25	20.74
315	SLU 2	-58	-46	2831	895.23	79.81	21.5
315	SLU 3	-56	-59	2825	896.31	79.59	21.28
315	SLU 4	-58	-52	2857	905.06	80.53	21.73
315	SLU 5	-59	-47	2861	905.05	80.64	21.85
315	SLU 6	-57	-60	2855	906.13	80.43	21.63
315	SLU 7	-59	-53	2887	914.88	81.37	22.08
315	SLU 8	-57	-60	2837	900.29	79.93	21.44
315	SLU 9	-59	-52	2869	909.04	80.86	21.89
315	SLU 10	-62	-52	3193	1009.1	90.01	23.02
315	SLU 11	-60	-66	3187	1010.19	89.8	22.8
315	SLU 12	-62	-58	3219	1018.93	90.73	23.26
315	SLU 13	-63	-53	3223	1018.92	90.85	23.37
315	SLU 14	-61	-66	3217	1020.01	90.63	23.15
315	SLU 15	-63	-59	3249	1028.75	91.57	23.61
315	SLU 16	-61	-66	3199	1014.17	90.13	22.96
315	SLU 17	-63	-59	3231	1022.91	91.06	23.42
315	SLU 18	-61	-67	3294	1043.34	92.82	22.92
315	SLU 19	-63	-60	3327	1052.08	93.76	23.37
315	SLU 20	-62	-68	3324	1053.16	93.66	23.27
315	SLU 21	-63	-60	3357	1061.9	94.6	23.72
315	SLU 22	-63	-66	3169	1006.17	89.32	23.87
315	SLU 23	-67	-53	3223	1020.74	90.88	24.63
315	SLU 24	-65	-67	3217	1021.82	90.66	24.41
315	SLU 25	-67	-59	3249	1030.57	91.6	24.86
315	SLU 26	-68	-54	3253	1030.56	91.71	24.98
315	SLU 27	-66	-68	3247	1031.65	91.5	24.76
315	SLU 28	-68	-60	3279	1040.39	92.44	25.21
315	SLU 29	-65	-67	3229	1025.81	91	24.57
315	SLU 30	-67	-60	3261	1034.55	91.93	25.02
315	SLU 31	-71	-59	3585	1134.61	101.08	26.16
315	SLU 32	-69	-73	3579	1135.7	100.87	25.93
315	SLU 33	-71	-66	3611	1144.44	101.8	26.39
315	SLU 34	-71	-60	3615	1144.44	101.92	26.5
315	SLU 35	-70	-74	3609	1145.52	101.7	26.28
315	SLU 36	-72	-66	3641	1154.26	102.64	26.74
315	SLU 37	-69	-73	3591	1139.68	101.2	26.09
315	SLU 38	-71	-66	3623	1148.43	102.13	26.55
315	SLU 39	-69	-74	3687	1168.85	103.89	26.05
315	SLU 40	-71	-67	3719	1177.59	104.83	26.51
315	SLU 41	-70	-75	3716	1178.67	104.73	26.4
315	SLU 42	-72	-68	3749	1187.41	105.67	26.85
315	SLU 43	-69	-73	3476	1101.82	97.93	25.89
315	SLU 44	-72	-61	3530	1116.39	99.49	26.65
315	SLU 45	-70	-74	3524	1117.48	99.27	26.43
315	SLU 46	-72	-67	3556	1126.22	100.21	26.88
315	SLU 47	-73	-61	3560	1126.21	100.32	27
315	SLU 48	-71	-75	3553	1127.3	100.11	26.77
315	SLU 49	-73	-68	3586	1136.04	101.05	27.23
315	SLU 50	-71	-75	3535	1121.46	99.6	26.58
315	SLU 51	-72	-67	3568	1130.2	100.54	27.04
315	SLU 52	-76	-67	3892	1230.27	109.69	28.17
315	SLU 53	-74	-80	3886	1231.35	109.48	27.95
315	SLU 54	-76	-73	3918	1240.1	110.41	28.41
315	SLU 55	-77	-68	3922	1240.09	110.53	28.52
315	SLU 56	-75	-81	3916	1241.17	110.31	28.3
315	SLU 57	-77	-74	3948	1249.92	111.25	28.76
315	SLU 58	-74	-81	3898	1235.34	109.81	28.11
315	SLU 59	-76	-73	3930	1244.08	110.74	28.57
315	SLU 60	-74	-82	3993	1264.5	112.5	28.07
315	SLU 61	-76	-74	4026	1273.24	113.44	28.52
315	SLU 62	-75	-83	4023	1274.32	113.34	28.42
315	SLU 63	-77	-75	4055	1283.06	114.28	28.87
315	SLU 64	-77	-80	3868	1227.33	109	29.02
315	SLU 65	-80	-68	3922	1241.9	110.56	29.78
315	SLU 66	-79	-82	3916	1242.99	110.34	29.56
315	SLU 67	-80	-74	3948	1251.73	111.28	30.01
315	SLU 68	-81	-69	3952	1251.72	111.39	30.13
315	SLU 69	-79	-82	3945	1252.81	111.18	29.91
315	SLU 70	-81	-75	3978	1261.55	112.12	30.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
315	SLU 71	-79	-82	3927	1246.97	110.67	29.72
315	SLU 72	-81	-75	3960	1255.71	111.61	30.17
315	SLU 73	-84	-74	4284	1355.78	120.76	31.3
315	SLU 74	-82	-88	4278	1356.87	120.55	31.08
315	SLU 75	-84	-80	4310	1365.61	121.48	31.54
315	SLU 76	-85	-75	4314	1365.6	121.6	31.65
315	SLU 77	-83	-89	4308	1366.69	121.38	31.43
315	SLU 78	-85	-81	4340	1375.43	122.32	31.89
315	SLU 79	-83	-88	4290	1360.85	120.88	31.24
315	SLU 80	-85	-81	4322	1369.59	121.81	31.7
315	SLU 81	-83	-89	4385	1390.01	123.57	31.2
315	SLU 82	-85	-82	4418	1398.75	124.51	31.65
315	SLU 83	-84	-90	4415	1399.83	124.41	31.55
315	SLU 84	-86	-83	4447	1408.57	125.35	32
315	SLE RA 1	-57	-60	2889	916.52	81.41	21.63
315	SLE RA 2	-60	-52	2925	926.23	82.45	22.14
315	SLE RA 3	-58	-61	2921	926.95	82.31	21.99
315	SLE RA 4	-60	-56	2943	932.78	82.93	22.3
315	SLE RA 5	-60	-53	2945	932.78	83.01	22.37
315	SLE RA 6	-59	-62	2941	933.5	82.87	22.23
315	SLE RA 7	-60	-57	2962	939.33	83.49	22.53
315	SLE RA 8	-59	-61	2929	929.61	82.53	22.1
315	SLE RA 9	-60	-56	2950	935.44	83.15	22.4
315	SLE RA 10	-62	-56	3167	1002.15	89.25	23.16
315	SLE RA 11	-61	-65	3162	1002.87	89.11	23.01
315	SLE RA 12	-62	-60	3184	1008.7	89.73	23.31
315	SLE RA 13	-63	-57	3186	1008.69	89.81	23.39
315	SLE RA 14	-62	-66	3182	1009.42	89.67	23.24
315	SLE RA 15	-63	-61	3204	1015.25	90.29	23.55
315	SLE RA 16	-61	-65	3170	1005.53	89.33	23.12
315	SLE RA 17	-63	-61	3192	1011.36	89.95	23.42
315	SLE RA 18	-61	-66	3234	1024.97	91.13	23.09
315	SLE RA 19	-62	-61	3256	1030.8	91.75	23.39
315	SLE RA 20	-62	-67	3254	1031.52	91.69	23.32
315	SLE RA 21	-63	-62	3276	1037.34	92.31	23.62
315	SLE FR 1	-57	-60	2889	916.52	81.41	21.63
315	SLE FR 2	-58	-59	2896	918.46	81.62	21.74
315	SLE FR 3	-58	-60	2897	919.13	81.64	21.73
315	SLE FR 4	-59	-60	3000	950.99	84.54	22.17
315	SLE FR 5	-59	-62	3001	951.67	84.55	22.16
315	SLE FR 6	-59	-63	3062	970.74	86.27	22.36
315	SLE QP 1	-57	-60	2889	916.52	81.41	21.63
315	SLE QP 2	-59	-62	2993	949.05	84.33	22.07
315	SLD 1	217	-19	3542	1104.01	100.57	-75.68
315	SLD 2	268	-49	3500	1090.67	99.31	-92.89
315	SLD 3	248	-173	2782	899.52	78.79	-82.37
315	SLD 4	299	-203	2740	886.18	77.53	-99.59
315	SLD 5	-32	189	4317	1307.98	122.46	5.86
315	SLD 6	1	170	4290	1299.39	121.64	-5.23
315	SLD 7	71	-323	1785	626.34	49.85	-16.46
315	SLD 8	105	-343	1757	617.75	49.03	-27.54
315	SLD 9	-222	219	4228	1280.36	119.62	71.68
315	SLD 10	-189	199	4201	1271.77	118.81	60.6
315	SLD 11	-119	-294	1695	598.71	47.01	49.37
315	SLD 12	-85	-313	1668	590.12	46.2	38.28
315	SLD 13	-417	79	3245	1011.92	91.13	143.73
315	SLD 14	-365	49	3203	998.58	89.86	126.51
315	SLD 15	-386	-75	2485	807.43	69.35	137.03
315	SLD 16	-334	-105	2443	794.09	68.08	119.82
315	SLV 1	370	17	3907	1206.25	111.32	-130.35
315	SLV 2	451	-31	3840	1185.22	109.32	-157.49
315	SLV 3	422	-246	2611	857.26	74.14	-141.64
315	SLV 4	504	-293	2544	836.23	72.15	-168.78
315	SLV 5	-25	368	5246	1559.43	149.18	-1.46
315	SLV 6	30	336	5201	1545.28	147.83	-19.73
315	SLV 7	150	-506	924	396.14	25.27	-39.11
315	SLV 8	205	-538	879	381.98	23.92	-57.38
315	SLV 9	-322	414	5106	1516.12	144.73	101.52
315	SLV 10	-267	382	5061	1501.97	143.39	83.25
315	SLV 11	-147	-460	784	352.82	20.82	63.87
315	SLV 12	-92	-492	739	338.67	19.48	45.6
315	SLV 13	-621	169	3441	1061.87	96.5	212.92
315	SLV 14	-540	122	3374	1040.85	94.51	185.79
315	SLV 15	-568	-93	2145	712.88	59.33	201.63
315	SLV 16	-487	-141	2078	691.86	57.34	174.49
315	SLV FO 1	413	25	3999	1231.97	114.02	-145.59
315	SLV FO 2	502	-28	3925	1208.84	111.82	-175.44
315	SLV FO 3	471	-264	2573	848.08	73.13	-158.02
315	SLV FO 4	560	-317	2499	824.95	70.93	-187.87
315	SLV FO 5	-22	412	5471	1620.47	155.66	-3.82
315	SLV FO 6	39	376	5422	1604.9	154.18	-23.91
315	SLV FO 7	171	-551	717	340.85	19.36	-45.23
315	SLV FO 8	231	-586	668	325.27	17.88	-65.32
315	SLV FO 9	-349	462	5318	1572.83	150.77	109.46
315	SLV FO 10	-288	427	5268	1557.26	149.3	89.37
315	SLV FO 11	-156	-500	563	293.2	14.47	68.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
315	SLV FO 12	-96	-536	514	277.63	13	47.96
315	SLV FO 13	-677	193	3486	1073.15	97.72	232.01
315	SLV FO 14	-588	140	3413	1050.02	95.53	202.16
315	SLV FO 15	-619	-96	2060	689.27	56.83	219.59
315	SLV FO 16	-530	-149	1986	666.14	54.64	189.73
315	CRTFP Ux+	0	0	0	0	0	0
315	CRTFP Ux-	0	0	0	0	0	0
315	CRTFP Uy+	0	0	0	0	0	0
315	CRTFP Uy-	0	0	0	0	0	0
316	SLU 1	-81	-92	4085	1264.54	82.98	28.9
316	SLU 2	-85	-74	4162	1284.52	84.64	30.11
316	SLU 3	-83	-94	4155	1287.11	84.41	29.66
316	SLU 4	-85	-83	4202	1299.09	85.4	30.38
316	SLU 5	-87	-75	4207	1298.69	85.52	30.6
316	SLU 6	-84	-96	4200	1301.27	85.3	30.15
316	SLU 7	-87	-84	4246	1313.26	86.29	30.87
316	SLU 8	-83	-95	4173	1292.88	84.76	29.88
316	SLU 9	-86	-84	4220	1304.86	85.75	30.61
316	SLU 10	-91	-84	4696	1448.69	95.46	32.22
316	SLU 11	-88	-104	4689	1451.28	95.23	31.76
316	SLU 12	-91	-93	4735	1463.26	96.22	32.49
316	SLU 13	-92	-85	4740	1462.86	96.34	32.71
316	SLU 14	-90	-106	4733	1465.44	96.12	32.25
316	SLU 15	-93	-94	4779	1477.43	97.11	32.98
316	SLU 16	-89	-105	4706	1457.05	95.58	31.99
316	SLU 17	-92	-94	4753	1469.03	96.57	32.71
316	SLU 18	-89	-107	4847	1499.07	98.44	31.91
316	SLU 19	-91	-95	4893	1511.05	99.43	32.64
316	SLU 20	-90	-108	4891	1513.24	99.33	32.4
316	SLU 21	-93	-97	4937	1525.22	100.32	33.13
316	SLU 22	-93	-104	4660	1444.89	94.74	33.28
316	SLU 23	-97	-85	4737	1464.87	96.39	34.49
316	SLU 24	-95	-106	4730	1467.46	96.17	34.04
316	SLU 25	-98	-95	4776	1479.45	97.16	34.76
316	SLU 26	-99	-87	4781	1479.04	97.28	34.98
316	SLU 27	-96	-107	4774	1481.63	97.06	34.53
316	SLU 28	-99	-96	4820	1493.62	98.05	35.25
316	SLU 29	-96	-106	4748	1473.23	96.52	34.26
316	SLU 30	-98	-95	4794	1485.22	97.51	34.99
316	SLU 31	-103	-95	5270	1629.04	107.22	36.6
316	SLU 32	-101	-116	5263	1631.63	106.99	36.14
316	SLU 33	-103	-105	5309	1643.62	107.98	36.87
316	SLU 34	-105	-97	5314	1643.21	108.1	37.09
316	SLU 35	-102	-117	5307	1645.8	107.88	36.63
316	SLU 36	-105	-106	5354	1657.79	108.87	37.36
316	SLU 37	-101	-116	5281	1637.4	107.34	36.37
316	SLU 38	-104	-105	5327	1649.39	108.33	37.09
316	SLU 39	-101	-118	5421	1679.42	110.2	36.29
316	SLU 40	-104	-107	5468	1691.41	111.19	37.02
316	SLU 41	-102	-119	5465	1693.59	111.09	36.78
316	SLU 42	-105	-108	5512	1705.58	112.08	37.51
316	SLU 43	-100	-116	5114	1582.07	103.85	36.07
316	SLU 44	-105	-98	5191	1602.04	105.5	37.28
316	SLU 45	-103	-118	5184	1604.63	105.27	36.82
316	SLU 46	-105	-107	5230	1616.62	106.26	37.55
316	SLU 47	-106	-99	5235	1616.21	106.39	37.77
316	SLU 48	-104	-119	5228	1618.8	106.16	37.31
316	SLU 49	-107	-108	5275	1630.79	107.15	38.04
316	SLU 50	-103	-119	5202	1610.4	105.62	37.05
316	SLU 51	-106	-108	5248	1622.39	106.61	37.77
316	SLU 52	-111	-108	5724	1766.21	116.32	39.38
316	SLU 53	-108	-128	5717	1768.8	116.09	38.93
316	SLU 54	-111	-117	5764	1780.79	117.08	39.65
316	SLU 55	-112	-109	5768	1780.38	117.21	39.87
316	SLU 56	-110	-129	5761	1782.97	116.98	39.42
316	SLU 57	-112	-118	5808	1794.96	117.97	40.15
316	SLU 58	-109	-129	5735	1774.57	116.44	39.16
316	SLU 59	-112	-118	5781	1786.56	117.44	39.88
316	SLU 60	-109	-130	5875	1816.59	119.31	39.08
316	SLU 61	-111	-119	5922	1828.58	120.3	39.8
316	SLU 62	-110	-132	5919	1830.76	120.19	39.57
316	SLU 63	-113	-121	5966	1842.75	121.19	40.29
316	SLU 64	-113	-128	5688	1762.42	115.61	40.45
316	SLU 65	-117	-109	5766	1782.4	117.26	41.66
316	SLU 66	-115	-129	5759	1784.99	117.03	41.21
316	SLU 67	-118	-118	5805	1796.97	118.02	41.93
316	SLU 68	-119	-110	5810	1796.57	118.15	42.15
316	SLU 69	-116	-131	5803	1799.16	117.92	41.7
316	SLU 70	-119	-120	5849	1811.14	118.91	42.42
316	SLU 71	-116	-130	5776	1790.76	117.38	41.43
316	SLU 72	-118	-119	5823	1802.75	118.37	42.16
316	SLU 73	-123	-119	6299	1946.57	128.08	43.77
316	SLU 74	-121	-139	6292	1949.16	127.85	43.31
316	SLU 75	-123	-128	6338	1961.14	128.84	44.04
316	SLU 76	-124	-120	6343	1960.74	128.97	44.26
316	SLU 77	-122	-141	6336	1963.33	128.74	43.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
316	SLU 78	-125	-130	6382	1975.31	129.73	44.53
316	SLU 79	-121	-140	6309	1954.93	128.2	43.54
316	SLU 80	-124	-129	6356	1966.92	129.19	44.26
316	SLU 81	-121	-142	6450	1996.95	131.07	43.46
316	SLU 82	-124	-131	6496	2008.93	132.06	44.19
316	SLU 83	-122	-143	6494	2011.12	131.95	43.95
316	SLU 84	-125	-132	6540	2023.1	132.94	44.68
316	SLE RA 1	-84	-96	4249	1316.07	86.34	30.15
316	SLE RA 2	-87	-83	4301	1329.39	87.45	30.96
316	SLE RA 3	-85	-97	4296	1331.11	87.29	30.66
316	SLE RA 4	-87	-89	4327	1339.1	87.95	31.14
316	SLE RA 5	-88	-84	4330	1338.83	88.04	31.28
316	SLE RA 6	-86	-98	4326	1340.56	87.89	30.98
316	SLE RA 7	-88	-90	4356	1348.55	88.55	31.47
316	SLE RA 8	-86	-97	4308	1334.96	87.53	30.81
316	SLE RA 9	-88	-90	4339	1342.95	88.19	31.29
316	SLE RA 10	-91	-90	4656	1438.83	94.66	32.36
316	SLE RA 11	-89	-104	4652	1440.56	94.51	32.06
316	SLE RA 12	-91	-96	4682	1448.55	95.17	32.54
316	SLE RA 13	-92	-91	4686	1448.28	95.25	32.69
316	SLE RA 14	-90	-104	4681	1450.01	95.1	32.39
316	SLE RA 15	-92	-97	4712	1458	95.76	32.87
316	SLE RA 16	-90	-104	4663	1444.41	94.74	32.21
316	SLE RA 17	-92	-97	4694	1452.4	95.4	32.69
316	SLE RA 18	-89	-105	4757	1472.42	96.65	32.16
316	SLE RA 19	-91	-98	4788	1480.41	97.31	32.64
316	SLE RA 20	-90	-106	4786	1481.87	97.24	32.49
316	SLE RA 21	-92	-99	4817	1489.86	97.9	32.97
316	SLE FR 1	-84	-96	4249	1316.07	86.34	30.15
316	SLE FR 2	-85	-93	4260	1318.73	86.56	30.31
316	SLE FR 3	-84	-96	4261	1319.85	86.58	30.28
316	SLE FR 4	-86	-96	4412	1365.64	89.66	30.92
316	SLE FR 5	-86	-99	4413	1366.75	89.67	30.89
316	SLE FR 6	-87	-100	4503	1394.25	91.5	31.16
316	SLE QP 1	-84	-96	4249	1316.07	86.34	30.15
316	SLE QP 2	-86	-98	4402	1362.98	89.44	30.76
316	SLD 1	327	-38	5158	1563.29	106.89	-109.7
316	SLD 2	404	-81	5100	1545.17	105.53	-134.79
316	SLD 3	372	-267	4060	1280.95	83.78	-120.66
316	SLD 4	449	-310	4003	1262.83	82.42	-145.75
316	SLD 5	-44	274	6303	1854.41	129.95	9.55
316	SLD 6	6	246	6266	1842.74	129.07	-6.61
316	SLD 7	107	-488	2644	913.26	52.93	-26.97
316	SLD 8	157	-516	2607	901.59	52.05	-43.13
316	SLD 9	-328	319	6196	1824.36	126.82	104.64
316	SLD 10	-278	292	6159	1812.69	125.94	88.48
316	SLD 11	-177	-443	2537	883.21	49.8	68.12
316	SLD 12	-128	-471	2500	871.54	48.92	51.96
316	SLD 13	-621	113	4801	1463.13	96.45	207.26
316	SLD 14	-543	70	4743	1445	95.09	182.17
316	SLD 15	-575	-116	3703	1180.78	73.35	196.3
316	SLD 16	-498	-159	3645	1162.66	71.98	171.21
316	SLV 1	556	13	5665	1696.9	118.41	-188.16
316	SLV 2	678	-55	5574	1668.34	116.26	-227.71
316	SLV 3	633	-377	3791	1215.04	78.98	-206.67
316	SLV 4	754	-445	3701	1186.47	76.83	-246.22
316	SLV 5	-32	539	7639	2199.32	158.33	0.54
316	SLV 6	50	494	7578	2180.08	156.88	-26.09
316	SLV 7	223	-761	1394	593.09	26.9	-61.17
316	SLV 8	305	-807	1333	573.86	25.45	-87.79
316	SLV 9	-476	610	7470	2152.09	153.42	149.3
316	SLV 10	-394	564	7409	2132.86	151.98	122.68
316	SLV 11	-222	-691	1226	545.87	21.99	87.6
316	SLV 12	-140	-736	1165	526.64	20.54	60.97
316	SLV 13	-926	248	5103	1539.48	102.04	307.73
316	SLV 14	-804	180	5012	1510.91	99.9	268.18
316	SLV 15	-849	-142	3229	1057.62	62.61	289.22
316	SLV 16	-728	-210	3139	1029.05	60.46	249.67
316	SLV FO 1	620	24	5791	1730.3	121.3	-210.05
316	SLV FO 2	754	-50	5691	1698.87	118.94	-253.55
316	SLV FO 3	705	-405	3730	1200.24	77.93	-230.41
316	SLV FO 4	838	-479	3630	1168.82	75.57	-273.92
316	SLV FO 5	-26	603	7962	2282.95	165.22	-2.48
316	SLV FO 6	64	553	7895	2261.79	163.63	-31.77
316	SLV FO 7	254	-827	1093	516.11	20.64	-70.36
316	SLV FO 8	344	-877	1026	494.95	19.05	-99.65
316	SLV FO 9	-516	681	7777	2231	159.82	161.16
316	SLV FO 10	-425	630	7710	2209.84	158.23	131.87
316	SLV FO 11	-235	-750	908	464.16	15.24	93.28
316	SLV FO 12	-145	-800	841	443	13.65	63.99
316	SLV FO 13	-1010	283	5173	1557.13	103.3	335.43
316	SLV FO 14	-876	208	5073	1525.71	100.94	291.92
316	SLV FO 15	-926	-147	3112	1027.08	59.93	315.06
316	SLV FO 16	-792	-221	3012	995.65	57.57	271.56
316	CRTFP Ux+	0	0	0	0	0	0
316	CRTFP Ux-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
316	CRTFP Uy+	0	0	0	0	0	0
316	CRTFP Uy-	0	0	0	0	0	0
318	SLU 1	-44	-51	2253	623.66	-53.43	12.35
318	SLU 2	-47	-41	2295	633.13	-54.4	13.38
318	SLU 3	-46	-52	2292	634.81	-54.35	12.68
318	SLU 4	-47	-46	2317	640.49	-54.93	13.3
318	SLU 5	-48	-41	2319	640.15	-54.98	13.59
318	SLU 6	-46	-53	2316	641.84	-54.93	12.9
318	SLU 7	-48	-47	2341	647.52	-55.51	13.52
318	SLU 8	-46	-53	2302	637.71	-54.59	12.78
318	SLU 9	-48	-46	2327	643.39	-55.17	13.4
318	SLU 10	-50	-46	2589	714.15	-61.37	14.21
318	SLU 11	-49	-58	2586	715.83	-61.32	13.51
318	SLU 12	-50	-51	2611	721.51	-61.91	14.13
318	SLU 13	-51	-47	2614	721.17	-61.95	14.43
318	SLU 14	-50	-58	2610	722.86	-61.9	13.73
318	SLU 15	-51	-52	2635	728.54	-62.49	14.35
318	SLU 16	-49	-58	2596	718.73	-61.56	13.61
318	SLU 17	-51	-52	2621	724.41	-62.14	14.23
318	SLU 18	-49	-59	2673	739.4	-63.39	13.54
318	SLU 19	-50	-53	2698	745.08	-63.97	14.15
318	SLU 20	-50	-60	2697	746.43	-63.97	13.75
318	SLU 21	-51	-54	2723	752.11	-64.55	14.37
318	SLU 22	-51	-57	2568	712.33	-60.91	14.28
318	SLU 23	-54	-47	2610	721.8	-61.88	15.3
318	SLU 24	-52	-58	2607	723.48	-61.83	14.61
318	SLU 25	-54	-52	2632	729.16	-62.41	15.23
318	SLU 26	-55	-48	2635	728.83	-62.46	15.52
318	SLU 27	-53	-59	2631	730.51	-62.41	14.82
318	SLU 28	-55	-53	2657	736.19	-62.99	15.44
318	SLU 29	-53	-59	2617	726.38	-62.07	14.71
318	SLU 30	-54	-53	2642	732.06	-62.65	15.32
318	SLU 31	-57	-52	2905	802.82	-68.85	16.14
318	SLU 32	-56	-64	2901	804.5	-68.8	15.44
318	SLU 33	-57	-58	2926	810.18	-69.39	16.06
318	SLU 34	-58	-53	2929	809.85	-69.43	16.35
318	SLU 35	-56	-65	2925	811.53	-69.38	15.66
318	SLU 36	-58	-58	2951	817.21	-69.97	16.27
318	SLU 37	-56	-64	2911	807.4	-69.04	15.54
318	SLU 38	-57	-58	2936	813.08	-69.62	16.16
318	SLU 39	-56	-65	2988	828.07	-70.87	15.46
318	SLU 40	-57	-59	3014	833.75	-71.45	16.08
318	SLU 41	-56	-66	3013	835.1	-71.45	15.68
318	SLU 42	-58	-60	3038	840.78	-72.03	16.3
318	SLU 43	-55	-64	2821	780.35	-66.89	15.39
318	SLU 44	-58	-54	2863	789.82	-67.86	16.42
318	SLU 45	-57	-65	2859	791.5	-67.81	15.73
318	SLU 46	-58	-59	2885	797.19	-68.4	16.34
318	SLU 47	-59	-55	2887	796.85	-68.44	16.64
318	SLU 48	-57	-66	2884	798.53	-68.39	15.94
318	SLU 49	-59	-60	2909	804.21	-68.98	16.56
318	SLU 50	-57	-66	2869	794.4	-68.05	15.83
318	SLU 51	-59	-60	2895	800.09	-68.63	16.44
318	SLU 52	-61	-59	3157	870.84	-74.83	17.25
318	SLU 53	-60	-71	3153	872.52	-74.79	16.56
318	SLU 54	-61	-65	3179	878.21	-75.37	17.18
318	SLU 55	-62	-60	3181	877.87	-75.42	17.47
318	SLU 56	-61	-72	3178	879.55	-75.37	16.77
318	SLU 57	-62	-65	3203	885.23	-75.95	17.39
318	SLU 58	-60	-71	3163	875.42	-75.02	16.66
318	SLU 59	-62	-65	3189	881.11	-75.61	17.27
318	SLU 60	-60	-72	3241	896.09	-76.85	16.58
318	SLU 61	-61	-66	3266	901.78	-77.43	17.2
318	SLU 62	-61	-73	3265	903.12	-77.43	16.8
318	SLU 63	-62	-67	3290	908.8	-78.02	17.42
318	SLU 64	-62	-71	3136	869.02	-74.37	17.32
318	SLU 65	-65	-60	3178	878.49	-75.34	18.35
318	SLU 66	-63	-72	3175	880.18	-75.29	17.65
318	SLU 67	-65	-65	3200	885.86	-75.88	18.27
318	SLU 68	-66	-61	3202	885.52	-75.92	18.56
318	SLU 69	-64	-72	3199	887.2	-75.87	17.87
318	SLU 70	-66	-66	3224	892.89	-76.46	18.49
318	SLU 71	-64	-72	3185	883.08	-75.53	17.75
318	SLU 72	-65	-66	3210	888.76	-76.11	18.37
318	SLU 73	-68	-66	3472	959.52	-82.31	19.18
318	SLU 74	-67	-77	3469	961.2	-82.27	18.48
318	SLU 75	-68	-71	3494	966.88	-82.85	19.1
318	SLU 76	-69	-66	3497	966.54	-82.9	19.4
318	SLU 77	-67	-78	3493	968.22	-82.85	18.7
318	SLU 78	-69	-72	3518	973.91	-83.43	19.32
318	SLU 79	-67	-78	3479	964.1	-82.5	18.58
318	SLU 80	-68	-71	3504	969.78	-83.09	19.2
318	SLU 81	-67	-78	3556	984.77	-84.33	18.51
318	SLU 82	-68	-72	3581	990.45	-84.91	19.13
318	SLU 83	-68	-79	3581	991.79	-84.91	18.72
318	SLU 84	-69	-73	3606	997.48	-85.5	19.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
318	SLE RA 1	-46	-53	2343	648.99	-55.56	12.9
318	SLE RA 2	-48	-46	2371	655.31	-56.21	13.59
318	SLE RA 3	-47	-54	2369	656.43	-56.18	13.12
318	SLE RA 4	-48	-49	2386	660.21	-56.57	13.53
318	SLE RA 5	-49	-46	2387	659.99	-56.6	13.73
318	SLE RA 6	-48	-54	2385	661.11	-56.57	13.27
318	SLE RA 7	-49	-50	2402	664.9	-56.95	13.68
318	SLE RA 8	-47	-54	2375	658.36	-56.34	13.19
318	SLE RA 9	-48	-50	2392	662.15	-56.73	13.6
318	SLE RA 10	-50	-50	2567	709.32	-60.86	14.14
318	SLE RA 11	-49	-57	2565	710.44	-60.83	13.68
318	SLE RA 12	-50	-53	2582	714.23	-61.22	14.09
318	SLE RA 13	-51	-50	2583	714	-61.25	14.28
318	SLE RA 14	-50	-58	2581	715.12	-61.21	13.82
318	SLE RA 15	-51	-54	2598	718.91	-61.6	14.23
318	SLE RA 16	-50	-58	2572	712.37	-60.99	13.74
318	SLE RA 17	-51	-53	2588	716.16	-61.38	14.15
318	SLE RA 18	-49	-58	2623	726.15	-62.2	13.69
318	SLE RA 19	-50	-54	2640	729.94	-62.59	14.1
318	SLE RA 20	-50	-59	2639	730.84	-62.59	13.84
318	SLE RA 21	-51	-55	2656	734.63	-62.98	14.25
318	SLE FR 1	-46	-53	2343	648.99	-55.56	12.9
318	SLE FR 2	-47	-52	2349	650.25	-55.69	13.04
318	SLE FR 3	-47	-53	2349	650.86	-55.72	12.96
318	SLE FR 4	-48	-53	2433	673.4	-57.68	13.27
318	SLE FR 5	-47	-55	2433	674.01	-57.71	13.19
318	SLE FR 6	-48	-56	2483	687.57	-58.88	13.3
318	SLE QP 1	-46	-53	2343	648.99	-55.56	12.9
318	SLE QP 2	-47	-54	2427	672.14	-57.56	13.14
318	SLD 1	183	-21	2824	762.64	-66.55	-55.69
318	SLD 2	226	-43	2794	754.45	-65.88	-69.24
318	SLD 3	208	-149	2220	627.4	-52.6	-66.31
318	SLD 4	251	-172	2191	619.21	-51.93	-79.86
318	SLD 5	-23	154	3466	905.81	-81.53	10.93
318	SLD 6	5	140	3447	900.54	-81.09	2.2
318	SLD 7	59	-274	1455	455.01	-35.03	-24.47
318	SLD 8	87	-289	1436	449.74	-34.6	-33.2
318	SLD 9	-182	180	3418	894.54	-80.51	59.48
318	SLD 10	-154	165	3399	889.27	-80.08	50.75
318	SLD 11	-99	-249	1407	443.74	-34.02	24.07
318	SLD 12	-72	-263	1388	438.47	-33.58	15.35
318	SLD 13	-346	63	2663	725.07	-63.18	106.14
318	SLD 14	-302	40	2634	716.88	-62.51	92.58
318	SLD 15	-321	-66	2060	589.83	-49.23	95.52
318	SLD 16	-278	-88	2030	581.64	-48.56	81.96
318	SLV 1	311	8	3092	823.63	-72.65	-93.73
318	SLV 2	379	-28	3045	810.73	-71.59	-115.1
318	SLV 3	353	-211	2062	592.81	-48.85	-111.77
318	SLV 4	421	-247	2016	579.91	-47.79	-133.14
318	SLV 5	-16	303	4196	1070.07	-98.39	12.42
318	SLV 6	30	279	4165	1061.38	-97.67	-1.96
318	SLV 7	124	-427	765	300.68	-19.04	-47.71
318	SLV 8	169	-451	734	291.99	-18.32	-62.09
318	SLV 9	-264	342	4120	1052.29	-96.79	88.36
318	SLV 10	-218	318	4089	1043.6	-96.07	73.98
318	SLV 11	-125	-388	689	282.9	-17.44	28.24
318	SLV 12	-79	-412	658	274.21	-16.72	13.86
318	SLV 13	-516	138	2838	764.37	-67.32	159.41
318	SLV 14	-448	102	2792	751.47	-66.26	138.05
318	SLV 15	-474	-81	1809	533.55	-43.52	141.37
318	SLV 16	-406	-117	1762	520.65	-42.46	120.01
318	SLV FO 1	347	14	3158	838.78	-74.16	-104.42
318	SLV FO 2	422	-25	3107	824.58	-73	-127.92
318	SLV FO 3	393	-227	2026	584.88	-47.98	-124.26
318	SLV FO 4	468	-266	1975	570.69	-46.81	-147.76
318	SLV FO 5	-13	339	4373	1109.86	-102.47	12.35
318	SLV FO 6	38	313	4339	1100.3	-101.68	-3.47
318	SLV FO 7	141	-465	598	263.53	-15.18	-53.79
318	SLV FO 8	191	-491	564	253.98	-14.4	-69.61
318	SLV FO 9	-286	382	4290	1090.3	-100.71	95.88
318	SLV FO 10	-235	356	4255	1080.75	-99.93	80.06
318	SLV FO 11	-132	-422	515	243.98	-13.43	29.75
318	SLV FO 12	-82	-448	481	234.42	-12.64	13.93
318	SLV FO 13	-563	157	2879	773.59	-68.3	174.04
318	SLV FO 14	-488	118	2828	759.4	-67.13	150.54
318	SLV FO 15	-517	-84	1747	519.69	-42.11	154.2
318	SLV FO 16	-442	-123	1696	505.5	-40.95	130.7
318	CRTFP Ux+	0	0	0	0	0	0
318	CRTFP Ux-	0	0	0	0	0	0
318	CRTFP Uy+	0	0	0	0	0	0
318	CRTFP Uy-	0	0	0	0	0	0
319	SLU 1	-66	-72	3306	946.98	-83.18	19.33
319	SLU 2	-70	-56	3367	961	-84.66	20.94
319	SLU 3	-68	-73	3363	963.95	-84.63	19.85
319	SLU 4	-70	-64	3400	972.36	-85.51	20.81
319	SLU 5	-71	-57	3403	971.72	-85.57	21.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
319	SLU 6	-69	-74	3399	974.66	-85.54	20.18
319	SLU 7	-72	-65	3436	983.08	-86.42	21.15
319	SLU 8	-69	-74	3378	968.41	-85	20
319	SLU 9	-71	-64	3414	976.82	-85.89	20.97
319	SLU 10	-75	-63	3799	1084.08	-95.53	22.26
319	SLU 11	-73	-81	3795	1087.02	-95.49	21.17
319	SLU 12	-75	-71	3831	1095.44	-96.38	22.14
319	SLU 13	-76	-65	3835	1094.79	-96.44	22.6
319	SLU 14	-74	-82	3831	1097.74	-96.4	21.51
319	SLU 15	-76	-72	3867	1106.15	-97.29	22.48
319	SLU 16	-73	-81	3810	1091.48	-95.87	21.32
319	SLU 17	-76	-72	3846	1099.9	-96.76	22.29
319	SLU 18	-73	-83	3923	1122.8	-98.71	21.22
319	SLU 19	-75	-73	3960	1131.22	-99.6	22.18
319	SLU 20	-74	-84	3959	1133.52	-99.62	21.55
319	SLU 21	-77	-74	3995	1141.93	-100.51	22.52
319	SLU 22	-76	-80	3768	1081.18	-94.77	22.34
319	SLU 23	-80	-64	3829	1095.2	-96.25	23.95
319	SLU 24	-78	-82	3825	1098.15	-96.21	22.86
319	SLU 25	-80	-72	3861	1106.56	-97.1	23.83
319	SLU 26	-81	-65	3864	1105.92	-97.16	24.29
319	SLU 27	-79	-83	3861	1108.86	-97.12	23.2
319	SLU 28	-82	-73	3897	1117.28	-98.01	24.17
319	SLU 29	-79	-82	3840	1102.61	-96.59	23.02
319	SLU 30	-81	-73	3876	1111.02	-97.48	23.98
319	SLU 31	-85	-72	4260	1218.28	-107.12	25.28
319	SLU 32	-83	-89	4257	1221.22	-107.08	24.18
319	SLU 33	-85	-80	4293	1229.64	-107.97	25.15
319	SLU 34	-86	-73	4296	1228.99	-108.03	25.62
319	SLU 35	-84	-90	4293	1231.94	-107.99	24.52
319	SLU 36	-86	-81	4329	1240.35	-108.88	25.49
319	SLU 37	-83	-90	4271	1225.68	-107.46	24.34
319	SLU 38	-86	-80	4308	1234.1	-108.35	25.31
319	SLU 39	-83	-91	4385	1257	-110.3	24.23
319	SLU 40	-85	-82	4421	1265.42	-111.18	25.2
319	SLU 41	-84	-92	4421	1267.72	-111.21	24.57
319	SLU 42	-87	-83	4457	1276.13	-112.1	25.54
319	SLU 43	-83	-90	4140	1185.06	-104.17	24.09
319	SLU 44	-87	-74	4201	1199.08	-105.65	25.7
319	SLU 45	-85	-92	4197	1202.03	-105.61	24.61
319	SLU 46	-87	-82	4233	1210.44	-106.5	25.58
319	SLU 47	-88	-75	4236	1209.8	-106.56	26.04
319	SLU 48	-86	-93	4233	1212.74	-106.52	24.95
319	SLU 49	-88	-83	4269	1221.16	-107.41	25.92
319	SLU 50	-85	-92	4212	1206.49	-105.99	24.77
319	SLU 51	-87	-83	4248	1214.9	-106.87	25.73
319	SLU 52	-91	-82	4632	1322.16	-116.51	27.03
319	SLU 53	-89	-99	4629	1325.11	-116.48	25.93
319	SLU 54	-92	-90	4665	1333.52	-117.36	26.9
319	SLU 55	-92	-83	4668	1332.87	-117.42	27.37
319	SLU 56	-90	-100	4665	1335.82	-117.39	26.27
319	SLU 57	-93	-91	4701	1344.23	-118.27	27.24
319	SLU 58	-90	-100	4643	1329.57	-116.85	26.09
319	SLU 59	-92	-91	4680	1337.98	-117.74	27.06
319	SLU 60	-90	-101	4757	1360.88	-119.69	25.98
319	SLU 61	-92	-92	4793	1369.3	-120.58	26.95
319	SLU 62	-91	-102	4793	1371.6	-120.6	26.32
319	SLU 63	-93	-93	4829	1380.01	-121.49	27.29
319	SLU 64	-93	-99	4601	1319.26	-115.75	27.1
319	SLU 65	-97	-83	4662	1333.28	-117.23	28.72
319	SLU 66	-95	-100	4658	1336.23	-117.2	27.62
319	SLU 67	-97	-91	4695	1344.64	-118.08	28.59
319	SLU 68	-98	-84	4698	1344	-118.14	29.06
319	SLU 69	-96	-101	4694	1346.94	-118.11	27.96
319	SLU 70	-98	-92	4731	1355.36	-118.99	28.93
319	SLU 71	-95	-101	4673	1340.69	-117.57	27.78
319	SLU 72	-97	-91	4710	1349.1	-118.46	28.75
319	SLU 73	-101	-91	5094	1456.36	-128.1	30.04
319	SLU 74	-99	-108	5090	1459.31	-128.06	28.95
319	SLU 75	-102	-98	5127	1467.72	-128.95	29.92
319	SLU 76	-103	-92	5130	1467.08	-129.01	30.38
319	SLU 77	-101	-109	5126	1470.02	-128.97	29.29
319	SLU 78	-103	-99	5163	1478.43	-129.86	30.25
319	SLU 79	-100	-109	5105	1463.77	-128.44	29.1
319	SLU 80	-102	-99	5141	1472.18	-129.33	30.07
319	SLU 81	-100	-110	5218	1495.08	-131.28	28.99
319	SLU 82	-102	-100	5255	1503.5	-132.17	29.96
319	SLU 83	-101	-111	5254	1505.8	-132.19	29.33
319	SLU 84	-103	-101	5291	1514.21	-133.08	30.3
319	SLE RA 1	-69	-74	3438	985.32	-86.49	20.19
319	SLE RA 2	-72	-63	3479	994.67	-87.48	21.26
319	SLE RA 3	-70	-75	3476	996.63	-87.46	20.53
319	SLE RA 4	-72	-69	3500	1002.24	-88.05	21.18
319	SLE RA 5	-73	-64	3503	1001.81	-88.09	21.49
319	SLE RA 6	-71	-76	3500	1003.78	-88.06	20.76
319	SLE RA 7	-73	-69	3524	1009.39	-88.65	21.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
319	SLE RA 8	-71	-75	3486	999.61	-87.71	20.64
319	SLE RA 9	-72	-69	3510	1005.22	-88.3	21.28
319	SLE RA 10	-75	-69	3766	1076.72	-94.73	22.15
319	SLE RA 11	-74	-80	3764	1078.68	-94.7	21.42
319	SLE RA 12	-75	-74	3788	1084.29	-95.29	22.06
319	SLE RA 13	-76	-69	3790	1083.86	-95.33	22.37
319	SLE RA 14	-74	-81	3788	1085.83	-95.31	21.64
319	SLE RA 15	-76	-75	3812	1091.44	-95.9	22.29
319	SLE RA 16	-74	-81	3774	1081.66	-94.95	21.52
319	SLE RA 17	-75	-74	3798	1087.27	-95.55	22.17
319	SLE RA 18	-74	-81	3849	1102.54	-96.85	21.45
319	SLE RA 19	-75	-75	3874	1108.15	-97.44	22.09
319	SLE RA 20	-75	-82	3873	1109.68	-97.45	21.67
319	SLE RA 21	-76	-76	3898	1115.29	-98.04	22.32
319	SLE FR 1	-69	-74	3438	985.32	-86.49	20.19
319	SLE FR 2	-70	-72	3446	987.19	-86.69	20.4
319	SLE FR 3	-70	-74	3448	988.18	-86.74	20.28
319	SLE FR 4	-71	-74	3570	1022.36	-89.8	20.78
319	SLE FR 5	-71	-77	3571	1023.34	-89.84	20.65
319	SLE FR 6	-71	-78	3644	1043.93	-91.67	20.82
319	SLE QP 1	-69	-74	3438	985.32	-86.49	20.19
319	SLE QP 2	-71	-76	3561	1020.49	-89.6	20.56
319	SLD 1	274	-22	4113	1148.89	-102.51	-85.49
319	SLD 2	339	-54	4073	1137.38	-101.57	-106.34
319	SLD 3	311	-218	3240	947.04	-81.11	-102.18
319	SLD 4	376	-250	3200	935.54	-80.17	-123.03
319	SLD 5	-34	242	5058	1367.12	-126.08	17.65
319	SLD 6	8	222	5032	1359.71	-125.48	4.22
319	SLD 7	88	-410	2148	694.3	-54.76	-37.99
319	SLD 8	130	-430	2122	686.89	-54.16	-51.42
319	SLD 9	-271	278	5001	1354.08	-125.04	92.54
319	SLD 10	-230	257	4975	1346.68	-124.43	79.12
319	SLD 11	-149	-374	2091	681.26	-53.72	36.91
319	SLD 12	-107	-395	2065	673.85	-53.12	23.48
319	SLD 13	-517	97	3923	1105.44	-99.02	164.16
319	SLD 14	-452	65	3883	1093.93	-98.09	143.31
319	SLD 15	-480	-98	3050	903.59	-77.63	147.47
319	SLD 16	-416	-130	3010	892.09	-76.69	126.62
319	SLV 1	466	22	4488	1236.26	-111.38	-144.09
319	SLV 2	568	-28	4425	1218.13	-109.91	-176.95
319	SLV 3	529	-311	2999	891.76	-74.87	-172.44
319	SLV 4	630	-362	2935	873.63	-73.39	-205.3
319	SLV 5	-23	469	6111	1611.09	-151.79	20.3
319	SLV 6	46	435	6068	1598.88	-150.8	-1.83
319	SLV 7	184	-643	1145	462.76	-30.07	-74.2
319	SLV 8	253	-677	1102	450.56	-29.08	-96.33
319	SLV 9	-394	525	6021	1590.41	-150.12	137.46
319	SLV 10	-326	491	5978	1578.21	-149.13	115.33
319	SLV 11	-187	-587	1055	442.09	-28.4	42.96
319	SLV 12	-118	-621	1012	429.88	-27.41	20.83
319	SLV 13	-772	209	4188	1167.34	-105.81	246.43
319	SLV 14	-670	159	4124	1149.21	-104.33	213.57
319	SLV 15	-709	-125	2698	822.84	-69.29	218.08
319	SLV 16	-608	-175	2634	804.71	-67.82	185.22
319	SLV FO 1	520	32	4581	1257.84	-113.56	-160.56
319	SLV FO 2	632	-23	4511	1237.9	-111.94	-196.71
319	SLV FO 3	588	-335	2942	878.89	-73.39	-191.74
319	SLV FO 4	700	-390	2872	858.95	-71.77	-227.89
319	SLV FO 5	-18	523	6366	1670.15	-158.01	20.27
319	SLV FO 6	57	486	6319	1656.72	-156.92	-4.07
319	SLV FO 7	210	-700	903	406.99	-24.12	-83.68
319	SLV FO 8	285	-737	856	393.57	-23.03	-108.01
319	SLV FO 9	-427	585	6267	1647.41	-156.17	149.14
319	SLV FO 10	-351	548	6220	1633.98	-155.08	124.81
319	SLV FO 11	-199	-638	804	384.25	-22.28	45.2
319	SLV FO 12	-123	-676	757	370.82	-21.19	20.86
319	SLV FO 13	-842	238	4251	1182.02	-107.43	269.02
319	SLV FO 14	-730	182	4181	1162.08	-105.81	232.87
319	SLV FO 15	-773	-129	2612	803.08	-67.26	237.84
319	SLV FO 16	-661	-185	2542	783.13	-65.64	201.69
319	CRTFP Ux+	0	0	0	0	0	0
319	CRTFP Ux-	0	0	0	0	0	0
319	CRTFP Uy+	0	0	0	0	0	0
319	CRTFP Uy-	0	0	0	0	0	0
320	SLU 1	-77	-72	3779	1089.51	2.4	25.1
320	SLU 2	-82	-53	3848	1105.22	2.47	26.52
320	SLU 3	-79	-74	3845	1109.11	2.43	25.76
320	SLU 4	-82	-62	3886	1118.54	2.48	26.62
320	SLU 5	-83	-54	3889	1117.63	2.49	26.96
320	SLU 6	-81	-75	3886	1121.52	2.45	26.2
320	SLU 7	-83	-63	3927	1130.95	2.49	27.05
320	SLU 8	-80	-74	3862	1114.33	2.44	25.97
320	SLU 9	-83	-63	3903	1123.75	2.48	26.82
320	SLU 10	-87	-61	4342	1247.01	2.75	28.34
320	SLU 11	-85	-81	4339	1250.9	2.72	27.58
320	SLU 12	-87	-70	4380	1260.33	2.76	28.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
320	SLU 13	-88	-62	4383	1259.42	2.77	28.78
320	SLU 14	-86	-82	4380	1263.31	2.74	28.02
320	SLU 15	-89	-71	4421	1272.74	2.78	28.87
320	SLU 16	-85	-82	4356	1256.12	2.72	27.79
320	SLU 17	-88	-70	4397	1265.54	2.76	28.64
320	SLU 18	-85	-83	4486	1292.07	2.8	27.7
320	SLU 19	-88	-72	4527	1301.49	2.84	28.55
320	SLU 20	-86	-84	4527	1304.48	2.82	28.14
320	SLU 21	-89	-73	4568	1313.9	2.86	28.99
320	SLU 22	-89	-80	4305	1243.28	2.79	28.93
320	SLU 23	-93	-61	4373	1258.98	2.86	30.34
320	SLU 24	-91	-82	4370	1262.88	2.82	29.59
320	SLU 25	-94	-70	4411	1272.3	2.87	30.44
320	SLU 26	-95	-62	4415	1271.39	2.88	30.78
320	SLU 27	-92	-83	4412	1275.29	2.84	30.02
320	SLU 28	-95	-71	4453	1284.71	2.88	30.87
320	SLU 29	-92	-82	4387	1268.09	2.83	29.8
320	SLU 30	-94	-71	4428	1277.52	2.87	30.65
320	SLU 31	-99	-69	4868	1400.77	3.14	32.16
320	SLU 32	-96	-89	4865	1404.67	3.11	31.41
320	SLU 33	-99	-78	4906	1414.09	3.15	32.26
320	SLU 34	-100	-70	4909	1413.18	3.16	32.6
320	SLU 35	-98	-90	4906	1417.07	3.13	31.84
320	SLU 36	-100	-79	4947	1426.5	3.17	32.7
320	SLU 37	-97	-90	4882	1409.88	3.11	31.62
320	SLU 38	-100	-79	4923	1419.3	3.15	32.47
320	SLU 39	-97	-91	5011	1445.83	3.19	31.53
320	SLU 40	-99	-80	5052	1455.25	3.24	32.38
320	SLU 41	-98	-92	5052	1458.24	3.21	31.96
320	SLU 42	-101	-81	5093	1467.66	3.25	32.81
320	SLU 43	-96	-91	4733	1363.65	2.99	31.32
320	SLU 44	-101	-72	4801	1379.35	3.06	32.74
320	SLU 45	-98	-92	4798	1383.25	3.02	31.98
320	SLU 46	-101	-81	4839	1392.67	3.06	32.83
320	SLU 47	-102	-73	4842	1391.76	3.07	33.18
320	SLU 48	-100	-94	4840	1395.66	3.04	32.42
320	SLU 49	-102	-82	4881	1405.08	3.08	33.27
320	SLU 50	-99	-93	4815	1388.46	3.03	32.19
320	SLU 51	-102	-82	4856	1397.89	3.07	33.04
320	SLU 52	-106	-79	5296	1521.14	3.34	34.56
320	SLU 53	-104	-100	5293	1525.04	3.3	33.8
320	SLU 54	-106	-89	5334	1534.46	3.34	34.66
320	SLU 55	-108	-81	5337	1533.55	3.36	35
320	SLU 56	-105	-101	5334	1537.45	3.32	34.24
320	SLU 57	-108	-90	5375	1546.87	3.36	35.09
320	SLU 58	-105	-101	5310	1530.25	3.31	34.01
320	SLU 59	-107	-89	5351	1539.68	3.35	34.86
320	SLU 60	-104	-102	5439	1566.2	3.39	33.92
320	SLU 61	-107	-90	5480	1575.63	3.43	34.77
320	SLU 62	-106	-103	5480	1578.61	3.41	34.36
320	SLU 63	-108	-92	5521	1588.04	3.45	35.21
320	SLU 64	-108	-99	5259	1517.41	3.38	35.15
320	SLU 65	-112	-80	5327	1533.12	3.45	36.56
320	SLU 66	-110	-100	5324	1537.01	3.41	35.81
320	SLU 67	-113	-89	5365	1546.44	3.45	36.66
320	SLU 68	-114	-81	5368	1545.53	3.46	37
320	SLU 69	-111	-102	5365	1549.42	3.43	36.24
320	SLU 70	-114	-90	5406	1558.84	3.47	37.09
320	SLU 71	-111	-101	5341	1542.23	3.42	36.02
320	SLU 72	-113	-90	5382	1551.65	3.46	36.87
320	SLU 73	-118	-87	5821	1674.91	3.73	38.38
320	SLU 74	-116	-108	5818	1678.8	3.69	37.63
320	SLU 75	-118	-97	5859	1688.23	3.73	38.48
320	SLU 76	-119	-89	5862	1687.31	3.75	38.82
320	SLU 77	-117	-109	5860	1691.21	3.71	38.06
320	SLU 78	-120	-98	5901	1700.63	3.75	38.91
320	SLU 79	-116	-109	5835	1684.01	3.7	37.84
320	SLU 80	-119	-97	5876	1693.44	3.74	38.69
320	SLU 81	-116	-110	5965	1719.97	3.78	37.75
320	SLU 82	-119	-98	6006	1729.39	3.82	38.6
320	SLU 83	-117	-111	6006	1732.37	3.8	38.18
320	SLU 84	-120	-100	6047	1741.8	3.84	39.03
320	SLE RA 1	-81	-74	3929	1133.44	2.51	26.19
320	SLE RA 2	-83	-62	3975	1143.92	2.56	27.14
320	SLE RA 3	-82	-75	3973	1146.51	2.54	26.64
320	SLE RA 4	-84	-68	4000	1152.8	2.56	27.2
320	SLE RA 5	-84	-62	4003	1152.19	2.57	27.43
320	SLE RA 6	-83	-76	4001	1154.78	2.55	26.93
320	SLE RA 7	-85	-68	4028	1161.07	2.57	27.49
320	SLE RA 8	-82	-76	3985	1149.99	2.54	26.78
320	SLE RA 9	-84	-68	4012	1156.27	2.57	27.34
320	SLE RA 10	-87	-67	4305	1238.44	2.75	28.35
320	SLE RA 11	-86	-80	4303	1241.04	2.72	27.85
320	SLE RA 12	-87	-73	4330	1247.32	2.75	28.42
320	SLE RA 13	-88	-67	4332	1246.71	2.76	28.64
320	SLE RA 14	-86	-81	4330	1249.31	2.74	28.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
320	SLE RA 15	-88	-74	4358	1255.59	2.76	28.71
320	SLE RA 16	-86	-81	4314	1244.51	2.73	27.99
320	SLE RA 17	-88	-73	4341	1250.8	2.75	28.56
320	SLE RA 18	-86	-82	4400	1268.48	2.78	27.93
320	SLE RA 19	-88	-74	4428	1274.76	2.81	28.5
320	SLE RA 20	-87	-82	4428	1276.75	2.79	28.22
320	SLE RA 21	-88	-75	4455	1283.04	2.82	28.79
320	SLE FR 1	-81	-74	3929	1133.44	2.51	26.19
320	SLE FR 2	-81	-72	3939	1135.54	2.52	26.38
320	SLE FR 3	-81	-75	3941	1136.75	2.52	26.31
320	SLE FR 4	-83	-74	4080	1176.05	2.6	26.9
320	SLE FR 5	-82	-77	4082	1177.26	2.6	26.83
320	SLE FR 6	-83	-78	4165	1200.96	2.65	27.06
320	SLE QP 1	-81	-74	3929	1133.44	2.51	26.19
320	SLE QP 2	-82	-77	4071	1173.96	2.59	26.71
320	SLD 1	322	-5	4663	1310.25	4.16	-99.84
320	SLD 2	397	-39	4621	1298.38	4	-123.37
320	SLD 3	364	-241	3675	1081.96	3.36	-113.65
320	SLD 4	439	-275	3633	1070.1	3.21	-137.18
320	SLD 5	-38	308	5755	1563.11	4.29	13.74
320	SLD 6	10	286	5728	1555.47	4.19	-1.41
320	SLD 7	103	-477	2460	802.17	1.65	-32.29
320	SLD 8	152	-499	2433	794.53	1.55	-47.44
320	SLD 9	-316	346	5709	1553.38	3.64	100.87
320	SLD 10	-267	324	5682	1545.74	3.54	85.72
320	SLD 11	-174	-439	2414	792.44	0.99	54.84
320	SLD 12	-126	-461	2387	784.8	0.89	39.69
320	SLD 13	-604	122	4509	1277.81	1.98	190.61
320	SLD 14	-528	88	4467	1265.95	1.82	167.08
320	SLD 15	-561	-114	3520	1049.53	1.18	176.8
320	SLD 16	-486	-148	3478	1037.67	1.03	153.27
320	SLV 1	546	52	5071	1404.26	5.09	-170.23
320	SLV 2	665	-2	5005	1385.56	4.85	-207.31
320	SLV 3	618	-350	3384	1014.64	3.74	-193.63
320	SLV 4	737	-403	3318	995.94	3.5	-230.72
320	SLV 5	-25	581	6942	1837.46	5.44	10.05
320	SLV 6	55	545	6897	1824.87	5.28	-14.92
320	SLV 7	215	-758	1318	538.73	0.93	-67.96
320	SLV 8	295	-794	1274	526.14	0.77	-92.93
320	SLV 9	-459	641	6868	1821.77	4.42	146.36
320	SLV 10	-379	605	6823	1809.18	4.26	121.39
320	SLV 11	-219	-698	1244	523.05	-0.09	68.35
320	SLV 12	-139	-734	1200	510.45	-0.26	43.38
320	SLV 13	-901	250	4824	1351.97	1.69	284.14
320	SLV 14	-782	197	4758	1333.27	1.45	247.06
320	SLV 15	-829	-151	3137	962.35	0.33	260.74
320	SLV 16	-710	-205	3071	943.65	0.09	223.66
320	SLV FO 1	609	64	5171	1427.29	5.34	-189.93
320	SLV FO 2	740	6	5098	1406.72	5.08	-230.71
320	SLV FO 3	688	-377	3315	998.71	3.85	-215.67
320	SLV FO 4	819	-436	3242	978.14	3.59	-256.46
320	SLV FO 5	-19	647	7229	1903.81	5.73	8.38
320	SLV FO 6	69	607	7180	1889.96	5.55	-19.08
320	SLV FO 7	245	-826	1043	475.21	0.76	-77.43
320	SLV FO 8	333	-865	994	461.36	0.58	-104.89
320	SLV FO 9	-497	712	7147	1886.55	4.6	158.32
320	SLV FO 10	-409	673	7098	1872.7	4.43	130.86
320	SLV FO 11	-233	-760	962	457.95	-0.36	72.51
320	SLV FO 12	-145	-800	913	444.1	-0.54	45.05
320	SLV FO 13	-983	283	4899	1369.77	1.6	309.89
320	SLV FO 14	-852	224	4826	1349.2	1.33	269.1
320	SLV FO 15	-904	-159	3043	941.19	0.11	284.14
320	SLV FO 16	-773	-218	2970	920.62	-0.16	243.35
320	CRTFP Ux+	0	0	0	0	0	0
320	CRTFP Ux-	0	0	0	0	0	0
320	CRTFP Uy+	0	0	0	0	0	0
320	CRTFP Uy-	0	0	0	0	0	0
321	SLU 1	-77	-58	3722	1066.94	1.15	24.94
321	SLU 2	-81	-38	3789	1082.05	1.18	26.35
321	SLU 3	-79	-59	3787	1086.25	1.15	25.6
321	SLU 4	-81	-47	3827	1095.32	1.17	26.44
321	SLU 5	-82	-39	3830	1094.3	1.18	26.78
321	SLU 6	-80	-60	3828	1098.51	1.16	26.03
321	SLU 7	-83	-48	3868	1107.58	1.18	26.88
321	SLU 8	-79	-60	3804	1091.44	1.15	25.81
321	SLU 9	-82	-48	3844	1100.51	1.17	26.66
321	SLU 10	-86	-44	4278	1221.38	1.26	28.16
321	SLU 11	-84	-65	4276	1225.58	1.24	27.4
321	SLU 12	-87	-53	4316	1234.65	1.26	28.25
321	SLU 13	-88	-45	4319	1233.63	1.27	28.59
321	SLU 14	-85	-66	4317	1237.83	1.24	27.84
321	SLU 15	-88	-54	4357	1246.9	1.26	28.69
321	SLU 16	-85	-65	4293	1230.77	1.24	27.62
321	SLU 17	-87	-53	4333	1239.84	1.26	28.46
321	SLU 18	-84	-66	4420	1265.97	1.27	27.52
321	SLU 19	-87	-54	4461	1275.04	1.29	28.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
321	SLU 20	-86	-67	4461	1278.23	1.27	27.96
321	SLU 21	-88	-55	4501	1287.3	1.29	28.8
321	SLU 22	-88	-63	4239	1216.99	1.34	28.73
321	SLU 23	-93	-43	4305	1232.1	1.37	30.14
321	SLU 24	-90	-65	4303	1236.31	1.34	29.39
321	SLU 25	-93	-53	4343	1245.37	1.36	30.24
321	SLU 26	-94	-44	4346	1244.36	1.37	30.58
321	SLU 27	-92	-65	4344	1248.56	1.35	29.83
321	SLU 28	-94	-54	4384	1257.63	1.37	30.67
321	SLU 29	-91	-65	4320	1241.49	1.34	29.6
321	SLU 30	-94	-53	4361	1250.56	1.36	30.45
321	SLU 31	-98	-49	4794	1371.43	1.45	31.95
321	SLU 32	-96	-70	4792	1375.63	1.43	31.2
321	SLU 33	-98	-58	4832	1384.7	1.45	32.04
321	SLU 34	-99	-50	4835	1383.68	1.46	32.38
321	SLU 35	-97	-71	4833	1387.88	1.44	31.63
321	SLU 36	-100	-59	4873	1396.95	1.45	32.48
321	SLU 37	-96	-71	4809	1380.82	1.43	31.41
321	SLU 38	-99	-59	4849	1389.89	1.45	32.26
321	SLU 39	-96	-72	4937	1416.02	1.46	31.31
321	SLU 40	-99	-60	4977	1425.09	1.48	32.16
321	SLU 41	-97	-73	4978	1428.28	1.46	31.75
321	SLU 42	-100	-61	5018	1437.35	1.48	32.59
321	SLU 43	-96	-73	4662	1335.57	1.42	31.12
321	SLU 44	-100	-53	4729	1350.69	1.45	32.53
321	SLU 45	-98	-74	4727	1354.89	1.43	31.78
321	SLU 46	-100	-62	4767	1363.96	1.45	32.62
321	SLU 47	-101	-54	4770	1362.94	1.46	32.97
321	SLU 48	-99	-75	4768	1367.14	1.44	32.21
321	SLU 49	-102	-63	4808	1376.21	1.45	33.06
321	SLU 50	-98	-75	4744	1360.08	1.43	31.99
321	SLU 51	-101	-63	4784	1369.14	1.45	32.84
321	SLU 52	-105	-59	5218	1490.01	1.54	34.34
321	SLU 53	-103	-80	5216	1494.22	1.52	33.59
321	SLU 54	-106	-68	5256	1503.29	1.54	34.43
321	SLU 55	-107	-60	5258	1502.27	1.54	34.77
321	SLU 56	-104	-81	5257	1506.47	1.52	34.02
321	SLU 57	-107	-69	5297	1515.54	1.54	34.87
321	SLU 58	-104	-81	5233	1499.4	1.52	33.8
321	SLU 59	-106	-69	5273	1508.47	1.54	34.64
321	SLU 60	-103	-81	5360	1534.61	1.55	33.7
321	SLU 61	-106	-69	5400	1543.68	1.57	34.55
321	SLU 62	-105	-82	5401	1546.86	1.55	34.14
321	SLU 63	-107	-70	5441	1555.93	1.57	34.98
321	SLU 64	-107	-79	5178	1485.62	1.62	34.91
321	SLU 65	-112	-59	5245	1500.74	1.65	36.32
321	SLU 66	-109	-80	5243	1504.94	1.62	35.57
321	SLU 67	-112	-68	5283	1514.01	1.64	36.42
321	SLU 68	-113	-60	5286	1512.99	1.65	36.76
321	SLU 69	-111	-81	5284	1517.19	1.63	36.01
321	SLU 70	-113	-69	5324	1526.26	1.64	36.85
321	SLU 71	-110	-81	5260	1510.13	1.62	35.78
321	SLU 72	-113	-69	5300	1519.2	1.64	36.63
321	SLU 73	-117	-65	5734	1640.06	1.73	38.13
321	SLU 74	-115	-86	5732	1644.27	1.71	37.38
321	SLU 75	-117	-74	5772	1653.34	1.73	38.22
321	SLU 76	-118	-66	5775	1652.32	1.74	38.57
321	SLU 77	-116	-87	5773	1656.52	1.71	37.81
321	SLU 78	-119	-75	5813	1665.59	1.73	38.66
321	SLU 79	-115	-86	5749	1649.45	1.71	37.59
321	SLU 80	-118	-75	5789	1658.52	1.73	38.44
321	SLU 81	-115	-87	5876	1684.66	1.74	37.49
321	SLU 82	-118	-75	5916	1693.73	1.76	38.34
321	SLU 83	-116	-88	5917	1696.91	1.74	37.93
321	SLU 84	-119	-76	5957	1705.98	1.76	38.78
321	SLE RA 1	-80	-59	3870	1109.81	1.2	26.02
321	SLE RA 2	-83	-46	3914	1119.88	1.22	26.96
321	SLE RA 3	-81	-60	3913	1122.69	1.21	26.46
321	SLE RA 4	-83	-52	3940	1128.73	1.22	27.03
321	SLE RA 5	-84	-47	3942	1128.05	1.22	27.25
321	SLE RA 6	-82	-61	3940	1130.85	1.21	26.75
321	SLE RA 7	-84	-53	3967	1136.9	1.22	27.32
321	SLE RA 8	-82	-61	3925	1126.14	1.21	26.6
321	SLE RA 9	-84	-53	3951	1132.19	1.22	27.17
321	SLE RA 10	-86	-50	4240	1212.77	1.28	28.17
321	SLE RA 11	-85	-64	4239	1215.57	1.26	27.67
321	SLE RA 12	-87	-56	4266	1221.62	1.28	28.23
321	SLE RA 13	-87	-51	4267	1220.94	1.28	28.46
321	SLE RA 14	-86	-65	4266	1223.74	1.27	27.96
321	SLE RA 15	-88	-57	4293	1229.79	1.28	28.52
321	SLE RA 16	-85	-64	4250	1219.03	1.26	27.81
321	SLE RA 17	-87	-56	4277	1225.07	1.28	28.37
321	SLE RA 18	-85	-65	4335	1242.5	1.28	27.74
321	SLE RA 19	-87	-57	4362	1248.55	1.3	28.31
321	SLE RA 20	-86	-66	4363	1250.67	1.29	28.03
321	SLE RA 21	-88	-58	4389	1256.71	1.3	28.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
321	SLE FR 1	-80	-59	3870	1109.81	1.2	26.02
321	SLE FR 2	-81	-57	3879	1111.82	1.2	26.21
321	SLE FR 3	-80	-59	3881	1113.07	1.2	26.14
321	SLE FR 4	-82	-58	4018	1151.63	1.23	26.73
321	SLE FR 5	-82	-61	4020	1152.88	1.23	26.66
321	SLE FR 6	-83	-62	4103	1176.15	1.24	26.88
321	SLE QP 1	-80	-59	3870	1109.81	1.2	26.02
321	SLE QP 2	-82	-61	4010	1149.61	1.23	26.54
321	SLD 1	323	21	4564	1276.69	2.44	-99.83
321	SLD 2	398	-9	4527	1266.5	2.3	-123.29
321	SLD 3	365	-223	3593	1054.9	2.17	-113.54
321	SLD 4	440	-253	3556	1044.71	2.03	-137.01
321	SLD 5	-37	338	5656	1525.87	2.03	13.46
321	SLD 6	11	319	5632	1519.31	1.94	-1.65
321	SLD 7	103	-474	2418	786.57	1.11	-32.25
321	SLD 8	152	-493	2394	780.01	1.03	-47.36
321	SLD 9	-315	372	5625	1519.22	1.42	100.43
321	SLD 10	-266	352	5601	1512.66	1.34	85.32
321	SLD 11	-174	-441	2387	779.92	0.51	54.73
321	SLD 12	-126	-460	2363	773.36	0.42	39.62
321	SLD 13	-603	131	4463	1254.52	0.42	190.08
321	SLD 14	-528	101	4426	1244.33	0.29	166.62
321	SLD 15	-561	-112	3492	1032.73	0.15	176.37
321	SLD 16	-486	-142	3455	1022.54	0.01	152.91
321	SLV 1	547	84	4951	1365.19	3.14	-170.12
321	SLV 2	666	37	4893	1349.12	2.93	-207.1
321	SLV 3	619	-332	3293	986.64	2.67	-193.36
321	SLV 4	738	-379	3235	970.57	2.46	-230.34
321	SLV 5	-23	622	6817	1791.41	2.55	9.68
321	SLV 6	57	590	6778	1780.59	2.41	-15.21
321	SLV 7	215	-764	1291	529.59	0.99	-67.77
321	SLV 8	295	-796	1252	518.78	0.85	-92.67
321	SLV 9	-458	674	6767	1780.45	1.6	145.74
321	SLV 10	-378	642	6728	1769.63	1.46	120.85
321	SLV 11	-220	-712	1241	518.64	0.04	68.29
321	SLV 12	-140	-744	1202	507.82	-0.1	43.39
321	SLV 13	-901	257	4784	1328.66	-0.01	283.42
321	SLV 14	-782	210	4726	1312.59	-0.22	246.43
321	SLV 15	-829	-159	3126	950.11	-0.48	260.18
321	SLV 16	-710	-206	3068	934.04	-0.69	223.2
321	SLV FO 1	610	99	5045	1386.74	3.33	-189.79
321	SLV FO 2	741	47	4981	1369.07	3.1	-230.47
321	SLV FO 3	689	-359	3221	970.34	2.82	-215.34
321	SLV FO 4	820	-411	3157	952.67	2.58	-256.02
321	SLV FO 5	-18	690	7098	1855.59	2.68	8
321	SLV FO 6	70	655	7055	1843.69	2.53	-19.39
321	SLV FO 7	244	-834	1019	467.59	0.97	-77.2
321	SLV FO 8	332	-869	976	455.69	0.81	-104.59
321	SLV FO 9	-495	747	7043	1843.54	1.64	157.66
321	SLV FO 10	-407	712	7000	1831.64	1.49	130.28
321	SLV FO 11	-233	-777	964	455.54	-0.08	72.47
321	SLV FO 12	-145	-812	921	443.64	-0.23	45.08
321	SLV FO 13	-983	289	4862	1346.56	-0.13	309.1
321	SLV FO 14	-852	237	4798	1328.89	-0.37	268.42
321	SLV FO 15	-904	-168	3038	930.16	-0.65	283.54
321	SLV FO 16	-773	-220	2974	912.49	-0.88	242.86
321	CRTFP Ux+	0	0	0	0	0	0
321	CRTFP Ux-	0	0	0	0	0	0
321	CRTFP Uy+	0	0	0	0	0	0
321	CRTFP Uy-	0	0	0	0	0	0
322	SLU 1	-76	-43	3714	1060.86	-0.52	24.66
322	SLU 2	-80	-22	3781	1075.87	-0.53	26.06
322	SLU 3	-78	-43	3779	1080.23	-0.54	25.31
322	SLU 4	-80	-31	3819	1089.23	-0.55	26.15
322	SLU 5	-81	-23	3822	1088.17	-0.54	26.5
322	SLU 6	-79	-44	3821	1092.53	-0.56	25.75
322	SLU 7	-82	-32	3861	1101.53	-0.56	26.59
322	SLU 8	-78	-44	3797	1085.46	-0.55	25.53
322	SLU 9	-81	-32	3837	1094.46	-0.56	26.37
322	SLU 10	-85	-26	4271	1215.28	-0.69	27.84
322	SLU 11	-83	-48	4270	1219.64	-0.71	27.09
322	SLU 12	-86	-35	4310	1228.64	-0.71	27.93
322	SLU 13	-87	-27	4312	1227.58	-0.71	28.27
322	SLU 14	-84	-48	4311	1231.93	-0.72	27.52
322	SLU 15	-87	-36	4351	1240.94	-0.73	28.36
322	SLU 16	-84	-48	4287	1224.87	-0.72	27.3
322	SLU 17	-86	-36	4327	1233.87	-0.72	28.14
322	SLU 18	-83	-49	4415	1260.02	-0.75	27.2
322	SLU 19	-86	-36	4455	1269.02	-0.76	28.04
322	SLU 20	-85	-49	4456	1272.32	-0.77	27.63
322	SLU 21	-87	-37	4496	1281.32	-0.78	28.47
322	SLU 22	-87	-46	4229	1209.8	-0.59	28.41
322	SLU 23	-92	-25	4295	1224.81	-0.6	29.81
322	SLU 24	-89	-47	4294	1229.17	-0.61	29.06
322	SLU 25	-92	-34	4334	1238.17	-0.62	29.9
322	SLU 26	-93	-26	4336	1237.11	-0.61	30.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
322	SLU 27	-91	-48	4335	1241.46	-0.63	29.49
322	SLU 28	-93	-35	4375	1250.47	-0.63	30.34
322	SLU 29	-90	-48	4311	1234.4	-0.62	29.28
322	SLU 30	-93	-35	4351	1243.4	-0.63	30.12
322	SLU 31	-97	-30	4786	1364.22	-0.76	31.59
322	SLU 32	-95	-51	4784	1368.58	-0.78	30.84
322	SLU 33	-97	-39	4824	1377.58	-0.78	31.68
322	SLU 34	-98	-30	4827	1376.52	-0.78	32.02
322	SLU 35	-96	-52	4826	1380.87	-0.79	31.27
322	SLU 36	-99	-39	4865	1389.88	-0.8	32.11
322	SLU 37	-95	-52	4802	1373.81	-0.79	31.05
322	SLU 38	-98	-39	4841	1382.81	-0.79	31.89
322	SLU 39	-95	-52	4929	1408.96	-0.82	30.94
322	SLU 40	-98	-40	4969	1417.96	-0.83	31.79
322	SLU 41	-96	-53	4971	1421.25	-0.84	31.38
322	SLU 42	-99	-40	5010	1430.26	-0.85	32.22
322	SLU 43	-95	-54	4652	1328.06	-0.65	30.78
322	SLU 44	-99	-34	4719	1343.07	-0.66	32.18
322	SLU 45	-97	-55	4717	1347.42	-0.67	31.43
322	SLU 46	-99	-43	4757	1356.43	-0.68	32.27
322	SLU 47	-100	-34	4760	1355.36	-0.67	32.61
322	SLU 48	-98	-56	4759	1359.72	-0.69	31.86
322	SLU 49	-101	-43	4798	1368.73	-0.69	32.7
322	SLU 50	-97	-56	4735	1352.65	-0.68	31.64
322	SLU 51	-100	-43	4774	1361.66	-0.69	32.48
322	SLU 52	-104	-38	5209	1482.48	-0.82	33.95
322	SLU 53	-102	-59	5208	1486.83	-0.84	33.2
322	SLU 54	-105	-47	5248	1495.84	-0.84	34.04
322	SLU 55	-106	-38	5250	1494.77	-0.84	34.38
322	SLU 56	-103	-60	5249	1499.13	-0.85	33.63
322	SLU 57	-106	-48	5289	1508.13	-0.86	34.47
322	SLU 58	-103	-60	5225	1492.06	-0.85	33.42
322	SLU 59	-105	-48	5265	1501.07	-0.85	34.26
322	SLU 60	-102	-60	5353	1527.21	-0.88	33.31
322	SLU 61	-105	-48	5393	1536.22	-0.89	34.15
322	SLU 62	-104	-61	5394	1539.51	-0.9	33.74
322	SLU 63	-106	-49	5434	1548.52	-0.91	34.58
322	SLU 64	-106	-58	5167	1477	-0.72	34.52
322	SLU 65	-110	-37	5233	1492.01	-0.73	35.92
322	SLU 66	-108	-58	5232	1496.36	-0.74	35.18
322	SLU 67	-111	-46	5272	1505.37	-0.75	36.02
322	SLU 68	-112	-38	5274	1504.3	-0.74	36.36
322	SLU 69	-109	-59	5273	1508.66	-0.76	35.61
322	SLU 70	-112	-47	5313	1517.66	-0.76	36.45
322	SLU 71	-109	-59	5249	1501.59	-0.75	35.39
322	SLU 72	-111	-47	5289	1510.6	-0.76	36.23
322	SLU 73	-116	-41	5724	1631.41	-0.89	37.7
322	SLU 74	-113	-63	5722	1635.77	-0.91	36.95
322	SLU 75	-116	-50	5762	1644.78	-0.91	37.79
322	SLU 76	-117	-42	5765	1643.71	-0.91	38.13
322	SLU 77	-115	-63	5763	1648.07	-0.92	37.38
322	SLU 78	-117	-51	5803	1657.07	-0.93	38.22
322	SLU 79	-114	-63	5739	1641	-0.92	37.16
322	SLU 80	-117	-51	5779	1650.01	-0.92	38
322	SLU 81	-114	-64	5867	1676.15	-0.95	37.06
322	SLU 82	-116	-51	5907	1685.16	-0.96	37.9
322	SLU 83	-115	-64	5908	1688.45	-0.97	37.49
322	SLU 84	-118	-52	5948	1697.45	-0.98	38.33
322	SLE RA 1	-79	-44	3861	1103.42	-0.54	25.73
322	SLE RA 2	-82	-30	3906	1113.42	-0.54	26.67
322	SLE RA 3	-80	-44	3905	1116.33	-0.55	26.17
322	SLE RA 4	-82	-36	3931	1122.33	-0.56	26.73
322	SLE RA 5	-83	-30	3933	1121.62	-0.55	26.96
322	SLE RA 6	-81	-45	3932	1124.53	-0.56	26.46
322	SLE RA 7	-83	-36	3959	1130.53	-0.57	27.02
322	SLE RA 8	-81	-45	3916	1119.81	-0.56	26.31
322	SLE RA 9	-83	-36	3943	1125.82	-0.56	26.87
322	SLE RA 10	-86	-33	4233	1206.36	-0.65	27.85
322	SLE RA 11	-84	-47	4232	1209.27	-0.66	27.35
322	SLE RA 12	-86	-39	4258	1215.27	-0.67	27.91
322	SLE RA 13	-86	-33	4260	1214.56	-0.67	28.14
322	SLE RA 14	-85	-47	4259	1217.47	-0.67	27.64
322	SLE RA 15	-87	-39	4286	1223.47	-0.68	28.2
322	SLE RA 16	-84	-47	4243	1212.75	-0.67	27.49
322	SLE RA 17	-86	-39	4270	1218.76	-0.67	28.05
322	SLE RA 18	-84	-48	4328	1236.19	-0.69	27.42
322	SLE RA 19	-86	-39	4355	1242.19	-0.7	27.98
322	SLE RA 20	-85	-48	4356	1244.39	-0.71	27.71
322	SLE RA 21	-87	-40	4382	1250.39	-0.71	28.27
322	SLE FR 1	-79	-44	3861	1103.42	-0.54	25.73
322	SLE FR 2	-80	-41	3870	1105.42	-0.54	25.92
322	SLE FR 3	-79	-44	3872	1106.7	-0.54	25.85
322	SLE FR 4	-81	-42	4010	1145.25	-0.58	26.43
322	SLE FR 5	-81	-45	4012	1146.53	-0.59	26.36
322	SLE FR 6	-82	-46	4095	1169.8	-0.61	26.58
322	SLE QP 1	-79	-44	3861	1103.42	-0.54	25.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
322	SLE QP 2	-81	-45	4001	1143.25	-0.58	26.24
322	SLD 1	323	48	4549	1273.07	0.27	-99.98
322	SLD 2	399	22	4517	1264.32	0.16	-123.38
322	SLD 3	365	-204	3576	1051.04	0.6	-113.58
322	SLD 4	441	-230	3543	1042.28	0.48	-136.99
322	SLD 5	-36	370	5647	1520.45	-0.8	13.03
322	SLD 6	13	353	5626	1514.81	-0.87	-2.04
322	SLD 7	104	-471	2403	780.34	0.28	-32.31
322	SLD 8	152	-487	2382	774.71	0.21	-47.38
322	SLD 9	-313	398	5620	1511.79	-1.37	99.86
322	SLD 10	-265	381	5599	1506.15	-1.45	84.79
322	SLD 11	-174	-443	2376	771.69	-0.29	54.52
322	SLD 12	-125	-459	2356	766.05	-0.37	39.45
322	SLD 13	-602	141	4459	1244.21	-1.65	189.47
322	SLD 14	-526	115	4427	1235.46	-1.76	166.06
322	SLD 15	-560	-111	3486	1022.18	-1.32	175.86
322	SLD 16	-485	-137	3454	1013.43	-1.44	152.46
322	SLV 1	548	118	4932	1362.77	0.73	-170.19
322	SLV 2	667	77	4880	1348.96	0.55	-207.08
322	SLV 3	619	-312	3271	983.81	1.29	-193.24
322	SLV 4	738	-353	3220	970.01	1.1	-230.13
322	SLV 5	-22	664	6809	1786.43	-0.99	9.16
322	SLV 6	58	636	6775	1777.14	-1.12	-15.68
322	SLV 7	215	-770	1273	523.24	0.85	-67.68
322	SLV 8	294	-797	1238	513.95	0.73	-92.51
322	SLV 9	-456	708	6764	1772.55	-1.89	144.99
322	SLV 10	-376	680	6730	1763.26	-2.02	120.16
322	SLV 11	-220	-726	1228	509.36	-0.05	68.16
322	SLV 12	-140	-753	1194	500.07	-0.17	43.32
322	SLV 13	-899	263	4783	1316.49	-2.27	282.61
322	SLV 14	-780	223	4732	1302.69	-2.45	245.72
322	SLV 15	-828	-167	3122	937.53	-1.72	259.56
322	SLV 16	-709	-207	3071	923.73	-1.9	222.67
322	SLV FO 1	611	134	5025	1384.72	0.86	-189.83
322	SLV FO 2	742	89	4968	1369.54	0.66	-230.41
322	SLV FO 3	689	-339	3198	967.87	1.47	-215.18
322	SLV FO 4	820	-384	3141	952.68	1.27	-255.77
322	SLV FO 5	-16	735	7090	1850.75	-1.03	7.45
322	SLV FO 6	72	705	7052	1840.53	-1.17	-19.87
322	SLV FO 7	244	-842	1000	461.24	0.99	-77.07
322	SLV FO 8	332	-872	962	451.02	0.86	-104.39
322	SLV FO 9	-493	783	7041	1835.48	-2.03	156.87
322	SLV FO 10	-405	753	7003	1825.26	-2.16	129.55
322	SLV FO 11	-233	-794	951	445.97	0	72.35
322	SLV FO 12	-146	-824	913	435.75	-0.13	45.03
322	SLV FO 13	-981	294	4861	1333.81	-2.44	308.25
322	SLV FO 14	-850	249	4805	1318.63	-2.64	267.66
322	SLV FO 15	-903	-179	3034	916.96	-1.83	282.89
322	SLV FO 16	-772	-224	2978	901.78	-2.03	242.31
322	CRTFP Ux+	0	0	0	0	0	0
322	CRTFP Ux-	0	0	0	0	0	0
322	CRTFP Uy+	0	0	0	0	0	0
322	CRTFP Uy-	0	0	0	0	0	0
323	SLU 1	-75	-28	3767	1074.87	-2.29	24.34
323	SLU 2	-79	-6	3835	1090.28	-2.34	25.74
323	SLU 3	-77	-28	3834	1094.67	-2.35	24.99
323	SLU 4	-79	-15	3874	1103.92	-2.38	25.82
323	SLU 5	-81	-7	3877	1102.86	-2.38	26.16
323	SLU 6	-78	-29	3876	1107.25	-2.39	25.42
323	SLU 7	-81	-16	3916	1116.5	-2.42	26.25
323	SLU 8	-78	-29	3851	1100.03	-2.37	25.2
323	SLU 9	-80	-16	3892	1109.28	-2.4	26.04
323	SLU 10	-84	-9	4336	1232.81	-2.78	27.47
323	SLU 11	-82	-31	4335	1237.21	-2.79	26.72
323	SLU 12	-85	-18	4376	1246.45	-2.82	27.56
323	SLU 13	-86	-9	4378	1245.4	-2.82	27.9
323	SLU 14	-83	-31	4377	1249.79	-2.82	27.15
323	SLU 15	-86	-18	4418	1259.03	-2.86	27.99
323	SLU 16	-83	-31	4353	1242.57	-2.8	26.94
323	SLU 17	-85	-19	4393	1251.81	-2.83	27.77
323	SLU 18	-82	-31	4483	1278.49	-2.91	26.82
323	SLU 19	-85	-18	4524	1287.74	-2.95	27.66
323	SLU 20	-84	-32	4526	1291.07	-2.95	27.25
323	SLU 21	-86	-19	4566	1300.32	-2.98	28.09
323	SLU 22	-86	-29	4289	1225.83	-2.64	28.04
323	SLU 23	-91	-7	4357	1241.24	-2.69	29.43
323	SLU 24	-88	-29	4356	1245.64	-2.7	28.69
323	SLU 25	-91	-17	4397	1254.88	-2.73	29.52
323	SLU 26	-92	-8	4399	1253.83	-2.73	29.86
323	SLU 27	-90	-30	4398	1258.22	-2.74	29.11
323	SLU 28	-92	-17	4439	1267.46	-2.77	29.95
323	SLU 29	-89	-30	4374	1251	-2.72	28.9
323	SLU 30	-91	-17	4414	1260.24	-2.75	29.73
323	SLU 31	-96	-10	4858	1383.78	-3.13	31.17
323	SLU 32	-93	-32	4857	1388.17	-3.13	30.42
323	SLU 33	-96	-19	4898	1397.42	-3.17	31.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
323	SLU 34	-97	-11	4901	1396.36	-3.17	31.6
323	SLU 35	-95	-32	4900	1400.75	-3.17	30.85
323	SLU 36	-97	-20	4940	1410	-3.2	31.68
323	SLU 37	-94	-33	4875	1393.53	-3.15	30.63
323	SLU 38	-97	-20	4916	1402.78	-3.18	31.47
323	SLU 39	-94	-32	5006	1429.46	-3.26	30.52
323	SLU 40	-96	-20	5046	1438.7	-3.29	31.35
323	SLU 41	-95	-33	5048	1442.04	-3.3	30.95
323	SLU 42	-98	-20	5089	1451.29	-3.33	31.78
323	SLU 43	-93	-36	4718	1345.57	-2.86	30.38
323	SLU 44	-98	-14	4786	1360.98	-2.91	31.77
323	SLU 45	-95	-36	4785	1365.37	-2.92	31.02
323	SLU 46	-98	-23	4825	1374.62	-2.95	31.86
323	SLU 47	-99	-15	4828	1373.56	-2.95	32.2
323	SLU 48	-97	-37	4827	1377.95	-2.96	31.45
323	SLU 49	-99	-24	4867	1387.2	-2.99	32.29
323	SLU 50	-96	-37	4802	1370.73	-2.93	31.24
323	SLU 51	-99	-24	4843	1379.98	-2.97	32.07
323	SLU 52	-103	-17	5287	1503.51	-3.35	33.51
323	SLU 53	-101	-39	5286	1507.91	-3.35	32.76
323	SLU 54	-103	-26	5327	1517.15	-3.39	33.59
323	SLU 55	-104	-17	5329	1516.1	-3.38	33.93
323	SLU 56	-102	-39	5328	1520.49	-3.39	33.19
323	SLU 57	-105	-26	5369	1529.73	-3.42	34.02
323	SLU 58	-101	-39	5304	1513.27	-3.37	32.97
323	SLU 59	-104	-27	5345	1522.51	-3.4	33.81
323	SLU 60	-101	-39	5434	1549.19	-3.48	32.86
323	SLU 61	-103	-26	5475	1558.44	-3.51	33.69
323	SLU 62	-102	-40	5477	1561.77	-3.52	33.29
323	SLU 63	-105	-27	5517	1571.02	-3.55	34.12
323	SLU 64	-105	-37	5240	1496.53	-3.21	34.08
323	SLU 65	-109	-15	5308	1511.94	-3.26	35.47
323	SLU 66	-107	-37	5307	1516.34	-3.27	34.72
323	SLU 67	-109	-25	5348	1525.58	-3.3	35.56
323	SLU 68	-110	-16	5350	1524.53	-3.3	35.9
323	SLU 69	-108	-38	5349	1528.92	-3.3	35.15
323	SLU 70	-111	-25	5390	1538.16	-3.34	35.98
323	SLU 71	-107	-38	5325	1521.7	-3.28	34.93
323	SLU 72	-110	-25	5365	1530.94	-3.31	35.77
323	SLU 73	-114	-18	5809	1654.48	-3.7	37.2
323	SLU 74	-112	-40	5809	1658.87	-3.7	36.46
323	SLU 75	-115	-27	5849	1668.12	-3.73	37.29
323	SLU 76	-116	-18	5852	1667.06	-3.73	37.63
323	SLU 77	-113	-40	5851	1671.45	-3.74	36.88
323	SLU 78	-116	-28	5891	1680.7	-3.77	37.72
323	SLU 79	-113	-41	5826	1664.23	-3.72	36.67
323	SLU 80	-115	-28	5867	1673.48	-3.75	37.5
323	SLU 81	-112	-40	5957	1700.16	-3.83	36.55
323	SLU 82	-115	-27	5997	1709.4	-3.86	37.39
323	SLU 83	-114	-41	5999	1712.74	-3.87	36.98
323	SLU 84	-116	-28	6040	1721.99	-3.9	37.82
323	SLE RA 1	-78	-28	3916	1118	-2.39	25.4
323	SLE RA 2	-81	-14	3961	1128.27	-2.43	26.33
323	SLE RA 3	-79	-28	3961	1131.2	-2.43	25.83
323	SLE RA 4	-81	-20	3988	1137.37	-2.45	26.39
323	SLE RA 5	-82	-14	3989	1136.66	-2.45	26.61
323	SLE RA 6	-80	-29	3989	1139.59	-2.45	26.12
323	SLE RA 7	-82	-20	4016	1145.75	-2.48	26.67
323	SLE RA 8	-80	-29	3972	1134.78	-2.44	25.97
323	SLE RA 9	-82	-20	3999	1140.94	-2.46	26.53
323	SLE RA 10	-84	-15	4296	1223.3	-2.72	27.48
323	SLE RA 11	-83	-30	4295	1226.23	-2.72	26.99
323	SLE RA 12	-85	-21	4322	1232.39	-2.74	27.54
323	SLE RA 13	-85	-16	4324	1231.69	-2.74	27.77
323	SLE RA 14	-84	-30	4323	1234.61	-2.75	27.27
323	SLE RA 15	-86	-22	4350	1240.78	-2.77	27.83
323	SLE RA 16	-83	-31	4307	1229.8	-2.73	27.13
323	SLE RA 17	-85	-22	4334	1235.97	-2.75	27.68
323	SLE RA 18	-83	-30	4394	1253.75	-2.81	27.05
323	SLE RA 19	-85	-22	4421	1259.91	-2.83	27.61
323	SLE RA 20	-84	-31	4422	1262.14	-2.83	27.34
323	SLE RA 21	-86	-22	4449	1268.3	-2.85	27.89
323	SLE FR 1	-78	-28	3916	1118	-2.39	25.4
323	SLE FR 2	-79	-25	3925	1120.05	-2.4	25.59
323	SLE FR 3	-78	-28	3927	1121.35	-2.4	25.52
323	SLE FR 4	-80	-26	4068	1160.78	-2.52	26.08
323	SLE FR 5	-80	-29	4071	1162.08	-2.52	26.01
323	SLE FR 6	-81	-29	4155	1185.87	-2.6	26.23
323	SLE QP 1	-78	-28	3916	1118	-2.39	25.4
323	SLE QP 2	-80	-29	4059	1158.72	-2.51	25.9
323	SLD 1	324	75	4509	1255.24	-1.98	-100.16
323	SLD 2	399	53	4480	1247.68	-2.07	-123.51
323	SLD 3	366	-186	3513	1025.72	-1.06	-113.64
323	SLD 4	441	-207	3484	1018.16	-1.16	-136.99
323	SLD 5	-34	401	5710	1537.08	-3.72	12.55
323	SLD 6	14	387	5691	1532.22	-3.79	-2.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
323	SLD 7	104	-467	2390	772.02	-0.68	-32.4
323	SLD 8	152	-481	2372	767.15	-0.74	-47.44
323	SLD 9	-312	424	5747	1550.3	-4.29	99.23
323	SLD 10	-263	410	5729	1545.43	-4.35	84.2
323	SLD 11	-173	-445	2428	785.23	-1.24	54.28
323	SLD 12	-125	-459	2409	780.36	-1.31	39.24
323	SLD 13	-600	150	4634	1299.28	-3.87	188.78
323	SLD 14	-525	128	4606	1291.73	-3.97	165.44
323	SLD 15	-559	-111	3639	1069.76	-2.95	175.3
323	SLD 16	-483	-133	3610	1062.21	-3.05	151.95
323	SLV 1	549	152	4831	1325.83	-1.74	-170.28
323	SLV 2	667	118	4786	1313.92	-1.9	-207.08
323	SLV 3	619	-292	3132	934.1	-0.18	-193.13
323	SLV 4	738	-327	3086	922.18	-0.34	-229.93
323	SLV 5	-20	706	6877	1805.21	-4.62	8.57
323	SLV 6	60	683	6847	1797.19	-4.72	-16.21
323	SLV 7	214	-776	1212	499.43	0.58	-67.6
323	SLV 8	294	-799	1181	491.41	0.48	-92.38
323	SLV 9	-453	741	6938	1826.04	-5.5	144.17
323	SLV 10	-374	718	6907	1818.02	-5.61	119.39
323	SLV 11	-219	-741	1272	520.26	-0.31	68
323	SLV 12	-140	-764	1242	512.24	-0.41	43.23
323	SLV 13	-897	269	5033	1395.27	-4.69	281.73
323	SLV 14	-778	235	4987	1383.35	-4.85	244.93
323	SLV 15	-827	-175	3333	1003.53	-3.13	258.88
323	SLV 16	-708	-210	3288	991.62	-3.29	222.08
323	SLV FO 1	612	170	4908	1342.54	-1.66	-189.9
323	SLV FO 2	742	133	4859	1329.44	-1.83	-230.38
323	SLV FO 3	689	-319	3039	911.63	0.05	-215.04
323	SLV FO 4	819	-356	2989	898.53	-0.12	-255.52
323	SLV FO 5	-14	780	7159	1869.86	-4.83	6.83
323	SLV FO 6	74	754	7125	1861.04	-4.94	-20.42
323	SLV FO 7	244	-851	927	433.5	0.89	-76.95
323	SLV FO 8	332	-876	894	424.68	0.77	-104.2
323	SLV FO 9	-491	818	7225	1892.77	-5.8	156
323	SLV FO 10	-403	793	7192	1883.95	-5.92	128.74
323	SLV FO 11	-233	-812	993	456.41	-0.09	72.21
323	SLV FO 12	-146	-837	960	447.59	-0.2	44.96
323	SLV FO 13	-979	299	5130	1418.92	-4.91	307.31
323	SLV FO 14	-848	261	5080	1405.82	-5.08	266.83
323	SLV FO 15	-901	-190	3260	988.01	-3.2	282.18
323	SLV FO 16	-771	-228	3210	974.91	-3.36	241.69
323	CRTFP Ux+	0	0	0	0	0	0
323	CRTFP Ux-	0	0	0	0	0	0
323	CRTFP Uy+	0	0	0	0	0	0
323	CRTFP Uy-	0	0	0	0	0	0
324	SLU 1	-74	-13	3882	1108.21	-3.93	24.03
324	SLU 2	-78	9	3952	1124.48	-4.02	25.41
324	SLU 3	-76	-13	3952	1128.82	-4.02	24.67
324	SLU 4	-79	0	3994	1138.58	-4.08	25.5
324	SLU 5	-80	8	3996	1137.58	-4.08	25.84
324	SLU 6	-77	-14	3996	1141.92	-4.08	25.09
324	SLU 7	-80	-1	4038	1151.68	-4.13	25.92
324	SLU 8	-77	-14	3970	1134.4	-4.05	24.88
324	SLU 9	-79	-1	4012	1144.17	-4.1	25.71
324	SLU 10	-83	8	4475	1273.06	-4.7	27.11
324	SLU 11	-81	-14	4474	1277.4	-4.71	26.37
324	SLU 12	-84	-1	4516	1287.16	-4.76	27.19
324	SLU 13	-85	8	4518	1286.16	-4.76	27.53
324	SLU 14	-82	-15	4518	1290.5	-4.76	26.79
324	SLU 15	-85	-1	4560	1300.26	-4.82	27.62
324	SLU 16	-82	-15	4492	1282.99	-4.73	26.58
324	SLU 17	-84	-2	4534	1292.75	-4.78	27.41
324	SLU 18	-81	-14	4628	1320.47	-4.91	26.46
324	SLU 19	-84	-1	4670	1330.23	-4.96	27.28
324	SLU 20	-83	-15	4672	1333.57	-4.97	26.88
324	SLU 21	-85	-2	4714	1343.33	-5.02	27.71
324	SLU 22	-85	-12	4422	1264.22	-4.54	27.68
324	SLU 23	-89	10	4492	1280.49	-4.63	29.06
324	SLU 24	-87	-12	4492	1284.83	-4.63	28.32
324	SLU 25	-90	1	4534	1294.59	-4.68	29.14
324	SLU 26	-91	10	4536	1293.59	-4.68	29.48
324	SLU 27	-88	-13	4536	1297.93	-4.69	28.74
324	SLU 28	-91	0	4578	1307.69	-4.74	29.57
324	SLU 29	-88	-13	4510	1290.42	-4.65	28.53
324	SLU 30	-90	0	4552	1300.18	-4.71	29.36
324	SLU 31	-95	9	5014	1429.07	-5.31	30.76
324	SLU 32	-92	-13	5014	1433.41	-5.31	30.01
324	SLU 33	-95	0	5056	1443.17	-5.37	30.84
324	SLU 34	-96	9	5058	1442.17	-5.37	31.18
324	SLU 35	-94	-14	5058	1446.51	-5.37	30.44
324	SLU 36	-96	0	5100	1456.27	-5.42	31.26
324	SLU 37	-93	-14	5032	1439	-5.34	30.23
324	SLU 38	-96	-1	5074	1448.76	-5.39	31.05
324	SLU 39	-92	-13	5168	1476.48	-5.51	30.1
324	SLU 40	-95	0	5210	1486.24	-5.57	30.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
324	SLU 41	-94	-14	5212	1489.58	-5.57	30.53
324	SLU 42	-96	0	5254	1499.34	-5.63	31.36
324	SLU 43	-92	-18	4862	1387.18	-4.9	29.99
324	SLU 44	-97	5	4932	1403.45	-4.99	31.37
324	SLU 45	-94	-18	4931	1407.79	-4.99	30.63
324	SLU 46	-97	-4	4973	1417.55	-5.05	31.46
324	SLU 47	-98	4	4976	1416.55	-5.05	31.8
324	SLU 48	-96	-18	4975	1420.89	-5.05	31.05
324	SLU 49	-98	-5	5017	1430.65	-5.1	31.88
324	SLU 50	-95	-18	4950	1413.38	-5.02	30.84
324	SLU 51	-98	-5	4992	1423.14	-5.07	31.67
324	SLU 52	-102	4	5454	1552.03	-5.67	33.07
324	SLU 53	-99	-19	5453	1556.37	-5.68	32.32
324	SLU 54	-102	-5	5495	1566.13	-5.73	33.15
324	SLU 55	-103	3	5498	1565.13	-5.73	33.49
324	SLU 56	-101	-19	5497	1569.47	-5.74	32.75
324	SLU 57	-103	-6	5539	1579.23	-5.79	33.58
324	SLU 58	-100	-19	5472	1561.96	-5.7	32.54
324	SLU 59	-103	-6	5514	1571.72	-5.75	33.36
324	SLU 60	-100	-19	5608	1599.44	-5.88	32.42
324	SLU 61	-102	-5	5650	1609.2	-5.93	33.24
324	SLU 62	-101	-19	5652	1612.54	-5.94	32.84
324	SLU 63	-103	-6	5694	1622.3	-5.99	33.67
324	SLU 64	-104	-16	5402	1543.19	-5.51	33.64
324	SLU 65	-108	6	5472	1559.46	-5.6	35.02
324	SLU 66	-106	-17	5471	1563.8	-5.6	34.28
324	SLU 67	-108	-3	5513	1573.57	-5.65	35.1
324	SLU 68	-109	5	5516	1572.56	-5.65	35.44
324	SLU 69	-107	-17	5515	1576.9	-5.66	34.7
324	SLU 70	-109	-4	5557	1586.66	-5.71	35.53
324	SLU 71	-106	-17	5490	1569.39	-5.62	34.49
324	SLU 72	-109	-4	5532	1579.15	-5.68	35.32
324	SLU 73	-113	5	5994	1708.04	-6.28	36.72
324	SLU 74	-111	-17	5993	1712.39	-6.28	35.97
324	SLU 75	-113	-4	6035	1722.15	-6.34	36.8
324	SLU 76	-114	4	6038	1721.14	-6.34	37.14
324	SLU 77	-112	-18	6037	1725.48	-6.34	36.4
324	SLU 78	-115	-5	6079	1735.25	-6.39	37.22
324	SLU 79	-111	-18	6012	1717.97	-6.31	36.18
324	SLU 80	-114	-5	6054	1727.73	-6.36	37.01
324	SLU 81	-111	-18	6148	1755.45	-6.49	36.06
324	SLU 82	-113	-4	6190	1765.21	-6.54	36.89
324	SLU 83	-112	-18	6191	1768.55	-6.54	36.49
324	SLU 84	-115	-5	6234	1778.31	-6.6	37.31
324	SLE RA 1	-77	-13	4036	1152.78	-4.1	25.08
324	SLE RA 2	-80	2	4083	1163.63	-4.16	25.99
324	SLE RA 3	-78	-13	4083	1166.52	-4.17	25.5
324	SLE RA 4	-80	-4	4111	1173.03	-4.2	26.05
324	SLE RA 5	-81	2	4113	1172.36	-4.2	26.28
324	SLE RA 6	-79	-13	4112	1175.26	-4.2	25.78
324	SLE RA 7	-81	-4	4140	1181.76	-4.24	26.33
324	SLE RA 8	-79	-14	4095	1170.25	-4.18	25.64
324	SLE RA 9	-81	-5	4123	1176.76	-4.22	26.19
324	SLE RA 10	-83	1	4431	1262.68	-4.62	27.13
324	SLE RA 11	-82	-14	4431	1265.58	-4.62	26.63
324	SLE RA 12	-84	-5	4459	1272.09	-4.66	27.18
324	SLE RA 13	-84	1	4461	1271.42	-4.66	27.41
324	SLE RA 14	-83	-14	4460	1274.31	-4.66	26.91
324	SLE RA 15	-84	-5	4488	1280.82	-4.7	27.46
324	SLE RA 16	-82	-14	4443	1269.3	-4.64	26.77
324	SLE RA 17	-84	-5	4471	1275.81	-4.67	27.32
324	SLE RA 18	-82	-14	4534	1294.29	-4.76	26.69
324	SLE RA 19	-84	-5	4562	1300.8	-4.79	27.24
324	SLE RA 20	-83	-14	4563	1303.02	-4.79	26.97
324	SLE RA 21	-85	-5	4591	1309.53	-4.83	27.53
324	SLE FR 1	-77	-13	4036	1152.78	-4.1	25.08
324	SLE FR 2	-78	-10	4046	1154.95	-4.12	25.26
324	SLE FR 3	-78	-13	4048	1156.28	-4.12	25.19
324	SLE FR 4	-79	-10	4195	1197.4	-4.31	25.74
324	SLE FR 5	-79	-13	4197	1198.73	-4.32	25.67
324	SLE FR 6	-80	-13	4285	1223.54	-4.43	25.88
324	SLE QP 1	-77	-13	4036	1152.78	-4.1	25.08
324	SLE QP 2	-79	-13	4186	1195.24	-4.3	25.56
324	SLD 1	325	102	4627	1289.36	-4	-100.31
324	SLD 2	400	85	4601	1282.79	-4.08	-123.59
324	SLD 3	366	-167	3588	1045.84	-2.59	-113.66
324	SLD 4	441	-184	3563	1039.27	-2.67	-136.93
324	SLD 5	-33	433	5897	1593.93	-6.34	12.04
324	SLD 6	16	422	5881	1589.7	-6.39	-2.95
324	SLD 7	104	-465	2436	782.22	-1.63	-32.44
324	SLD 8	152	-476	2419	777.98	-1.68	-47.43
324	SLD 9	-310	450	5952	1612.49	-6.92	98.55
324	SLD 10	-261	438	5935	1608.26	-6.97	83.56
324	SLD 11	-173	-448	2490	800.77	-2.21	54.07
324	SLD 12	-125	-459	2474	796.54	-2.26	39.08
324	SLD 13	-598	158	4809	1351.2	-5.93	188.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
324	SLD 14	-523	141	4783	1344.63	-6.01	164.78
324	SLD 15	-557	-111	3770	1107.68	-4.52	174.71
324	SLD 16	-482	-129	3745	1101.11	-4.6	151.43
324	SLV 1	550	186	4948	1359.74	-3.93	-170.34
324	SLV 2	668	159	4908	1349.39	-4.06	-207.03
324	SLV 3	619	-273	3176	944.12	-1.52	-192.95
324	SLV 4	737	-301	3136	933.77	-1.65	-229.64
324	SLV 5	-18	748	7110	1876.87	-7.82	7.93
324	SLV 6	62	730	7083	1869.9	-7.91	-16.77
324	SLV 7	214	-782	1202	491.48	0.21	-67.44
324	SLV 8	294	-801	1175	484.51	0.13	-92.14
324	SLV 9	-451	775	7196	1905.96	-8.73	143.26
324	SLV 10	-371	756	7169	1898.99	-8.81	118.56
324	SLV 11	-219	-756	1288	520.57	-0.69	67.89
324	SLV 12	-140	-775	1261	513.6	-0.78	43.19
324	SLV 13	-895	274	5236	1456.7	-6.95	280.76
324	SLV 14	-777	247	5195	1446.35	-7.08	244.07
324	SLV 15	-825	-185	3463	1041.09	-4.54	258.15
324	SLV 16	-707	-212	3423	1030.73	-4.67	221.46
324	SLV FO 1	613	206	5024	1376.19	-3.9	-189.93
324	SLV FO 2	743	176	4980	1364.8	-4.04	-230.29
324	SLV FO 3	689	-299	3075	919.01	-1.25	-214.8
324	SLV FO 4	819	-329	3031	907.62	-1.39	-255.16
324	SLV FO 5	-12	824	7402	1945.04	-8.17	6.17
324	SLV FO 6	76	804	7372	1937.37	-8.27	-21
324	SLV FO 7	243	-859	904	421.11	0.66	-76.74
324	SLV FO 8	331	-880	874	413.44	0.57	-103.91
324	SLV FO 9	-488	853	7497	1977.03	-9.17	155.03
324	SLV FO 10	-401	833	7467	1969.36	-9.26	127.86
324	SLV FO 11	-233	-830	999	453.1	-0.33	72.12
324	SLV FO 12	-146	-851	969	445.43	-0.43	44.95
324	SLV FO 13	-976	303	5341	1482.85	-7.21	306.28
324	SLV FO 14	-846	273	5296	1471.46	-7.35	265.92
324	SLV FO 15	-900	-202	3391	1025.67	-4.56	281.41
324	SLV FO 16	-770	-232	3347	1014.28	-4.7	241.05
324	CRTFP Ux+	0	0	0	0	0	0
324	CRTFP Ux-	0	0	0	0	0	0
324	CRTFP Uy+	0	0	0	0	0	0
324	CRTFP Uy-	0	0	0	0	0	0
325	SLU 1	-212	9	11538	4010.1	-909.36	81.87
325	SLU 2	-224	75	11746	4076.06	-925.82	91.07
325	SLU 3	-217	10	11748	4084.33	-926.31	84.02
325	SLU 4	-224	49	11872	4123.91	-936.19	89.53
325	SLU 5	-227	74	11878	4123.15	-936.55	92.42
325	SLU 6	-221	9	11881	4131.42	-937.04	85.37
325	SLU 7	-228	48	12005	4171	-946.92	90.88
325	SLU 8	-219	8	11804	4104.28	-930.81	84.58
325	SLU 9	-226	47	11928	4143.86	-940.69	90.09
325	SLU 10	-238	78	13316	4621.28	-1052.53	97.07
325	SLU 11	-232	13	13319	4629.55	-1053.02	90.02
325	SLU 12	-239	52	13443	4669.12	-1062.9	95.53
325	SLU 13	-242	77	13449	4668.37	-1063.26	98.42
325	SLU 14	-236	12	13451	4676.64	-1063.75	91.37
325	SLU 15	-243	51	13576	4716.21	-1073.62	96.88
325	SLU 16	-234	11	13374	4649.5	-1057.52	90.58
325	SLU 17	-241	50	13499	4689.07	-1067.4	96.09
325	SLU 18	-232	14	13782	4788.98	-1090.37	90.45
325	SLU 19	-240	53	13907	4828.56	-1100.25	95.96
325	SLU 20	-236	13	13915	4836.07	-1101.1	91.8
325	SLU 21	-243	52	14039	4875.65	-1110.98	97.31
325	SLU 22	-244	19	13152	4574.11	-1038.09	94.81
325	SLU 23	-256	85	13360	4640.08	-1054.56	104
325	SLU 24	-249	20	13362	4648.34	-1055.04	96.95
325	SLU 25	-256	59	13487	4687.92	-1064.92	102.47
325	SLU 26	-259	84	13493	4687.17	-1065.28	105.35
325	SLU 27	-253	19	13495	4695.43	-1065.77	98.3
325	SLU 28	-260	58	13620	4735.01	-1075.65	103.82
325	SLU 29	-251	18	13418	4668.29	-1059.55	97.51
325	SLU 30	-258	57	13543	4707.87	-1069.42	103.03
325	SLU 31	-270	88	14931	5185.29	-1181.27	110
325	SLU 32	-264	23	14933	5193.56	-1181.75	102.95
325	SLU 33	-271	62	15058	5233.14	-1191.63	108.47
325	SLU 34	-274	87	15064	5232.38	-1191.99	111.35
325	SLU 35	-268	22	15066	5240.65	-1192.48	104.3
325	SLU 36	-275	61	15190	5280.23	-1202.36	109.82
325	SLU 37	-266	21	14989	5213.51	-1186.25	103.51
325	SLU 38	-273	60	15113	5253.09	-1196.13	109.03
325	SLU 39	-264	24	15396	5353	-1219.1	103.38
325	SLU 40	-272	63	15521	5392.57	-1228.98	108.9
325	SLU 41	-268	23	15529	5400.09	-1229.83	104.73
325	SLU 42	-275	62	15654	5439.66	-1239.71	110.25
325	SLU 43	-264	9	14446	5019.76	-1138.03	102
325	SLU 44	-276	75	14653	5085.72	-1154.49	111.2
325	SLU 45	-270	9	14656	5093.98	-1154.98	104.14
325	SLU 46	-277	49	14780	5133.56	-1164.86	109.66
325	SLU 47	-280	74	14786	5132.81	-1165.22	112.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
325	SLU 48	-273	8	14788	5141.07	-1165.71	105.49
325	SLU 49	-281	48	14913	5180.65	-1175.59	111.01
325	SLU 50	-272	7	14711	5113.93	-1159.48	104.7
325	SLU 51	-279	47	14836	5153.51	-1169.36	110.22
325	SLU 52	-291	78	16224	5630.93	-1281.2	117.2
325	SLU 53	-284	12	16226	5639.2	-1281.69	110.14
325	SLU 54	-292	52	16351	5678.78	-1291.57	115.66
325	SLU 55	-294	77	16357	5678.02	-1291.93	118.55
325	SLU 56	-288	11	16359	5686.29	-1292.42	111.5
325	SLU 57	-295	51	16484	5725.87	-1302.29	117.01
325	SLU 58	-286	10	16282	5659.15	-1286.19	110.7
325	SLU 59	-293	50	16407	5698.73	-1296.07	116.22
325	SLU 60	-285	13	16690	5798.64	-1319.04	110.57
325	SLU 61	-292	53	16814	5838.21	-1328.92	116.09
325	SLU 62	-289	12	16823	5845.73	-1329.77	111.92
325	SLU 63	-296	52	16947	5885.3	-1339.65	117.44
325	SLU 64	-296	19	16060	5583.77	-1266.76	114.93
325	SLU 65	-308	85	16268	5649.73	-1283.23	124.13
325	SLU 66	-302	19	16270	5658	-1283.71	117.08
325	SLU 67	-309	59	16395	5697.57	-1293.59	122.59
325	SLU 68	-312	84	16401	5696.82	-1293.95	125.48
325	SLU 69	-305	18	16403	5705.09	-1294.44	118.43
325	SLU 70	-313	58	16527	5744.66	-1304.32	123.94
325	SLU 71	-304	17	16326	5677.95	-1288.21	117.64
325	SLU 72	-311	57	16450	5717.52	-1298.09	123.15
325	SLU 73	-323	88	17839	6194.95	-1409.94	130.13
325	SLU 74	-316	22	17841	6203.21	-1410.42	123.08
325	SLU 75	-323	62	17965	6242.79	-1420.3	128.59
325	SLU 76	-326	87	17971	6242.04	-1420.66	131.48
325	SLU 77	-320	21	17974	6250.3	-1421.15	124.43
325	SLU 78	-327	61	18098	6289.88	-1431.03	129.95
325	SLU 79	-318	20	17897	6223.16	-1414.92	123.64
325	SLU 80	-325	60	18021	6262.74	-1424.8	129.15
325	SLU 81	-317	23	18304	6362.65	-1447.77	123.51
325	SLU 82	-324	63	18429	6402.23	-1457.65	129.02
325	SLU 83	-321	22	18437	6409.74	-1458.5	124.86
325	SLU 84	-328	62	18562	6449.32	-1468.38	130.37
325	SLE RA 1	-221	12	11999	4171.25	-946.14	85.57
325	SLE RA 2	-229	56	12138	4215.22	-957.12	91.7
325	SLE RA 3	-224	13	12139	4220.73	-957.44	87
325	SLE RA 4	-229	39	12222	4247.12	-964.03	90.67
325	SLE RA 5	-231	56	12226	4246.62	-964.27	92.6
325	SLE RA 6	-227	12	12228	4252.13	-964.59	87.9
325	SLE RA 7	-232	38	12311	4278.51	-971.18	91.58
325	SLE RA 8	-226	11	12176	4234.03	-960.44	87.37
325	SLE RA 9	-231	38	12259	4260.42	-967.03	91.05
325	SLE RA 10	-238	58	13185	4578.7	-1041.59	95.7
325	SLE RA 11	-234	14	13186	4584.21	-1041.91	91
325	SLE RA 12	-239	41	13269	4610.6	-1048.5	94.68
325	SLE RA 13	-241	58	13273	4610.09	-1048.74	96.6
325	SLE RA 14	-237	14	13275	4615.6	-1049.06	91.9
325	SLE RA 15	-242	40	13358	4641.99	-1055.65	95.58
325	SLE RA 16	-235	13	13224	4597.51	-1044.91	91.37
325	SLE RA 17	-240	39	13307	4623.9	-1051.5	95.05
325	SLE RA 18	-235	15	13495	4690.5	-1066.81	91.28
325	SLE RA 19	-239	41	13578	4716.89	-1073.4	94.96
325	SLE RA 20	-237	15	13584	4721.9	-1073.96	92.18
325	SLE RA 21	-242	41	13667	4748.28	-1080.55	95.86
325	SLE FR 1	-221	12	11999	4171.25	-946.14	85.57
325	SLE FR 2	-222	21	12027	4180.04	-948.33	86.79
325	SLE FR 3	-222	12	12035	4183.8	-949	85.93
325	SLE FR 4	-226	22	12476	4335.82	-984.54	88.51
325	SLE FR 5	-226	13	12483	4339.58	-985.2	87.64
325	SLE FR 6	-228	14	12747	4430.87	-1006.48	88.43
325	SLE QP 1	-221	12	11999	4171.25	-946.14	85.57
325	SLE QP 2	-225	13	12448	4327.02	-982.34	87.28
325	SLD 1	924	479	13649	4690.86	-1063.17	-299.82
325	SLD 2	1135	445	13587	4670.53	-1060.03	-377.47
325	SLD 3	1039	-318	10564	3705.06	-816.36	-399.59
325	SLD 4	1250	-352	10502	3684.73	-813.23	-477.24
325	SLD 5	-92	1368	17498	5934.81	-1381.45	135.84
325	SLD 6	44	1346	17457	5921.72	-1379.43	85.83
325	SLD 7	293	-1289	7215	2648.79	-558.77	-196.75
325	SLD 8	429	-1311	7175	2635.7	-556.75	-246.76
325	SLD 9	-879	1338	17721	6018.35	-1407.94	421.32
325	SLD 10	-743	1316	17681	6005.26	-1405.91	371.32
325	SLD 11	-494	-1319	7439	2732.33	-585.25	88.73
325	SLD 12	-358	-1341	7399	2719.24	-583.23	38.73
325	SLD 13	-1700	379	14394	4969.32	-1151.46	651.81
325	SLD 14	-1489	344	14332	4948.99	-1148.32	574.16
325	SLD 15	-1585	-418	11310	3983.51	-904.65	552.03
325	SLD 16	-1374	-453	11247	3963.18	-901.51	474.38
325	SLV 1	1563	801	14545	4966.28	-1126.43	-510.93
325	SLV 2	1896	747	14446	4934.23	-1121.48	-633.33
325	SLV 3	1759	-559	9280	3283.82	-705.22	-680.68
325	SLV 4	2092	-613	9182	3251.77	-700.27	-803.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
325	SLV 5	-47	2321	21080	7076.51	-1665.33	188.12
325	SLV 6	177	2285	21014	7054.94	-1662	105.72
325	SLV 7	604	-2210	3532	1468.31	-261.29	-377.73
325	SLV 8	829	-2247	3465	1446.74	-257.96	-460.13
325	SLV 9	-1278	2273	21431	7207.31	-1706.72	634.69
325	SLV 10	-1054	2236	21364	7185.74	-1703.39	552.29
325	SLV 11	-627	-2259	3883	1599.11	-302.69	68.84
325	SLV 12	-403	-2295	3816	1577.54	-299.36	-13.56
325	SLV 13	-2542	639	15714	5402.28	-1264.41	977.65
325	SLV 14	-2209	585	15616	5370.23	-1259.46	855.25
325	SLV 15	-2346	-720	10450	3719.82	-843.2	807.89
325	SLV 16	-2013	-775	10351	3687.77	-838.25	685.49
325	SLV FO 1	1742	880	14755	5030.2	-1140.84	-570.75
325	SLV FO 2	2109	820	14646	4994.95	-1135.4	-705.39
325	SLV FO 3	1957	-616	8964	3179.49	-677.51	-757.48
325	SLV FO 4	2323	-675	8855	3144.24	-672.07	-892.12
325	SLV FO 5	-29	2552	21943	7351.46	-1733.63	198.21
325	SLV FO 6	218	2512	21870	7327.73	-1729.96	107.56
325	SLV FO 7	687	-2432	2640	1182.44	-189.19	-424.23
325	SLV FO 8	934	-2473	2567	1158.71	-185.52	-514.87
325	SLV FO 9	-1384	2499	22329	7495.34	-1779.16	689.44
325	SLV FO 10	-1137	2459	22256	7471.61	-1775.49	598.79
325	SLV FO 11	-667	-2486	3026	1326.32	-234.72	67
325	SLV FO 12	-421	-2526	2953	1302.59	-231.06	-23.64
325	SLV FO 13	-2773	702	16041	5509.8	-1292.62	1066.68
325	SLV FO 14	-2407	642	15933	5474.55	-1287.17	932.04
325	SLV FO 15	-2558	-794	10250	3659.1	-829.29	879.95
325	SLV FO 16	-2192	-853	10142	3623.85	-823.84	745.31
325	CRTFP Ux+	0	0	0	0	0	0
325	CRTFP Ux-	0	0	0	0	0	0
325	CRTFP Uy+	0	0	0	-0.01	0	0
325	CRTFP Uy-	0	0	0	0.01	0	0
327	SLU 1	-50	10	2880	846.36	347.55	15.31
327	SLU 2	-53	26	2932	859.28	353.82	14.3
327	SLU 3	-51	10	2932	862.4	353.91	15.72
327	SLU 4	-53	20	2964	870.15	357.67	15.11
327	SLU 5	-54	26	2965	869.47	357.84	14.61
327	SLU 6	-52	10	2966	872.59	357.93	16.03
327	SLU 7	-54	20	2997	880.34	361.7	15.42
327	SLU 8	-52	10	2946	866.74	355.6	15.92
327	SLU 9	-54	19	2978	874.49	359.36	15.32
327	SLU 10	-56	28	3327	975.31	401.46	15.26
327	SLU 11	-55	12	3328	978.43	401.55	16.68
327	SLU 12	-57	22	3359	986.18	405.31	16.07
327	SLU 13	-57	28	3361	985.5	405.49	15.57
327	SLU 14	-56	12	3361	988.62	405.57	16.98
327	SLU 15	-57	21	3392	996.37	409.34	16.38
327	SLU 16	-55	11	3342	982.77	403.24	16.88
327	SLU 17	-57	21	3373	990.52	407	16.28
327	SLU 18	-55	12	3444	1012.12	415.61	16.68
327	SLU 19	-57	22	3476	1019.87	419.37	16.08
327	SLU 20	-56	12	3478	1022.31	419.63	16.99
327	SLU 21	-58	22	3509	1030.06	423.39	16.38
327	SLU 22	-58	14	3284	966.56	396.37	17.38
327	SLU 23	-61	30	3337	979.47	402.64	16.37
327	SLU 24	-59	14	3337	982.59	402.73	17.79
327	SLU 25	-61	23	3368	990.35	406.49	17.18
327	SLU 26	-61	30	3370	989.66	406.66	16.68
327	SLU 27	-60	14	3370	992.78	406.75	18.09
327	SLU 28	-62	23	3402	1000.53	410.52	17.49
327	SLU 29	-59	13	3351	986.93	404.42	17.99
327	SLU 30	-61	23	3382	994.68	408.18	17.39
327	SLU 31	-64	31	3732	1095.5	450.28	17.33
327	SLU 32	-62	16	3732	1098.62	450.37	18.75
327	SLU 33	-64	25	3764	1106.38	454.13	18.14
327	SLU 34	-65	31	3765	1105.69	454.3	17.64
327	SLU 35	-63	15	3766	1108.81	454.39	19.05
327	SLU 36	-65	25	3797	1116.56	458.16	18.45
327	SLU 37	-63	15	3746	1102.96	452.06	18.95
327	SLU 38	-65	25	3778	1110.71	455.82	18.35
327	SLU 39	-63	16	3849	1132.31	464.43	18.75
327	SLU 40	-64	26	3880	1140.06	468.19	18.14
327	SLU 41	-63	16	3882	1142.5	468.45	19.06
327	SLU 42	-65	25	3914	1150.25	472.21	18.45
327	SLU 43	-62	12	3605	1059.06	435.07	19.19
327	SLU 44	-65	28	3657	1071.98	441.35	18.19
327	SLU 45	-64	12	3657	1075.1	441.44	19.6
327	SLU 46	-66	22	3689	1082.85	445.2	19
327	SLU 47	-66	28	3691	1082.17	445.37	18.49
327	SLU 48	-65	12	3691	1085.29	445.46	19.91
327	SLU 49	-66	21	3722	1093.04	449.22	19.3
327	SLU 50	-64	12	3671	1079.44	443.12	19.81
327	SLU 51	-66	21	3703	1087.19	446.89	19.2
327	SLU 52	-69	29	4053	1188.01	488.99	19.14
327	SLU 53	-67	14	4053	1191.13	489.08	20.56
327	SLU 54	-69	23	4084	1198.89	492.84	19.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
327	SLU 55	-70	29	4086	1198.2	493.01	19.45
327	SLU 56	-68	14	4086	1201.32	493.1	20.87
327	SLU 57	-70	23	4118	1209.07	496.86	20.26
327	SLU 58	-68	13	4067	1195.47	490.76	20.77
327	SLU 59	-69	23	4098	1203.22	494.53	20.16
327	SLU 60	-67	14	4170	1224.82	503.13	20.56
327	SLU 61	-69	24	4201	1232.57	506.9	19.96
327	SLU 62	-68	14	4203	1235.01	507.16	20.87
327	SLU 63	-70	24	4234	1242.76	510.92	20.26
327	SLU 64	-70	15	4009	1179.26	483.89	21.26
327	SLU 65	-73	31	4062	1192.17	490.17	20.26
327	SLU 66	-71	16	4062	1195.29	490.26	21.67
327	SLU 67	-73	25	4093	1203.05	494.02	21.07
327	SLU 68	-74	31	4095	1202.36	494.19	20.56
327	SLU 69	-72	15	4095	1205.48	494.28	21.98
327	SLU 70	-74	25	4127	1213.23	498.04	21.37
327	SLU 71	-72	15	4076	1199.63	491.94	21.88
327	SLU 72	-74	25	4107	1207.38	495.71	21.27
327	SLU 73	-76	33	4457	1308.21	537.81	21.21
327	SLU 74	-75	17	4457	1311.33	537.9	22.63
327	SLU 75	-77	27	4489	1319.08	541.66	22.03
327	SLU 76	-77	33	4491	1318.39	541.83	21.52
327	SLU 77	-76	17	4491	1321.51	541.92	22.94
327	SLU 78	-77	27	4522	1329.27	545.68	22.33
327	SLU 79	-75	17	4471	1315.66	539.58	22.83
327	SLU 80	-77	26	4503	1323.42	543.35	22.23
327	SLU 81	-75	18	4574	1345.01	551.95	22.63
327	SLU 82	-77	27	4606	1352.77	555.71	22.03
327	SLU 83	-76	18	4607	1355.2	555.98	22.94
327	SLU 84	-78	27	4639	1362.95	559.74	22.33
327	SLE RA 1	-52	11	2995	880.7	361.5	15.9
327	SLE RA 2	-54	22	3030	889.32	365.68	15.23
327	SLE RA 3	-53	11	3030	891.4	365.74	16.17
327	SLE RA 4	-54	18	3051	896.56	368.25	15.77
327	SLE RA 5	-55	22	3052	896.11	368.36	15.43
327	SLE RA 6	-54	11	3052	898.19	368.42	16.38
327	SLE RA 7	-55	18	3074	903.36	370.93	15.98
327	SLE RA 8	-53	11	3040	894.29	366.86	16.31
327	SLE RA 9	-55	17	3061	899.46	369.37	15.91
327	SLE RA 10	-56	23	3294	966.67	397.44	15.87
327	SLE RA 11	-55	12	3294	968.75	397.5	16.81
327	SLE RA 12	-57	19	3315	973.92	400.01	16.41
327	SLE RA 13	-57	23	3316	973.46	400.12	16.07
327	SLE RA 14	-56	12	3316	975.54	400.18	17.02
327	SLE RA 15	-57	19	3337	980.71	402.69	16.61
327	SLE RA 16	-56	12	3303	971.64	398.62	16.95
327	SLE RA 17	-57	18	3324	976.81	401.13	16.55
327	SLE RA 18	-56	13	3372	991.21	406.87	16.81
327	SLE RA 19	-57	19	3393	996.38	409.38	16.41
327	SLE RA 20	-56	13	3394	998	409.55	17.02
327	SLE RA 21	-57	19	3415	1003.17	412.06	16.62
327	SLE FR 1	-52	11	2995	880.7	361.5	15.9
327	SLE FR 2	-53	13	3002	882.43	362.33	15.77
327	SLE FR 3	-52	11	3004	883.42	362.57	15.98
327	SLE FR 4	-54	14	3115	915.58	375.94	16.04
327	SLE FR 5	-53	11	3117	916.57	376.18	16.26
327	SLE FR 6	-54	12	3183	935.96	384.18	16.36
327	SLE QP 1	-52	11	2995	880.7	361.5	15.9
327	SLE QP 2	-53	11	3108	913.86	375.11	16.18
327	SLD 1	221	121	3400	978.12	410.08	-83.93
327	SLD 2	272	115	3386	974.59	408.37	-99.42
327	SLD 3	249	-73	2617	783.24	316.65	-69.04
327	SLD 4	300	-79	2603	779.7	314.94	-84.53
327	SLD 5	-22	339	4385	1229.32	527.59	-33.78
327	SLD 6	11	336	4376	1227.04	526.49	-43.75
327	SLD 7	71	-307	1777	579.71	216.17	15.86
327	SLD 8	104	-311	1768	577.43	215.06	5.88
327	SLD 9	-210	334	4448	1250.28	535.15	26.47
327	SLD 10	-177	330	4439	1248	534.05	16.49
327	SLD 11	-117	-313	1841	600.67	223.73	76.1
327	SLD 12	-85	-316	1832	598.4	222.62	66.13
327	SLD 13	-406	102	3613	1048.01	435.28	116.88
327	SLD 14	-355	96	3599	1044.47	433.56	101.39
327	SLD 15	-378	-92	2830	853.13	341.85	131.77
327	SLD 16	-328	-98	2816	849.59	340.14	116.28
327	SLV 1	374	198	3620	1028.34	436.45	-141.44
327	SLV 2	454	188	3598	1022.76	433.75	-165.86
327	SLV 3	421	-133	2285	695.73	277	-115.99
327	SLV 4	501	-142	2263	690.15	274.3	-140.41
327	SLV 5	-12	570	5291	1453.7	635.84	-65.14
327	SLV 6	42	564	5276	1449.95	634.03	-81.58
327	SLV 7	146	-531	840	345	104.35	19.67
327	SLV 8	200	-538	825	341.24	102.53	3.23
327	SLV 9	-306	561	5391	1486.47	647.69	29.12
327	SLV 10	-252	554	5376	1482.71	645.87	12.68
327	SLV 11	-149	-541	940	377.76	116.19	113.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
327	SLV 12	-95	-547	925	374.01	114.37	97.49
327	SLV 13	-608	165	3954	1137.56	475.92	172.76
327	SLV 14	-527	156	3932	1131.98	473.22	148.34
327	SLV 15	-560	-165	2618	804.95	316.47	198.21
327	SLV 16	-480	-175	2596	799.37	313.77	173.79
327	SLV FO 1	417	216	3671	1039.79	442.58	-157.2
327	SLV FO 2	505	206	3647	1033.66	439.61	-184.06
327	SLV FO 3	468	-147	2202	673.92	267.19	-129.21
327	SLV FO 4	557	-158	2178	667.78	264.22	-156.07
327	SLV FO 5	-7	626	5509	1507.69	661.92	-73.27
327	SLV FO 6	52	619	5493	1503.56	659.92	-91.36
327	SLV FO 7	165	-586	613	288.11	77.27	20.02
327	SLV FO 8	225	-593	597	283.98	75.27	1.94
327	SLV FO 9	-331	616	5619	1543.73	674.94	30.41
327	SLV FO 10	-272	609	5603	1539.6	672.94	12.33
327	SLV FO 11	-158	-596	723	324.15	90.3	123.71
327	SLV FO 12	-99	-603	707	320.03	88.3	105.62
327	SLV FO 13	-663	181	4038	1159.93	486	188.42
327	SLV FO 14	-575	170	4014	1153.79	483.03	161.56
327	SLV FO 15	-611	-183	2569	794.06	310.61	216.41
327	SLV FO 16	-523	-193	2545	787.92	307.64	189.55
327	CRTFP Ux+	0	0	0	0	0	0
327	CRTFP Ux-	0	0	0	0	0	0
327	CRTFP Uy+	0	0	0	0	0	0
327	CRTFP Uy-	0	0	0	0	0	0
329	SLU 1	51	-86	7699	899.84	1339.31	5.1
329	SLU 2	56	-43	7838	911.57	1365.38	-3.14
329	SLU 3	50	-88	7826	915.54	1361.37	5.47
329	SLU 4	54	-63	7910	922.58	1377.02	0.52
329	SLU 5	55	-45	7918	921.51	1379.23	-2.73
329	SLU 6	49	-90	7906	925.48	1375.23	5.88
329	SLU 7	53	-64	7990	932.51	1390.87	0.94
329	SLU 8	49	-90	7858	919.71	1367.01	5.93
329	SLU 9	52	-64	7942	926.75	1382.65	0.98
329	SLU 10	58	-52	8845	1028.19	1542.56	-2.17
329	SLU 11	52	-97	8833	1032.16	1538.56	6.44
329	SLU 12	55	-72	8917	1039.19	1554.2	1.5
329	SLU 13	57	-54	8925	1038.12	1556.41	-1.76
329	SLU 14	51	-99	8913	1042.09	1552.41	6.86
329	SLU 15	54	-73	8996	1049.13	1568.05	1.91
329	SLU 16	50	-99	8865	1036.32	1544.19	6.9
329	SLU 17	54	-73	8949	1043.36	1559.84	1.95
329	SLU 18	53	-99	9137	1066.44	1592.43	6.49
329	SLU 19	56	-73	9221	1073.47	1608.07	1.54
329	SLU 20	52	-101	9217	1076.37	1606.28	6.9
329	SLU 21	55	-75	9301	1083.41	1621.92	1.95
329	SLU 22	58	-97	8715	1020.41	1514.97	5.76
329	SLU 23	64	-55	8854	1032.14	1541.05	-2.48
329	SLU 24	58	-99	8842	1036.11	1537.04	6.13
329	SLU 25	61	-74	8926	1043.15	1552.69	1.18
329	SLU 26	62	-57	8934	1042.07	1554.9	-2.07
329	SLU 27	57	-101	8922	1046.04	1550.89	6.54
329	SLU 28	60	-76	9006	1053.08	1566.54	1.6
329	SLU 29	56	-101	8875	1040.28	1542.68	6.59
329	SLU 30	59	-75	8958	1047.32	1558.32	1.64
329	SLU 31	65	-64	9861	1148.76	1718.23	-1.51
329	SLU 32	59	-108	9849	1152.73	1714.23	7.1
329	SLU 33	62	-83	9933	1159.76	1729.87	2.15
329	SLU 34	64	-66	9941	1158.69	1732.08	-1.1
329	SLU 35	58	-110	9929	1162.66	1728.08	7.51
329	SLU 36	61	-85	10013	1169.7	1743.72	2.57
329	SLU 37	57	-110	9881	1156.89	1719.86	7.56
329	SLU 38	61	-84	9965	1163.93	1735.5	2.61
329	SLU 39	60	-110	10153	1187	1768.09	7.15
329	SLU 40	64	-85	10237	1194.04	1783.74	2.2
329	SLU 41	59	-112	10233	1196.94	1781.95	7.56
329	SLU 42	62	-86	10317	1203.97	1797.59	2.61
329	SLU 43	64	-108	9660	1128.46	1680.87	6.41
329	SLU 44	69	-65	9799	1140.19	1706.94	-1.84
329	SLU 45	63	-110	9787	1144.16	1702.94	6.78
329	SLU 46	66	-84	9871	1151.2	1718.58	1.83
329	SLU 47	68	-67	9879	1150.12	1720.79	-1.43
329	SLU 48	62	-112	9867	1154.09	1716.79	7.19
329	SLU 49	65	-86	9951	1161.13	1732.43	2.24
329	SLU 50	61	-111	9820	1148.32	1708.57	7.23
329	SLU 51	65	-86	9903	1155.36	1724.22	2.28
329	SLU 52	71	-74	10806	1256.8	1884.13	-0.87
329	SLU 53	65	-119	10794	1260.77	1880.12	7.75
329	SLU 54	68	-93	10878	1267.81	1895.77	2.8
329	SLU 55	70	-76	10886	1266.74	1897.98	-0.46
329	SLU 56	64	-121	10874	1270.7	1893.97	8.16
329	SLU 57	67	-95	10958	1277.74	1909.62	3.21
329	SLU 58	63	-120	10826	1264.94	1885.76	8.2
329	SLU 59	66	-95	10910	1271.98	1901.4	3.26
329	SLU 60	66	-121	11098	1295.05	1933.99	7.8
329	SLU 61	69	-95	11182	1302.09	1949.63	2.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
329	SLU 62	65	-122	11178	1304.98	1947.84	8.21
329	SLU 63	68	-97	11262	1312.02	1963.48	3.26
329	SLU 64	71	-119	10676	1249.03	1856.54	7.07
329	SLU 65	76	-77	10815	1260.76	1882.61	-1.18
329	SLU 66	70	-121	10803	1264.73	1878.6	7.44
329	SLU 67	74	-96	10887	1271.76	1894.25	2.49
329	SLU 68	75	-78	10895	1270.69	1896.46	-0.77
329	SLU 69	69	-123	10883	1274.66	1892.46	7.85
329	SLU 70	73	-98	10967	1281.7	1908.1	2.9
329	SLU 71	69	-123	10836	1268.89	1884.24	7.89
329	SLU 72	72	-97	10919	1275.93	1899.88	2.94
329	SLU 73	78	-86	11822	1377.37	2059.79	-0.21
329	SLU 74	72	-130	11810	1381.34	2055.79	8.41
329	SLU 75	75	-105	11894	1388.38	2071.43	3.46
329	SLU 76	77	-87	11902	1387.3	2073.65	0.2
329	SLU 77	71	-132	11890	1391.27	2069.64	8.82
329	SLU 78	74	-107	11974	1398.31	2085.28	3.87
329	SLU 79	70	-132	11843	1385.51	2061.42	8.86
329	SLU 80	74	-106	11926	1392.54	2077.07	3.91
329	SLU 81	73	-132	12114	1415.62	2109.66	8.45
329	SLU 82	76	-106	12198	1422.66	2125.3	3.51
329	SLU 83	72	-134	12194	1425.55	2123.51	8.87
329	SLU 84	75	-108	12278	1432.59	2139.15	3.92
329	SLE RA 1	53	-89	7989	934.29	1389.5	5.29
329	SLE RA 2	57	-61	8082	942.11	1406.88	-0.21
329	SLE RA 3	53	-90	8074	944.76	1404.21	5.54
329	SLE RA 4	55	-74	8130	949.45	1414.64	2.24
329	SLE RA 5	56	-62	8135	948.73	1416.11	0.07
329	SLE RA 6	52	-92	8127	951.38	1413.44	5.81
329	SLE RA 7	54	-75	8183	956.07	1423.87	2.51
329	SLE RA 8	51	-92	8095	947.54	1407.97	5.84
329	SLE RA 9	54	-75	8151	952.23	1418.39	2.54
329	SLE RA 10	58	-67	8753	1019.85	1525	0.44
329	SLE RA 11	54	-97	8745	1022.5	1522.33	6.19
329	SLE RA 12	56	-80	8801	1027.19	1532.76	2.89
329	SLE RA 13	57	-68	8806	1026.48	1534.24	0.72
329	SLE RA 14	53	-98	8798	1029.12	1531.57	6.46
329	SLE RA 15	55	-81	8854	1033.81	1542	3.16
329	SLE RA 16	53	-98	8767	1025.28	1526.09	6.49
329	SLE RA 17	55	-81	8823	1029.97	1536.52	3.19
329	SLE RA 18	54	-98	8948	1045.35	1558.24	6.22
329	SLE RA 19	57	-81	9004	1050.04	1568.67	2.92
329	SLE RA 20	54	-99	9001	1051.97	1567.48	6.49
329	SLE RA 21	56	-82	9057	1056.67	1577.91	3.19
329	SLE FR 1	53	-89	7989	934.29	1389.5	5.29
329	SLE FR 2	54	-83	8007	935.86	1392.97	4.19
329	SLE FR 3	53	-90	8010	936.94	1393.19	5.4
329	SLE FR 4	54	-86	8295	969.17	1443.6	4.47
329	SLE FR 5	53	-92	8298	970.26	1443.81	5.68
329	SLE FR 6	54	-93	8468	989.82	1473.87	5.75
329	SLE QP 1	53	-89	7989	934.29	1389.5	5.29
329	SLE QP 2	53	-92	8277	967.61	1440.12	5.57
329	SLD 1	924	124	9125	1038.67	1606.21	-139.13
329	SLD 2	1071	134	9147	1041	1607.25	-157.17
329	SLD 3	856	-397	7073	863.42	1221.93	-38.59
329	SLD 4	1004	-387	7095	865.75	1222.97	-56.64
329	SLD 5	391	761	11639	1254.33	2072.59	-187.21
329	SLD 6	486	768	11653	1255.83	2073.26	-198.84
329	SLD 7	167	-975	4800	670.15	791.66	147.9
329	SLD 8	262	-968	4814	671.65	792.33	136.28
329	SLD 9	-155	785	11739	1263.57	2087.91	-125.14
329	SLD 10	-60	792	11753	1265.07	2088.58	-136.76
329	SLD 11	-379	-951	4900	679.39	806.98	209.97
329	SLD 12	-284	-945	4914	680.89	807.65	198.35
329	SLD 13	-897	204	9458	1069.47	1657.27	67.78
329	SLD 14	-750	214	9480	1071.8	1658.31	49.73
329	SLD 15	-964	-317	7406	894.22	1272.99	168.31
329	SLD 16	-817	-307	7428	896.55	1274.03	150.27
329	SLV 1	1418	282	9746	1090.96	1726.41	-227.91
329	SLV 2	1650	297	9781	1094.63	1728.05	-256.35
329	SLV 3	1304	-607	6245	791.89	1070.64	-56.4
329	SLV 4	1535	-591	6280	795.55	1072.28	-84.84
329	SLV 5	593	1365	14021	1457.53	2520.28	-319.29
329	SLV 6	749	1375	14044	1460	2521.39	-338.44
329	SLV 7	211	-1596	2351	460.61	334.38	252.41
329	SLV 8	367	-1586	2374	463.08	335.49	233.26
329	SLV 9	-261	1403	14179	1472.14	2544.75	-222.12
329	SLV 10	-105	1413	14203	1474.61	2545.86	-241.27
329	SLV 11	-643	-1558	2509	475.22	358.85	349.58
329	SLV 12	-487	-1548	2532	477.69	359.96	330.43
329	SLV 13	-1429	408	10273	1139.67	1807.96	95.98
329	SLV 14	-1197	424	10308	1143.33	1809.6	67.54
329	SLV 15	-1543	-480	6772	840.59	1152.19	267.49
329	SLV 16	-1312	-465	6807	844.26	1153.83	239.05
329	SLV FO 1	1555	319	9893	1103.3	1755.04	-251.26
329	SLV FO 2	1810	336	9931	1107.33	1756.85	-282.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
329	SLV FO 3	1429	-658	6042	774.31	1033.69	-62.6
329	SLV FO 4	1684	-641	6080	778.35	1035.5	-93.89
329	SLV FO 5	647	1510	14595	1506.52	2628.3	-351.77
329	SLV FO 6	819	1522	14621	1509.24	2629.52	-372.84
329	SLV FO 7	227	-1747	1758	409.91	223.81	277.09
329	SLV FO 8	399	-1735	1784	412.63	225.03	256.03
329	SLV FO 9	-292	1552	14769	1522.59	2655.21	-244.89
329	SLV FO 10	-120	1564	14795	1525.31	2656.43	-265.95
329	SLV FO 11	-712	-1705	1932	425.99	250.72	383.98
329	SLV FO 12	-541	-1694	1958	428.7	251.94	362.91
329	SLV FO 13	-1577	458	10473	1156.87	1844.74	105.02
329	SLV FO 14	-1322	475	10511	1160.91	1846.55	73.74
329	SLV FO 15	-1703	-519	6622	827.89	1123.39	293.68
329	SLV FO 16	-1448	-502	6660	831.92	1125.2	262.4
329	CRTFP Ux+	0	0	0	0	0	0
329	CRTFP Ux-	0	0	0	0	0	0
329	CRTFP Uy+	0	0	0	0	-0.01	0
329	CRTFP Uy-	0	0	0	0	0.01	0
331	SLU 1	32	-61	4190	1207.55	2.84	-10.21
331	SLU 2	35	-38	4261	1223.76	2.89	-11.27
331	SLU 3	32	-62	4260	1228.4	2.91	-10.17
331	SLU 4	34	-49	4303	1238.12	2.93	-10.81
331	SLU 5	35	-39	4305	1236.91	2.93	-11.11
331	SLU 6	31	-64	4304	1241.55	2.95	-10.01
331	SLU 7	33	-50	4346	1251.28	2.97	-10.64
331	SLU 8	31	-63	4278	1233.86	2.93	-9.89
331	SLU 9	33	-50	4320	1243.58	2.95	-10.53
331	SLU 10	36	-45	4803	1379.42	3.35	-11.71
331	SLU 11	33	-69	4802	1384.06	3.37	-10.61
331	SLU 12	35	-55	4845	1393.79	3.4	-11.25
331	SLU 13	36	-46	4847	1392.58	3.4	-11.55
331	SLU 14	32	-70	4846	1397.22	3.41	-10.45
331	SLU 15	34	-57	4888	1406.94	3.44	-11.09
331	SLU 16	32	-70	4820	1389.53	3.39	-10.33
331	SLU 17	34	-56	4862	1399.25	3.42	-10.97
331	SLU 18	34	-70	4965	1429.93	3.51	-10.84
331	SLU 19	36	-57	5007	1439.65	3.53	-11.48
331	SLU 20	33	-72	5009	1443.08	3.55	-10.68
331	SLU 21	35	-58	5051	1452.81	3.58	-11.32
331	SLU 22	36	-69	4746	1369.33	3.21	-11.62
331	SLU 23	40	-46	4817	1385.53	3.26	-12.68
331	SLU 24	36	-70	4816	1390.17	3.28	-11.58
331	SLU 25	38	-57	4858	1399.9	3.3	-12.21
331	SLU 26	39	-47	4860	1398.69	3.3	-12.52
331	SLU 27	36	-71	4859	1403.33	3.32	-11.42
331	SLU 28	38	-58	4902	1413.05	3.34	-12.05
331	SLU 29	35	-71	4833	1395.64	3.3	-11.3
331	SLU 30	37	-58	4876	1405.36	3.32	-11.93
331	SLU 31	41	-53	5359	1541.2	3.72	-13.12
331	SLU 32	37	-77	5358	1545.84	3.74	-12.02
331	SLU 33	39	-63	5400	1555.56	3.77	-12.65
331	SLU 34	40	-54	5403	1554.35	3.77	-12.96
331	SLU 35	37	-78	5401	1558.99	3.78	-11.86
331	SLU 36	39	-64	5444	1568.72	3.81	-12.49
331	SLU 37	36	-78	5375	1551.3	3.76	-11.74
331	SLU 38	38	-64	5418	1561.03	3.79	-12.38
331	SLU 39	38	-78	5520	1591.71	3.88	-12.25
331	SLU 40	40	-64	5563	1601.43	3.9	-12.89
331	SLU 41	38	-79	5564	1604.86	3.92	-12.09
331	SLU 42	40	-66	5607	1614.59	3.95	-12.72
331	SLU 43	40	-76	5257	1514.35	3.57	-12.8
331	SLU 44	43	-54	5328	1530.55	3.62	-13.85
331	SLU 45	40	-78	5327	1535.19	3.63	-12.75
331	SLU 46	42	-64	5369	1544.92	3.66	-13.39
331	SLU 47	43	-55	5372	1543.71	3.66	-13.69
331	SLU 48	39	-79	5370	1548.35	3.67	-12.59
331	SLU 49	41	-66	5413	1558.07	3.7	-13.23
331	SLU 50	39	-79	5344	1540.66	3.65	-12.47
331	SLU 51	41	-65	5387	1550.38	3.68	-13.11
331	SLU 52	45	-60	5870	1686.22	4.08	-14.29
331	SLU 53	41	-85	5869	1690.86	4.1	-13.19
331	SLU 54	43	-71	5911	1700.59	4.12	-13.83
331	SLU 55	44	-62	5914	1699.38	4.12	-14.13
331	SLU 56	40	-86	5913	1704.02	4.14	-13.03
331	SLU 57	42	-72	5955	1713.74	4.16	-13.67
331	SLU 58	40	-86	5887	1696.32	4.12	-12.91
331	SLU 59	42	-72	5929	1706.05	4.14	-13.55
331	SLU 60	42	-86	6032	1736.73	4.23	-13.43
331	SLU 61	44	-72	6074	1746.45	4.26	-14.06
331	SLU 62	41	-87	6075	1749.88	4.27	-13.26
331	SLU 63	43	-73	6118	1759.61	4.3	-13.9
331	SLU 64	44	-84	5813	1676.12	3.94	-14.2
331	SLU 65	48	-62	5883	1692.33	3.99	-15.26
331	SLU 66	44	-86	5882	1696.97	4	-14.16
331	SLU 67	46	-72	5925	1706.7	4.03	-14.79
331	SLU 68	47	-63	5927	1705.49	4.03	-15.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
331	SLU 69	44	-87	5926	1710.13	4.04	-14
331	SLU 70	46	-73	5968	1719.85	4.07	-14.63
331	SLU 71	43	-87	5900	1702.43	4.02	-13.88
331	SLU 72	45	-73	5942	1712.16	4.05	-14.52
331	SLU 73	49	-68	6426	1848	4.45	-15.7
331	SLU 74	45	-92	6424	1852.64	4.47	-14.6
331	SLU 75	47	-79	6467	1862.36	4.49	-15.24
331	SLU 76	48	-69	6469	1861.15	4.49	-15.54
331	SLU 77	45	-94	6468	1865.79	4.51	-14.44
331	SLU 78	47	-80	6510	1875.52	4.53	-15.07
331	SLU 79	45	-93	6442	1858.1	4.49	-14.32
331	SLU 80	47	-80	6485	1867.83	4.51	-14.96
331	SLU 81	46	-94	6587	1898.5	4.6	-14.83
331	SLU 82	48	-80	6630	1908.23	4.63	-15.47
331	SLU 83	46	-95	6631	1911.66	4.64	-14.67
331	SLU 84	48	-81	6673	1921.38	4.67	-15.31
331	SLE RA 1	33	-63	4349	1253.77	2.95	-10.62
331	SLE RA 2	35	-48	4396	1264.58	2.98	-11.32
331	SLE RA 3	33	-64	4396	1267.67	2.99	-10.59
331	SLE RA 4	34	-55	4424	1274.15	3.01	-11.01
331	SLE RA 5	35	-49	4425	1273.35	3.01	-11.21
331	SLE RA 6	33	-65	4425	1276.44	3.02	-10.48
331	SLE RA 7	34	-56	4453	1282.92	3.04	-10.9
331	SLE RA 8	32	-65	4407	1271.31	3.01	-10.4
331	SLE RA 9	34	-56	4436	1277.79	3.02	-10.83
331	SLE RA 10	36	-52	4758	1368.35	3.29	-11.62
331	SLE RA 11	34	-69	4757	1371.45	3.3	-10.88
331	SLE RA 12	35	-59	4785	1377.93	3.32	-11.3
331	SLE RA 13	36	-53	4787	1377.12	3.32	-11.51
331	SLE RA 14	34	-69	4786	1380.22	3.33	-10.77
331	SLE RA 15	35	-60	4814	1386.7	3.35	-11.2
331	SLE RA 16	33	-69	4769	1375.09	3.31	-10.7
331	SLE RA 17	35	-60	4797	1381.57	3.33	-11.12
331	SLE RA 18	34	-69	4865	1402.02	3.39	-11.04
331	SLE RA 19	36	-60	4894	1408.51	3.41	-11.46
331	SLE RA 20	34	-70	4895	1410.79	3.42	-10.93
331	SLE RA 21	35	-61	4923	1417.28	3.44	-11.35
331	SLE FR 1	33	-63	4349	1253.77	2.95	-10.62
331	SLE FR 2	34	-60	4359	1255.93	2.96	-10.76
331	SLE FR 3	33	-63	4361	1257.28	2.96	-10.57
331	SLE FR 4	34	-62	4514	1300.41	3.09	-10.88
331	SLE FR 5	33	-65	4516	1301.75	3.09	-10.7
331	SLE FR 6	34	-66	4607	1327.9	3.17	-10.83
331	SLE QP 1	33	-63	4349	1253.77	2.95	-10.62
331	SLE QP 2	34	-65	4504	1298.25	3.08	-10.74
331	SLD 1	516	88	4916	1394.4	3.69	-156.95
331	SLD 2	596	101	4935	1398.9	3.57	-180.97
331	SLD 3	476	-193	3877	1153.31	2.92	-144.17
331	SLD 4	556	-179	3896	1157.8	2.8	-168.18
331	SLD 5	226	404	6200	1691.98	4.46	-69.86
331	SLD 6	277	413	6212	1694.88	4.38	-85.33
331	SLD 7	91	-531	2737	888.33	1.88	-27.25
331	SLD 8	143	-523	2749	891.22	1.81	-42.72
331	SLD 9	-75	393	6259	1705.27	4.36	21.23
331	SLD 10	-24	401	6272	1708.17	4.28	5.76
331	SLD 11	-210	-543	2796	901.61	1.79	63.85
331	SLD 12	-159	-534	2808	904.51	1.71	48.38
331	SLD 13	-489	49	5113	1438.69	3.37	146.7
331	SLD 14	-409	63	5131	1443.19	3.25	122.68
331	SLD 15	-529	-231	4074	1197.59	2.59	159.48
331	SLD 16	-449	-218	4092	1202.09	2.47	135.47
331	SLV 1	791	194	5221	1465.45	4.09	-240.15
331	SLV 2	917	216	5250	1472.54	3.9	-278.01
331	SLV 3	722	-285	3448	1054.01	2.77	-218.35
331	SLV 4	848	-263	3477	1061.1	2.59	-256.2
331	SLV 5	342	735	7403	1971.1	5.42	-105.56
331	SLV 6	427	749	7423	1975.87	5.29	-131.05
331	SLV 7	112	-861	1492	599.64	1.03	-32.89
331	SLV 8	197	-846	1512	604.41	0.9	-58.38
331	SLV 9	-130	716	7496	1992.08	5.26	36.9
331	SLV 10	-45	731	7516	1996.86	5.14	11.41
331	SLV 11	-360	-879	1585	620.62	0.87	109.57
331	SLV 12	-275	-865	1605	625.39	0.75	84.08
331	SLV 13	-781	133	5531	1535.39	3.58	234.72
331	SLV 14	-654	155	5561	1542.48	3.39	196.86
331	SLV 15	-850	-346	3758	1123.95	2.26	256.52
331	SLV 16	-723	-324	3787	1131.04	2.07	218.66
331	SLV FO 1	866	220	5292	1482.17	4.19	-263.09
331	SLV FO 2	1005	244	5325	1489.97	3.99	-304.73
331	SLV FO 3	790	-306	3342	1029.59	2.74	-239.11
331	SLV FO 4	929	-283	3374	1037.39	2.54	-280.75
331	SLV FO 5	373	815	7693	2038.38	5.65	-115.05
331	SLV FO 6	466	831	7715	2043.64	5.51	-143.08
331	SLV FO 7	120	-940	1191	529.78	0.82	-35.11
331	SLV FO 8	213	-925	1213	535.03	0.68	-63.14
331	SLV FO 9	-146	795	7795	2061.47	5.48	41.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
331	SLV FO 10	-53	811	7817	2066.72	5.34	13.62
331	SLV FO 11	-399	-961	1293	552.86	0.65	121.6
331	SLV FO 12	-305	-945	1315	558.11	0.51	93.56
331	SLV FO 13	-862	153	5634	1559.11	3.63	259.27
331	SLV FO 14	-723	176	5666	1566.91	3.42	217.62
331	SLV FO 15	-938	-374	3683	1106.52	2.18	283.25
331	SLV FO 16	-799	-350	3716	1114.32	1.97	241.6
331	CRTFP Ux+	0	0	0	0	0	0
331	CRTFP Ux-	0	0	0	0	0	0
331	CRTFP Uy+	0	0	0	0	0	0
331	CRTFP Uy-	0	0	0	0	0	0
332	SLU 1	31	-88	3555	1019.77	89.14	-7.32
332	SLU 2	34	-72	3619	1034.56	90.68	-8.7
332	SLU 3	31	-90	3612	1036.87	90.59	-7.25
332	SLU 4	32	-80	3650	1045.75	91.51	-8.08
332	SLU 5	33	-73	3654	1045.08	91.57	-8.52
332	SLU 6	30	-92	3647	1047.39	91.48	-7.08
332	SLU 7	32	-82	3685	1056.27	92.4	-7.9
332	SLU 8	30	-91	3625	1040.81	90.92	-6.97
332	SLU 9	32	-81	3663	1049.69	91.84	-7.8
332	SLU 10	35	-81	4068	1162.96	101.95	-8.87
332	SLU 11	32	-100	4062	1165.27	101.86	-7.42
332	SLU 12	34	-90	4100	1174.15	102.78	-8.24
332	SLU 13	35	-83	4104	1173.48	102.84	-8.69
332	SLU 14	31	-102	4097	1175.8	102.75	-7.24
332	SLU 15	33	-92	4135	1184.67	103.67	-8.07
332	SLU 16	31	-101	4075	1169.22	102.19	-7.14
332	SLU 17	33	-91	4113	1178.09	103.12	-7.96
332	SLU 18	32	-102	4197	1203.2	105.24	-7.56
332	SLU 19	34	-92	4236	1212.08	106.17	-8.39
332	SLU 20	32	-104	4232	1213.72	106.13	-7.38
332	SLU 21	34	-94	4271	1222.6	107.06	-8.21
332	SLU 22	35	-98	4040	1160.91	101.25	-8.4
332	SLU 23	38	-82	4103	1175.7	102.79	-9.77
332	SLU 24	35	-100	4097	1178.02	102.69	-8.33
332	SLU 25	37	-91	4135	1186.89	103.61	-9.15
332	SLU 26	38	-84	4139	1186.23	103.68	-9.6
332	SLU 27	34	-102	4132	1188.54	103.58	-8.15
332	SLU 28	36	-92	4170	1197.41	104.5	-8.97
332	SLU 29	34	-102	4110	1181.96	103.02	-8.04
332	SLU 30	36	-92	4148	1190.83	103.95	-8.87
332	SLU 31	39	-92	4553	1304.11	114.06	-9.94
332	SLU 32	36	-110	4547	1306.42	113.96	-8.49
332	SLU 33	38	-101	4585	1315.29	114.89	-9.32
332	SLU 34	39	-93	4588	1314.63	114.95	-9.76
332	SLU 35	36	-112	4582	1316.94	114.85	-8.31
332	SLU 36	38	-102	4620	1325.82	115.77	-9.14
332	SLU 37	35	-111	4560	1310.36	114.3	-8.21
332	SLU 38	37	-102	4598	1319.24	115.22	-9.03
332	SLU 39	37	-113	4682	1344.34	117.35	-8.63
332	SLU 40	39	-103	4720	1353.22	118.27	-9.46
332	SLU 41	36	-114	4717	1354.87	118.24	-8.45
332	SLU 42	38	-104	4756	1363.74	119.16	-9.28
332	SLU 43	38	-111	4455	1277.3	111.74	-9.15
332	SLU 44	41	-94	4519	1292.1	113.28	-10.53
332	SLU 45	38	-113	4512	1294.41	113.18	-9.08
332	SLU 46	40	-103	4551	1303.28	114.1	-9.91
332	SLU 47	41	-96	4554	1302.62	114.16	-10.35
332	SLU 48	38	-115	4547	1304.93	114.07	-8.91
332	SLU 49	40	-105	4586	1313.81	114.99	-9.73
332	SLU 50	37	-114	4525	1298.35	113.51	-8.8
332	SLU 51	39	-104	4563	1307.22	114.44	-9.63
332	SLU 52	43	-104	4969	1420.5	124.55	-10.7
332	SLU 53	40	-123	4962	1422.81	124.45	-9.25
332	SLU 54	41	-113	5000	1431.69	125.38	-10.07
332	SLU 55	42	-106	5004	1431.02	125.44	-10.52
332	SLU 56	39	-124	4997	1433.33	125.34	-9.07
332	SLU 57	41	-115	5035	1442.21	126.26	-9.9
332	SLU 58	39	-124	4975	1426.75	124.78	-8.97
332	SLU 59	41	-114	5013	1435.63	125.71	-9.79
332	SLU 60	40	-125	5098	1460.74	127.84	-9.39
332	SLU 61	42	-115	5136	1469.61	128.76	-10.22
332	SLU 62	40	-127	5133	1471.26	128.73	-9.21
332	SLU 63	42	-117	5171	1480.14	129.65	-10.04
332	SLU 64	43	-121	4940	1418.45	123.84	-10.23
332	SLU 65	46	-105	5004	1433.24	125.38	-11.6
332	SLU 66	43	-123	4997	1435.55	125.28	-10.16
332	SLU 67	44	-113	5035	1444.43	126.21	-10.98
332	SLU 68	45	-106	5039	1443.76	126.27	-11.43
332	SLU 69	42	-125	5032	1446.08	126.17	-9.98
332	SLU 70	44	-115	5070	1454.95	127.1	-10.8
332	SLU 71	42	-124	5010	1439.49	125.62	-9.87
332	SLU 72	44	-115	5048	1448.37	126.54	-10.7
332	SLU 73	47	-115	5453	1561.64	136.65	-11.77
332	SLU 74	44	-133	5447	1563.96	136.55	-10.32
332	SLU 75	46	-123	5485	1572.83	137.48	-11.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
332	SLU 76	47	-116	5489	1572.17	137.54	-11.59
332	SLU 77	43	-135	5482	1574.48	137.44	-10.14
332	SLU 78	45	-125	5520	1583.35	138.37	-10.97
332	SLU 79	43	-134	5460	1567.9	136.89	-10.04
332	SLU 80	45	-124	5498	1576.77	137.81	-10.86
332	SLU 81	44	-135	5582	1601.88	139.94	-10.46
332	SLU 82	46	-126	5621	1610.76	140.87	-11.29
332	SLU 83	44	-137	5617	1612.41	140.83	-10.28
332	SLU 84	46	-127	5656	1621.28	141.75	-11.11
332	SLE RA 1	32	-91	3693	1060.09	92.6	-7.63
332	SLE RA 2	34	-80	3736	1069.95	93.63	-8.55
332	SLE RA 3	32	-92	3731	1071.5	93.56	-7.58
332	SLE RA 4	33	-86	3757	1077.41	94.18	-8.13
332	SLE RA 5	34	-81	3759	1076.97	94.22	-8.43
332	SLE RA 6	32	-93	3755	1078.51	94.16	-7.47
332	SLE RA 7	33	-87	3780	1084.43	94.77	-8.02
332	SLE RA 8	31	-93	3740	1074.12	93.79	-7.39
332	SLE RA 9	32	-86	3766	1080.04	94.4	-7.95
332	SLE RA 10	35	-87	4036	1155.56	101.14	-8.66
332	SLE RA 11	33	-99	4031	1157.1	101.08	-7.69
332	SLE RA 12	34	-92	4057	1163.02	101.69	-8.24
332	SLE RA 13	34	-88	4059	1162.57	101.73	-8.54
332	SLE RA 14	32	-100	4055	1164.11	101.67	-7.58
332	SLE RA 15	34	-93	4080	1170.03	102.29	-8.13
332	SLE RA 16	32	-100	4040	1159.73	101.3	-7.5
332	SLE RA 17	33	-93	4065	1165.64	101.92	-8.06
332	SLE RA 18	33	-100	4122	1182.38	103.34	-7.79
332	SLE RA 19	34	-94	4147	1188.3	103.95	-8.34
332	SLE RA 20	33	-101	4145	1189.4	103.93	-7.67
332	SLE RA 21	34	-95	4171	1195.31	104.54	-8.22
332	SLE FR 1	32	-91	3693	1060.09	92.6	-7.63
332	SLE FR 2	32	-89	3702	1062.07	92.81	-7.81
332	SLE FR 3	32	-91	3703	1062.9	92.84	-7.58
332	SLE FR 4	33	-92	3830	1098.75	96.03	-7.86
332	SLE FR 5	32	-94	3831	1099.59	96.06	-7.63
332	SLE FR 6	32	-96	3907	1121.24	97.97	-7.71
332	SLE QP 1	32	-91	3693	1060.09	92.6	-7.63
332	SLE QP 2	32	-94	3822	1096.78	95.82	-7.68
332	SLD 1	441	60	4114	1166.25	103.29	-136.47
332	SLD 2	509	93	4159	1178.67	104.3	-157.91
332	SLD 3	404	-149	3202	953.54	81.16	-119.87
332	SLD 4	472	-116	3247	965.96	82.18	-141.32
332	SLD 5	199	262	5285	1438.09	131.44	-67.8
332	SLD 6	242	284	5314	1446.09	132.1	-81.61
332	SLD 7	77	-432	2245	729.06	57.69	-12.48
332	SLD 8	120	-411	2273	737.06	58.35	-26.29
332	SLD 9	-56	223	5370	1456.5	133.3	10.93
332	SLD 10	-12	244	5399	1464.5	133.95	-2.88
332	SLD 11	-178	-471	2329	747.47	59.55	66.25
332	SLD 12	-134	-450	2358	755.47	60.2	52.44
332	SLD 13	-408	-72	4397	1227.6	109.47	125.96
332	SLD 14	-340	-39	4441	1240.02	110.48	104.52
332	SLD 15	-444	-280	3485	1014.89	87.34	142.56
332	SLD 16	-376	-247	3529	1027.31	88.36	121.11
332	SLV 1	673	161	4344	1220.38	109.06	-210.14
332	SLV 2	780	213	4414	1239.96	110.66	-243.94
332	SLV 3	611	-195	2787	857.41	71.3	-181.82
332	SLV 4	718	-143	2857	876.99	72.9	-215.62
332	SLV 5	299	512	6326	1680.72	156.75	-105.06
332	SLV 6	371	547	6373	1693.9	157.83	-127.82
332	SLV 7	91	-673	1137	470.8	30.91	-10.66
332	SLV 8	163	-638	1185	483.99	31.98	-33.41
332	SLV 9	-99	450	6459	1709.57	159.66	18.06
332	SLV 10	-27	485	6506	1722.76	160.74	-4.7
332	SLV 11	-307	-734	1270	499.66	33.81	112.46
332	SLV 12	-235	-700	1317	512.84	34.89	89.71
332	SLV 13	-653	-45	4786	1316.57	118.74	200.27
332	SLV 14	-547	7	4856	1336.15	120.34	166.46
332	SLV 15	-716	-400	3230	953.6	80.99	228.59
332	SLV 16	-609	-348	3300	973.18	82.59	194.79
332	SLV FO 1	737	186	4396	1232.74	110.38	-230.39
332	SLV FO 2	855	243	4473	1254.28	112.14	-267.57
332	SLV FO 3	669	-205	2684	833.47	68.85	-199.23
332	SLV FO 4	786	-148	2761	855.01	70.61	-236.42
332	SLV FO 5	326	572	6577	1739.11	162.85	-114.8
332	SLV FO 6	405	611	6629	1753.61	164.03	-139.83
332	SLV FO 7	97	-731	869	408.21	24.41	-10.96
332	SLV FO 8	176	-692	921	422.71	25.6	-35.99
332	SLV FO 9	-112	505	6723	1770.85	166.04	20.63
332	SLV FO 10	-33	543	6775	1785.35	167.23	-4.4
332	SLV FO 11	-341	-799	1015	439.95	27.61	124.48
332	SLV FO 12	-262	-760	1067	454.45	28.79	99.45
332	SLV FO 13	-722	-40	4883	1338.55	121.03	221.06
332	SLV FO 14	-604	17	4960	1360.09	122.79	183.88
332	SLV FO 15	-791	-431	3170	939.28	79.5	252.21
332	SLV FO 16	-673	-374	3247	960.82	81.26	215.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
332	CRTFP Ux+	0	0	0	0	0	0
332	CRTFP Ux-	0	0	0	0	0	0
332	CRTFP Uy+	0	0	0	0	0	0
332	CRTFP Uy-	0	0	0	0	0	0
333	SLU 1	21	-61	2447	666.44	56.05	-4.74
333	SLU 2	23	-50	2492	676.37	57.05	-5.62
333	SLU 3	21	-62	2486	677.6	56.96	-4.7
333	SLU 4	22	-56	2513	683.56	57.56	-5.22
333	SLU 5	23	-51	2516	683.21	57.6	-5.5
333	SLU 6	21	-63	2510	684.45	57.51	-4.58
333	SLU 7	22	-57	2537	690.41	58.11	-5.11
333	SLU 8	20	-63	2495	680.12	57.16	-4.51
333	SLU 9	22	-56	2522	686.08	57.76	-5.04
333	SLU 10	24	-57	2801	760.3	64.14	-5.72
333	SLU 11	22	-69	2796	761.54	64.05	-4.8
333	SLU 12	23	-63	2823	767.5	64.65	-5.33
333	SLU 13	24	-58	2825	767.15	64.69	-5.61
333	SLU 14	21	-70	2820	768.38	64.6	-4.69
333	SLU 15	23	-64	2847	774.34	65.2	-5.21
333	SLU 16	21	-70	2804	764.06	64.25	-4.62
333	SLU 17	22	-63	2831	770.02	64.85	-5.14
333	SLU 18	22	-71	2889	786.34	66.18	-4.89
333	SLU 19	23	-64	2916	792.3	66.78	-5.42
333	SLU 20	22	-72	2913	793.18	66.74	-4.78
333	SLU 21	23	-65	2940	799.15	67.33	-5.3
333	SLU 22	24	-68	2782	759.16	63.73	-5.45
333	SLU 23	26	-57	2827	769.09	64.72	-6.32
333	SLU 24	24	-69	2821	770.32	64.63	-5.4
333	SLU 25	25	-63	2848	776.28	65.23	-5.93
333	SLU 26	26	-58	2851	775.93	65.28	-6.21
333	SLU 27	24	-70	2845	777.17	65.19	-5.29
333	SLU 28	25	-64	2872	783.13	65.79	-5.81
333	SLU 29	23	-70	2830	772.84	64.84	-5.22
333	SLU 30	25	-64	2857	778.8	65.44	-5.74
333	SLU 31	27	-64	3137	853.02	71.82	-6.42
333	SLU 32	25	-76	3131	854.26	71.72	-5.51
333	SLU 33	26	-70	3158	860.22	72.32	-6.03
333	SLU 34	27	-65	3161	859.87	72.37	-6.31
333	SLU 35	24	-77	3155	861.1	72.28	-5.39
333	SLU 36	26	-71	3182	867.06	72.88	-5.92
333	SLU 37	24	-77	3140	856.78	71.93	-5.32
333	SLU 38	25	-70	3167	862.74	72.53	-5.85
333	SLU 39	25	-78	3224	879.06	73.86	-5.59
333	SLU 40	26	-71	3251	885.02	74.46	-6.12
333	SLU 41	25	-79	3248	885.9	74.41	-5.48
333	SLU 42	26	-72	3275	891.87	75.01	-6
333	SLU 43	26	-77	3066	834.58	70.24	-5.93
333	SLU 44	28	-66	3111	844.51	71.23	-6.8
333	SLU 45	26	-78	3105	845.75	71.14	-5.88
333	SLU 46	27	-72	3132	851.71	71.74	-6.41
333	SLU 47	28	-67	3135	851.36	71.79	-6.68
333	SLU 48	26	-79	3129	852.59	71.7	-5.77
333	SLU 49	27	-73	3156	858.55	72.29	-6.29
333	SLU 50	26	-79	3114	848.26	71.34	-5.7
333	SLU 51	27	-72	3141	854.22	71.94	-6.22
333	SLU 52	29	-73	3421	928.45	78.32	-6.9
333	SLU 53	27	-85	3415	929.68	78.23	-5.98
333	SLU 54	28	-78	3442	935.64	78.83	-6.51
333	SLU 55	29	-74	3445	935.29	78.88	-6.79
333	SLU 56	27	-86	3439	936.52	78.79	-5.87
333	SLU 57	28	-79	3466	942.48	79.39	-6.39
333	SLU 58	26	-86	3424	932.2	78.44	-5.8
333	SLU 59	28	-79	3451	938.16	79.03	-6.32
333	SLU 60	27	-86	3508	954.48	80.36	-6.07
333	SLU 61	29	-80	3535	960.44	80.96	-6.6
333	SLU 62	27	-87	3532	961.33	80.92	-5.96
333	SLU 63	28	-81	3559	967.29	81.52	-6.48
333	SLU 64	29	-84	3401	927.3	77.91	-6.63
333	SLU 65	31	-73	3446	937.23	78.91	-7.5
333	SLU 66	29	-85	3440	938.47	78.82	-6.58
333	SLU 67	30	-79	3467	944.43	79.42	-7.11
333	SLU 68	31	-74	3470	944.08	79.46	-7.39
333	SLU 69	29	-86	3464	945.31	79.37	-6.47
333	SLU 70	30	-80	3491	951.27	79.97	-6.99
333	SLU 71	29	-86	3449	940.98	79.02	-6.4
333	SLU 72	30	-79	3476	946.94	79.62	-6.92
333	SLU 73	32	-80	3756	1021.17	86	-7.61
333	SLU 74	30	-92	3750	1022.4	85.91	-6.69
333	SLU 75	31	-85	3777	1028.36	86.51	-7.21
333	SLU 76	32	-81	3780	1028.01	86.55	-7.49
333	SLU 77	30	-93	3774	1029.24	86.46	-6.57
333	SLU 78	31	-87	3801	1035.2	87.06	-7.1
333	SLU 79	29	-93	3759	1024.92	86.11	-6.5
333	SLU 80	31	-86	3786	1030.88	86.71	-7.03
333	SLU 81	30	-94	3843	1047.2	88.04	-6.78
333	SLU 82	32	-87	3870	1053.16	88.64	-7.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
333	SLU 83	30	-95	3867	1054.05	88.6	-6.66
333	SLU 84	31	-88	3895	1060.01	89.19	-7.19
333	SLE RA 1	22	-63	2542	692.93	58.24	-4.94
333	SLE RA 2	23	-56	2572	699.55	58.91	-5.53
333	SLE RA 3	22	-64	2569	700.37	58.85	-4.91
333	SLE RA 4	23	-59	2587	704.35	59.25	-5.26
333	SLE RA 5	23	-56	2588	704.11	59.28	-5.45
333	SLE RA 6	22	-65	2585	704.93	59.22	-4.84
333	SLE RA 7	22	-60	2603	708.91	59.62	-5.19
333	SLE RA 8	21	-64	2574	702.05	58.98	-4.79
333	SLE RA 9	22	-60	2593	706.03	59.38	-5.14
333	SLE RA 10	24	-60	2779	755.51	63.64	-5.6
333	SLE RA 11	22	-68	2775	756.33	63.58	-4.98
333	SLE RA 12	23	-64	2793	760.3	63.97	-5.33
333	SLE RA 13	24	-61	2795	760.07	64.01	-5.52
333	SLE RA 14	22	-69	2791	760.89	63.95	-4.91
333	SLE RA 15	23	-65	2809	764.86	64.34	-5.26
333	SLE RA 16	22	-69	2781	758.01	63.71	-4.86
333	SLE RA 17	23	-64	2799	761.98	64.11	-5.21
333	SLE RA 18	23	-69	2837	772.86	65	-5.04
333	SLE RA 19	23	-65	2855	776.84	65.4	-5.39
333	SLE RA 20	22	-70	2853	777.43	65.37	-4.97
333	SLE RA 21	23	-66	2871	781.4	65.77	-5.32
333	SLE FR 1	22	-63	2542	692.93	58.24	-4.94
333	SLE FR 2	22	-61	2548	694.25	58.38	-5.06
333	SLE FR 3	22	-63	2549	694.75	58.39	-4.91
333	SLE FR 4	22	-63	2637	718.23	60.4	-5.09
333	SLE FR 5	22	-65	2637	718.73	60.42	-4.94
333	SLE FR 6	22	-66	2690	732.9	61.62	-4.99
333	SLE QP 1	22	-63	2542	692.93	58.24	-4.94
333	SLE QP 2	22	-65	2631	716.91	60.27	-4.97
333	SLD 1	299	40	2827	760.66	64.74	-88
333	SLD 2	345	64	2860	769.48	65.47	-101.86
333	SLD 3	274	-99	2186	618.71	50.51	-77.46
333	SLD 4	319	-76	2219	627.53	51.24	-91.32
333	SLD 5	135	174	3655	943.81	83.06	-43.48
333	SLD 6	165	189	3676	949.49	83.53	-52.41
333	SLD 7	52	-291	1521	470.64	35.64	-8.35
333	SLD 8	81	-275	1542	476.32	36.11	-17.28
333	SLD 9	-37	146	3720	957.5	84.43	7.33
333	SLD 10	-8	161	3741	963.18	84.9	-1.6
333	SLD 11	-121	-319	1586	484.33	37.01	42.46
333	SLD 12	-91	-304	1607	490.01	37.48	33.53
333	SLD 13	-275	-54	3043	806.29	69.3	81.38
333	SLD 14	-229	-30	3076	815.11	70.03	67.51
333	SLD 15	-300	-193	2402	664.34	55.08	91.92
333	SLD 16	-254	-170	2435	673.16	55.8	78.05
333	SLV 1	456	109	2983	795.35	68.27	-135.48
333	SLV 2	528	146	3034	809.25	69.41	-157.33
333	SLV 3	413	-129	1890	553.12	43.99	-117.49
333	SLV 4	486	-92	1942	567.03	45.13	-139.35
333	SLV 5	203	341	4384	1105.22	99.28	-67.32
333	SLV 6	252	366	4419	1114.58	100.05	-82.04
333	SLV 7	61	-452	742	297.8	18.35	-7.37
333	SLV 8	110	-427	777	307.16	19.12	-22.09
333	SLV 9	-66	297	4485	1126.66	101.42	12.14
333	SLV 10	-17	322	4520	1136.02	102.19	-2.57
333	SLV 11	-208	-496	843	319.23	20.49	72.09
333	SLV 12	-159	-471	878	328.6	21.26	57.38
333	SLV 13	-442	-38	3320	866.79	75.41	129.4
333	SLV 14	-369	-1	3372	880.7	76.55	107.55
333	SLV 15	-484	-276	2227	624.56	51.13	147.39
333	SLV 16	-412	-239	2279	638.47	52.27	125.53
333	SLV FO 1	499	126	3018	803.19	69.07	-148.53
333	SLV FO 2	579	167	3075	818.49	70.33	-172.57
333	SLV FO 3	452	-135	1816	536.74	42.36	-128.75
333	SLV FO 4	532	-94	1873	552.04	43.62	-152.79
333	SLV FO 5	222	381	4559	1144.05	103.18	-73.56
333	SLV FO 6	275	409	4598	1154.35	104.03	-89.74
333	SLV FO 7	65	-490	553	255.89	14.16	-7.61
333	SLV FO 8	119	-463	591	266.19	15.01	-23.8
333	SLV FO 9	-75	333	4670	1167.63	105.53	13.85
333	SLV FO 10	-21	361	4709	1177.93	106.38	-2.33
333	SLV FO 11	-231	-539	664	279.47	16.52	79.8
333	SLV FO 12	-177	-511	703	289.76	17.36	63.61
333	SLV FO 13	-488	-35	3389	881.78	76.92	142.84
333	SLV FO 14	-408	6	3446	897.08	78.18	118.8
333	SLV FO 15	-535	-297	2187	615.33	50.21	162.62
333	SLV FO 16	-455	-256	2244	630.63	51.48	138.58
333	CRTFP Ux+	0	0	0	0	0	0
333	CRTFP Ux-	0	0	0	0	0	0
333	CRTFP Uy+	0	0	0	0	0	0
333	CRTFP Uy-	0	0	0	0	0	0
335	SLU 1	28	-78	3176	971.16	111.96	-6.15
335	SLU 2	30	-64	3235	986.12	113.98	-7.56
335	SLU 3	27	-80	3228	987.42	113.77	-6.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
335	SLU 4	29	-72	3263	996.39	114.98	-6.92
335	SLU 5	30	-65	3266	996.04	115.09	-7.38
335	SLU 6	27	-81	3259	997.34	114.88	-5.9
335	SLU 7	29	-73	3294	1006.31	116.09	-6.74
335	SLU 8	27	-81	3239	991	114.17	-5.8
335	SLU 9	28	-72	3274	999.98	115.38	-6.64
335	SLU 10	31	-73	3637	1108.41	128.15	-7.62
335	SLU 11	29	-89	3630	1109.71	127.94	-6.14
335	SLU 12	30	-80	3665	1118.68	129.15	-6.98
335	SLU 13	31	-74	3668	1118.33	129.25	-7.45
335	SLU 14	28	-90	3661	1119.63	129.04	-5.96
335	SLU 15	30	-82	3696	1128.6	130.26	-6.81
335	SLU 16	28	-89	3641	1113.29	128.34	-5.86
335	SLU 17	30	-81	3676	1122.27	129.55	-6.71
335	SLU 18	29	-91	3751	1145.86	132.2	-6.25
335	SLU 19	31	-82	3786	1154.83	133.41	-7.09
335	SLU 20	29	-92	3782	1155.78	133.31	-6.07
335	SLU 21	30	-83	3817	1164.75	134.52	-6.91
335	SLU 22	31	-87	3614	1106.8	127.35	-7.1
335	SLU 23	34	-73	3673	1121.75	129.37	-8.5
335	SLU 24	31	-89	3665	1123.05	129.16	-7.02
335	SLU 25	33	-81	3700	1132.02	130.37	-7.86
335	SLU 26	34	-75	3704	1131.67	130.47	-8.32
335	SLU 27	31	-90	3696	1132.97	130.26	-6.84
335	SLU 28	33	-82	3731	1141.94	131.47	-7.68
335	SLU 29	31	-90	3676	1126.64	129.56	-6.74
335	SLU 30	32	-81	3711	1135.61	130.77	-7.58
335	SLU 31	35	-82	4075	1244.04	143.53	-8.57
335	SLU 32	33	-98	4067	1245.34	143.32	-7.09
335	SLU 33	34	-89	4102	1254.31	144.54	-7.93
335	SLU 34	35	-83	4106	1253.96	144.64	-8.39
335	SLU 35	32	-99	4098	1255.26	144.43	-6.91
335	SLU 36	34	-91	4134	1264.23	145.64	-7.75
335	SLU 37	32	-99	4078	1248.93	143.72	-6.81
335	SLU 38	33	-90	4114	1257.9	144.93	-7.65
335	SLU 39	33	-100	4188	1281.49	147.59	-7.19
335	SLU 40	35	-91	4224	1290.47	148.8	-8.04
335	SLU 41	33	-101	4219	1291.41	148.69	-7.02
335	SLU 42	34	-93	4255	1300.39	149.9	-7.86
335	SLU 43	34	-98	3979	1216.01	140.28	-7.68
335	SLU 44	37	-84	4038	1230.96	142.3	-9.08
335	SLU 45	34	-100	4030	1232.26	142.09	-7.6
335	SLU 46	36	-92	4066	1241.24	143.3	-8.44
335	SLU 47	37	-86	4069	1240.88	143.4	-8.9
335	SLU 48	34	-102	4062	1242.18	143.19	-7.42
335	SLU 49	36	-93	4097	1251.16	144.4	-8.26
335	SLU 50	34	-101	4042	1235.85	142.49	-7.32
335	SLU 51	35	-93	4077	1244.82	143.7	-8.16
335	SLU 52	38	-93	4440	1353.25	156.46	-9.15
335	SLU 53	36	-109	4433	1354.55	156.25	-7.66
335	SLU 54	37	-101	4468	1363.52	157.47	-8.51
335	SLU 55	38	-94	4471	1363.17	157.57	-8.97
335	SLU 56	35	-110	4464	1364.47	157.36	-7.49
335	SLU 57	37	-102	4499	1373.45	158.57	-8.33
335	SLU 58	35	-110	4444	1358.14	156.65	-7.39
335	SLU 59	36	-101	4479	1367.11	157.87	-8.23
335	SLU 60	36	-111	4554	1390.71	160.52	-7.77
335	SLU 61	38	-102	4589	1399.68	161.73	-8.61
335	SLU 62	36	-112	4585	1400.63	161.62	-7.59
335	SLU 63	37	-104	4620	1409.6	162.83	-8.44
335	SLU 64	38	-108	4417	1351.64	155.66	-8.62
335	SLU 65	41	-94	4476	1366.6	157.68	-10.02
335	SLU 66	38	-109	4468	1367.9	157.47	-8.54
335	SLU 67	40	-101	4503	1376.87	158.68	-9.38
335	SLU 68	41	-95	4507	1376.52	158.79	-9.85
335	SLU 69	38	-111	4499	1377.82	158.57	-8.36
335	SLU 70	40	-102	4534	1386.79	159.79	-9.21
335	SLU 71	38	-110	4479	1371.48	157.87	-8.26
335	SLU 72	39	-102	4514	1380.46	159.08	-9.11
335	SLU 73	42	-102	4878	1488.89	171.85	-10.09
335	SLU 74	39	-118	4870	1490.19	171.64	-8.61
335	SLU 75	41	-110	4905	1499.16	172.85	-9.45
335	SLU 76	42	-104	4909	1498.81	172.95	-9.91
335	SLU 77	39	-119	4901	1500.11	172.74	-8.43
335	SLU 78	41	-111	4936	1509.08	173.95	-9.27
335	SLU 79	39	-119	4881	1493.77	172.04	-8.33
335	SLU 80	40	-110	4916	1502.74	173.25	-9.17
335	SLU 81	40	-120	4991	1526.34	175.9	-8.72
335	SLU 82	42	-112	5026	1535.31	177.11	-9.56
335	SLU 83	40	-121	5022	1536.26	177	-8.54
335	SLU 84	41	-113	5058	1545.23	178.22	-9.38
335	SLE RA 1	29	-81	3301	1009.92	116.36	-6.42
335	SLE RA 2	30	-71	3341	1019.89	117.7	-7.36
335	SLE RA 3	29	-82	3335	1020.75	117.56	-6.37
335	SLE RA 4	30	-76	3359	1026.73	118.37	-6.93
335	SLE RA 5	30	-72	3361	1026.5	118.44	-7.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
335	SLE RA 6	28	-83	3356	1027.37	118.3	-6.25
335	SLE RA 7	29	-77	3380	1033.35	119.11	-6.81
335	SLE RA 8	28	-82	3343	1023.14	117.83	-6.19
335	SLE RA 9	29	-77	3366	1029.12	118.64	-6.75
335	SLE RA 10	31	-77	3609	1101.41	127.15	-7.4
335	SLE RA 11	29	-88	3604	1102.28	127.01	-6.42
335	SLE RA 12	30	-82	3627	1108.26	127.82	-6.98
335	SLE RA 13	31	-78	3629	1108.02	127.89	-7.28
335	SLE RA 14	29	-89	3624	1108.89	127.75	-6.3
335	SLE RA 15	30	-83	3648	1114.87	128.55	-6.86
335	SLE RA 16	29	-88	3611	1104.67	127.28	-6.23
335	SLE RA 17	30	-83	3634	1110.65	128.08	-6.79
335	SLE RA 18	30	-89	3684	1126.38	129.85	-6.49
335	SLE RA 19	31	-83	3708	1132.36	130.66	-7.05
335	SLE RA 20	30	-90	3705	1132.99	130.59	-6.37
335	SLE RA 21	31	-84	3729	1138.98	131.39	-6.93
335	SLE FR 1	29	-81	3301	1009.92	116.36	-6.42
335	SLE FR 2	29	-79	3309	1011.91	116.63	-6.61
335	SLE FR 3	29	-81	3310	1012.56	116.65	-6.38
335	SLE FR 4	29	-81	3424	1046.85	120.68	-6.63
335	SLE FR 5	29	-84	3425	1047.5	120.7	-6.39
335	SLE FR 6	29	-85	3493	1068.15	123.1	-6.46
335	SLE QP 1	29	-81	3301	1009.92	116.36	-6.42
335	SLE QP 2	29	-83	3416	1044.85	120.41	-6.44
335	SLD 1	385	52	3658	1105.92	129.11	-127.63
335	SLD 2	444	84	3704	1119.77	130.63	-147.99
335	SLD 3	352	-127	2825	893.7	100.38	-110.64
335	SLD 4	411	-95	2870	907.54	101.91	-131
335	SLD 5	176	223	4745	1382.67	166.32	-65.07
335	SLD 6	213	243	4774	1391.59	167.3	-78.18
335	SLD 7	66	-372	1967	675.25	70.57	-8.43
335	SLD 8	104	-352	1996	684.17	71.55	-21.54
335	SLD 9	-46	186	4836	1405.54	169.26	8.65
335	SLD 10	-8	206	4865	1414.46	170.24	-4.46
335	SLD 11	-156	-409	2058	698.12	73.51	65.29
335	SLD 12	-118	-389	2088	707.04	74.49	52.19
335	SLD 13	-353	-72	3962	1182.17	138.9	118.11
335	SLD 14	-294	-40	4008	1196.01	140.43	97.76
335	SLD 15	-386	-250	3129	969.94	110.18	135.1
335	SLD 16	-327	-218	3174	983.79	111.7	114.75
335	SLV 1	588	140	3854	1155.38	136.05	-197.06
335	SLV 2	681	191	3926	1177.21	138.46	-229.14
335	SLV 3	532	-164	2432	793.25	87.04	-168.06
335	SLV 4	625	-114	2504	815.08	89.44	-200.14
335	SLV 5	264	436	5691	1623.18	198.99	-101.63
335	SLV 6	327	470	5739	1637.87	200.61	-123.23
335	SLV 7	78	-579	951	416.06	35.61	-4.95
335	SLV 8	140	-545	999	430.76	37.23	-26.55
335	SLV 9	-82	378	5833	1658.95	203.58	13.67
335	SLV 10	-20	412	5882	1673.65	205.2	-7.93
335	SLV 11	-269	-636	1093	451.84	40.2	110.34
335	SLV 12	-206	-603	1142	466.53	41.82	88.74
335	SLV 13	-567	-52	4329	1274.63	151.37	187.26
335	SLV 14	-474	-2	4401	1296.46	153.77	155.17
335	SLV 15	-623	-357	2907	912.5	102.35	216.26
335	SLV 16	-530	-307	2979	934.33	104.76	184.17
335	SLV FO 1	644	163	3898	1166.43	137.62	-216.12
335	SLV FO 2	746	218	3977	1190.45	140.26	-251.41
335	SLV FO 3	582	-172	2333	768.09	83.7	-184.22
335	SLV FO 4	685	-117	2413	792.1	86.35	-219.51
335	SLV FO 5	288	488	5918	1681.01	206.85	-111.14
335	SLV FO 6	357	525	5971	1697.17	208.63	-134.9
335	SLV FO 7	83	-628	704	353.18	27.13	-4.8
335	SLV FO 8	151	-591	757	369.35	28.91	-28.57
335	SLV FO 9	-93	425	6075	1720.36	211.9	15.68
335	SLV FO 10	-25	462	6128	1736.53	213.68	-8.08
335	SLV FO 11	-299	-692	861	392.54	32.18	122.02
335	SLV FO 12	-230	-655	914	408.7	33.96	98.26
335	SLV FO 13	-627	-49	4420	1297.61	154.46	206.63
335	SLV FO 14	-525	6	4499	1321.62	157.11	171.33
335	SLV FO 15	-688	-384	2856	899.26	100.55	238.53
335	SLV FO 16	-586	-329	2935	923.27	103.19	203.24
335	CRTFP Ux+	0	0	0	0	0	0
335	CRTFP Ux-	0	0	0	0	0	0
335	CRTFP Uy+	0	0	0	0	0	0
335	CRTFP Uy-	0	0	0	0	0	0
336	SLU 1	28	-74	3157	1022.87	-145.72	-13.06
336	SLU 2	31	-60	3216	1039.36	-148.53	-13.4
336	SLU 3	28	-75	3208	1039.93	-148.07	-13.13
336	SLU 4	30	-67	3243	1049.83	-149.76	-13.34
336	SLU 5	30	-61	3247	1049.74	-149.95	-13.32
336	SLU 6	28	-76	3238	1050.31	-149.49	-13.05
336	SLU 7	29	-68	3274	1060.21	-151.18	-13.25
336	SLU 8	27	-76	3218	1043.63	-148.56	-12.9
336	SLU 9	29	-68	3254	1053.52	-150.25	-13.1
336	SLU 10	32	-68	3616	1167.81	-166.97	-14.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
336	SLU 11	29	-83	3607	1168.38	-166.52	-13.92
336	SLU 12	31	-75	3643	1178.27	-168.2	-14.13
336	SLU 13	32	-69	3647	1178.19	-168.39	-14.11
336	SLU 14	29	-85	3638	1178.76	-167.94	-13.84
336	SLU 15	31	-76	3674	1188.65	-169.62	-14.05
336	SLU 16	29	-84	3618	1172.07	-167.01	-13.69
336	SLU 17	30	-76	3654	1181.97	-168.69	-13.9
336	SLU 18	30	-85	3727	1206.37	-172.07	-14.19
336	SLU 19	32	-77	3763	1216.26	-173.76	-14.4
336	SLU 20	29	-86	3758	1216.74	-173.49	-14.11
336	SLU 21	31	-78	3794	1226.64	-175.18	-14.32
336	SLU 22	32	-82	3594	1165.94	-165.94	-14.83
336	SLU 23	35	-68	3653	1182.43	-168.74	-15.17
336	SLU 24	32	-84	3645	1183.01	-168.29	-14.9
336	SLU 25	34	-76	3680	1192.9	-169.97	-15.11
336	SLU 26	34	-70	3684	1192.81	-170.16	-15.09
336	SLU 27	32	-85	3675	1193.38	-169.71	-14.82
336	SLU 28	33	-77	3711	1203.28	-171.39	-15.02
336	SLU 29	31	-85	3655	1186.7	-168.78	-14.67
336	SLU 30	33	-76	3691	1196.59	-170.46	-14.88
336	SLU 31	36	-76	4053	1310.88	-187.19	-15.96
336	SLU 32	33	-92	4044	1311.45	-186.73	-15.69
336	SLU 33	35	-84	4080	1321.35	-188.41	-15.9
336	SLU 34	36	-78	4084	1321.26	-188.61	-15.88
336	SLU 35	33	-93	4075	1321.83	-188.15	-15.61
336	SLU 36	35	-85	4111	1331.73	-189.83	-15.82
336	SLU 37	33	-93	4055	1315.15	-187.22	-15.46
336	SLU 38	34	-84	4091	1325.04	-188.9	-15.67
336	SLU 39	34	-94	4164	1349.44	-192.28	-15.96
336	SLU 40	36	-85	4200	1359.33	-193.97	-16.17
336	SLU 41	33	-95	4195	1359.82	-193.7	-15.88
336	SLU 42	35	-87	4231	1369.71	-195.39	-16.09
336	SLU 43	35	-93	3954	1280.68	-182.51	-16.37
336	SLU 44	38	-79	4014	1297.17	-185.32	-16.71
336	SLU 45	35	-94	4005	1297.74	-184.86	-16.44
336	SLU 46	37	-86	4041	1307.63	-186.54	-16.65
336	SLU 47	38	-80	4045	1307.55	-186.74	-16.63
336	SLU 48	35	-96	4036	1308.12	-186.28	-16.36
336	SLU 49	36	-87	4072	1318.01	-187.96	-16.57
336	SLU 50	34	-95	4016	1301.43	-185.35	-16.21
336	SLU 51	36	-87	4051	1311.33	-187.03	-16.42
336	SLU 52	39	-87	4413	1425.61	-203.76	-17.51
336	SLU 53	36	-103	4404	1426.19	-203.3	-17.24
336	SLU 54	38	-94	4440	1436.08	-204.99	-17.44
336	SLU 55	39	-88	4444	1435.99	-205.18	-17.42
336	SLU 56	36	-104	4435	1436.57	-204.72	-17.16
336	SLU 57	38	-96	4471	1446.46	-206.41	-17.36
336	SLU 58	36	-103	4415	1429.88	-203.79	-17.01
336	SLU 59	37	-95	4451	1439.78	-205.48	-17.21
336	SLU 60	37	-104	4525	1464.17	-208.86	-17.51
336	SLU 61	39	-96	4561	1474.07	-210.54	-17.71
336	SLU 62	37	-106	4556	1474.55	-210.28	-17.43
336	SLU 63	38	-97	4591	1484.45	-211.96	-17.63
336	SLU 64	39	-101	4391	1423.75	-202.72	-18.15
336	SLU 65	42	-88	4451	1440.24	-205.53	-18.48
336	SLU 66	39	-103	4442	1440.81	-205.07	-18.21
336	SLU 67	41	-95	4478	1450.71	-206.76	-18.42
336	SLU 68	42	-89	4481	1450.62	-206.95	-18.4
336	SLU 69	39	-104	4473	1451.19	-206.49	-18.13
336	SLU 70	40	-96	4508	1461.09	-208.18	-18.34
336	SLU 71	38	-104	4453	1444.51	-205.56	-17.98
336	SLU 72	40	-95	4488	1454.4	-207.25	-18.19
336	SLU 73	43	-96	4850	1568.69	-223.97	-19.28
336	SLU 74	40	-111	4841	1569.26	-223.52	-19.01
336	SLU 75	42	-103	4877	1579.15	-225.2	-19.21
336	SLU 76	43	-97	4881	1579.07	-225.39	-19.19
336	SLU 77	40	-112	4872	1579.64	-224.94	-18.93
336	SLU 78	42	-104	4908	1589.53	-226.62	-19.13
336	SLU 79	40	-112	4852	1572.95	-224.01	-18.78
336	SLU 80	41	-104	4888	1582.85	-225.69	-18.98
336	SLU 81	41	-113	4962	1607.25	-229.07	-19.28
336	SLU 82	43	-105	4997	1617.14	-230.76	-19.48
336	SLU 83	41	-114	4992	1617.62	-230.49	-19.2
336	SLU 84	42	-106	5028	1627.52	-232.17	-19.4
336	SLE RA 1	29	-76	3282	1063.75	-151.5	-13.57
336	SLE RA 2	31	-67	3321	1074.74	-153.37	-13.79
336	SLE RA 3	29	-77	3315	1075.12	-153.06	-13.61
336	SLE RA 4	30	-72	3339	1081.72	-154.19	-13.75
336	SLE RA 5	31	-68	3342	1081.66	-154.32	-13.74
336	SLE RA 6	29	-78	3336	1082.04	-154.01	-13.56
336	SLE RA 7	30	-72	3360	1088.64	-155.13	-13.7
336	SLE RA 8	29	-78	3323	1077.59	-153.39	-13.46
336	SLE RA 9	30	-72	3347	1084.18	-154.51	-13.6
336	SLE RA 10	32	-72	3588	1160.37	-165.67	-14.32
336	SLE RA 11	30	-83	3582	1160.75	-165.36	-14.14
336	SLE RA 12	31	-77	3606	1167.35	-166.48	-14.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
336	SLE RA 13	32	-73	3608	1167.29	-166.61	-14.27
336	SLE RA 14	30	-83	3602	1167.67	-166.31	-14.09
336	SLE RA 15	31	-78	3626	1174.27	-167.43	-14.22
336	SLE RA 16	30	-83	3589	1163.22	-165.69	-13.99
336	SLE RA 17	31	-78	3613	1169.81	-166.81	-14.12
336	SLE RA 18	30	-84	3662	1186.08	-169.06	-14.32
336	SLE RA 19	32	-78	3686	1192.67	-170.19	-14.46
336	SLE RA 20	30	-85	3683	1193	-170.01	-14.27
336	SLE RA 21	31	-79	3707	1199.59	-171.13	-14.4
336	SLE FR 1	29	-76	3282	1063.75	-151.5	-13.57
336	SLE FR 2	30	-74	3290	1065.95	-151.87	-13.61
336	SLE FR 3	29	-76	3290	1066.51	-151.88	-13.55
336	SLE FR 4	30	-77	3404	1102.64	-157.14	-13.84
336	SLE FR 5	29	-79	3404	1103.21	-157.15	-13.77
336	SLE FR 6	30	-80	3472	1124.91	-160.28	-13.95
336	SLE QP 1	29	-76	3282	1063.75	-151.5	-13.57
336	SLE QP 2	30	-78	3396	1100.45	-156.77	-13.79
336	SLD 1	380	53	3623	1160.46	-167	-131.32
336	SLD 2	438	86	3672	1175.99	-169.36	-150.07
336	SLD 3	347	-123	2783	927.81	-127.67	-126.9
336	SLD 4	405	-90	2832	943.34	-130.03	-145.65
336	SLD 5	175	222	4730	1468.64	-219.08	-52.53
336	SLD 6	212	243	4761	1478.64	-220.6	-64.6
336	SLD 7	65	-364	1929	693.12	-87.98	-37.8
336	SLD 8	102	-343	1961	703.13	-89.5	-49.88
336	SLD 9	-43	186	4830	1497.77	-224.04	22.29
336	SLD 10	-6	207	4862	1507.77	-225.55	10.21
336	SLD 11	-153	-400	2030	722.25	-92.94	37.01
336	SLD 12	-116	-379	2062	732.25	-94.45	24.94
336	SLD 13	-346	-66	3959	1257.55	-183.51	118.06
336	SLD 14	-288	-34	4008	1273.08	-185.87	99.31
336	SLD 15	-379	-242	3119	1024.9	-144.18	122.48
336	SLD 16	-321	-210	3168	1040.43	-146.54	103.73
336	SLV 1	580	139	3812	1210.85	-175.57	-197.75
336	SLV 2	672	191	3889	1235.33	-179.29	-227.31
336	SLV 3	524	-161	2378	813.87	-108.46	-190.3
336	SLV 4	615	-109	2455	838.35	-112.18	-219.86
336	SLV 5	263	433	5680	1731.09	-263.5	-74.77
336	SLV 6	325	467	5732	1747.57	-266	-94.67
336	SLV 7	75	-568	902	407.81	-39.8	-49.93
336	SLV 8	137	-533	954	424.3	-42.3	-69.83
336	SLV 9	-77	377	5837	1776.59	-271.23	42.24
336	SLV 10	-16	411	5889	1793.08	-273.73	22.34
336	SLV 11	-266	-624	1059	453.32	-47.54	67.08
336	SLV 12	-204	-589	1111	469.81	-50.04	47.18
336	SLV 13	-556	-47	4336	1362.54	-201.36	192.27
336	SLV 14	-465	4	4413	1387.03	-205.07	162.71
336	SLV 15	-612	-347	2903	965.56	-134.25	199.72
336	SLV 16	-521	-296	2980	990.04	-137.96	170.16
336	SLV FO 1	635	161	3853	1221.89	-177.45	-216.15
336	SLV FO 2	736	218	3938	1248.82	-181.54	-248.67
336	SLV FO 3	573	-169	2276	785.21	-103.63	-207.95
336	SLV FO 4	674	-113	2361	812.14	-107.72	-240.47
336	SLV FO 5	287	484	5909	1794.15	-274.17	-80.87
336	SLV FO 6	354	522	5966	1812.28	-276.92	-102.76
336	SLV FO 7	80	-617	653	338.55	-28.11	-53.54
336	SLV FO 8	147	-579	710	356.68	-30.86	-75.43
336	SLV FO 9	-88	422	6082	1844.21	-282.68	47.84
336	SLV FO 10	-21	460	6139	1862.34	-285.43	25.95
336	SLV FO 11	-295	-678	826	388.61	-36.62	75.17
336	SLV FO 12	-228	-640	883	406.74	-39.37	53.28
336	SLV FO 13	-614	-44	4430	1388.75	-205.82	212.88
336	SLV FO 14	-514	12	4515	1415.68	-209.9	180.36
336	SLV FO 15	-677	-374	2853	952.07	-132	221.08
336	SLV FO 16	-576	-318	2938	979	-136.08	188.56
336	CRTFP Ux+	0	0	0	0	0	0
336	CRTFP Ux-	0	0	0	0	0	0
336	CRTFP Uy+	0	0	0	0	0	0
336	CRTFP Uy-	0	0	0	0	0	0
337	SLU 1	38	-85	4107	1327.64	-0.54	-12.99
337	SLU 2	42	-67	4188	1350.16	-0.67	-14.27
337	SLU 3	38	-87	4173	1349.75	-0.55	-13
337	SLU 4	41	-76	4221	1363.26	-0.63	-13.76
337	SLU 5	42	-68	4228	1363.57	-0.67	-14.1
337	SLU 6	38	-88	4213	1363.15	-0.54	-12.83
337	SLU 7	40	-77	4261	1376.67	-0.62	-13.6
337	SLU 8	37	-87	4187	1354.45	-0.53	-12.66
337	SLU 9	40	-77	4235	1367.96	-0.61	-13.42
337	SLU 10	44	-76	4707	1516.71	-0.73	-14.85
337	SLU 11	40	-96	4693	1516.29	-0.6	-13.58
337	SLU 12	42	-85	4741	1529.81	-0.68	-14.35
337	SLU 13	43	-77	4747	1530.11	-0.73	-14.68
337	SLU 14	40	-97	4732	1529.7	-0.6	-13.41
337	SLU 15	42	-86	4781	1543.21	-0.68	-14.18
337	SLU 16	39	-97	4706	1520.99	-0.59	-13.24
337	SLU 17	41	-86	4755	1534.5	-0.67	-14.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
337	SLU 18	41	-98	4849	1565.56	-0.62	-13.83
337	SLU 19	43	-87	4898	1579.07	-0.7	-14.59
337	SLU 20	40	-99	4889	1578.96	-0.62	-13.66
337	SLU 21	43	-88	4938	1592.48	-0.7	-14.42
337	SLU 22	44	-95	4677	1513.77	-0.68	-14.85
337	SLU 23	47	-77	4758	1536.3	-0.81	-16.13
337	SLU 24	44	-96	4743	1535.88	-0.68	-14.86
337	SLU 25	46	-86	4792	1549.4	-0.76	-15.62
337	SLU 26	47	-78	4798	1549.7	-0.8	-15.96
337	SLU 27	43	-98	4783	1549.29	-0.68	-14.69
337	SLU 28	46	-87	4832	1562.8	-0.76	-15.45
337	SLU 29	43	-97	4757	1540.58	-0.67	-14.52
337	SLU 30	45	-86	4806	1554.1	-0.75	-15.28
337	SLU 31	49	-86	5278	1702.84	-0.87	-16.71
337	SLU 32	46	-106	5263	1702.43	-0.74	-15.44
337	SLU 33	48	-95	5312	1715.94	-0.82	-16.21
337	SLU 34	49	-87	5318	1716.25	-0.86	-16.54
337	SLU 35	45	-107	5303	1715.83	-0.73	-15.27
337	SLU 36	47	-96	5351	1729.35	-0.81	-16.04
337	SLU 37	45	-106	5277	1707.13	-0.72	-15.1
337	SLU 38	47	-96	5325	1720.64	-0.8	-15.86
337	SLU 39	46	-108	5420	1751.69	-0.76	-15.69
337	SLU 40	49	-97	5468	1765.21	-0.84	-16.45
337	SLU 41	46	-109	5459	1765.1	-0.75	-15.52
337	SLU 42	48	-98	5508	1778.61	-0.83	-16.28
337	SLU 43	48	-107	5143	1662.11	-0.66	-16.26
337	SLU 44	52	-89	5224	1684.63	-0.79	-17.53
337	SLU 45	48	-109	5209	1684.22	-0.66	-16.26
337	SLU 46	50	-98	5258	1697.74	-0.74	-17.03
337	SLU 47	51	-90	5264	1698.04	-0.78	-17.36
337	SLU 48	48	-110	5249	1697.62	-0.66	-16.09
337	SLU 49	50	-99	5298	1711.14	-0.74	-16.86
337	SLU 50	47	-110	5223	1688.92	-0.65	-15.92
337	SLU 51	49	-99	5272	1702.43	-0.73	-16.68
337	SLU 52	53	-98	5744	1851.18	-0.85	-18.11
337	SLU 53	50	-118	5729	1850.76	-0.72	-16.84
337	SLU 54	52	-107	5778	1864.28	-0.8	-17.61
337	SLU 55	53	-99	5784	1864.58	-0.84	-17.95
337	SLU 56	49	-119	5769	1864.17	-0.71	-16.68
337	SLU 57	52	-109	5817	1877.68	-0.79	-17.44
337	SLU 58	49	-119	5743	1855.46	-0.7	-16.5
337	SLU 59	51	-108	5791	1868.98	-0.78	-17.27
337	SLU 60	51	-120	5886	1900.03	-0.74	-17.09
337	SLU 61	53	-109	5934	1913.54	-0.82	-17.85
337	SLU 62	50	-121	5925	1913.43	-0.73	-16.92
337	SLU 63	52	-111	5974	1926.95	-0.81	-17.69
337	SLU 64	53	-117	5714	1848.25	-0.79	-18.11
337	SLU 65	57	-99	5795	1870.77	-0.93	-19.39
337	SLU 66	53	-119	5780	1870.36	-0.8	-18.12
337	SLU 67	56	-108	5828	1883.87	-0.88	-18.88
337	SLU 68	57	-100	5834	1884.18	-0.92	-19.22
337	SLU 69	53	-120	5820	1883.76	-0.79	-17.95
337	SLU 70	55	-109	5868	1897.28	-0.87	-18.72
337	SLU 71	53	-119	5793	1875.05	-0.78	-17.78
337	SLU 72	55	-109	5842	1888.57	-0.86	-18.54
337	SLU 73	59	-108	6314	2037.31	-0.98	-19.97
337	SLU 74	55	-128	6300	2036.9	-0.85	-18.7
337	SLU 75	57	-117	6348	2050.41	-0.93	-19.47
337	SLU 76	58	-109	6354	2050.72	-0.98	-19.8
337	SLU 77	55	-129	6339	2050.3	-0.85	-18.53
337	SLU 78	57	-118	6388	2063.82	-0.93	-19.3
337	SLU 79	54	-128	6313	2041.6	-0.84	-18.36
337	SLU 80	57	-118	6362	2055.11	-0.92	-19.13
337	SLU 81	56	-130	6456	2086.17	-0.88	-18.95
337	SLU 82	58	-119	6505	2099.68	-0.95	-19.71
337	SLU 83	56	-131	6496	2099.57	-0.87	-18.78
337	SLU 84	58	-120	6544	2113.09	-0.95	-19.54
337	SLE RA 1	40	-88	4270	1380.82	-0.58	-13.52
337	SLE RA 2	42	-76	4324	1395.84	-0.67	-14.37
337	SLE RA 3	40	-89	4314	1395.56	-0.58	-13.53
337	SLE RA 4	41	-82	4346	1404.57	-0.64	-14.04
337	SLE RA 5	42	-77	4350	1404.77	-0.67	-14.26
337	SLE RA 6	40	-90	4340	1404.49	-0.58	-13.42
337	SLE RA 7	41	-83	4373	1413.51	-0.63	-13.93
337	SLE RA 8	39	-89	4323	1398.69	-0.57	-13.3
337	SLE RA 9	41	-82	4355	1407.7	-0.63	-13.81
337	SLE RA 10	44	-82	4670	1506.86	-0.71	-14.76
337	SLE RA 11	41	-95	4660	1506.59	-0.62	-13.92
337	SLE RA 12	43	-88	4693	1515.6	-0.67	-14.43
337	SLE RA 13	43	-83	4697	1515.8	-0.7	-14.65
337	SLE RA 14	41	-96	4687	1515.52	-0.62	-13.81
337	SLE RA 15	42	-89	4719	1524.53	-0.67	-14.32
337	SLE RA 16	41	-95	4669	1509.72	-0.61	-13.69
337	SLE RA 17	42	-88	4702	1518.73	-0.66	-14.2
337	SLE RA 18	42	-96	4765	1539.43	-0.63	-14.08
337	SLE RA 19	43	-89	4797	1548.44	-0.69	-14.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
337	SLE RA 20	41	-97	4791	1548.37	-0.63	-13.97
337	SLE RA 21	43	-90	4824	1557.38	-0.68	-14.48
337	SLE FR 1	40	-88	4270	1380.82	-0.58	-13.52
337	SLE FR 2	40	-85	4281	1383.82	-0.6	-13.69
337	SLE FR 3	40	-88	4280	1384.39	-0.58	-13.48
337	SLE FR 4	41	-88	4429	1431.41	-0.61	-13.86
337	SLE FR 5	40	-91	4429	1431.98	-0.6	-13.65
337	SLE FR 6	41	-92	4517	1460.12	-0.61	-13.8
337	SLE QP 1	40	-88	4270	1380.82	-0.58	-13.52
337	SLE QP 2	40	-90	4418	1428.4	-0.6	-13.69
337	SLD 1	493	75	4699	1500.86	-0.07	-172.22
337	SLD 2	567	118	4768	1522.26	-0.28	-198.3
337	SLD 3	449	-155	3572	1185.25	1.39	-156.98
337	SLD 4	523	-112	3642	1206.65	1.17	-183.07
337	SLD 5	230	301	6199	1925.13	-2.61	-79.87
337	SLD 6	278	329	6244	1938.91	-2.75	-96.67
337	SLD 7	83	-466	2444	873.1	2.24	-29.09
337	SLD 8	131	-439	2489	886.89	2.11	-45.88
337	SLD 9	-51	258	6348	1969.92	-3.3	18.5
337	SLD 10	-3	286	6393	1983.7	-3.44	1.71
337	SLD 11	-197	-509	2593	917.89	1.55	69.28
337	SLD 12	-149	-482	2637	931.68	1.42	52.49
337	SLD 13	-443	-69	5195	1650.16	-2.37	155.68
337	SLD 14	-368	-25	5264	1671.56	-2.58	129.6
337	SLD 15	-487	-299	4068	1334.55	-0.91	170.92
337	SLD 16	-412	-255	4138	1355.95	-1.12	144.83
337	SLV 1	750	184	4938	1564.23	0.12	-262.54
337	SLV 2	868	252	5047	1597.96	-0.21	-303.66
337	SLV 3	675	-209	3016	1025.72	2.6	-236.56
337	SLV 4	793	-140	3125	1059.45	2.27	-277.67
337	SLV 5	345	575	7469	2279.59	-4.08	-120.09
337	SLV 6	424	621	7542	2302.3	-4.31	-147.76
337	SLV 7	95	-734	1062	484.56	4.19	-33.47
337	SLV 8	174	-688	1135	507.27	3.96	-61.15
337	SLV 9	-94	508	7701	2349.53	-5.16	33.76
337	SLV 10	-14	554	7775	2372.24	-5.38	6.08
337	SLV 11	-344	-802	1294	554.5	3.11	120.38
337	SLV 12	-264	-756	1368	577.21	2.89	92.7
337	SLV 13	-712	-40	5712	1797.35	-3.46	250.29
337	SLV 14	-595	28	5821	1831.08	-3.8	209.17
337	SLV 15	-787	-433	3790	1258.84	-0.98	276.27
337	SLV 16	-670	-365	3899	1292.57	-1.31	235.16
337	SLV FO 1	821	211	4990	1577.81	0.19	-287.43
337	SLV FO 2	951	287	5110	1614.92	-0.18	-332.65
337	SLV FO 3	739	-221	2875	985.45	2.92	-258.84
337	SLV FO 4	868	-145	2995	1022.56	2.55	-304.07
337	SLV FO 5	376	642	7774	2364.71	-4.43	-130.73
337	SLV FO 6	463	692	7855	2389.69	-4.68	-161.17
337	SLV FO 7	101	-799	726	390.18	4.67	-35.44
337	SLV FO 8	188	-748	807	415.16	4.42	-65.89
337	SLV FO 9	-107	568	8030	2441.64	-5.61	38.51
337	SLV FO 10	-20	618	8110	2466.62	-5.86	8.06
337	SLV FO 11	-382	-873	982	467.11	3.49	133.79
337	SLV FO 12	-295	-822	1062	492.09	3.24	103.34
337	SLV FO 13	-788	-35	5841	1834.25	-3.75	276.68
337	SLV FO 14	-658	40	5961	1871.35	-4.12	231.46
337	SLV FO 15	-870	-467	3727	1241.89	-1.02	305.27
337	SLV FO 16	-741	-392	3847	1278.99	-1.39	260.04
337	CRTFP Ux+	0	0	0	0	0	0
337	CRTFP Ux-	0	0	0	0	0	0
337	CRTFP Uy+	0	0	0	0	0	0
337	CRTFP Uy-	0	0	0	0	0	0
338	SLU 1	28	-52	2852	924.99	177.25	-6.57
338	SLU 2	31	-39	2910	941.36	180.83	-8.27
338	SLU 3	28	-53	2898	940.39	180.1	-6.53
338	SLU 4	30	-45	2933	950.21	182.25	-7.55
338	SLU 5	31	-40	2938	950.68	182.55	-8.12
338	SLU 6	28	-54	2925	949.71	181.82	-6.38
338	SLU 7	30	-46	2960	959.53	183.97	-7.4
338	SLU 8	28	-53	2907	943.63	180.68	-6.28
338	SLU 9	29	-46	2942	953.45	182.83	-7.3
338	SLU 10	32	-45	3271	1057.42	203.25	-8.42
338	SLU 11	30	-58	3258	1056.44	202.52	-6.68
338	SLU 12	31	-51	3293	1066.27	204.67	-7.7
338	SLU 13	32	-45	3298	1066.74	204.97	-8.28
338	SLU 14	30	-59	3286	1065.76	204.23	-6.54
338	SLU 15	31	-52	3321	1075.59	206.38	-7.55
338	SLU 16	29	-59	3267	1059.68	203.1	-6.43
338	SLU 17	31	-51	3302	1069.51	205.24	-7.45
338	SLU 18	30	-60	3367	1090.78	209.28	-6.79
338	SLU 19	32	-52	3402	1100.6	211.43	-7.81
338	SLU 20	30	-60	3394	1100.1	210.99	-6.64
338	SLU 21	32	-53	3429	1109.93	213.14	-7.66
338	SLU 22	32	-58	3249	1054.88	201.91	-7.6
338	SLU 23	35	-45	3307	1071.26	205.5	-9.3
338	SLU 24	32	-59	3295	1070.29	204.77	-7.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
338	SLU 25	34	-51	3330	1080.11	206.92	-8.58
338	SLU 26	35	-46	3335	1080.58	207.21	-9.15
338	SLU 27	32	-60	3322	1079.61	206.48	-7.41
338	SLU 28	34	-52	3357	1089.43	208.63	-8.43
338	SLU 29	32	-59	3304	1073.53	205.34	-7.31
338	SLU 30	33	-52	3339	1083.35	207.49	-8.32
338	SLU 31	36	-51	3668	1187.31	227.91	-9.45
338	SLU 32	34	-64	3655	1186.34	227.18	-7.71
338	SLU 33	35	-57	3690	1196.17	229.33	-8.73
338	SLU 34	36	-51	3695	1196.64	229.63	-9.3
338	SLU 35	34	-65	3683	1195.66	228.9	-7.56
338	SLU 36	35	-57	3718	1205.49	231.05	-8.58
338	SLU 37	33	-65	3664	1189.58	227.76	-7.46
338	SLU 38	35	-57	3699	1199.41	229.91	-8.48
338	SLU 39	34	-66	3764	1220.68	233.94	-7.82
338	SLU 40	36	-58	3799	1230.5	236.09	-8.84
338	SLU 41	34	-66	3791	1230	235.65	-7.67
338	SLU 42	36	-59	3826	1239.82	237.8	-8.69
338	SLU 43	35	-65	3571	1157.94	221.97	-8.19
338	SLU 44	38	-53	3630	1174.32	225.56	-9.89
338	SLU 45	36	-67	3617	1173.35	224.82	-8.15
338	SLU 46	37	-59	3652	1183.17	226.97	-9.17
338	SLU 47	38	-53	3657	1183.64	227.27	-9.74
338	SLU 48	35	-67	3645	1182.67	226.54	-8
338	SLU 49	37	-60	3680	1192.49	228.69	-9.02
338	SLU 50	35	-67	3626	1176.59	225.4	-7.9
338	SLU 51	36	-59	3661	1186.41	227.55	-8.92
338	SLU 52	39	-58	3990	1290.37	247.97	-10.04
338	SLU 53	37	-72	3978	1289.4	247.24	-8.3
338	SLU 54	39	-64	4013	1299.23	249.39	-9.32
338	SLU 55	39	-59	4018	1299.7	249.69	-9.9
338	SLU 56	37	-73	4005	1298.72	248.95	-8.15
338	SLU 57	38	-65	4040	1308.55	251.1	-9.17
338	SLU 58	36	-72	3987	1292.64	247.82	-8.05
338	SLU 59	38	-65	4022	1302.47	249.96	-9.07
338	SLU 60	37	-73	4086	1323.74	254	-8.41
338	SLU 61	39	-66	4121	1333.56	256.15	-9.43
338	SLU 62	37	-74	4114	1333.06	255.71	-8.26
338	SLU 63	39	-66	4149	1342.88	257.86	-9.28
338	SLU 64	39	-71	3968	1287.84	246.63	-9.22
338	SLU 65	42	-59	4027	1304.22	250.22	-10.92
338	SLU 66	40	-72	4014	1303.25	249.49	-9.18
338	SLU 67	41	-65	4049	1313.07	251.64	-10.2
338	SLU 68	42	-59	4054	1313.54	251.93	-10.77
338	SLU 69	39	-73	4042	1312.57	251.2	-9.03
338	SLU 70	41	-66	4077	1322.39	253.35	-10.05
338	SLU 71	39	-73	4023	1306.49	250.06	-8.93
338	SLU 72	40	-65	4058	1316.31	252.21	-9.94
338	SLU 73	44	-64	4387	1420.27	272.63	-11.07
338	SLU 74	41	-78	4375	1419.3	271.9	-9.33
338	SLU 75	43	-70	4410	1429.13	274.05	-10.35
338	SLU 76	43	-65	4415	1429.6	274.35	-10.92
338	SLU 77	41	-79	4402	1428.62	273.62	-9.18
338	SLU 78	42	-71	4437	1438.45	275.77	-10.2
338	SLU 79	40	-78	4384	1422.54	272.48	-9.08
338	SLU 80	42	-71	4419	1432.37	274.63	-10.1
338	SLU 81	42	-79	4483	1453.64	278.66	-9.44
338	SLU 82	43	-72	4518	1463.46	280.81	-10.46
338	SLU 83	41	-80	4511	1462.96	280.37	-9.29
338	SLU 84	43	-72	4546	1472.78	282.52	-10.31
338	SLE RA 1	29	-54	2965	962.1	184.3	-6.87
338	SLE RA 2	31	-45	3004	973.02	186.69	-8
338	SLE RA 3	30	-54	2996	972.37	186.2	-6.84
338	SLE RA 4	31	-49	3019	978.92	187.63	-7.52
338	SLE RA 5	31	-46	3022	979.23	187.83	-7.9
338	SLE RA 6	29	-55	3014	978.58	187.34	-6.74
338	SLE RA 7	30	-50	3038	985.13	188.77	-7.42
338	SLE RA 8	29	-55	3002	974.53	186.58	-6.67
338	SLE RA 9	30	-49	3025	981.08	188.01	-7.35
338	SLE RA 10	32	-49	3245	1050.39	201.63	-8.1
338	SLE RA 11	30	-58	3236	1049.74	201.14	-6.94
338	SLE RA 12	32	-53	3260	1056.29	202.58	-7.62
338	SLE RA 13	32	-49	3263	1056.6	202.77	-8
338	SLE RA 14	30	-58	3255	1055.95	202.29	-6.84
338	SLE RA 15	31	-53	3278	1062.5	203.72	-7.52
338	SLE RA 16	30	-58	3242	1051.9	201.53	-6.77
338	SLE RA 17	31	-53	3266	1058.45	202.96	-7.45
338	SLE RA 18	31	-59	3309	1072.63	205.65	-7.01
338	SLE RA 19	32	-54	3332	1079.18	207.08	-7.69
338	SLE RA 20	31	-59	3327	1078.84	206.79	-6.91
338	SLE RA 21	32	-54	3350	1085.39	208.22	-7.59
338	SLE FR 1	29	-54	2965	962.1	184.3	-6.87
338	SLE FR 2	30	-52	2973	964.28	184.78	-7.09
338	SLE FR 3	29	-54	2973	964.59	184.76	-6.83
338	SLE FR 4	30	-53	3076	997.44	191.18	-7.14
338	SLE FR 5	30	-55	3076	997.74	191.16	-6.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
338	SLE FR 6	30	-56	3137	1017.36	194.97	-6.94
338	SLE QP 1	29	-54	2965	962.1	184.3	-6.87
338	SLE QP 2	30	-55	3068	995.26	190.7	-6.91
338	SLD 1	343	58	3254	1043.34	202.41	-123.24
338	SLD 2	395	89	3306	1058.83	205.55	-143.26
338	SLD 3	312	-105	2449	815.42	152.79	-102.44
338	SLD 4	364	-74	2501	830.92	155.93	-122.46
338	SLD 5	162	220	4336	1352.68	268.93	-69.92
338	SLD 6	196	240	4369	1362.66	270.96	-82.81
338	SLD 7	58	-323	1653	592.97	103.53	-0.57
338	SLD 8	92	-302	1686	602.95	105.56	-13.47
338	SLD 9	-32	192	4451	1387.56	275.85	-0.35
338	SLD 10	2	212	4484	1397.54	277.87	-13.25
338	SLD 11	-136	-351	1767	627.85	110.45	68.99
338	SLD 12	-103	-331	1800	637.83	112.47	56.09
338	SLD 13	-304	-36	3636	1159.6	225.47	108.64
338	SLD 14	-252	-5	3687	1175.09	228.61	88.62
338	SLD 15	-335	-199	2831	931.68	175.85	129.44
338	SLD 16	-284	-168	2882	947.18	178.99	109.42
338	SLV 1	522	133	3417	1086.74	212.56	-190.21
338	SLV 2	604	182	3498	1111.17	217.51	-221.77
338	SLV 3	469	-145	2043	697.87	127.9	-154.7
338	SLV 4	550	-96	2124	722.3	132.85	-186.26
338	SLV 5	243	413	5241	1607.93	324.74	-109.86
338	SLV 6	298	447	5296	1624.38	328.07	-131.11
338	SLV 7	65	-513	662	311.7	42.54	8.5
338	SLV 8	120	-480	717	328.14	45.87	-12.75
338	SLV 9	-61	369	5420	1662.37	335.54	-1.07
338	SLV 10	-6	402	5474	1678.82	338.87	-22.32
338	SLV 11	-238	-557	841	366.14	53.34	117.29
338	SLV 12	-184	-524	896	382.58	56.67	96.04
338	SLV 13	-491	-14	4012	1268.22	248.56	172.44
338	SLV 14	-409	35	4094	1292.64	253.51	140.88
338	SLV 15	-544	-292	2639	879.35	163.9	207.95
338	SLV 16	-462	-243	2720	903.77	168.85	176.39
338	SLV FO 1	571	152	3452	1095.89	214.75	-208.54
338	SLV FO 2	661	206	3541	1122.76	220.19	-243.26
338	SLV FO 3	513	-154	1941	668.13	121.62	-169.48
338	SLV FO 4	603	-100	2030	695	127.06	-204.2
338	SLV FO 5	265	460	5458	1669.2	338.14	-120.16
338	SLV FO 6	325	497	5518	1687.29	341.81	-143.53
338	SLV FO 7	69	-559	422	243.34	27.72	10.04
338	SLV FO 8	129	-522	482	261.43	31.38	-13.34
338	SLV FO 9	-70	412	5655	1729.08	350.02	-0.48
338	SLV FO 10	-9	448	5715	1747.17	353.69	-23.86
338	SLV FO 11	-265	-607	618	303.23	39.6	129.71
338	SLV FO 12	-205	-571	678	321.32	43.26	106.34
338	SLV FO 13	-543	-10	4107	1295.51	254.34	190.38
338	SLV FO 14	-453	44	4196	1322.38	259.79	155.66
338	SLV FO 15	-601	-316	2596	867.76	161.22	229.44
338	SLV FO 16	-512	-262	2685	894.62	166.66	194.72
338	CRTFP Ux+	0	0	0	0	0	0
338	CRTFP Ux-	0	0	0	0	0	0
338	CRTFP Uy+	0	0	0	0	0	0
338	CRTFP Uy-	0	0	0	0	0	0
340	SLU 1	65	-94	5916	1059.49	55.27	-10
340	SLU 2	71	-67	6049	1081.48	54.7	-11.02
340	SLU 3	66	-96	6009	1076.62	56.29	-10.01
340	SLU 4	69	-80	6089	1089.81	55.94	-10.63
340	SLU 5	71	-69	6104	1091.74	55.37	-10.9
340	SLU 6	65	-98	6064	1086.88	56.96	-9.89
340	SLU 7	69	-81	6144	1100.07	56.62	-10.5
340	SLU 8	64	-97	6026	1080.02	56.62	-9.74
340	SLU 9	68	-81	6106	1093.21	56.28	-10.36
340	SLU 10	75	-77	6796	1214.95	62.17	-11.45
340	SLU 11	70	-106	6756	1210.09	63.77	-10.44
340	SLU 12	73	-90	6836	1223.28	63.42	-11.06
340	SLU 13	74	-78	6851	1225.21	62.85	-11.33
340	SLU 14	69	-107	6812	1220.35	64.44	-10.32
340	SLU 15	73	-91	6891	1233.55	64.09	-10.93
340	SLU 16	68	-106	6774	1213.49	64.1	-10.17
340	SLU 17	72	-90	6854	1226.68	63.75	-10.79
340	SLU 18	71	-108	6983	1250.17	65.95	-10.61
340	SLU 19	74	-92	7063	1263.36	65.61	-11.23
340	SLU 20	70	-109	7039	1260.43	66.63	-10.49
340	SLU 21	74	-93	7119	1273.62	66.28	-11.1
340	SLU 22	75	-105	6736	1207.27	63.07	-11.44
340	SLU 23	80	-78	6869	1229.26	62.5	-12.47
340	SLU 24	75	-107	6829	1224.4	64.09	-11.46
340	SLU 25	78	-91	6909	1237.59	63.74	-12.07
340	SLU 26	80	-79	6924	1239.52	63.17	-12.34
340	SLU 27	74	-108	6884	1234.66	64.76	-11.33
340	SLU 28	78	-92	6964	1247.85	64.42	-11.95
340	SLU 29	74	-107	6847	1227.79	64.42	-11.19
340	SLU 30	77	-91	6926	1240.99	64.07	-11.81
340	SLU 31	84	-87	7616	1362.73	69.97	-12.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
340	SLU 32	79	-116	7576	1357.87	71.56	-11.89
340	SLU 33	82	-100	7656	1371.06	71.22	-12.51
340	SLU 34	84	-89	7672	1372.99	70.65	-12.77
340	SLU 35	78	-118	7632	1368.13	72.24	-11.76
340	SLU 36	82	-101	7712	1381.32	71.89	-12.38
340	SLU 37	78	-117	7594	1361.27	71.9	-11.62
340	SLU 38	81	-101	7674	1374.46	71.55	-12.24
340	SLU 39	80	-119	7804	1397.95	73.75	-12.06
340	SLU 40	84	-102	7883	1411.14	73.41	-12.68
340	SLU 41	80	-120	7859	1408.21	74.43	-11.93
340	SLU 42	83	-104	7939	1421.4	74.08	-12.55
340	SLU 43	82	-119	7409	1326.68	69.18	-12.5
340	SLU 44	88	-92	7542	1348.66	68.61	-13.53
340	SLU 45	82	-121	7502	1343.8	70.2	-12.52
340	SLU 46	86	-105	7582	1356.99	69.85	-13.13
340	SLU 47	87	-93	7598	1358.92	69.28	-13.4
340	SLU 48	82	-122	7558	1354.06	70.87	-12.39
340	SLU 49	85	-106	7638	1367.25	70.53	-13
340	SLU 50	81	-122	7520	1347.2	70.53	-12.25
340	SLU 51	84	-105	7600	1360.39	70.18	-12.86
340	SLU 52	91	-101	8290	1482.13	76.08	-13.96
340	SLU 53	86	-131	8250	1477.27	77.67	-12.95
340	SLU 54	89	-114	8330	1490.46	77.33	-13.56
340	SLU 55	91	-103	8345	1492.4	76.76	-13.83
340	SLU 56	86	-132	8305	1487.54	78.35	-12.82
340	SLU 57	89	-116	8385	1500.73	78	-13.43
340	SLU 58	85	-131	8267	1480.67	78.01	-12.68
340	SLU 59	88	-115	8347	1493.86	77.66	-13.29
340	SLU 60	87	-133	8477	1517.35	79.86	-13.12
340	SLU 61	91	-116	8557	1530.54	79.52	-13.73
340	SLU 62	87	-134	8532	1527.61	80.54	-12.99
340	SLU 63	90	-118	8612	1540.8	80.19	-13.6
340	SLU 64	91	-130	8229	1474.45	76.98	-13.95
340	SLU 65	97	-103	8362	1496.44	76.4	-14.97
340	SLU 66	91	-132	8323	1491.58	78	-13.96
340	SLU 67	95	-115	8402	1504.77	77.65	-14.58
340	SLU 68	96	-104	8418	1506.7	77.08	-14.85
340	SLU 69	91	-133	8378	1501.84	78.67	-13.84
340	SLU 70	94	-117	8458	1515.03	78.32	-14.45
340	SLU 71	90	-132	8340	1494.98	78.33	-13.69
340	SLU 72	94	-116	8420	1508.17	77.98	-14.31
340	SLU 73	101	-112	9110	1629.91	83.88	-15.4
340	SLU 74	95	-141	9070	1625.05	85.47	-14.39
340	SLU 75	99	-125	9150	1638.24	85.13	-15.01
340	SLU 76	100	-113	9165	1640.17	84.55	-15.28
340	SLU 77	95	-142	9125	1635.31	86.15	-14.27
340	SLU 78	98	-126	9205	1648.5	85.8	-14.88
340	SLU 79	94	-142	9087	1628.45	85.8	-14.12
340	SLU 80	97	-125	9167	1641.64	85.46	-14.74
340	SLU 81	97	-143	9297	1665.13	87.66	-14.56
340	SLU 82	100	-127	9377	1678.32	87.31	-15.18
340	SLU 83	96	-145	9352	1675.39	88.33	-14.44
340	SLU 84	100	-128	9432	1688.58	87.99	-15.05
340	SLE RA 1	68	-97	6150	1101.72	57.5	-10.41
340	SLE RA 2	72	-79	6239	1116.37	57.12	-11.09
340	SLE RA 3	68	-99	6212	1113.13	58.18	-10.42
340	SLE RA 4	71	-88	6265	1121.93	57.95	-10.83
340	SLE RA 5	72	-80	6276	1123.21	57.57	-11.01
340	SLE RA 6	68	-100	6249	1119.97	58.63	-10.34
340	SLE RA 7	70	-89	6302	1128.77	58.4	-10.75
340	SLE RA 8	67	-99	6224	1115.4	58.4	-10.24
340	SLE RA 9	70	-88	6277	1124.19	58.17	-10.65
340	SLE RA 10	74	-86	6737	1205.35	62.1	-11.38
340	SLE RA 11	71	-105	6710	1202.11	63.16	-10.71
340	SLE RA 12	73	-94	6764	1210.91	62.93	-11.12
340	SLE RA 13	74	-87	6774	1212.2	62.55	-11.3
340	SLE RA 14	71	-106	6747	1208.96	63.61	-10.62
340	SLE RA 15	73	-95	6801	1217.75	63.38	-11.03
340	SLE RA 16	70	-105	6722	1204.38	63.38	-10.53
340	SLE RA 17	72	-95	6775	1213.17	63.15	-10.94
340	SLE RA 18	72	-107	6862	1228.83	64.62	-10.82
340	SLE RA 19	74	-96	6915	1237.63	64.39	-11.23
340	SLE RA 20	71	-107	6899	1235.67	65.07	-10.74
340	SLE RA 21	74	-96	6952	1244.47	64.84	-11.15
340	SLE FR 1	68	-97	6150	1101.72	57.5	-10.41
340	SLE FR 2	69	-94	6168	1104.65	57.42	-10.55
340	SLE FR 3	68	-98	6165	1104.45	57.68	-10.38
340	SLE FR 4	70	-97	6381	1142.78	59.56	-10.67
340	SLE FR 5	69	-100	6378	1142.59	59.82	-10.5
340	SLE FR 6	70	-102	6506	1165.27	61.06	-10.62
340	SLE QP 1	68	-97	6150	1101.72	57.5	-10.41
340	SLE QP 2	69	-100	6364	1139.85	59.64	-10.53
340	SLD 1	718	137	6756	1202.97	68.15	-131.27
340	SLD 2	827	207	6876	1223.07	66.83	-150.77
340	SLD 3	650	-207	4951	902.5	69.89	-118.68
340	SLD 4	759	-137	5070	922.59	68.56	-138.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
340	SLD 5	348	481	9200	1611.05	59.79	-62.49
340	SLD 6	418	526	9277	1624	58.93	-75.04
340	SLD 7	122	-666	3180	609.46	65.58	-20.54
340	SLD 8	192	-621	3257	622.41	64.72	-33.1
340	SLD 9	-53	421	9470	1657.29	54.55	12.03
340	SLD 10	17	466	9547	1670.24	53.7	-0.53
340	SLD 11	-280	-726	3451	655.7	60.34	53.98
340	SLD 12	-210	-681	3528	668.65	59.49	41.42
340	SLD 13	-620	-63	7657	1357.11	50.71	117.12
340	SLD 14	-512	7	7777	1377.21	49.39	97.62
340	SLD 15	-688	-407	5851	1056.63	52.45	129.7
340	SLD 16	-580	-337	5971	1076.73	51.12	110.2
340	SLV 1	1088	295	7107	1260.06	72.84	-200.14
340	SLV 2	1259	404	7295	1291.74	70.75	-230.88
340	SLV 3	972	-292	4026	747.41	75.77	-178.67
340	SLV 4	1143	-182	4215	779.09	73.68	-209.41
340	SLV 5	519	888	11224	1947.52	59.54	-94.25
340	SLV 6	634	962	11351	1968.85	58.13	-114.94
340	SLV 7	132	-1068	955	238.69	69.32	-22.67
340	SLV 8	248	-994	1082	260.01	67.91	-43.37
340	SLV 9	-109	794	11646	2019.69	51.36	22.3
340	SLV 10	6	868	11773	2041.02	49.96	1.61
340	SLV 11	-496	-1162	1376	310.85	61.14	93.87
340	SLV 12	-380	-1088	1503	332.18	59.74	73.18
340	SLV 13	-1005	-18	8512	1500.61	45.59	188.34
340	SLV 14	-834	92	8701	1532.29	43.5	157.61
340	SLV 15	-1121	-605	5432	987.96	48.53	209.81
340	SLV 16	-950	-495	5620	1019.64	46.43	179.08
340	SLV FO 1	1190	334	7181	1272.08	74.16	-219.11
340	SLV FO 2	1378	455	7389	1306.93	71.86	-252.92
340	SLV FO 3	1062	-311	3792	708.17	77.39	-195.49
340	SLV FO 4	1251	-191	4000	743.01	75.09	-229.3
340	SLV FO 5	563	987	11710	2028.29	59.53	-102.62
340	SLV FO 6	690	1068	11850	2051.75	57.98	-125.38
340	SLV FO 7	139	-1165	414	148.57	70.29	-23.89
340	SLV FO 8	266	-1084	553	172.03	68.74	-46.65
340	SLV FO 9	-127	883	12174	2107.67	50.54	25.58
340	SLV FO 10	0	965	12313	2131.13	48.99	2.82
340	SLV FO 11	-552	-1268	877	227.95	61.3	104.31
340	SLV FO 12	-425	-1187	1017	251.41	59.75	81.55
340	SLV FO 13	-1113	-10	8727	1536.69	44.19	208.23
340	SLV FO 14	-924	111	8935	1571.53	41.89	174.42
340	SLV FO 15	-1240	-655	5338	972.77	47.41	231.85
340	SLV FO 16	-1052	-535	5546	1007.62	45.11	198.04
340	CRTFP Ux+	0	0	0	0	0	0
340	CRTFP Ux-	0	0	0	0	0	0
340	CRTFP Uy+	0	0	0	0	0	0
340	CRTFP Uy-	0	0	0	0	0	0
342	SLU 1	30	-39	2620	789.87	-161.3	-12.64
342	SLU 2	32	-26	2679	805.38	-164.95	-12.74
342	SLU 3	30	-39	2662	802.87	-163.86	-12.74
342	SLU 4	31	-32	2697	812.18	-166.05	-12.8
342	SLU 5	32	-26	2704	813.25	-166.47	-12.69
342	SLU 6	29	-40	2687	810.74	-165.39	-12.69
342	SLU 7	31	-32	2722	820.05	-167.57	-12.75
342	SLU 8	29	-39	2670	805.61	-164.35	-12.54
342	SLU 9	31	-32	2705	814.91	-166.53	-12.59
342	SLU 10	34	-29	3009	903.56	-185.22	-13.54
342	SLU 11	31	-43	2992	901.05	-184.14	-13.54
342	SLU 12	33	-35	3027	910.36	-186.33	-13.6
342	SLU 13	33	-30	3034	911.43	-186.75	-13.48
342	SLU 14	31	-44	3017	908.92	-185.66	-13.49
342	SLU 15	33	-36	3052	918.23	-187.85	-13.54
342	SLU 16	31	-43	3000	903.79	-184.62	-13.33
342	SLU 17	32	-36	3035	913.09	-186.81	-13.39
342	SLU 18	32	-44	3091	930.13	-190.27	-13.78
342	SLU 19	33	-36	3127	939.43	-192.46	-13.84
342	SLU 20	32	-44	3116	938	-191.79	-13.73
342	SLU 21	33	-37	3151	947.3	-193.98	-13.79
342	SLU 22	34	-43	2985	899.78	-183.71	-14.36
342	SLU 23	36	-30	3043	915.29	-187.36	-14.46
342	SLU 24	34	-44	3026	912.78	-186.28	-14.46
342	SLU 25	35	-36	3062	922.09	-188.47	-14.52
342	SLU 26	36	-30	3068	923.16	-188.89	-14.41
342	SLU 27	34	-44	3051	920.65	-187.8	-14.41
342	SLU 28	35	-36	3086	929.96	-189.99	-14.47
342	SLU 29	33	-44	3034	915.52	-186.76	-14.26
342	SLU 30	35	-36	3070	924.83	-188.95	-14.31
342	SLU 31	38	-34	3373	1013.47	-207.64	-15.26
342	SLU 32	35	-47	3356	1010.96	-206.56	-15.26
342	SLU 33	37	-40	3391	1020.27	-208.75	-15.32
342	SLU 34	38	-34	3398	1021.34	-209.16	-15.2
342	SLU 35	35	-48	3381	1018.83	-208.08	-15.21
342	SLU 36	37	-40	3416	1028.14	-210.27	-15.26
342	SLU 37	35	-47	3364	1013.7	-207.04	-15.05
342	SLU 38	36	-40	3399	1023.01	-209.23	-15.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
342	SLU 39	36	-48	3456	1040.04	-212.68	-15.5
342	SLU 40	38	-40	3491	1049.34	-214.87	-15.56
342	SLU 41	36	-49	3481	1047.91	-214.21	-15.45
342	SLU 42	37	-41	3516	1057.21	-216.4	-15.51
342	SLU 43	37	-49	3282	989.14	-202	-15.85
342	SLU 44	39	-36	3340	1004.65	-205.65	-15.94
342	SLU 45	37	-49	3323	1002.15	-204.57	-15.95
342	SLU 46	39	-42	3358	1011.45	-206.75	-16
342	SLU 47	39	-36	3365	1012.52	-207.17	-15.89
342	SLU 48	37	-50	3348	1010.02	-206.09	-15.89
342	SLU 49	38	-42	3383	1019.32	-208.28	-15.95
342	SLU 50	36	-50	3331	1004.89	-205.05	-15.74
342	SLU 51	38	-42	3366	1014.19	-207.24	-15.8
342	SLU 52	41	-39	3670	1102.83	-225.93	-16.74
342	SLU 53	39	-53	3653	1100.33	-224.84	-16.74
342	SLU 54	40	-45	3688	1109.63	-227.03	-16.8
342	SLU 55	41	-40	3695	1110.7	-227.45	-16.69
342	SLU 56	38	-54	3678	1108.2	-226.37	-16.69
342	SLU 57	40	-46	3713	1117.5	-228.56	-16.75
342	SLU 58	38	-53	3661	1103.07	-225.33	-16.54
342	SLU 59	40	-46	3696	1112.37	-227.52	-16.6
342	SLU 60	39	-54	3753	1129.4	-230.97	-16.99
342	SLU 61	41	-46	3788	1138.71	-233.16	-17.05
342	SLU 62	39	-54	3777	1137.27	-232.49	-16.93
342	SLU 63	41	-47	3813	1146.58	-234.68	-16.99
342	SLU 64	41	-53	3646	1099.06	-224.42	-17.57
342	SLU 65	44	-40	3705	1114.57	-228.07	-17.66
342	SLU 66	41	-54	3688	1112.06	-226.98	-17.67
342	SLU 67	43	-46	3723	1121.36	-229.17	-17.72
342	SLU 68	43	-41	3729	1122.44	-229.59	-17.61
342	SLU 69	41	-54	3712	1119.93	-228.51	-17.61
342	SLU 70	43	-46	3748	1129.23	-230.69	-17.67
342	SLU 71	41	-54	3695	1114.8	-227.47	-17.46
342	SLU 72	42	-46	3731	1124.1	-229.65	-17.52
342	SLU 73	45	-44	4034	1212.75	-248.34	-18.46
342	SLU 74	43	-57	4017	1210.24	-247.26	-18.46
342	SLU 75	44	-50	4053	1219.54	-249.45	-18.52
342	SLU 76	45	-44	4059	1220.62	-249.87	-18.41
342	SLU 77	43	-58	4042	1218.11	-248.78	-18.41
342	SLU 78	44	-50	4077	1227.41	-250.97	-18.47
342	SLU 79	42	-58	4025	1212.98	-247.74	-18.26
342	SLU 80	44	-50	4060	1222.28	-249.93	-18.32
342	SLU 81	43	-58	4117	1239.31	-253.39	-18.71
342	SLU 82	45	-51	4152	1248.62	-255.58	-18.77
342	SLU 83	43	-59	4142	1247.18	-254.91	-18.65
342	SLU 84	45	-51	4177	1256.49	-257.1	-18.71
342	SLE RA 1	31	-40	2724	821.27	-167.7	-13.14
342	SLE RA 2	32	-31	2764	831.61	-170.13	-13.2
342	SLE RA 3	31	-40	2752	829.94	-169.41	-13.2
342	SLE RA 4	32	-35	2776	836.14	-170.87	-13.24
342	SLE RA 5	32	-32	2780	836.86	-171.15	-13.16
342	SLE RA 6	31	-41	2769	835.19	-170.43	-13.17
342	SLE RA 7	32	-35	2792	841.39	-171.89	-13.2
342	SLE RA 8	30	-40	2758	831.77	-169.73	-13.06
342	SLE RA 9	31	-35	2781	837.97	-171.19	-13.1
342	SLE RA 10	34	-34	2983	897.06	-183.65	-13.73
342	SLE RA 11	32	-43	2972	895.39	-182.93	-13.73
342	SLE RA 12	33	-38	2996	901.6	-184.39	-13.77
342	SLE RA 13	33	-34	3000	902.31	-184.67	-13.7
342	SLE RA 14	32	-43	2989	900.64	-183.95	-13.7
342	SLE RA 15	33	-38	3012	906.84	-185.41	-13.74
342	SLE RA 16	31	-43	2977	897.22	-183.25	-13.6
342	SLE RA 17	33	-38	3001	903.42	-184.71	-13.63
342	SLE RA 18	32	-43	3038	914.78	-187.02	-13.9
342	SLE RA 19	33	-38	3062	920.98	-188.47	-13.93
342	SLE RA 20	32	-44	3055	920.02	-188.03	-13.86
342	SLE RA 21	33	-38	3078	926.23	-189.49	-13.9
342	SLE FR 1	31	-40	2724	821.27	-167.7	-13.14
342	SLE FR 2	31	-38	2732	823.34	-168.19	-13.15
342	SLE FR 3	31	-40	2731	823.37	-168.11	-13.12
342	SLE FR 4	32	-39	2826	851.39	-173.98	-13.38
342	SLE FR 5	31	-41	2825	851.42	-173.9	-13.35
342	SLE FR 6	31	-42	2881	868.02	-177.36	-13.52
342	SLE QP 1	31	-40	2724	821.27	-167.7	-13.14
342	SLE QP 2	31	-41	2819	849.32	-173.5	-13.36
342	SLD 1	331	71	2972	895.42	-182.79	-112.88
342	SLD 2	381	106	3027	910.13	-186.18	-128.04
342	SLD 3	300	-90	2182	682.05	-133.88	-110.06
342	SLD 4	350	-56	2236	696.76	-137.27	-125.22
342	SLD 5	160	232	4054	1184.23	-249.88	-44.89
342	SLD 6	191	254	4089	1193.7	-252.07	-54.65
342	SLD 7	56	-307	1420	473	-86.85	-35.49
342	SLD 8	88	-284	1455	482.47	-89.03	-45.25
342	SLD 9	-26	203	4182	1216.18	-257.96	18.52
342	SLD 10	6	225	4217	1225.65	-260.14	8.76
342	SLD 11	-129	-336	1548	504.94	-94.93	27.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
342	SLD 12	-97	-314	1583	514.41	-97.11	18.16
342	SLD 13	-287	-26	3401	1001.89	-209.72	98.49
342	SLD 14	-238	9	3455	1016.6	-213.11	83.33
342	SLD 15	-318	-187	2611	788.52	-160.81	101.32
342	SLD 16	-269	-153	2665	803.23	-164.2	86.15
342	SLV 1	502	146	3115	936.64	-191.54	-169.07
342	SLV 2	580	200	3201	959.82	-196.88	-192.97
342	SLV 3	449	-130	1767	572.6	-108.09	-164.38
342	SLV 4	527	-76	1853	595.79	-113.44	-188.28
342	SLV 5	238	423	4936	1423.32	-304.47	-62.73
342	SLV 6	291	460	4994	1438.92	-308.06	-78.82
342	SLV 7	62	-496	443	209.86	-26.32	-47.1
342	SLV 8	115	-459	500	225.46	-29.92	-63.18
342	SLV 9	-52	378	5137	1473.18	-317.07	36.46
342	SLV 10	0	414	5195	1488.79	-320.67	20.37
342	SLV 11	-228	-541	643	259.72	-38.93	52.09
342	SLV 12	-176	-505	701	275.33	-42.53	36
342	SLV 13	-465	-6	3784	1102.86	-233.56	161.55
342	SLV 14	-387	48	3870	1126.04	-238.9	137.65
342	SLV 15	-518	-282	2436	738.82	-150.11	166.24
342	SLV 16	-440	-227	2522	762	-155.46	142.34
342	SLV FO 1	549	164	3145	945.37	-193.34	-184.64
342	SLV FO 2	635	224	3239	970.87	-199.22	-210.93
342	SLV FO 3	491	-139	1662	544.93	-101.55	-179.48
342	SLV FO 4	577	-79	1756	570.43	-107.43	-205.77
342	SLV FO 5	259	470	5148	1480.72	-317.56	-67.67
342	SLV FO 6	316	510	5212	1497.88	-321.52	-85.36
342	SLV FO 7	65	-541	205	145.91	-11.61	-50.47
342	SLV FO 8	123	-501	268	163.08	-15.56	-68.17
342	SLV FO 9	-61	419	5369	1535.57	-331.43	41.44
342	SLV FO 10	-3	460	5432	1552.74	-335.39	23.74
342	SLV FO 11	-254	-592	426	200.76	-25.47	58.64
342	SLV FO 12	-196	-551	489	217.93	-29.43	40.94
342	SLV FO 13	-515	-3	3881	1128.21	-239.56	179.04
342	SLV FO 14	-429	57	3975	1153.71	-245.44	152.75
342	SLV FO 15	-573	-306	2398	727.77	-147.77	184.2
342	SLV FO 16	-487	-246	2492	753.27	-153.65	157.91
342	CRTFP Ux+	0	0	0	0	0	0
342	CRTFP Ux-	0	0	0	0	0	0
342	CRTFP Uy+	0	0	0	0	0	0
342	CRTFP Uy-	0	0	0	0	0	0
343	SLU 1	45	-51	3694	1024.02	5.51	-15.57
343	SLU 2	49	-32	3779	1044.73	5.56	-16.89
343	SLU 3	45	-52	3752	1040.64	5.61	-15.66
343	SLU 4	48	-40	3803	1053.06	5.64	-16.45
343	SLU 5	49	-32	3814	1054.79	5.62	-16.78
343	SLU 6	45	-52	3787	1050.7	5.68	-15.55
343	SLU 7	47	-41	3838	1063.13	5.71	-16.34
343	SLU 8	44	-52	3763	1044.14	5.64	-15.35
343	SLU 9	47	-40	3814	1056.57	5.67	-16.14
343	SLU 10	51	-36	4242	1170.45	6.33	-17.78
343	SLU 11	48	-56	4216	1166.35	6.38	-16.55
343	SLU 12	50	-45	4267	1178.78	6.41	-17.34
343	SLU 13	51	-37	4277	1180.51	6.39	-17.67
343	SLU 14	48	-57	4250	1176.42	6.45	-16.44
343	SLU 15	50	-46	4301	1188.84	6.48	-17.23
343	SLU 16	47	-56	4226	1169.86	6.41	-16.24
343	SLU 17	49	-45	4277	1182.29	6.44	-17.03
343	SLU 18	49	-57	4356	1203.61	6.61	-16.84
343	SLU 19	51	-46	4407	1216.04	6.64	-17.64
343	SLU 20	49	-58	4390	1213.68	6.67	-16.73
343	SLU 21	51	-47	4441	1226.1	6.7	-17.52
343	SLU 22	51	-56	4206	1164.74	6.35	-17.78
343	SLU 23	55	-37	4291	1185.45	6.39	-19.1
343	SLU 24	52	-57	4265	1181.36	6.45	-17.87
343	SLU 25	54	-46	4316	1193.79	6.48	-18.66
343	SLU 26	55	-38	4326	1195.52	6.46	-18.99
343	SLU 27	51	-58	4299	1191.43	6.52	-17.76
343	SLU 28	54	-46	4350	1203.85	6.54	-18.55
343	SLU 29	51	-57	4275	1184.87	6.48	-17.55
343	SLU 30	53	-46	4327	1197.3	6.51	-18.35
343	SLU 31	58	-42	4754	1311.17	7.16	-19.99
343	SLU 32	54	-62	4728	1307.08	7.22	-18.76
343	SLU 33	57	-51	4779	1319.51	7.25	-19.55
343	SLU 34	58	-43	4789	1321.23	7.23	-19.88
343	SLU 35	54	-62	4762	1317.14	7.28	-18.65
343	SLU 36	56	-51	4813	1329.57	7.31	-19.44
343	SLU 37	53	-62	4739	1310.59	7.25	-18.45
343	SLU 38	56	-51	4790	1323.01	7.28	-19.24
343	SLU 39	55	-63	4868	1344.34	7.44	-19.05
343	SLU 40	57	-52	4919	1356.77	7.47	-19.84
343	SLU 41	55	-63	4902	1354.4	7.51	-18.94
343	SLU 42	57	-52	4953	1366.83	7.54	-19.73
343	SLU 43	56	-64	4627	1282.97	6.88	-19.49
343	SLU 44	60	-45	4712	1303.69	6.92	-20.81
343	SLU 45	57	-65	4685	1299.59	6.98	-19.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
343	SLU 46	59	-54	4736	1312.02	7.01	-20.37
343	SLU 47	60	-46	4746	1313.75	6.99	-20.69
343	SLU 48	56	-65	4720	1309.66	7.04	-19.46
343	SLU 49	59	-54	4771	1322.08	7.07	-20.26
343	SLU 50	56	-65	4696	1303.1	7.01	-19.26
343	SLU 51	58	-54	4747	1315.53	7.04	-20.05
343	SLU 52	63	-50	5175	1429.4	7.69	-21.7
343	SLU 53	59	-70	5148	1425.31	7.75	-20.47
343	SLU 54	62	-58	5199	1437.74	7.78	-21.26
343	SLU 55	63	-50	5209	1439.47	7.76	-21.59
343	SLU 56	59	-70	5183	1435.38	7.81	-20.36
343	SLU 57	61	-59	5234	1447.8	7.84	-21.15
343	SLU 58	58	-70	5159	1428.82	7.78	-20.15
343	SLU 59	61	-58	5210	1441.25	7.81	-20.95
343	SLU 60	60	-71	5288	1462.57	7.97	-20.76
343	SLU 61	62	-59	5339	1475	8	-21.55
343	SLU 62	60	-71	5323	1472.63	8.04	-20.65
343	SLU 63	62	-60	5374	1485.06	8.07	-21.44
343	SLU 64	63	-69	5139	1423.7	7.71	-21.69
343	SLU 65	67	-51	5224	1444.41	7.76	-23.01
343	SLU 66	63	-70	5197	1440.32	7.82	-21.78
343	SLU 67	65	-59	5248	1452.75	7.84	-22.57
343	SLU 68	66	-51	5258	1454.47	7.83	-22.9
343	SLU 69	63	-71	5232	1450.38	7.88	-21.67
343	SLU 70	65	-60	5283	1462.81	7.91	-22.46
343	SLU 71	62	-71	5208	1443.83	7.84	-21.47
343	SLU 72	64	-59	5259	1456.25	7.87	-22.26
343	SLU 73	69	-55	5687	1570.13	8.53	-23.9
343	SLU 74	66	-75	5660	1566.04	8.59	-22.67
343	SLU 75	68	-64	5711	1578.46	8.61	-23.47
343	SLU 76	69	-56	5722	1580.19	8.6	-23.79
343	SLU 77	65	-76	5695	1576.1	8.65	-22.56
343	SLU 78	68	-64	5746	1588.53	8.68	-23.35
343	SLU 79	65	-75	5671	1569.54	8.61	-22.36
343	SLU 80	67	-64	5722	1581.97	8.64	-23.15
343	SLU 81	67	-76	5800	1603.3	8.81	-22.97
343	SLU 82	69	-65	5851	1615.72	8.84	-23.76
343	SLU 83	66	-77	5835	1613.36	8.88	-22.85
343	SLU 84	68	-65	5886	1625.79	8.91	-23.65
343	SLE RA 1	47	-52	3840	1064.22	5.75	-16.2
343	SLE RA 2	49	-40	3897	1078.03	5.78	-17.08
343	SLE RA 3	47	-53	3879	1075.3	5.82	-16.26
343	SLE RA 4	49	-45	3913	1083.59	5.84	-16.79
343	SLE RA 5	49	-40	3920	1084.74	5.82	-17.01
343	SLE RA 6	47	-53	3902	1082.01	5.86	-16.19
343	SLE RA 7	48	-46	3936	1090.3	5.88	-16.71
343	SLE RA 8	46	-53	3887	1077.64	5.84	-16.05
343	SLE RA 9	48	-45	3921	1085.93	5.86	-16.58
343	SLE RA 10	51	-43	4206	1161.84	6.29	-17.68
343	SLE RA 11	49	-56	4188	1159.12	6.33	-16.86
343	SLE RA 12	50	-48	4222	1167.4	6.35	-17.38
343	SLE RA 13	51	-43	4229	1168.55	6.34	-17.6
343	SLE RA 14	49	-56	4211	1165.83	6.37	-16.78
343	SLE RA 15	50	-49	4245	1174.11	6.39	-17.31
343	SLE RA 16	48	-56	4195	1161.45	6.35	-16.65
343	SLE RA 17	50	-49	4229	1169.74	6.37	-17.17
343	SLE RA 18	49	-57	4281	1183.96	6.48	-17.05
343	SLE RA 19	51	-49	4315	1192.24	6.5	-17.58
343	SLE RA 20	49	-57	4304	1190.66	6.52	-16.98
343	SLE RA 21	51	-50	4338	1198.95	6.54	-17.5
343	SLE FR 1	47	-52	3840	1064.22	5.75	-16.2
343	SLE FR 2	47	-50	3852	1066.99	5.75	-16.38
343	SLE FR 3	47	-52	3850	1066.91	5.77	-16.17
343	SLE FR 4	48	-51	3984	1102.91	5.97	-16.63
343	SLE FR 5	48	-54	3982	1102.83	5.99	-16.43
343	SLE FR 6	48	-54	4061	1124.09	6.11	-16.63
343	SLE QP 1	47	-52	3840	1064.22	5.75	-16.2
343	SLE QP 2	48	-54	3973	1100.14	5.97	-16.46
343	SLD 1	485	109	4174	1166.69	7	-169.57
343	SLD 2	557	161	4253	1186.56	7.03	-194.8
343	SLD 3	438	-125	3043	882.12	5.85	-153.27
343	SLD 4	511	-73	3122	901.99	5.88	-178.5
343	SLD 5	237	342	5735	1548.28	8.01	-82.78
343	SLD 6	283	375	5786	1561.08	8.03	-99.03
343	SLD 7	82	-440	1964	599.72	4.19	-28.43
343	SLD 8	129	-406	2016	612.52	4.2	-44.68
343	SLD 9	-33	299	5930	1587.76	7.73	11.77
343	SLD 10	13	332	5981	1600.56	7.75	-4.48
343	SLD 11	-188	-482	2159	639.21	3.9	66.11
343	SLD 12	-141	-449	2210	652.01	3.92	49.87
343	SLD 13	-415	-34	4823	1298.29	6.06	145.59
343	SLD 14	-343	18	4903	1318.17	6.08	120.36
343	SLD 15	-462	-268	3692	1013.73	4.91	161.89
343	SLD 16	-389	-216	3772	1033.6	4.94	136.66
343	SLV 1	734	217	4368	1224.47	7.67	-256.95
343	SLV 2	848	299	4493	1255.8	7.71	-296.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
343	SLV 3	655	-183	2438	738.96	5.71	-229.13
343	SLV 4	769	-101	2564	770.29	5.75	-268.9
343	SLV 5	352	619	6995	1867.94	9.44	-123.37
343	SLV 6	429	674	7079	1889.04	9.47	-150.15
343	SLV 7	89	-714	562	249.59	2.91	-30.65
343	SLV 8	166	-659	647	270.69	2.94	-57.42
343	SLV 9	-70	552	7299	1929.6	9	24.51
343	SLV 10	6	607	7383	1950.69	9.03	-2.26
343	SLV 11	-334	-781	866	311.25	2.46	117.23
343	SLV 12	-257	-726	951	332.35	2.49	90.46
343	SLV 13	-674	-6	5382	1430	6.19	235.99
343	SLV 14	-560	76	5507	1461.33	6.23	196.22
343	SLV 15	-753	-406	3452	944.49	4.23	263.81
343	SLV 16	-639	-324	3577	975.82	4.27	224.04
343	SLV FO 1	803	244	4408	1236.9	7.84	-281
343	SLV FO 2	928	334	4545	1271.36	7.88	-324.75
343	SLV FO 3	716	-196	2285	702.84	5.68	-250.4
343	SLV FO 4	841	-105	2423	737.3	5.73	-294.15
343	SLV FO 5	383	686	7297	1944.72	9.79	-134.06
343	SLV FO 6	467	747	7390	1967.92	9.82	-163.51
343	SLV FO 7	93	-780	221	164.54	2.6	-32.07
343	SLV FO 8	177	-719	314	187.74	2.63	-61.52
343	SLV FO 9	-82	612	7631	2012.55	9.3	28.61
343	SLV FO 10	2	673	7724	2035.75	9.34	-0.84
343	SLV FO 11	-372	-854	556	232.36	2.11	130.6
343	SLV FO 12	-287	-793	648	255.57	2.14	101.15
343	SLV FO 13	-746	-2	5523	1462.98	6.21	261.24
343	SLV FO 14	-621	89	5660	1497.45	6.26	217.49
343	SLV FO 15	-833	-441	3400	928.93	4.05	291.83
343	SLV FO 16	-708	-351	3538	963.39	4.1	248.09
343	CRTFP Ux+	0	0	0	0	0	0
343	CRTFP Ux-	0	0	0	0	0	0
343	CRTFP Uy+	0	0	0	0	0	0
343	CRTFP Uy-	0	0	0	0	0	0
344	SLU 1	47	-45	3511	864.98	6.19	-16.38
344	SLU 2	51	-26	3594	882.87	6.27	-17.72
344	SLU 3	48	-46	3566	878.68	6.31	-16.5
344	SLU 4	50	-34	3616	889.41	6.36	-17.3
344	SLU 5	51	-26	3626	891.17	6.35	-17.62
344	SLU 6	47	-46	3599	886.98	6.38	-16.4
344	SLU 7	50	-35	3648	897.71	6.43	-17.2
344	SLU 8	47	-46	3576	881.58	6.34	-16.19
344	SLU 9	49	-34	3626	892.31	6.39	-16.99
344	SLU 10	54	-30	4031	986.8	7.14	-18.7
344	SLU 11	50	-50	4003	982.62	7.18	-17.47
344	SLU 12	53	-38	4053	993.35	7.23	-18.28
344	SLU 13	54	-30	4064	995.1	7.22	-18.6
344	SLU 14	50	-50	4036	990.92	7.25	-17.38
344	SLU 15	52	-39	4086	1001.65	7.3	-18.18
344	SLU 16	50	-50	4013	985.51	7.2	-17.17
344	SLU 17	52	-38	4063	996.25	7.25	-17.97
344	SLU 18	51	-50	4136	1013.46	7.43	-17.78
344	SLU 19	54	-39	4186	1024.19	7.48	-18.58
344	SLU 20	51	-51	4168	1021.76	7.5	-17.68
344	SLU 21	53	-40	4218	1032.49	7.55	-18.48
344	SLU 22	54	-50	3995	981.31	7.14	-18.7
344	SLU 23	58	-31	4078	999.21	7.22	-20.03
344	SLU 24	54	-51	4050	995.02	7.26	-18.81
344	SLU 25	57	-39	4100	1005.75	7.31	-19.61
344	SLU 26	57	-31	4111	1007.51	7.3	-19.94
344	SLU 27	54	-51	4083	1003.32	7.33	-18.71
344	SLU 28	56	-40	4133	1014.05	7.38	-19.52
344	SLU 29	53	-51	4060	997.92	7.29	-18.5
344	SLU 30	56	-39	4110	1008.65	7.34	-19.31
344	SLU 31	61	-35	4516	1103.14	8.09	-21.01
344	SLU 32	57	-55	4488	1098.95	8.13	-19.79
344	SLU 33	59	-43	4538	1109.69	8.18	-20.59
344	SLU 34	60	-35	4548	1111.44	8.17	-20.91
344	SLU 35	57	-55	4520	1107.26	8.2	-19.69
344	SLU 36	59	-44	4570	1117.99	8.25	-20.49
344	SLU 37	56	-55	4498	1101.85	8.15	-19.48
344	SLU 38	59	-43	4548	1112.59	8.2	-20.28
344	SLU 39	58	-55	4620	1129.8	8.38	-20.09
344	SLU 40	60	-44	4670	1140.53	8.43	-20.9
344	SLU 41	58	-56	4653	1138.1	8.45	-20
344	SLU 42	60	-45	4703	1148.83	8.5	-20.8
344	SLU 43	59	-57	4398	1084.58	7.72	-20.5
344	SLU 44	63	-38	4481	1102.47	7.81	-21.84
344	SLU 45	60	-57	4453	1098.28	7.84	-20.62
344	SLU 46	62	-46	4503	1109.02	7.89	-21.42
344	SLU 47	63	-38	4514	1110.77	7.88	-21.74
344	SLU 48	59	-58	4486	1106.58	7.91	-20.52
344	SLU 49	62	-47	4536	1117.32	7.96	-21.32
344	SLU 50	59	-57	4463	1101.18	7.87	-20.31
344	SLU 51	61	-46	4513	1111.92	7.92	-21.11
344	SLU 52	66	-42	4919	1206.41	8.67	-22.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
344	SLU 53	62	-61	4891	1202.22	8.71	-21.59
344	SLU 54	65	-50	4941	1212.95	8.76	-22.4
344	SLU 55	66	-42	4951	1214.71	8.75	-22.72
344	SLU 56	62	-62	4923	1210.52	8.78	-21.5
344	SLU 57	64	-51	4973	1221.26	8.83	-22.3
344	SLU 58	62	-61	4901	1205.12	8.74	-21.29
344	SLU 59	64	-50	4951	1215.85	8.79	-22.09
344	SLU 60	63	-62	5023	1233.06	8.96	-21.9
344	SLU 61	66	-51	5073	1243.8	9.01	-22.7
344	SLU 62	63	-63	5056	1241.36	9.04	-21.8
344	SLU 63	65	-51	5106	1252.1	9.09	-22.6
344	SLU 64	66	-62	4883	1200.92	8.67	-22.82
344	SLU 65	70	-43	4966	1218.81	8.76	-24.15
344	SLU 66	66	-62	4938	1214.62	8.79	-22.93
344	SLU 67	68	-51	4987	1225.36	8.84	-23.73
344	SLU 68	69	-43	4998	1227.11	8.83	-24.06
344	SLU 69	66	-63	4970	1222.92	8.86	-22.84
344	SLU 70	68	-52	5020	1233.66	8.91	-23.64
344	SLU 71	65	-62	4948	1217.52	8.82	-22.62
344	SLU 72	68	-51	4997	1228.26	8.87	-23.43
344	SLU 73	73	-47	5403	1322.75	9.62	-25.13
344	SLU 74	69	-66	5375	1318.56	9.66	-23.91
344	SLU 75	71	-55	5425	1329.29	9.71	-24.71
344	SLU 76	72	-47	5435	1331.05	9.7	-25.04
344	SLU 77	69	-67	5408	1326.86	9.73	-23.81
344	SLU 78	71	-56	5457	1337.6	9.78	-24.62
344	SLU 79	68	-66	5385	1321.46	9.69	-23.6
344	SLU 80	70	-55	5435	1332.19	9.74	-24.4
344	SLU 81	70	-67	5508	1349.4	9.91	-24.21
344	SLU 82	72	-56	5557	1360.14	9.96	-25.02
344	SLU 83	70	-68	5540	1357.7	9.99	-24.12
344	SLU 84	72	-56	5590	1368.44	10.04	-24.92
344	SLE RA 1	49	-46	3649	898.22	6.46	-17.04
344	SLE RA 2	52	-34	3705	910.14	6.52	-17.93
344	SLE RA 3	49	-47	3686	907.35	6.54	-17.12
344	SLE RA 4	51	-39	3719	914.51	6.57	-17.65
344	SLE RA 5	52	-34	3726	915.68	6.57	-17.87
344	SLE RA 6	49	-47	3708	912.88	6.59	-17.06
344	SLE RA 7	51	-40	3741	920.04	6.62	-17.59
344	SLE RA 8	49	-47	3693	909.28	6.56	-16.91
344	SLE RA 9	50	-39	3726	916.44	6.59	-17.45
344	SLE RA 10	54	-36	3996	979.43	7.1	-18.59
344	SLE RA 11	51	-49	3978	976.64	7.12	-17.77
344	SLE RA 12	53	-42	4011	983.8	7.15	-18.31
344	SLE RA 13	53	-37	4018	984.97	7.15	-18.52
344	SLE RA 14	51	-50	3999	982.18	7.17	-17.71
344	SLE RA 15	53	-42	4033	989.33	7.2	-18.24
344	SLE RA 16	51	-49	3984	978.57	7.14	-17.57
344	SLE RA 17	52	-42	4018	985.73	7.17	-18.1
344	SLE RA 18	52	-50	4066	997.2	7.29	-17.97
344	SLE RA 19	53	-42	4099	1004.36	7.32	-18.51
344	SLE RA 20	52	-50	4088	1002.74	7.34	-17.91
344	SLE RA 21	53	-43	4121	1009.89	7.37	-18.44
344	SLE FR 1	49	-46	3649	898.22	6.46	-17.04
344	SLE FR 2	50	-44	3660	900.6	6.47	-17.22
344	SLE FR 3	49	-46	3658	900.43	6.48	-17.02
344	SLE FR 4	51	-45	3785	930.3	6.72	-17.5
344	SLE FR 5	50	-47	3783	930.13	6.73	-17.3
344	SLE FR 6	51	-48	3858	947.71	6.88	-17.51
344	SLE QP 1	49	-46	3649	898.22	6.46	-17.04
344	SLE QP 2	50	-47	3774	927.91	6.71	-17.32
344	SLD 1	487	111	3941	989.62	7.98	-170.49
344	SLD 2	559	165	4018	1006.98	8.05	-195.75
344	SLD 3	439	-119	2853	745.19	6.36	-153.63
344	SLD 4	512	-65	2931	762.54	6.43	-178.89
344	SLD 5	241	339	5460	1314.16	9.53	-84.5
344	SLD 6	287	374	5510	1325.34	9.58	-100.77
344	SLD 7	82	-426	1835	499.39	4.14	-28.3
344	SLD 8	129	-391	1885	510.56	4.19	-44.56
344	SLD 9	-29	297	5663	1345.26	9.24	9.92
344	SLD 10	18	331	5714	1356.44	9.28	-6.35
344	SLD 11	-187	-469	2038	530.48	3.84	66.12
344	SLD 12	-141	-434	2089	541.66	3.89	49.86
344	SLD 13	-412	-30	4618	1093.28	6.99	144.24
344	SLD 14	-339	24	4696	1110.63	7.06	118.98
344	SLD 15	-459	-260	3530	848.85	5.37	161.11
344	SLD 16	-387	-206	3608	866.2	5.44	135.84
344	SLV 1	736	216	4112	1041.76	8.82	-257.94
344	SLV 2	850	301	4235	1069.12	8.93	-297.76
344	SLV 3	655	-175	2257	624.74	6.05	-229.17
344	SLV 4	769	-90	2380	652.1	6.16	-268.99
344	SLV 5	358	610	6667	1589.45	11.51	-125.72
344	SLV 6	435	667	6749	1607.86	11.59	-152.52
344	SLV 7	87	-696	483	199.37	2.3	-29.81
344	SLV 8	164	-638	565	217.79	2.38	-56.61
344	SLV 9	-64	544	6984	1638.04	11.04	21.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
344	SLV 10	13	601	7066	1656.45	11.12	-4.84
344	SLV 11	-335	-762	800	247.96	1.84	117.88
344	SLV 12	-258	-705	882	266.38	1.91	91.07
344	SLV 13	-669	-4	5169	1203.73	7.26	234.34
344	SLV 14	-555	81	5292	1231.09	7.37	194.52
344	SLV 15	-750	-396	3314	786.71	4.5	263.12
344	SLV 16	-636	-311	3436	814.06	4.61	223.3
344	SLV FO 1	805	243	4146	1053.15	9.03	-282
344	SLV FO 2	930	336	4281	1083.24	9.15	-325.8
344	SLV FO 3	716	-188	2105	594.42	5.99	-250.35
344	SLV FO 4	841	-95	2240	624.51	6.11	-294.15
344	SLV FO 5	389	676	6956	1655.6	11.99	-136.56
344	SLV FO 6	473	738	7047	1675.86	12.07	-166.04
344	SLV FO 7	91	-760	153	126.52	1.86	-31.05
344	SLV FO 8	175	-698	244	146.77	1.95	-60.54
344	SLV FO 9	-75	603	7304	1709.05	11.48	25.9
344	SLV FO 10	9	666	7395	1729.31	11.56	-3.59
344	SLV FO 11	-373	-833	502	179.96	1.35	131.4
344	SLV FO 12	-289	-770	593	200.22	1.43	101.91
344	SLV FO 13	-741	0	5308	1231.31	7.31	259.51
344	SLV FO 14	-616	93	5443	1261.4	7.43	215.71
344	SLV FO 15	-830	-431	3268	772.58	4.27	291.16
344	SLV FO 16	-705	-337	3403	802.68	4.4	247.36
344	CRTFP Ux+	0	0	0	0	0	0
344	CRTFP Ux-	0	0	0	0	0	0
344	CRTFP Uy+	0	0	0	0	0	0
344	CRTFP Uy-	0	0	0	0	0	0
345	SLU 1	49	-40	3323	708.62	5.91	-17.16
345	SLU 2	53	-21	3403	723.45	6.01	-18.5
345	SLU 3	50	-41	3374	719.45	6.02	-17.3
345	SLU 4	52	-30	3422	728.35	6.08	-18.1
345	SLU 5	53	-22	3433	730.01	6.07	-18.42
345	SLU 6	50	-41	3404	726.02	6.09	-17.21
345	SLU 7	52	-30	3453	734.91	6.15	-18.02
345	SLU 8	49	-41	3383	721.75	6.05	-16.99
345	SLU 9	51	-30	3431	730.65	6.11	-17.8
345	SLU 10	56	-25	3814	805.93	6.84	-19.56
345	SLU 11	53	-44	3785	801.94	6.86	-18.36
345	SLU 12	55	-33	3833	810.84	6.91	-19.16
345	SLU 13	56	-25	3844	812.5	6.91	-19.48
345	SLU 14	53	-45	3815	808.51	6.93	-18.27
345	SLU 15	55	-34	3864	817.4	6.98	-19.08
345	SLU 16	52	-44	3794	804.24	6.88	-18.05
345	SLU 17	54	-33	3842	813.14	6.94	-18.86
345	SLU 18	54	-45	3910	826.46	7.11	-18.67
345	SLU 19	56	-34	3958	835.36	7.16	-19.48
345	SLU 20	54	-45	3940	833.03	7.17	-18.59
345	SLU 21	56	-34	3988	841.92	7.23	-19.4
345	SLU 22	56	-45	3778	800.93	6.83	-19.58
345	SLU 23	60	-26	3858	815.75	6.92	-20.92
345	SLU 24	57	-46	3829	811.76	6.94	-19.71
345	SLU 25	59	-34	3877	820.66	6.99	-20.52
345	SLU 26	60	-26	3888	822.32	6.99	-20.84
345	SLU 27	57	-46	3860	818.33	7.01	-19.63
345	SLU 28	59	-35	3908	827.22	7.06	-20.44
345	SLU 29	56	-45	3838	814.06	6.96	-19.41
345	SLU 30	58	-34	3887	822.96	7.02	-20.22
345	SLU 31	63	-29	4269	898.24	7.75	-21.98
345	SLU 32	60	-49	4240	894.25	7.77	-20.77
345	SLU 33	62	-38	4288	903.14	7.83	-21.58
345	SLU 34	63	-30	4299	904.81	7.82	-21.9
345	SLU 35	60	-49	4271	900.81	7.84	-20.69
345	SLU 36	62	-38	4319	909.71	7.9	-21.5
345	SLU 37	59	-49	4249	896.55	7.8	-20.47
345	SLU 38	61	-38	4298	905.44	7.85	-21.28
345	SLU 39	61	-50	4365	918.77	8.02	-21.09
345	SLU 40	63	-38	4413	927.67	8.08	-21.9
345	SLU 41	61	-50	4395	925.34	8.09	-21.01
345	SLU 42	63	-39	4443	934.23	8.14	-21.81
345	SLU 43	62	-51	4163	889.56	7.37	-21.48
345	SLU 44	66	-32	4244	904.38	7.47	-22.82
345	SLU 45	62	-51	4215	900.39	7.48	-21.62
345	SLU 46	65	-40	4263	909.28	7.54	-22.42
345	SLU 47	65	-32	4274	910.95	7.53	-22.74
345	SLU 48	62	-52	4245	906.95	7.55	-21.53
345	SLU 49	64	-41	4293	915.85	7.61	-22.34
345	SLU 50	61	-51	4224	902.69	7.51	-21.31
345	SLU 51	64	-40	4272	911.58	7.57	-22.12
345	SLU 52	69	-35	4655	986.87	8.3	-23.88
345	SLU 53	65	-55	4626	982.88	8.32	-22.67
345	SLU 54	68	-44	4674	991.77	8.37	-23.48
345	SLU 55	69	-36	4685	993.44	8.37	-23.8
345	SLU 56	65	-55	4656	989.44	8.39	-22.59
345	SLU 57	67	-44	4704	998.34	8.44	-23.4
345	SLU 58	64	-55	4635	985.18	8.35	-22.37
345	SLU 59	67	-43	4683	994.07	8.4	-23.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
345	SLU 60	66	-55	4750	1007.4	8.57	-22.99
345	SLU 61	69	-44	4799	1016.29	8.62	-23.8
345	SLU 62	66	-56	4781	1013.96	8.63	-22.91
345	SLU 63	68	-45	4829	1022.86	8.69	-23.71
345	SLU 64	69	-55	4619	981.87	8.29	-23.89
345	SLU 65	73	-36	4699	996.69	8.38	-25.24
345	SLU 66	69	-56	4670	992.7	8.4	-24.03
345	SLU 67	72	-45	4718	1001.59	8.45	-24.84
345	SLU 68	72	-37	4729	1003.26	8.45	-25.16
345	SLU 69	69	-56	4700	999.26	8.47	-23.95
345	SLU 70	71	-45	4748	1008.16	8.52	-24.76
345	SLU 71	68	-56	4679	995	8.42	-23.73
345	SLU 72	71	-45	4727	1003.89	8.48	-24.54
345	SLU 73	76	-40	5110	1079.18	9.21	-26.3
345	SLU 74	72	-59	5081	1075.19	9.23	-25.09
345	SLU 75	75	-48	5129	1084.08	9.29	-25.9
345	SLU 76	75	-40	5140	1085.75	9.28	-26.22
345	SLU 77	72	-60	5111	1081.75	9.3	-25.01
345	SLU 78	74	-49	5159	1090.65	9.36	-25.82
345	SLU 79	71	-59	5090	1077.49	9.26	-24.79
345	SLU 80	74	-48	5138	1086.38	9.31	-25.6
345	SLU 81	73	-60	5206	1099.71	9.48	-25.41
345	SLU 82	75	-49	5254	1108.6	9.54	-26.21
345	SLU 83	73	-60	5236	1106.27	9.55	-25.32
345	SLU 84	75	-49	5284	1115.17	9.6	-26.13
345	SLE RA 1	51	-41	3453	734.99	6.17	-17.85
345	SLE RA 2	54	-29	3506	744.88	6.24	-18.75
345	SLE RA 3	52	-42	3487	742.21	6.25	-17.94
345	SLE RA 4	53	-34	3519	748.14	6.28	-18.48
345	SLE RA 5	54	-29	3526	749.25	6.28	-18.69
345	SLE RA 6	52	-42	3507	746.59	6.29	-17.89
345	SLE RA 7	53	-35	3539	752.52	6.33	-18.42
345	SLE RA 8	51	-42	3493	743.75	6.27	-17.74
345	SLE RA 9	53	-34	3525	749.68	6.3	-18.28
345	SLE RA 10	56	-31	3780	799.87	6.79	-19.45
345	SLE RA 11	54	-44	3761	797.21	6.8	-18.65
345	SLE RA 12	55	-37	3793	803.14	6.84	-19.19
345	SLE RA 13	56	-31	3800	804.25	6.84	-19.4
345	SLE RA 14	54	-44	3781	801.58	6.85	-18.59
345	SLE RA 15	55	-37	3813	807.51	6.89	-19.13
345	SLE RA 16	53	-44	3767	798.74	6.82	-18.44
345	SLE RA 17	55	-37	3799	804.67	6.86	-18.98
345	SLE RA 18	54	-45	3844	813.55	6.97	-18.86
345	SLE RA 19	56	-37	3876	819.48	7.01	-19.4
345	SLE RA 20	54	-45	3864	817.93	7.01	-18.8
345	SLE RA 21	56	-37	3896	823.86	7.05	-19.34
345	SLE FR 1	51	-41	3453	734.99	6.17	-17.85
345	SLE FR 2	52	-39	3463	736.97	6.19	-18.03
345	SLE FR 3	51	-41	3461	736.74	6.19	-17.83
345	SLE FR 4	53	-40	3581	760.54	6.42	-18.33
345	SLE FR 5	52	-42	3578	760.31	6.43	-18.13
345	SLE FR 6	53	-43	3648	774.27	6.57	-18.35
345	SLE QP 1	51	-41	3453	734.99	6.17	-17.85
345	SLE QP 2	52	-42	3570	758.56	6.41	-18.15
345	SLD 1	489	110	3696	812.91	7.82	-171.3
345	SLD 2	561	166	3771	827.39	7.9	-196.57
345	SLD 3	440	-113	2660	612.38	6.12	-153.94
345	SLD 4	512	-57	2736	626.86	6.2	-179.22
345	SLD 5	245	332	5166	1076.51	9.39	-86.07
345	SLD 6	292	367	5214	1085.83	9.44	-102.35
345	SLD 7	82	-411	1713	408.08	3.74	-28.22
345	SLD 8	129	-375	1762	417.4	3.8	-44.5
345	SLD 9	-24	291	5378	1099.72	9.03	8.2
345	SLD 10	23	326	5427	1109.04	9.08	-8.08
345	SLD 11	-187	-452	1926	431.29	3.39	66.04
345	SLD 12	-141	-417	1974	440.61	3.44	49.77
345	SLD 13	-408	-27	4405	890.27	6.62	142.92
345	SLD 14	-336	28	4480	904.74	6.7	117.64
345	SLD 15	-457	-250	3369	689.74	4.93	160.27
345	SLD 16	-384	-195	3444	704.21	5.01	134.99
345	SLV 1	738	212	3842	857.73	8.73	-258.78
345	SLV 2	853	299	3960	880.54	8.86	-298.63
345	SLV 3	655	-168	2075	515.63	5.84	-229.16
345	SLV 4	769	-81	2194	538.44	5.97	-269.01
345	SLV 5	363	594	6309	1302.92	11.47	-127.82
345	SLV 6	440	653	6389	1318.28	11.55	-154.65
345	SLV 7	85	-673	420	162.56	1.83	-29.1
345	SLV 8	162	-614	500	177.92	1.92	-55.92
345	SLV 9	-57	529	6641	1339.21	10.9	19.62
345	SLV 10	19	588	6721	1354.56	10.99	-7.2
345	SLV 11	-336	-737	751	198.85	1.27	118.35
345	SLV 12	-259	-679	831	214.2	1.36	91.52
345	SLV 13	-665	-3	4947	978.69	6.86	232.71
345	SLV 14	-550	84	5066	1001.5	6.99	192.86
345	SLV 15	-748	-384	3180	636.58	3.97	262.32
345	SLV 16	-634	-296	3299	659.39	4.1	222.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
345	SLV FO 1	807	237	3869	867.65	8.96	-282.84
345	SLV FO 2	933	333	3999	892.74	9.1	-326.67
345	SLV FO 3	715	-181	1925	491.33	5.78	-250.27
345	SLV FO 4	841	-85	2056	516.42	5.92	-294.09
345	SLV FO 5	395	658	6583	1357.36	11.97	-138.79
345	SLV FO 6	479	722	6671	1374.25	12.07	-168.3
345	SLV FO 7	88	-736	105	102.96	1.38	-30.2
345	SLV FO 8	173	-671	193	119.85	1.47	-59.7
345	SLV FO 9	-68	587	6948	1397.27	11.35	23.4
345	SLV FO 10	16	651	7036	1414.16	11.45	-6.11
345	SLV FO 11	-375	-807	469	142.87	0.76	132
345	SLV FO 12	-290	-742	557	159.77	0.85	102.49
345	SLV FO 13	-736	0	5084	1000.7	6.9	257.79
345	SLV FO 14	-611	96	5215	1025.79	7.04	213.96
345	SLV FO 15	-828	-418	3141	624.38	3.72	290.37
345	SLV FO 16	-703	-322	3272	649.47	3.86	246.54
345	CRTFP Ux+	0	0	0	0	0	0
345	CRTFP Ux-	0	0	0	0	0	0
345	CRTFP Uy+	0	0	0	0	0	0
345	CRTFP Uy-	0	0	0	0	0	0
346	SLU 1	52	-36	3153	568.71	5.01	-17.91
346	SLU 2	55	-18	3231	580.62	5.09	-19.26
346	SLU 3	52	-37	3201	576.97	5.1	-18.07
346	SLU 4	54	-26	3248	584.12	5.15	-18.88
346	SLU 5	55	-18	3259	585.63	5.15	-19.19
346	SLU 6	52	-37	3230	581.98	5.16	-18.01
346	SLU 7	54	-26	3276	589.13	5.21	-18.81
346	SLU 8	51	-37	3210	578.74	5.12	-17.77
346	SLU 9	53	-26	3256	585.88	5.17	-18.58
346	SLU 10	59	-21	3617	643.88	5.81	-20.39
346	SLU 11	55	-40	3588	640.23	5.81	-19.21
346	SLU 12	58	-29	3635	647.38	5.87	-20.02
346	SLU 13	58	-21	3646	648.9	5.86	-20.33
346	SLU 14	55	-40	3617	645.25	5.87	-19.14
346	SLU 15	57	-29	3663	652.39	5.92	-19.95
346	SLU 16	54	-40	3597	642	5.84	-18.91
346	SLU 17	57	-29	3643	649.15	5.89	-19.72
346	SLU 18	56	-40	3706	659.08	6.03	-19.54
346	SLU 19	59	-29	3752	666.23	6.08	-20.34
346	SLU 20	56	-41	3734	664.1	6.09	-19.47
346	SLU 21	58	-30	3781	671.24	6.14	-20.28
346	SLU 22	59	-41	3582	639.47	5.79	-20.43
346	SLU 23	63	-22	3659	651.38	5.87	-21.77
346	SLU 24	59	-41	3630	647.74	5.88	-20.59
346	SLU 25	61	-30	3677	654.88	5.93	-21.4
346	SLU 26	62	-22	3688	656.4	5.93	-21.71
346	SLU 27	59	-42	3659	652.75	5.94	-20.52
346	SLU 28	61	-30	3705	659.9	5.99	-21.33
346	SLU 29	58	-41	3639	649.5	5.9	-20.29
346	SLU 30	61	-30	3685	656.65	5.95	-21.1
346	SLU 31	66	-25	4046	714.65	6.59	-22.91
346	SLU 32	62	-44	4017	711	6.59	-21.73
346	SLU 33	65	-33	4064	718.15	6.65	-22.54
346	SLU 34	66	-25	4075	719.66	6.64	-22.84
346	SLU 35	62	-45	4046	716.01	6.65	-21.66
346	SLU 36	65	-33	4092	723.16	6.7	-22.47
346	SLU 37	62	-44	4026	712.77	6.62	-21.43
346	SLU 38	64	-33	4072	719.91	6.67	-22.24
346	SLU 39	63	-45	4135	729.85	6.81	-22.05
346	SLU 40	66	-34	4181	737	6.86	-22.86
346	SLU 41	63	-45	4163	734.86	6.87	-21.98
346	SLU 42	66	-34	4210	742.01	6.92	-22.79
346	SLU 43	64	-45	3952	715.06	6.24	-22.42
346	SLU 44	68	-27	4029	726.97	6.33	-23.77
346	SLU 45	65	-46	4000	723.32	6.33	-22.58
346	SLU 46	67	-35	4047	730.47	6.38	-23.39
346	SLU 47	68	-27	4058	731.98	6.38	-23.7
346	SLU 48	65	-46	4029	728.33	6.39	-22.52
346	SLU 49	67	-35	4075	735.48	6.44	-23.32
346	SLU 50	64	-46	4009	725.09	6.36	-22.28
346	SLU 51	66	-35	4055	732.23	6.41	-23.09
346	SLU 52	72	-30	4416	790.23	7.04	-24.9
346	SLU 53	68	-49	4387	786.58	7.05	-23.72
346	SLU 54	71	-38	4434	793.73	7.1	-24.53
346	SLU 55	71	-30	4445	795.25	7.1	-24.84
346	SLU 56	68	-49	4416	791.6	7.11	-23.65
346	SLU 57	70	-38	4462	798.74	7.16	-24.46
346	SLU 58	67	-49	4396	788.35	7.07	-23.42
346	SLU 59	70	-38	4442	795.5	7.12	-24.23
346	SLU 60	69	-50	4505	805.43	7.26	-24.05
346	SLU 61	71	-39	4551	812.58	7.31	-24.85
346	SLU 62	69	-50	4533	810.45	7.32	-23.98
346	SLU 63	71	-39	4580	817.59	7.37	-24.79
346	SLU 64	72	-50	4381	785.82	7.02	-24.94
346	SLU 65	76	-31	4458	797.73	7.11	-26.28
346	SLU 66	72	-51	4429	794.09	7.11	-25.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
346	SLU 67	74	-40	4476	801.23	7.16	-25.91
346	SLU 68	75	-32	4487	802.75	7.16	-26.22
346	SLU 69	72	-51	4458	799.1	7.17	-25.03
346	SLU 70	74	-40	4504	806.25	7.22	-25.84
346	SLU 71	71	-50	4438	795.85	7.14	-24.8
346	SLU 72	74	-39	4484	803	7.19	-25.61
346	SLU 73	79	-34	4845	861	7.82	-27.42
346	SLU 74	75	-54	4816	857.35	7.83	-26.24
346	SLU 75	78	-43	4863	864.5	7.88	-27.05
346	SLU 76	79	-35	4874	866.01	7.88	-27.35
346	SLU 77	75	-54	4845	862.36	7.89	-26.17
346	SLU 78	78	-43	4891	869.51	7.94	-26.98
346	SLU 79	75	-53	4825	859.12	7.85	-25.94
346	SLU 80	77	-42	4871	866.26	7.9	-26.75
346	SLU 81	76	-54	4934	876.2	8.04	-26.56
346	SLU 82	79	-43	4980	883.35	8.09	-27.37
346	SLU 83	76	-54	4962	881.21	8.1	-26.49
346	SLU 84	79	-43	5008	888.36	8.15	-27.3
346	SLE RA 1	54	-37	3276	588.93	5.23	-18.63
346	SLE RA 2	56	-25	3327	596.87	5.29	-19.53
346	SLE RA 3	54	-38	3308	594.43	5.29	-18.74
346	SLE RA 4	55	-31	3339	599.2	5.32	-19.28
346	SLE RA 5	56	-25	3346	600.21	5.32	-19.48
346	SLE RA 6	54	-38	3327	597.78	5.33	-18.69
346	SLE RA 7	55	-31	3358	602.54	5.36	-19.23
346	SLE RA 8	53	-38	3313	595.61	5.31	-18.54
346	SLE RA 9	55	-30	3344	600.38	5.34	-19.08
346	SLE RA 10	58	-27	3585	639.04	5.76	-20.29
346	SLE RA 11	56	-40	3566	636.61	5.77	-19.5
346	SLE RA 12	58	-33	3597	641.38	5.8	-20.04
346	SLE RA 13	58	-27	3604	642.39	5.8	-20.24
346	SLE RA 14	56	-40	3585	639.95	5.81	-19.45
346	SLE RA 15	57	-33	3616	644.72	5.84	-19.99
346	SLE RA 16	56	-40	3571	637.79	5.78	-19.3
346	SLE RA 17	57	-32	3602	642.55	5.82	-19.84
346	SLE RA 18	57	-40	3644	649.18	5.91	-19.71
346	SLE RA 19	58	-33	3675	653.94	5.95	-20.25
346	SLE RA 20	57	-40	3663	652.52	5.95	-19.67
346	SLE RA 21	58	-33	3694	657.28	5.98	-20.21
346	SLE FR 1	54	-37	3276	588.93	5.23	-18.63
346	SLE FR 2	54	-35	3286	590.51	5.24	-18.81
346	SLE FR 3	54	-37	3283	590.26	5.24	-18.61
346	SLE FR 4	55	-36	3397	608.59	5.45	-19.13
346	SLE FR 5	54	-38	3394	608.34	5.45	-18.94
346	SLE FR 6	55	-39	3460	619.05	5.57	-19.17
346	SLE QP 1	54	-37	3276	588.93	5.23	-18.63
346	SLE QP 2	55	-38	3386	607	5.43	-18.95
346	SLD 1	491	108	3469	652.42	6.91	-172.02
346	SLD 2	563	165	3542	664.06	6.97	-197.3
346	SLD 3	441	-108	2483	493.87	5.41	-154.23
346	SLD 4	513	-51	2556	505.5	5.48	-179.5
346	SLD 5	249	323	4894	859.1	8.13	-87.51
346	SLD 6	296	360	4941	866.59	8.18	-103.79
346	SLD 7	82	-396	1607	330.59	3.15	-28.2
346	SLD 8	128	-359	1654	338.08	3.19	-44.48
346	SLD 9	-19	283	5118	875.92	7.68	6.57
346	SLD 10	27	319	5166	883.42	7.72	-9.71
346	SLD 11	-187	-436	1831	347.41	2.69	65.88
346	SLD 12	-140	-399	1878	354.91	2.74	49.6
346	SLD 13	-404	-26	4217	708.5	5.39	141.6
346	SLD 14	-332	31	4290	720.14	5.46	116.32
346	SLD 15	-454	-241	3231	549.95	3.89	159.39
346	SLD 16	-382	-185	3304	561.58	3.96	134.11
346	SLV 1	740	205	3586	689.19	7.84	-259.5
346	SLV 2	854	295	3701	707.53	7.95	-299.34
346	SLV 3	655	-163	1904	418.71	5.29	-229.13
346	SLV 4	769	-73	2019	437.05	5.4	-268.97
346	SLV 5	369	576	5976	1038.47	10.01	-129.74
346	SLV 6	446	636	6054	1050.82	10.08	-156.56
346	SLV 7	83	-650	369	136.86	1.5	-28.52
346	SLV 8	160	-590	446	149.21	1.57	-55.34
346	SLV 9	-51	513	6326	1064.8	9.3	17.43
346	SLV 10	26	574	6404	1077.15	9.37	-9.39
346	SLV 11	-337	-713	719	163.18	0.79	118.65
346	SLV 12	-260	-653	796	175.53	0.86	91.83
346	SLV 13	-660	-4	4753	776.95	5.47	231.07
346	SLV 14	-546	86	4868	795.3	5.58	191.22
346	SLV 15	-745	-372	3071	506.47	2.92	261.43
346	SLV 16	-631	-282	3186	524.81	3.03	221.59
346	SLV FO 1	809	230	3606	697.41	8.08	-283.55
346	SLV FO 2	934	328	3733	717.59	8.2	-327.38
346	SLV FO 3	715	-175	1756	399.88	5.28	-250.15
346	SLV FO 4	840	-76	1883	420.06	5.39	-293.98
346	SLV FO 5	400	637	6235	1081.62	10.47	-140.82
346	SLV FO 6	485	704	6320	1095.2	10.54	-170.32
346	SLV FO 7	86	-711	67	89.84	1.11	-29.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
346	SLV FO 8	171	-645	152	103.43	1.19	-58.98
346	SLV FO 9	-62	568	6620	1110.58	9.68	21.07
346	SLV FO 10	23	635	6705	1124.16	9.76	-8.44
346	SLV FO 11	-376	-780	452	118.8	0.32	132.41
346	SLV FO 12	-291	-714	537	132.39	0.4	102.91
346	SLV FO 13	-731	0	4890	793.95	5.47	256.07
346	SLV FO 14	-606	98	5017	814.13	5.59	212.24
346	SLV FO 15	-825	-405	3039	496.41	2.67	289.47
346	SLV FO 16	-700	-306	3166	516.59	2.79	245.64
346	CRTFP Ux+	0	0	0	0	0	0
346	CRTFP Ux-	0	0	0	0	0	0
346	CRTFP Uy+	0	0	0	0	0	0
346	CRTFP Uy-	0	0	0	0	0	0
347	SLU 1	54	-32	3018	454.53	3.71	-18.64
347	SLU 2	57	-14	3093	463.95	3.77	-19.98
347	SLU 3	54	-33	3064	460.7	3.77	-18.83
347	SLU 4	56	-22	3109	466.36	3.81	-19.63
347	SLU 5	57	-14	3120	467.7	3.81	-19.93
347	SLU 6	54	-33	3091	464.46	3.82	-18.77
347	SLU 7	56	-22	3136	470.11	3.85	-19.58
347	SLU 8	53	-33	3072	462.03	3.79	-18.53
347	SLU 9	56	-22	3117	467.69	3.83	-19.34
347	SLU 10	61	-17	3461	511.48	4.31	-21.2
347	SLU 11	58	-36	3431	508.23	4.32	-20.04
347	SLU 12	60	-25	3476	513.89	4.35	-20.85
347	SLU 13	61	-17	3487	515.23	4.36	-21.14
347	SLU 14	58	-36	3458	511.98	4.36	-19.99
347	SLU 15	60	-25	3503	517.64	4.4	-20.79
347	SLU 16	57	-35	3439	509.56	4.33	-19.75
347	SLU 17	59	-24	3484	515.21	4.37	-20.55
347	SLU 18	59	-36	3543	522.43	4.48	-20.37
347	SLU 19	61	-25	3588	528.08	4.52	-21.18
347	SLU 20	58	-36	3570	526.18	4.52	-20.32
347	SLU 21	61	-25	3615	531.83	4.56	-21.13
347	SLU 22	61	-37	3426	507.68	4.29	-21.25
347	SLU 23	65	-18	3501	517.1	4.36	-22.6
347	SLU 24	62	-37	3472	513.85	4.36	-21.44
347	SLU 25	64	-26	3517	519.51	4.4	-22.25
347	SLU 26	65	-19	3528	520.85	4.4	-22.54
347	SLU 27	61	-38	3498	517.6	4.4	-21.39
347	SLU 28	64	-27	3544	523.26	4.44	-22.19
347	SLU 29	61	-37	3479	515.18	4.38	-21.15
347	SLU 30	63	-26	3524	520.83	4.41	-21.95
347	SLU 31	68	-21	3868	564.63	4.9	-23.81
347	SLU 32	65	-40	3839	561.38	4.9	-22.65
347	SLU 33	67	-29	3884	567.03	4.94	-23.46
347	SLU 34	68	-21	3895	568.38	4.94	-23.76
347	SLU 35	65	-40	3866	565.13	4.94	-22.6
347	SLU 36	67	-29	3911	570.79	4.98	-23.41
347	SLU 37	64	-40	3847	562.71	4.92	-22.36
347	SLU 38	67	-29	3892	568.36	4.96	-23.17
347	SLU 39	66	-40	3951	575.58	5.07	-22.99
347	SLU 40	68	-30	3996	581.23	5.11	-23.79
347	SLU 41	66	-41	3977	579.33	5.11	-22.93
347	SLU 42	68	-30	4023	584.98	5.15	-23.74
347	SLU 43	67	-41	3784	572.67	4.62	-23.34
347	SLU 44	71	-22	3859	582.09	4.68	-24.68
347	SLU 45	68	-41	3829	578.84	4.68	-23.52
347	SLU 46	70	-30	3875	584.49	4.72	-24.33
347	SLU 47	71	-23	3886	585.84	4.72	-24.62
347	SLU 48	68	-42	3856	582.59	4.73	-23.47
347	SLU 49	70	-31	3901	588.24	4.77	-24.27
347	SLU 50	67	-41	3837	580.17	4.7	-23.23
347	SLU 51	69	-30	3882	585.82	4.74	-24.03
347	SLU 52	74	-25	4226	629.62	5.23	-25.89
347	SLU 53	71	-44	4197	626.37	5.23	-24.74
347	SLU 54	73	-33	4242	632.02	5.27	-25.54
347	SLU 55	74	-25	4253	633.37	5.27	-25.84
347	SLU 56	71	-44	4224	630.12	5.27	-24.68
347	SLU 57	73	-33	4269	635.77	5.31	-25.49
347	SLU 58	70	-44	4205	627.7	5.24	-24.44
347	SLU 59	73	-33	4250	633.35	5.28	-25.25
347	SLU 60	72	-45	4308	640.56	5.39	-25.07
347	SLU 61	74	-34	4354	646.22	5.43	-25.88
347	SLU 62	72	-45	4335	644.32	5.44	-25.02
347	SLU 63	74	-34	4380	649.97	5.47	-25.82
347	SLU 64	75	-45	4191	625.81	5.2	-25.95
347	SLU 65	78	-27	4267	635.24	5.27	-27.29
347	SLU 66	75	-46	4237	631.99	5.27	-26.14
347	SLU 67	77	-35	4282	637.64	5.31	-26.94
347	SLU 68	78	-27	4293	638.99	5.31	-27.24
347	SLU 69	75	-46	4264	635.74	5.31	-26.08
347	SLU 70	77	-35	4309	641.39	5.35	-26.89
347	SLU 71	74	-45	4245	633.32	5.29	-25.84
347	SLU 72	77	-34	4290	638.97	5.33	-26.65
347	SLU 73	82	-29	4634	682.76	5.81	-28.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
347	SLU 74	79	-48	4605	679.52	5.81	-27.35
347	SLU 75	81	-37	4650	685.17	5.85	-28.16
347	SLU 76	82	-30	4661	686.52	5.85	-28.45
347	SLU 77	78	-48	4631	683.27	5.85	-27.3
347	SLU 78	81	-37	4677	688.92	5.89	-28.1
347	SLU 79	78	-48	4612	680.85	5.83	-27.06
347	SLU 80	80	-37	4657	686.5	5.87	-27.86
347	SLU 81	80	-49	4716	693.71	5.98	-27.68
347	SLU 82	82	-38	4761	699.37	6.02	-28.49
347	SLU 83	79	-49	4743	697.47	6.02	-27.63
347	SLU 84	82	-38	4788	703.12	6.06	-28.44
347	SLE RA 1	56	-34	3135	469.71	3.87	-19.39
347	SLE RA 2	58	-22	3185	476	3.92	-20.28
347	SLE RA 3	56	-34	3165	473.83	3.92	-19.51
347	SLE RA 4	58	-27	3195	477.6	3.94	-20.05
347	SLE RA 5	58	-22	3202	478.5	3.94	-20.25
347	SLE RA 6	56	-34	3183	476.33	3.95	-19.47
347	SLE RA 7	58	-27	3213	480.1	3.97	-20.01
347	SLE RA 8	56	-34	3170	474.72	3.93	-19.31
347	SLE RA 9	57	-27	3200	478.49	3.96	-19.85
347	SLE RA 10	61	-23	3430	507.68	4.28	-21.09
347	SLE RA 11	58	-36	3410	505.52	4.28	-20.32
347	SLE RA 12	60	-29	3440	509.29	4.31	-20.86
347	SLE RA 13	61	-23	3447	510.18	4.31	-21.06
347	SLE RA 14	58	-36	3428	508.02	4.31	-20.28
347	SLE RA 15	60	-29	3458	511.79	4.33	-20.82
347	SLE RA 16	58	-36	3415	506.4	4.29	-20.12
347	SLE RA 17	59	-28	3445	510.17	4.32	-20.66
347	SLE RA 18	59	-36	3484	514.98	4.39	-20.54
347	SLE RA 19	61	-29	3514	518.75	4.42	-21.08
347	SLE RA 20	59	-36	3502	517.48	4.42	-20.51
347	SLE RA 21	61	-29	3532	521.25	4.44	-21.04
347	SLE FR 1	56	-34	3135	469.71	3.87	-19.39
347	SLE FR 2	56	-31	3145	470.97	3.88	-19.57
347	SLE FR 3	56	-34	3142	470.72	3.88	-19.37
347	SLE FR 4	57	-32	3250	484.55	4.04	-19.91
347	SLE FR 5	57	-34	3247	484.3	4.04	-19.72
347	SLE FR 6	57	-35	3309	492.35	4.13	-19.96
347	SLE QP 1	56	-34	3135	469.71	3.87	-19.39
347	SLE QP 2	57	-34	3240	483.29	4.03	-19.73
347	SLD 1	493	106	3277	518.7	5.54	-172.66
347	SLD 2	565	165	3348	527.87	5.58	-197.92
347	SLD 3	441	-103	2331	396.09	4.43	-154.48
347	SLD 4	514	-44	2403	405.27	4.46	-179.74
347	SLD 5	253	315	4672	678.28	6.17	-88.84
347	SLD 6	300	353	4718	684.19	6.19	-105.11
347	SLD 7	82	-383	1521	269.61	2.45	-28.24
347	SLD 8	128	-345	1567	275.52	2.47	-44.51
347	SLD 9	-15	276	4912	691.07	5.58	5.04
347	SLD 10	32	314	4958	696.98	5.61	-11.23
347	SLD 11	-186	-422	1761	282.4	1.86	65.64
347	SLD 12	-140	-384	1807	288.31	1.89	49.38
347	SLD 13	-400	-25	4076	561.32	3.59	140.28
347	SLD 14	-328	34	4148	570.5	3.63	115.01
347	SLD 15	-452	-234	3131	438.72	2.48	158.46
347	SLD 16	-379	-175	3202	447.89	2.52	133.19
347	SLV 1	742	200	3366	547.27	6.47	-260.09
347	SLV 2	856	293	3479	561.74	6.53	-299.92
347	SLV 3	654	-158	1753	338.14	4.57	-229.06
347	SLV 4	768	-64	1866	352.6	4.63	-268.88
347	SLV 5	374	561	5703	816.98	7.64	-131.48
347	SLV 6	451	623	5778	826.72	7.68	-158.29
347	SLV 7	82	-631	326	119.86	1.29	-28.03
347	SLV 8	158	-568	402	129.59	1.33	-54.84
347	SLV 9	-45	499	6077	837	6.73	15.38
347	SLV 10	32	562	6153	846.73	6.77	-11.43
347	SLV 11	-338	-692	701	139.87	0.38	118.82
347	SLV 12	-261	-629	776	149.61	0.42	92.01
347	SLV 13	-655	-4	4613	613.99	3.43	229.42
347	SLV 14	-541	89	4726	628.45	3.49	189.59
347	SLV 15	-743	-362	3000	404.85	1.53	260.45
347	SLV 16	-629	-269	3113	419.31	1.59	220.63
347	SLV FO 1	811	223	3379	553.67	6.72	-284.13
347	SLV FO 2	936	326	3502	569.58	6.78	-327.93
347	SLV FO 3	714	-170	1605	323.62	4.62	-249.99
347	SLV FO 4	840	-67	1728	339.53	4.69	-293.8
347	SLV FO 5	406	620	5949	850.35	8	-142.65
347	SLV FO 6	491	689	6032	861.06	8.05	-172.14
347	SLV FO 7	84	-690	35	83.51	1.02	-28.86
347	SLV FO 8	169	-621	118	94.22	1.06	-58.35
347	SLV FO 9	-55	553	6361	872.37	7	18.89
347	SLV FO 10	29	622	6444	883.08	7.04	-10.6
347	SLV FO 11	-377	-758	447	105.53	0.01	132.67
347	SLV FO 12	-293	-689	530	116.24	0.06	103.18
347	SLV FO 13	-726	-1	4751	627.06	3.37	254.33
347	SLV FO 14	-601	101	4874	642.97	3.44	210.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
347	SLV FO 15	-823	-395	2977	397.01	1.27	288.47
347	SLV FO 16	-697	-292	3100	412.92	1.34	244.66
347	CRTFP Ux+	0	0	0	0	0	0
347	CRTFP Ux-	0	0	0	0	0	0
347	CRTFP Uy+	0	0	0	0	0	0
347	CRTFP Uy-	0	0	0	0	0	0
348	SLU 1	56	-29	2927	371.82	2.15	-19.33
348	SLU 2	59	-10	3001	379.37	2.19	-20.67
348	SLU 3	56	-29	2971	376.5	2.19	-19.54
348	SLU 4	59	-18	3016	381.02	2.21	-20.34
348	SLU 5	59	-10	3027	382.21	2.21	-20.63
348	SLU 6	56	-29	2997	379.34	2.21	-19.5
348	SLU 7	58	-18	3041	383.87	2.23	-20.3
348	SLU 8	55	-29	2979	377.51	2.2	-19.25
348	SLU 9	58	-18	3023	382.04	2.22	-20.05
348	SLU 10	63	-13	3355	415.41	2.52	-21.96
348	SLU 11	60	-31	3325	412.55	2.52	-20.83
348	SLU 12	62	-21	3369	417.07	2.54	-21.63
348	SLU 13	63	-13	3380	418.26	2.55	-21.92
348	SLU 14	60	-31	3351	415.39	2.55	-20.79
348	SLU 15	62	-21	3395	419.91	2.57	-21.59
348	SLU 16	59	-31	3333	413.56	2.53	-20.54
348	SLU 17	61	-20	3377	418.08	2.56	-21.34
348	SLU 18	61	-32	3433	423.32	2.63	-21.17
348	SLU 19	63	-21	3477	427.85	2.65	-21.97
348	SLU 20	61	-32	3458	426.17	2.65	-21.13
348	SLU 21	63	-21	3503	430.69	2.68	-21.93
348	SLU 22	63	-33	3321	412.16	2.5	-22.04
348	SLU 23	67	-15	3394	419.7	2.54	-23.37
348	SLU 24	64	-33	3365	416.83	2.54	-22.25
348	SLU 25	66	-22	3409	421.36	2.56	-23.05
348	SLU 26	67	-15	3420	422.54	2.56	-23.33
348	SLU 27	64	-33	3391	419.68	2.56	-22.21
348	SLU 28	66	-22	3435	424.2	2.58	-23.01
348	SLU 29	63	-33	3372	417.85	2.55	-21.96
348	SLU 30	65	-22	3416	422.37	2.57	-22.76
348	SLU 31	71	-17	3748	455.75	2.87	-24.66
348	SLU 32	68	-36	3719	452.88	2.87	-23.54
348	SLU 33	70	-25	3763	457.41	2.89	-24.34
348	SLU 34	71	-17	3774	458.59	2.9	-24.62
348	SLU 35	68	-36	3744	455.72	2.9	-23.5
348	SLU 36	70	-25	3788	460.25	2.92	-24.3
348	SLU 37	67	-35	3726	453.89	2.88	-23.25
348	SLU 38	69	-24	3770	458.42	2.9	-24.05
348	SLU 39	69	-36	3826	463.66	2.98	-23.88
348	SLU 40	71	-25	3870	468.18	3	-24.68
348	SLU 41	69	-36	3852	466.5	3	-23.84
348	SLU 42	71	-25	3896	471.03	3.02	-24.64
348	SLU 43	70	-36	3671	469.54	2.68	-24.21
348	SLU 44	73	-18	3744	477.08	2.71	-25.54
348	SLU 45	70	-36	3715	474.22	2.71	-24.42
348	SLU 46	73	-25	3759	478.74	2.73	-25.22
348	SLU 47	73	-18	3770	479.93	2.74	-25.5
348	SLU 48	70	-36	3741	477.06	2.74	-24.38
348	SLU 49	72	-25	3785	481.58	2.76	-25.18
348	SLU 50	69	-36	3722	475.23	2.72	-24.13
348	SLU 51	72	-25	3766	479.75	2.75	-24.93
348	SLU 52	77	-20	4098	513.13	3.05	-26.83
348	SLU 53	74	-39	4069	510.26	3.05	-25.7
348	SLU 54	76	-28	4113	514.79	3.07	-26.5
348	SLU 55	77	-20	4124	515.98	3.07	-26.79
348	SLU 56	74	-39	4094	513.11	3.07	-25.66
348	SLU 57	76	-28	4138	517.63	3.09	-26.46
348	SLU 58	73	-38	4076	511.28	3.06	-25.41
348	SLU 59	75	-27	4120	515.8	3.08	-26.22
348	SLU 60	75	-39	4176	521.04	3.16	-26.05
348	SLU 61	77	-28	4220	525.57	3.18	-26.85
348	SLU 62	75	-39	4202	523.88	3.18	-26.01
348	SLU 63	77	-28	4246	528.41	3.2	-26.81
348	SLU 64	77	-40	4064	509.88	3.03	-26.91
348	SLU 65	81	-22	4137	517.42	3.06	-28.25
348	SLU 66	78	-40	4108	514.55	3.06	-27.12
348	SLU 67	80	-30	4152	519.08	3.08	-27.92
348	SLU 68	81	-22	4163	520.26	3.09	-28.21
348	SLU 69	78	-40	4134	517.39	3.09	-27.08
348	SLU 70	80	-30	4178	521.92	3.11	-27.88
348	SLU 71	77	-40	4115	515.56	3.07	-26.83
348	SLU 72	79	-29	4160	520.09	3.09	-27.63
348	SLU 73	85	-24	4491	553.47	3.4	-29.53
348	SLU 74	82	-43	4462	550.6	3.4	-28.41
348	SLU 75	84	-32	4506	555.12	3.42	-29.21
348	SLU 76	85	-24	4517	556.31	3.42	-29.49
348	SLU 77	82	-43	4488	553.44	3.42	-28.37
348	SLU 78	84	-32	4532	557.97	3.44	-29.17
348	SLU 79	81	-42	4469	551.61	3.41	-28.12
348	SLU 80	83	-31	4513	556.14	3.43	-28.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
348	SLU 81	83	-43	4569	561.38	3.5	-28.75
348	SLU 82	85	-32	4613	565.9	3.53	-29.55
348	SLU 83	83	-43	4595	564.22	3.53	-28.71
348	SLU 84	85	-32	4639	568.74	3.55	-29.51
348	SLE RA 1	58	-30	3040	383.35	2.25	-20.11
348	SLE RA 2	60	-18	3089	388.38	2.27	-21
348	SLE RA 3	58	-30	3069	386.46	2.27	-20.25
348	SLE RA 4	60	-23	3099	389.48	2.29	-20.78
348	SLE RA 5	60	-18	3106	390.27	2.29	-20.97
348	SLE RA 6	58	-30	3086	388.36	2.29	-20.22
348	SLE RA 7	60	-23	3116	391.38	2.31	-20.75
348	SLE RA 8	58	-30	3074	387.14	2.28	-20.05
348	SLE RA 9	59	-23	3103	390.16	2.3	-20.59
348	SLE RA 10	63	-19	3324	412.41	2.5	-21.85
348	SLE RA 11	61	-32	3305	410.5	2.5	-21.1
348	SLE RA 12	62	-24	3334	413.51	2.51	-21.64
348	SLE RA 13	63	-19	3342	414.3	2.51	-21.83
348	SLE RA 14	61	-32	3322	412.39	2.51	-21.08
348	SLE RA 15	62	-24	3352	415.41	2.53	-21.61
348	SLE RA 16	60	-31	3310	411.17	2.51	-20.91
348	SLE RA 17	62	-24	3339	414.19	2.52	-21.45
348	SLE RA 18	61	-32	3377	417.68	2.57	-21.33
348	SLE RA 19	63	-25	3406	420.7	2.58	-21.87
348	SLE RA 20	61	-32	3394	419.58	2.59	-21.31
348	SLE RA 21	63	-25	3423	422.59	2.6	-21.84
348	SLE FR 1	58	-30	3040	383.35	2.25	-20.11
348	SLE FR 2	58	-27	3049	384.35	2.26	-20.28
348	SLE FR 3	58	-30	3046	384.11	2.26	-20.1
348	SLE FR 4	59	-28	3150	394.65	2.35	-20.65
348	SLE FR 5	59	-30	3148	394.41	2.35	-20.46
348	SLE FR 6	60	-31	3208	400.51	2.41	-20.72
348	SLE QP 1	58	-30	3040	383.35	2.25	-20.11
348	SLE QP 2	59	-30	3141	393.65	2.35	-20.47
348	SLD 1	495	106	3131	418	3.9	-173.21
348	SLD 2	567	168	3202	425.33	3.9	-198.44
348	SLD 3	442	-99	2213	322.57	3.29	-154.68
348	SLD 4	514	-37	2283	329.89	3.28	-179.92
348	SLD 5	257	312	4519	544.43	3.75	-90.05
348	SLD 6	304	352	4565	549.15	3.74	-106.3
348	SLD 7	81	-373	1457	226.33	1.7	-28.3
348	SLD 8	128	-333	1502	231.04	1.69	-44.56
348	SLD 9	-10	273	4779	556.25	3	3.61
348	SLD 10	36	313	4825	560.97	3	-12.65
348	SLD 11	-186	-412	1717	238.15	0.95	65.35
348	SLD 12	-139	-372	1762	242.86	0.95	49.1
348	SLD 13	-396	-24	3998	457.4	1.41	138.97
348	SLD 14	-324	38	4069	464.73	1.41	113.73
348	SLD 15	-449	-229	3079	361.97	0.8	157.5
348	SLD 16	-377	-167	3150	369.3	0.79	132.26
348	SLV 1	744	197	3192	438.48	4.82	-260.56
348	SLV 2	858	295	3304	450.02	4.81	-300.34
348	SLV 3	654	-153	1625	275.7	3.77	-228.94
348	SLV 4	768	-55	1737	287.25	3.76	-268.72
348	SLV 5	379	551	5512	651.81	4.68	-133.03
348	SLV 6	456	617	5587	659.59	4.68	-159.81
348	SLV 7	80	-617	289	109.23	1.18	-27.64
348	SLV 8	157	-551	364	117.01	1.18	-54.42
348	SLV 9	-39	490	5917	670.29	3.51	13.47
348	SLV 10	38	556	5993	678.06	3.51	-13.31
348	SLV 11	-338	-678	694	127.71	0.02	118.86
348	SLV 12	-262	-612	769	135.48	0.01	92.08
348	SLV 13	-650	-6	4544	500.05	0.93	227.78
348	SLV 14	-536	92	4656	511.59	0.92	187.99
348	SLV 15	-740	-356	2977	337.27	-0.12	259.39
348	SLV 16	-626	-258	3089	348.82	-0.13	219.61
348	SLV FO 1	812	220	3198	442.96	5.07	-284.57
348	SLV FO 2	938	328	3320	455.66	5.06	-328.33
348	SLV FO 3	713	-165	1474	263.91	3.91	-249.79
348	SLV FO 4	839	-58	1597	276.61	3.9	-293.55
348	SLV FO 5	411	609	5749	677.63	4.91	-144.29
348	SLV FO 6	496	682	5832	686.18	4.91	-173.75
348	SLV FO 7	82	-676	4	80.79	1.07	-28.35
348	SLV FO 8	166	-603	86	89.35	1.06	-57.81
348	SLV FO 9	-49	542	6195	697.95	3.63	16.87
348	SLV FO 10	36	615	6278	706.5	3.63	-12.6
348	SLV FO 11	-378	-743	450	101.11	-0.22	132.8
348	SLV FO 12	-294	-670	532	109.66	-0.22	103.34
348	SLV FO 13	-721	-3	4684	510.69	0.79	252.6
348	SLV FO 14	-595	105	4807	523.39	0.78	208.84
348	SLV FO 15	-820	-389	2961	331.63	-0.36	287.38
348	SLV FO 16	-694	-281	3084	344.34	-0.37	243.62
348	CRTFP Ux+	0	0	0	0	0	0
348	CRTFP Ux-	0	0	0	0	0	0
348	CRTFP Uy+	0	0	0	0	0	0
348	CRTFP Uy-	0	0	0	0	0	0
349	SLU 1	58	-24	2887	324.71	0.42	-19.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
349	SLU 2	61	-6	2960	331.11	0.42	-21.3
349	SLU 3	58	-24	2931	328.55	0.42	-20.21
349	SLU 4	60	-14	2975	332.39	0.42	-21
349	SLU 5	61	-6	2986	333.44	0.42	-21.28
349	SLU 6	58	-24	2956	330.88	0.42	-20.18
349	SLU 7	60	-13	3000	334.72	0.42	-20.98
349	SLU 8	57	-24	2938	329.38	0.42	-19.93
349	SLU 9	60	-13	2982	333.22	0.42	-20.72
349	SLU 10	65	-8	3307	360.46	0.52	-22.66
349	SLU 11	62	-26	3278	357.9	0.52	-21.57
349	SLU 12	64	-15	3322	361.74	0.53	-22.36
349	SLU 13	65	-8	3332	362.79	0.53	-22.63
349	SLU 14	62	-26	3303	360.23	0.53	-21.54
349	SLU 15	64	-15	3347	364.07	0.53	-22.33
349	SLU 16	61	-26	3285	358.73	0.53	-21.28
349	SLU 17	64	-15	3329	362.57	0.53	-22.08
349	SLU 18	63	-27	3383	366.63	0.57	-21.92
349	SLU 19	65	-16	3427	370.47	0.57	-22.71
349	SLU 20	63	-27	3408	368.97	0.57	-21.89
349	SLU 21	65	-16	3452	372.81	0.57	-22.68
349	SLU 22	66	-28	3274	357.65	0.5	-22.77
349	SLU 23	69	-10	3347	364.05	0.5	-24.09
349	SLU 24	66	-28	3317	361.49	0.51	-23
349	SLU 25	68	-18	3361	365.33	0.51	-23.79
349	SLU 26	69	-10	3372	366.38	0.51	-24.07
349	SLU 27	66	-28	3343	363.83	0.51	-22.97
349	SLU 28	68	-17	3387	367.67	0.51	-23.77
349	SLU 29	65	-28	3325	362.32	0.51	-22.72
349	SLU 30	68	-17	3368	366.16	0.51	-23.51
349	SLU 31	73	-12	3694	393.4	0.61	-25.45
349	SLU 32	70	-30	3664	390.84	0.61	-24.36
349	SLU 33	72	-19	3708	394.68	0.61	-25.15
349	SLU 34	73	-12	3719	395.73	0.61	-25.42
349	SLU 35	70	-30	3690	393.18	0.61	-24.33
349	SLU 36	72	-19	3734	397.02	0.61	-25.12
349	SLU 37	69	-30	3671	391.67	0.61	-24.07
349	SLU 38	72	-19	3715	395.51	0.62	-24.87
349	SLU 39	71	-31	3769	399.58	0.65	-24.71
349	SLU 40	73	-20	3813	403.42	0.65	-25.5
349	SLU 41	71	-31	3795	401.91	0.66	-24.68
349	SLU 42	73	-20	3839	405.75	0.66	-25.47
349	SLU 43	72	-30	3621	410.82	0.51	-25.02
349	SLU 44	76	-12	3694	417.22	0.51	-26.34
349	SLU 45	73	-30	3665	414.66	0.51	-25.25
349	SLU 46	75	-19	3708	418.5	0.52	-26.04
349	SLU 47	76	-12	3719	419.56	0.52	-26.31
349	SLU 48	73	-30	3690	417	0.52	-25.22
349	SLU 49	75	-19	3734	420.84	0.52	-26.01
349	SLU 50	72	-30	3672	415.49	0.52	-24.96
349	SLU 51	74	-19	3715	419.33	0.52	-25.76
349	SLU 52	80	-14	4041	446.57	0.62	-27.69
349	SLU 53	77	-32	4011	444.01	0.62	-26.6
349	SLU 54	79	-21	4055	447.85	0.62	-27.4
349	SLU 55	80	-13	4066	448.91	0.62	-27.67
349	SLU 56	77	-32	4037	446.35	0.62	-26.58
349	SLU 57	79	-21	4081	450.19	0.62	-27.37
349	SLU 58	76	-31	4019	444.84	0.62	-26.32
349	SLU 59	78	-21	4062	448.68	0.62	-27.11
349	SLU 60	78	-33	4117	452.75	0.66	-26.95
349	SLU 61	80	-22	4160	456.59	0.66	-27.75
349	SLU 62	78	-32	4142	455.09	0.66	-26.93
349	SLU 63	80	-22	4186	458.93	0.67	-27.72
349	SLU 64	80	-34	4007	443.77	0.6	-27.81
349	SLU 65	84	-16	4080	450.17	0.6	-29.13
349	SLU 66	81	-34	4051	447.61	0.6	-28.04
349	SLU 67	83	-23	4095	451.45	0.6	-28.83
349	SLU 68	84	-16	4106	452.5	0.6	-29.1
349	SLU 69	81	-34	4076	449.94	0.6	-28.01
349	SLU 70	83	-23	4120	453.78	0.61	-28.8
349	SLU 71	80	-34	4058	448.44	0.61	-27.75
349	SLU 72	82	-23	4102	452.28	0.61	-28.55
349	SLU 73	88	-18	4427	479.52	0.7	-30.49
349	SLU 74	85	-36	4398	476.96	0.71	-29.39
349	SLU 75	87	-25	4442	480.8	0.71	-30.19
349	SLU 76	88	-17	4453	481.85	0.71	-30.46
349	SLU 77	85	-36	4423	479.29	0.71	-29.37
349	SLU 78	87	-25	4467	483.13	0.71	-30.16
349	SLU 79	84	-35	4405	477.79	0.71	-29.11
349	SLU 80	86	-25	4449	481.63	0.71	-29.9
349	SLU 81	86	-37	4503	485.69	0.75	-29.74
349	SLU 82	88	-26	4547	489.53	0.75	-30.54
349	SLU 83	86	-36	4528	488.03	0.75	-29.72
349	SLU 84	88	-26	4572	491.87	0.75	-30.51
349	SLE RA 1	60	-25	2998	334.12	0.44	-20.78
349	SLE RA 2	62	-13	3046	338.39	0.44	-21.66
349	SLE RA 3	60	-25	3027	336.68	0.44	-20.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
349	SLE RA 4	62	-18	3056	339.24	0.44	-21.46
349	SLE RA 5	62	-13	3063	339.94	0.45	-21.64
349	SLE RA 6	60	-25	3044	338.24	0.45	-20.91
349	SLE RA 7	62	-18	3073	340.8	0.45	-21.44
349	SLE RA 8	60	-25	3031	337.23	0.45	-20.74
349	SLE RA 9	61	-18	3061	339.79	0.45	-21.27
349	SLE RA 10	65	-14	3278	357.95	0.51	-22.56
349	SLE RA 11	63	-27	3258	356.25	0.51	-21.83
349	SLE RA 12	64	-19	3287	358.81	0.51	-22.36
349	SLE RA 13	65	-14	3295	359.51	0.51	-22.54
349	SLE RA 14	63	-27	3275	357.8	0.51	-21.82
349	SLE RA 15	64	-19	3304	360.36	0.52	-22.35
349	SLE RA 16	62	-26	3263	356.8	0.52	-21.65
349	SLE RA 17	64	-19	3292	359.36	0.52	-22.17
349	SLE RA 18	64	-27	3328	362.07	0.54	-22.07
349	SLE RA 19	65	-20	3357	364.63	0.54	-22.6
349	SLE RA 20	64	-27	3345	363.63	0.54	-22.05
349	SLE RA 21	65	-20	3374	366.19	0.54	-22.58
349	SLE FR 1	60	-25	2998	334.12	0.44	-20.78
349	SLE FR 2	60	-23	3007	334.97	0.44	-20.95
349	SLE FR 3	60	-25	3004	334.74	0.44	-20.77
349	SLE FR 4	61	-23	3107	343.36	0.47	-21.34
349	SLE FR 5	61	-26	3104	343.13	0.47	-21.16
349	SLE FR 6	62	-26	3163	348.09	0.49	-21.42
349	SLE QP 1	60	-25	2998	334.12	0.44	-20.78
349	SLE QP 2	61	-26	3097	342.5	0.47	-21.16
349	SLD 1	496	109	3039	354.32	2.06	-173.65
349	SLD 2	568	175	3111	360.62	2	-198.85
349	SLD 3	442	-95	2130	275.25	2.1	-154.82
349	SLD 4	515	-29	2202	281.55	2.04	-180.03
349	SLD 5	261	313	4445	464.89	0.9	-91.12
349	SLD 6	307	356	4491	468.95	0.86	-107.35
349	SLD 7	81	-368	1416	201.32	1.03	-28.38
349	SLD 8	128	-325	1463	205.38	0.99	-44.61
349	SLD 9	-6	274	4731	479.63	-0.05	2.29
349	SLD 10	41	316	4777	483.69	-0.09	-13.94
349	SLD 11	-185	-407	1702	216.06	0.08	65.02
349	SLD 12	-139	-365	1748	220.12	0.05	48.79
349	SLD 13	-393	-23	3992	403.46	-1.1	137.7
349	SLD 14	-320	44	4063	409.76	-1.16	112.5
349	SLD 15	-447	-227	3083	324.39	-1.06	156.52
349	SLD 16	-374	-161	3155	330.69	-1.12	131.32
349	SLV 1	745	199	3072	366.63	2.95	-260.88
349	SLV 2	859	303	3185	376.56	2.86	-300.61
349	SLV 3	653	-149	1522	231.78	3.01	-228.76
349	SLV 4	767	-45	1636	241.71	2.92	-268.49
349	SLV 5	384	551	5419	552.42	1.13	-134.39
349	SLV 6	461	621	5495	559.1	1.07	-161.14
349	SLV 7	78	-611	253	102.91	1.35	-27.3
349	SLV 8	155	-540	329	109.59	1.29	-54.05
349	SLV 9	-33	489	5865	575.42	-0.35	11.72
349	SLV 10	44	559	5941	582.1	-0.41	-15.03
349	SLV 11	-339	-672	699	125.91	-0.13	118.81
349	SLV 12	-262	-602	775	132.59	-0.19	92.07
349	SLV 13	-645	-6	4558	443.3	-1.98	226.16
349	SLV 14	-531	98	4671	453.23	-2.07	186.43
349	SLV 15	-737	-355	3008	308.45	-1.92	258.29
349	SLV 16	-623	-251	3121	318.38	-2	218.56
349	SLV FO 1	813	222	3070	369.04	3.19	-284.86
349	SLV FO 2	939	336	3194	379.96	3.1	-328.56
349	SLV FO 3	712	-161	1365	220.71	3.27	-249.52
349	SLV FO 4	838	-47	1489	231.63	3.17	-293.22
349	SLV FO 5	416	608	5651	573.41	1.19	-145.72
349	SLV FO 6	501	686	5735	580.76	1.13	-175.14
349	SLV FO 7	80	-669	-32	78.95	1.44	-27.92
349	SLV FO 8	164	-592	52	86.3	1.37	-57.34
349	SLV FO 9	-42	541	6141	598.71	-0.43	15.01
349	SLV FO 10	42	618	6225	606.06	-0.5	-14.41
349	SLV FO 11	-379	-737	459	104.25	-0.19	132.81
349	SLV FO 12	-294	-660	543	111.6	-0.25	103.39
349	SLV FO 13	-716	-5	4704	453.38	-2.23	250.89
349	SLV FO 14	-590	110	4829	464.3	-2.32	207.19
349	SLV FO 15	-817	-388	2999	305.04	-2.15	286.23
349	SLV FO 16	-691	-273	3124	315.96	-2.25	242.53
349	CRTFP Ux+	0	0	0	0	0	0
349	CRTFP Ux-	0	0	0	0	0	0
349	CRTFP Uy+	0	0	0	0	0	0
349	CRTFP Uy-	0	0	0	0	0	0
350	SLU 1	59	-19	2903	316.66	-1.47	-20.56
350	SLU 2	63	0	2977	322.76	-1.51	-21.87
350	SLU 3	60	-19	2947	320.4	-1.51	-20.81
350	SLU 4	62	-8	2991	324.06	-1.53	-21.59
350	SLU 5	63	0	3002	325.02	-1.53	-21.85
350	SLU 6	60	-18	2973	322.67	-1.52	-20.8
350	SLU 7	62	-7	3017	326.33	-1.55	-21.58
350	SLU 8	59	-18	2954	321.19	-1.51	-20.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
350	SLU 9	62	-7	2998	324.85	-1.53	-21.32
350	SLU 10	67	-2	3324	350.63	-1.66	-23.28
350	SLU 11	64	-20	3295	348.27	-1.65	-22.23
350	SLU 12	66	-9	3339	351.93	-1.67	-23.01
350	SLU 13	67	-1	3350	352.89	-1.67	-23.27
350	SLU 14	64	-20	3320	350.54	-1.67	-22.21
350	SLU 15	66	-9	3365	354.2	-1.69	-23
350	SLU 16	63	-19	3302	349.06	-1.66	-21.95
350	SLU 17	66	-8	3346	352.72	-1.68	-22.73
350	SLU 18	65	-21	3400	356.47	-1.68	-22.58
350	SLU 19	67	-10	3444	360.13	-1.7	-23.37
350	SLU 20	65	-20	3425	358.73	-1.7	-22.57
350	SLU 21	67	-9	3469	362.39	-1.72	-23.35
350	SLU 22	68	-22	3291	348.15	-1.67	-23.42
350	SLU 23	71	-4	3365	354.25	-1.71	-24.73
350	SLU 24	68	-23	3336	351.89	-1.71	-23.67
350	SLU 25	71	-11	3380	355.55	-1.73	-24.46
350	SLU 26	71	-4	3390	356.52	-1.73	-24.72
350	SLU 27	68	-22	3361	354.16	-1.73	-23.66
350	SLU 28	70	-11	3405	357.82	-1.75	-24.45
350	SLU 29	67	-22	3343	352.68	-1.71	-23.4
350	SLU 30	70	-11	3387	356.34	-1.73	-24.18
350	SLU 31	75	-5	3712	382.12	-1.86	-26.15
350	SLU 32	72	-24	3683	379.76	-1.85	-25.09
350	SLU 33	75	-13	3727	383.42	-1.88	-25.88
350	SLU 34	75	-5	3738	384.38	-1.87	-26.14
350	SLU 35	72	-24	3709	382.03	-1.87	-25.08
350	SLU 36	75	-13	3753	385.69	-1.89	-25.86
350	SLU 37	72	-23	3690	380.55	-1.86	-24.81
350	SLU 38	74	-12	3734	384.21	-1.88	-25.6
350	SLU 39	73	-24	3788	387.96	-1.88	-25.45
350	SLU 40	76	-13	3832	391.62	-1.9	-26.23
350	SLU 41	73	-24	3814	390.22	-1.9	-25.43
350	SLU 42	76	-13	3858	393.89	-1.92	-26.22
350	SLU 43	74	-23	3641	400.86	-1.84	-25.74
350	SLU 44	78	-4	3714	406.96	-1.88	-27.05
350	SLU 45	75	-23	3685	404.6	-1.88	-25.99
350	SLU 46	77	-12	3729	408.26	-1.9	-26.78
350	SLU 47	78	-4	3740	409.22	-1.9	-27.04
350	SLU 48	75	-23	3711	406.87	-1.9	-25.98
350	SLU 49	77	-12	3755	410.53	-1.92	-26.77
350	SLU 50	74	-22	3692	405.39	-1.88	-25.72
350	SLU 51	76	-11	3736	409.05	-1.9	-26.5
350	SLU 52	82	-6	4062	434.82	-2.03	-28.47
350	SLU 53	79	-25	4033	432.47	-2.03	-27.41
350	SLU 54	81	-13	4077	436.13	-2.05	-28.2
350	SLU 55	82	-6	4088	437.09	-2.05	-28.46
350	SLU 56	79	-24	4058	434.74	-2.04	-27.4
350	SLU 57	81	-13	4102	438.4	-2.07	-28.18
350	SLU 58	78	-24	4040	433.26	-2.03	-27.13
350	SLU 59	81	-13	4084	436.92	-2.05	-27.92
350	SLU 60	80	-25	4138	440.67	-2.05	-27.77
350	SLU 61	82	-14	4182	444.33	-2.08	-28.55
350	SLU 62	80	-25	4163	442.93	-2.07	-27.75
350	SLU 63	82	-14	4207	446.59	-2.09	-28.54
350	SLU 64	82	-27	4029	432.35	-2.05	-28.61
350	SLU 65	86	-8	4103	438.45	-2.08	-29.92
350	SLU 66	83	-27	4073	436.09	-2.08	-28.86
350	SLU 67	85	-16	4117	439.75	-2.1	-29.65
350	SLU 68	86	-8	4128	440.72	-2.1	-29.9
350	SLU 69	83	-27	4099	438.36	-2.1	-28.85
350	SLU 70	85	-15	4143	442.02	-2.12	-29.63
350	SLU 71	82	-26	4080	436.88	-2.08	-28.58
350	SLU 72	85	-15	4125	440.54	-2.1	-29.37
350	SLU 73	90	-10	4450	466.32	-2.23	-31.34
350	SLU 74	87	-28	4421	463.96	-2.23	-30.28
350	SLU 75	90	-17	4465	467.62	-2.25	-31.06
350	SLU 76	90	-9	4476	468.58	-2.25	-31.32
350	SLU 77	87	-28	4447	466.23	-2.25	-30.26
350	SLU 78	90	-17	4491	469.89	-2.27	-31.05
350	SLU 79	87	-27	4428	464.75	-2.23	-30
350	SLU 80	89	-16	4472	468.41	-2.25	-30.78
350	SLU 81	88	-29	4526	472.16	-2.26	-30.63
350	SLU 82	91	-18	4570	475.82	-2.28	-31.42
350	SLU 83	88	-28	4551	474.42	-2.27	-30.62
350	SLU 84	91	-17	4595	478.09	-2.3	-31.41
350	SLE RA 1	62	-20	3014	325.65	-1.53	-21.38
350	SLE RA 2	64	-7	3063	329.72	-1.55	-22.25
350	SLE RA 3	62	-20	3044	328.15	-1.55	-21.54
350	SLE RA 4	64	-12	3073	330.59	-1.57	-22.07
350	SLE RA 5	64	-7	3080	331.23	-1.57	-22.24
350	SLE RA 6	62	-20	3061	329.66	-1.56	-21.53
350	SLE RA 7	64	-12	3090	332.1	-1.58	-22.06
350	SLE RA 8	62	-19	3048	328.68	-1.55	-21.36
350	SLE RA 9	63	-12	3078	331.12	-1.57	-21.88
350	SLE RA 10	67	-8	3295	348.3	-1.65	-23.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
350	SLE RA 11	65	-21	3275	346.73	-1.65	-22.49
350	SLE RA 12	66	-13	3305	349.17	-1.66	-23.01
350	SLE RA 13	67	-8	3312	349.81	-1.66	-23.19
350	SLE RA 14	65	-21	3292	348.24	-1.66	-22.48
350	SLE RA 15	66	-13	3322	350.68	-1.68	-23
350	SLE RA 16	64	-20	3280	347.25	-1.65	-22.3
350	SLE RA 17	66	-13	3309	349.69	-1.67	-22.83
350	SLE RA 18	66	-21	3345	352.19	-1.67	-22.73
350	SLE RA 19	67	-14	3374	354.63	-1.68	-23.25
350	SLE RA 20	66	-21	3362	353.7	-1.68	-22.72
350	SLE RA 21	67	-13	3392	356.15	-1.7	-23.24
350	SLE FR 1	62	-20	3014	325.65	-1.53	-21.38
350	SLE FR 2	62	-17	3024	326.47	-1.53	-21.55
350	SLE FR 3	62	-20	3021	326.26	-1.53	-21.37
350	SLE FR 4	63	-18	3123	334.43	-1.58	-21.96
350	SLE FR 5	63	-20	3120	334.22	-1.58	-21.78
350	SLE FR 6	64	-20	3180	338.92	-1.6	-22.05
350	SLE QP 1	62	-20	3014	325.65	-1.53	-21.38
350	SLE QP 2	63	-20	3113	333.62	-1.57	-21.78
350	SLD 1	497	-21	3004	330.73	0.16	-173.96
350	SLD 2	570	50	3079	337.02	0.04	-199.12
350	SLD 3	442	-227	2087	255.58	0.78	-154.89
350	SLD 4	515	-156	2161	261.87	0.67	-180.05
350	SLD 5	264	280	4460	445.64	-1.98	-92.04
350	SLD 6	310	326	4508	449.69	-2.05	-108.24
350	SLD 7	81	-407	1401	195.15	0.1	-28.46
350	SLD 8	128	-362	1449	199.2	0.03	-44.66
350	SLD 9	-2	322	4778	468.03	-3.17	1.1
350	SLD 10	45	367	4826	472.08	-3.24	-15.11
350	SLD 11	-185	-366	1719	217.54	-1.09	64.68
350	SLD 12	-138	-321	1767	221.59	-1.16	48.47
350	SLD 13	-389	116	4066	405.36	-3.81	136.48
350	SLD 14	-317	187	4140	411.65	-3.92	111.32
350	SLD 15	-444	-90	3148	330.21	-3.18	155.56
350	SLD 16	-372	-19	3223	336.5	-3.3	130.4
350	SLV 1	746	-7	3010	334.54	1.08	-261.05
350	SLV 2	860	105	3127	344.45	0.9	-300.72
350	SLV 3	652	-359	1444	206.38	2.15	-228.49
350	SLV 4	766	-247	1561	216.3	1.97	-268.15
350	SLV 5	388	497	5434	526.41	-2.36	-135.55
350	SLV 6	465	572	5513	533.09	-2.48	-162.25
350	SLV 7	76	-676	217	99.23	1.19	-27.01
350	SLV 8	153	-601	296	105.9	1.07	-53.71
350	SLV 9	-28	561	5931	561.33	-4.22	10.14
350	SLV 10	49	636	6010	568.01	-4.34	-16.56
350	SLV 11	-340	-612	714	134.14	-0.66	118.69
350	SLV 12	-263	-537	792	140.82	-0.78	91.98
350	SLV 13	-641	207	4665	450.93	-5.11	224.59
350	SLV 14	-527	319	4783	460.85	-5.29	184.93
350	SLV 15	-734	-145	3100	322.78	-4.04	257.15
350	SLV 16	-620	-33	3217	332.69	-4.22	217.49
350	SLV FO 1	814	-6	2999	334.63	1.34	-284.98
350	SLV FO 2	940	118	3128	345.54	1.15	-328.61
350	SLV FO 3	711	-393	1277	193.66	2.52	-249.16
350	SLV FO 4	837	-270	1406	204.57	2.32	-292.79
350	SLV FO 5	421	548	5666	545.69	-2.44	-146.92
350	SLV FO 6	505	631	5753	553.03	-2.57	-176.3
350	SLV FO 7	78	-742	-73	75.79	1.47	-27.53
350	SLV FO 8	162	-659	14	83.13	1.34	-56.9
350	SLV FO 9	-37	619	6213	584.1	-4.48	13.34
350	SLV FO 10	48	702	6300	591.44	-4.61	-16.03
350	SLV FO 11	-380	-671	474	114.2	-0.57	132.73
350	SLV FO 12	-295	-588	560	121.54	-0.7	103.36
350	SLV FO 13	-711	230	4821	462.66	-5.46	249.23
350	SLV FO 14	-585	353	4949	473.57	-5.66	205.6
350	SLV FO 15	-814	-158	3099	321.69	-4.29	285.05
350	SLV FO 16	-688	-34	3228	332.6	-4.49	241.42
350	CRTFP Ux+	0	0	0	0	0	0
350	CRTFP Ux-	0	0	0	0	0	0
350	CRTFP Uy+	0	0	0	0	0	0
350	CRTFP Uy-	0	0	0	0	0	0
351	SLU 1	61	-12	2980	351.49	-3.51	-21.06
351	SLU 2	65	7	3055	358.25	-3.59	-22.35
351	SLU 3	62	-12	3026	355.95	-3.59	-21.33
351	SLU 4	64	-1	3071	360.01	-3.64	-22.1
351	SLU 5	65	7	3082	360.93	-3.64	-22.35
351	SLU 6	62	-12	3052	358.63	-3.63	-21.32
351	SLU 7	64	0	3097	362.68	-3.68	-22.1
351	SLU 8	61	-11	3033	356.85	-3.6	-21.05
351	SLU 9	63	0	3078	360.9	-3.65	-21.83
351	SLU 10	69	6	3411	390.34	-4.01	-23.82
351	SLU 11	66	-13	3382	388.04	-4	-22.8
351	SLU 12	68	-2	3427	392.09	-4.05	-23.57
351	SLU 13	69	6	3438	393.01	-4.05	-23.82
351	SLU 14	66	-12	3408	390.72	-4.05	-22.79
351	SLU 15	68	-1	3453	394.77	-4.09	-23.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
351	SLU 16	65	-12	3389	388.94	-4.01	-22.52
351	SLU 17	67	-1	3434	392.99	-4.06	-23.3
351	SLU 18	67	-13	3489	397.33	-4.11	-23.16
351	SLU 19	69	-2	3534	401.38	-4.16	-23.93
351	SLU 20	67	-13	3515	400.01	-4.15	-23.16
351	SLU 21	69	-1	3560	404.06	-4.2	-23.93
351	SLU 22	69	-15	3379	388.05	-4.02	-23.99
351	SLU 23	73	3	3454	394.81	-4.1	-25.28
351	SLU 24	70	-15	3425	392.51	-4.1	-24.26
351	SLU 25	72	-4	3470	396.56	-4.15	-25.03
351	SLU 26	73	4	3481	397.48	-4.15	-25.28
351	SLU 27	70	-15	3451	395.19	-4.14	-24.25
351	SLU 28	72	-4	3496	399.24	-4.19	-25.03
351	SLU 29	69	-14	3432	393.41	-4.11	-23.98
351	SLU 30	72	-3	3477	397.46	-4.16	-24.76
351	SLU 31	77	3	3810	426.89	-4.52	-26.75
351	SLU 32	74	-16	3781	424.6	-4.52	-25.73
351	SLU 33	77	-5	3826	428.65	-4.56	-26.5
351	SLU 34	77	3	3837	429.57	-4.56	-26.75
351	SLU 35	74	-16	3807	427.28	-4.56	-25.72
351	SLU 36	77	-4	3853	431.33	-4.61	-26.5
351	SLU 37	74	-15	3788	425.5	-4.53	-25.45
351	SLU 38	76	-4	3833	429.55	-4.57	-26.23
351	SLU 39	75	-17	3888	433.89	-4.62	-26.09
351	SLU 40	78	-5	3933	437.94	-4.67	-26.86
351	SLU 41	75	-16	3914	436.57	-4.66	-26.09
351	SLU 42	78	-5	3959	440.62	-4.71	-26.86
351	SLU 43	76	-15	3737	444.4	-4.39	-26.37
351	SLU 44	80	4	3812	451.16	-4.47	-27.67
351	SLU 45	77	-15	3783	448.86	-4.47	-26.64
351	SLU 46	79	-3	3828	452.92	-4.51	-27.42
351	SLU 47	80	5	3839	453.84	-4.51	-27.66
351	SLU 48	77	-14	3809	451.54	-4.51	-26.64
351	SLU 49	79	-3	3854	455.6	-4.56	-27.42
351	SLU 50	76	-14	3790	449.76	-4.48	-26.37
351	SLU 51	78	-2	3835	453.81	-4.52	-27.14
351	SLU 52	84	3	4168	483.25	-4.89	-29.14
351	SLU 53	81	-15	4139	480.95	-4.88	-28.11
351	SLU 54	83	-4	4184	485.01	-4.93	-28.89
351	SLU 55	84	4	4195	485.93	-4.93	-29.13
351	SLU 56	81	-15	4165	483.63	-4.92	-28.11
351	SLU 57	83	-4	4210	487.69	-4.97	-28.88
351	SLU 58	80	-14	4146	481.85	-4.89	-27.84
351	SLU 59	83	-3	4191	485.9	-4.94	-28.61
351	SLU 60	82	-16	4246	490.24	-4.99	-28.47
351	SLU 61	85	-4	4291	494.3	-5.04	-29.25
351	SLU 62	82	-15	4272	492.92	-5.03	-28.47
351	SLU 63	85	-4	4317	496.98	-5.08	-29.25
351	SLU 64	85	-18	4136	480.96	-4.9	-29.3
351	SLU 65	88	1	4211	487.72	-4.98	-30.6
351	SLU 66	85	-18	4182	485.42	-4.98	-29.57
351	SLU 67	88	-7	4227	489.48	-5.02	-30.35
351	SLU 68	88	1	4238	490.4	-5.03	-30.59
351	SLU 69	85	-17	4208	488.1	-5.02	-29.57
351	SLU 70	88	-6	4253	492.16	-5.07	-30.35
351	SLU 71	85	-17	4189	486.32	-4.99	-29.3
351	SLU 72	87	-6	4234	490.37	-5.04	-30.07
351	SLU 73	93	0	4567	519.81	-5.4	-32.07
351	SLU 74	90	-19	4538	517.51	-5.39	-31.04
351	SLU 75	92	-7	4583	521.57	-5.44	-31.82
351	SLU 76	93	1	4594	522.49	-5.44	-32.06
351	SLU 77	90	-18	4565	520.19	-5.44	-31.04
351	SLU 78	92	-7	4610	524.24	-5.48	-31.81
351	SLU 79	89	-18	4545	518.41	-5.4	-30.77
351	SLU 80	91	-6	4590	522.46	-5.45	-31.54
351	SLU 81	91	-19	4645	526.8	-5.5	-31.4
351	SLU 82	93	-8	4690	530.86	-5.55	-32.18
351	SLU 83	91	-18	4671	529.48	-5.54	-31.4
351	SLU 84	93	-7	4717	533.54	-5.59	-32.18
351	SLE RA 1	63	-13	3094	361.93	-3.66	-21.9
351	SLE RA 2	66	-1	3144	366.44	-3.71	-22.76
351	SLE RA 3	64	-13	3124	364.91	-3.71	-22.07
351	SLE RA 4	65	-6	3154	367.61	-3.74	-22.59
351	SLE RA 5	66	0	3162	368.23	-3.74	-22.76
351	SLE RA 6	64	-13	3142	366.7	-3.74	-22.07
351	SLE RA 7	65	-5	3172	369.4	-3.77	-22.59
351	SLE RA 8	63	-12	3129	365.51	-3.71	-21.89
351	SLE RA 9	65	-5	3159	368.21	-3.75	-22.41
351	SLE RA 10	69	-1	3381	387.83	-3.99	-23.74
351	SLE RA 11	67	-14	3362	386.3	-3.99	-23.05
351	SLE RA 12	68	-6	3392	389	-4.02	-23.57
351	SLE RA 13	69	-1	3399	389.62	-4.02	-23.74
351	SLE RA 14	67	-13	3379	388.09	-4.01	-23.05
351	SLE RA 15	68	-6	3410	390.79	-4.05	-23.57
351	SLE RA 16	66	-13	3367	386.9	-3.99	-22.87
351	SLE RA 17	68	-5	3397	389.6	-4.03	-23.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
351	SLE RA 18	67	-14	3433	392.49	-4.06	-23.29
351	SLE RA 19	69	-6	3463	395.2	-4.09	-23.81
351	SLE RA 20	67	-13	3451	394.28	-4.08	-23.29
351	SLE RA 21	69	-6	3481	396.98	-4.12	-23.81
351	SLE FR 1	63	-13	3094	361.93	-3.66	-21.9
351	SLE FR 2	64	-11	3104	362.84	-3.67	-22.07
351	SLE FR 3	63	-13	3101	362.65	-3.67	-21.89
351	SLE FR 4	65	-11	3206	372	-3.79	-22.49
351	SLE FR 5	64	-13	3203	371.82	-3.79	-22.31
351	SLE FR 6	65	-13	3263	377.21	-3.86	-22.59
351	SLE QP 1	63	-13	3094	361.93	-3.66	-21.9
351	SLE QP 2	64	-13	3196	371.1	-3.78	-22.32
351	SLD 1	498	-19	3031	350.76	-1.89	-174.14
351	SLD 2	570	59	3110	358.26	-2.07	-199.26
351	SLD 3	442	-231	2083	265.54	-0.56	-154.85
351	SLD 4	515	-153	2162	273.04	-0.74	-179.97
351	SLD 5	267	293	4570	492.96	-5.2	-92.8
351	SLD 6	313	343	4621	497.79	-5.32	-108.98
351	SLD 7	81	-413	1411	208.89	-0.76	-28.5
351	SLD 8	127	-363	1462	213.72	-0.88	-44.68
351	SLD 9	1	337	4929	528.48	-6.68	0.05
351	SLD 10	48	387	4980	533.31	-6.79	-16.13
351	SLD 11	-184	-369	1770	244.41	-2.24	64.35
351	SLD 12	-138	-320	1821	249.24	-2.36	48.17
351	SLD 13	-386	127	4229	469.17	-6.82	135.34
351	SLD 14	-313	204	4308	476.66	-7	110.22
351	SLD 15	-441	-85	3281	383.94	-5.49	154.63
351	SLD 16	-369	-8	3360	391.44	-5.67	129.51
351	SLV 1	746	-7	3007	345.53	-0.93	-261.06
351	SLV 2	860	115	3132	357.35	-1.21	-300.65
351	SLV 3	651	-369	1391	200.19	1.34	-228.13
351	SLV 4	765	-247	1515	212.01	1.06	-267.72
351	SLV 5	392	514	5568	581.65	-6.32	-136.5
351	SLV 6	469	596	5651	589.61	-6.51	-163.15
351	SLV 7	75	-691	179	97.2	1.26	-26.73
351	SLV 8	152	-609	263	105.15	1.07	-53.38
351	SLV 9	-23	582	6128	637.05	-8.62	8.75
351	SLV 10	54	664	6212	645.01	-8.81	-17.9
351	SLV 11	-340	-622	740	152.59	-1.05	118.52
351	SLV 12	-263	-540	823	160.55	-1.24	91.87
351	SLV 13	-636	220	4876	530.19	-8.62	223.09
351	SLV 14	-522	342	5000	542.01	-8.9	183.5
351	SLV 15	-731	-141	3259	384.86	-6.35	256.02
351	SLV 16	-617	-19	3384	396.68	-6.63	216.43
351	SLV FO 1	814	-7	2989	342.97	-0.64	-284.94
351	SLV FO 2	940	127	3125	355.97	-0.95	-328.49
351	SLV FO 3	710	-404	1210	183.1	1.86	-248.71
351	SLV FO 4	835	-270	1347	196.1	1.55	-292.26
351	SLV FO 5	425	567	5805	602.71	-6.57	-147.91
351	SLV FO 6	509	657	5897	611.46	-6.78	-177.23
351	SLV FO 7	76	-758	-122	69.8	1.76	-27.17
351	SLV FO 8	160	-668	-30	78.56	1.55	-56.49
351	SLV FO 9	-31	642	6421	663.65	-9.11	11.86
351	SLV FO 10	53	732	6514	672.4	-9.32	-17.46
351	SLV FO 11	-380	-683	494	130.74	-0.78	132.6
351	SLV FO 12	-296	-593	586	139.5	-0.99	103.28
351	SLV FO 13	-706	243	5044	546.1	-9.1	247.63
351	SLV FO 14	-581	378	5181	559.1	-9.41	204.08
351	SLV FO 15	-811	-154	3266	386.23	-6.61	283.86
351	SLV FO 16	-685	-20	3403	399.23	-6.91	240.31
351	CRTFP Ux+	0	0	0	0	0	0
351	CRTFP Ux-	0	0	0	0	0	0
351	CRTFP Uy+	0	0	0	0	0	0
351	CRTFP Uy-	0	0	0	0	0	0
352	SLU 1	62	-5	3122	433.27	-5.71	-21.47
352	SLU 2	66	15	3200	441.76	-5.84	-22.75
352	SLU 3	63	-4	3170	439.34	-5.83	-21.75
352	SLU 4	65	7	3218	444.43	-5.91	-22.52
352	SLU 5	66	15	3228	445.38	-5.91	-22.76
352	SLU 6	63	-4	3199	442.96	-5.9	-21.76
352	SLU 7	65	8	3246	448.05	-5.97	-22.53
352	SLU 8	62	-3	3178	440.51	-5.85	-21.49
352	SLU 9	64	8	3225	445.6	-5.92	-22.26
352	SLU 10	70	15	3574	484.3	-6.55	-24.26
352	SLU 11	67	-4	3544	481.88	-6.54	-23.27
352	SLU 12	70	7	3591	486.97	-6.61	-24.03
352	SLU 13	70	15	3602	487.92	-6.62	-24.27
352	SLU 14	67	-4	3572	485.5	-6.6	-23.27
352	SLU 15	70	8	3619	490.59	-6.68	-24.04
352	SLU 16	67	-3	3552	483.05	-6.56	-23
352	SLU 17	69	8	3599	488.14	-6.63	-23.77
352	SLU 18	68	-5	3655	494.05	-6.72	-23.63
352	SLU 19	71	7	3702	499.14	-6.8	-24.4
352	SLU 20	68	-4	3684	497.67	-6.79	-23.64
352	SLU 21	71	8	3731	502.76	-6.87	-24.41
352	SLU 22	71	-7	3542	482.04	-6.56	-24.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
352	SLU 23	74	12	3620	490.53	-6.69	-25.73
352	SLU 24	72	-7	3591	488.11	-6.67	-24.73
352	SLU 25	74	5	3638	493.2	-6.75	-25.5
352	SLU 26	74	13	3648	494.14	-6.75	-25.74
352	SLU 27	72	-6	3619	491.72	-6.74	-24.74
352	SLU 28	74	5	3666	496.82	-6.82	-25.51
352	SLU 29	71	-6	3598	489.28	-6.69	-24.47
352	SLU 30	73	6	3645	494.37	-6.77	-25.24
352	SLU 31	79	12	3994	533.07	-7.39	-27.24
352	SLU 32	76	-7	3964	530.65	-7.38	-26.25
352	SLU 33	78	4	4011	535.74	-7.46	-27.02
352	SLU 34	79	13	4022	536.69	-7.46	-27.25
352	SLU 35	76	-6	3992	534.27	-7.45	-26.25
352	SLU 36	78	5	4039	539.36	-7.53	-27.02
352	SLU 37	75	-6	3972	531.82	-7.4	-25.98
352	SLU 38	77	6	4019	536.91	-7.48	-26.75
352	SLU 39	77	-7	4075	542.82	-7.57	-26.61
352	SLU 40	79	4	4122	547.91	-7.65	-27.38
352	SLU 41	77	-7	4104	546.43	-7.64	-26.62
352	SLU 42	79	5	4151	551.53	-7.71	-27.39
352	SLU 43	78	-5	3914	546.54	-7.14	-26.89
352	SLU 44	81	14	3993	555.02	-7.26	-28.17
352	SLU 45	79	-5	3963	552.6	-7.25	-27.17
352	SLU 46	81	7	4010	557.69	-7.33	-27.94
352	SLU 47	82	15	4021	558.64	-7.33	-28.18
352	SLU 48	79	-4	3991	556.22	-7.32	-27.18
352	SLU 49	81	8	4038	561.31	-7.4	-27.95
352	SLU 50	78	-4	3971	553.77	-7.27	-26.9
352	SLU 51	80	8	4018	558.86	-7.35	-27.67
352	SLU 52	86	14	4366	597.57	-7.97	-29.68
352	SLU 53	83	-5	4336	595.15	-7.96	-28.68
352	SLU 54	85	7	4384	600.24	-8.04	-29.45
352	SLU 55	86	15	4394	601.18	-8.04	-29.69
352	SLU 56	83	-4	4365	598.76	-8.03	-28.69
352	SLU 57	85	7	4412	603.86	-8.11	-29.46
352	SLU 58	82	-4	4344	596.32	-7.98	-28.42
352	SLU 59	84	8	4391	601.41	-8.06	-29.19
352	SLU 60	84	-5	4448	607.31	-8.15	-29.05
352	SLU 61	86	6	4495	612.4	-8.23	-29.82
352	SLU 62	84	-4	4476	610.93	-8.22	-29.06
352	SLU 63	86	7	4523	616.02	-8.29	-29.82
352	SLU 64	86	-8	4334	595.3	-7.98	-29.87
352	SLU 65	90	12	4413	603.79	-8.11	-31.15
352	SLU 66	87	-7	4383	601.37	-8.1	-30.15
352	SLU 67	89	4	4430	606.46	-8.17	-30.92
352	SLU 68	90	12	4441	607.41	-8.18	-31.16
352	SLU 69	87	-7	4411	604.99	-8.16	-30.16
352	SLU 70	89	5	4458	610.08	-8.24	-30.93
352	SLU 71	86	-6	4391	602.54	-8.12	-29.89
352	SLU 72	89	5	4438	607.63	-8.19	-30.66
352	SLU 73	94	12	4786	646.33	-8.82	-32.66
352	SLU 74	92	-8	4757	643.91	-8.81	-31.67
352	SLU 75	94	4	4804	649	-8.88	-32.43
352	SLU 76	95	12	4815	649.95	-8.89	-32.67
352	SLU 77	92	-7	4785	647.53	-8.87	-31.67
352	SLU 78	94	5	4832	652.62	-8.95	-32.44
352	SLU 79	91	-6	4764	645.08	-8.82	-31.4
352	SLU 80	93	5	4811	650.17	-8.9	-32.17
352	SLU 81	93	-8	4868	656.08	-8.99	-32.03
352	SLU 82	95	4	4915	661.17	-9.07	-32.8
352	SLU 83	93	-7	4896	659.7	-9.06	-32.04
352	SLU 84	95	4	4943	664.79	-9.14	-32.81
352	SLE RA 1	65	-5	3242	447.21	-5.95	-22.32
352	SLE RA 2	67	8	3294	452.86	-6.04	-23.18
352	SLE RA 3	65	-5	3274	451.25	-6.03	-22.51
352	SLE RA 4	67	3	3306	454.65	-6.08	-23.02
352	SLE RA 5	67	8	3313	455.28	-6.08	-23.18
352	SLE RA 6	65	-5	3293	453.66	-6.08	-22.52
352	SLE RA 7	67	3	3324	457.06	-6.13	-23.03
352	SLE RA 8	65	-4	3279	452.03	-6.04	-22.33
352	SLE RA 9	66	3	3311	455.43	-6.09	-22.85
352	SLE RA 10	70	7	3543	481.23	-6.51	-24.18
352	SLE RA 11	68	-5	3523	479.61	-6.5	-23.52
352	SLE RA 12	70	2	3555	483.01	-6.55	-24.03
352	SLE RA 13	70	8	3562	483.64	-6.56	-24.19
352	SLE RA 14	68	-5	3542	482.03	-6.55	-23.52
352	SLE RA 15	70	3	3573	485.42	-6.6	-24.04
352	SLE RA 16	68	-4	3528	480.39	-6.52	-23.34
352	SLE RA 17	69	3	3560	483.79	-6.57	-23.85
352	SLE RA 18	69	-5	3597	487.72	-6.63	-23.76
352	SLE RA 19	70	2	3629	491.12	-6.68	-24.27
352	SLE RA 20	69	-5	3616	490.14	-6.67	-23.77
352	SLE RA 21	70	3	3648	493.53	-6.72	-24.28
352	SLE FR 1	65	-5	3242	447.21	-5.95	-22.32
352	SLE FR 2	65	-3	3252	448.34	-5.97	-22.49
352	SLE FR 3	65	-5	3249	448.17	-5.97	-22.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
352	SLE FR 4	66	-3	3359	460.49	-6.17	-22.92
352	SLE FR 5	66	-5	3356	460.33	-6.17	-22.76
352	SLE FR 6	67	-5	3420	467.47	-6.29	-23.04
352	SLE QP 1	65	-5	3242	447.21	-5.95	-22.32
352	SLE QP 2	66	-5	3348	459.36	-6.16	-22.75
352	SLD 1	498	-16	3123	417.91	-4.05	-174.2
352	SLD 2	571	69	3208	428.01	-4.3	-199.27
352	SLD 3	442	-237	2122	307.2	-1.96	-154.73
352	SLD 4	514	-152	2208	317.29	-2.21	-179.8
352	SLD 5	269	312	4783	613.11	-8.65	-93.41
352	SLD 6	315	366	4838	619.61	-8.81	-109.55
352	SLD 7	80	-424	1449	244.06	-1.69	-28.5
352	SLD 8	127	-369	1504	250.56	-1.85	-44.65
352	SLD 9	5	359	5193	668.17	-10.46	-0.86
352	SLD 10	51	413	5248	674.67	-10.62	-17
352	SLD 11	-184	-377	1859	299.11	-3.51	64.05
352	SLD 12	-137	-322	1914	305.61	-3.66	47.9
352	SLD 13	-383	141	4489	601.43	-10.1	134.29
352	SLD 14	-310	226	4575	611.53	-10.35	109.22
352	SLD 15	-439	-79	3489	490.72	-8.02	153.76
352	SLD 16	-367	5	3574	500.81	-8.26	128.69
352	SLV 1	746	-7	3068	402.7	-3.02	-260.91
352	SLV 2	860	127	3203	418.61	-3.41	-300.43
352	SLV 3	650	-383	1362	213.87	0.54	-227.67
352	SLV 4	764	-249	1497	229.78	0.15	-267.19
352	SLV 5	395	540	5827	725.79	-10.54	-137.24
352	SLV 6	472	630	5918	736.51	-10.81	-163.85
352	SLV 7	73	-714	140	96.34	1.33	-26.44
352	SLV 8	150	-624	230	107.06	1.07	-53.04
352	SLV 9	-18	614	6467	811.66	-13.38	7.54
352	SLV 10	58	704	6557	822.38	-13.64	-19.07
352	SLV 11	-340	-641	779	182.22	-1.51	118.34
352	SLV 12	-263	-551	870	192.93	-1.77	91.74
352	SLV 13	-632	239	5200	688.94	-12.46	221.69
352	SLV 14	-518	372	5335	704.86	-12.85	182.16
352	SLV 15	-729	-137	3494	500.11	-8.9	254.93
352	SLV 16	-615	-4	3629	516.03	-9.29	215.41
352	SLV FO 1	814	-7	3040	397.03	-2.71	-284.73
352	SLV FO 2	940	140	3188	414.54	-3.13	-328.2
352	SLV FO 3	708	-421	1163	189.32	1.21	-248.16
352	SLV FO 4	834	-274	1311	206.82	0.78	-291.64
352	SLV FO 5	428	595	6075	752.43	-10.98	-148.69
352	SLV FO 6	512	693	6175	764.22	-11.27	-177.96
352	SLV FO 7	74	-785	-181	60.04	2.08	-26.8
352	SLV FO 8	158	-686	-82	71.83	1.79	-56.07
352	SLV FO 9	-27	676	6779	846.9	-14.1	10.57
352	SLV FO 10	58	774	6878	858.68	-14.39	-18.7
352	SLV FO 11	-381	-704	522	154.5	-1.04	132.45
352	SLV FO 12	-296	-605	622	166.29	-1.33	103.19
352	SLV FO 13	-702	263	5385	711.9	-13.09	246.13
352	SLV FO 14	-576	410	5534	729.41	-13.52	202.66
352	SLV FO 15	-808	-151	3509	504.18	-9.18	282.7
352	SLV FO 16	-683	-4	3657	521.69	-9.61	239.22
352	CRTFP Ux+	0	0	0	0	0	0
352	CRTFP Ux-	0	0	0	0	0	0
352	CRTFP Uy+	0	0	0	0	0	0
352	CRTFP Uy-	0	0	0	0	0	0
353	SLU 1	63	4	3334	566.07	-8.05	-21.79
353	SLU 2	67	24	3417	577.47	-8.23	-23.06
353	SLU 3	64	4	3387	574.71	-8.21	-22.09
353	SLU 4	66	16	3437	581.55	-8.32	-22.85
353	SLU 5	67	25	3448	582.6	-8.33	-23.08
353	SLU 6	64	5	3418	579.83	-8.31	-22.1
353	SLU 7	66	17	3467	586.67	-8.42	-22.87
353	SLU 8	63	6	3395	576.32	-8.24	-21.82
353	SLU 9	65	18	3445	583.16	-8.35	-22.59
353	SLU 10	71	25	3817	637.24	-9.25	-24.6
353	SLU 11	68	5	3787	634.47	-9.23	-23.63
353	SLU 12	71	17	3837	641.31	-9.34	-24.39
353	SLU 13	71	26	3848	642.36	-9.34	-24.62
353	SLU 14	69	6	3818	639.6	-9.32	-23.65
353	SLU 15	71	18	3868	646.44	-9.43	-24.41
353	SLU 16	68	7	3795	636.09	-9.26	-23.37
353	SLU 17	70	19	3845	642.93	-9.37	-24.13
353	SLU 18	70	5	3905	651.45	-9.5	-23.99
353	SLU 19	72	17	3955	658.29	-9.61	-24.76
353	SLU 20	70	6	3936	656.58	-9.6	-24.01
353	SLU 21	72	18	3986	663.42	-9.71	-24.77
353	SLU 22	72	2	3785	634.81	-9.25	-24.81
353	SLU 23	75	22	3869	646.21	-9.43	-26.08
353	SLU 24	73	2	3838	643.44	-9.41	-25.1
353	SLU 25	75	14	3888	650.28	-9.52	-25.87
353	SLU 26	76	23	3899	651.34	-9.53	-26.1
353	SLU 27	73	3	3869	648.57	-9.51	-25.12
353	SLU 28	75	15	3919	655.41	-9.62	-25.88
353	SLU 29	72	4	3847	645.06	-9.44	-24.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
353	SLU 30	74	16	3897	651.9	-9.55	-25.6
353	SLU 31	80	23	4269	705.98	-10.45	-27.62
353	SLU 32	77	3	4239	703.21	-10.43	-26.65
353	SLU 33	79	15	4289	710.05	-10.54	-27.41
353	SLU 34	80	24	4299	711.1	-10.55	-27.64
353	SLU 35	77	4	4269	708.33	-10.53	-26.67
353	SLU 36	79	16	4319	715.18	-10.63	-27.43
353	SLU 37	76	5	4247	704.83	-10.46	-26.39
353	SLU 38	79	17	4297	711.67	-10.57	-27.15
353	SLU 39	78	3	4357	720.19	-10.71	-27.01
353	SLU 40	80	15	4407	727.03	-10.81	-27.77
353	SLU 41	78	4	4388	725.32	-10.8	-27.03
353	SLU 42	80	16	4438	732.16	-10.91	-27.79
353	SLU 43	79	6	4179	712.33	-10.06	-27.29
353	SLU 44	83	26	4262	723.73	-10.24	-28.56
353	SLU 45	80	6	4232	720.96	-10.22	-27.59
353	SLU 46	82	18	4282	727.8	-10.33	-28.35
353	SLU 47	83	27	4293	728.85	-10.33	-28.58
353	SLU 48	80	7	4263	726.09	-10.31	-27.6
353	SLU 49	82	19	4313	732.93	-10.42	-28.37
353	SLU 50	79	8	4241	722.58	-10.24	-27.32
353	SLU 51	81	20	4290	729.42	-10.35	-28.09
353	SLU 52	87	27	4662	783.49	-11.25	-30.1
353	SLU 53	84	7	4632	780.73	-11.23	-29.13
353	SLU 54	87	19	4682	787.57	-11.34	-29.89
353	SLU 55	87	27	4693	788.62	-11.35	-30.12
353	SLU 56	84	8	4663	785.85	-11.33	-29.15
353	SLU 57	87	20	4713	792.69	-11.44	-29.91
353	SLU 58	84	9	4641	782.34	-11.26	-28.87
353	SLU 59	86	20	4691	789.18	-11.37	-29.63
353	SLU 60	85	7	4751	797.71	-11.51	-29.49
353	SLU 61	88	19	4801	804.55	-11.62	-30.26
353	SLU 62	86	8	4781	802.83	-11.6	-29.51
353	SLU 63	88	20	4831	809.67	-11.71	-30.27
353	SLU 64	88	4	4631	781.06	-11.26	-30.31
353	SLU 65	91	24	4714	792.46	-11.44	-31.58
353	SLU 66	89	4	4684	789.7	-11.42	-30.61
353	SLU 67	91	16	4734	796.54	-11.53	-31.37
353	SLU 68	91	25	4745	797.59	-11.53	-31.6
353	SLU 69	89	5	4714	794.82	-11.51	-30.62
353	SLU 70	91	17	4764	801.66	-11.62	-31.39
353	SLU 71	88	6	4692	791.31	-11.44	-30.34
353	SLU 72	90	18	4742	798.16	-11.55	-31.11
353	SLU 73	96	25	5114	852.23	-12.46	-33.12
353	SLU 74	93	5	5084	849.46	-12.43	-32.15
353	SLU 75	95	17	5134	856.3	-12.54	-32.91
353	SLU 76	96	26	5145	857.36	-12.55	-33.14
353	SLU 77	93	6	5115	854.59	-12.53	-32.17
353	SLU 78	95	18	5165	861.43	-12.64	-32.93
353	SLU 79	92	7	5092	851.08	-12.46	-31.89
353	SLU 80	95	18	5142	857.92	-12.57	-32.65
353	SLU 81	94	5	5202	866.44	-12.71	-32.51
353	SLU 82	96	17	5252	873.28	-12.82	-33.28
353	SLU 83	94	6	5233	871.57	-12.8	-32.53
353	SLU 84	96	18	5283	878.41	-12.91	-33.29
353	SLE RA 1	66	3	3463	585.71	-8.39	-22.65
353	SLE RA 2	68	17	3518	593.31	-8.52	-23.5
353	SLE RA 3	66	4	3498	591.47	-8.5	-22.85
353	SLE RA 4	68	12	3531	596.03	-8.57	-23.36
353	SLE RA 5	68	17	3539	596.73	-8.58	-23.51
353	SLE RA 6	66	4	3519	594.88	-8.56	-22.86
353	SLE RA 7	68	12	3552	599.44	-8.64	-23.37
353	SLE RA 8	66	5	3504	592.54	-8.52	-22.67
353	SLE RA 9	67	13	3537	597.11	-8.59	-23.18
353	SLE RA 10	71	17	3785	633.16	-9.19	-24.53
353	SLE RA 11	69	4	3765	631.31	-9.18	-23.88
353	SLE RA 12	71	12	3798	635.87	-9.25	-24.39
353	SLE RA 13	71	18	3806	636.57	-9.26	-24.54
353	SLE RA 14	69	5	3785	634.73	-9.24	-23.89
353	SLE RA 15	71	13	3819	639.29	-9.32	-24.4
353	SLE RA 16	69	5	3771	632.39	-9.2	-23.7
353	SLE RA 17	70	13	3804	636.95	-9.27	-24.21
353	SLE RA 18	70	4	3844	642.63	-9.36	-24.12
353	SLE RA 19	71	12	3877	647.19	-9.44	-24.63
353	SLE RA 20	70	5	3864	646.05	-9.43	-24.13
353	SLE RA 21	71	13	3898	650.61	-9.5	-24.64
353	SLE FR 1	66	3	3463	585.71	-8.39	-22.65
353	SLE FR 2	66	6	3474	587.23	-8.42	-22.82
353	SLE FR 3	66	4	3471	587.08	-8.42	-22.66
353	SLE FR 4	67	6	3588	604.31	-8.71	-23.26
353	SLE FR 5	67	4	3585	604.15	-8.71	-23.1
353	SLE FR 6	68	4	3653	614.17	-8.88	-23.39
353	SLE QP 1	66	3	3463	585.71	-8.39	-22.65
353	SLE QP 2	67	4	3577	602.79	-8.69	-23.09
353	SLD 1	499	-12	3282	535.39	-6.3	-174.12
353	SLD 2	571	81	3376	549.6	-6.62	-199.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
353	SLD 3	441	-245	2205	382.52	-3.43	-154.5
353	SLD 4	514	-152	2299	396.73	-3.75	-179.53
353	SLD 5	271	335	5106	811.97	-12.28	-93.86
353	SLD 6	317	395	5166	821.12	-12.49	-109.98
353	SLD 7	80	-439	1516	302.42	-2.69	-28.44
353	SLD 8	127	-379	1577	311.57	-2.89	-44.56
353	SLD 9	7	386	5578	894.01	-14.48	-1.62
353	SLD 10	54	446	5638	903.16	-14.68	-17.74
353	SLD 11	-184	-388	1988	384.45	-4.88	63.8
353	SLD 12	-137	-328	2049	393.6	-5.09	47.68
353	SLD 13	-380	159	4855	808.84	-13.63	133.35
353	SLD 14	-308	252	4949	823.05	-13.94	108.31
353	SLD 15	-437	-73	3778	655.98	-10.75	152.97
353	SLD 16	-365	20	3872	670.18	-11.07	127.94
353	SLV 1	746	-5	3195	508.69	-5.18	-260.62
353	SLV 2	860	141	3343	531.09	-5.68	-300.08
353	SLV 3	648	-401	1358	247.95	-0.27	-227.11
353	SLV 4	762	-255	1506	270.34	-0.77	-266.57
353	SLV 5	397	574	6221	965.84	-14.99	-137.81
353	SLV 6	474	673	6321	980.92	-15.33	-164.37
353	SLV 7	72	-746	98	96.69	1.38	-26.11
353	SLV 8	149	-647	198	111.77	1.04	-52.68
353	SLV 9	-15	655	6957	1093.8	-18.41	6.5
353	SLV 10	62	753	7056	1108.88	-18.75	-20.07
353	SLV 11	-341	-666	834	224.66	-2.04	118.19
353	SLV 12	-264	-567	934	239.73	-2.38	91.63
353	SLV 13	-628	262	5648	935.23	-16.6	220.39
353	SLV 14	-514	409	5796	957.63	-17.1	180.93
353	SLV 15	-726	-134	3811	674.49	-11.69	253.9
353	SLV 16	-612	12	3959	696.88	-12.19	214.44
353	SLV FO 1	814	-6	3157	499.28	-4.83	-284.37
353	SLV FO 2	939	155	3320	523.92	-5.38	-327.78
353	SLV FO 3	706	-442	1136	212.46	0.57	-247.52
353	SLV FO 4	832	-281	1299	237.1	0.02	-290.92
353	SLV FO 5	431	632	6485	1002.14	-15.62	-149.28
353	SLV FO 6	515	740	6595	1018.73	-15.99	-178.5
353	SLV FO 7	72	-821	-250	46.09	2.39	-26.42
353	SLV FO 8	157	-713	-140	62.67	2.02	-55.64
353	SLV FO 9	-23	720	7295	1142.9	-19.39	9.45
353	SLV FO 10	61	828	7404	1159.49	-19.76	-19.77
353	SLV FO 11	-381	-733	559	186.84	-1.38	132.32
353	SLV FO 12	-297	-624	669	203.43	-1.75	103.1
353	SLV FO 13	-698	288	5855	968.47	-17.39	244.74
353	SLV FO 14	-573	449	6018	993.11	-17.94	201.33
353	SLV FO 15	-805	-148	3834	681.66	-11.99	281.6
353	SLV FO 16	-680	13	3998	706.29	-12.54	238.19
353	CRTFP Ux+	0	0	0	0	0	0
353	CRTFP Ux-	0	0	0	0	0	0
353	CRTFP Uy+	0	0	0	0	0	0
353	CRTFP Uy-	0	0	0	0	0	0
354	SLU 1	64	13	3619	753.23	-10.47	-22.01
354	SLU 2	67	34	3709	768.82	-10.71	-23.28
354	SLU 3	65	14	3678	765.46	-10.68	-22.32
354	SLU 4	67	27	3732	774.81	-10.82	-23.08
354	SLU 5	68	35	3743	776.06	-10.83	-23.3
354	SLU 6	65	15	3712	772.7	-10.8	-22.35
354	SLU 7	67	28	3766	782.05	-10.94	-23.11
354	SLU 8	64	16	3688	767.71	-10.71	-22.06
354	SLU 9	66	28	3741	777.06	-10.85	-22.82
354	SLU 10	72	36	4146	853.02	-12.04	-24.84
354	SLU 11	69	16	4115	849.65	-12.01	-23.89
354	SLU 12	71	28	4168	859.01	-12.16	-24.65
354	SLU 13	72	37	4180	860.26	-12.16	-24.87
354	SLU 14	69	17	4149	856.89	-12.14	-23.91
354	SLU 15	72	29	4203	866.25	-12.28	-24.67
354	SLU 16	69	17	4124	851.9	-12.05	-23.63
354	SLU 17	71	30	4178	861.26	-12.19	-24.39
354	SLU 18	70	16	4243	873.51	-12.38	-24.25
354	SLU 19	73	28	4297	882.87	-12.52	-25.01
354	SLU 20	70	17	4277	880.75	-12.5	-24.27
354	SLU 21	73	29	4331	890.1	-12.64	-25.03
354	SLU 22	73	12	4114	850.22	-12.04	-25.06
354	SLU 23	76	33	4204	865.81	-12.27	-26.32
354	SLU 24	74	13	4173	862.44	-12.25	-25.36
354	SLU 25	76	26	4226	871.79	-12.39	-26.12
354	SLU 26	76	34	4238	873.04	-12.4	-26.35
354	SLU 27	74	14	4207	869.68	-12.37	-25.39
354	SLU 28	76	27	4260	879.03	-12.51	-26.15
354	SLU 29	73	15	4182	864.69	-12.28	-25.11
354	SLU 30	75	27	4236	874.05	-12.42	-25.87
354	SLU 31	81	35	4640	950	-13.61	-27.88
354	SLU 32	78	15	4609	946.64	-13.58	-26.93
354	SLU 33	80	27	4663	955.99	-13.72	-27.69
354	SLU 34	81	36	4674	957.24	-13.73	-27.91
354	SLU 35	78	16	4643	953.87	-13.7	-26.95
354	SLU 36	80	28	4697	963.23	-13.85	-27.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
354	SLU 37	77	16	4618	948.89	-13.62	-26.67
354	SLU 38	80	29	4672	958.24	-13.76	-27.43
354	SLU 39	79	15	4737	970.49	-13.95	-27.29
354	SLU 40	81	27	4791	979.85	-14.09	-28.05
354	SLU 41	79	16	4771	977.73	-14.07	-27.32
354	SLU 42	81	28	4825	987.09	-14.21	-28.08
354	SLU 43	80	18	4536	945.95	-13.07	-27.57
354	SLU 44	84	38	4626	961.54	-13.31	-28.84
354	SLU 45	81	19	4595	958.18	-13.28	-27.88
354	SLU 46	83	31	4648	967.53	-13.42	-28.64
354	SLU 47	84	40	4660	968.78	-13.43	-28.86
354	SLU 48	81	20	4629	965.41	-13.4	-27.91
354	SLU 49	83	32	4682	974.77	-13.54	-28.67
354	SLU 50	80	20	4604	960.43	-13.32	-27.63
354	SLU 51	82	33	4658	969.78	-13.46	-28.38
354	SLU 52	88	40	5062	1045.74	-14.65	-30.4
354	SLU 53	85	20	5031	1042.37	-14.62	-29.45
354	SLU 54	88	33	5085	1051.73	-14.76	-30.21
354	SLU 55	88	41	5096	1052.98	-14.77	-30.43
354	SLU 56	86	21	5065	1049.61	-14.74	-29.47
354	SLU 57	88	34	5119	1058.96	-14.88	-30.23
354	SLU 58	85	22	5040	1044.62	-14.65	-29.19
354	SLU 59	87	34	5094	1053.98	-14.79	-29.95
354	SLU 60	86	20	5159	1066.23	-14.98	-29.81
354	SLU 61	89	33	5213	1075.59	-15.12	-30.57
354	SLU 62	87	21	5193	1073.47	-15.1	-29.84
354	SLU 63	89	34	5247	1082.82	-15.25	-30.59
354	SLU 64	89	17	5030	1042.93	-14.64	-30.62
354	SLU 65	92	37	5120	1058.53	-14.88	-31.88
354	SLU 66	90	18	5089	1055.16	-14.85	-30.93
354	SLU 67	92	30	5143	1064.51	-14.99	-31.68
354	SLU 68	93	39	5154	1065.76	-15	-31.91
354	SLU 69	90	19	5123	1062.4	-14.97	-30.95
354	SLU 70	92	31	5177	1071.75	-15.11	-31.71
354	SLU 71	89	19	5098	1057.41	-14.88	-30.67
354	SLU 72	91	32	5152	1066.76	-15.03	-31.43
354	SLU 73	97	39	5556	1142.72	-16.21	-33.45
354	SLU 74	94	19	5525	1139.35	-16.19	-32.49
354	SLU 75	96	32	5579	1148.71	-16.33	-33.25
354	SLU 76	97	40	5590	1149.96	-16.34	-33.47
354	SLU 77	94	20	5559	1146.59	-16.31	-32.52
354	SLU 78	97	33	5613	1155.95	-16.45	-33.27
354	SLU 79	93	21	5535	1141.61	-16.22	-32.23
354	SLU 80	96	33	5588	1150.96	-16.36	-32.99
354	SLU 81	95	19	5654	1163.21	-16.55	-32.85
354	SLU 82	97	32	5707	1172.57	-16.69	-33.61
354	SLU 83	95	20	5688	1170.45	-16.67	-32.88
354	SLU 84	98	33	5742	1179.81	-16.81	-33.64
354	SLE RA 1	66	13	3761	780.94	-10.92	-22.88
354	SLE RA 2	69	27	3821	791.34	-11.08	-23.73
354	SLE RA 3	67	14	3800	789.09	-11.06	-23.09
354	SLE RA 4	68	22	3836	795.33	-11.15	-23.59
354	SLE RA 5	69	28	3843	796.16	-11.16	-23.74
354	SLE RA 6	67	14	3823	793.92	-11.14	-23.11
354	SLE RA 7	68	23	3858	800.15	-11.23	-23.61
354	SLE RA 8	66	15	3806	790.59	-11.08	-22.92
354	SLE RA 9	68	23	3842	796.83	-11.17	-23.42
354	SLE RA 10	72	28	4111	847.47	-11.97	-24.77
354	SLE RA 11	70	15	4091	845.22	-11.95	-24.13
354	SLE RA 12	71	23	4127	851.46	-12.04	-24.64
354	SLE RA 13	72	29	4134	852.29	-12.05	-24.79
354	SLE RA 14	70	16	4114	850.05	-12.03	-24.15
354	SLE RA 15	72	24	4149	856.28	-12.12	-24.65
354	SLE RA 16	69	16	4097	846.72	-11.97	-23.96
354	SLE RA 17	71	24	4133	852.96	-12.07	-24.47
354	SLE RA 18	71	15	4176	861.13	-12.19	-24.37
354	SLE RA 19	72	23	4212	867.36	-12.29	-24.88
354	SLE RA 20	71	16	4199	865.95	-12.27	-24.39
354	SLE RA 21	72	24	4235	872.19	-12.37	-24.9
354	SLE FR 1	66	13	3761	780.94	-10.92	-22.88
354	SLE FR 2	67	16	3773	783.02	-10.95	-23.05
354	SLE FR 3	66	13	3770	782.87	-10.95	-22.89
354	SLE FR 4	68	16	3897	807.08	-11.33	-23.5
354	SLE FR 5	68	14	3894	806.93	-11.33	-23.34
354	SLE FR 6	68	14	3969	821.04	-11.55	-23.63
354	SLE QP 1	66	13	3761	780.94	-10.92	-22.88
354	SLE QP 2	68	14	3885	805	-11.3	-23.33
354	SLD 1	498	-8	3512	705.45	-8.6	-173.94
354	SLD 2	571	94	3617	725.34	-8.99	-198.94
354	SLD 3	441	-254	2334	492.96	-4.92	-154.17
354	SLD 4	513	-152	2439	512.85	-5.31	-179.17
354	SLD 5	272	363	5542	1093.99	-16	-94.19
354	SLD 6	319	428	5610	1106.8	-16.25	-110.29
354	SLD 7	79	-457	1615	385.69	-3.74	-28.3
354	SLD 8	126	-392	1683	398.5	-3.99	-44.41
354	SLD 9	9	419	6088	1211.49	-18.6	-2.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
354	SLD 10	56	485	6155	1224.3	-18.86	-18.36
354	SLD 11	-183	-401	2161	503.2	-6.35	63.63
354	SLD 12	-137	-336	2229	516.01	-6.6	47.53
354	SLD 13	-378	179	5331	1097.14	-17.29	132.52
354	SLD 14	-305	281	5437	1117.03	-17.68	107.51
354	SLD 15	-435	-67	4153	884.65	-13.61	152.28
354	SLD 16	-363	35	4259	904.55	-14	127.28
354	SLV 1	745	-3	3389	665.06	-7.35	-260.21
354	SLV 2	859	158	3554	696.41	-7.97	-299.62
354	SLV 3	647	-423	1379	302.6	-1.08	-226.46
354	SLV 4	761	-262	1545	333.95	-1.7	-265.87
354	SLV 5	399	615	6753	1306.9	-19.52	-138.22
354	SLV 6	476	723	6865	1328.01	-19.93	-164.75
354	SLV 7	70	-784	55	98.7	1.4	-25.73
354	SLV 8	147	-676	166	119.8	0.98	-52.27
354	SLV 9	-12	703	7604	1490.19	-23.58	5.61
354	SLV 10	65	811	7716	1511.3	-24	-20.93
354	SLV 11	-341	-696	906	281.99	-2.67	118.09
354	SLV 12	-264	-588	1018	303.1	-3.08	91.56
354	SLV 13	-625	289	6226	1276.04	-20.9	219.21
354	SLV 14	-511	450	6392	1307.4	-21.52	179.8
354	SLV 15	-724	-130	4217	913.58	-14.63	252.96
354	SLV 16	-610	30	4382	944.94	-15.25	213.55
354	SLV FO 1	813	-5	3339	651.07	-6.96	-283.9
354	SLV FO 2	938	172	3521	685.55	-7.64	-327.25
354	SLV FO 3	704	-466	1128	252.36	-0.06	-246.77
354	SLV FO 4	830	-290	1311	286.85	-0.74	-290.13
354	SLV FO 5	432	675	7040	1357.09	-20.34	-149.71
354	SLV FO 6	517	794	7162	1380.31	-20.79	-178.9
354	SLV FO 7	71	-864	-328	28.07	2.67	-25.97
354	SLV FO 8	155	-745	-205	51.28	2.21	-55.16
354	SLV FO 9	-20	772	7976	1558.71	-24.81	8.5
354	SLV FO 10	65	891	8099	1581.93	-25.27	-20.69
354	SLV FO 11	-382	-767	608	229.69	-1.8	132.24
354	SLV FO 12	-297	-648	731	252.91	-2.26	103.05
354	SLV FO 13	-695	317	6460	1323.15	-21.86	243.47
354	SLV FO 14	-569	494	6642	1357.64	-22.54	200.12
354	SLV FO 15	-803	-145	4250	924.44	-14.96	280.59
354	SLV FO 16	-678	32	4432	958.93	-15.64	237.24
354	CRTFP Ux+	0	0	0	0	0	0
354	CRTFP Ux-	0	0	0	0	0	0
354	CRTFP Uy+	0	0	0	0	0	0
354	CRTFP Uy-	0	0	0	0	0	0
355	SLU 1	64	24	3979	996.27	-12.82	-22.15
355	SLU 2	68	45	4077	1017.36	-13.11	-23.42
355	SLU 3	65	25	4045	1013.13	-13.07	-22.47
355	SLU 4	67	38	4104	1025.79	-13.25	-23.23
355	SLU 5	68	47	4115	1027.33	-13.26	-23.45
355	SLU 6	65	26	4083	1023.1	-13.22	-22.5
355	SLU 7	68	39	4142	1035.76	-13.39	-23.26
355	SLU 8	65	27	4055	1016.21	-13.11	-22.22
355	SLU 9	67	39	4114	1028.86	-13.29	-22.98
355	SLU 10	73	48	4560	1133.38	-14.76	-24.99
355	SLU 11	70	28	4527	1129.16	-14.72	-24.05
355	SLU 12	72	40	4586	1141.81	-14.89	-24.81
355	SLU 13	73	49	4598	1143.35	-14.91	-25.03
355	SLU 14	70	29	4566	1139.12	-14.87	-24.08
355	SLU 15	72	42	4624	1151.78	-15.04	-24.84
355	SLU 16	69	29	4538	1132.23	-14.76	-23.8
355	SLU 17	71	42	4597	1144.88	-14.94	-24.55
355	SLU 18	71	28	4668	1162.02	-15.17	-24.41
355	SLU 19	73	41	4727	1174.67	-15.35	-25.17
355	SLU 20	71	29	4707	1171.99	-15.32	-24.44
355	SLU 21	73	42	4765	1184.64	-15.49	-25.2
355	SLU 22	73	24	4527	1130	-14.74	-25.21
355	SLU 23	77	45	4625	1151.09	-15.04	-26.47
355	SLU 24	74	25	4593	1146.86	-15	-25.52
355	SLU 25	76	38	4652	1159.51	-15.17	-26.28
355	SLU 26	77	47	4663	1161.05	-15.18	-26.5
355	SLU 27	74	26	4631	1156.83	-15.14	-25.56
355	SLU 28	76	39	4690	1169.48	-15.32	-26.31
355	SLU 29	73	27	4604	1149.93	-15.04	-25.27
355	SLU 30	76	39	4662	1162.59	-15.22	-26.03
355	SLU 31	81	48	5108	1267.11	-16.68	-28.05
355	SLU 32	79	28	5076	1262.88	-16.64	-27.1
355	SLU 33	81	41	5134	1275.53	-16.82	-27.86
355	SLU 34	82	49	5146	1277.08	-16.83	-28.08
355	SLU 35	79	29	5114	1272.85	-16.79	-27.14
355	SLU 36	81	42	5173	1285.5	-16.97	-27.89
355	SLU 37	78	29	5086	1265.95	-16.69	-26.85
355	SLU 38	80	42	5145	1278.61	-16.86	-27.61
355	SLU 39	80	28	5217	1295.74	-17.1	-27.46
355	SLU 40	82	41	5275	1308.39	-17.27	-28.22
355	SLU 41	80	29	5255	1305.71	-17.25	-27.49
355	SLU 42	82	42	5314	1318.36	-17.42	-28.25
355	SLU 43	81	31	4985	1249.31	-16	-27.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
355	SLU 44	84	52	5083	1270.4	-16.3	-29.02
355	SLU 45	81	32	5051	1266.17	-16.26	-28.07
355	SLU 46	84	45	5109	1278.82	-16.43	-28.83
355	SLU 47	84	54	5121	1280.36	-16.44	-29.05
355	SLU 48	82	33	5089	1276.14	-16.4	-28.1
355	SLU 49	84	46	5148	1288.79	-16.58	-28.86
355	SLU 50	81	34	5061	1269.24	-16.3	-27.82
355	SLU 51	83	47	5120	1281.9	-16.47	-28.58
355	SLU 52	89	55	5565	1386.42	-17.94	-30.59
355	SLU 53	86	35	5533	1382.19	-17.9	-29.65
355	SLU 54	88	48	5592	1394.84	-18.08	-30.4
355	SLU 55	89	56	5603	1396.39	-18.09	-30.63
355	SLU 56	86	36	5571	1392.16	-18.05	-29.68
355	SLU 57	88	49	5630	1404.81	-18.23	-30.44
355	SLU 58	85	36	5544	1385.26	-17.95	-29.4
355	SLU 59	88	49	5603	1397.92	-18.12	-30.15
355	SLU 60	87	35	5674	1415.05	-18.36	-30.01
355	SLU 61	89	48	5733	1427.7	-18.53	-30.76
355	SLU 62	87	36	5712	1425.02	-18.5	-30.04
355	SLU 63	89	49	5771	1437.67	-18.68	-30.8
355	SLU 64	89	31	5533	1383.03	-17.93	-30.81
355	SLU 65	93	52	5631	1404.12	-18.22	-32.07
355	SLU 66	90	32	5599	1399.89	-18.18	-31.12
355	SLU 67	93	45	5658	1412.55	-18.36	-31.88
355	SLU 68	93	54	5669	1414.09	-18.37	-32.1
355	SLU 69	90	33	5637	1409.86	-18.33	-31.16
355	SLU 70	93	46	5696	1422.51	-18.5	-31.91
355	SLU 71	90	34	5609	1402.97	-18.22	-30.87
355	SLU 72	92	47	5668	1415.62	-18.4	-31.63
355	SLU 73	98	55	6114	1520.14	-19.87	-33.65
355	SLU 74	95	35	6081	1515.91	-19.83	-32.7
355	SLU 75	97	48	6140	1528.57	-20	-33.46
355	SLU 76	98	57	6152	1530.11	-20.02	-33.68
355	SLU 77	95	36	6120	1525.88	-19.98	-32.73
355	SLU 78	97	49	6178	1538.54	-20.15	-33.49
355	SLU 79	94	36	6092	1518.99	-19.87	-32.45
355	SLU 80	96	49	6151	1531.64	-20.05	-33.21
355	SLU 81	96	35	6222	1548.77	-20.28	-33.06
355	SLU 82	98	48	6281	1561.43	-20.46	-33.82
355	SLU 83	96	36	6261	1558.74	-20.43	-33.09
355	SLU 84	98	49	6319	1571.4	-20.61	-33.85
355	SLE RA 1	67	24	4136	1034.48	-13.37	-23.03
355	SLE RA 2	69	38	4201	1048.54	-13.56	-23.87
355	SLE RA 3	67	24	4180	1045.72	-13.54	-23.24
355	SLE RA 4	69	33	4219	1054.16	-13.65	-23.74
355	SLE RA 5	69	39	4226	1055.19	-13.66	-23.89
355	SLE RA 6	68	25	4205	1052.37	-13.64	-23.26
355	SLE RA 7	69	34	4244	1060.8	-13.75	-23.76
355	SLE RA 8	67	26	4187	1047.77	-13.57	-23.07
355	SLE RA 9	68	34	4226	1056.21	-13.68	-23.57
355	SLE RA 10	72	40	4523	1125.89	-14.66	-24.92
355	SLE RA 11	71	26	4501	1123.07	-14.64	-24.29
355	SLE RA 12	72	35	4540	1131.5	-14.75	-24.79
355	SLE RA 13	72	41	4548	1132.53	-14.76	-24.94
355	SLE RA 14	71	27	4527	1129.71	-14.73	-24.31
355	SLE RA 15	72	36	4566	1138.15	-14.85	-24.82
355	SLE RA 16	70	27	4508	1125.12	-14.66	-24.12
355	SLE RA 17	72	36	4548	1133.55	-14.78	-24.63
355	SLE RA 18	71	26	4595	1144.98	-14.94	-24.53
355	SLE RA 19	73	35	4634	1153.41	-15.05	-25.03
355	SLE RA 20	71	27	4621	1151.62	-15.04	-24.55
355	SLE RA 21	73	36	4660	1160.06	-15.15	-25.06
355	SLE FR 1	67	24	4136	1034.48	-13.37	-23.03
355	SLE FR 2	67	27	4149	1037.29	-13.41	-23.2
355	SLE FR 3	67	24	4146	1037.14	-13.41	-23.04
355	SLE FR 4	69	27	4287	1070.44	-13.88	-23.65
355	SLE FR 5	68	25	4284	1070.29	-13.88	-23.49
355	SLE FR 6	69	25	4366	1089.73	-14.15	-23.78
355	SLE QP 1	67	24	4136	1034.48	-13.37	-23.03
355	SLE QP 2	68	25	4274	1067.63	-13.84	-23.48
355	SLD 1	498	-3	3812	928.43	-10.8	-173.66
355	SLD 2	570	109	3930	955.53	-11.26	-198.65
355	SLD 3	440	-264	2509	638.79	-6.37	-153.76
355	SLD 4	512	-153	2627	665.89	-6.83	-178.75
355	SLD 5	273	393	6091	1460.49	-19.57	-94.41
355	SLD 6	320	465	6167	1477.95	-19.86	-110.51
355	SLD 7	79	-477	1747	495.03	-4.8	-28.09
355	SLD 8	125	-406	1823	512.49	-5.1	-44.18
355	SLD 9	11	455	6724	1622.77	-22.58	-2.78
355	SLD 10	57	526	6800	1640.23	-22.88	-18.87
355	SLD 11	-183	-416	2380	657.31	-7.82	63.55
355	SLD 12	-137	-344	2456	674.77	-8.11	47.46
355	SLD 13	-376	202	5920	1469.36	-20.85	131.79
355	SLD 14	-303	313	6038	1496.47	-21.31	106.8
355	SLD 15	-434	-59	4617	1179.72	-16.42	151.69
355	SLD 16	-362	52	4735	1206.83	-16.88	126.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
355	SLV 1	744	0	3648	871.41	-9.42	-259.7
355	SLV 2	858	175	3834	914.13	-10.14	-299.09
355	SLV 3	645	-446	1425	377.33	-1.86	-225.73
355	SLV 4	759	-270	1611	420.05	-2.58	-265.11
355	SLV 5	401	660	7423	1750.14	-23.84	-138.52
355	SLV 6	477	778	7548	1778.91	-24.33	-165.04
355	SLV 7	69	-825	13	103.21	1.35	-25.27
355	SLV 8	146	-707	138	131.98	0.87	-51.79
355	SLV 9	-9	756	8409	2003.28	-28.54	4.84
355	SLV 10	67	874	8535	2032.04	-29.03	-21.68
355	SLV 11	-341	-729	999	356.35	-3.35	118.08
355	SLV 12	-264	-611	1124	385.12	-3.84	91.57
355	SLV 13	-623	319	6936	1715.2	-25.1	218.16
355	SLV 14	-509	495	7123	1757.93	-25.82	178.77
355	SLV 15	-722	-126	4713	1221.12	-17.54	252.13
355	SLV 16	-608	49	4899	1263.85	-18.26	212.74
355	SLV FO 1	812	-3	3585	851.78	-8.97	-283.32
355	SLV FO 2	937	191	3790	898.78	-9.77	-326.65
355	SLV FO 3	703	-493	1140	308.3	-0.66	-245.95
355	SLV FO 4	828	-300	1345	355.3	-1.45	-289.28
355	SLV FO 5	434	724	7738	1818.39	-24.84	-150.03
355	SLV FO 6	518	854	7876	1850.03	-25.37	-179.19
355	SLV FO 7	69	-910	-414	6.77	2.87	-25.45
355	SLV FO 8	154	-780	-276	38.41	2.34	-54.62
355	SLV FO 9	-17	829	8823	2096.84	-30.02	7.67
355	SLV FO 10	67	959	8961	2128.49	-30.55	-21.5
355	SLV FO 11	-382	-805	672	285.22	-2.3	132.24
355	SLV FO 12	-298	-675	810	316.87	-2.84	103.07
355	SLV FO 13	-692	349	7203	1779.96	-26.22	242.32
355	SLV FO 14	-566	542	7407	1826.96	-27.02	198.99
355	SLV FO 15	-801	-141	4757	1236.47	-17.91	279.69
355	SLV FO 16	-676	52	4962	1283.47	-18.71	236.37
355	CRTFP Ux+	0	0	0	0	0	0
355	CRTFP Ux-	0	0	0	0	0	0
355	CRTFP Uy+	0	0	0	0	0	0
355	CRTFP Uy-	0	0	0	0	0	0
357	SLU 1	46	24	3115	900	168.54	-17.41
357	SLU 2	49	40	3191	919.31	172.67	-19.22
357	SLU 3	47	25	3168	915.62	171.36	-17.7
357	SLU 4	49	34	3213	927.21	173.83	-18.78
357	SLU 5	49	41	3222	928.55	174.3	-19.31
357	SLU 6	47	26	3198	924.85	172.99	-17.79
357	SLU 7	49	36	3244	936.44	175.47	-18.87
357	SLU 8	47	26	3176	918.46	171.81	-17.6
357	SLU 9	48	36	3222	930.05	174.29	-18.68
357	SLU 10	52	43	3571	1026.86	193.17	-20.52
357	SLU 11	50	28	3547	1023.16	191.86	-19
357	SLU 12	52	37	3593	1034.75	194.34	-20.08
357	SLU 13	52	44	3602	1036.09	194.81	-20.61
357	SLU 14	50	29	3578	1032.4	193.5	-19.1
357	SLU 15	52	38	3623	1043.99	195.98	-20.18
357	SLU 16	50	29	3556	1026.01	192.31	-18.9
357	SLU 17	51	38	3601	1037.6	194.79	-19.98
357	SLU 18	51	28	3658	1053.63	197.83	-19.27
357	SLU 19	53	37	3703	1065.22	200.31	-20.36
357	SLU 20	51	29	3688	1062.86	199.47	-19.37
357	SLU 21	53	38	3734	1074.45	201.95	-20.45
357	SLU 22	53	25	3548	1023.98	191.87	-19.67
357	SLU 23	55	41	3624	1043.29	196.01	-21.47
357	SLU 24	53	26	3600	1039.6	194.69	-19.96
357	SLU 25	55	35	3646	1051.19	197.17	-21.04
357	SLU 26	55	42	3654	1052.53	197.64	-21.57
357	SLU 27	53	27	3630	1048.83	196.33	-20.05
357	SLU 28	55	36	3676	1060.42	198.81	-21.13
357	SLU 29	53	27	3609	1042.44	195.15	-19.86
357	SLU 30	54	37	3654	1054.03	197.62	-20.94
357	SLU 31	59	43	4004	1150.84	216.51	-22.78
357	SLU 32	57	29	3980	1147.14	215.2	-21.26
357	SLU 33	58	38	4026	1158.73	217.68	-22.34
357	SLU 34	59	45	4034	1160.07	218.15	-22.87
357	SLU 35	57	30	4010	1156.38	216.83	-21.35
357	SLU 36	58	39	4056	1167.97	219.31	-22.44
357	SLU 37	56	30	3988	1149.99	215.65	-21.16
357	SLU 38	58	39	4034	1161.58	218.13	-22.24
357	SLU 39	57	29	4090	1177.61	221.17	-21.53
357	SLU 40	59	38	4136	1189.2	223.65	-22.61
357	SLU 41	58	30	4121	1186.84	222.8	-21.63
357	SLU 42	59	39	4166	1198.43	225.28	-22.71
357	SLU 43	58	31	3902	1127.49	211.1	-21.86
357	SLU 44	61	47	3978	1146.8	215.23	-23.67
357	SLU 45	59	32	3954	1143.11	213.92	-22.15
357	SLU 46	60	41	4000	1154.7	216.39	-23.23
357	SLU 47	61	48	4008	1156.04	216.87	-23.76
357	SLU 48	59	33	3984	1152.34	215.55	-22.24
357	SLU 49	60	42	4030	1163.93	218.03	-23.32
357	SLU 50	58	33	3962	1145.96	214.37	-22.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
357	SLU 51	60	43	4008	1157.55	216.85	-23.13
357	SLU 52	64	49	4357	1254.35	235.74	-24.97
357	SLU 53	62	35	4334	1250.65	234.42	-23.45
357	SLU 54	64	44	4379	1262.24	236.9	-24.53
357	SLU 55	64	51	4388	1263.58	237.37	-25.06
357	SLU 56	62	36	4364	1259.89	236.06	-23.55
357	SLU 57	64	45	4410	1271.48	238.54	-24.63
357	SLU 58	62	36	4342	1253.5	234.88	-23.35
357	SLU 59	63	45	4388	1265.09	237.35	-24.43
357	SLU 60	63	35	4444	1281.12	240.39	-23.72
357	SLU 61	64	44	4490	1292.71	242.87	-24.81
357	SLU 62	63	36	4474	1290.36	242.03	-23.82
357	SLU 63	64	45	4520	1301.94	244.51	-24.9
357	SLU 64	64	32	4334	1251.47	234.44	-24.12
357	SLU 65	67	48	4410	1270.78	238.57	-25.92
357	SLU 66	65	33	4386	1267.09	237.25	-24.41
357	SLU 67	67	42	4432	1278.68	239.73	-25.49
357	SLU 68	67	49	4441	1280.02	240.2	-26.02
357	SLU 69	65	34	4417	1276.32	238.89	-24.5
357	SLU 70	67	43	4463	1287.91	241.37	-25.58
357	SLU 71	65	34	4395	1269.93	237.71	-24.31
357	SLU 72	66	44	4441	1281.52	240.18	-25.39
357	SLU 73	70	50	4790	1378.33	259.07	-27.23
357	SLU 74	68	35	4766	1374.63	257.76	-25.71
357	SLU 75	70	45	4812	1386.22	260.24	-26.79
357	SLU 76	70	51	4820	1387.56	260.71	-27.32
357	SLU 77	69	37	4797	1383.87	259.39	-25.8
357	SLU 78	70	46	4842	1395.46	261.87	-26.89
357	SLU 79	68	37	4775	1377.48	258.21	-25.61
357	SLU 80	70	46	4820	1389.07	260.69	-26.69
357	SLU 81	69	36	4877	1405.1	263.73	-25.98
357	SLU 82	71	45	4922	1416.69	266.21	-27.06
357	SLU 83	69	37	4907	1414.33	265.36	-26.08
357	SLU 84	71	46	4953	1425.92	267.84	-27.16
357	SLE RA 1	48	24	3239	935.42	175.21	-18.06
357	SLE RA 2	50	35	3290	948.3	177.96	-19.26
357	SLE RA 3	49	25	3274	945.83	177.08	-18.25
357	SLE RA 4	50	31	3304	953.56	178.74	-18.97
357	SLE RA 5	50	36	3310	954.45	179.05	-19.32
357	SLE RA 6	49	26	3294	951.99	178.17	-18.31
357	SLE RA 7	50	32	3324	959.72	179.83	-19.03
357	SLE RA 8	48	26	3279	947.73	177.39	-18.18
357	SLE RA 9	49	32	3310	955.46	179.04	-18.9
357	SLE RA 10	52	37	3543	1019.99	191.63	-20.13
357	SLE RA 11	51	27	3527	1017.53	190.75	-19.12
357	SLE RA 12	52	33	3557	1025.26	192.41	-19.84
357	SLE RA 13	52	37	3563	1026.15	192.72	-20.19
357	SLE RA 14	51	27	3547	1023.69	191.84	-19.18
357	SLE RA 15	52	34	3578	1031.41	193.5	-19.9
357	SLE RA 16	50	28	3532	1019.43	191.06	-19.05
357	SLE RA 17	52	34	3563	1027.15	192.71	-19.77
357	SLE RA 18	51	27	3600	1037.84	194.74	-19.3
357	SLE RA 19	52	33	3631	1045.57	196.39	-20.02
357	SLE RA 20	51	28	3621	1044	195.83	-19.36
357	SLE RA 21	52	34	3651	1051.72	197.48	-20.08
357	SLE FR 1	48	24	3239	935.42	175.21	-18.06
357	SLE FR 2	49	26	3249	937.99	175.76	-18.3
357	SLE FR 3	48	25	3247	937.88	175.64	-18.08
357	SLE FR 4	49	27	3357	968.72	181.62	-18.67
357	SLE FR 5	49	25	3355	968.61	181.5	-18.46
357	SLE FR 6	50	26	3420	986.63	184.97	-18.68
357	SLE QP 1	48	24	3239	935.42	175.21	-18.06
357	SLE QP 2	49	25	3347	966.15	181.06	-18.43
357	SLD 1	357	1	2956	836.36	160.43	-130.47
357	SLD 2	409	87	3050	861.11	165.49	-153.31
357	SLD 3	315	-196	1931	570.68	105.07	-105.16
357	SLD 4	367	-110	2025	595.43	110.13	-127.99
357	SLD 5	196	302	4767	1325.9	257.96	-86.51
357	SLD 6	230	357	4828	1341.84	261.22	-101.21
357	SLD 7	56	-354	1353	440.3	73.44	-2.13
357	SLD 8	90	-299	1413	456.24	76.7	-16.83
357	SLD 9	9	349	5281	1476.05	285.43	-20.03
357	SLD 10	42	404	5342	1491.99	288.69	-34.74
357	SLD 11	-131	-307	1867	590.45	100.91	64.35
357	SLD 12	-98	-252	1927	606.39	104.17	49.64
357	SLD 13	-269	160	4669	1336.86	252	91.13
357	SLD 14	-217	246	4763	1361.62	257.06	68.29
357	SLD 15	-311	-37	3645	1071.18	196.64	116.44
357	SLD 16	-259	49	3739	1095.94	201.7	93.61
357	SLV 1	533	2	2810	782.88	152.87	-195.38
357	SLV 2	615	137	2959	821.9	160.85	-231.38
357	SLV 3	462	-334	1063	329.66	58.44	-152.16
357	SLV 4	543	-199	1211	368.68	66.42	-188.16
357	SLV 5	288	502	5809	1591.26	314.34	-130.35
357	SLV 6	343	593	5909	1617.53	319.7	-154.58
357	SLV 7	49	-617	-16	80.54	-0.43	13.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
357	SLV 8	104	-526	84	106.81	4.94	-10.52
357	SLV 9	-6	576	6611	1825.48	357.19	-26.34
357	SLV 10	49	667	6710	1851.75	362.56	-50.58
357	SLV 11	-245	-543	786	314.76	42.43	117.72
357	SLV 12	-190	-452	886	341.03	47.79	93.48
357	SLV 13	-445	249	5483	1563.61	295.71	151.3
357	SLV 14	-363	384	5632	1602.63	303.69	115.3
357	SLV 15	-517	-87	3736	1110.39	201.28	194.51
357	SLV 16	-435	48	3884	1149.41	209.26	158.52
357	SLV FO 1	582	-1	2757	764.55	150.05	-213.08
357	SLV FO 2	672	148	2920	807.47	158.82	-252.67
357	SLV FO 3	503	-370	835	266.02	46.18	-165.54
357	SLV FO 4	593	-221	998	308.94	54.95	-205.13
357	SLV FO 5	312	550	6055	1653.77	327.66	-141.54
357	SLV FO 6	372	650	6165	1682.67	333.57	-168.19
357	SLV FO 7	49	-682	-352	-8.02	-18.58	16.93
357	SLV FO 8	109	-581	-243	20.88	-12.67	-9.73
357	SLV FO 9	-11	631	6937	1911.41	374.8	-27.13
357	SLV FO 10	49	732	7047	1940.31	380.7	-53.79
357	SLV FO 11	-274	-600	530	249.63	28.56	131.33
357	SLV FO 12	-214	-500	640	278.52	34.47	104.67
357	SLV FO 13	-495	271	5697	1623.35	307.18	168.27
357	SLV FO 14	-405	420	5860	1666.28	315.95	128.67
357	SLV FO 15	-574	-98	3775	1124.82	203.31	215.81
357	SLV FO 16	-484	51	3938	1167.74	212.08	176.21
357	CRTFP Ux+	0	0	0	0	0	0
357	CRTFP Ux-	0	0	0	0	0	0
357	CRTFP Uy+	0	0	0	0	0	0
357	CRTFP Uy-	0	0	0	0	0	0
359	SLU 1	61	27	3798	674.99	1751.73	-23.89
359	SLU 2	64	46	3895	691.05	1797.27	-33.97
359	SLU 3	61	28	3860	686.44	1780.14	-24.59
359	SLU 4	63	40	3918	696.07	1807.46	-30.64
359	SLU 5	64	48	3931	697.73	1813.57	-34.66
359	SLU 6	62	30	3896	693.11	1796.44	-25.28
359	SLU 7	64	41	3955	702.75	1823.77	-31.33
359	SLU 8	61	30	3870	688.34	1784.34	-25.27
359	SLU 9	63	41	3928	697.98	1811.66	-31.32
359	SLU 10	68	50	4358	773.14	2010.09	-36.25
359	SLU 11	66	32	4324	768.52	1992.96	-26.87
359	SLU 12	68	43	4382	778.16	2020.29	-32.92
359	SLU 13	69	51	4394	779.81	2026.4	-36.94
359	SLU 14	66	33	4360	775.19	2009.27	-27.56
359	SLU 15	68	44	4418	784.83	2036.59	-33.61
359	SLU 16	65	33	4333	770.42	1997.17	-27.55
359	SLU 17	67	45	4392	780.06	2024.49	-33.6
359	SLU 18	67	32	4460	792.25	2055.77	-27.14
359	SLU 19	69	43	4518	801.89	2083.09	-33.19
359	SLU 20	67	33	4496	798.92	2072.07	-27.83
359	SLU 21	69	45	4554	808.56	2099.4	-33.88
359	SLU 22	69	28	4323	768.73	1992.31	-25.71
359	SLU 23	72	47	4420	784.79	2037.84	-35.79
359	SLU 24	70	29	4386	780.18	2020.72	-26.42
359	SLU 25	72	41	4444	789.82	2048.04	-32.46
359	SLU 26	72	49	4456	791.47	2054.15	-36.48
359	SLU 27	70	31	4422	786.85	2037.02	-27.11
359	SLU 28	72	42	4480	796.49	2064.34	-33.16
359	SLU 29	69	31	4395	782.08	2024.92	-27.09
359	SLU 30	71	42	4454	791.72	2052.24	-33.14
359	SLU 31	77	50	4884	866.88	2250.67	-38.07
359	SLU 32	74	32	4849	862.26	2233.54	-28.69
359	SLU 33	76	44	4908	871.9	2260.86	-34.74
359	SLU 34	77	52	4920	873.55	2266.98	-38.76
359	SLU 35	74	34	4885	868.93	2249.85	-29.39
359	SLU 36	76	45	4944	878.57	2277.17	-35.43
359	SLU 37	74	34	4859	864.16	2237.75	-29.37
359	SLU 38	76	45	4917	873.8	2265.07	-35.42
359	SLU 39	75	33	4985	885.99	2296.34	-28.97
359	SLU 40	77	44	5044	895.63	2323.67	-35.02
359	SLU 41	75	34	5021	892.66	2312.65	-29.66
359	SLU 42	77	45	5080	902.3	2339.97	-35.71
359	SLU 43	76	35	4757	845.35	2194.77	-30.43
359	SLU 44	79	54	4854	861.41	2240.3	-40.51
359	SLU 45	77	36	4819	856.79	2223.17	-31.13
359	SLU 46	79	48	4878	866.43	2250.5	-37.18
359	SLU 47	79	56	4890	868.09	2256.61	-41.2
359	SLU 48	77	38	4855	863.47	2239.48	-31.82
359	SLU 49	79	49	4914	873.11	2266.8	-37.87
359	SLU 50	76	38	4829	858.7	2227.38	-31.81
359	SLU 51	78	49	4887	868.34	2254.7	-37.86
359	SLU 52	84	57	5317	943.49	2453.13	-42.79
359	SLU 53	81	39	5283	938.87	2436	-33.41
359	SLU 54	83	51	5341	948.51	2463.32	-39.46
359	SLU 55	84	59	5353	950.17	2469.43	-43.48
359	SLU 56	81	41	5319	945.55	2452.31	-34.1
359	SLU 57	84	52	5377	955.19	2479.63	-40.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
359	SLU 58	81	41	5292	940.78	2440.2	-34.09
359	SLU 59	83	52	5351	950.42	2467.53	-40.14
359	SLU 60	82	40	5419	962.61	2498.8	-33.68
359	SLU 61	84	51	5477	972.25	2526.12	-39.73
359	SLU 62	82	41	5455	969.28	2515.11	-34.38
359	SLU 63	85	52	5513	978.92	2542.43	-40.42
359	SLU 64	84	36	5282	939.09	2435.34	-32.25
359	SLU 65	88	55	5379	955.15	2480.88	-42.33
359	SLU 66	85	37	5345	950.53	2463.75	-32.96
359	SLU 67	87	49	5403	960.17	2491.07	-39
359	SLU 68	88	57	5415	961.83	2497.19	-43.02
359	SLU 69	85	39	5381	957.21	2480.06	-33.65
359	SLU 70	87	50	5439	966.85	2507.38	-39.7
359	SLU 71	84	39	5354	952.44	2467.96	-33.64
359	SLU 72	87	50	5413	962.08	2495.28	-39.68
359	SLU 73	92	58	5843	1037.23	2693.71	-44.61
359	SLU 74	90	40	5808	1032.62	2676.58	-35.24
359	SLU 75	92	52	5867	1042.25	2703.9	-41.28
359	SLU 76	92	60	5879	1043.91	2710.01	-45.3
359	SLU 77	90	42	5845	1039.29	2692.88	-35.93
359	SLU 78	92	53	5903	1048.93	2720.2	-41.97
359	SLU 79	89	42	5818	1034.52	2680.78	-35.91
359	SLU 80	91	53	5876	1044.16	2708.1	-41.96
359	SLU 81	91	41	5944	1056.35	2739.38	-35.51
359	SLU 82	93	52	6003	1065.99	2766.7	-41.56
359	SLU 83	91	42	5980	1063.02	2755.69	-36.2
359	SLU 84	93	53	6039	1072.66	2783.01	-42.25
359	SLE RA 1	63	28	3948	701.77	1820.47	-24.41
359	SLE RA 2	65	40	4012	712.48	1850.82	-31.13
359	SLE RA 3	64	28	3990	709.4	1839.41	-24.88
359	SLE RA 4	65	36	4028	715.83	1857.62	-28.91
359	SLE RA 5	65	41	4037	716.93	1861.7	-31.59
359	SLE RA 6	64	29	4014	713.85	1850.28	-25.34
359	SLE RA 7	65	37	4052	720.28	1868.49	-29.37
359	SLE RA 8	63	29	3996	710.67	1842.21	-25.33
359	SLE RA 9	64	37	4035	717.1	1860.42	-29.36
359	SLE RA 10	68	42	4321	767.2	1992.71	-32.65
359	SLE RA 11	67	30	4299	764.12	1981.29	-26.4
359	SLE RA 12	68	38	4337	770.55	1999.5	-30.43
359	SLE RA 13	68	43	4346	771.65	2003.58	-33.11
359	SLE RA 14	67	31	4323	768.57	1992.16	-26.86
359	SLE RA 15	68	39	4361	775	2010.37	-30.89
359	SLE RA 16	66	31	4305	765.39	1984.09	-26.85
359	SLE RA 17	68	39	4344	771.82	2002.31	-30.88
359	SLE RA 18	67	31	4389	779.95	2023.16	-26.58
359	SLE RA 19	69	38	4428	786.37	2041.37	-30.61
359	SLE RA 20	67	31	4413	784.4	2034.03	-27.04
359	SLE RA 21	69	39	4452	790.82	2052.24	-31.07
359	SLE FR 1	63	28	3948	701.77	1820.47	-24.41
359	SLE FR 2	63	30	3961	703.91	1826.54	-25.75
359	SLE FR 3	63	28	3957	703.55	1824.82	-24.59
359	SLE FR 4	65	31	4093	727.37	1887.35	-26.4
359	SLE FR 5	64	29	4090	727	1885.62	-25.24
359	SLE FR 6	65	29	4168	740.86	1921.81	-25.49
359	SLE QP 1	63	28	3948	701.77	1820.47	-24.41
359	SLE QP 2	64	28	4080	725.22	1881.27	-25.06
359	SLD 1	439	1	3631	637.45	1689.64	-151.31
359	SLD 2	505	103	3750	657.37	1744.88	-213.94
359	SLD 3	384	-235	2330	420.64	1083.99	-24.83
359	SLD 4	449	-133	2449	440.56	1139.24	-87.45
359	SLD 5	250	360	5898	1024.3	2732.84	-244
359	SLD 6	293	426	5975	1037.13	2768.42	-284.33
359	SLD 7	64	-426	1562	301.59	714.03	177.62
359	SLD 8	106	-360	1639	314.42	749.6	137.29
359	SLD 9	22	417	6522	1136.03	3012.95	-187.41
359	SLD 10	64	483	6599	1148.86	3048.52	-227.74
359	SLD 11	-164	-370	2186	413.32	994.13	234.21
359	SLD 12	-122	-303	2263	426.15	1029.71	193.88
359	SLD 13	-321	189	5711	1009.89	2623.31	37.33
359	SLD 14	-255	292	5830	1029.81	2678.56	-25.29
359	SLD 15	-377	-46	4410	793.08	2017.67	163.82
359	SLD 16	-311	56	4530	813	2072.91	101.19
359	SLV 1	655	1	3473	603.97	1626.11	-231.09
359	SLV 2	759	163	3661	635.37	1713.19	-329.81
359	SLV 3	559	-401	1254	234.12	592.99	-15.27
359	SLV 4	663	-239	1442	265.52	680.07	-113.99
359	SLV 5	367	601	7228	1243.92	3355.38	-395.77
359	SLV 6	437	710	7355	1265.06	3414	-462.23
359	SLV 7	49	-741	-168	11.1	-88.36	323.62
359	SLV 8	119	-632	-41	32.24	-29.74	257.16
359	SLV 9	10	689	8202	1418.21	3792.28	-307.28
359	SLV 10	80	798	8328	1439.35	3850.91	-373.74
359	SLV 11	-308	-653	805	185.38	348.55	412.11
359	SLV 12	-238	-544	932	206.52	407.17	345.65
359	SLV 13	-535	296	6718	1184.92	3082.48	63.87
359	SLV 14	-431	458	6906	1216.32	3169.56	-34.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
359	SLV 15	-630	-106	4499	815.08	2049.36	279.69
359	SLV 16	-527	56	4687	846.48	2136.44	180.97
359	SLV FO 1	714	-1	3412	591.85	1600.6	-251.69
359	SLV FO 2	828	177	3619	626.39	1696.39	-360.28
359	SLV FO 3	609	-444	972	185.01	464.17	-14.29
359	SLV FO 4	723	-266	1179	219.55	559.95	-122.89
359	SLV FO 5	397	658	7543	1295.79	3502.79	-432.84
359	SLV FO 6	474	778	7682	1319.05	3567.27	-505.94
359	SLV FO 7	47	-818	-593	-60.31	-285.32	358.49
359	SLV FO 8	124	-698	-454	-37.06	-220.84	285.38
359	SLV FO 9	4	755	8614	1487.51	3983.39	-335.5
359	SLV FO 10	81	875	8753	1510.76	4047.87	-408.61
359	SLV FO 11	-345	-721	478	131.4	195.28	455.82
359	SLV FO 12	-269	-601	617	154.65	259.76	382.72
359	SLV FO 13	-595	323	6982	1230.89	3202.6	72.77
359	SLV FO 14	-481	501	7189	1265.43	3298.38	-35.83
359	SLV FO 15	-700	-120	4541	824.06	2066.16	310.16
359	SLV FO 16	-586	58	4748	858.6	2161.95	201.57
359	CRTFP Ux+	0	0	0	0	0	0
359	CRTFP Ux-	0	0	0	0	0	0
359	CRTFP Uy+	0	0	0	0	-0.01	0
359	CRTFP Uy-	0	0	0	0	0.01	0
360	SLU 1	32	-68	4103	1182.55	1.6	-10.34
360	SLU 2	36	-46	4172	1198.3	1.62	-11.4
360	SLU 3	32	-70	4170	1202.83	1.64	-10.3
360	SLU 4	34	-57	4212	1212.29	1.65	-10.93
360	SLU 5	35	-48	4214	1211.07	1.65	-11.24
360	SLU 6	32	-71	4213	1215.6	1.66	-10.14
360	SLU 7	34	-58	4254	1225.06	1.68	-10.77
360	SLU 8	31	-71	4187	1208.08	1.65	-10.02
360	SLU 9	33	-58	4229	1217.54	1.67	-10.65
360	SLU 10	37	-54	4699	1349.69	1.92	-11.84
360	SLU 11	33	-78	4698	1354.21	1.93	-10.74
360	SLU 12	35	-64	4739	1363.67	1.95	-11.38
360	SLU 13	36	-55	4742	1362.45	1.95	-11.68
360	SLU 14	33	-79	4740	1366.98	1.96	-10.58
360	SLU 15	35	-66	4782	1376.44	1.98	-11.22
360	SLU 16	32	-79	4715	1359.46	1.95	-10.46
360	SLU 17	34	-65	4756	1368.92	1.97	-11.1
360	SLU 18	34	-79	4856	1398.8	2.02	-10.98
360	SLU 19	36	-66	4898	1408.26	2.04	-11.61
360	SLU 20	34	-81	4898	1411.57	2.05	-10.81
360	SLU 21	36	-67	4940	1421.03	2.06	-11.45
360	SLU 22	37	-77	4647	1341.24	1.78	-11.76
360	SLU 23	40	-55	4717	1357	1.81	-12.82
360	SLU 24	37	-79	4715	1361.53	1.82	-11.72
360	SLU 25	39	-66	4756	1370.99	1.84	-12.35
360	SLU 26	40	-56	4759	1369.77	1.84	-12.66
360	SLU 27	36	-80	4757	1374.3	1.85	-11.56
360	SLU 28	38	-67	4799	1383.75	1.87	-12.19
360	SLU 29	36	-80	4732	1366.78	1.84	-11.44
360	SLU 30	38	-67	4773	1376.24	1.85	-12.07
360	SLU 31	41	-63	5244	1508.38	2.11	-13.26
360	SLU 32	38	-86	5242	1512.91	2.12	-12.16
360	SLU 33	40	-73	5284	1522.37	2.14	-12.8
360	SLU 34	41	-64	5286	1521.15	2.13	-13.1
360	SLU 35	37	-88	5284	1525.68	2.15	-12
360	SLU 36	39	-74	5326	1535.14	2.16	-12.64
360	SLU 37	37	-87	5259	1518.16	2.14	-11.88
360	SLU 38	39	-74	5301	1527.62	2.15	-12.52
360	SLU 39	39	-88	5400	1557.5	2.21	-12.39
360	SLU 40	41	-75	5442	1566.96	2.22	-13.03
360	SLU 41	38	-89	5443	1570.27	2.24	-12.23
360	SLU 42	40	-76	5484	1579.72	2.25	-12.87
360	SLU 43	40	-86	5147	1482.9	2.01	-12.96
360	SLU 44	44	-64	5216	1498.66	2.03	-14.01
360	SLU 45	40	-88	5215	1503.19	2.05	-12.91
360	SLU 46	42	-74	5256	1512.64	2.06	-13.55
360	SLU 47	43	-65	5259	1511.43	2.06	-13.85
360	SLU 48	40	-89	5257	1515.96	2.08	-12.75
360	SLU 49	42	-76	5299	1525.41	2.09	-13.39
360	SLU 50	39	-89	5232	1508.44	2.07	-12.63
360	SLU 51	41	-76	5273	1517.89	2.08	-13.27
360	SLU 52	45	-71	5744	1650.04	2.33	-14.46
360	SLU 53	41	-95	5742	1654.57	2.35	-13.36
360	SLU 54	44	-82	5784	1664.02	2.36	-14
360	SLU 55	44	-73	5786	1662.81	2.36	-14.3
360	SLU 56	41	-97	5784	1667.34	2.38	-13.2
360	SLU 57	43	-83	5826	1676.79	2.39	-13.83
360	SLU 58	41	-96	5759	1659.82	2.36	-13.08
360	SLU 59	43	-83	5801	1669.27	2.38	-13.71
360	SLU 60	42	-97	5900	1699.16	2.44	-13.59
360	SLU 61	44	-84	5942	1708.61	2.45	-14.23
360	SLU 62	42	-98	5943	1711.93	2.46	-13.43
360	SLU 63	44	-85	5984	1721.38	2.48	-14.07
360	SLU 64	45	-95	5691	1641.6	2.2	-14.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
360	SLU 65	48	-73	5761	1657.35	2.22	-15.43
360	SLU 66	45	-96	5759	1661.88	2.24	-14.33
360	SLU 67	47	-83	5801	1671.34	2.25	-14.97
360	SLU 68	48	-74	5803	1670.12	2.25	-15.27
360	SLU 69	44	-98	5801	1674.65	2.27	-14.17
360	SLU 70	46	-85	5843	1684.11	2.28	-14.81
360	SLU 71	44	-97	5776	1667.13	2.25	-14.05
360	SLU 72	46	-84	5818	1676.59	2.27	-14.69
360	SLU 73	49	-80	6288	1808.73	2.52	-15.88
360	SLU 74	46	-104	6286	1813.26	2.54	-14.78
360	SLU 75	48	-91	6328	1822.72	2.55	-15.41
360	SLU 76	49	-82	6330	1821.5	2.55	-15.72
360	SLU 77	45	-105	6329	1826.03	2.56	-14.62
360	SLU 78	47	-92	6370	1835.49	2.58	-15.25
360	SLU 79	45	-105	6303	1818.51	2.55	-14.5
360	SLU 80	47	-92	6345	1827.97	2.57	-15.13
360	SLU 81	47	-105	6445	1857.85	2.62	-15.01
360	SLU 82	49	-92	6486	1867.31	2.64	-15.64
360	SLU 83	46	-107	6487	1870.62	2.65	-14.85
360	SLU 84	48	-94	6529	1880.08	2.67	-15.48
360	SLE RA 1	34	-71	4258	1227.89	1.65	-10.74
360	SLE RA 2	36	-56	4305	1238.39	1.66	-11.45
360	SLE RA 3	33	-72	4303	1241.41	1.68	-10.72
360	SLE RA 4	35	-63	4331	1247.72	1.69	-11.14
360	SLE RA 5	35	-57	4333	1246.91	1.68	-11.34
360	SLE RA 6	33	-73	4332	1249.93	1.69	-10.61
360	SLE RA 7	34	-64	4359	1256.23	1.7	-11.03
360	SLE RA 8	33	-73	4315	1244.91	1.69	-10.53
360	SLE RA 9	34	-64	4342	1251.22	1.7	-10.95
360	SLE RA 10	37	-61	4656	1339.31	1.86	-11.75
360	SLE RA 11	34	-77	4655	1342.33	1.87	-11.01
360	SLE RA 12	36	-68	4683	1348.64	1.88	-11.44
360	SLE RA 13	36	-62	4684	1347.83	1.88	-11.64
360	SLE RA 14	34	-78	4683	1350.85	1.89	-10.91
360	SLE RA 15	35	-69	4711	1357.15	1.9	-11.33
360	SLE RA 16	34	-78	4666	1345.83	1.89	-10.83
360	SLE RA 17	35	-69	4694	1352.14	1.9	-11.25
360	SLE RA 18	35	-78	4761	1372.06	1.93	-11.17
360	SLE RA 19	36	-69	4788	1378.36	1.94	-11.59
360	SLE RA 20	34	-79	4789	1380.57	1.95	-11.06
360	SLE RA 21	36	-70	4816	1386.88	1.96	-11.48
360	SLE FR 1	34	-71	4258	1227.89	1.65	-10.74
360	SLE FR 2	34	-68	4268	1229.99	1.65	-10.89
360	SLE FR 3	33	-71	4270	1231.29	1.66	-10.7
360	SLE FR 4	34	-70	4418	1273.24	1.74	-11.01
360	SLE FR 5	34	-73	4420	1274.54	1.74	-10.83
360	SLE FR 6	34	-74	4509	1299.97	1.79	-10.96
360	SLE QP 1	34	-71	4258	1227.89	1.65	-10.74
360	SLE QP 2	34	-73	4409	1271.14	1.73	-10.87
360	SLD 1	514	81	4801	1362.58	2.18	-157
360	SLD 2	593	100	4825	1368.4	2.05	-181.02
360	SLD 3	473	-191	3787	1128.87	1.73	-144.24
360	SLD 4	553	-173	3810	1134.69	1.6	-168.27
360	SLD 5	226	383	6061	1652.04	2.57	-69.92
360	SLD 6	277	395	6076	1655.79	2.49	-85.4
360	SLD 7	90	-525	2680	872.99	1.08	-27.4
360	SLD 8	142	-513	2695	876.74	0.99	-42.88
360	SLD 9	-74	367	6123	1665.54	2.47	21.13
360	SLD 10	-23	379	6138	1669.29	2.39	5.66
360	SLD 11	-209	-541	2742	886.49	0.98	63.65
360	SLD 12	-158	-529	2757	890.24	0.9	48.18
360	SLD 13	-485	27	5008	1407.59	1.87	146.52
360	SLD 14	-405	45	5031	1413.41	1.73	122.5
360	SLD 15	-526	-246	3993	1173.88	1.42	159.28
360	SLD 16	-446	-228	4017	1179.7	1.29	135.25
360	SLV 1	787	188	5094	1430.46	2.47	-240.14
360	SLV 2	912	217	5130	1439.64	2.26	-278.02
360	SLV 3	718	-276	3363	1031.62	1.7	-218.39
360	SLV 4	843	-248	3399	1040.8	1.5	-256.26
360	SLV 5	341	705	7233	1922.13	3.15	-105.58
360	SLV 6	426	724	7258	1928.31	3.01	-131.07
360	SLV 7	111	-844	1463	592.66	0.6	-33.07
360	SLV 8	195	-825	1487	598.84	0.47	-58.57
360	SLV 9	-127	679	7331	1943.44	3	36.82
360	SLV 10	-43	698	7355	1949.61	2.86	11.33
360	SLV 11	-358	-870	1560	613.97	0.46	109.33
360	SLV 12	-274	-851	1585	620.15	0.32	83.83
360	SLV 13	-775	102	5419	1501.48	1.97	234.52
360	SLV 14	-650	130	5455	1510.65	1.77	196.65
360	SLV 15	-845	-363	3688	1102.64	1.21	256.27
360	SLV 16	-719	-334	3724	1111.81	1	218.4
360	SLV FO 1	862	215	5162	1446.4	2.54	-263.07
360	SLV FO 2	1000	246	5203	1456.49	2.31	-304.73
360	SLV FO 3	786	-297	3258	1007.67	1.7	-239.14
360	SLV FO 4	924	-265	3298	1017.77	1.47	-280.8
360	SLV FO 5	372	783	7515	1987.23	3.29	-115.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
360	SLV FO 6	465	804	7543	1994.03	3.14	-143.09
360	SLV FO 7	118	-921	1168	524.82	0.49	-35.29
360	SLV FO 8	211	-900	1195	531.61	0.34	-63.33
360	SLV FO 9	-143	754	7623	2010.67	3.13	41.59
360	SLV FO 10	-51	775	7650	2017.46	2.98	13.54
360	SLV FO 11	-397	-950	1275	548.25	0.33	121.35
360	SLV FO 12	-304	-929	1303	555.05	0.18	93.3
360	SLV FO 13	-856	119	5520	1524.51	1.99	259.06
360	SLV FO 14	-718	151	5560	1534.6	1.77	217.4
360	SLV FO 15	-932	-392	3615	1085.79	1.15	282.99
360	SLV FO 16	-794	-361	3656	1095.88	0.93	241.33
360	CRTFP Ux+	0	0	0	0	0	0
360	CRTFP Ux-	0	0	0	0	0	0
360	CRTFP Uy+	0	0	0	0	0	0
360	CRTFP Uy-	0	0	0	0	0	0
361	SLU 1	33	-76	4050	1163.48	1	-10.53
361	SLU 2	36	-55	4118	1178.95	1	-11.6
361	SLU 3	33	-78	4116	1183.32	1.02	-10.49
361	SLU 4	35	-65	4157	1192.6	1.03	-11.13
361	SLU 5	36	-56	4160	1191.39	1.03	-11.44
361	SLU 6	32	-79	4157	1195.76	1.05	-10.33
361	SLU 7	34	-67	4199	1205.04	1.05	-10.97
361	SLU 8	32	-79	4132	1188.37	1.04	-10.21
361	SLU 9	34	-66	4174	1197.64	1.04	-10.85
361	SLU 10	38	-63	4636	1326.9	1.21	-12.05
361	SLU 11	34	-86	4633	1331.27	1.23	-10.95
361	SLU 12	36	-73	4674	1340.55	1.24	-11.59
361	SLU 13	37	-65	4677	1339.34	1.23	-11.89
361	SLU 14	33	-88	4675	1343.71	1.25	-10.79
361	SLU 15	36	-75	4716	1352.99	1.26	-11.43
361	SLU 16	33	-87	4650	1336.32	1.25	-10.66
361	SLU 17	35	-75	4691	1345.6	1.25	-11.31
361	SLU 18	35	-88	4789	1374.84	1.29	-11.18
361	SLU 19	37	-75	4830	1384.12	1.3	-11.82
361	SLU 20	34	-90	4830	1387.28	1.31	-11.02
361	SLU 21	36	-77	4871	1396.56	1.32	-11.66
361	SLU 22	37	-86	4588	1320.12	1.08	-11.97
361	SLU 23	41	-64	4657	1335.59	1.09	-13.04
361	SLU 24	37	-87	4655	1339.96	1.11	-11.93
361	SLU 25	39	-75	4696	1349.24	1.11	-12.57
361	SLU 26	40	-66	4698	1348.03	1.11	-12.88
361	SLU 27	37	-89	4696	1352.4	1.13	-11.77
361	SLU 28	39	-76	4737	1361.68	1.13	-12.41
361	SLU 29	36	-88	4671	1345.01	1.12	-11.65
361	SLU 30	38	-76	4712	1354.29	1.13	-12.29
361	SLU 31	42	-73	5174	1483.54	1.29	-13.49
361	SLU 32	39	-96	5172	1487.91	1.31	-12.39
361	SLU 33	41	-83	5213	1497.19	1.32	-13.03
361	SLU 34	42	-74	5216	1495.98	1.32	-13.33
361	SLU 35	38	-97	5213	1500.35	1.34	-12.22
361	SLU 36	40	-84	5254	1509.63	1.34	-12.87
361	SLU 37	38	-97	5188	1492.96	1.33	-12.1
361	SLU 38	40	-84	5230	1502.24	1.33	-12.74
361	SLU 39	39	-98	5327	1531.48	1.37	-12.62
361	SLU 40	41	-85	5369	1540.76	1.38	-13.26
361	SLU 41	39	-99	5369	1543.92	1.4	-12.46
361	SLU 42	41	-86	5410	1553.2	1.4	-13.1
361	SLU 43	41	-96	5080	1458.82	1.27	-13.2
361	SLU 44	45	-74	5149	1474.29	1.27	-14.27
361	SLU 45	41	-97	5146	1478.65	1.29	-13.16
361	SLU 46	43	-85	5187	1487.93	1.3	-13.8
361	SLU 47	44	-76	5190	1486.73	1.3	-14.1
361	SLU 48	40	-99	5188	1491.1	1.32	-13
361	SLU 49	43	-86	5229	1500.38	1.32	-13.64
361	SLU 50	40	-99	5163	1483.7	1.31	-12.87
361	SLU 51	42	-86	5204	1492.98	1.31	-13.52
361	SLU 52	46	-83	5666	1622.24	1.48	-14.72
361	SLU 53	42	-106	5664	1626.61	1.5	-13.61
361	SLU 54	44	-93	5705	1635.88	1.51	-14.25
361	SLU 55	45	-84	5707	1634.68	1.5	-14.56
361	SLU 56	42	-107	5705	1639.05	1.52	-13.45
361	SLU 57	44	-94	5746	1648.33	1.53	-14.09
361	SLU 58	41	-107	5680	1631.65	1.52	-13.33
361	SLU 59	43	-94	5721	1640.93	1.52	-13.97
361	SLU 60	43	-108	5819	1670.18	1.56	-13.84
361	SLU 61	45	-95	5860	1679.46	1.57	-14.49
361	SLU 62	42	-109	5860	1682.62	1.58	-13.68
361	SLU 63	45	-96	5901	1691.9	1.59	-14.33
361	SLU 64	46	-105	5619	1615.46	1.35	-14.63
361	SLU 65	49	-84	5687	1630.93	1.36	-15.7
361	SLU 66	46	-107	5685	1635.3	1.38	-14.6
361	SLU 67	48	-94	5726	1644.58	1.38	-15.24
361	SLU 68	49	-85	5729	1643.37	1.38	-15.54
361	SLU 69	45	-108	5726	1647.74	1.4	-14.44
361	SLU 70	47	-96	5767	1657.02	1.4	-15.08
361	SLU 71	45	-108	5701	1640.35	1.39	-14.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
361	SLU 72	47	-95	5742	1649.63	1.4	-14.95
361	SLU 73	50	-92	6205	1778.88	1.56	-16.16
361	SLU 74	47	-115	6202	1783.25	1.58	-15.05
361	SLU 75	49	-103	6243	1792.53	1.59	-15.69
361	SLU 76	50	-94	6246	1791.32	1.59	-16
361	SLU 77	46	-117	6244	1795.69	1.61	-14.89
361	SLU 78	48	-104	6285	1804.97	1.61	-15.53
361	SLU 79	46	-116	6219	1788.3	1.6	-14.77
361	SLU 80	48	-104	6260	1797.58	1.6	-15.41
361	SLU 81	48	-117	6358	1826.82	1.64	-15.28
361	SLU 82	50	-104	6399	1836.1	1.65	-15.92
361	SLU 83	47	-119	6399	1839.26	1.67	-15.12
361	SLU 84	49	-106	6440	1848.54	1.67	-15.76
361	SLE RA 1	34	-79	4204	1208.24	1.02	-10.94
361	SLE RA 2	36	-64	4249	1218.55	1.02	-11.65
361	SLE RA 3	34	-80	4248	1221.46	1.04	-10.92
361	SLE RA 4	35	-71	4275	1227.65	1.04	-11.34
361	SLE RA 5	36	-65	4277	1226.84	1.04	-11.55
361	SLE RA 6	34	-81	4275	1229.75	1.05	-10.81
361	SLE RA 7	35	-72	4303	1235.94	1.06	-11.24
361	SLE RA 8	33	-81	4259	1224.83	1.05	-10.73
361	SLE RA 9	35	-72	4286	1231.01	1.05	-11.15
361	SLE RA 10	37	-70	4594	1317.18	1.16	-11.96
361	SLE RA 11	35	-86	4593	1320.09	1.18	-11.22
361	SLE RA 12	36	-77	4620	1326.28	1.18	-11.65
361	SLE RA 13	37	-71	4622	1325.48	1.18	-11.85
361	SLE RA 14	35	-87	4620	1328.39	1.19	-11.11
361	SLE RA 15	36	-78	4648	1334.57	1.19	-11.54
361	SLE RA 16	34	-86	4604	1323.46	1.19	-11.03
361	SLE RA 17	36	-78	4631	1329.65	1.19	-11.46
361	SLE RA 18	35	-87	4696	1349.14	1.22	-11.37
361	SLE RA 19	37	-78	4724	1355.33	1.22	-11.8
361	SLE RA 20	35	-88	4724	1357.44	1.23	-11.27
361	SLE RA 21	36	-79	4751	1363.62	1.23	-11.69
361	SLE FR 1	34	-79	4204	1208.24	1.02	-10.94
361	SLE FR 2	35	-76	4213	1210.3	1.02	-11.08
361	SLE FR 3	34	-79	4215	1211.56	1.03	-10.9
361	SLE FR 4	35	-78	4361	1252.57	1.08	-11.21
361	SLE FR 5	34	-82	4362	1253.83	1.08	-11.03
361	SLE FR 6	35	-83	4450	1278.69	1.12	-11.16
361	SLE QP 1	34	-79	4204	1208.24	1.02	-10.94
361	SLE QP 2	35	-81	4351	1250.51	1.08	-11.07
361	SLD 1	515	78	4729	1338.24	1.45	-157.49
361	SLD 2	595	101	4757	1345.52	1.31	-181.57
361	SLD 3	474	-188	3728	1109.79	1.22	-144.63
361	SLD 4	554	-165	3756	1117.06	1.08	-168.71
361	SLD 5	227	367	5977	1622.07	1.56	-70.36
361	SLD 6	278	381	5995	1626.75	1.47	-85.87
361	SLD 7	91	-521	2642	860.55	0.8	-27.49
361	SLD 8	142	-507	2660	865.24	0.71	-43
361	SLD 9	-73	344	6043	1635.78	1.45	20.86
361	SLD 10	-21	359	6061	1640.47	1.36	5.35
361	SLD 11	-209	-544	2707	874.27	0.69	63.73
361	SLD 12	-158	-529	2726	878.95	0.6	48.22
361	SLD 13	-484	3	4947	1383.96	1.07	146.57
361	SLD 14	-405	26	4975	1391.23	0.93	122.49
361	SLD 15	-525	-263	3946	1155.5	0.85	159.43
361	SLD 16	-446	-241	3974	1162.78	0.71	135.35
361	SLV 1	788	188	5012	1403.66	1.68	-240.81
361	SLV 2	914	223	5056	1415.13	1.46	-278.78
361	SLV 3	718	-267	3304	1013.8	1.29	-218.88
361	SLV 4	844	-231	3349	1025.26	1.07	-256.85
361	SLV 5	343	682	7131	1885.61	1.89	-106.17
361	SLV 6	428	706	7161	1893.33	1.74	-131.73
361	SLV 7	110	-833	1439	586.06	0.59	-33.07
361	SLV 8	195	-809	1469	593.78	0.45	-58.63
361	SLV 9	-126	646	7234	1907.24	1.71	36.48
361	SLV 10	-41	670	7264	1914.96	1.56	10.92
361	SLV 11	-359	-868	1542	607.69	0.42	109.59
361	SLV 12	-274	-844	1572	615.41	0.27	84.03
361	SLV 13	-775	69	5354	1475.75	1.09	234.71
361	SLV 14	-649	104	5399	1487.22	0.87	196.74
361	SLV 15	-845	-385	3647	1085.89	0.7	256.64
361	SLV 16	-719	-350	3691	1097.36	0.48	218.67
361	SLV FO 1	863	214	5078	1418.98	1.74	-263.79
361	SLV FO 2	1002	253	5127	1431.59	1.5	-305.55
361	SLV FO 3	787	-285	3199	990.13	1.31	-239.66
361	SLV FO 4	925	-246	3248	1002.74	1.07	-281.42
361	SLV FO 5	374	758	7409	1949.12	1.97	-115.68
361	SLV FO 6	467	785	7442	1957.61	1.81	-143.8
361	SLV FO 7	118	-908	1148	519.62	0.55	-35.27
361	SLV FO 8	211	-881	1181	528.11	0.38	-63.38
361	SLV FO 9	-142	719	7522	1972.91	1.78	41.24
361	SLV FO 10	-49	745	7555	1981.4	1.61	13.12
361	SLV FO 11	-398	-947	1261	543.41	0.35	121.66
361	SLV FO 12	-305	-921	1294	551.9	0.19	93.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
361	SLV FO 13	-856	84	5454	1498.28	1.09	259.28
361	SLV FO 14	-717	123	5503	1510.89	0.84	217.52
361	SLV FO 15	-932	-416	3576	1069.43	0.66	283.41
361	SLV FO 16	-794	-377	3625	1082.04	0.42	241.64
361	CRTFP Ux+	0	0	0	0	0	0
361	CRTFP Ux-	0	0	0	0	0	0
361	CRTFP Uy+	0	0	0	0	0	0
361	CRTFP Uy-	0	0	0	0	0	0
362	SLU 1	34	-84	4030	1155.4	-0.07	-10.76
362	SLU 2	37	-63	4099	1170.86	-0.09	-11.85
362	SLU 3	33	-86	4096	1174.98	-0.07	-10.73
362	SLU 4	36	-73	4137	1184.25	-0.08	-11.38
362	SLU 5	37	-64	4140	1183.09	-0.08	-11.69
362	SLU 6	33	-87	4137	1187.21	-0.06	-10.57
362	SLU 7	35	-75	4178	1196.49	-0.07	-11.22
362	SLU 8	33	-87	4112	1179.86	-0.05	-10.44
362	SLU 9	35	-74	4153	1189.14	-0.07	-11.09
362	SLU 10	38	-72	4611	1317.01	-0.05	-12.31
362	SLU 11	35	-95	4608	1321.13	-0.02	-11.2
362	SLU 12	37	-82	4649	1330.4	-0.03	-11.85
362	SLU 13	38	-74	4652	1329.24	-0.04	-12.15
362	SLU 14	34	-97	4649	1333.36	-0.01	-11.04
362	SLU 15	36	-84	4690	1342.64	-0.02	-11.69
362	SLU 16	34	-96	4624	1326.01	-0.01	-10.91
362	SLU 17	36	-84	4665	1335.29	-0.02	-11.56
362	SLU 18	36	-97	4762	1364.18	-0.01	-11.43
362	SLU 19	38	-84	4803	1373.46	-0.02	-12.08
362	SLU 20	35	-99	4803	1376.42	0	-11.27
362	SLU 21	37	-86	4844	1385.69	-0.01	-11.92
362	SLU 22	38	-94	4569	1311.76	-0.16	-12.23
362	SLU 23	42	-73	4637	1327.22	-0.18	-13.32
362	SLU 24	38	-96	4634	1331.34	-0.15	-12.2
362	SLU 25	40	-83	4675	1340.62	-0.17	-12.85
362	SLU 26	41	-75	4678	1339.45	-0.17	-13.16
362	SLU 27	38	-97	4675	1343.58	-0.14	-12.04
362	SLU 28	40	-85	4716	1352.85	-0.16	-12.69
362	SLU 29	37	-97	4650	1336.23	-0.14	-11.91
362	SLU 30	39	-84	4691	1345.5	-0.15	-12.56
362	SLU 31	43	-82	5150	1473.37	-0.13	-13.78
362	SLU 32	39	-105	5146	1477.49	-0.11	-12.67
362	SLU 33	42	-93	5188	1486.77	-0.12	-13.32
362	SLU 34	42	-84	5190	1485.6	-0.12	-13.62
362	SLU 35	39	-107	5187	1489.73	-0.1	-12.51
362	SLU 36	41	-94	5229	1499	-0.11	-13.16
362	SLU 37	39	-106	5162	1482.38	-0.1	-12.38
362	SLU 38	41	-94	5204	1491.65	-0.11	-13.03
362	SLU 39	40	-107	5300	1520.55	-0.1	-12.9
362	SLU 40	42	-95	5342	1529.82	-0.11	-13.55
362	SLU 41	40	-109	5341	1532.78	-0.09	-12.74
362	SLU 42	42	-96	5383	1542.06	-0.1	-13.39
362	SLU 43	42	-105	5055	1448.41	-0.07	-13.49
362	SLU 44	46	-84	5124	1463.87	-0.09	-14.57
362	SLU 45	42	-107	5120	1467.99	-0.06	-13.46
362	SLU 46	44	-95	5162	1477.26	-0.07	-14.11
362	SLU 47	45	-86	5164	1476.1	-0.08	-14.41
362	SLU 48	41	-109	5161	1480.22	-0.05	-13.3
362	SLU 49	43	-96	5202	1489.5	-0.06	-13.95
362	SLU 50	41	-108	5136	1472.87	-0.05	-13.17
362	SLU 51	43	-96	5177	1482.15	-0.06	-13.82
362	SLU 52	47	-94	5636	1610.02	-0.04	-15.04
362	SLU 53	43	-117	5633	1614.14	-0.01	-13.92
362	SLU 54	45	-104	5674	1623.41	-0.02	-14.57
362	SLU 55	46	-95	5677	1622.25	-0.03	-14.88
362	SLU 56	43	-118	5673	1626.37	0	-13.77
362	SLU 57	45	-106	5715	1635.65	-0.01	-14.41
362	SLU 58	42	-118	5648	1619.02	0	-13.64
362	SLU 59	44	-105	5690	1628.3	-0.01	-14.29
362	SLU 60	44	-119	5787	1657.19	0	-14.16
362	SLU 61	46	-106	5828	1666.47	-0.01	-14.81
362	SLU 62	43	-120	5827	1669.43	0.01	-14
362	SLU 63	46	-108	5869	1678.7	0	-14.65
362	SLU 64	47	-115	5593	1604.77	-0.15	-14.96
362	SLU 65	50	-95	5662	1620.23	-0.17	-16.04
362	SLU 66	47	-117	5659	1624.35	-0.15	-14.93
362	SLU 67	49	-105	5700	1633.63	-0.16	-15.57
362	SLU 68	50	-96	5703	1632.46	-0.16	-15.88
362	SLU 69	46	-119	5699	1636.58	-0.14	-14.77
362	SLU 70	48	-107	5741	1645.86	-0.15	-15.42
362	SLU 71	46	-119	5675	1629.24	-0.13	-14.64
362	SLU 72	48	-106	5716	1638.51	-0.15	-15.29
362	SLU 73	52	-104	6174	1766.38	-0.13	-16.51
362	SLU 74	48	-127	6171	1770.5	-0.1	-15.39
362	SLU 75	50	-114	6212	1779.78	-0.11	-16.04
362	SLU 76	51	-105	6215	1778.61	-0.12	-16.35
362	SLU 77	47	-128	6212	1782.73	-0.09	-15.23
362	SLU 78	49	-116	6253	1792.01	-0.1	-15.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
362	SLU 79	47	-128	6187	1775.39	-0.09	-15.11
362	SLU 80	49	-115	6228	1784.66	-0.1	-15.76
362	SLU 81	49	-129	6325	1813.56	-0.09	-15.63
362	SLU 82	51	-116	6366	1822.83	-0.1	-16.28
362	SLU 83	48	-130	6366	1825.79	-0.08	-15.47
362	SLU 84	50	-118	6407	1835.07	-0.09	-16.12
362	SLE RA 1	35	-87	4184	1200.07	-0.1	-11.18
362	SLE RA 2	37	-73	4230	1210.38	-0.11	-11.9
362	SLE RA 3	35	-88	4228	1213.13	-0.09	-11.16
362	SLE RA 4	36	-80	4255	1219.31	-0.1	-11.59
362	SLE RA 5	37	-74	4257	1218.54	-0.11	-11.8
362	SLE RA 6	34	-89	4255	1221.28	-0.09	-11.06
362	SLE RA 7	36	-81	4282	1227.47	-0.1	-11.49
362	SLE RA 8	34	-89	4238	1216.38	-0.09	-10.97
362	SLE RA 9	36	-80	4266	1222.57	-0.09	-11.4
362	SLE RA 10	38	-79	4571	1307.81	-0.08	-12.22
362	SLE RA 11	36	-94	4569	1310.56	-0.06	-11.47
362	SLE RA 12	37	-86	4597	1316.74	-0.07	-11.91
362	SLE RA 13	38	-80	4599	1315.97	-0.07	-12.11
362	SLE RA 14	35	-95	4596	1318.72	-0.06	-11.37
362	SLE RA 15	37	-87	4624	1324.9	-0.06	-11.8
362	SLE RA 16	35	-95	4580	1313.82	-0.05	-11.28
362	SLE RA 17	36	-87	4607	1320	-0.06	-11.72
362	SLE RA 18	36	-95	4672	1339.26	-0.05	-11.63
362	SLE RA 19	38	-87	4699	1345.45	-0.06	-12.06
362	SLE RA 20	36	-96	4699	1347.42	-0.05	-11.52
362	SLE RA 21	37	-88	4727	1353.6	-0.06	-11.96
362	SLE FR 1	35	-87	4184	1200.07	-0.1	-11.18
362	SLE FR 2	35	-84	4193	1202.14	-0.1	-11.33
362	SLE FR 3	35	-87	4195	1203.34	-0.1	-11.14
362	SLE FR 4	36	-86	4340	1243.89	-0.09	-11.46
362	SLE FR 5	35	-90	4341	1245.09	-0.08	-11.27
362	SLE FR 6	36	-91	4428	1269.67	-0.08	-11.41
362	SLE QP 1	35	-87	4184	1200.07	-0.1	-11.18
362	SLE QP 2	35	-89	4330	1241.83	-0.09	-11.32
362	SLD 1	516	76	4696	1327.06	0.18	-158
362	SLD 2	596	103	4730	1335.96	0.03	-182.14
362	SLD 3	475	-185	3697	1099.9	0.34	-145.02
362	SLD 4	555	-158	3731	1108.8	0.19	-169.16
362	SLD 5	229	351	5949	1610.4	-0.22	-70.86
362	SLD 6	280	369	5970	1616.13	-0.32	-86.41
362	SLD 7	91	-518	2620	853.19	0.31	-27.58
362	SLD 8	142	-501	2642	858.92	0.21	-43.13
362	SLD 9	-71	322	6019	1624.74	-0.38	20.49
362	SLD 10	-20	340	6041	1630.48	-0.48	4.95
362	SLD 11	-209	-547	2690	867.53	0.15	63.77
362	SLD 12	-158	-530	2712	873.26	0.05	48.23
362	SLD 13	-484	-21	4930	1374.87	-0.36	146.52
362	SLD 14	-404	6	4964	1383.77	-0.51	122.38
362	SLD 15	-525	-282	3931	1147.7	-0.2	159.51
362	SLD 16	-446	-255	3965	1156.6	-0.36	135.37
362	SLV 1	790	188	4972	1390.98	0.32	-241.49
362	SLV 2	915	230	5025	1405.01	0.08	-279.53
362	SLV 3	719	-257	3268	1003.32	0.59	-219.35
362	SLV 4	845	-214	3321	1017.35	0.35	-257.39
362	SLV 5	345	661	7097	1871.91	-0.33	-106.85
362	SLV 6	430	689	7133	1881.35	-0.49	-132.46
362	SLV 7	110	-822	1417	579.71	0.57	-33.04
362	SLV 8	195	-794	1453	589.16	0.41	-58.66
362	SLV 9	-124	615	7208	1894.51	-0.58	36.02
362	SLV 10	-39	644	7243	1903.95	-0.75	10.41
362	SLV 11	-359	-868	1528	602.31	0.32	109.83
362	SLV 12	-275	-839	1563	611.76	0.16	84.22
362	SLV 13	-774	36	5340	1466.31	-0.52	234.76
362	SLV 14	-648	78	5393	1480.34	-0.77	196.71
362	SLV 15	-845	-409	3636	1078.65	-0.25	256.9
362	SLV 16	-719	-367	3689	1092.69	-0.5	218.85
362	SLV FO 1	865	216	5036	1405.89	0.37	-264.51
362	SLV FO 2	1003	262	5095	1421.33	0.1	-306.35
362	SLV FO 3	788	-274	3162	979.47	0.66	-240.15
362	SLV FO 4	926	-227	3220	994.9	0.39	-282
362	SLV FO 5	376	736	7374	1934.92	-0.35	-116.4
362	SLV FO 6	469	767	7413	1945.31	-0.53	-144.58
362	SLV FO 7	117	-895	1126	513.5	0.64	-35.22
362	SLV FO 8	211	-864	1166	523.89	0.46	-63.39
362	SLV FO 9	-140	686	7495	1959.78	-0.63	40.76
362	SLV FO 10	-47	717	7535	1970.17	-0.81	12.58
362	SLV FO 11	-399	-946	1247	538.36	0.36	121.94
362	SLV FO 12	-306	-914	1287	548.75	0.18	93.77
362	SLV FO 13	-855	49	5440	1488.76	-0.57	259.36
362	SLV FO 14	-717	95	5499	1504.2	-0.83	217.51
362	SLV FO 15	-933	-441	3566	1062.34	-0.27	283.72
362	SLV FO 16	-795	-394	3625	1077.77	-0.54	241.87
362	CRTFP Ux+	0	0	0	0	0	0
362	CRTFP Ux-	0	0	0	0	0	0
362	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
362	CRTFP Uy-	0	0	0	0	0	0
363	SLU 1	34	-91	4053	1161.73	-1.27	-11.02
363	SLU 2	38	-71	4123	1177.55	-1.33	-12.11
363	SLU 3	34	-93	4118	1181.32	-1.29	-10.99
363	SLU 4	36	-81	4160	1190.82	-1.32	-11.65
363	SLU 5	37	-73	4163	1189.74	-1.33	-11.95
363	SLU 6	34	-95	4159	1193.51	-1.29	-10.83
363	SLU 7	36	-83	4201	1203	-1.32	-11.49
363	SLU 8	33	-95	4134	1186.09	-1.28	-10.7
363	SLU 9	35	-82	4176	1195.59	-1.31	-11.36
363	SLU 10	39	-81	4636	1324.03	-1.46	-12.6
363	SLU 11	36	-104	4632	1327.8	-1.42	-11.47
363	SLU 12	38	-91	4674	1337.29	-1.45	-12.13
363	SLU 13	39	-83	4677	1336.21	-1.46	-12.44
363	SLU 14	35	-105	4672	1339.98	-1.42	-11.32
363	SLU 15	37	-93	4714	1349.47	-1.45	-11.97
363	SLU 16	35	-105	4647	1332.57	-1.41	-11.18
363	SLU 17	37	-93	4689	1342.06	-1.44	-11.84
363	SLU 18	36	-106	4786	1370.98	-1.46	-11.71
363	SLU 19	39	-94	4828	1380.47	-1.49	-12.37
363	SLU 20	36	-107	4827	1383.16	-1.46	-11.55
363	SLU 21	38	-95	4869	1392.65	-1.5	-12.21
363	SLU 22	39	-102	4597	1320.06	-1.55	-12.53
363	SLU 23	43	-82	4667	1335.88	-1.6	-13.62
363	SLU 24	39	-104	4663	1339.65	-1.56	-12.5
363	SLU 25	41	-92	4705	1349.15	-1.59	-13.16
363	SLU 26	42	-84	4708	1348.06	-1.6	-13.46
363	SLU 27	39	-106	4704	1351.83	-1.57	-12.34
363	SLU 28	41	-94	4746	1361.33	-1.6	-13
363	SLU 29	38	-106	4679	1344.42	-1.56	-12.21
363	SLU 30	40	-93	4721	1353.92	-1.59	-12.87
363	SLU 31	44	-92	5181	1482.35	-1.73	-14.11
363	SLU 32	41	-115	5177	1486.12	-1.69	-12.98
363	SLU 33	43	-102	5219	1495.62	-1.72	-13.64
363	SLU 34	44	-94	5222	1494.54	-1.73	-13.95
363	SLU 35	40	-116	5217	1498.31	-1.7	-12.82
363	SLU 36	42	-104	5259	1507.8	-1.73	-13.48
363	SLU 37	40	-116	5192	1490.89	-1.69	-12.69
363	SLU 38	42	-104	5234	1500.39	-1.72	-13.35
363	SLU 39	41	-117	5331	1529.3	-1.74	-13.22
363	SLU 40	43	-105	5373	1538.8	-1.77	-13.88
363	SLU 41	41	-118	5372	1541.48	-1.74	-13.06
363	SLU 42	43	-106	5414	1550.98	-1.77	-13.72
363	SLU 43	43	-115	5082	1455.96	-1.56	-13.8
363	SLU 44	47	-94	5152	1471.79	-1.61	-14.9
363	SLU 45	43	-117	5147	1475.56	-1.58	-13.78
363	SLU 46	45	-105	5189	1485.05	-1.61	-14.44
363	SLU 47	46	-96	5192	1483.97	-1.62	-14.74
363	SLU 48	42	-119	5188	1487.74	-1.58	-13.62
363	SLU 49	45	-106	5230	1497.24	-1.61	-14.28
363	SLU 50	42	-118	5163	1480.33	-1.57	-13.49
363	SLU 51	44	-106	5205	1489.82	-1.6	-14.14
363	SLU 52	48	-105	5665	1618.26	-1.74	-15.39
363	SLU 53	44	-127	5661	1622.03	-1.71	-14.26
363	SLU 54	47	-115	5703	1631.53	-1.74	-14.92
363	SLU 55	47	-106	5706	1630.44	-1.75	-15.23
363	SLU 56	44	-129	5701	1634.21	-1.71	-14.1
363	SLU 57	46	-117	5743	1643.71	-1.74	-14.76
363	SLU 58	43	-128	5676	1626.8	-1.7	-13.97
363	SLU 59	46	-116	5718	1636.3	-1.73	-14.63
363	SLU 60	45	-129	5815	1665.21	-1.75	-14.5
363	SLU 61	47	-117	5857	1674.71	-1.78	-15.16
363	SLU 62	45	-131	5856	1677.39	-1.75	-14.34
363	SLU 63	47	-119	5898	1686.89	-1.78	-15
363	SLU 64	48	-126	5626	1614.29	-1.84	-15.31
363	SLU 65	51	-105	5696	1630.12	-1.89	-16.41
363	SLU 66	48	-128	5692	1633.89	-1.85	-15.29
363	SLU 67	50	-116	5734	1643.38	-1.88	-15.94
363	SLU 68	51	-107	5737	1642.3	-1.89	-16.25
363	SLU 69	47	-130	5733	1646.07	-1.85	-15.13
363	SLU 70	49	-117	5775	1655.56	-1.89	-15.79
363	SLU 71	47	-129	5708	1638.66	-1.84	-15
363	SLU 72	49	-117	5750	1648.15	-1.87	-15.65
363	SLU 73	53	-116	6210	1776.59	-2.02	-16.89
363	SLU 74	49	-138	6206	1780.36	-1.98	-15.77
363	SLU 75	51	-126	6248	1789.85	-2.01	-16.43
363	SLU 76	52	-117	6251	1788.77	-2.02	-16.74
363	SLU 77	49	-140	6246	1792.54	-1.99	-15.61
363	SLU 78	51	-128	6288	1802.04	-2.02	-16.27
363	SLU 79	48	-139	6221	1785.13	-1.98	-15.48
363	SLU 80	50	-127	6263	1794.62	-2.01	-16.14
363	SLU 81	50	-140	6360	1823.54	-2.02	-16.01
363	SLU 82	52	-128	6402	1833.03	-2.05	-16.66
363	SLU 83	49	-142	6401	1835.72	-2.03	-15.85
363	SLU 84	51	-130	6443	1845.22	-2.06	-16.5
363	SLE RA 1	36	-94	4208	1206.97	-1.35	-11.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
363	SLE RA 2	38	-81	4255	1217.52	-1.39	-12.18
363	SLE RA 3	36	-96	4252	1220.03	-1.36	-11.43
363	SLE RA 4	37	-88	4280	1226.36	-1.38	-11.87
363	SLE RA 5	38	-82	4282	1225.64	-1.39	-12.07
363	SLE RA 6	35	-97	4279	1228.15	-1.36	-11.32
363	SLE RA 7	37	-89	4307	1234.48	-1.38	-11.76
363	SLE RA 8	35	-97	4262	1223.21	-1.36	-11.24
363	SLE RA 9	36	-88	4290	1229.54	-1.38	-11.67
363	SLE RA 10	39	-88	4597	1315.16	-1.47	-12.5
363	SLE RA 11	37	-103	4594	1317.68	-1.45	-11.75
363	SLE RA 12	38	-94	4622	1324.01	-1.47	-12.19
363	SLE RA 13	39	-89	4624	1323.29	-1.48	-12.4
363	SLE RA 14	36	-104	4621	1325.8	-1.45	-11.65
363	SLE RA 15	38	-96	4649	1332.13	-1.47	-12.09
363	SLE RA 16	36	-103	4605	1320.86	-1.44	-11.56
363	SLE RA 17	37	-95	4633	1327.19	-1.47	-12
363	SLE RA 18	37	-104	4697	1346.46	-1.48	-11.91
363	SLE RA 19	39	-96	4725	1352.79	-1.5	-12.35
363	SLE RA 20	37	-105	4724	1354.58	-1.48	-11.8
363	SLE RA 21	38	-97	4752	1360.91	-1.5	-12.24
363	SLE FR 1	36	-94	4208	1206.97	-1.35	-11.45
363	SLE FR 2	36	-92	4218	1209.08	-1.36	-11.59
363	SLE FR 3	36	-95	4219	1210.21	-1.35	-11.41
363	SLE FR 4	37	-95	4364	1250.92	-1.4	-11.73
363	SLE FR 5	36	-98	4366	1252.06	-1.39	-11.54
363	SLE FR 6	36	-99	4453	1276.71	-1.42	-11.68
363	SLE QP 1	36	-94	4208	1206.97	-1.35	-11.45
363	SLE QP 2	36	-97	4355	1248.81	-1.39	-11.59
363	SLD 1	518	74	4712	1332.74	-1.21	-158.56
363	SLD 2	597	105	4752	1343.46	-1.38	-182.74
363	SLD 3	476	-181	3701	1101.67	-0.62	-145.42
363	SLD 4	556	-150	3740	1112.39	-0.79	-169.61
363	SLD 5	230	336	5989	1622.6	-2.21	-71.44
363	SLD 6	282	356	6015	1629.51	-2.32	-87.01
363	SLD 7	91	-515	2618	852.37	-0.23	-27.66
363	SLD 8	142	-495	2643	859.28	-0.34	-43.23
363	SLD 9	-70	301	6067	1638.35	-2.44	20.06
363	SLD 10	-18	321	6092	1645.26	-2.55	4.48
363	SLD 11	-209	-551	2695	868.12	-0.47	63.84
363	SLD 12	-158	-531	2721	875.03	-0.58	48.27
363	SLD 13	-483	-44	4970	1385.24	-1.99	146.44
363	SLD 14	-403	-13	5009	1395.96	-2.16	122.25
363	SLD 15	-525	-300	3958	1154.17	-1.4	159.57
363	SLD 16	-445	-269	3998	1164.89	-1.57	135.38
363	SLV 1	791	189	4985	1396.21	-1.15	-242.21
363	SLV 2	917	238	5047	1413.11	-1.42	-280.34
363	SLV 3	720	-247	3259	1001.89	-0.14	-219.82
363	SLV 4	846	-198	3321	1018.79	-0.41	-257.94
363	SLV 5	348	640	7150	1887.93	-2.8	-107.63
363	SLV 6	432	673	7192	1899.31	-2.98	-133.3
363	SLV 7	109	-812	1397	573.54	0.57	-32.97
363	SLV 8	194	-779	1439	584.92	0.39	-58.63
363	SLV 9	-122	585	7271	1912.71	-3.17	35.46
363	SLV 10	-37	618	7313	1924.09	-3.35	9.8
363	SLV 11	-360	-868	1518	598.32	0.2	110.13
363	SLV 12	-275	-835	1560	609.7	0.02	84.46
363	SLV 13	-774	3	5389	1478.83	-2.37	234.77
363	SLV 14	-648	52	5451	1495.74	-2.64	196.64
363	SLV 15	-845	-433	3663	1084.52	-1.36	257.17
363	SLV 16	-719	-383	3725	1101.42	-1.63	219.04
363	SLV FO 1	867	218	5048	1410.95	-1.12	-265.28
363	SLV FO 2	1006	272	5116	1429.54	-1.42	-307.21
363	SLV FO 3	788	-262	3149	977.2	-0.01	-240.64
363	SLV FO 4	927	-208	3218	995.79	-0.31	-282.57
363	SLV FO 5	379	714	7430	1951.84	-2.94	-117.24
363	SLV FO 6	472	751	7476	1964.35	-3.14	-145.47
363	SLV FO 7	117	-884	1101	506.01	0.76	-35.11
363	SLV FO 8	210	-847	1147	518.53	0.56	-63.34
363	SLV FO 9	-138	653	7563	1979.1	-3.35	40.17
363	SLV FO 10	-44	689	7609	1991.62	-3.54	11.93
363	SLV FO 11	-400	-945	1234	533.28	0.36	122.3
363	SLV FO 12	-306	-909	1280	545.79	0.16	94.07
363	SLV FO 13	-854	13	5492	1501.84	-2.47	259.4
363	SLV FO 14	-716	67	5561	1520.43	-2.77	217.47
363	SLV FO 15	-933	-466	3594	1068.09	-1.36	284.04
363	SLV FO 16	-795	-412	3662	1086.68	-1.66	242.11
363	CRTFP Ux+	0	0	0	0	0	0
363	CRTFP Ux-	0	0	0	0	0	0
363	CRTFP Uy+	0	0	0	0	0	0
363	CRTFP Uy-	0	0	0	0	0	0
364	SLU 1	35	-98	4113	1181.21	-2.26	-11.24
364	SLU 2	39	-79	4185	1197.78	-2.34	-12.36
364	SLU 3	35	-101	4179	1201.07	-2.3	-11.22
364	SLU 4	37	-89	4223	1211.01	-2.34	-11.89
364	SLU 5	38	-80	4226	1210.06	-2.36	-12.2
364	SLU 6	35	-103	4220	1213.34	-2.31	-11.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
364	SLU 7	37	-91	4263	1223.29	-2.36	-11.73
364	SLU 8	34	-102	4195	1205.77	-2.29	-10.92
364	SLU 9	36	-90	4238	1215.71	-2.34	-11.59
364	SLU 10	40	-90	4706	1346.52	-2.62	-12.85
364	SLU 11	37	-112	4700	1349.81	-2.58	-11.72
364	SLU 12	39	-100	4743	1359.75	-2.62	-12.39
364	SLU 13	40	-91	4746	1358.8	-2.64	-12.69
364	SLU 14	36	-114	4740	1362.08	-2.59	-11.56
364	SLU 15	38	-102	4784	1372.03	-2.64	-12.23
364	SLU 16	36	-113	4715	1354.51	-2.57	-11.42
364	SLU 17	38	-101	4758	1364.45	-2.62	-12.09
364	SLU 18	37	-114	4856	1393.7	-2.66	-11.95
364	SLU 19	39	-102	4900	1403.64	-2.71	-12.62
364	SLU 20	37	-116	4897	1405.98	-2.68	-11.79
364	SLU 21	39	-104	4941	1415.92	-2.72	-12.46
364	SLU 22	40	-110	4670	1343.5	-2.69	-12.79
364	SLU 23	44	-90	4742	1360.07	-2.77	-13.91
364	SLU 24	40	-112	4736	1363.35	-2.72	-12.77
364	SLU 25	42	-101	4779	1373.29	-2.77	-13.44
364	SLU 26	43	-92	4783	1372.34	-2.78	-13.75
364	SLU 27	40	-114	4777	1375.63	-2.74	-12.61
364	SLU 28	42	-102	4820	1385.57	-2.78	-13.28
364	SLU 29	39	-114	4751	1368.05	-2.72	-12.47
364	SLU 30	41	-102	4795	1377.99	-2.77	-13.14
364	SLU 31	45	-101	5262	1508.8	-3.05	-14.4
364	SLU 32	42	-124	5257	1512.09	-3	-13.27
364	SLU 33	44	-112	5300	1522.03	-3.05	-13.94
364	SLU 34	45	-103	5303	1521.08	-3.06	-14.24
364	SLU 35	41	-125	5297	1524.37	-3.01	-13.11
364	SLU 36	43	-113	5341	1534.31	-3.06	-13.78
364	SLU 37	41	-125	5272	1516.79	-3	-12.97
364	SLU 38	43	-113	5315	1526.73	-3.04	-13.64
364	SLU 39	42	-126	5413	1555.98	-3.09	-13.5
364	SLU 40	44	-114	5457	1565.92	-3.14	-14.17
364	SLU 41	42	-128	5454	1568.26	-3.1	-13.34
364	SLU 42	44	-116	5497	1578.2	-3.15	-14.01
364	SLU 43	44	-124	5156	1479.94	-2.8	-14.08
364	SLU 44	48	-104	5228	1496.51	-2.88	-15.2
364	SLU 45	44	-126	5222	1499.79	-2.83	-14.06
364	SLU 46	46	-114	5265	1509.73	-2.88	-14.73
364	SLU 47	47	-106	5269	1508.78	-2.89	-15.04
364	SLU 48	44	-128	5263	1512.07	-2.84	-13.9
364	SLU 49	46	-116	5306	1522.01	-2.89	-14.57
364	SLU 50	43	-127	5237	1504.49	-2.83	-13.76
364	SLU 51	45	-116	5281	1514.43	-2.87	-14.43
364	SLU 52	49	-115	5748	1645.25	-3.16	-15.69
364	SLU 53	46	-137	5742	1648.53	-3.11	-14.56
364	SLU 54	48	-125	5786	1658.47	-3.16	-15.23
364	SLU 55	49	-117	5789	1657.52	-3.17	-15.53
364	SLU 56	45	-139	5783	1660.81	-3.12	-14.4
364	SLU 57	47	-127	5827	1670.75	-3.17	-15.07
364	SLU 58	45	-139	5758	1653.23	-3.11	-14.26
364	SLU 59	47	-127	5801	1663.17	-3.15	-14.93
364	SLU 60	46	-140	5899	1692.42	-3.2	-14.79
364	SLU 61	48	-128	5943	1702.36	-3.24	-15.46
364	SLU 62	46	-142	5940	1704.7	-3.21	-14.63
364	SLU 63	48	-130	5983	1714.64	-3.26	-15.3
364	SLU 64	49	-136	5713	1642.22	-3.22	-15.63
364	SLU 65	53	-116	5785	1658.79	-3.3	-16.75
364	SLU 66	49	-138	5779	1662.07	-3.25	-15.61
364	SLU 67	51	-126	5822	1672.02	-3.3	-16.28
364	SLU 68	52	-118	5826	1671.07	-3.32	-16.59
364	SLU 69	48	-140	5820	1674.35	-3.27	-15.45
364	SLU 70	51	-128	5863	1684.29	-3.32	-16.12
364	SLU 71	48	-139	5794	1666.78	-3.25	-15.31
364	SLU 72	50	-127	5838	1676.72	-3.3	-15.98
364	SLU 73	54	-127	6305	1807.53	-3.58	-17.24
364	SLU 74	50	-149	6299	1810.81	-3.53	-16.11
364	SLU 75	53	-137	6343	1820.76	-3.58	-16.78
364	SLU 76	54	-129	6346	1819.81	-3.6	-17.09
364	SLU 77	50	-151	6340	1823.09	-3.55	-15.95
364	SLU 78	52	-139	6384	1833.03	-3.6	-16.62
364	SLU 79	49	-150	6315	1815.51	-3.53	-15.81
364	SLU 80	52	-138	6358	1825.46	-3.58	-16.48
364	SLU 81	51	-151	6456	1854.71	-3.62	-16.34
364	SLU 82	53	-140	6499	1864.65	-3.67	-17.01
364	SLU 83	51	-153	6497	1866.98	-3.64	-16.18
364	SLU 84	53	-141	6540	1876.92	-3.68	-16.85
364	SLE RA 1	37	-102	4272	1227.58	-2.39	-11.68
364	SLE RA 2	39	-89	4320	1238.63	-2.44	-12.43
364	SLE RA 3	37	-103	4316	1240.82	-2.41	-11.67
364	SLE RA 4	38	-95	4345	1247.44	-2.44	-12.12
364	SLE RA 5	39	-90	4347	1246.81	-2.45	-12.32
364	SLE RA 6	36	-105	4343	1249	-2.42	-11.56
364	SLE RA 7	38	-97	4372	1255.63	-2.45	-12.01
364	SLE RA 8	36	-104	4326	1243.95	-2.4	-11.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
364	SLE RA 9	37	-96	4355	1250.58	-2.44	-11.92
364	SLE RA 10	40	-96	4667	1337.79	-2.62	-12.76
364	SLE RA 11	38	-111	4663	1339.98	-2.59	-12
364	SLE RA 12	39	-103	4692	1346.6	-2.62	-12.45
364	SLE RA 13	40	-97	4694	1345.97	-2.63	-12.65
364	SLE RA 14	37	-112	4690	1348.16	-2.6	-11.9
364	SLE RA 15	39	-104	4719	1354.79	-2.63	-12.34
364	SLE RA 16	37	-112	4673	1343.11	-2.59	-11.8
364	SLE RA 17	38	-104	4702	1349.74	-2.62	-12.25
364	SLE RA 18	38	-112	4768	1369.24	-2.65	-12.16
364	SLE RA 19	39	-104	4796	1375.86	-2.68	-12.6
364	SLE RA 20	38	-113	4795	1377.42	-2.66	-12.05
364	SLE RA 21	39	-106	4824	1384.05	-2.69	-12.5
364	SLE FR 1	37	-102	4272	1227.58	-2.39	-11.68
364	SLE FR 2	37	-99	4282	1229.79	-2.4	-11.83
364	SLE FR 3	37	-102	4283	1230.85	-2.39	-11.64
364	SLE FR 4	38	-102	4430	1272.29	-2.48	-11.98
364	SLE FR 5	37	-105	4431	1273.35	-2.47	-11.78
364	SLE FR 6	37	-107	4520	1298.41	-2.52	-11.92
364	SLE QP 1	37	-102	4272	1227.58	-2.39	-11.68
364	SLE QP 2	37	-105	4421	1270.08	-2.47	-11.83
364	SLD 1	519	72	4771	1353.35	-2.32	-159.15
364	SLD 2	599	107	4818	1366.08	-2.5	-183.39
364	SLD 3	476	-178	3732	1113.23	-1.33	-145.83
364	SLD 4	556	-143	3779	1125.96	-1.51	-170.08
364	SLD 5	232	322	6094	1657.05	-3.9	-72.04
364	SLD 6	284	344	6123	1665.25	-4.01	-87.66
364	SLD 7	91	-513	2630	856.65	-0.59	-27.67
364	SLD 8	142	-490	2660	864.85	-0.7	-43.28
364	SLD 9	-68	280	6181	1675.3	-4.23	19.63
364	SLD 10	-16	303	6211	1683.5	-4.34	4.02
364	SLD 11	-210	-554	2718	874.91	-0.92	64
364	SLD 12	-158	-531	2747	883.1	-1.03	48.39
364	SLD 13	-482	-67	5063	1414.2	-3.42	146.42
364	SLD 14	-402	-32	5109	1426.92	-3.6	122.18
364	SLD 15	-524	-317	4024	1174.08	-2.43	159.74
364	SLD 16	-445	-282	4070	1186.81	-2.61	135.49
364	SLV 1	793	189	5043	1417.13	-2.31	-243.01
364	SLV 2	919	245	5115	1437.2	-2.6	-281.23
364	SLV 3	720	-237	3270	1007.38	-0.62	-220.31
364	SLV 4	846	-182	3342	1027.44	-0.91	-258.53
364	SLV 5	350	620	7283	1931.91	-4.93	-108.49
364	SLV 6	435	658	7332	1945.42	-5.13	-134.21
364	SLV 7	109	-802	1373	566.06	0.71	-32.81
364	SLV 8	194	-765	1422	579.57	0.52	-58.53
364	SLV 9	-119	555	7419	1960.59	-5.45	34.88
364	SLV 10	-35	593	7468	1974.09	-5.64	9.15
364	SLV 11	-361	-868	1510	594.74	0.2	110.56
364	SLV 12	-276	-830	1558	608.24	0	84.83
364	SLV 13	-772	-28	5499	1512.71	-4.02	234.87
364	SLV 14	-646	28	5571	1532.77	-4.32	196.66
364	SLV 15	-845	-455	3726	1102.96	-2.33	257.57
364	SLV 16	-719	-399	3798	1123.02	-2.62	219.36
364	SLV FO 1	868	219	5105	1431.84	-2.29	-266.13
364	SLV FO 2	1007	280	5185	1453.91	-2.61	-308.17
364	SLV FO 3	789	-251	3155	981.11	-0.43	-241.16
364	SLV FO 4	927	-190	3235	1003.18	-0.75	-283.2
364	SLV FO 5	382	693	7569	1998.1	-5.18	-118.15
364	SLV FO 6	475	734	7623	2012.95	-5.39	-146.45
364	SLV FO 7	116	-872	1068	495.66	1.03	-34.91
364	SLV FO 8	209	-831	1122	510.52	0.81	-63.21
364	SLV FO 9	-135	621	7719	2029.64	-5.75	39.55
364	SLV FO 10	-42	662	7773	2044.49	-5.96	11.25
364	SLV FO 11	-401	-944	1218	527.2	0.46	122.8
364	SLV FO 12	-307	-903	1272	542.06	0.25	94.5
364	SLV FO 13	-853	-20	5607	1536.98	-4.18	259.54
364	SLV FO 14	-715	41	5686	1559.04	-4.5	217.5
364	SLV FO 15	-933	-490	3656	1086.25	-2.32	284.51
364	SLV FO 16	-794	-429	3736	1108.31	-2.64	242.48
364	CRTFP Ux+	0	0	0	0	0	0
364	CRTFP Ux-	0	0	0	0	0	0
364	CRTFP Uy+	0	0	0	0	0	0
364	CRTFP Uy-	0	0	0	0	0	0
428	SLU 1	-80	21	3178	83.79	-583.75	7.17
428	SLU 2	-83	37	3256	85.64	-598.63	11.31
428	SLU 3	-82	21	3234	85.33	-593.62	7.34
428	SLU 4	-84	31	3281	86.44	-602.54	9.82
428	SLU 5	-84	37	3290	86.57	-604.51	11.47
428	SLU 6	-83	22	3268	86.25	-599.5	7.5
428	SLU 7	-85	31	3315	87.36	-608.43	9.98
428	SLU 8	-82	22	3246	85.64	-595.52	7.49
428	SLU 9	-84	31	3292	86.75	-604.45	9.98
428	SLU 10	-90	41	3650	96	-669.53	12.38
428	SLU 11	-88	25	3628	95.68	-664.52	8.4
428	SLU 12	-90	35	3675	96.79	-673.45	10.89
428	SLU 13	-91	41	3684	96.92	-675.42	12.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
428	SLU 14	-90	25	3662	96.61	-670.41	8.56
428	SLU 15	-92	35	3709	97.71	-679.33	11.05
428	SLU 16	-89	25	3640	96	-666.43	8.56
428	SLU 17	-91	35	3686	97.11	-675.35	11.04
428	SLU 18	-89	26	3741	98.59	-685.05	8.69
428	SLU 19	-91	36	3787	99.7	-693.97	11.18
428	SLU 20	-90	26	3775	99.51	-690.93	8.85
428	SLU 21	-92	36	3821	100.62	-699.86	11.34
428	SLU 22	-91	23	3632	95.84	-664.83	7.97
428	SLU 23	-95	39	3710	97.69	-679.71	12.11
428	SLU 24	-94	23	3689	97.38	-674.7	8.14
428	SLU 25	-96	33	3736	98.48	-683.62	10.62
428	SLU 26	-96	39	3744	98.62	-685.59	12.27
428	SLU 27	-95	24	3723	98.3	-680.58	8.3
428	SLU 28	-97	33	3769	99.41	-689.51	10.78
428	SLU 29	-94	24	3700	97.69	-676.6	8.29
428	SLU 30	-96	34	3747	98.8	-685.53	10.78
428	SLU 31	-101	43	4104	108.05	-750.61	13.18
428	SLU 32	-100	27	4083	107.73	-745.6	9.2
428	SLU 33	-102	37	4130	108.84	-754.53	11.69
428	SLU 34	-103	43	4138	108.97	-756.49	13.34
428	SLU 35	-101	27	4117	108.66	-751.49	9.36
428	SLU 36	-103	37	4163	109.76	-760.41	11.85
428	SLU 37	-101	27	4094	108.05	-747.5	9.36
428	SLU 38	-103	37	4141	109.16	-756.43	11.84
428	SLU 39	-101	28	4195	110.64	-766.12	9.49
428	SLU 40	-103	38	4242	111.75	-775.05	11.98
428	SLU 41	-102	28	4229	111.56	-772.01	9.65
428	SLU 42	-104	38	4276	112.67	-780.93	12.14
428	SLU 43	-100	26	3975	104.8	-731.08	9.05
428	SLU 44	-103	42	4053	106.65	-745.96	13.19
428	SLU 45	-102	27	4032	106.33	-740.95	9.21
428	SLU 46	-104	36	4079	107.44	-749.87	11.7
428	SLU 47	-104	43	4087	107.57	-751.84	13.35
428	SLU 48	-103	27	4066	107.26	-746.83	9.38
428	SLU 49	-105	37	4113	108.37	-755.76	11.86
428	SLU 50	-102	27	4043	106.65	-742.85	9.37
428	SLU 51	-104	37	4090	107.76	-751.78	11.85
428	SLU 52	-110	46	4447	117	-816.86	14.25
428	SLU 53	-108	30	4426	116.69	-811.85	10.28
428	SLU 54	-110	40	4473	117.8	-820.78	12.76
428	SLU 55	-111	47	4481	117.93	-822.75	14.42
428	SLU 56	-110	31	4460	117.61	-817.74	10.44
428	SLU 57	-112	41	4507	118.72	-826.66	12.93
428	SLU 58	-109	31	4437	117.01	-813.76	10.43
428	SLU 59	-111	41	4484	118.11	-822.68	12.92
428	SLU 60	-109	31	4538	119.59	-832.38	10.57
428	SLU 61	-111	41	4585	120.7	-841.3	13.05
428	SLU 62	-110	32	4572	120.52	-838.26	10.73
428	SLU 63	-112	42	4619	121.63	-847.18	13.21
428	SLU 64	-111	28	4430	116.85	-812.16	9.85
428	SLU 65	-115	44	4508	118.7	-827.03	13.99
428	SLU 66	-113	29	4486	118.38	-822.03	10.01
428	SLU 67	-116	38	4533	119.49	-830.95	12.5
428	SLU 68	-116	45	4542	119.62	-832.92	14.15
428	SLU 69	-115	29	4520	119.31	-827.91	10.18
428	SLU 70	-117	39	4567	120.42	-836.83	12.66
428	SLU 71	-114	29	4498	118.7	-823.93	10.17
428	SLU 72	-116	39	4544	119.81	-832.85	12.65
428	SLU 73	-121	48	4902	129.05	-897.94	15.05
428	SLU 74	-120	32	4880	128.74	-892.93	11.08
428	SLU 75	-122	42	4927	129.85	-901.85	13.56
428	SLU 76	-123	49	4936	129.98	-903.82	15.21
428	SLU 77	-121	33	4914	129.66	-898.81	11.24
428	SLU 78	-123	43	4961	130.77	-907.74	13.72
428	SLU 79	-120	33	4892	129.05	-894.83	11.23
428	SLU 80	-122	43	4938	130.16	-903.76	13.72
428	SLU 81	-121	33	4993	131.64	-913.45	11.37
428	SLU 82	-123	43	5039	132.75	-922.38	13.85
428	SLU 83	-122	34	5026	132.57	-919.34	11.53
428	SLU 84	-124	44	5073	133.68	-928.26	14.01
428	SLE RA 1	-83	21	3308	87.24	-606.92	7.4
428	SLE RA 2	-85	32	3360	88.47	-616.84	10.16
428	SLE RA 3	-85	22	3345	88.26	-613.5	7.51
428	SLE RA 4	-86	28	3377	89	-619.45	9.17
428	SLE RA 5	-86	32	3382	89.09	-620.76	10.27
428	SLE RA 6	-85	22	3368	88.87	-617.42	7.62
428	SLE RA 7	-87	28	3399	89.61	-623.37	9.27
428	SLE RA 8	-85	22	3353	88.47	-614.77	7.61
428	SLE RA 9	-86	28	3384	89.21	-620.72	9.27
428	SLE RA 10	-90	35	3622	95.37	-664.1	10.87
428	SLE RA 11	-89	24	3608	95.16	-660.77	8.22
428	SLE RA 12	-90	31	3639	95.9	-666.72	9.88
428	SLE RA 13	-91	35	3645	95.99	-668.03	10.98
428	SLE RA 14	-90	24	3631	95.78	-664.69	8.33
428	SLE RA 15	-91	31	3662	96.52	-670.64	9.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
428	SLE RA 16	-89	24	3615	95.37	-662.04	8.32
428	SLE RA 17	-91	31	3647	96.11	-667.98	9.98
428	SLE RA 18	-89	25	3683	97.1	-674.45	8.41
428	SLE RA 19	-91	31	3714	97.84	-680.4	10.07
428	SLE RA 20	-90	25	3705	97.72	-678.37	8.52
428	SLE RA 21	-91	32	3737	98.45	-684.32	10.18
428	SLE FR 1	-83	21	3308	87.24	-606.92	7.4
428	SLE FR 2	-84	23	3318	87.48	-608.9	7.95
428	SLE FR 3	-83	21	3317	87.48	-608.49	7.44
428	SLE FR 4	-85	24	3431	90.44	-629.16	8.26
428	SLE FR 5	-85	22	3429	90.44	-628.75	7.75
428	SLE FR 6	-86	23	3495	92.17	-640.68	7.91
428	SLE QP 1	-83	21	3308	87.24	-606.92	7.4
428	SLE QP 2	-85	22	3420	90.2	-627.18	7.7
428	SLD 1	168	260	4974	129.91	-903.88	17.93
428	SLD 2	219	171	4887	127.86	-887.56	-5.39
428	SLD 3	212	52	3898	104.11	-703.41	-34.8
428	SLD 4	263	-36	3811	102.06	-687.09	-58.12
428	SLD 5	-85	423	5532	141.59	-1017.04	94.75
428	SLD 6	-52	366	5476	140.27	-1006.53	79.73
428	SLD 7	63	-268	1948	55.6	-348.81	-81.01
428	SLD 8	95	-325	1892	54.28	-338.3	-96.02
428	SLD 9	-265	369	4949	126.11	-916.06	111.43
428	SLD 10	-232	312	4893	124.8	-905.55	96.41
428	SLD 11	-118	-321	1364	40.12	-247.82	-64.33
428	SLD 12	-85	-378	1308	38.81	-237.32	-79.35
428	SLD 13	-433	81	3029	78.33	-567.26	73.52
428	SLD 14	-382	-8	2942	76.28	-550.95	50.2
428	SLD 15	-389	-127	1954	52.53	-366.79	20.79
428	SLD 16	-338	-215	1867	50.49	-350.48	-2.53
428	SLV 1	308	408	5925	154.09	-1073.94	27.68
428	SLV 2	387	269	5787	150.86	-1048.22	-9.08
428	SLV 3	383	55	4089	110.06	-731.82	-62.27
428	SLV 4	463	-84	3952	106.83	-706.1	-99.03
428	SLV 5	-96	700	6981	176.74	-1284.88	156.98
428	SLV 6	-42	606	6888	174.57	-1267.57	132.23
428	SLV 7	155	-478	863	29.98	-144.49	-142.85
428	SLV 8	208	-572	771	27.81	-127.18	-167.6
428	SLV 9	-378	616	6070	152.58	-1127.18	183.01
428	SLV 10	-325	523	5977	150.41	-1109.86	158.26
428	SLV 11	-128	-562	-48	5.82	13.21	-116.83
428	SLV 12	-74	-656	-140	3.65	30.53	-141.58
428	SLV 13	-633	129	2888	73.56	-548.26	114.43
428	SLV 14	-553	-10	2751	70.33	-522.54	77.67
428	SLV 15	-557	-224	1053	29.53	-206.14	24.48
428	SLV 16	-478	-364	916	26.3	-180.42	-12.28
428	SLV FO 1	347	447	6175	160.48	-1118.61	29.68
428	SLV FO 2	435	294	6024	156.93	-1090.32	-10.76
428	SLV FO 3	430	58	4156	112.05	-742.28	-69.26
428	SLV FO 4	517	-95	4005	108.5	-713.99	-109.7
428	SLV FO 5	-97	768	7337	185.4	-1350.65	171.91
428	SLV FO 6	-38	665	7235	183.01	-1331.61	144.69
428	SLV FO 7	179	-528	607	23.96	-96.22	-157.91
428	SLV FO 8	238	-631	506	21.57	-77.18	-185.13
428	SLV FO 9	-407	676	6335	158.82	-1177.18	200.54
428	SLV FO 10	-348	573	6233	156.43	-1158.13	173.31
428	SLV FO 11	-132	-620	-395	-2.62	77.25	-129.28
428	SLV FO 12	-73	-723	-496	-5.01	96.3	-156.5
428	SLV FO 13	-687	140	2835	71.89	-540.36	125.11
428	SLV FO 14	-600	-13	2684	68.35	-512.07	84.67
428	SLV FO 15	-605	-249	816	23.46	-164.04	26.16
428	SLV FO 16	-517	-402	665	19.91	-135.74	-14.28
428	CRTFP Ux+	0	0	0	0	0	0
428	CRTFP Ux-	0	0	0	0	0	0
428	CRTFP Uy+	0	0	0	0	0	0
428	CRTFP Uy-	0	0	0	0	0	0
431	SLU 1	-118	-49	5555	150.58	-38.1	-0.31
431	SLU 2	-125	-22	5671	153.37	-37.32	-0.28
431	SLU 3	-121	-50	5650	153.25	-39.02	-0.31
431	SLU 4	-125	-34	5720	154.93	-38.55	-0.29
431	SLU 5	-127	-22	5730	155.04	-37.99	-0.29
431	SLU 6	-123	-50	5709	154.92	-39.69	-0.31
431	SLU 7	-127	-34	5779	156.59	-39.22	-0.29
431	SLU 8	-122	-50	5673	153.91	-39.44	-0.31
431	SLU 9	-126	-34	5743	155.58	-38.97	-0.3
431	SLU 10	-133	-26	6392	172.91	-43.47	-0.47
431	SLU 11	-130	-54	6371	172.79	-45.17	-0.49
431	SLU 12	-134	-38	6441	174.46	-44.7	-0.48
431	SLU 13	-135	-27	6451	174.57	-44.14	-0.47
431	SLU 14	-132	-55	6430	174.45	-45.84	-0.49
431	SLU 15	-136	-39	6500	176.13	-45.38	-0.48
431	SLU 16	-131	-55	6394	173.44	-45.6	-0.5
431	SLU 17	-135	-38	6464	175.12	-45.13	-0.48
431	SLU 18	-130	-55	6585	178.48	-46.89	-0.57
431	SLU 19	-134	-39	6655	180.16	-46.42	-0.56
431	SLU 20	-132	-56	6644	180.15	-47.56	-0.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
431	SLU 21	-136	-40	6714	181.82	-47.09	-0.56
431	SLU 22	-136	-55	6344	172.19	-44	-0.36
431	SLU 23	-143	-28	6460	174.98	-43.21	-0.34
431	SLU 24	-139	-56	6439	174.86	-44.92	-0.36
431	SLU 25	-143	-40	6509	176.54	-44.45	-0.34
431	SLU 26	-144	-29	6519	176.65	-43.89	-0.34
431	SLU 27	-141	-57	6498	176.53	-45.59	-0.36
431	SLU 28	-145	-40	6568	178.2	-45.12	-0.35
431	SLU 29	-140	-56	6462	175.52	-45.34	-0.36
431	SLU 30	-144	-40	6532	177.19	-44.87	-0.35
431	SLU 31	-151	-32	7181	194.52	-49.37	-0.52
431	SLU 32	-148	-60	7160	194.4	-51.07	-0.54
431	SLU 33	-152	-44	7230	196.07	-50.6	-0.53
431	SLU 34	-153	-33	7240	196.18	-50.04	-0.52
431	SLU 35	-150	-61	7219	196.06	-51.74	-0.55
431	SLU 36	-153	-45	7289	197.74	-51.27	-0.53
431	SLU 37	-148	-61	7183	195.05	-51.49	-0.55
431	SLU 38	-152	-45	7252	196.73	-51.02	-0.53
431	SLU 39	-148	-61	7374	200.09	-52.79	-0.62
431	SLU 40	-152	-45	7443	201.77	-52.32	-0.61
431	SLU 41	-150	-62	7433	201.76	-53.46	-0.63
431	SLU 42	-154	-46	7502	203.43	-52.99	-0.61
431	SLU 43	-148	-61	6951	188.34	-47.51	-0.38
431	SLU 44	-154	-34	7067	191.14	-46.73	-0.36
431	SLU 45	-151	-62	7046	191.02	-48.43	-0.38
431	SLU 46	-155	-46	7116	192.69	-47.96	-0.37
431	SLU 47	-156	-35	7126	192.8	-47.4	-0.36
431	SLU 48	-153	-63	7105	192.68	-49.1	-0.38
431	SLU 49	-156	-47	7175	194.36	-48.63	-0.37
431	SLU 50	-151	-63	7069	191.67	-48.85	-0.39
431	SLU 51	-155	-46	7139	193.35	-48.38	-0.37
431	SLU 52	-163	-39	7788	210.67	-52.88	-0.54
431	SLU 53	-159	-67	7767	210.55	-54.58	-0.57
431	SLU 54	-163	-51	7837	212.23	-54.11	-0.55
431	SLU 55	-165	-39	7847	212.33	-53.55	-0.54
431	SLU 56	-161	-67	7826	212.22	-55.25	-0.57
431	SLU 57	-165	-51	7896	213.89	-54.78	-0.55
431	SLU 58	-160	-67	7790	211.2	-55.01	-0.57
431	SLU 59	-164	-51	7860	212.88	-54.54	-0.56
431	SLU 60	-160	-68	7981	216.25	-56.3	-0.65
431	SLU 61	-164	-51	8051	217.92	-55.83	-0.63
431	SLU 62	-162	-68	8040	217.91	-56.97	-0.65
431	SLU 63	-166	-52	8110	219.59	-56.5	-0.63
431	SLU 64	-165	-67	7740	209.95	-53.4	-0.43
431	SLU 65	-172	-40	7856	212.75	-52.62	-0.41
431	SLU 66	-168	-68	7835	212.63	-54.32	-0.43
431	SLU 67	-172	-52	7905	214.3	-53.85	-0.42
431	SLU 68	-174	-41	7915	214.41	-53.29	-0.41
431	SLU 69	-170	-69	7894	214.29	-55	-0.44
431	SLU 70	-174	-53	7964	215.97	-54.53	-0.42
431	SLU 71	-169	-69	7858	213.28	-54.75	-0.44
431	SLU 72	-173	-53	7928	214.96	-54.28	-0.42
431	SLU 73	-180	-45	8577	232.28	-58.78	-0.6
431	SLU 74	-177	-73	8556	232.16	-60.48	-0.62
431	SLU 75	-181	-57	8626	233.84	-60.01	-0.6
431	SLU 76	-182	-46	8636	233.95	-59.45	-0.6
431	SLU 77	-179	-74	8615	233.83	-61.15	-0.62
431	SLU 78	-183	-57	8685	235.5	-60.68	-0.61
431	SLU 79	-178	-73	8579	232.82	-60.9	-0.62
431	SLU 80	-182	-57	8648	234.49	-60.43	-0.61
431	SLU 81	-178	-74	8770	237.86	-62.2	-0.7
431	SLU 82	-182	-58	8839	239.53	-61.73	-0.68
431	SLU 83	-180	-74	8829	239.52	-62.87	-0.7
431	SLU 84	-183	-58	8898	241.2	-62.4	-0.69
431	SLE RA 1	-123	-50	5780	156.75	-39.79	-0.32
431	SLE RA 2	-128	-32	5858	158.62	-39.26	-0.31
431	SLE RA 3	-125	-51	5844	158.54	-40.4	-0.32
431	SLE RA 4	-128	-40	5890	159.65	-40.08	-0.31
431	SLE RA 5	-129	-33	5897	159.73	-39.71	-0.31
431	SLE RA 6	-127	-52	5883	159.65	-40.85	-0.32
431	SLE RA 7	-129	-41	5930	160.76	-40.53	-0.31
431	SLE RA 8	-126	-51	5859	158.97	-40.68	-0.33
431	SLE RA 9	-128	-41	5906	160.09	-40.37	-0.32
431	SLE RA 10	-133	-35	6338	171.64	-43.37	-0.43
431	SLE RA 11	-131	-54	6325	171.56	-44.5	-0.45
431	SLE RA 12	-134	-43	6371	172.68	-44.19	-0.44
431	SLE RA 13	-135	-36	6378	172.75	-43.81	-0.43
431	SLE RA 14	-132	-55	6364	172.67	-44.95	-0.45
431	SLE RA 15	-135	-44	6410	173.79	-44.64	-0.44
431	SLE RA 16	-132	-54	6340	171.99	-44.78	-0.45
431	SLE RA 17	-134	-44	6386	173.11	-44.47	-0.44
431	SLE RA 18	-131	-55	6467	175.36	-45.65	-0.5
431	SLE RA 19	-134	-44	6513	176.47	-45.33	-0.49
431	SLE RA 20	-133	-55	6506	176.47	-46.09	-0.5
431	SLE RA 21	-135	-44	6553	177.58	-45.78	-0.49
431	SLE FR 1	-123	-50	5780	156.75	-39.79	-0.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
431	SLE FR 2	-124	-47	5796	157.13	-39.68	-0.32
431	SLE FR 3	-124	-51	5796	157.2	-39.96	-0.32
431	SLE FR 4	-127	-48	6002	162.71	-41.44	-0.37
431	SLE FR 5	-126	-52	6002	162.78	-41.72	-0.38
431	SLE FR 6	-127	-53	6124	166.05	-42.72	-0.41
431	SLE QP 1	-123	-50	5780	156.75	-39.79	-0.32
431	SLE QP 2	-126	-52	5986	162.33	-41.54	-0.38
431	SLD 1	415	63	7284	195.17	-19.78	-14.98
431	SLD 2	516	-7	7184	192.7	-21.03	-16.38
431	SLD 3	481	-271	5686	156.5	-24.82	-15.36
431	SLD 4	582	-342	5586	154.04	-26.07	-16.77
431	SLD 5	-81	502	8816	231.24	-27.15	-3.93
431	SLD 6	-16	457	8752	229.65	-27.95	-4.84
431	SLD 7	139	-613	3490	102.37	-43.96	-5.21
431	SLD 8	204	-658	3426	100.78	-44.77	-6.12
431	SLD 9	-455	554	8547	223.88	-38.32	5.37
431	SLD 10	-390	509	8482	222.29	-39.12	4.46
431	SLD 11	-236	-560	3221	95.01	-55.13	4.09
431	SLD 12	-171	-605	3156	93.42	-55.94	3.18
431	SLD 13	-833	238	6387	170.63	-57.01	16.02
431	SLD 14	-732	168	6286	168.16	-58.27	14.61
431	SLD 15	-767	-96	4789	131.97	-62.06	15.63
431	SLD 16	-666	-166	4689	129.5	-63.31	14.23
431	SLV 1	715	152	8131	216.46	-7.21	-23.2
431	SLV 2	874	41	7973	212.57	-9.18	-25.42
431	SLV 3	827	-418	5405	150.48	-15.79	-23.83
431	SLV 4	986	-529	5247	146.59	-17.77	-26.04
431	SLV 5	-72	895	10795	279.36	-17.86	-5.86
431	SLV 6	35	820	10688	276.74	-19.19	-7.35
431	SLV 7	299	-1006	1706	59.44	-46.46	-7.95
431	SLV 8	407	-1080	1600	56.82	-47.79	-9.44
431	SLV 9	-658	977	10373	267.84	-35.29	8.69
431	SLV 10	-551	902	10267	265.22	-36.62	7.2
431	SLV 11	-286	-924	1284	47.93	-63.9	6.6
431	SLV 12	-179	-998	1178	45.31	-65.23	5.11
431	SLV 13	-1237	426	6726	178.07	-65.32	25.29
431	SLV 14	-1078	315	6568	174.18	-67.3	23.08
431	SLV 15	-1126	-144	4000	112.1	-73.9	24.67
431	SLV 16	-967	-255	3842	108.21	-75.88	22.45
431	SLV FO 1	799	172	8346	221.87	-3.77	-25.48
431	SLV FO 2	974	50	8172	217.59	-5.95	-27.92
431	SLV FO 3	922	-455	5346	149.3	-13.21	-26.17
431	SLV FO 4	1097	-577	5173	145.02	-15.39	-28.61
431	SLV FO 5	-67	989	11275	291.06	-15.49	-6.41
431	SLV FO 6	51	907	11158	288.18	-16.95	-8.05
431	SLV FO 7	342	-1101	1278	49.16	-46.96	-8.71
431	SLV FO 8	460	-1183	1161	46.27	-48.42	-10.35
431	SLV FO 9	-711	1080	10812	278.39	-34.67	9.6
431	SLV FO 10	-593	998	10695	275.51	-36.13	7.96
431	SLV FO 11	-302	-1011	814	36.49	-66.13	7.3
431	SLV FO 12	-184	-1093	697	33.61	-67.6	5.66
431	SLV FO 13	-1348	473	6800	179.65	-67.7	27.86
431	SLV FO 14	-1173	352	6626	175.37	-69.87	25.42
431	SLV FO 15	-1226	-154	3801	107.08	-77.14	27.17
431	SLV FO 16	-1051	-276	3627	102.8	-79.31	24.73
431	CRTFP Ux+	0	0	0	0	0	0
431	CRTFP Ux-	0	0	0	0	0	0
431	CRTFP Uy+	0	0	0	0	0	0
431	CRTFP Uy-	0	0	0	0	0	0
434	SLU 1	62	-92	5736	155.06	38.91	-1.03
434	SLU 2	67	-65	5856	157.96	37.75	-1.05
434	SLU 3	62	-94	5828	157.66	39.67	-1.03
434	SLU 4	65	-77	5900	159.4	38.98	-1.04
434	SLU 5	67	-66	5911	159.53	38.28	-1.02
434	SLU 6	62	-95	5884	159.23	40.2	-1
434	SLU 7	65	-79	5956	160.97	39.5	-1.02
434	SLU 8	61	-94	5847	158.21	39.96	-0.98
434	SLU 9	64	-78	5919	159.95	39.27	-0.99
434	SLU 10	70	-74	6579	177.48	43.18	-1.03
434	SLU 11	65	-103	6552	177.18	45.11	-1.01
434	SLU 12	69	-87	6624	178.92	44.41	-1.03
434	SLU 13	70	-75	6635	179.05	43.71	-1.01
434	SLU 14	65	-104	6607	178.75	45.63	-0.99
434	SLU 15	68	-88	6679	180.49	44.94	-1
434	SLU 16	64	-103	6570	177.73	45.4	-0.97
434	SLU 17	67	-87	6642	179.46	44.7	-0.98
434	SLU 18	67	-105	6769	182.95	46.67	-1.01
434	SLU 19	70	-89	6841	184.69	45.98	-1.02
434	SLU 20	66	-106	6825	184.52	47.2	-0.99
434	SLU 21	69	-90	6897	186.26	46.5	-1
434	SLU 22	71	-102	6536	176.93	44.42	-1.18
434	SLU 23	76	-75	6656	179.82	43.27	-1.2
434	SLU 24	71	-104	6629	179.52	45.19	-1.18
434	SLU 25	74	-88	6701	181.26	44.49	-1.19
434	SLU 26	75	-76	6712	181.4	43.79	-1.17
434	SLU 27	70	-105	6684	181.09	45.71	-1.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
434	SLU 28	73	-89	6756	182.83	45.02	-1.17
434	SLU 29	70	-104	6647	180.07	45.48	-1.13
434	SLU 30	73	-88	6719	181.81	44.78	-1.14
434	SLU 31	79	-84	7380	199.34	48.7	-1.18
434	SLU 32	74	-113	7352	199.04	50.62	-1.16
434	SLU 33	77	-97	7424	200.78	49.92	-1.18
434	SLU 34	79	-85	7435	200.91	49.22	-1.16
434	SLU 35	74	-114	7408	200.61	51.15	-1.14
434	SLU 36	77	-98	7480	202.35	50.45	-1.15
434	SLU 37	73	-114	7371	199.59	50.91	-1.12
434	SLU 38	76	-97	7443	201.33	50.21	-1.13
434	SLU 39	75	-115	7570	204.81	52.18	-1.16
434	SLU 40	78	-99	7642	206.55	51.49	-1.17
434	SLU 41	75	-116	7625	206.38	52.71	-1.14
434	SLU 42	78	-100	7697	208.12	52.02	-1.15
434	SLU 43	77	-116	7182	194.09	48.69	-1.29
434	SLU 44	83	-89	7302	196.98	47.53	-1.3
434	SLU 45	78	-118	7275	196.68	49.46	-1.28
434	SLU 46	81	-101	7347	198.42	48.76	-1.3
434	SLU 47	82	-90	7358	198.56	48.06	-1.28
434	SLU 48	77	-119	7330	198.25	49.98	-1.26
434	SLU 49	80	-103	7402	199.99	49.29	-1.27
434	SLU 50	76	-118	7293	197.23	49.75	-1.24
434	SLU 51	79	-102	7365	198.97	49.05	-1.25
434	SLU 52	86	-98	8026	216.5	52.97	-1.29
434	SLU 53	81	-127	7998	216.2	54.89	-1.27
434	SLU 54	84	-111	8070	217.94	54.19	-1.28
434	SLU 55	85	-99	8081	218.07	53.49	-1.27
434	SLU 56	80	-128	8054	217.77	55.42	-1.25
434	SLU 57	84	-112	8126	219.51	54.72	-1.26
434	SLU 58	80	-127	8016	216.75	55.18	-1.23
434	SLU 59	83	-111	8089	218.49	54.48	-1.24
434	SLU 60	82	-129	8216	221.97	56.45	-1.27
434	SLU 61	85	-113	8288	223.71	55.76	-1.28
434	SLU 62	82	-130	8271	223.54	56.98	-1.24
434	SLU 63	85	-114	8343	225.28	56.29	-1.26
434	SLU 64	86	-126	7982	215.95	54.21	-1.44
434	SLU 65	91	-99	8103	218.85	53.05	-1.45
434	SLU 66	86	-128	8075	218.55	54.97	-1.43
434	SLU 67	90	-112	8147	220.28	54.27	-1.45
434	SLU 68	91	-100	8158	220.42	53.57	-1.43
434	SLU 69	86	-129	8130	220.12	55.5	-1.41
434	SLU 70	89	-113	8203	221.86	54.8	-1.42
434	SLU 71	85	-128	8093	219.09	55.26	-1.39
434	SLU 72	88	-112	8165	220.83	54.56	-1.4
434	SLU 73	95	-108	8826	238.37	58.48	-1.44
434	SLU 74	90	-137	8799	238.06	60.4	-1.42
434	SLU 75	93	-121	8871	239.8	59.71	-1.43
434	SLU 76	94	-109	8882	239.94	59.01	-1.42
434	SLU 77	89	-138	8854	239.64	60.93	-1.4
434	SLU 78	92	-122	8926	241.37	60.23	-1.41
434	SLU 79	88	-138	8817	238.61	60.69	-1.38
434	SLU 80	92	-121	8889	240.35	60	-1.39
434	SLU 81	91	-139	9016	243.83	61.97	-1.42
434	SLU 82	94	-123	9088	245.57	61.27	-1.43
434	SLU 83	90	-140	9071	245.4	62.49	-1.39
434	SLU 84	94	-124	9144	247.14	61.8	-1.41
434	SLE RA 1	64	-95	5964	161.31	40.49	-1.07
434	SLE RA 2	68	-77	6045	163.24	39.71	-1.08
434	SLE RA 3	64	-96	6026	163.04	40.99	-1.07
434	SLE RA 4	67	-85	6074	164.2	40.53	-1.08
434	SLE RA 5	67	-77	6082	164.29	40.06	-1.07
434	SLE RA 6	64	-97	6063	164.09	41.35	-1.06
434	SLE RA 7	66	-86	6111	165.25	40.88	-1.06
434	SLE RA 8	64	-96	6038	163.41	41.19	-1.04
434	SLE RA 9	66	-85	6086	164.56	40.72	-1.05
434	SLE RA 10	70	-83	6527	176.25	43.34	-1.07
434	SLE RA 11	67	-102	6508	176.05	44.62	-1.06
434	SLE RA 12	69	-91	6557	177.21	44.15	-1.07
434	SLE RA 13	70	-84	6564	177.3	43.69	-1.06
434	SLE RA 14	66	-103	6545	177.1	44.97	-1.05
434	SLE RA 15	68	-92	6594	178.26	44.5	-1.05
434	SLE RA 16	66	-102	6521	176.42	44.81	-1.03
434	SLE RA 17	68	-92	6569	177.58	44.35	-1.04
434	SLE RA 18	68	-103	6653	179.9	45.66	-1.06
434	SLE RA 19	70	-93	6702	181.06	45.2	-1.07
434	SLE RA 20	67	-104	6690	180.95	46.01	-1.04
434	SLE RA 21	69	-93	6739	182.11	45.55	-1.05
434	SLE FR 1	64	-95	5964	161.31	40.49	-1.07
434	SLE FR 2	65	-91	5980	161.7	40.33	-1.07
434	SLE FR 3	64	-95	5979	161.73	40.63	-1.07
434	SLE FR 4	66	-94	6187	167.27	41.88	-1.07
434	SLE FR 5	65	-98	6186	167.31	42.18	-1.06
434	SLE FR 6	66	-99	6309	170.6	43.07	-1.07
434	SLE QP 1	64	-95	5964	161.31	40.49	-1.07
434	SLE QP 2	65	-97	6171	166.89	42.04	-1.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
434	SLD 1	703	137	6513	174.55	49.71	-16.62
434	SLD 2	807	206	6623	177.26	47.76	-18.3
434	SLD 3	640	-205	4872	134.62	58.21	-16.12
434	SLD 4	744	-136	4981	137.33	56.26	-17.8
434	SLD 5	335	481	8745	229.28	31.79	-6.21
434	SLD 6	402	525	8815	231.02	30.53	-7.29
434	SLD 7	124	-661	3273	96.18	60.11	-4.53
434	SLD 8	191	-617	3343	97.93	58.86	-5.62
434	SLD 9	-60	422	8999	235.85	25.22	3.48
434	SLD 10	7	466	9070	237.59	23.96	2.4
434	SLD 11	-271	-720	3527	102.75	53.54	5.15
434	SLD 12	-204	-675	3597	104.49	52.29	4.07
434	SLD 13	-613	-58	7361	196.44	27.82	15.67
434	SLD 14	-509	11	7470	199.15	25.86	13.99
434	SLD 15	-676	-401	5719	156.51	36.31	16.17
434	SLD 16	-572	-332	5829	159.22	34.36	14.49
434	SLV 1	1066	294	6824	181.74	53.45	-25.42
434	SLV 2	1230	402	6997	186	50.37	-28.07
434	SLV 3	958	-291	4023	113.61	67.91	-24.58
434	SLV 4	1123	-182	4196	117.87	64.83	-27.23
434	SLV 5	499	886	10583	273.87	24.1	-9.16
434	SLV 6	609	959	10699	276.74	22.03	-10.94
434	SLV 7	139	-1062	1247	46.79	72.3	-6.34
434	SLV 8	250	-989	1363	49.66	70.23	-8.13
434	SLV 9	-119	794	10979	284.12	13.84	5.99
434	SLV 10	-8	867	11096	286.99	11.77	4.21
434	SLV 11	-479	-1154	1643	57.03	62.04	8.81
434	SLV 12	-368	-1081	1760	59.9	59.97	7.03
434	SLV 13	-992	-13	8146	215.9	19.24	25.09
434	SLV 14	-828	96	8319	220.16	16.17	22.44
434	SLV 15	-1100	-597	5345	147.77	33.7	25.94
434	SLV 16	-936	-488	5518	152.04	30.63	23.29
434	SLV FO 1	1166	333	6889	183.22	54.59	-27.86
434	SLV FO 2	1347	452	7079	187.91	51.2	-30.77
434	SLV FO 3	1048	-310	3808	108.28	70.49	-26.93
434	SLV FO 4	1228	-191	3998	112.97	67.11	-29.84
434	SLV FO 5	542	984	11024	284.57	22.31	-9.97
434	SLV FO 6	663	1065	11152	287.72	20.03	-11.93
434	SLV FO 7	146	-1158	754	34.77	75.33	-6.87
434	SLV FO 8	268	-1078	882	37.93	73.05	-8.83
434	SLV FO 9	-137	883	11460	295.84	11.02	6.7
434	SLV FO 10	-16	964	11588	299	8.74	4.74
434	SLV FO 11	-533	-1259	1190	46.05	64.04	9.8
434	SLV FO 12	-411	-1179	1318	49.21	61.77	7.83
434	SLV FO 13	-1098	-4	8344	220.8	16.96	27.71
434	SLV FO 14	-917	115	8534	225.49	13.58	24.79
434	SLV FO 15	-1216	-647	5263	145.86	32.87	28.64
434	SLV FO 16	-1036	-527	5453	150.55	29.49	25.72
434	CRTFP Ux+	0	0	0	0	0	0
434	CRTFP Ux-	0	0	0	0	0	0
434	CRTFP Uy+	0	0	0	0	0	0
434	CRTFP Uy-	0	0	0	0	0	0
437	SLU 1	55	25	3608	95.85	944.62	-9.97
437	SLU 2	58	44	3694	97.9	968.31	-16.73
437	SLU 3	56	26	3669	97.53	959.54	-10.35
437	SLU 4	57	37	3721	98.76	973.75	-14.41
437	SLU 5	58	45	3730	98.89	976.91	-17.19
437	SLU 6	56	27	3704	98.52	968.14	-10.81
437	SLU 7	58	39	3756	99.75	982.35	-14.87
437	SLU 8	55	27	3679	97.84	961.83	-10.89
437	SLU 9	57	39	3731	99.07	976.04	-14.95
437	SLU 10	62	47	4133	109.5	1080.63	-17.79
437	SLU 11	59	29	4107	109.12	1071.86	-11.41
437	SLU 12	61	40	4159	110.35	1086.07	-15.47
437	SLU 13	62	48	4168	110.49	1089.23	-18.25
437	SLU 14	60	30	4143	110.11	1080.46	-11.88
437	SLU 15	61	41	4194	111.34	1094.68	-15.93
437	SLU 16	59	30	4117	109.43	1074.15	-11.95
437	SLU 17	61	42	4169	110.66	1088.36	-16.01
437	SLU 18	60	29	4234	112.42	1105.08	-11.49
437	SLU 19	62	40	4286	113.65	1119.29	-15.54
437	SLU 20	60	30	4270	113.41	1113.69	-11.95
437	SLU 21	62	42	4322	114.64	1127.9	-16
437	SLU 22	62	25	4108	109.21	1071.62	-10.3
437	SLU 23	65	44	4194	111.25	1095.31	-17.06
437	SLU 24	63	26	4169	110.88	1086.54	-10.69
437	SLU 25	65	38	4221	112.11	1100.75	-14.74
437	SLU 26	66	46	4230	112.25	1103.91	-17.52
437	SLU 27	63	28	4204	111.87	1095.14	-11.15
437	SLU 28	65	39	4256	113.1	1109.35	-15.21
437	SLU 29	63	28	4179	111.19	1088.83	-11.23
437	SLU 30	64	39	4231	112.42	1103.04	-15.28
437	SLU 31	69	47	4633	122.85	1207.63	-18.13
437	SLU 32	67	29	4607	122.48	1198.86	-11.75
437	SLU 33	69	41	4659	123.71	1213.07	-15.81
437	SLU 34	69	48	4668	123.84	1216.23	-18.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
437	SLU 35	67	30	4643	123.47	1207.46	-12.21
437	SLU 36	69	42	4694	124.7	1221.68	-16.27
437	SLU 37	66	31	4617	122.79	1201.15	-12.29
437	SLU 38	68	42	4669	124.02	1215.36	-16.35
437	SLU 39	68	29	4734	125.77	1232.08	-11.82
437	SLU 40	70	41	4786	127	1246.29	-15.88
437	SLU 41	68	31	4770	126.76	1240.69	-12.28
437	SLU 42	70	42	4822	127.99	1254.9	-16.34
437	SLU 43	69	32	4519	120.03	1184.46	-12.84
437	SLU 44	72	51	4605	122.08	1208.15	-19.6
437	SLU 45	69	33	4580	121.7	1199.38	-13.23
437	SLU 46	71	45	4632	122.93	1213.59	-17.28
437	SLU 47	72	52	4641	123.07	1216.75	-20.06
437	SLU 48	70	34	4615	122.7	1207.98	-13.69
437	SLU 49	71	46	4667	123.92	1222.2	-17.74
437	SLU 50	69	35	4590	122.01	1201.67	-13.77
437	SLU 51	71	46	4642	123.24	1215.89	-17.82
437	SLU 52	76	54	5044	133.67	1320.47	-20.67
437	SLU 53	73	36	5018	133.3	1311.7	-14.29
437	SLU 54	75	47	5070	134.53	1325.91	-18.35
437	SLU 55	76	55	5079	134.67	1329.08	-21.13
437	SLU 56	73	37	5054	134.29	1320.31	-14.75
437	SLU 57	75	49	5105	135.52	1334.52	-18.81
437	SLU 58	73	37	5028	133.61	1314	-14.83
437	SLU 59	75	49	5080	134.84	1328.21	-18.89
437	SLU 60	74	36	5145	136.6	1344.92	-14.36
437	SLU 61	76	47	5197	137.82	1359.14	-18.42
437	SLU 62	74	37	5181	137.59	1353.53	-14.82
437	SLU 63	76	49	5233	138.82	1367.74	-18.88
437	SLU 64	76	32	5019	133.38	1311.46	-13.18
437	SLU 65	79	52	5105	135.43	1335.15	-19.94
437	SLU 66	77	34	5080	135.06	1326.38	-13.56
437	SLU 67	79	45	5132	136.29	1340.59	-17.62
437	SLU 68	79	53	5141	136.42	1343.75	-20.4
437	SLU 69	77	35	5115	136.05	1334.98	-14.02
437	SLU 70	79	46	5167	137.28	1349.2	-18.08
437	SLU 71	76	35	5090	135.37	1328.67	-14.1
437	SLU 72	78	47	5142	136.6	1342.88	-18.16
437	SLU 73	83	54	5544	147.03	1447.47	-21
437	SLU 74	81	36	5518	146.65	1438.7	-14.62
437	SLU 75	83	48	5570	147.88	1452.91	-18.68
437	SLU 76	83	56	5579	148.02	1456.08	-21.46
437	SLU 77	81	38	5554	147.65	1447.31	-15.09
437	SLU 78	83	49	5605	148.88	1461.52	-19.14
437	SLU 79	80	38	5528	146.96	1441	-15.16
437	SLU 80	82	49	5580	148.19	1455.21	-19.22
437	SLU 81	82	36	5645	149.95	1471.92	-14.7
437	SLU 82	84	48	5697	151.18	1486.13	-18.75
437	SLU 83	82	38	5681	150.94	1480.53	-15.16
437	SLU 84	84	49	5733	152.17	1494.74	-19.21
437	SLE RA 1	57	25	3751	99.67	980.9	-10.06
437	SLE RA 2	59	38	3808	101.03	996.7	-14.57
437	SLE RA 3	57	26	3791	100.78	990.85	-10.32
437	SLE RA 4	59	33	3826	101.6	1000.32	-13.02
437	SLE RA 5	59	38	3832	101.69	1002.43	-14.88
437	SLE RA 6	58	26	3815	101.45	996.59	-10.63
437	SLE RA 7	59	34	3850	102.26	1006.06	-13.33
437	SLE RA 8	57	27	3798	100.99	992.38	-10.68
437	SLE RA 9	58	34	3833	101.81	1001.85	-13.38
437	SLE RA 10	62	39	4101	108.76	1071.58	-15.28
437	SLE RA 11	60	27	4084	108.51	1065.73	-11.03
437	SLE RA 12	61	35	4118	109.33	1075.21	-13.73
437	SLE RA 13	62	40	4124	109.43	1077.31	-15.59
437	SLE RA 14	60	28	4107	109.18	1071.47	-11.34
437	SLE RA 15	61	36	4142	110	1080.94	-14.04
437	SLE RA 16	60	29	4090	108.72	1067.26	-11.39
437	SLE RA 17	61	36	4125	109.54	1076.74	-14.09
437	SLE RA 18	61	28	4168	110.71	1087.88	-11.07
437	SLE RA 19	62	35	4203	111.53	1097.35	-13.78
437	SLE RA 20	61	28	4192	111.37	1093.62	-11.38
437	SLE RA 21	62	36	4227	112.19	1103.09	-14.09
437	SLE FR 1	57	25	3751	99.67	980.9	-10.06
437	SLE FR 2	57	27	3762	99.94	984.06	-10.96
437	SLE FR 3	57	25	3760	99.93	983.2	-10.18
437	SLE FR 4	58	28	3888	103.25	1016.16	-11.27
437	SLE FR 5	58	26	3886	103.25	1015.29	-10.49
437	SLE FR 6	59	26	3960	105.19	1034.39	-10.57
437	SLE QP 1	57	25	3751	99.67	980.9	-10.06
437	SLE QP 2	58	26	3876	102.98	1013	-10.37
437	SLD 1	427	-1	3424	89.62	912.2	-70.12
437	SLD 2	488	101	3530	92.13	940.06	-107.3
437	SLD 3	378	-236	2264	61.92	603.99	13.21
437	SLD 4	439	-134	2370	64.44	631.85	-23.97
437	SLD 5	233	357	5482	140.55	1445.41	-148.29
437	SLD 6	272	422	5550	142.17	1463.36	-172.23
437	SLD 7	69	-427	1615	48.22	418.05	129.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
437	SLD 8	108	-361	1683	49.84	436	105.55
437	SLD 9	8	413	6069	156.12	1590	-126.28
437	SLD 10	47	478	6138	157.74	1607.94	-150.22
437	SLD 11	-156	-371	2202	63.8	562.64	151.5
437	SLD 12	-117	-305	2270	65.42	580.58	127.56
437	SLD 13	-323	186	5382	141.52	1394.14	3.24
437	SLD 14	-261	288	5488	144.04	1422.01	-33.94
437	SLD 15	-372	-49	4222	113.83	1085.93	86.57
437	SLD 16	-311	53	4328	116.34	1113.8	49.39
437	SLV 1	638	0	3255	84.14	878.03	-109.43
437	SLV 2	735	161	3422	88.1	921.95	-168.03
437	SLV 3	554	-401	1276	36.89	352.31	32.75
437	SLV 4	651	-240	1443	40.86	396.23	-25.86
437	SLV 5	342	596	6660	168.24	1761.65	-244.77
437	SLV 6	407	704	6773	170.91	1791.22	-284.23
437	SLV 7	61	-740	63	10.76	9.25	229.13
437	SLV 8	126	-632	176	13.43	38.82	189.67
437	SLV 9	-10	684	7576	192.53	1987.17	-210.41
437	SLV 10	55	792	7689	195.2	2016.74	-249.86
437	SLV 11	-291	-653	979	35.05	234.77	263.5
437	SLV 12	-226	-545	1092	37.72	264.34	224.04
437	SLV 13	-535	292	6309	165.1	1629.77	5.13
437	SLV 14	-438	452	6476	169.07	1673.69	-53.48
437	SLV 15	-619	-109	4330	117.86	1104.05	147.3
437	SLV 16	-522	51	4497	121.83	1147.97	88.7
437	SLV FO 1	696	-3	3193	82.25	864.53	-119.33
437	SLV FO 2	802	174	3377	86.61	912.84	-183.8
437	SLV FO 3	604	-444	1016	30.28	286.24	37.06
437	SLV FO 4	710	-267	1200	34.64	334.55	-27.41
437	SLV FO 5	370	653	6939	174.77	1836.52	-268.21
437	SLV FO 6	442	772	7062	177.71	1869.04	-311.61
437	SLV FO 7	62	-817	-318	1.54	-91.12	253.08
437	SLV FO 8	133	-698	-194	4.47	-58.6	209.68
437	SLV FO 9	-17	749	7946	201.49	2084.59	-230.41
437	SLV FO 10	55	868	8070	204.43	2117.12	-273.81
437	SLV FO 11	-325	-721	690	28.26	156.95	290.88
437	SLV FO 12	-254	-602	813	31.19	189.48	247.48
437	SLV FO 13	-594	318	6552	171.32	1691.44	6.68
437	SLV FO 14	-488	495	6736	175.68	1739.76	-57.79
437	SLV FO 15	-686	-123	4375	119.35	1113.15	163.07
437	SLV FO 16	-580	54	4559	123.71	1161.46	98.6
437	CRTFP Ux+	0	0	0	0	0	0
437	CRTFP Ux-	0	0	0	0	0	0
437	CRTFP Uy+	0	0	0	0	0	0
437	CRTFP Uy-	0	0	0	0	0	0
439	SLU 1	26	-35	3306	89.55	1006.02	11.49
439	SLU 2	29	-16	3359	90.75	1021.91	4.78
439	SLU 3	26	-36	3362	91.12	1022.91	11.82
439	SLU 4	28	-25	3394	91.84	1032.45	7.79
439	SLU 5	28	-17	3394	91.74	1032.55	5.07
439	SLU 6	26	-37	3398	92.11	1033.55	12.11
439	SLU 7	27	-26	3429	92.83	1043.09	8.08
439	SLU 8	25	-37	3377	91.54	1027.29	12.07
439	SLU 9	27	-25	3409	92.26	1036.83	8.04
439	SLU 10	30	-20	3791	102.44	1152.61	6.03
439	SLU 11	27	-40	3795	102.81	1153.61	13.07
439	SLU 12	29	-28	3826	103.53	1163.15	9.04
439	SLU 13	29	-21	3827	103.43	1163.25	6.32
439	SLU 14	27	-41	3830	103.81	1164.25	13.35
439	SLU 15	28	-29	3862	104.53	1173.78	9.33
439	SLU 16	26	-41	3809	103.23	1157.99	13.32
439	SLU 17	28	-29	3841	103.95	1167.53	9.29
439	SLU 18	28	-41	3924	106.25	1192.73	13.28
439	SLU 19	29	-29	3956	106.97	1202.27	9.25
439	SLU 20	27	-41	3959	107.25	1203.37	13.56
439	SLU 21	29	-30	3991	107.97	1212.9	9.54
439	SLU 22	30	-40	3745	101.54	1137.59	13.02
439	SLU 23	32	-21	3798	102.74	1153.48	6.31
439	SLU 24	30	-41	3801	103.11	1154.48	13.35
439	SLU 25	31	-29	3833	103.83	1164.02	9.32
439	SLU 26	32	-22	3833	103.73	1164.12	6.6
439	SLU 27	29	-42	3837	104.11	1165.12	13.64
439	SLU 28	31	-30	3868	104.83	1174.65	9.61
439	SLU 29	29	-42	3816	103.53	1158.86	13.6
439	SLU 30	30	-30	3848	104.25	1168.39	9.57
439	SLU 31	33	-25	4230	114.43	1284.18	7.56
439	SLU 32	31	-45	4234	114.8	1285.18	14.6
439	SLU 33	32	-33	4266	115.52	1294.72	10.57
439	SLU 34	33	-25	4266	115.43	1294.81	7.85
439	SLU 35	30	-45	4269	115.8	1295.82	14.89
439	SLU 36	32	-34	4301	116.52	1305.35	10.86
439	SLU 37	30	-45	4249	115.22	1289.56	14.85
439	SLU 38	32	-34	4280	115.94	1299.09	10.82
439	SLU 39	31	-45	4363	118.24	1324.3	14.81
439	SLU 40	33	-34	4395	118.96	1333.83	10.78
439	SLU 41	31	-46	4398	119.24	1334.94	15.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
439	SLU 42	33	-35	4430	119.96	1344.47	11.07
439	SLU 43	33	-44	4147	112.3	1262.72	14.42
439	SLU 44	35	-25	4200	113.5	1278.61	7.7
439	SLU 45	33	-45	4203	113.87	1279.61	14.74
439	SLU 46	34	-34	4235	114.59	1289.15	10.71
439	SLU 47	35	-26	4235	114.5	1289.24	7.99
439	SLU 48	32	-46	4239	114.87	1290.25	15.03
439	SLU 49	34	-35	4271	115.59	1299.78	11
439	SLU 50	32	-46	4218	114.29	1283.99	14.99
439	SLU 51	33	-34	4250	115.01	1293.52	10.96
439	SLU 52	36	-29	4632	125.19	1409.31	8.95
439	SLU 53	34	-49	4636	125.56	1410.31	15.99
439	SLU 54	35	-37	4668	126.28	1419.85	11.96
439	SLU 55	36	-30	4668	126.19	1419.94	9.24
439	SLU 56	33	-50	4671	126.56	1420.95	16.28
439	SLU 57	35	-38	4703	127.28	1430.48	12.25
439	SLU 58	33	-50	4651	125.98	1414.69	16.24
439	SLU 59	35	-38	4682	126.7	1424.22	12.21
439	SLU 60	34	-50	4765	129	1449.43	16.2
439	SLU 61	36	-38	4797	129.72	1458.96	12.17
439	SLU 62	34	-50	4801	130	1460.07	16.49
439	SLU 63	35	-39	4832	130.72	1469.6	12.46
439	SLU 64	36	-49	4586	124.29	1394.28	15.95
439	SLU 65	39	-30	4639	125.49	1410.18	9.24
439	SLU 66	36	-50	4643	125.86	1411.18	16.27
439	SLU 67	38	-38	4674	126.58	1420.71	12.25
439	SLU 68	38	-31	4674	126.49	1420.81	9.52
439	SLU 69	36	-51	4678	126.86	1421.82	16.56
439	SLU 70	37	-39	4710	127.58	1431.35	12.53
439	SLU 71	35	-51	4657	126.28	1415.56	16.52
439	SLU 72	37	-39	4689	127	1425.09	12.49
439	SLU 73	40	-34	5072	137.18	1540.87	10.48
439	SLU 74	37	-54	5075	137.56	1541.88	17.52
439	SLU 75	39	-42	5107	138.28	1551.41	13.5
439	SLU 76	40	-34	5107	138.18	1551.51	10.77
439	SLU 77	37	-54	5111	138.55	1552.51	17.81
439	SLU 78	38	-43	5142	139.27	1562.05	13.78
439	SLU 79	37	-54	5090	137.98	1546.25	17.77
439	SLU 80	38	-43	5121	138.7	1555.79	13.74
439	SLU 81	38	-54	5204	141	1581	17.73
439	SLU 82	39	-43	5236	141.72	1590.53	13.7
439	SLU 83	38	-55	5240	141.99	1591.63	18.02
439	SLU 84	39	-44	5271	142.71	1601.17	13.99
439	SLE RA 1	27	-37	3431	92.98	1043.61	11.93
439	SLE RA 2	29	-24	3467	93.77	1054.21	7.46
439	SLE RA 3	27	-37	3469	94.02	1054.87	12.15
439	SLE RA 4	28	-30	3490	94.5	1061.23	9.46
439	SLE RA 5	29	-24	3490	94.44	1061.3	7.65
439	SLE RA 6	27	-38	3493	94.69	1061.96	12.34
439	SLE RA 7	28	-30	3514	95.16	1068.32	9.65
439	SLE RA 8	27	-38	3479	94.3	1057.79	12.31
439	SLE RA 9	28	-30	3500	94.78	1064.15	9.63
439	SLE RA 10	30	-26	3755	101.57	1141.34	8.29
439	SLE RA 11	28	-40	3757	101.82	1142.01	12.98
439	SLE RA 12	29	-32	3778	102.3	1148.36	10.3
439	SLE RA 13	29	-27	3779	102.23	1148.43	8.48
439	SLE RA 14	28	-40	3781	102.48	1149.1	13.17
439	SLE RA 15	29	-33	3802	102.96	1155.45	10.49
439	SLE RA 16	27	-40	3767	102.1	1144.92	13.15
439	SLE RA 17	28	-33	3788	102.58	1151.28	10.46
439	SLE RA 18	28	-40	3843	104.11	1168.09	13.12
439	SLE RA 19	29	-33	3864	104.59	1174.44	10.44
439	SLE RA 20	28	-41	3867	104.77	1175.18	13.31
439	SLE RA 21	29	-33	3888	105.25	1181.53	10.63
439	SLE FR 1	27	-37	3431	92.98	1043.61	11.93
439	SLE FR 2	27	-34	3438	93.14	1045.73	11.04
439	SLE FR 3	27	-37	3441	93.24	1046.45	12.01
439	SLE FR 4	28	-35	3562	96.48	1083.07	11.39
439	SLE FR 5	27	-38	3564	96.58	1083.79	12.36
439	SLE FR 6	28	-38	3637	98.54	1105.85	12.53
439	SLE QP 1	27	-37	3431	92.98	1043.61	11.93
439	SLE QP 2	27	-38	3555	96.32	1080.95	12.29
439	SLD 1	403	56	3881	103.7	1183.58	-33.52
439	SLD 2	464	59	3887	103.83	1183.99	-35.99
439	SLD 3	372	-177	3100	85.8	947.01	48.72
439	SLD 4	433	-174	3106	85.92	947.43	46.26
439	SLD 5	178	344	4836	125.66	1470.45	-125.77
439	SLD 6	217	345	4840	125.75	1470.72	-127.36
439	SLD 7	72	-433	2233	65.98	681.91	148.38
439	SLD 8	112	-432	2237	66.07	682.18	146.79
439	SLD 9	-57	356	4873	126.57	1479.72	-122.22
439	SLD 10	-17	358	4877	126.65	1479.99	-123.81
439	SLD 11	-162	-421	2270	66.89	691.18	151.93
439	SLD 12	-123	-419	2274	66.97	691.45	150.35
439	SLD 13	-378	99	4004	106.71	1214.47	-21.68
439	SLD 14	-317	102	4010	106.83	1214.89	-24.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
439	SLD 15	-409	-134	3223	88.8	977.91	60.56
439	SLD 16	-348	-132	3229	88.93	978.33	58.1
439	SLV 1	617	125	4119	109.11	1257.74	-65.5
439	SLV 2	713	129	4128	109.31	1258.4	-69.38
439	SLV 3	563	-272	2786	78.56	854.04	74.78
439	SLV 4	659	-268	2796	78.76	854.7	70.9
439	SLV 5	268	613	5744	146.46	1746.15	-223.08
439	SLV 6	333	616	5750	146.59	1746.59	-225.69
439	SLV 7	88	-712	1301	44.61	400.47	244.51
439	SLV 8	153	-709	1307	44.75	400.92	241.9
439	SLV 9	-98	634	5802	147.89	1760.99	-217.33
439	SLV 10	-34	636	5809	148.02	1761.43	-219.94
439	SLV 11	-278	-692	1360	46.04	415.31	250.27
439	SLV 12	-213	-689	1366	46.17	415.76	247.65
439	SLV 13	-604	193	4314	113.87	1307.2	-46.32
439	SLV 14	-508	197	4324	114.07	1307.87	-50.2
439	SLV 15	-658	-205	2982	83.32	903.5	93.96
439	SLV 16	-562	-201	2991	83.52	904.16	90.08
439	SLV FO 1	676	142	4175	110.39	1275.42	-73.28
439	SLV FO 2	782	146	4186	110.61	1276.15	-77.55
439	SLV FO 3	617	-296	2709	76.79	831.35	81.03
439	SLV FO 4	722	-291	2720	77	832.08	76.76
439	SLV FO 5	292	679	5963	151.47	1812.67	-246.62
439	SLV FO 6	363	682	5970	151.62	1813.16	-249.49
439	SLV FO 7	95	-779	1075	39.44	332.43	267.74
439	SLV FO 8	166	-776	1083	39.59	332.92	264.86
439	SLV FO 9	-111	701	6027	153.04	1828.99	-240.29
439	SLV FO 10	-40	704	6035	153.19	1829.48	-243.16
439	SLV FO 11	-308	-757	1140	41.01	348.75	274.07
439	SLV FO 12	-237	-754	1147	41.16	349.24	271.19
439	SLV FO 13	-668	216	4390	115.63	1329.83	-52.18
439	SLV FO 14	-562	220	4401	115.85	1330.56	-56.45
439	SLV FO 15	-727	-221	2924	82.02	885.76	102.12
439	SLV FO 16	-621	-217	2935	82.24	886.48	97.85
439	CRTFP Ux+	0	0	0	0	0	0
439	CRTFP Ux-	0	0	0	0	0	0
439	CRTFP Uy+	0	0	0	0	0	0
439	CRTFP Uy-	0	0	0	0	0	0
443	SLU 1	-82	22	3509	-5.37	-543.46	5.23
443	SLU 2	-85	41	3586	-5.83	-555.65	9.94
443	SLU 3	-84	23	3573	-5.4	-552.73	5.34
443	SLU 4	-86	34	3619	-5.67	-560.04	8.17
443	SLU 5	-87	42	3625	-5.83	-561.23	10.08
443	SLU 6	-85	24	3612	-5.41	-558.31	5.48
443	SLU 7	-87	35	3658	-5.68	-565.62	8.31
443	SLU 8	-85	24	3587	-5.38	-554.62	5.5
443	SLU 9	-87	35	3633	-5.66	-561.93	8.33
443	SLU 10	-92	45	4020	-6.52	-620.53	10.91
443	SLU 11	-90	27	4007	-6.09	-617.61	6.31
443	SLU 12	-92	38	4053	-6.37	-624.92	9.14
443	SLU 13	-93	46	4059	-6.53	-626.11	11.05
443	SLU 14	-92	28	4046	-6.1	-623.19	6.45
443	SLU 15	-94	39	4092	-6.37	-630.5	9.27
443	SLU 16	-91	28	4021	-6.08	-619.5	6.47
443	SLU 17	-93	39	4067	-6.35	-626.81	9.3
443	SLU 18	-91	28	4129	-6.36	-636.14	6.61
443	SLU 19	-93	40	4175	-6.64	-643.46	9.44
443	SLU 20	-92	29	4168	-6.37	-641.72	6.75
443	SLU 21	-94	40	4214	-6.64	-649.04	9.58
443	SLU 22	-94	25	4014	-6	-618.27	5.7
443	SLU 23	-97	44	4091	-6.46	-630.45	10.41
443	SLU 24	-96	25	4079	-6.03	-627.54	5.81
443	SLU 25	-98	36	4125	-6.31	-634.85	8.64
443	SLU 26	-99	44	4130	-6.47	-636.03	10.54
443	SLU 27	-97	26	4117	-6.04	-633.12	5.94
443	SLU 28	-99	37	4163	-6.31	-640.43	8.77
443	SLU 29	-96	26	4092	-6.01	-629.43	5.97
443	SLU 30	-99	37	4138	-6.29	-636.74	8.8
443	SLU 31	-104	48	4525	-7.15	-695.33	11.38
443	SLU 32	-102	29	4513	-6.72	-692.42	6.78
443	SLU 33	-104	40	4559	-7	-699.73	9.6
443	SLU 34	-105	48	4564	-7.16	-700.91	11.51
443	SLU 35	-104	30	4551	-6.73	-698	6.91
443	SLU 36	-106	41	4597	-7	-705.31	9.74
443	SLU 37	-103	30	4526	-6.71	-694.31	6.94
443	SLU 38	-105	41	4572	-6.98	-701.62	9.77
443	SLU 39	-103	30	4634	-6.99	-710.95	7.08
443	SLU 40	-105	42	4680	-7.27	-718.26	9.91
443	SLU 41	-104	31	4673	-7	-716.53	7.22
443	SLU 42	-106	42	4719	-7.27	-723.84	10.04
443	SLU 43	-102	29	4389	-6.77	-680.85	6.64
443	SLU 44	-106	47	4465	-7.22	-693.04	11.35
443	SLU 45	-105	29	4453	-6.79	-690.12	6.75
443	SLU 46	-107	40	4499	-7.07	-697.43	9.58
443	SLU 47	-107	48	4504	-7.23	-698.62	11.49
443	SLU 48	-106	30	4492	-6.8	-695.7	6.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
443	SLU 49	-108	41	4538	-7.07	-703.01	9.71
443	SLU 50	-105	30	4466	-6.78	-692.01	6.91
443	SLU 51	-107	41	4512	-7.05	-699.32	9.74
443	SLU 52	-112	51	4899	-7.92	-757.92	12.32
443	SLU 53	-111	33	4887	-7.49	-755	7.72
443	SLU 54	-113	44	4933	-7.76	-762.31	10.55
443	SLU 55	-113	52	4938	-7.92	-763.5	12.46
443	SLU 56	-112	34	4926	-7.49	-760.58	7.86
443	SLU 57	-114	45	4972	-7.77	-767.89	10.68
443	SLU 58	-111	34	4900	-7.47	-756.89	7.88
443	SLU 59	-113	45	4946	-7.75	-764.2	10.71
443	SLU 60	-111	34	5008	-7.76	-773.53	8.02
443	SLU 61	-114	46	5054	-8.03	-780.85	10.85
443	SLU 62	-113	35	5047	-7.76	-779.11	8.16
443	SLU 63	-115	46	5093	-8.04	-786.43	10.99
443	SLU 64	-114	31	4894	-7.4	-755.66	7.11
443	SLU 65	-118	50	4971	-7.86	-767.84	11.82
443	SLU 66	-116	31	4958	-7.43	-764.93	7.22
443	SLU 67	-119	42	5004	-7.7	-772.24	10.04
443	SLU 68	-119	50	5009	-7.86	-773.42	11.95
443	SLU 69	-118	32	4997	-7.43	-770.51	7.35
443	SLU 70	-120	43	5043	-7.71	-777.82	10.18
443	SLU 71	-117	32	4971	-7.41	-766.82	7.38
443	SLU 72	-119	43	5018	-7.68	-774.13	10.21
443	SLU 73	-124	54	5404	-8.55	-832.72	12.79
443	SLU 74	-123	35	5392	-8.12	-829.81	8.19
443	SLU 75	-125	47	5438	-8.39	-837.12	11.01
443	SLU 76	-125	54	5443	-8.55	-838.3	12.92
443	SLU 77	-124	36	5431	-8.12	-835.39	8.32
443	SLU 78	-126	47	5477	-8.4	-842.7	11.15
443	SLU 79	-123	36	5405	-8.1	-831.7	8.35
443	SLU 80	-125	47	5451	-8.38	-839.01	11.17
443	SLU 81	-123	36	5514	-8.39	-848.34	8.49
443	SLU 82	-125	48	5560	-8.66	-855.65	11.32
443	SLU 83	-125	37	5552	-8.39	-853.92	8.63
443	SLU 84	-127	48	5599	-8.67	-861.23	11.45
443	SLE RA 1	-85	23	3653	-5.55	-564.83	5.36
443	SLE RA 2	-88	36	3705	-5.86	-572.96	8.5
443	SLE RA 3	-87	23	3696	-5.57	-571.01	5.44
443	SLE RA 4	-88	31	3727	-5.75	-575.89	7.32
443	SLE RA 5	-88	36	3730	-5.86	-576.68	8.6
443	SLE RA 6	-88	24	3722	-5.57	-574.73	5.53
443	SLE RA 7	-89	31	3753	-5.76	-579.61	7.41
443	SLE RA 8	-87	24	3705	-5.56	-572.27	5.55
443	SLE RA 9	-88	31	3736	-5.74	-577.15	7.43
443	SLE RA 10	-92	38	3994	-6.32	-616.21	9.15
443	SLE RA 11	-91	26	3986	-6.03	-614.27	6.08
443	SLE RA 12	-92	34	4016	-6.22	-619.14	7.97
443	SLE RA 13	-93	39	4020	-6.32	-619.93	9.24
443	SLE RA 14	-92	27	4011	-6.04	-617.99	6.17
443	SLE RA 15	-93	34	4042	-6.22	-622.86	8.06
443	SLE RA 16	-91	27	3994	-6.02	-615.53	6.19
443	SLE RA 17	-93	34	4025	-6.2	-620.4	8.08
443	SLE RA 18	-91	27	4067	-6.21	-626.62	6.29
443	SLE RA 19	-93	35	4097	-6.39	-631.5	8.17
443	SLE RA 20	-92	27	4093	-6.22	-630.34	6.38
443	SLE RA 21	-94	35	4123	-6.4	-635.22	8.26
443	SLE FR 1	-85	23	3653	-5.55	-564.83	5.36
443	SLE FR 2	-86	26	3664	-5.61	-566.46	5.99
443	SLE FR 3	-86	23	3664	-5.55	-566.32	5.4
443	SLE FR 4	-88	27	3788	-5.81	-584.99	6.27
443	SLE FR 5	-88	24	3788	-5.75	-584.86	5.68
443	SLE FR 6	-88	25	3860	-5.88	-595.73	5.82
443	SLE QP 1	-85	23	3653	-5.55	-564.83	5.36
443	SLE QP 2	-87	24	3777	-5.75	-583.37	5.64
443	SLD 1	202	300	5437	-10.43	-828.45	73.91
443	SLD 2	254	197	5352	-9.89	-815.31	48.46
443	SLD 3	243	59	4364	-4.54	-663.74	14.05
443	SLD 4	294	-43	4279	-3.99	-650.6	-11.4
443	SLD 5	-71	490	5916	-16.19	-908.97	121.3
443	SLD 6	-38	424	5862	-15.84	-900.51	104.91
443	SLD 7	65	-313	2341	3.46	-359.92	-78.26
443	SLD 8	97	-379	2287	3.82	-351.46	-94.65
443	SLD 9	-272	427	5268	-15.32	-815.28	105.93
443	SLD 10	-239	361	5213	-14.96	-806.82	89.54
443	SLD 11	-137	-375	1693	4.34	-266.23	-93.63
443	SLD 12	-104	-441	1638	4.69	-257.77	-110.02
443	SLD 13	-468	92	3276	-7.51	-516.14	22.68
443	SLD 14	-417	-11	3191	-6.96	-503	-2.77
443	SLD 15	-428	-149	2203	-1.61	-351.43	-37.18
443	SLD 16	-377	-252	2118	-1.07	-338.29	-62.63
443	SLV 1	363	473	6447	-13.5	-978.12	116.75
443	SLV 2	444	311	6313	-12.64	-957.41	76.63
443	SLV 3	432	62	4616	-3.44	-697	14.61
443	SLV 4	513	-100	4482	-2.58	-676.29	-25.51
443	SLV 5	-72	812	7379	-23.49	-1132.03	201.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
443	SLV 6	-17	703	7289	-22.91	-1118.08	174.36
443	SLV 7	158	-557	1278	10.04	-194.96	-139.09
443	SLV 8	212	-666	1188	10.62	-181.01	-166.1
443	SLV 9	-387	715	6367	-22.12	-985.73	177.38
443	SLV 10	-332	606	6277	-21.54	-971.78	150.37
443	SLV 11	-157	-655	266	11.41	-48.66	-163.08
443	SLV 12	-103	-764	175	11.99	-34.71	-190.09
443	SLV 13	-687	148	3073	-8.92	-490.45	36.79
443	SLV 14	-606	-14	2939	-8.06	-469.74	-3.33
443	SLV 15	-618	-263	1242	1.14	-209.33	-65.35
443	SLV 16	-537	-425	1108	2	-188.62	-105.47
443	SLV FO 1	408	518	6713	-14.28	-1017.6	127.86
443	SLV FO 2	497	340	6566	-13.33	-994.81	83.73
443	SLV FO 3	484	66	4700	-3.21	-708.36	15.51
443	SLV FO 4	572	-112	4553	-2.26	-685.58	-28.62
443	SLV FO 5	-70	891	7740	-25.27	-1186.89	220.94
443	SLV FO 6	-10	771	7640	-24.63	-1171.55	191.23
443	SLV FO 7	183	-615	1028	11.62	-156.12	-153.56
443	SLV FO 8	242	-735	929	12.26	-140.78	-183.27
443	SLV FO 9	-417	784	6626	-23.76	-1025.96	194.55
443	SLV FO 10	-357	664	6527	-23.12	-1010.62	164.84
443	SLV FO 11	-164	-723	-86	13.13	4.82	-179.95
443	SLV FO 12	-104	-843	-185	13.77	20.15	-209.66
443	SLV FO 13	-747	161	3002	-9.24	-481.16	39.9
443	SLV FO 14	-658	-18	2855	-8.29	-458.37	-4.23
443	SLV FO 15	-671	-291	989	1.83	-171.93	-72.45
443	SLV FO 16	-582	-470	841	2.78	-149.14	-116.58
443	CRTFP Ux+	0	0	0	0	0	0
443	CRTFP Ux-	0	0	0	0	0	0
443	CRTFP Uy+	0	0	0	0	0	0
443	CRTFP Uy-	0	0	0	0	0	0
446	SLU 1	-118	-52	6297	-4.49	-41.31	-3.67
446	SLU 2	-124	-21	6413	-5.14	-40.37	-3.87
446	SLU 3	-121	-53	6409	-4.42	-42.34	-3.77
446	SLU 4	-125	-34	6479	-4.81	-41.77	-3.89
446	SLU 5	-126	-22	6483	-5.08	-41.12	-3.94
446	SLU 6	-123	-54	6479	-4.36	-43.09	-3.83
446	SLU 7	-127	-35	6548	-4.75	-42.53	-3.95
446	SLU 8	-121	-54	6436	-4.37	-42.82	-3.8
446	SLU 9	-125	-35	6506	-4.76	-42.26	-3.92
446	SLU 10	-132	-25	7230	-5.69	-47.16	-4.31
446	SLU 11	-128	-58	7226	-4.98	-49.12	-4.2
446	SLU 12	-132	-39	7296	-5.37	-48.56	-4.32
446	SLU 13	-134	-26	7300	-5.63	-47.91	-4.37
446	SLU 14	-130	-59	7296	-4.92	-49.88	-4.26
446	SLU 15	-134	-40	7366	-5.3	-49.31	-4.38
446	SLU 16	-129	-58	7254	-4.93	-49.61	-4.23
446	SLU 17	-133	-40	7323	-5.31	-49.04	-4.35
446	SLU 18	-129	-59	7464	-5.28	-51.01	-4.29
446	SLU 19	-132	-40	7534	-5.67	-50.44	-4.41
446	SLU 20	-130	-60	7534	-5.22	-51.76	-4.35
446	SLU 21	-134	-41	7604	-5.61	-51.19	-4.47
446	SLU 22	-135	-59	7202	-4.73	-47.77	-4.27
446	SLU 23	-142	-27	7318	-5.38	-46.83	-4.47
446	SLU 24	-138	-60	7314	-4.66	-48.79	-4.37
446	SLU 25	-142	-41	7383	-5.05	-48.23	-4.49
446	SLU 26	-144	-28	7387	-5.32	-47.58	-4.54
446	SLU 27	-140	-61	7384	-4.6	-49.55	-4.43
446	SLU 28	-144	-42	7453	-4.99	-48.98	-4.55
446	SLU 29	-139	-60	7341	-4.61	-49.28	-4.4
446	SLU 30	-143	-41	7411	-5	-48.71	-4.52
446	SLU 31	-149	-32	8135	-5.93	-53.61	-4.91
446	SLU 32	-146	-65	8131	-5.22	-55.58	-4.8
446	SLU 33	-150	-46	8201	-5.61	-55.01	-4.92
446	SLU 34	-151	-33	8205	-5.87	-54.37	-4.97
446	SLU 35	-148	-65	8201	-5.16	-56.33	-4.86
446	SLU 36	-152	-46	8271	-5.55	-55.77	-4.98
446	SLU 37	-147	-65	8159	-5.17	-56.06	-4.83
446	SLU 38	-151	-46	8228	-5.55	-55.5	-4.95
446	SLU 39	-146	-65	8369	-5.52	-57.46	-4.89
446	SLU 40	-150	-47	8439	-5.91	-56.9	-5.01
446	SLU 41	-148	-66	8439	-5.46	-58.21	-4.95
446	SLU 42	-152	-47	8509	-5.85	-57.65	-5.07
446	SLU 43	-147	-66	7875	-5.76	-51.49	-4.57
446	SLU 44	-153	-34	7991	-6.4	-50.55	-4.77
446	SLU 45	-150	-67	7988	-5.69	-52.52	-4.66
446	SLU 46	-154	-48	8057	-6.08	-51.95	-4.78
446	SLU 47	-155	-35	8061	-6.34	-51.31	-4.83
446	SLU 48	-152	-68	8057	-5.63	-53.27	-4.72
446	SLU 49	-156	-49	8127	-6.02	-52.71	-4.84
446	SLU 50	-151	-67	8015	-5.64	-53	-4.69
446	SLU 51	-155	-48	8085	-6.02	-52.44	-4.81
446	SLU 52	-161	-39	8809	-6.96	-57.34	-5.2
446	SLU 53	-158	-71	8805	-6.24	-59.3	-5.09
446	SLU 54	-162	-53	8875	-6.63	-58.74	-5.21
446	SLU 55	-163	-40	8879	-6.9	-58.09	-5.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
446	SLU 56	-159	-72	8875	-6.18	-60.06	-5.16
446	SLU 57	-163	-53	8944	-6.57	-59.49	-5.28
446	SLU 58	-158	-72	8832	-6.19	-59.79	-5.12
446	SLU 59	-162	-53	8902	-6.58	-59.22	-5.24
446	SLU 60	-158	-72	9043	-6.55	-61.19	-5.19
446	SLU 61	-162	-53	9113	-6.94	-60.62	-5.31
446	SLU 62	-160	-73	9113	-6.49	-61.94	-5.25
446	SLU 63	-164	-54	9183	-6.88	-61.38	-5.37
446	SLU 64	-164	-72	8780	-6	-57.95	-5.17
446	SLU 65	-171	-41	8896	-6.64	-57.01	-5.37
446	SLU 66	-167	-73	8893	-5.93	-58.97	-5.26
446	SLU 67	-171	-54	8962	-6.32	-58.41	-5.38
446	SLU 68	-173	-41	8966	-6.58	-57.76	-5.43
446	SLU 69	-169	-74	8962	-5.87	-59.73	-5.33
446	SLU 70	-173	-55	9032	-6.26	-59.16	-5.45
446	SLU 71	-168	-74	8920	-5.88	-59.46	-5.29
446	SLU 72	-172	-55	8990	-6.26	-58.89	-5.41
446	SLU 73	-179	-45	9714	-7.2	-63.79	-5.8
446	SLU 74	-175	-78	9710	-6.48	-65.76	-5.69
446	SLU 75	-179	-59	9780	-6.87	-65.19	-5.82
446	SLU 76	-181	-46	9784	-7.14	-64.55	-5.86
446	SLU 77	-177	-79	9780	-6.42	-66.51	-5.76
446	SLU 78	-181	-60	9849	-6.81	-65.95	-5.88
446	SLU 79	-176	-78	9737	-6.43	-66.24	-5.73
446	SLU 80	-180	-59	9807	-6.82	-65.68	-5.85
446	SLU 81	-175	-79	9948	-6.79	-67.64	-5.79
446	SLU 82	-179	-60	10018	-7.18	-67.08	-5.91
446	SLU 83	-177	-80	10018	-6.73	-68.4	-5.85
446	SLU 84	-181	-61	10087	-7.12	-67.83	-5.97
446	SLE RA 1	-123	-54	6555	-4.56	-43.16	-3.84
446	SLE RA 2	-127	-33	6633	-4.99	-42.53	-3.98
446	SLE RA 3	-125	-55	6630	-4.51	-43.84	-3.91
446	SLE RA 4	-127	-42	6676	-4.77	-43.46	-3.99
446	SLE RA 5	-128	-34	6679	-4.95	-43.03	-4.02
446	SLE RA 6	-126	-55	6677	-4.47	-44.34	-3.95
446	SLE RA 7	-129	-43	6723	-4.73	-43.97	-4.03
446	SLE RA 8	-125	-55	6648	-4.48	-44.16	-3.93
446	SLE RA 9	-128	-43	6695	-4.74	-43.79	-4.01
446	SLE RA 10	-132	-36	7177	-5.36	-47.05	-4.27
446	SLE RA 11	-130	-58	7175	-4.88	-48.36	-4.19
446	SLE RA 12	-132	-45	7221	-5.14	-47.99	-4.27
446	SLE RA 13	-133	-37	7224	-5.32	-47.56	-4.31
446	SLE RA 14	-131	-58	7222	-4.84	-48.87	-4.24
446	SLE RA 15	-134	-46	7268	-5.1	-48.49	-4.32
446	SLE RA 16	-130	-58	7193	-4.85	-48.69	-4.22
446	SLE RA 17	-133	-46	7240	-5.11	-48.31	-4.3
446	SLE RA 18	-130	-59	7334	-5.09	-49.62	-4.26
446	SLE RA 19	-133	-46	7380	-5.35	-49.24	-4.34
446	SLE RA 20	-131	-59	7380	-5.05	-50.12	-4.3
446	SLE RA 21	-134	-46	7427	-5.31	-49.74	-4.38
446	SLE FR 1	-123	-54	6555	-4.56	-43.16	-3.84
446	SLE FR 2	-123	-50	6571	-4.65	-43.03	-3.87
446	SLE FR 3	-123	-54	6574	-4.54	-43.36	-3.86
446	SLE FR 4	-126	-51	6804	-4.81	-44.97	-3.99
446	SLE FR 5	-125	-56	6807	-4.7	-45.3	-3.98
446	SLE FR 6	-126	-56	6944	-4.82	-46.39	-4.05
446	SLE QP 1	-123	-54	6555	-4.56	-43.16	-3.84
446	SLE QP 2	-125	-55	6789	-4.72	-45.09	-3.97
446	SLD 1	497	80	8158	-9.76	-19.4	-2.07
446	SLD 2	605	-1	8056	-9.29	-20.82	0.04
446	SLD 3	564	-310	6553	-1.26	-26.25	-0.05
446	SLD 4	671	-392	6450	-0.79	-27.67	2.05
446	SLD 5	-58	592	9652	-19.19	-26.75	-6.82
446	SLD 6	11	539	9586	-18.89	-27.67	-5.46
446	SLD 7	165	-710	4301	9.12	-49.59	-0.1
446	SLD 8	234	-763	4235	9.42	-50.5	1.26
446	SLD 9	-483	652	9343	-18.86	-39.69	-9.19
446	SLD 10	-414	599	9277	-18.56	-40.6	-7.84
446	SLD 11	-261	-650	3992	9.46	-62.52	-2.48
446	SLD 12	-192	-703	3926	9.76	-63.44	-1.12
446	SLD 13	-921	281	7127	-8.64	-62.52	-9.99
446	SLD 14	-813	199	7025	-8.18	-63.94	-7.88
446	SLD 15	-854	-110	5522	-0.15	-69.37	-7.97
446	SLD 16	-747	-191	5419	0.32	-70.79	-5.87
446	SLV 1	843	185	9046	-13.24	-4.5	-1.16
446	SLV 2	1013	57	8884	-12.5	-6.73	2.16
446	SLV 3	956	-481	6306	1.25	-16.16	2.28
446	SLV 4	1126	-609	6145	1.99	-18.4	5.6
446	SLV 5	-38	1051	11651	-29.39	-14.81	-8.95
446	SLV 6	77	965	11542	-28.9	-16.32	-6.71
446	SLV 7	339	-1170	2519	18.92	-53.68	2.49
446	SLV 8	454	-1256	2411	19.41	-55.19	4.73
446	SLV 9	-703	1145	11167	-28.85	-35	-12.66
446	SLV 10	-589	1059	11058	-28.36	-36.51	-10.43
446	SLV 11	-326	-1076	2036	19.46	-73.87	-1.22
446	SLV 12	-212	-1162	1927	19.96	-75.38	1.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
446	SLV 13	-1376	499	7433	-11.43	-71.79	-13.53
446	SLV 14	-1206	370	7271	-10.69	-74.03	-10.21
446	SLV 15	-1262	-168	4694	3.06	-83.46	-10.1
446	SLV 16	-1093	-296	4532	3.8	-85.69	-6.78
446	SLV FO 1	940	209	9271	-14.09	-0.44	-0.88
446	SLV FO 2	1127	68	9094	-13.28	-2.9	2.78
446	SLV FO 3	1064	-523	6258	1.85	-13.26	2.9
446	SLV FO 4	1251	-665	6080	2.66	-15.73	6.55
446	SLV FO 5	-29	1162	12137	-31.86	-11.78	-9.45
446	SLV FO 6	97	1067	12017	-31.32	-13.44	-6.99
446	SLV FO 7	386	-1281	2093	21.28	-54.54	3.14
446	SLV FO 8	512	-1376	1973	21.83	-56.2	5.6
446	SLV FO 9	-761	1265	11605	-31.27	-33.99	-13.53
446	SLV FO 10	-635	1170	11485	-30.72	-35.65	-11.07
446	SLV FO 11	-346	-1178	1560	21.88	-76.75	-0.95
446	SLV FO 12	-221	-1273	1441	22.42	-78.41	1.51
446	SLV FO 13	-1501	554	7497	-12.1	-74.46	-14.49
446	SLV FO 14	-1314	413	7319	-11.29	-76.92	-10.84
446	SLV FO 15	-1376	-179	4484	3.84	-87.29	-10.71
446	SLV FO 16	-1190	-320	4306	4.65	-89.75	-7.06
446	CRTFP Ux+	0	0	0	0	0	0
446	CRTFP Ux-	0	0	0	0	0	0
446	CRTFP Uy+	0	0	0	0	0	0
446	CRTFP Uy-	0	0	0	0	0	0
449	SLU 1	71	-103	6481	-5.41	40.9	-0.37
449	SLU 2	77	-72	6601	-6.07	39.43	-0.2
449	SLU 3	72	-105	6590	-5.35	41.7	-0.4
449	SLU 4	75	-86	6662	-5.74	40.82	-0.3
449	SLU 5	76	-73	6667	-6	39.97	-0.22
449	SLU 6	71	-107	6656	-5.29	42.25	-0.42
449	SLU 7	74	-88	6728	-5.68	41.36	-0.32
449	SLU 8	70	-106	6613	-5.28	42	-0.41
449	SLU 9	73	-87	6685	-5.68	41.11	-0.31
449	SLU 10	80	-82	7418	-6.79	45.1	-0.22
449	SLU 11	75	-116	7406	-6.07	47.37	-0.42
449	SLU 12	79	-97	7478	-6.46	46.49	-0.32
449	SLU 13	80	-83	7484	-6.72	45.65	-0.24
449	SLU 14	75	-117	7472	-6	47.92	-0.44
449	SLU 15	78	-98	7544	-6.4	47.04	-0.34
449	SLU 16	74	-116	7429	-6	47.67	-0.43
449	SLU 17	77	-97	7501	-6.39	46.78	-0.33
449	SLU 18	77	-118	7647	-6.44	49	-0.4
449	SLU 19	80	-99	7719	-6.83	48.12	-0.3
449	SLU 20	76	-119	7713	-6.37	49.55	-0.42
449	SLU 21	79	-100	7785	-6.77	48.67	-0.32
449	SLU 22	81	-115	7396	-5.79	46.66	-0.4
449	SLU 23	87	-83	7516	-6.44	45.18	-0.23
449	SLU 24	82	-117	7505	-5.72	47.46	-0.43
449	SLU 25	85	-98	7577	-6.12	46.57	-0.32
449	SLU 26	86	-85	7582	-6.38	45.73	-0.25
449	SLU 27	81	-118	7571	-5.66	48.01	-0.45
449	SLU 28	84	-99	7643	-6.05	47.12	-0.34
449	SLU 29	80	-117	7528	-5.66	47.75	-0.44
449	SLU 30	83	-98	7600	-6.05	46.87	-0.34
449	SLU 31	90	-94	8333	-7.16	50.85	-0.25
449	SLU 32	85	-127	8321	-6.44	53.13	-0.45
449	SLU 33	89	-108	8393	-6.83	52.24	-0.34
449	SLU 34	90	-95	8399	-7.09	51.4	-0.27
449	SLU 35	85	-128	8387	-6.38	53.68	-0.47
449	SLU 36	88	-110	8459	-6.77	52.79	-0.36
449	SLU 37	84	-128	8344	-6.37	53.43	-0.46
449	SLU 38	87	-109	8416	-6.77	52.54	-0.36
449	SLU 39	87	-129	8562	-6.81	54.76	-0.43
449	SLU 40	90	-111	8634	-7.2	53.87	-0.33
449	SLU 41	86	-131	8628	-6.75	55.31	-0.45
449	SLU 42	89	-112	8700	-7.14	54.42	-0.35
449	SLU 43	89	-130	8112	-6.91	51.2	-0.48
449	SLU 44	95	-99	8232	-7.57	49.72	-0.31
449	SLU 45	90	-132	8221	-6.85	52	-0.5
449	SLU 46	93	-113	8293	-7.24	51.11	-0.4
449	SLU 47	94	-100	8298	-7.5	50.27	-0.33
449	SLU 48	89	-134	8287	-6.78	52.55	-0.52
449	SLU 49	92	-115	8359	-7.18	51.66	-0.42
449	SLU 50	88	-133	8244	-6.78	52.29	-0.52
449	SLU 51	91	-114	8316	-7.17	51.41	-0.41
449	SLU 52	98	-109	9048	-8.28	55.39	-0.33
449	SLU 53	93	-143	9037	-7.56	57.67	-0.52
449	SLU 54	97	-124	9109	-7.96	56.78	-0.42
449	SLU 55	98	-110	9114	-8.22	55.94	-0.34
449	SLU 56	93	-144	9103	-7.5	58.22	-0.54
449	SLU 57	96	-125	9175	-7.89	57.33	-0.44
449	SLU 58	92	-143	9060	-7.5	57.97	-0.54
449	SLU 59	95	-124	9132	-7.89	57.08	-0.43
449	SLU 60	95	-145	9278	-7.93	59.3	-0.51
449	SLU 61	98	-126	9350	-8.33	58.42	-0.4
449	SLU 62	94	-146	9344	-7.87	59.85	-0.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
449	SLU 63	97	-127	9416	-8.26	58.96	-0.42
449	SLU 64	99	-142	9027	-7.28	56.95	-0.51
449	SLU 65	105	-110	9147	-7.94	55.48	-0.33
449	SLU 66	100	-144	9136	-7.22	57.75	-0.53
449	SLU 67	103	-125	9208	-7.61	56.87	-0.43
449	SLU 68	104	-112	9213	-7.87	56.03	-0.35
449	SLU 69	99	-145	9202	-7.15	58.3	-0.55
449	SLU 70	102	-126	9274	-7.55	57.42	-0.45
449	SLU 71	98	-144	9159	-7.15	58.05	-0.54
449	SLU 72	101	-126	9231	-7.55	57.17	-0.44
449	SLU 73	108	-121	9963	-8.66	61.15	-0.35
449	SLU 74	103	-154	9952	-7.94	63.43	-0.55
449	SLU 75	107	-135	10024	-8.33	62.54	-0.45
449	SLU 76	108	-122	10029	-8.59	61.7	-0.37
449	SLU 77	103	-155	10018	-7.87	63.97	-0.57
449	SLU 78	106	-137	10090	-8.27	63.09	-0.47
449	SLU 79	102	-155	9975	-7.87	63.72	-0.56
449	SLU 80	105	-136	10047	-8.26	62.84	-0.46
449	SLU 81	105	-156	10193	-8.31	65.06	-0.53
449	SLU 82	108	-138	10265	-8.7	64.17	-0.43
449	SLU 83	104	-158	10259	-8.24	65.6	-0.55
449	SLU 84	107	-139	10331	-8.64	64.72	-0.45
449	SLE RA 1	74	-107	6743	-5.52	42.55	-0.38
449	SLE RA 2	78	-86	6823	-5.96	41.56	-0.27
449	SLE RA 3	74	-108	6815	-5.48	43.08	-0.4
449	SLE RA 4	77	-95	6863	-5.74	42.49	-0.33
449	SLE RA 5	77	-86	6867	-5.91	41.93	-0.28
449	SLE RA 6	74	-109	6859	-5.43	43.44	-0.41
449	SLE RA 7	76	-96	6907	-5.7	42.85	-0.34
449	SLE RA 8	73	-108	6830	-5.43	43.28	-0.41
449	SLE RA 9	76	-96	6879	-5.7	42.69	-0.34
449	SLE RA 10	80	-92	7367	-6.44	45.34	-0.28
449	SLE RA 11	77	-115	7359	-5.96	46.86	-0.41
449	SLE RA 12	79	-102	7407	-6.22	46.27	-0.34
449	SLE RA 13	80	-93	7411	-6.39	45.71	-0.29
449	SLE RA 14	77	-116	7403	-5.91	47.23	-0.43
449	SLE RA 15	79	-103	7451	-6.18	46.64	-0.36
449	SLE RA 16	76	-115	7375	-5.91	47.06	-0.42
449	SLE RA 17	78	-103	7423	-6.17	46.47	-0.35
449	SLE RA 18	78	-116	7520	-6.2	47.95	-0.4
449	SLE RA 19	80	-104	7568	-6.47	47.36	-0.33
449	SLE RA 20	77	-117	7564	-6.16	48.31	-0.41
449	SLE RA 21	79	-105	7612	-6.42	47.72	-0.35
449	SLE FR 1	74	-107	6743	-5.52	42.55	-0.38
449	SLE FR 2	75	-102	6759	-5.61	42.35	-0.36
449	SLE FR 3	74	-107	6760	-5.5	42.69	-0.39
449	SLE FR 4	76	-105	6992	-5.81	43.97	-0.37
449	SLE FR 5	75	-110	6993	-5.71	44.31	-0.39
449	SLE FR 6	76	-111	7131	-5.86	45.25	-0.39
449	SLE QP 1	74	-107	6743	-5.52	42.55	-0.38
449	SLE QP 2	75	-109	6976	-5.73	44.17	-0.39
449	SLD 1	797	162	7290	-8.56	51.12	4.3
449	SLD 2	909	242	7403	-9.07	48.74	6.23
449	SLD 3	732	-237	5632	-0.14	63.05	2.38
449	SLD 4	845	-158	5744	-0.65	60.68	4.31
449	SLD 5	370	564	9566	-19.26	28.56	3.59
449	SLD 6	443	616	9638	-19.59	27.03	4.84
449	SLD 7	155	-767	4038	8.81	68.34	-2.8
449	SLD 8	227	-716	4111	8.48	66.81	-1.56
449	SLD 9	-77	497	9841	-19.93	21.52	0.78
449	SLD 10	-5	549	9913	-20.26	19.99	2.02
449	SLD 11	-292	-834	4313	8.14	61.3	-5.61
449	SLD 12	-220	-783	4386	7.81	59.77	-4.37
449	SLD 13	-694	-61	8207	-10.8	27.65	-5.08
449	SLD 14	-582	18	8320	-11.31	25.28	-3.16
449	SLD 15	-759	-461	6549	-2.38	39.59	-7
449	SLD 16	-646	-381	6661	-2.89	37.21	-5.07
449	SLV 1	1208	343	7586	-10.75	54.22	7.05
449	SLV 2	1385	469	7764	-11.55	50.47	10.09
449	SLV 3	1098	-338	4757	3.62	74.54	3.78
449	SLV 4	1275	-213	4934	2.82	70.8	6.82
449	SLV 5	549	1036	11417	-28.87	17.06	6.24
449	SLV 6	668	1121	11536	-29.41	14.53	8.29
449	SLV 7	182	-1235	1986	19.02	84.8	-4.67
449	SLV 8	301	-1150	2105	18.48	82.28	-2.62
449	SLV 9	-151	932	11846	-29.93	6.05	1.84
449	SLV 10	-31	1016	11966	-30.47	3.53	3.89
449	SLV 11	-518	-1340	2415	17.96	73.8	-9.06
449	SLV 12	-398	-1255	2534	17.42	71.27	-7.02
449	SLV 13	-1124	-6	9017	-14.27	17.53	-7.6
449	SLV 14	-947	120	9194	-15.07	13.79	-4.56
449	SLV 15	-1234	-688	6188	0.1	37.86	-10.87
449	SLV 16	-1057	-562	6365	-0.7	34.11	-7.83
449	SLV FO 1	1321	388	7648	-11.25	55.22	7.8
449	SLV FO 2	1516	527	7842	-12.13	51.1	11.14
449	SLV FO 3	1200	-361	4535	4.55	77.58	4.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
449	SLV FO 4	1395	-223	4730	3.67	73.46	7.54
449	SLV FO 5	596	1151	11861	-31.18	14.35	6.9
449	SLV FO 6	728	1244	11992	-31.78	11.57	9.15
449	SLV FO 7	193	-1348	1487	21.49	88.87	-5.1
449	SLV FO 8	324	-1255	1618	20.9	86.09	-2.84
449	SLV FO 9	-173	1036	12333	-32.35	2.24	2.07
449	SLV FO 10	-42	1129	12465	-32.94	-0.53	4.32
449	SLV FO 11	-577	-1463	1959	20.33	76.76	-9.93
449	SLV FO 12	-446	-1370	2090	19.73	73.99	-7.68
449	SLV FO 13	-1244	4	9221	-15.12	14.87	-8.32
449	SLV FO 14	-1049	142	9416	-16	10.75	-4.97
449	SLV FO 15	-1365	-746	6109	0.68	37.23	-11.92
449	SLV FO 16	-1170	-607	6304	-0.2	33.11	-8.57
449	CRTFP Ux+	0	0	0	0	0	0
449	CRTFP Ux-	0	0	0	0	0	0
449	CRTFP Uy+	0	0	0	0	0	0
449	CRTFP Uy-	0	0	0	0	0	0
452	SLU 1	55	28	4009	-5.44	929.91	-9.41
452	SLU 2	58	50	4094	-5.96	950.31	-17.18
452	SLU 3	56	29	4079	-5.43	944.95	-9.82
452	SLU 4	58	42	4130	-5.74	957.19	-14.48
452	SLU 5	58	51	4135	-5.93	959.18	-17.71
452	SLU 6	56	30	4121	-5.4	953.82	-10.36
452	SLU 7	58	44	4172	-5.71	966.06	-15.02
452	SLU 8	55	31	4092	-5.37	947.65	-10.47
452	SLU 9	57	44	4143	-5.69	959.89	-15.13
452	SLU 10	62	53	4579	-6.67	1059.03	-18.24
452	SLU 11	59	32	4564	-6.14	1053.67	-10.89
452	SLU 12	61	45	4615	-6.46	1065.91	-15.55
452	SLU 13	62	55	4621	-6.64	1067.9	-18.77
452	SLU 14	59	33	4606	-6.11	1062.54	-11.42
452	SLU 15	61	47	4657	-6.43	1074.78	-16.08
452	SLU 16	59	34	4577	-6.09	1056.37	-11.54
452	SLU 17	60	47	4628	-6.4	1068.61	-16.2
452	SLU 18	60	32	4702	-6.46	1085.22	-10.93
452	SLU 19	62	45	4753	-6.77	1097.47	-15.59
452	SLU 20	60	34	4744	-6.43	1094.09	-11.46
452	SLU 21	62	47	4795	-6.74	1106.34	-16.12
452	SLU 22	62	28	4568	-6.04	1054.14	-9.49
452	SLU 23	66	50	4653	-6.57	1074.54	-17.26
452	SLU 24	63	29	4638	-6.04	1069.18	-9.91
452	SLU 25	65	43	4689	-6.35	1081.42	-14.57
452	SLU 26	66	52	4695	-6.53	1083.41	-17.79
452	SLU 27	63	31	4680	-6.01	1078.05	-10.44
452	SLU 28	65	44	4731	-6.32	1090.29	-15.1
452	SLU 29	62	31	4651	-5.98	1071.88	-10.55
452	SLU 30	64	44	4702	-6.3	1084.12	-15.21
452	SLU 31	69	53	5138	-7.28	1183.26	-18.32
452	SLU 32	67	32	5123	-6.75	1177.9	-10.97
452	SLU 33	69	46	5174	-7.07	1190.14	-15.63
452	SLU 34	69	55	5180	-7.25	1192.14	-18.85
452	SLU 35	67	34	5165	-6.72	1186.77	-11.5
452	SLU 36	69	47	5216	-7.04	1199.01	-16.16
452	SLU 37	66	34	5137	-6.7	1180.6	-11.62
452	SLU 38	68	47	5188	-7.01	1192.84	-16.28
452	SLU 39	67	32	5261	-7.07	1209.46	-11.01
452	SLU 40	69	46	5312	-7.38	1221.7	-15.67
452	SLU 41	67	34	5303	-7.04	1218.33	-11.54
452	SLU 42	69	47	5354	-7.35	1230.57	-16.2
452	SLU 43	69	36	5020	-6.86	1166.28	-12.21
452	SLU 44	72	58	5105	-7.38	1186.69	-19.97
452	SLU 45	70	37	5090	-6.85	1181.33	-12.62
452	SLU 46	71	50	5141	-7.16	1193.57	-17.28
452	SLU 47	72	60	5146	-7.35	1195.56	-20.51
452	SLU 48	70	39	5132	-6.82	1190.2	-13.15
452	SLU 49	72	52	5183	-7.13	1202.44	-17.81
452	SLU 50	69	39	5103	-6.8	1184.02	-13.27
452	SLU 51	71	52	5154	-7.11	1196.27	-17.93
452	SLU 52	76	61	5590	-8.09	1295.41	-21.04
452	SLU 53	73	40	5575	-7.57	1290.05	-13.68
452	SLU 54	75	53	5626	-7.88	1302.29	-18.34
452	SLU 55	76	63	5632	-8.06	1304.28	-21.57
452	SLU 56	73	42	5617	-7.54	1298.92	-14.21
452	SLU 57	75	55	5668	-7.85	1311.16	-18.87
452	SLU 58	73	42	5588	-7.51	1292.75	-14.33
452	SLU 59	74	55	5639	-7.82	1304.99	-18.99
452	SLU 60	74	40	5713	-7.88	1321.6	-13.72
452	SLU 61	76	54	5764	-8.19	1333.84	-18.38
452	SLU 62	74	42	5755	-7.85	1330.47	-14.25
452	SLU 63	76	55	5806	-8.16	1342.71	-18.92
452	SLU 64	76	36	5579	-7.47	1290.52	-12.29
452	SLU 65	79	58	5664	-7.99	1310.92	-20.05
452	SLU 66	77	37	5649	-7.46	1305.56	-12.7
452	SLU 67	79	51	5700	-7.77	1317.8	-17.36
452	SLU 68	79	60	5706	-7.96	1319.79	-20.59
452	SLU 69	77	39	5691	-7.43	1314.43	-13.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
452	SLU 70	79	52	5742	-7.74	1326.67	-17.89
452	SLU 71	76	39	5662	-7.4	1308.26	-13.35
452	SLU 72	78	53	5713	-7.72	1320.5	-18.01
452	SLU 73	83	62	6149	-8.7	1419.64	-21.12
452	SLU 74	81	40	6134	-8.18	1414.28	-13.76
452	SLU 75	82	54	6185	-8.49	1426.52	-18.42
452	SLU 76	83	63	6191	-8.67	1428.51	-21.65
452	SLU 77	81	42	6176	-8.15	1423.15	-14.29
452	SLU 78	83	55	6227	-8.46	1435.39	-18.95
452	SLU 79	80	42	6148	-8.12	1416.98	-14.41
452	SLU 80	82	56	6198	-8.43	1429.22	-19.07
452	SLU 81	81	41	6272	-8.49	1445.83	-13.8
452	SLU 82	83	54	6323	-8.8	1458.08	-18.47
452	SLU 83	81	42	6314	-8.46	1454.7	-14.34
452	SLU 84	83	55	6365	-8.77	1466.95	-19
452	SLE RA 1	57	28	4169	-5.61	965.4	-9.43
452	SLE RA 2	59	43	4225	-5.96	979	-14.61
452	SLE RA 3	58	29	4215	-5.61	975.43	-9.71
452	SLE RA 4	59	37	4249	-5.81	983.59	-12.82
452	SLE RA 5	59	44	4253	-5.94	984.92	-14.97
452	SLE RA 6	58	30	4243	-5.58	981.34	-10.06
452	SLE RA 7	59	38	4277	-5.79	989.5	-13.17
452	SLE RA 8	57	30	4224	-5.57	977.23	-10.14
452	SLE RA 9	58	39	4258	-5.78	985.39	-13.25
452	SLE RA 10	62	45	4549	-6.43	1051.49	-15.32
452	SLE RA 11	60	31	4539	-6.08	1047.91	-10.42
452	SLE RA 12	61	40	4573	-6.29	1056.07	-13.52
452	SLE RA 13	62	46	4576	-6.41	1057.4	-15.67
452	SLE RA 14	60	32	4567	-6.06	1053.82	-10.77
452	SLE RA 15	61	41	4601	-6.27	1061.99	-13.88
452	SLE RA 16	59	32	4548	-6.05	1049.71	-10.85
452	SLE RA 17	61	41	4582	-6.25	1057.87	-13.96
452	SLE RA 18	60	31	4631	-6.29	1068.95	-10.45
452	SLE RA 19	62	40	4665	-6.5	1077.11	-13.55
452	SLE RA 20	60	32	4658	-6.27	1074.86	-10.8
452	SLE RA 21	62	41	4692	-6.48	1083.02	-13.91
452	SLE FR 1	57	28	4169	-5.61	965.4	-9.43
452	SLE FR 2	57	31	4180	-5.68	968.12	-10.47
452	SLE FR 3	57	28	4180	-5.6	967.77	-9.58
452	SLE FR 4	58	32	4319	-5.88	999.18	-10.77
452	SLE FR 5	58	29	4318	-5.81	998.83	-9.88
452	SLE FR 6	59	29	4400	-5.95	1017.17	-9.94
452	SLE QP 1	57	28	4169	-5.61	965.4	-9.43
452	SLE QP 2	58	29	4307	-5.81	996.46	-9.74
452	SLD 1	469	-3	3744	-7.25	883.56	0.97
452	SLD 2	532	116	3848	-7.88	907.42	-40.25
452	SLD 3	423	-276	2595	-0.53	619.82	96.26
452	SLD 4	486	-157	2700	-1.16	643.67	55.05
452	SLD 5	241	413	5863	-16.32	1358.51	-143.97
452	SLD 6	282	490	5930	-16.73	1373.87	-170.51
452	SLD 7	86	-498	2033	6.07	479.35	173.68
452	SLD 8	126	-421	2100	5.66	494.71	147.14
452	SLD 9	-10	478	6514	-17.29	1498.22	-166.61
452	SLD 10	30	555	6581	-17.7	1513.58	-193.16
452	SLD 11	-166	-432	2684	5.1	619.06	151.03
452	SLD 12	-125	-356	2752	4.69	634.42	124.49
452	SLD 13	-370	215	5915	-10.46	1349.26	-74.52
452	SLD 14	-307	333	6019	-11.1	1373.11	-115.74
452	SLD 15	-416	-59	4766	-3.75	1085.51	20.77
452	SLD 16	-353	60	4870	-4.38	1109.36	-20.44
452	SLV 1	705	-1	3512	-8.53	839.4	0.37
452	SLV 2	804	185	3676	-9.53	877	-64.6
452	SLV 3	625	-468	1552	2.92	389.53	162.94
452	SLV 4	724	-281	1717	1.93	427.14	97.97
452	SLV 5	354	692	7010	-23.82	1624.62	-241.15
452	SLV 6	421	818	7121	-24.5	1649.94	-284.89
452	SLV 7	89	-862	478	14.37	125.08	300.76
452	SLV 8	156	-736	588	13.7	150.39	257.02
452	SLV 9	-40	794	8026	-25.33	1842.54	-276.49
452	SLV 10	27	919	8137	-26	1867.85	-320.23
452	SLV 11	-305	-760	1494	12.87	342.99	265.41
452	SLV 12	-238	-634	1604	12.2	368.31	221.67
452	SLV 13	-608	338	6898	-13.55	1565.79	-117.45
452	SLV 14	-509	525	7062	-14.55	1603.39	-182.41
452	SLV 15	-688	-128	4938	-2.09	1115.93	45.12
452	SLV 16	-589	59	5103	-3.09	1153.53	-19.84
452	SLV FO 1	769	-4	3432	-8.81	823.69	1.38
452	SLV FO 2	878	201	3613	-9.91	865.06	-70.09
452	SLV FO 3	682	-517	1277	3.8	328.84	180.21
452	SLV FO 4	791	-312	1457	2.7	370.21	108.74
452	SLV FO 5	384	758	7280	-25.62	1687.43	-264.29
452	SLV FO 6	457	896	7402	-26.36	1715.28	-312.4
452	SLV FO 7	92	-951	95	16.39	37.94	331.81
452	SLV FO 8	165	-813	217	15.65	65.78	283.69
452	SLV FO 9	-49	870	8398	-27.28	1927.14	-303.17
452	SLV FO 10	24	1008	8520	-28.02	1954.99	-351.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
452	SLV FO 11	-341	-839	1212	14.74	277.65	292.93
452	SLV FO 12	-268	-701	1334	14	305.49	244.82
452	SLV FO 13	-675	369	7157	-14.33	1622.72	-128.22
452	SLV FO 14	-566	574	7338	-15.43	1664.09	-199.68
452	SLV FO 15	-762	-144	5001	-1.72	1127.87	50.61
452	SLV FO 16	-653	62	5182	-2.82	1169.24	-20.85
452	CRTFP Ux+	0	0	0	0	0	0
452	CRTFP Ux-	0	0	0	0	0	0
452	CRTFP Uy+	0	0	0	0	0	0
452	CRTFP Uy-	0	0	0	0	0	0
454	SLU 1	33	-42	3744	-2.36	1057.5	14.47
454	SLU 2	36	-20	3794	-2.73	1070.97	6.75
454	SLU 3	33	-43	3809	-2.33	1075.65	14.85
454	SLU 4	35	-30	3839	-2.55	1083.73	10.22
454	SLU 5	36	-21	3835	-2.7	1082.43	7.08
454	SLU 6	33	-44	3851	-2.3	1087.12	15.17
454	SLU 7	35	-30	3881	-2.52	1095.2	10.55
454	SLU 8	33	-44	3827	-2.31	1080.43	15.12
454	SLU 9	34	-30	3857	-2.53	1088.51	10.49
454	SLU 10	38	-24	4283	-3.06	1207	8.29
454	SLU 11	35	-47	4298	-2.66	1211.69	16.39
454	SLU 12	37	-34	4328	-2.88	1219.77	11.76
454	SLU 13	38	-25	4324	-3.04	1218.47	8.62
454	SLU 14	35	-48	4340	-2.63	1223.15	16.71
454	SLU 15	37	-35	4370	-2.86	1231.23	12.08
454	SLU 16	35	-48	4316	-2.64	1216.47	16.65
454	SLU 17	36	-35	4346	-2.86	1224.55	12.03
454	SLU 18	36	-48	4442	-2.83	1251.83	16.67
454	SLU 19	38	-35	4472	-3.06	1259.91	12.04
454	SLU 20	36	-49	4484	-2.81	1263.3	16.99
454	SLU 21	38	-36	4514	-3.03	1271.38	12.36
454	SLU 22	38	-47	4245	-2.5	1196.03	16.4
454	SLU 23	41	-25	4295	-2.87	1209.49	8.69
454	SLU 24	38	-48	4311	-2.47	1214.18	16.78
454	SLU 25	40	-35	4341	-2.69	1222.26	12.15
454	SLU 26	40	-26	4337	-2.85	1220.96	9.01
454	SLU 27	38	-49	4353	-2.44	1225.65	17.11
454	SLU 28	39	-36	4383	-2.67	1233.73	12.48
454	SLU 29	37	-49	4329	-2.45	1218.96	17.05
454	SLU 30	39	-36	4359	-2.67	1227.04	12.42
454	SLU 31	43	-30	4784	-3.2	1345.53	10.23
454	SLU 32	40	-53	4800	-2.8	1350.21	18.32
454	SLU 33	42	-40	4830	-3.02	1358.29	13.69
454	SLU 34	42	-31	4826	-3.18	1356.99	10.55
454	SLU 35	39	-54	4842	-2.78	1361.68	18.65
454	SLU 36	41	-40	4872	-3	1369.76	14.02
454	SLU 37	39	-54	4818	-2.78	1354.99	18.59
454	SLU 38	41	-40	4848	-3	1363.07	13.96
454	SLU 39	41	-54	4944	-2.98	1390.36	18.6
454	SLU 40	42	-40	4974	-3.2	1398.44	13.97
454	SLU 41	40	-55	4986	-2.95	1401.82	18.92
454	SLU 42	42	-41	5016	-3.17	1409.91	14.29
454	SLU 43	42	-52	4695	-3.02	1327.26	18.15
454	SLU 44	45	-30	4745	-3.39	1340.72	10.43
454	SLU 45	42	-53	4760	-2.99	1345.41	18.53
454	SLU 46	44	-40	4790	-3.21	1353.49	13.9
454	SLU 47	44	-31	4786	-3.36	1352.19	10.76
454	SLU 48	41	-54	4802	-2.96	1356.88	18.85
454	SLU 49	43	-41	4832	-3.18	1364.96	14.22
454	SLU 50	41	-54	4778	-2.97	1350.19	18.79
454	SLU 51	43	-41	4808	-3.19	1358.27	14.16
454	SLU 52	47	-35	5234	-3.72	1476.76	11.97
454	SLU 53	44	-58	5249	-3.32	1481.44	20.07
454	SLU 54	46	-45	5279	-3.54	1489.52	15.44
454	SLU 55	46	-36	5275	-3.7	1488.22	12.3
454	SLU 56	43	-59	5291	-3.29	1492.91	20.39
454	SLU 57	45	-46	5321	-3.52	1500.99	15.76
454	SLU 58	43	-59	5267	-3.3	1486.22	20.33
454	SLU 59	45	-45	5297	-3.52	1494.3	15.7
454	SLU 60	45	-59	5393	-3.49	1521.59	20.35
454	SLU 61	46	-45	5423	-3.72	1529.67	15.72
454	SLU 62	44	-60	5435	-3.47	1533.06	20.67
454	SLU 63	46	-46	5465	-3.69	1541.14	16.04
454	SLU 64	46	-58	5196	-3.16	1465.78	20.08
454	SLU 65	49	-36	5246	-3.53	1479.25	12.37
454	SLU 66	46	-59	5262	-3.13	1483.93	20.46
454	SLU 67	48	-46	5292	-3.35	1492.01	15.83
454	SLU 68	49	-37	5288	-3.5	1490.71	12.69
454	SLU 69	46	-60	5304	-3.1	1495.4	20.78
454	SLU 70	48	-47	5334	-3.33	1503.48	16.16
454	SLU 71	46	-60	5280	-3.11	1488.71	20.73
454	SLU 72	47	-46	5310	-3.33	1496.79	16.1
454	SLU 73	51	-40	5735	-3.86	1615.28	13.9
454	SLU 74	48	-63	5751	-3.46	1619.97	22
454	SLU 75	50	-50	5781	-3.68	1628.05	17.37
454	SLU 76	51	-41	5777	-3.84	1626.75	14.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
454	SLU 77	48	-64	5793	-3.44	1631.43	22.32
454	SLU 78	50	-51	5823	-3.66	1639.51	17.69
454	SLU 79	48	-64	5769	-3.44	1624.75	22.26
454	SLU 80	49	-51	5799	-3.66	1632.83	17.64
454	SLU 81	49	-64	5895	-3.64	1660.11	22.28
454	SLU 82	51	-51	5925	-3.86	1668.19	17.65
454	SLU 83	49	-65	5937	-3.61	1671.58	22.6
454	SLU 84	50	-52	5967	-3.83	1679.66	17.97
454	SLE RA 1	35	-43	3887	-2.4	1097.08	15.02
454	SLE RA 2	37	-29	3920	-2.65	1106.06	9.88
454	SLE RA 3	35	-44	3931	-2.38	1109.18	15.28
454	SLE RA 4	36	-35	3951	-2.53	1114.57	12.19
454	SLE RA 5	36	-29	3948	-2.63	1113.7	10.09
454	SLE RA 6	34	-45	3959	-2.36	1116.83	15.49
454	SLE RA 7	36	-36	3979	-2.51	1122.21	12.41
454	SLE RA 8	34	-45	3943	-2.36	1112.37	15.45
454	SLE RA 9	35	-36	3963	-2.51	1117.75	12.37
454	SLE RA 10	38	-32	4246	-2.87	1196.75	10.9
454	SLE RA 11	36	-47	4257	-2.6	1199.87	16.3
454	SLE RA 12	37	-38	4277	-2.75	1205.26	13.22
454	SLE RA 13	38	-32	4274	-2.85	1204.39	11.12
454	SLE RA 14	36	-48	4285	-2.58	1207.51	16.52
454	SLE RA 15	37	-39	4305	-2.73	1212.9	13.43
454	SLE RA 16	35	-48	4269	-2.59	1203.06	16.48
454	SLE RA 17	37	-39	4289	-2.73	1208.44	13.39
454	SLE RA 18	36	-48	4353	-2.72	1226.63	16.49
454	SLE RA 19	38	-39	4373	-2.87	1232.02	13.4
454	SLE RA 20	36	-48	4380	-2.7	1234.28	16.7
454	SLE RA 21	37	-39	4400	-2.85	1239.67	13.62
454	SLE FR 1	35	-43	3887	-2.4	1097.08	15.02
454	SLE FR 2	35	-40	3894	-2.45	1098.87	13.99
454	SLE FR 3	35	-44	3898	-2.39	1100.14	15.11
454	SLE FR 4	36	-42	4033	-2.55	1137.74	14.43
454	SLE FR 5	35	-45	4038	-2.49	1139	15.55
454	SLE FR 6	36	-45	4120	-2.56	1161.86	15.76
454	SLE QP 1	35	-43	3887	-2.4	1097.08	15.02
454	SLE QP 2	35	-45	4027	-2.5	1135.95	15.46
454	SLD 1	453	65	4332	-5.36	1223.52	-22.29
454	SLD 2	517	68	4338	-5.42	1223.29	-23.1
454	SLD 3	417	-206	3586	-0.05	1020.73	72.33
454	SLD 4	481	-203	3591	-0.1	1020.51	71.53
454	SLD 5	204	399	5249	-11.41	1469.81	-139.23
454	SLD 6	245	401	5253	-11.44	1469.66	-139.75
454	SLD 7	85	-505	2762	6.31	793.87	176.17
454	SLD 8	126	-503	2765	6.27	793.73	175.65
454	SLD 9	-55	414	5288	-11.26	1478.17	-144.73
454	SLD 10	-14	416	5292	-11.3	1478.02	-145.25
454	SLD 11	-174	-490	2801	6.45	802.23	170.68
454	SLD 12	-133	-488	2804	6.42	802.08	170.16
454	SLD 13	-411	114	4462	-4.89	1251.38	-40.6
454	SLD 14	-347	117	4467	-4.95	1251.16	-41.41
454	SLD 15	-446	-157	3716	0.43	1048.6	54.02
454	SLD 16	-382	-154	3721	0.37	1048.38	53.21
454	SLV 1	691	146	4557	-7.38	1286.86	-50.17
454	SLV 2	791	151	4565	-7.47	1286.51	-51.44
454	SLV 3	630	-317	3283	1.69	940.8	111.21
454	SLV 4	730	-312	3292	1.6	940.45	109.94
454	SLV 5	305	713	6116	-17.7	1706.14	-248.75
454	SLV 6	373	717	6122	-17.76	1705.91	-249.61
454	SLV 7	102	-829	1870	12.53	552.61	289.19
454	SLV 8	170	-826	1876	12.47	552.37	288.33
454	SLV 9	-100	737	6177	-17.46	1719.52	-257.4
454	SLV 10	-32	740	6183	-17.52	1719.28	-258.26
454	SLV 11	-303	-806	1932	12.77	565.99	280.53
454	SLV 12	-235	-803	1938	12.71	565.75	279.68
454	SLV 13	-660	223	4762	-6.59	1331.44	-79.01
454	SLV 14	-559	228	4770	-6.68	1331.09	-80.29
454	SLV 15	-721	-240	3488	2.48	985.38	82.37
454	SLV 16	-620	-235	3497	2.39	985.03	81.09
454	SLV FO 1	756	165	4610	-7.87	1301.95	-56.73
454	SLV FO 2	867	170	4619	-7.97	1301.56	-58.13
454	SLV FO 3	689	-344	3209	2.11	921.29	120.79
454	SLV FO 4	800	-339	3218	2.01	920.9	119.38
454	SLV FO 5	333	789	6325	-19.22	1763.16	-275.17
454	SLV FO 6	407	793	6331	-19.29	1762.9	-276.12
454	SLV FO 7	109	-907	1655	14.04	494.28	316.56
454	SLV FO 8	183	-904	1661	13.97	494.02	315.61
454	SLV FO 9	-113	815	6392	-18.96	1777.88	-284.69
454	SLV FO 10	-39	818	6399	-19.03	1777.61	-285.63
454	SLV FO 11	-337	-882	1722	14.3	508.99	307.04
454	SLV FO 12	-262	-878	1729	14.23	508.73	306.1
454	SLV FO 13	-729	250	4835	-7	1350.99	-88.46
454	SLV FO 14	-619	255	4845	-7.1	1350.6	-89.86
454	SLV FO 15	-796	-259	3434	2.98	970.33	89.06
454	SLV FO 16	-686	-254	3444	2.88	969.94	87.66
454	CRTFP Ux+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
454	CRTFP Ux-	0	0	0	0	0	0
454	CRTFP Uy+	0	0	0	0	0	0
454	CRTFP Uy-	0	0	0	0	0	0
457	SLU 1	-70	20	3383	-2.86	-454.12	4.74
457	SLU 2	-73	39	3447	-3.26	-462.03	9.47
457	SLU 3	-72	21	3448	-2.84	-462.14	4.84
457	SLU 4	-74	32	3486	-3.08	-466.89	7.68
457	SLU 5	-74	40	3486	-3.24	-466.93	9.6
457	SLU 6	-73	21	3487	-2.81	-467.04	4.97
457	SLU 7	-75	33	3525	-3.05	-471.79	7.81
457	SLU 8	-72	22	3462	-2.81	-463.92	5
457	SLU 9	-74	33	3500	-3.05	-468.67	7.84
457	SLU 10	-78	43	3865	-3.61	-515.51	10.38
457	SLU 11	-77	25	3866	-3.19	-515.62	5.76
457	SLU 12	-79	36	3904	-3.43	-520.37	8.59
457	SLU 13	-79	44	3904	-3.59	-520.41	10.51
457	SLU 14	-78	25	3905	-3.17	-520.52	5.88
457	SLU 15	-80	37	3943	-3.41	-525.27	8.72
457	SLU 16	-77	25	3880	-3.16	-517.4	5.91
457	SLU 17	-79	37	3918	-3.4	-522.15	8.75
457	SLU 18	-77	26	3981	-3.36	-530.52	6.05
457	SLU 19	-79	37	4019	-3.61	-535.26	8.88
457	SLU 20	-78	26	4020	-3.34	-535.42	6.18
457	SLU 21	-80	38	4058	-3.58	-540.16	9.01
457	SLU 22	-80	22	3875	-3.1	-516.71	5.13
457	SLU 23	-83	41	3939	-3.5	-524.62	9.85
457	SLU 24	-82	23	3940	-3.08	-524.73	5.23
457	SLU 25	-84	34	3978	-3.32	-529.48	8.06
457	SLU 26	-84	42	3978	-3.47	-529.52	9.98
457	SLU 27	-83	23	3979	-3.05	-529.63	5.36
457	SLU 28	-85	35	4017	-3.29	-534.38	8.19
457	SLU 29	-82	23	3954	-3.05	-526.51	5.39
457	SLU 30	-84	35	3992	-3.29	-531.26	8.22
457	SLU 31	-88	45	4357	-3.85	-578.1	10.77
457	SLU 32	-87	27	4358	-3.43	-578.21	6.14
457	SLU 33	-89	38	4396	-3.67	-582.95	8.98
457	SLU 34	-89	46	4396	-3.83	-583	10.89
457	SLU 35	-88	27	4397	-3.4	-583.11	6.27
457	SLU 36	-90	38	4435	-3.64	-587.86	9.11
457	SLU 37	-87	27	4372	-3.4	-579.99	6.3
457	SLU 38	-89	39	4410	-3.64	-584.73	9.13
457	SLU 39	-87	28	4473	-3.6	-593.11	6.43
457	SLU 40	-89	39	4511	-3.84	-597.85	9.27
457	SLU 41	-88	28	4512	-3.58	-598.01	6.56
457	SLU 42	-90	40	4550	-3.82	-602.75	9.4
457	SLU 43	-88	26	4230	-3.64	-568.9	6.03
457	SLU 44	-91	45	4294	-4.04	-576.81	10.76
457	SLU 45	-89	26	4294	-3.62	-576.92	6.13
457	SLU 46	-91	38	4332	-3.86	-581.66	8.97
457	SLU 47	-92	46	4333	-4.01	-581.71	10.89
457	SLU 48	-91	27	4333	-3.59	-581.82	6.26
457	SLU 49	-92	38	4371	-3.83	-586.56	9.1
457	SLU 50	-90	27	4308	-3.59	-578.7	6.29
457	SLU 51	-92	38	4346	-3.83	-583.44	9.13
457	SLU 52	-96	49	4711	-4.39	-630.28	11.67
457	SLU 53	-94	30	4712	-3.97	-630.4	7.05
457	SLU 54	-96	42	4750	-4.21	-635.14	9.88
457	SLU 55	-97	49	4751	-4.37	-635.19	11.8
457	SLU 56	-96	31	4751	-3.94	-635.3	7.17
457	SLU 57	-97	42	4789	-4.18	-640.04	10.01
457	SLU 58	-95	31	4726	-3.94	-632.18	7.2
457	SLU 59	-97	42	4764	-4.18	-636.92	10.04
457	SLU 60	-95	31	4827	-4.14	-645.29	7.34
457	SLU 61	-97	43	4865	-4.38	-650.04	10.17
457	SLU 62	-96	32	4866	-4.12	-650.2	7.47
457	SLU 63	-98	43	4904	-4.36	-654.94	10.3
457	SLU 64	-98	28	4722	-3.87	-631.48	6.42
457	SLU 65	-101	47	4786	-4.27	-639.39	11.14
457	SLU 66	-99	28	4786	-3.85	-639.51	6.52
457	SLU 67	-101	40	4824	-4.09	-644.25	9.36
457	SLU 68	-102	47	4825	-4.25	-644.3	11.27
457	SLU 69	-101	29	4825	-3.83	-644.41	6.65
457	SLU 70	-102	40	4863	-4.07	-649.15	9.48
457	SLU 71	-100	29	4800	-3.82	-641.29	6.68
457	SLU 72	-102	40	4838	-4.06	-646.03	9.51
457	SLU 73	-106	51	5203	-4.63	-692.87	12.06
457	SLU 74	-105	32	5204	-4.2	-692.99	7.43
457	SLU 75	-106	43	5242	-4.45	-697.73	10.27
457	SLU 76	-107	51	5243	-4.6	-697.77	12.19
457	SLU 77	-106	33	5243	-4.18	-697.89	7.56
457	SLU 78	-107	44	5281	-4.42	-702.63	10.4
457	SLU 79	-105	33	5218	-4.18	-694.77	7.59
457	SLU 80	-107	44	5256	-4.42	-699.51	10.43
457	SLU 81	-105	33	5319	-4.38	-707.88	7.73
457	SLU 82	-107	45	5357	-4.62	-712.63	10.56
457	SLU 83	-106	34	5358	-4.35	-712.78	7.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
457	SLU 84	-108	45	5396	-4.59	-717.53	10.69
457	SLE RA 1	-73	21	3524	-2.93	-472	4.86
457	SLE RA 2	-75	34	3567	-3.2	-477.27	8
457	SLE RA 3	-74	21	3567	-2.91	-477.35	4.92
457	SLE RA 4	-75	29	3592	-3.07	-480.51	6.81
457	SLE RA 5	-76	34	3593	-3.18	-480.54	8.09
457	SLE RA 6	-75	22	3593	-2.9	-480.62	5.01
457	SLE RA 7	-76	29	3618	-3.06	-483.78	6.9
457	SLE RA 8	-74	22	3576	-2.89	-478.54	5.03
457	SLE RA 9	-76	29	3602	-3.06	-481.7	6.92
457	SLE RA 10	-78	36	3845	-3.43	-512.93	8.61
457	SLE RA 11	-77	24	3846	-3.15	-513	5.53
457	SLE RA 12	-79	31	3871	-3.31	-516.17	7.42
457	SLE RA 13	-79	37	3871	-3.41	-516.19	8.7
457	SLE RA 14	-78	24	3872	-3.13	-516.27	5.62
457	SLE RA 15	-79	32	3897	-3.29	-519.43	7.5
457	SLE RA 16	-78	24	3855	-3.13	-514.19	5.63
457	SLE RA 17	-79	32	3880	-3.29	-517.35	7.52
457	SLE RA 18	-78	25	3922	-3.26	-522.93	5.72
457	SLE RA 19	-79	32	3948	-3.42	-526.1	7.61
457	SLE RA 20	-78	25	3948	-3.25	-526.2	5.81
457	SLE RA 21	-80	33	3974	-3.41	-529.37	7.7
457	SLE FR 1	-73	21	3524	-2.93	-472	4.86
457	SLE FR 2	-73	24	3533	-2.98	-473.06	5.48
457	SLE FR 3	-73	21	3534	-2.92	-473.31	4.89
457	SLE FR 4	-75	25	3652	-3.08	-488.34	5.75
457	SLE FR 5	-75	22	3654	-3.02	-488.59	5.15
457	SLE FR 6	-75	23	3723	-3.1	-497.47	5.29
457	SLE QP 1	-73	21	3524	-2.93	-472	4.86
457	SLE QP 2	-74	22	3643	-3.03	-487.28	5.12
457	SLD 1	207	298	5180	-6.59	-677.06	73.51
457	SLD 2	251	195	5111	-6.11	-668.94	48
457	SLD 3	239	58	4276	-1.43	-568.38	13.59
457	SLD 4	282	-45	4207	-0.94	-560.26	-11.91
457	SLD 5	-45	488	5487	-12.01	-710.45	120.89
457	SLD 6	-17	421	5443	-11.7	-705.22	104.47
457	SLD 7	60	-315	2474	5.2	-348.18	-78.83
457	SLD 8	88	-381	2430	5.51	-342.95	-95.25
457	SLD 9	-237	425	4857	-11.57	-631.62	105.48
457	SLD 10	-209	359	4813	-11.26	-626.39	89.06
457	SLD 11	-132	-377	1844	5.64	-269.35	-94.24
457	SLD 12	-104	-443	1800	5.96	-264.12	-110.66
457	SLD 13	-431	90	3080	-5.12	-414.3	22.14
457	SLD 14	-387	-13	3011	-4.63	-406.18	-3.36
457	SLD 15	-399	-151	2176	0.05	-305.62	-37.77
457	SLD 16	-356	-254	2107	0.54	-297.5	-63.27
457	SLV 1	364	471	6109	-8.98	-791.55	116.41
457	SLV 2	432	309	6000	-8.21	-778.75	76.21
457	SLV 3	417	61	4566	-0.18	-606.03	14.19
457	SLV 4	486	-101	4457	0.59	-593.23	-26.01
457	SLV 5	-37	810	6743	-18.32	-862.33	201.04
457	SLV 6	9	701	6670	-17.8	-853.71	173.98
457	SLV 7	142	-559	1600	11.04	-243.92	-139.69
457	SLV 8	188	-668	1527	11.56	-235.3	-166.76
457	SLV 9	-337	712	5760	-17.62	-739.26	176.99
457	SLV 10	-290	603	5686	-17.1	-730.65	149.93
457	SLV 11	-158	-656	617	11.74	-120.85	-163.75
457	SLV 12	-112	-766	543	12.26	-112.23	-190.81
457	SLV 13	-635	146	2830	-6.65	-381.33	36.24
457	SLV 14	-566	-17	2721	-5.88	-368.53	-3.96
457	SLV 15	-581	-265	1287	2.16	-195.81	-65.98
457	SLV 16	-513	-427	1178	2.93	-183.01	-106.18
457	SLV FO 1	408	516	6355	-9.58	-821.98	127.54
457	SLV FO 2	483	338	6235	-8.73	-807.9	83.32
457	SLV FO 3	467	65	4658	0.11	-617.91	15.1
457	SLV FO 4	542	-114	4538	0.96	-603.82	-29.12
457	SLV FO 5	-33	889	7053	-19.85	-899.83	220.63
457	SLV FO 6	18	769	6973	-19.28	-890.36	190.86
457	SLV FO 7	163	-617	1396	12.45	-219.58	-154.18
457	SLV FO 8	214	-737	1316	13.02	-210.1	-183.95
457	SLV FO 9	-363	781	5971	-19.08	-764.46	194.18
457	SLV FO 10	-312	661	5891	-18.51	-754.98	164.41
457	SLV FO 11	-166	-724	314	13.22	-84.21	-180.63
457	SLV FO 12	-116	-845	233	13.79	-74.73	-210.4
457	SLV FO 13	-691	158	2749	-7.01	-370.74	39.35
457	SLV FO 14	-616	-21	2629	-6.17	-356.66	-4.87
457	SLV FO 15	-632	-294	1051	2.68	-166.66	-73.09
457	SLV FO 16	-557	-472	932	3.52	-152.58	-117.31
457	CRTFP Ux+	0	0	0	0	0	0
457	CRTFP Ux-	0	0	0	0	0	0
457	CRTFP Uy+	0	0	0	0	0	0
457	CRTFP Uy-	0	0	0	0	0	0
460	SLU 1	-100	-47	6191	-2.5	-38.35	-2.94
460	SLU 2	-106	-16	6288	-3.1	-37.36	-3.15
460	SLU 3	-103	-48	6306	-2.39	-39.34	-3.03
460	SLU 4	-106	-29	6364	-2.75	-38.75	-3.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
460	SLU 5	-107	-16	6360	-3.02	-38.1	-3.2
460	SLU 6	-104	-49	6378	-2.31	-40.07	-3.08
460	SLU 7	-108	-30	6436	-2.67	-39.48	-3.2
460	SLU 8	-103	-49	6335	-2.33	-39.81	-3.06
460	SLU 9	-107	-30	6394	-2.69	-39.22	-3.18
460	SLU 10	-111	-20	7093	-3.36	-43.8	-3.5
460	SLU 11	-108	-52	7111	-2.65	-45.77	-3.37
460	SLU 12	-112	-33	7169	-3.01	-45.18	-3.5
460	SLU 13	-113	-20	7165	-3.28	-44.53	-3.55
460	SLU 14	-110	-53	7183	-2.57	-46.5	-3.43
460	SLU 15	-113	-34	7242	-2.93	-45.91	-3.55
460	SLU 16	-109	-53	7140	-2.59	-46.24	-3.4
460	SLU 17	-112	-34	7199	-2.95	-45.65	-3.52
460	SLU 18	-108	-53	7341	-2.87	-47.54	-3.44
460	SLU 19	-111	-34	7400	-3.23	-46.95	-3.56
460	SLU 20	-110	-54	7413	-2.79	-48.27	-3.5
460	SLU 21	-113	-35	7472	-3.15	-47.68	-3.62
460	SLU 22	-115	-53	7094	-2.43	-44.41	-3.47
460	SLU 23	-120	-21	7191	-3.03	-43.43	-3.67
460	SLU 24	-117	-54	7209	-2.32	-45.4	-3.55
460	SLU 25	-121	-35	7267	-2.68	-44.81	-3.68
460	SLU 26	-122	-22	7263	-2.94	-44.16	-3.73
460	SLU 27	-119	-55	7281	-2.23	-46.13	-3.61
460	SLU 28	-122	-36	7339	-2.59	-45.54	-3.73
460	SLU 29	-118	-54	7238	-2.25	-45.88	-3.58
460	SLU 30	-121	-35	7296	-2.61	-45.28	-3.7
460	SLU 31	-126	-25	7996	-3.29	-49.86	-4.02
460	SLU 32	-123	-58	8014	-2.58	-51.83	-3.9
460	SLU 33	-126	-39	8072	-2.94	-51.24	-4.02
460	SLU 34	-127	-26	8068	-3.2	-50.59	-4.08
460	SLU 35	-124	-59	8086	-2.49	-52.56	-3.96
460	SLU 36	-128	-40	8144	-2.85	-51.97	-4.08
460	SLU 37	-123	-58	8043	-2.51	-52.31	-3.93
460	SLU 38	-127	-39	8101	-2.87	-51.72	-4.05
460	SLU 39	-123	-59	8244	-2.8	-53.6	-3.97
460	SLU 40	-126	-40	8302	-3.16	-53.01	-4.09
460	SLU 41	-124	-59	8316	-2.71	-54.33	-4.02
460	SLU 42	-128	-40	8374	-3.07	-53.74	-4.14
460	SLU 43	-125	-59	7739	-3.28	-47.77	-3.65
460	SLU 44	-131	-28	7836	-3.88	-46.79	-3.85
460	SLU 45	-128	-60	7854	-3.17	-48.76	-3.73
460	SLU 46	-131	-41	7912	-3.53	-48.17	-3.85
460	SLU 47	-132	-28	7908	-3.79	-47.52	-3.91
460	SLU 48	-129	-61	7926	-3.08	-49.49	-3.79
460	SLU 49	-133	-42	7984	-3.44	-48.9	-3.91
460	SLU 50	-128	-61	7883	-3.11	-49.23	-3.76
460	SLU 51	-132	-42	7941	-3.47	-48.64	-3.88
460	SLU 52	-136	-32	8641	-4.14	-53.22	-4.2
460	SLU 53	-133	-64	8659	-3.43	-55.19	-4.08
460	SLU 54	-137	-45	8717	-3.79	-54.6	-4.2
460	SLU 55	-138	-32	8713	-4.05	-53.95	-4.25
460	SLU 56	-135	-65	8731	-3.34	-55.92	-4.13
460	SLU 57	-138	-46	8789	-3.7	-55.33	-4.26
460	SLU 58	-134	-65	8688	-3.37	-55.67	-4.11
460	SLU 59	-137	-46	8747	-3.73	-55.08	-4.23
460	SLU 60	-133	-65	8889	-3.65	-56.96	-4.14
460	SLU 61	-136	-46	8947	-4.01	-56.37	-4.27
460	SLU 62	-135	-66	8961	-3.56	-57.69	-4.2
460	SLU 63	-138	-47	9020	-3.92	-57.1	-4.32
460	SLU 64	-140	-65	8642	-3.2	-53.84	-4.17
460	SLU 65	-145	-34	8739	-3.8	-52.85	-4.38
460	SLU 66	-142	-66	8757	-3.09	-54.83	-4.26
460	SLU 67	-146	-47	8815	-3.45	-54.24	-4.38
460	SLU 68	-147	-34	8811	-3.72	-53.59	-4.43
460	SLU 69	-144	-67	8829	-3.01	-55.56	-4.31
460	SLU 70	-147	-48	8887	-3.37	-54.97	-4.43
460	SLU 71	-143	-67	8786	-3.03	-55.3	-4.28
460	SLU 72	-146	-48	8844	-3.39	-54.71	-4.41
460	SLU 73	-151	-38	9544	-4.06	-59.29	-4.72
460	SLU 74	-148	-70	9562	-3.35	-61.26	-4.6
460	SLU 75	-151	-51	9620	-3.71	-60.67	-4.73
460	SLU 76	-152	-38	9616	-3.98	-60.02	-4.78
460	SLU 77	-149	-71	9634	-3.27	-61.99	-4.66
460	SLU 78	-153	-52	9692	-3.63	-61.4	-4.78
460	SLU 79	-149	-71	9591	-3.29	-61.73	-4.63
460	SLU 80	-152	-52	9649	-3.65	-61.14	-4.75
460	SLU 81	-148	-71	9792	-3.57	-63.03	-4.67
460	SLU 82	-151	-52	9850	-3.93	-62.44	-4.79
460	SLU 83	-149	-72	9864	-3.49	-63.76	-4.73
460	SLU 84	-153	-53	9922	-3.85	-63.17	-4.85
460	SLE RA 1	-104	-49	6449	-2.48	-40.08	-3.09
460	SLE RA 2	-108	-28	6514	-2.88	-39.43	-3.23
460	SLE RA 3	-106	-50	6526	-2.41	-40.74	-3.15
460	SLE RA 4	-108	-37	6565	-2.65	-40.35	-3.23
460	SLE RA 5	-109	-28	6562	-2.82	-39.91	-3.27
460	SLE RA 6	-107	-50	6574	-2.35	-41.23	-3.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
460	SLE RA 7	-109	-37	6613	-2.59	-40.83	-3.27
460	SLE RA 8	-106	-50	6545	-2.37	-41.06	-3.17
460	SLE RA 9	-109	-37	6584	-2.61	-40.66	-3.25
460	SLE RA 10	-112	-30	7051	-3.05	-43.71	-3.46
460	SLE RA 11	-110	-52	7062	-2.58	-45.03	-3.38
460	SLE RA 12	-112	-40	7101	-2.82	-44.63	-3.46
460	SLE RA 13	-113	-31	7099	-3	-44.2	-3.5
460	SLE RA 14	-111	-53	7111	-2.52	-45.52	-3.42
460	SLE RA 15	-113	-40	7149	-2.76	-45.12	-3.5
460	SLE RA 16	-110	-52	7082	-2.54	-45.34	-3.4
460	SLE RA 17	-112	-40	7121	-2.78	-44.95	-3.48
460	SLE RA 18	-110	-53	7216	-2.73	-46.21	-3.43
460	SLE RA 19	-112	-40	7255	-2.97	-45.81	-3.51
460	SLE RA 20	-111	-53	7264	-2.67	-46.69	-3.46
460	SLE RA 21	-113	-40	7303	-2.91	-46.3	-3.54
460	SLE FR 1	-104	-49	6449	-2.48	-40.08	-3.09
460	SLE FR 2	-105	-45	6462	-2.56	-39.95	-3.12
460	SLE FR 3	-105	-49	6468	-2.46	-40.28	-3.11
460	SLE FR 4	-107	-46	6692	-2.63	-41.79	-3.22
460	SLE FR 5	-106	-50	6698	-2.53	-42.11	-3.21
460	SLE FR 6	-107	-51	6832	-2.6	-43.14	-3.26
460	SLE QP 1	-104	-49	6449	-2.48	-40.08	-3.09
460	SLE QP 2	-106	-50	6679	-2.55	-41.92	-3.19
460	SLD 1	504	89	7920	-7.35	-15.6	-0.61
460	SLD 2	600	7	7831	-6.91	-16.99	1.79
460	SLD 3	560	-304	6565	0.56	-23.59	1.48
460	SLD 4	656	-385	6476	1.01	-24.98	3.87
460	SLD 5	-24	601	9122	-16.07	-21.67	-5.99
460	SLD 6	38	549	9065	-15.78	-22.57	-4.44
460	SLD 7	162	-708	4604	10.31	-48.3	0.95
460	SLD 8	224	-760	4547	10.59	-49.19	2.5
460	SLD 9	-435	660	8811	-15.7	-34.65	-8.88
460	SLD 10	-374	608	8754	-15.42	-35.54	-7.34
460	SLD 11	-249	-649	4293	10.68	-61.27	-1.94
460	SLD 12	-188	-701	4236	10.96	-62.17	-0.4
460	SLD 13	-867	285	6882	-6.12	-58.86	-10.26
460	SLD 14	-772	204	6794	-5.67	-60.25	-7.86
460	SLD 15	-812	-107	5527	1.8	-66.85	-8.18
460	SLD 16	-716	-188	5438	2.24	-68.23	-5.78
460	SLV 1	845	195	8717	-10.64	-0.26	0.68
460	SLV 2	995	67	8577	-9.94	-2.45	4.46
460	SLV 3	939	-474	6404	2.86	-13.87	4.23
460	SLV 4	1090	-603	6264	3.56	-16.06	8.01
460	SLV 5	8	1063	10825	-25.59	-8.38	-8.11
460	SLV 6	109	977	10731	-25.12	-9.85	-5.57
460	SLV 7	323	-1169	3114	19.42	-53.73	3.71
460	SLV 8	424	-1255	3020	19.89	-55.2	6.25
460	SLV 9	-636	1155	10338	-24.99	-28.63	-12.64
460	SLV 10	-535	1069	10244	-24.52	-30.11	-10.09
460	SLV 11	-321	-1077	2627	20.01	-73.99	-0.82
460	SLV 12	-220	-1163	2533	20.48	-75.46	1.72
460	SLV 13	-1302	503	7095	-8.67	-67.78	-14.39
460	SLV 14	-1151	375	6955	-7.97	-69.97	-10.62
460	SLV 15	-1207	-167	4781	4.83	-81.39	-10.85
460	SLV 16	-1057	-295	4641	5.53	-83.57	-7.07
460	SLV FO 1	940	220	8921	-11.45	3.9	1.07
460	SLV FO 2	1106	79	8767	-10.68	1.49	5.23
460	SLV FO 3	1044	-517	6376	3.4	-11.07	4.97
460	SLV FO 4	1210	-658	6222	4.17	-13.47	9.13
460	SLV FO 5	19	1174	11240	-27.89	-5.02	-8.6
460	SLV FO 6	131	1080	11136	-27.37	-6.64	-5.81
460	SLV FO 7	366	-1281	2758	21.61	-54.91	4.4
460	SLV FO 8	477	-1376	2654	22.13	-56.53	7.19
460	SLV FO 9	-689	1276	10704	-27.24	-27.3	-13.58
460	SLV FO 10	-578	1181	10601	-26.72	-28.92	-10.78
460	SLV FO 11	-342	-1179	2222	22.26	-77.19	-0.58
460	SLV FO 12	-231	-1274	2119	22.78	-78.81	2.22
460	SLV FO 13	-1421	558	7136	-9.28	-70.37	-15.51
460	SLV FO 14	-1256	417	6982	-8.51	-72.77	-11.36
460	SLV FO 15	-1317	-179	4592	5.57	-85.33	-11.61
460	SLV FO 16	-1152	-320	4438	6.34	-87.74	-7.46
460	CRTFP Ux+	0	0	0	0	0	0
460	CRTFP Ux-	0	0	0	0	0	0
460	CRTFP Uy+	0	0	0	0	0	0
460	CRTFP Uy-	0	0	0	0	0	0
463	SLU 1	77	-99	6347	-3.47	36.46	-1.35
463	SLU 2	81	-68	6448	-4.08	34.84	-1.18
463	SLU 3	77	-101	6458	-3.37	37.17	-1.41
463	SLU 4	80	-82	6519	-3.74	36.2	-1.3
463	SLU 5	81	-69	6516	-3.99	35.32	-1.22
463	SLU 6	77	-102	6527	-3.29	37.66	-1.45
463	SLU 7	79	-84	6587	-3.65	36.68	-1.35
463	SLU 8	76	-102	6483	-3.3	37.43	-1.44
463	SLU 9	79	-83	6544	-3.66	36.45	-1.34
463	SLU 10	85	-77	7247	-4.52	39.85	-1.31
463	SLU 11	81	-111	7257	-3.81	42.18	-1.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
463	SLU 12	84	-92	7318	-4.18	41.21	-1.44
463	SLU 13	85	-79	7315	-4.43	40.33	-1.36
463	SLU 14	81	-112	7325	-3.73	42.66	-1.59
463	SLU 15	84	-93	7386	-4.09	41.69	-1.49
463	SLU 16	80	-111	7282	-3.74	42.44	-1.58
463	SLU 17	83	-93	7343	-4.1	41.46	-1.48
463	SLU 18	83	-113	7488	-4.1	43.62	-1.55
463	SLU 19	85	-94	7549	-4.47	42.64	-1.45
463	SLU 20	82	-114	7556	-4.01	44.1	-1.6
463	SLU 21	85	-95	7617	-4.38	43.13	-1.49
463	SLU 22	87	-110	7255	-3.55	41.55	-1.5
463	SLU 23	92	-79	7356	-4.16	39.92	-1.32
463	SLU 24	88	-112	7366	-3.45	42.26	-1.55
463	SLU 25	90	-93	7427	-3.82	41.28	-1.44
463	SLU 26	91	-80	7425	-4.07	40.4	-1.36
463	SLU 27	87	-113	7435	-3.36	42.74	-1.6
463	SLU 28	90	-95	7495	-3.73	41.76	-1.49
463	SLU 29	86	-113	7392	-3.38	42.51	-1.59
463	SLU 30	89	-94	7452	-3.74	41.54	-1.48
463	SLU 31	96	-88	8155	-4.6	44.93	-1.46
463	SLU 32	92	-122	8165	-3.89	47.27	-1.69
463	SLU 33	95	-103	8226	-4.26	46.29	-1.58
463	SLU 34	95	-90	8223	-4.51	45.41	-1.5
463	SLU 35	92	-123	8233	-3.81	47.75	-1.73
463	SLU 36	94	-104	8294	-4.17	46.77	-1.63
463	SLU 37	91	-122	8190	-3.82	47.52	-1.72
463	SLU 38	93	-104	8251	-4.18	46.54	-1.62
463	SLU 39	93	-124	8396	-4.18	48.7	-1.7
463	SLU 40	96	-105	8457	-4.54	47.73	-1.59
463	SLU 41	93	-125	8464	-4.09	49.18	-1.74
463	SLU 42	95	-106	8525	-4.46	48.21	-1.63
463	SLU 43	96	-125	7940	-4.48	45.66	-1.71
463	SLU 44	100	-94	8041	-5.09	44.03	-1.53
463	SLU 45	97	-127	8051	-4.39	46.37	-1.77
463	SLU 46	99	-108	8112	-4.75	45.39	-1.66
463	SLU 47	100	-95	8109	-5	44.51	-1.58
463	SLU 48	96	-128	8119	-4.3	46.85	-1.81
463	SLU 49	99	-110	8180	-4.66	45.88	-1.7
463	SLU 50	95	-128	8076	-4.31	46.62	-1.8
463	SLU 51	98	-109	8137	-4.67	45.65	-1.69
463	SLU 52	105	-103	8839	-5.53	49.04	-1.67
463	SLU 53	101	-137	8850	-4.83	51.38	-1.91
463	SLU 54	103	-118	8910	-5.19	50.4	-1.8
463	SLU 55	104	-105	8908	-5.45	49.52	-1.72
463	SLU 56	100	-138	8918	-4.74	51.86	-1.95
463	SLU 57	103	-119	8979	-5.11	50.88	-1.84
463	SLU 58	99	-137	8875	-4.75	51.63	-1.94
463	SLU 59	102	-119	8935	-5.12	50.66	-1.83
463	SLU 60	102	-139	9081	-5.12	52.81	-1.91
463	SLU 61	105	-120	9141	-5.48	51.84	-1.8
463	SLU 62	102	-140	9149	-5.03	53.3	-1.96
463	SLU 63	104	-121	9209	-5.39	52.32	-1.85
463	SLU 64	107	-136	8848	-4.56	50.74	-1.85
463	SLU 65	111	-105	8949	-5.17	49.12	-1.68
463	SLU 66	107	-138	8959	-4.46	51.45	-1.91
463	SLU 67	110	-119	9020	-4.83	50.48	-1.8
463	SLU 68	111	-106	9017	-5.08	49.6	-1.72
463	SLU 69	107	-139	9027	-4.38	51.93	-1.95
463	SLU 70	109	-121	9088	-4.74	50.96	-1.85
463	SLU 71	106	-139	8984	-4.39	51.71	-1.94
463	SLU 72	108	-120	9045	-4.75	50.73	-1.84
463	SLU 73	115	-114	9748	-5.61	54.12	-1.81
463	SLU 74	111	-148	9758	-4.91	56.46	-2.05
463	SLU 75	114	-129	9818	-5.27	55.49	-1.94
463	SLU 76	115	-116	9816	-5.52	54.61	-1.86
463	SLU 77	111	-149	9826	-4.82	56.94	-2.09
463	SLU 78	114	-130	9887	-5.18	55.97	-1.98
463	SLU 79	110	-148	9783	-4.83	56.72	-2.08
463	SLU 80	113	-130	9844	-5.2	55.74	-1.97
463	SLU 81	113	-150	9989	-5.19	57.9	-2.05
463	SLU 82	115	-131	10049	-5.56	56.92	-1.95
463	SLU 83	112	-151	10057	-5.11	58.38	-2.1
463	SLU 84	115	-132	10118	-5.47	57.4	-1.99
463	SLE RA 1	80	-102	6606	-3.49	37.91	-1.4
463	SLE RA 2	83	-81	6674	-3.9	36.83	-1.28
463	SLE RA 3	80	-104	6681	-3.43	38.39	-1.43
463	SLE RA 4	82	-91	6721	-3.67	37.74	-1.36
463	SLE RA 5	82	-82	6719	-3.84	37.15	-1.31
463	SLE RA 6	80	-105	6726	-3.37	38.71	-1.46
463	SLE RA 7	82	-92	6767	-3.61	38.06	-1.39
463	SLE RA 8	79	-104	6697	-3.38	38.56	-1.45
463	SLE RA 9	81	-91	6738	-3.62	37.91	-1.38
463	SLE RA 10	85	-88	7206	-4.19	40.17	-1.37
463	SLE RA 11	83	-110	7213	-3.72	41.73	-1.52
463	SLE RA 12	85	-98	7254	-3.96	41.08	-1.45
463	SLE RA 13	85	-89	7252	-4.13	40.49	-1.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
463	SLE RA 14	83	-111	7259	-3.66	42.05	-1.55
463	SLE RA 15	84	-98	7299	-3.91	41.4	-1.48
463	SLE RA 16	82	-111	7230	-3.67	41.9	-1.55
463	SLE RA 17	84	-98	7270	-3.91	41.25	-1.48
463	SLE RA 18	84	-112	7367	-3.91	42.68	-1.53
463	SLE RA 19	85	-99	7407	-4.16	42.03	-1.46
463	SLE RA 20	83	-112	7413	-3.86	43.01	-1.56
463	SLE RA 21	85	-100	7453	-4.1	42.36	-1.49
463	SLE FR 1	80	-102	6606	-3.49	37.91	-1.4
463	SLE FR 2	80	-98	6620	-3.57	37.7	-1.37
463	SLE FR 3	80	-103	6625	-3.47	38.04	-1.41
463	SLE FR 4	81	-101	6848	-3.7	39.13	-1.41
463	SLE FR 5	81	-105	6853	-3.6	39.47	-1.45
463	SLE FR 6	82	-107	6987	-3.7	40.3	-1.46
463	SLE QP 1	80	-102	6606	-3.49	37.91	-1.4
463	SLE QP 2	81	-105	6835	-3.62	39.35	-1.44
463	SLD 1	774	165	7060	-6.44	44.21	4.42
463	SLD 2	875	244	7157	-6.92	41.7	6.69
463	SLD 3	720	-236	5649	1.39	58.5	2.32
463	SLD 4	821	-156	5746	0.91	55.98	4.59
463	SLD 5	353	570	9025	-16.26	19.58	3.11
463	SLD 6	418	621	9088	-16.57	17.96	4.57
463	SLD 7	174	-765	4322	9.85	67.18	-3.88
463	SLD 8	239	-714	4385	9.54	65.57	-2.42
463	SLD 9	-77	504	9284	-16.77	13.13	-0.45
463	SLD 10	-12	555	9347	-17.08	11.51	1.01
463	SLD 11	-256	-831	4581	9.34	60.73	-7.44
463	SLD 12	-191	-780	4644	9.03	59.11	-5.98
463	SLD 13	-659	-54	7923	-8.15	22.71	-7.46
463	SLD 14	-558	25	8020	-8.63	20.2	-5.19
463	SLD 15	-713	-455	6512	-0.31	36.99	-9.56
463	SLD 16	-612	-375	6609	-0.79	34.48	-7.29
463	SLV 1	1168	345	7288	-8.58	46	7.84
463	SLV 2	1327	470	7442	-9.33	42.04	11.41
463	SLV 3	1076	-338	4881	4.79	70.33	4.26
463	SLV 4	1235	-213	5034	4.03	66.37	7.84
463	SLV 5	516	1043	10593	-25.23	5.18	6.1
463	SLV 6	623	1127	10696	-25.74	2.51	8.51
463	SLV 7	211	-1235	2569	19.31	86.28	-5.82
463	SLV 8	318	-1150	2672	18.8	83.61	-3.41
463	SLV 9	-156	940	10997	-26.04	-4.92	0.54
463	SLV 10	-49	1025	11101	-26.55	-7.59	2.95
463	SLV 11	-462	-1338	2973	18.5	76.18	-11.38
463	SLV 12	-355	-1253	3076	17.99	73.51	-8.97
463	SLV 13	-1074	3	8635	-11.27	12.32	-10.71
463	SLV 14	-915	128	8789	-12.02	8.36	-7.13
463	SLV 15	-1165	-681	6228	2.1	36.65	-14.28
463	SLV 16	-1006	-555	6381	1.34	32.69	-10.71
463	SLV FO 1	1277	390	7333	-9.07	46.66	8.76
463	SLV FO 2	1452	528	7502	-9.9	42.31	12.7
463	SLV FO 3	1176	-362	4685	5.63	73.43	4.83
463	SLV FO 4	1351	-224	4854	4.8	69.07	8.76
463	SLV FO 5	560	1158	10969	-27.39	1.76	6.86
463	SLV FO 6	678	1251	11083	-27.95	-1.17	9.51
463	SLV FO 7	224	-1348	2142	21.6	90.97	-6.26
463	SLV FO 8	342	-1255	2256	21.04	88.04	-3.61
463	SLV FO 9	-180	1045	11413	-28.28	-9.35	0.74
463	SLV FO 10	-62	1138	11527	-28.84	-12.28	3.39
463	SLV FO 11	-516	-1461	2587	20.72	79.86	-12.38
463	SLV FO 12	-398	-1368	2700	20.16	76.93	-9.73
463	SLV FO 13	-1189	13	8815	-12.03	9.62	-11.63
463	SLV FO 14	-1014	151	8984	-12.86	5.26	-7.7
463	SLV FO 15	-1290	-738	6167	2.67	36.38	-15.57
463	SLV FO 16	-1115	-600	6336	1.83	32.03	-11.64
463	CRTFP Ux+	0	0	0	0	0	0
463	CRTFP Ux-	0	0	0	0	0	0
463	CRTFP Uy+	0	0	0	0	0	0
463	CRTFP Uy-	0	0	0	0	0	0
466	SLU 1	49	26	3882	-2.83	818.85	-9.05
466	SLU 2	51	49	3952	-3.29	833.02	-16.83
466	SLU 3	49	27	3954	-2.77	832.79	-9.45
466	SLU 4	51	41	3995	-3.05	841.29	-14.12
466	SLU 5	51	50	3995	-3.23	841.49	-17.36
466	SLU 6	49	29	3997	-2.71	841.26	-9.98
466	SLU 7	51	42	4039	-2.99	849.76	-14.65
466	SLU 8	49	29	3969	-2.7	835.79	-10.1
466	SLU 9	50	43	4010	-2.98	844.29	-14.77
466	SLU 10	54	52	4421	-3.66	927.43	-17.85
466	SLU 11	52	30	4422	-3.14	927.2	-10.47
466	SLU 12	54	44	4464	-3.42	935.7	-15.14
466	SLU 13	54	53	4464	-3.6	935.9	-18.37
466	SLU 14	52	32	4465	-3.08	935.67	-11
466	SLU 15	54	45	4507	-3.35	944.17	-15.66
466	SLU 16	52	32	4437	-3.07	930.2	-11.12
466	SLU 17	53	46	4479	-3.35	938.7	-15.79
466	SLU 18	53	30	4552	-3.35	953.72	-10.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
466	SLU 19	54	44	4594	-3.63	962.22	-15.17
466	SLU 20	53	32	4595	-3.29	962.19	-11.03
466	SLU 21	54	45	4637	-3.57	970.69	-15.7
466	SLU 22	55	26	4429	-3.03	928.55	-9.07
466	SLU 23	58	49	4499	-3.5	942.72	-16.85
466	SLU 24	56	28	4500	-2.98	942.49	-9.47
466	SLU 25	57	41	4542	-3.25	950.99	-14.14
466	SLU 26	58	50	4542	-3.43	951.19	-17.38
466	SLU 27	56	29	4543	-2.91	950.96	-10
466	SLU 28	57	42	4585	-3.19	959.46	-14.67
466	SLU 29	55	29	4515	-2.91	945.49	-10.12
466	SLU 30	57	43	4557	-3.19	953.99	-14.79
466	SLU 31	61	52	4968	-3.86	1037.13	-17.86
466	SLU 32	59	31	4969	-3.34	1036.89	-10.49
466	SLU 33	60	44	5011	-3.62	1045.39	-15.16
466	SLU 34	61	53	5011	-3.8	1045.6	-18.39
466	SLU 35	59	32	5012	-3.28	1045.36	-11.01
466	SLU 36	60	45	5054	-3.56	1053.86	-15.68
466	SLU 37	58	32	4984	-3.28	1039.9	-11.14
466	SLU 38	60	46	5026	-3.55	1048.4	-15.81
466	SLU 39	59	31	5098	-3.56	1063.42	-10.52
466	SLU 40	61	44	5140	-3.84	1071.92	-15.19
466	SLU 41	59	32	5142	-3.5	1071.89	-11.05
466	SLU 42	61	45	5184	-3.77	1080.39	-15.71
466	SLU 43	61	34	4860	-3.6	1026.9	-11.76
466	SLU 44	64	56	4930	-4.07	1041.07	-19.54
466	SLU 45	62	35	4931	-3.55	1040.83	-12.16
466	SLU 46	63	49	4973	-3.83	1049.34	-16.83
466	SLU 47	64	58	4973	-4.01	1049.54	-20.06
466	SLU 48	62	37	4974	-3.49	1049.3	-12.69
466	SLU 49	63	50	5016	-3.76	1057.81	-17.36
466	SLU 50	61	37	4946	-3.48	1043.84	-12.81
466	SLU 51	63	50	4988	-3.76	1052.34	-17.48
466	SLU 52	67	59	5398	-4.44	1135.47	-20.55
466	SLU 53	65	38	5399	-3.91	1135.24	-13.18
466	SLU 54	66	52	5441	-4.19	1143.74	-17.85
466	SLU 55	67	61	5441	-4.37	1143.94	-21.08
466	SLU 56	65	40	5443	-3.85	1143.71	-13.7
466	SLU 57	66	53	5484	-4.13	1152.21	-18.37
466	SLU 58	64	40	5414	-3.85	1138.24	-13.83
466	SLU 59	66	53	5456	-4.13	1146.75	-18.5
466	SLU 60	65	38	5529	-4.13	1161.76	-13.21
466	SLU 61	67	52	5571	-4.41	1170.27	-17.88
466	SLU 62	65	40	5572	-4.07	1170.23	-13.74
466	SLU 63	67	53	5614	-4.35	1178.74	-18.4
466	SLU 64	67	34	5406	-3.81	1136.59	-11.78
466	SLU 65	70	57	5476	-4.27	1150.76	-19.56
466	SLU 66	68	35	5478	-3.75	1150.53	-12.18
466	SLU 67	70	49	5519	-4.03	1159.03	-16.85
466	SLU 68	70	58	5519	-4.21	1159.23	-20.08
466	SLU 69	68	37	5521	-3.69	1159	-12.71
466	SLU 70	70	50	5563	-3.97	1167.5	-17.37
466	SLU 71	68	37	5492	-3.69	1153.53	-12.83
466	SLU 72	69	51	5534	-3.97	1162.03	-17.5
466	SLU 73	73	59	5945	-4.64	1245.17	-20.57
466	SLU 74	71	38	5946	-4.12	1244.94	-13.2
466	SLU 75	73	52	5988	-4.4	1253.44	-17.86
466	SLU 76	73	61	5988	-4.58	1253.64	-21.1
466	SLU 77	71	40	5989	-4.06	1253.41	-13.72
466	SLU 78	73	53	6031	-4.34	1261.91	-18.39
466	SLU 79	70	40	5961	-4.05	1247.94	-13.85
466	SLU 80	72	54	6003	-4.33	1256.44	-18.51
466	SLU 81	71	38	6076	-4.33	1271.46	-13.23
466	SLU 82	73	52	6118	-4.61	1279.96	-17.9
466	SLU 83	72	40	6119	-4.27	1279.93	-13.75
466	SLU 84	73	53	6161	-4.55	1288.43	-18.42
466	SLE RA 1	50	26	4039	-2.89	850.19	-9.05
466	SLE RA 2	52	41	4085	-3.19	859.64	-14.24
466	SLE RA 3	51	27	4086	-2.85	859.48	-9.32
466	SLE RA 4	52	36	4114	-3.03	865.15	-12.44
466	SLE RA 5	52	42	4114	-3.15	865.29	-14.59
466	SLE RA 6	51	28	4115	-2.81	865.13	-9.67
466	SLE RA 7	52	37	4143	-2.99	870.8	-12.79
466	SLE RA 8	51	28	4096	-2.8	861.49	-9.76
466	SLE RA 9	52	37	4124	-2.99	867.15	-12.87
466	SLE RA 10	54	43	4398	-3.44	922.58	-14.92
466	SLE RA 11	53	29	4398	-3.09	922.42	-10
466	SLE RA 12	54	38	4426	-3.28	928.09	-13.11
466	SLE RA 13	54	44	4426	-3.4	928.22	-15.27
466	SLE RA 14	53	30	4427	-3.05	928.07	-10.35
466	SLE RA 15	54	39	4455	-3.24	933.74	-13.46
466	SLE RA 16	52	30	4408	-3.05	924.42	-10.43
466	SLE RA 17	54	39	4436	-3.23	930.09	-13.55
466	SLE RA 18	53	29	4485	-3.24	940.11	-10.02
466	SLE RA 19	54	38	4513	-3.42	945.77	-13.13
466	SLE RA 20	53	30	4514	-3.19	945.75	-10.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
466	SLE RA 21	54	39	4542	-3.38	951.42	-13.49
466	SLE FR 1	50	26	4039	-2.89	850.19	-9.05
466	SLE FR 2	51	29	4048	-2.95	852.08	-10.09
466	SLE FR 3	50	27	4050	-2.87	852.45	-9.19
466	SLE FR 4	52	30	4182	-3.05	879.06	-10.38
466	SLE FR 5	51	28	4184	-2.97	879.43	-9.48
466	SLE FR 6	52	28	4262	-3.06	895.15	-9.54
466	SLE QP 1	50	26	4039	-2.89	850.19	-9.05
466	SLE QP 2	51	27	4172	-2.99	877.17	-9.34
466	SLD 1	443	-4	3558	-4.78	759.3	1.43
466	SLD 2	497	114	3644	-5.35	775.75	-39.85
466	SLD 3	406	-278	2603	1.22	576.71	96.76
466	SLD 4	460	-159	2689	0.65	593.16	55.48
466	SLD 5	216	411	5421	-12.53	1115.91	-143.59
466	SLD 6	251	488	5477	-12.89	1126.5	-170.18
466	SLD 7	92	-499	2239	7.47	507.27	174.17
466	SLD 8	127	-422	2294	7.11	517.87	147.58
466	SLD 9	-24	477	6051	-13.09	1236.47	-166.27
466	SLD 10	11	553	6106	-13.45	1247.06	-192.85
466	SLD 11	-149	-434	2868	6.91	627.83	151.49
466	SLD 12	-113	-357	2924	6.55	638.43	124.91
466	SLD 13	-358	213	5656	-6.64	1161.17	-74.17
466	SLD 14	-303	332	5742	-7.2	1177.62	-115.45
466	SLD 15	-395	-60	4701	-0.64	978.58	21.16
466	SLD 16	-340	59	4787	-1.2	995.03	-20.12
466	SLV 1	666	-3	3282	-6.21	706.48	0.86
466	SLV 2	752	184	3418	-7.1	732.41	-64.2
466	SLV 3	603	-469	1653	4.03	395.06	163.49
466	SLV 4	689	-282	1789	3.13	420.99	98.43
466	SLV 5	316	690	6350	-19.31	1293.44	-240.8
466	SLV 6	374	816	6442	-19.92	1310.89	-284.6
466	SLV 7	104	-863	921	14.81	255.38	301.3
466	SLV 8	162	-737	1012	14.2	272.84	257.5
466	SLV 9	-59	792	7332	-20.18	1481.5	-276.19
466	SLV 10	-2	918	7424	-20.79	1498.95	-319.99
466	SLV 11	-272	-761	1903	13.93	443.44	265.91
466	SLV 12	-214	-635	1995	13.33	460.9	222.11
466	SLV 13	-586	336	6556	-9.11	1333.34	-117.12
466	SLV 14	-500	524	6691	-10.01	1359.27	-182.18
466	SLV 15	-650	-129	4927	1.12	1021.93	45.51
466	SLV 16	-564	58	5063	0.23	1047.86	-19.55
466	SLV FO 1	728	-6	3193	-6.53	689.41	1.88
466	SLV FO 2	822	199	3342	-7.51	717.93	-69.69
466	SLV FO 3	658	-519	1402	4.73	346.85	180.78
466	SLV FO 4	752	-313	1551	3.75	375.37	109.21
466	SLV FO 5	343	756	6568	-20.95	1335.06	-263.94
466	SLV FO 6	406	895	6669	-21.61	1354.27	-312.12
466	SLV FO 7	109	-952	596	16.59	193.2	332.37
466	SLV FO 8	173	-814	696	15.92	212.41	284.19
466	SLV FO 9	-70	868	7648	-21.9	1541.93	-302.87
466	SLV FO 10	-7	1007	7749	-22.57	1561.13	-351.06
466	SLV FO 11	-304	-840	1676	15.63	400.07	293.43
466	SLV FO 12	-240	-702	1777	14.96	419.27	245.25
466	SLV FO 13	-650	367	6794	-9.73	1378.96	-127.89
466	SLV FO 14	-555	573	6943	-10.71	1407.48	-199.46
466	SLV FO 15	-720	-145	5003	1.53	1036.4	51
466	SLV FO 16	-625	61	5152	0.55	1064.93	-20.57
466	CRTFP Ux+	0	0	0	0	0	0
466	CRTFP Ux-	0	0	0	0	0	0
466	CRTFP Uy+	0	0	0	0	0	0
466	CRTFP Uy-	0	0	0	0	0	0
468	SLU 1	36	-43	3704	-0.27	1017.47	14.9
468	SLU 2	38	-21	3744	-0.59	1027.24	7.17
468	SLU 3	36	-44	3771	-0.21	1035.53	15.29
468	SLU 4	37	-31	3795	-0.39	1041.39	10.65
468	SLU 5	38	-22	3787	-0.54	1038.7	7.5
468	SLU 6	36	-45	3814	-0.15	1046.99	15.62
468	SLU 7	37	-32	3838	-0.34	1052.85	10.98
468	SLU 8	35	-45	3790	-0.17	1040.4	15.55
468	SLU 9	37	-31	3814	-0.36	1046.26	10.92
468	SLU 10	41	-25	4227	-0.62	1157.64	8.79
468	SLU 11	38	-49	4255	-0.24	1165.93	16.9
468	SLU 12	40	-35	4279	-0.43	1171.79	12.27
468	SLU 13	41	-26	4270	-0.57	1169.1	9.11
468	SLU 14	38	-50	4298	-0.19	1177.39	17.23
468	SLU 15	40	-36	4321	-0.38	1183.25	12.6
468	SLU 16	38	-49	4273	-0.21	1170.8	17.17
468	SLU 17	40	-36	4297	-0.39	1176.66	12.53
468	SLU 18	39	-50	4395	-0.32	1203.76	17.2
468	SLU 19	41	-36	4419	-0.51	1209.62	12.57
468	SLU 20	39	-51	4438	-0.27	1215.23	17.53
468	SLU 21	41	-37	4461	-0.46	1221.09	12.9
468	SLU 22	41	-49	4206	-0.1	1152.19	16.88
468	SLU 23	43	-26	4246	-0.42	1161.95	9.15
468	SLU 24	41	-50	4274	-0.03	1170.24	17.27
468	SLU 25	42	-36	4297	-0.22	1176.1	12.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
468	SLU 26	43	-27	4289	-0.37	1173.42	9.48
468	SLU 27	41	-51	4316	0.02	1181.71	17.6
468	SLU 28	42	-37	4340	-0.17	1187.56	12.96
468	SLU 29	40	-51	4292	0	1175.12	17.54
468	SLU 30	42	-37	4316	-0.19	1180.97	12.9
468	SLU 31	46	-31	4729	-0.45	1292.35	10.77
468	SLU 32	43	-54	4757	-0.07	1300.64	18.89
468	SLU 33	45	-41	4781	-0.26	1306.5	14.25
468	SLU 34	45	-32	4772	-0.4	1303.82	11.1
468	SLU 35	43	-55	4800	-0.02	1312.11	19.22
468	SLU 36	45	-42	4824	-0.21	1317.97	14.58
468	SLU 37	43	-55	4775	-0.03	1305.52	19.15
468	SLU 38	44	-42	4799	-0.22	1311.38	14.52
468	SLU 39	44	-55	4897	-0.15	1338.48	19.19
468	SLU 40	46	-42	4921	-0.34	1344.34	14.55
468	SLU 41	44	-56	4940	-0.1	1349.94	19.52
468	SLU 42	46	-43	4964	-0.29	1355.8	14.88
468	SLU 43	45	-54	4643	-0.42	1276.53	18.69
468	SLU 44	47	-32	4683	-0.73	1286.29	10.96
468	SLU 45	45	-55	4710	-0.35	1294.58	19.08
468	SLU 46	47	-42	4734	-0.54	1300.44	14.44
468	SLU 47	47	-33	4726	-0.68	1297.76	11.29
468	SLU 48	45	-56	4753	-0.29	1306.05	19.4
468	SLU 49	46	-43	4777	-0.48	1311.9	14.77
468	SLU 50	45	-56	4729	-0.31	1299.46	19.34
468	SLU 51	46	-42	4753	-0.5	1305.31	14.71
468	SLU 52	50	-36	5166	-0.77	1416.69	12.57
468	SLU 53	48	-60	5194	-0.38	1424.98	20.69
468	SLU 54	49	-46	5218	-0.57	1430.84	16.06
468	SLU 55	50	-37	5209	-0.71	1428.16	12.9
468	SLU 56	47	-61	5237	-0.33	1436.45	21.02
468	SLU 57	49	-47	5260	-0.52	1442.31	16.38
468	SLU 58	47	-60	5212	-0.35	1429.86	20.96
468	SLU 59	49	-47	5236	-0.54	1435.72	16.32
468	SLU 60	49	-61	5334	-0.46	1462.82	20.99
468	SLU 61	50	-47	5358	-0.65	1468.68	16.36
468	SLU 62	48	-61	5377	-0.41	1474.28	21.32
468	SLU 63	50	-48	5400	-0.6	1480.14	16.68
468	SLU 64	50	-60	5145	-0.25	1411.24	20.67
468	SLU 65	52	-37	5185	-0.56	1421.01	12.94
468	SLU 66	50	-61	5213	-0.18	1429.3	21.06
468	SLU 67	51	-47	5236	-0.37	1435.15	16.43
468	SLU 68	52	-38	5228	-0.51	1432.47	13.27
468	SLU 69	50	-62	5255	-0.12	1440.76	21.39
468	SLU 70	51	-48	5279	-0.31	1446.62	16.75
468	SLU 71	49	-61	5231	-0.14	1434.17	21.33
468	SLU 72	51	-48	5255	-0.33	1440.03	16.69
468	SLU 73	55	-42	5668	-0.6	1551.41	14.56
468	SLU 74	52	-65	5696	-0.21	1559.7	22.68
468	SLU 75	54	-52	5720	-0.4	1565.56	18.04
468	SLU 76	55	-43	5711	-0.54	1562.87	14.89
468	SLU 77	52	-66	5739	-0.16	1571.16	23
468	SLU 78	54	-53	5763	-0.35	1577.02	18.37
468	SLU 79	52	-66	5715	-0.18	1564.57	22.94
468	SLU 80	53	-53	5738	-0.37	1570.43	18.3
468	SLU 81	53	-66	5836	-0.29	1597.53	22.98
468	SLU 82	55	-53	5860	-0.48	1603.39	18.34
468	SLU 83	53	-67	5879	-0.24	1609	23.31
468	SLU 84	55	-54	5903	-0.43	1614.85	18.67
468	SLE RA 1	37	-45	3848	-0.23	1055.96	15.46
468	SLE RA 2	39	-30	3874	-0.44	1062.47	10.31
468	SLE RA 3	37	-45	3892	-0.18	1068	15.73
468	SLE RA 4	38	-36	3908	-0.31	1071.91	12.63
468	SLE RA 5	39	-30	3903	-0.4	1070.12	10.53
468	SLE RA 6	37	-46	3921	-0.15	1075.64	15.94
468	SLE RA 7	38	-37	3937	-0.27	1079.55	12.85
468	SLE RA 8	37	-46	3905	-0.16	1071.25	15.9
468	SLE RA 9	38	-37	3921	-0.28	1075.15	12.81
468	SLE RA 10	41	-33	4196	-0.46	1149.41	11.39
468	SLE RA 11	39	-48	4215	-0.2	1154.93	16.8
468	SLE RA 12	40	-40	4231	-0.33	1158.84	13.71
468	SLE RA 13	40	-33	4225	-0.42	1157.05	11.61
468	SLE RA 14	39	-49	4243	-0.17	1162.58	17.02
468	SLE RA 15	40	-40	4259	-0.29	1166.48	13.93
468	SLE RA 16	39	-49	4227	-0.18	1158.18	16.98
468	SLE RA 17	40	-40	4243	-0.31	1162.09	13.89
468	SLE RA 18	40	-49	4308	-0.26	1180.16	17
468	SLE RA 19	41	-40	4324	-0.38	1184.06	13.91
468	SLE RA 20	39	-50	4337	-0.22	1187.8	17.22
468	SLE RA 21	40	-41	4352	-0.35	1191.7	14.13
468	SLE FR 1	37	-45	3848	-0.23	1055.96	15.46
468	SLE FR 2	38	-42	3853	-0.27	1057.27	14.43
468	SLE FR 3	37	-45	3859	-0.21	1059.02	15.55
468	SLE FR 4	38	-43	3991	-0.28	1094.52	14.9
468	SLE FR 5	38	-46	3997	-0.22	1096.28	16.01
468	SLE FR 6	38	-47	4078	-0.24	1118.06	16.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
468	SLE QP 1	37	-45	3848	-0.23	1055.96	15.46
468	SLE QP 2	38	-46	3986	-0.24	1093.22	15.93
468	SLD 1	432	65	4220	-2.69	1154.22	-22.08
468	SLD 2	488	68	4224	-2.74	1153.55	-22.9
468	SLD 3	401	-207	3622	1.85	1004.98	72.7
468	SLD 4	456	-204	3626	1.81	1004.3	71.88
468	SLD 5	195	399	4962	-7.86	1337.99	-139.09
468	SLD 6	230	401	4964	-7.89	1337.55	-139.62
468	SLD 7	89	-507	2969	7.29	840.51	176.85
468	SLD 8	125	-505	2972	7.26	840.08	176.32
468	SLD 9	-49	414	5000	-7.74	1346.36	-144.47
468	SLD 10	-13	416	5002	-7.76	1345.93	-145
468	SLD 11	-155	-493	3007	7.42	848.89	171.47
468	SLD 12	-119	-491	3010	7.39	848.45	170.94
468	SLD 13	-380	112	4346	-2.28	1182.14	-40.03
468	SLD 14	-325	116	4349	-2.32	1181.46	-40.85
468	SLD 15	-412	-160	3748	2.27	1032.9	54.75
468	SLD 16	-357	-156	3752	2.22	1032.22	53.93
468	SLV 1	657	146	4393	-4.43	1199	-50.11
468	SLV 2	744	151	4400	-4.5	1197.93	-51.41
468	SLV 3	603	-318	3373	3.33	944.3	111.54
468	SLV 4	690	-313	3380	3.26	943.23	110.25
468	SLV 5	289	714	5654	-13.25	1511.45	-248.82
468	SLV 6	348	718	5658	-13.29	1510.73	-249.69
468	SLV 7	109	-832	2254	12.61	662.45	290.03
468	SLV 8	168	-829	2258	12.57	661.73	289.16
468	SLV 9	-92	737	5713	-13.04	1524.71	-257.3
468	SLV 10	-34	740	5718	-13.08	1523.99	-258.18
468	SLV 11	-272	-810	2313	12.82	675.71	281.54
468	SLV 12	-213	-806	2317	12.77	675	280.67
468	SLV 13	-614	221	4592	-3.73	1243.21	-78.39
468	SLV 14	-527	226	4598	-3.8	1242.15	-79.69
468	SLV 15	-668	-243	3572	4.02	988.51	83.26
468	SLV 16	-581	-238	3578	3.95	987.45	81.96
468	SLV FO 1	719	165	4434	-4.84	1209.57	-56.72
468	SLV FO 2	815	171	4441	-4.92	1208.4	-58.14
468	SLV FO 3	660	-345	3312	3.69	929.4	121.1
468	SLV FO 4	755	-340	3319	3.61	928.23	119.68
468	SLV FO 5	314	790	5821	-14.55	1553.27	-275.29
468	SLV FO 6	379	794	5825	-14.6	1552.48	-276.25
468	SLV FO 7	117	-911	2081	13.9	619.37	317.44
468	SLV FO 8	181	-907	2085	13.85	618.58	316.48
468	SLV FO 9	-105	815	5886	-14.32	1567.86	-284.63
468	SLV FO 10	-41	819	5891	-14.37	1567.07	-285.59
468	SLV FO 11	-303	-886	2146	14.13	633.96	308.1
468	SLV FO 12	-238	-882	2151	14.07	633.17	307.14
468	SLV FO 13	-680	248	4653	-4.08	1258.21	-87.83
468	SLV FO 14	-584	253	4659	-4.16	1257.04	-89.25
468	SLV FO 15	-739	-262	3531	4.45	978.04	89.99
468	SLV FO 16	-643	-257	3537	4.37	976.87	88.57
468	CRTFP Ux+	0	0	0	0	0	0
468	CRTFP Ux-	0	0	0	0	0	0
468	CRTFP Uy+	0	0	0	0	0	0
468	CRTFP Uy-	0	0	0	0	0	0
470	SLU 1	-299	4	10388	-22.01	-26.59	9.95
470	SLU 2	-310	79	10491	-36.1	-27.09	9.47
470	SLU 3	-306	4	10595	-19.11	-27.2	10.06
470	SLU 4	-313	49	10657	-27.56	-27.5	9.77
470	SLU 5	-315	78	10625	-33.82	-27.47	9.52
470	SLU 6	-310	2	10729	-16.83	-27.58	10.11
470	SLU 7	-317	48	10791	-25.28	-27.88	9.82
470	SLU 8	-307	1	10655	-17.46	-27.36	10.04
470	SLU 9	-314	47	10717	-25.91	-27.66	9.76
470	SLU 10	-334	80	11890	-41	-31.55	10.35
470	SLU 11	-329	5	11994	-24.01	-31.66	10.94
470	SLU 12	-336	50	12056	-32.47	-31.96	10.66
470	SLU 13	-338	79	12024	-38.73	-31.94	10.4
470	SLU 14	-333	4	12128	-21.74	-32.05	10.99
470	SLU 15	-340	49	12190	-30.19	-32.34	10.7
470	SLU 16	-331	3	12054	-22.36	-31.82	10.93
470	SLU 17	-338	48	12116	-30.81	-32.12	10.64
470	SLU 18	-332	5	12386	-29.02	-32.97	11.21
470	SLU 19	-339	51	12448	-37.47	-33.27	10.92
470	SLU 20	-336	4	12520	-26.74	-33.36	11.26
470	SLU 21	-343	50	12582	-35.19	-33.65	10.97
470	SLU 22	-340	13	11879	-17.59	-30.72	10.75
470	SLU 23	-352	88	11982	-31.68	-31.21	10.27
470	SLU 24	-347	13	12086	-14.69	-31.32	10.86
470	SLU 25	-354	58	12148	-23.14	-31.62	10.58
470	SLU 26	-357	87	12115	-29.4	-31.6	10.32
470	SLU 27	-352	11	12220	-12.41	-31.71	10.91
470	SLU 28	-359	57	12282	-20.87	-32	10.63
470	SLU 29	-349	10	12146	-13.04	-31.48	10.85
470	SLU 30	-356	56	12208	-21.49	-31.78	10.56
470	SLU 31	-376	90	13381	-36.58	-35.68	11.16
470	SLU 32	-371	14	13485	-19.59	-35.79	11.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
470	SLU 33	-378	59	13547	-28.05	-36.08	11.46
470	SLU 34	-380	88	13514	-34.31	-36.06	11.2
470	SLU 35	-375	13	13619	-17.32	-36.17	11.8
470	SLU 36	-382	58	13680	-25.77	-36.47	11.51
470	SLU 37	-373	12	13545	-17.94	-35.95	11.73
470	SLU 38	-380	57	13607	-26.4	-36.25	11.44
470	SLU 39	-374	14	13877	-24.6	-37.1	12.01
470	SLU 40	-381	60	13939	-33.05	-37.39	11.73
470	SLU 41	-378	13	14011	-22.32	-37.48	12.06
470	SLU 42	-385	59	14073	-30.77	-37.78	11.77
470	SLU 43	-374	2	12993	-30.13	-33.16	12.65
470	SLU 44	-385	77	13096	-44.22	-33.65	12.18
470	SLU 45	-381	2	13201	-27.23	-33.76	12.77
470	SLU 46	-388	47	13263	-35.68	-34.06	12.48
470	SLU 47	-390	76	13230	-41.94	-34.04	12.22
470	SLU 48	-385	0	13334	-24.95	-34.15	12.82
470	SLU 49	-392	46	13396	-33.4	-34.44	12.53
470	SLU 50	-383	-1	13260	-25.58	-33.93	12.75
470	SLU 51	-390	45	13322	-34.03	-34.22	12.46
470	SLU 52	-409	78	14495	-49.12	-38.12	13.06
470	SLU 53	-404	3	14600	-32.13	-38.23	13.65
470	SLU 54	-411	48	14662	-40.58	-38.52	13.36
470	SLU 55	-413	77	14629	-46.84	-38.5	13.11
470	SLU 56	-409	2	14733	-29.85	-38.61	13.7
470	SLU 57	-416	47	14795	-38.31	-38.91	13.41
470	SLU 58	-406	1	14659	-30.48	-38.39	13.63
470	SLU 59	-413	46	14721	-38.93	-38.69	13.35
470	SLU 60	-407	3	14992	-37.14	-39.54	13.92
470	SLU 61	-414	49	15054	-45.59	-39.83	13.63
470	SLU 62	-412	2	15125	-34.86	-39.92	13.96
470	SLU 63	-419	48	15187	-43.31	-40.22	13.68
470	SLU 64	-416	11	14484	-25.71	-37.28	13.46
470	SLU 65	-427	86	14587	-39.8	-37.78	12.98
470	SLU 66	-423	11	14691	-22.81	-37.89	13.57
470	SLU 67	-430	56	14753	-31.26	-38.18	13.29
470	SLU 68	-432	85	14721	-37.52	-38.16	13.03
470	SLU 69	-427	9	14825	-20.53	-38.27	13.62
470	SLU 70	-434	55	14887	-28.99	-38.57	13.33
470	SLU 71	-425	8	14751	-21.16	-38.05	13.56
470	SLU 72	-432	54	14813	-29.61	-38.35	13.27
470	SLU 73	-451	88	15986	-44.7	-42.24	13.86
470	SLU 74	-446	12	16090	-27.71	-42.35	14.46
470	SLU 75	-453	57	16152	-36.17	-42.65	14.17
470	SLU 76	-455	86	16120	-42.43	-42.63	13.91
470	SLU 77	-451	11	16224	-25.44	-42.73	14.5
470	SLU 78	-458	56	16286	-33.89	-43.03	14.22
470	SLU 79	-448	10	16150	-26.06	-42.51	14.44
470	SLU 80	-455	55	16212	-34.51	-42.81	14.15
470	SLU 81	-449	12	16482	-32.72	-43.66	14.72
470	SLU 82	-456	58	16544	-41.17	-43.96	14.43
470	SLU 83	-454	11	16616	-30.44	-44.04	14.77
470	SLU 84	-461	57	16678	-38.89	-44.34	14.48
470	SLE RA 1	-310	6	10814	-20.75	-27.77	10.18
470	SLE RA 2	-318	57	10883	-30.14	-28.1	9.86
470	SLE RA 3	-315	6	10952	-18.81	-28.18	10.25
470	SLE RA 4	-320	36	10993	-24.45	-28.37	10.06
470	SLE RA 5	-321	56	10972	-28.62	-28.36	9.89
470	SLE RA 6	-318	5	11041	-17.3	-28.43	10.28
470	SLE RA 7	-323	36	11082	-22.93	-28.63	10.09
470	SLE RA 8	-316	5	10992	-17.71	-28.28	10.24
470	SLE RA 9	-321	35	11033	-23.35	-28.48	10.05
470	SLE RA 10	-334	57	11815	-33.41	-31.08	10.45
470	SLE RA 11	-331	7	11885	-22.08	-31.15	10.84
470	SLE RA 12	-335	37	11926	-27.72	-31.35	10.65
470	SLE RA 13	-337	57	11904	-31.89	-31.33	10.48
470	SLE RA 14	-334	6	11974	-20.57	-31.41	10.87
470	SLE RA 15	-338	36	12015	-26.2	-31.61	10.68
470	SLE RA 16	-332	5	11925	-20.98	-31.26	10.83
470	SLE RA 17	-337	36	11966	-26.62	-31.46	10.64
470	SLE RA 18	-333	7	12146	-25.42	-32.02	11.02
470	SLE RA 19	-337	38	12187	-31.05	-32.22	10.83
470	SLE RA 20	-336	7	12235	-23.9	-32.28	11.05
470	SLE RA 21	-340	37	12276	-29.54	-32.48	10.86
470	SLE FR 1	-310	6	10814	-20.75	-27.77	10.18
470	SLE FR 2	-312	16	10828	-22.63	-27.84	10.11
470	SLE FR 3	-312	6	10850	-20.14	-27.87	10.19
470	SLE FR 4	-319	17	11227	-24.03	-29.11	10.37
470	SLE FR 5	-318	6	11249	-21.54	-29.15	10.44
470	SLE FR 6	-322	7	11480	-23.08	-29.9	10.6
470	SLE QP 1	-310	6	10814	-20.75	-27.77	10.18
470	SLE QP 2	-317	7	11214	-22.15	-29.05	10.43
470	SLD 1	874	538	11562	-145.84	-27.52	-7.97
470	SLD 2	1044	500	11522	-143.5	-27.88	-0.92
470	SLD 3	988	-378	9971	55.86	-19.52	-2.88
470	SLD 4	1158	-416	9931	58.21	-19.87	4.16
470	SLD 5	-161	1562	13738	-365.58	-40.67	-4.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
470	SLD 6	-52	1537	13712	-364.06	-40.9	0.52
470	SLD 7	217	-1491	8435	306.76	-13.98	12.94
470	SLD 8	327	-1516	8410	308.27	-14.21	17.47
470	SLD 9	-961	1529	14018	-352.58	-43.89	3.39
470	SLD 10	-851	1504	13992	-351.06	-44.11	7.92
470	SLD 11	-583	-1524	8715	319.76	-17.19	20.34
470	SLD 12	-473	-1549	8690	321.28	-17.42	24.87
470	SLD 13	-1792	429	12496	-102.51	-38.23	16.7
470	SLD 14	-1622	391	12456	-100.16	-38.58	23.74
470	SLD 15	-1679	-486	10905	99.19	-30.22	21.78
470	SLD 16	-1508	-525	10865	101.54	-30.57	28.83
470	SLV 1	1539	906	11874	-230.48	-27.25	-18.89
470	SLV 2	1807	845	11811	-226.78	-27.81	-7.79
470	SLV 3	1731	-656	9159	113.73	-13.59	-10.22
470	SLV 4	1999	-717	9096	117.44	-14.14	0.89
470	SLV 5	-102	2657	15541	-607.4	-49.13	-13.59
470	SLV 6	79	2616	15499	-604.91	-49.51	-6.12
470	SLV 7	539	-2550	6491	539.98	-3.58	15.32
470	SLV 8	719	-2591	6449	542.47	-3.96	22.79
470	SLV 9	-1354	2604	15978	-586.78	-54.14	-1.94
470	SLV 10	-1173	2563	15936	-584.28	-54.52	5.54
470	SLV 11	-713	-2603	6928	560.61	-8.59	26.98
470	SLV 12	-532	-2644	6886	563.1	-8.97	34.45
470	SLV 13	-2634	730	13331	-161.74	-43.95	19.97
470	SLV 14	-2365	669	13268	-158.04	-44.51	31.07
470	SLV 15	-2442	-832	10616	182.48	-30.29	28.65
470	SLV 16	-2173	-893	10553	186.18	-30.84	39.75
470	SLV FO 1	1724	996	11940	-251.31	-27.07	-21.82
470	SLV FO 2	2020	929	11871	-247.24	-27.69	-9.61
470	SLV FO 3	1936	-723	8954	127.32	-12.04	-12.28
470	SLV FO 4	2231	-789	8884	131.4	-12.65	-0.07
470	SLV FO 5	-81	2922	15974	-665.92	-51.14	-16
470	SLV FO 6	118	2877	15928	-663.18	-51.55	-7.77
470	SLV FO 7	624	-2806	6019	596.2	-1.03	15.81
470	SLV FO 8	823	-2851	5972	598.94	-1.45	24.03
470	SLV FO 9	-1457	2864	16455	-643.24	-56.65	-3.17
470	SLV FO 10	-1259	2819	16408	-640.5	-57.06	5.05
470	SLV FO 11	-753	-2864	6500	618.88	-6.54	28.63
470	SLV FO 12	-554	-2909	6453	621.62	-6.96	36.85
470	SLV FO 13	-2866	802	13543	-175.7	-45.44	20.93
470	SLV FO 14	-2570	736	13474	-171.63	-46.06	33.14
470	SLV FO 15	-2654	-916	10556	202.94	-30.41	30.47
470	SLV FO 16	-2359	-983	10487	207.01	-31.02	42.68
470	CRTFP Ux+	0	0	0	0	0	0
470	CRTFP Ux-	0	0	0	0	0	0
470	CRTFP Uy+	0	0	0	0	0	0
470	CRTFP Uy-	0	0	0	0	0	0
472	SLU 1	-59	18	3333	-0.49	-416.27	4.23
472	SLU 2	-62	37	3385	-0.84	-420.95	8.96
472	SLU 3	-61	19	3398	-0.42	-424.08	4.32
472	SLU 4	-62	30	3430	-0.63	-426.89	7.15
472	SLU 5	-63	38	3425	-0.78	-425.8	9.08
472	SLU 6	-62	19	3439	-0.36	-428.93	4.44
472	SLU 7	-63	30	3470	-0.57	-431.74	7.27
472	SLU 8	-61	19	3413	-0.38	-425.98	4.47
472	SLU 9	-63	31	3445	-0.59	-428.79	7.31
472	SLU 10	-66	41	3797	-0.87	-469.91	9.81
472	SLU 11	-65	22	3811	-0.45	-473.04	5.17
472	SLU 12	-66	34	3842	-0.66	-475.85	8.01
472	SLU 13	-67	41	3837	-0.81	-474.76	9.93
472	SLU 14	-65	23	3851	-0.39	-477.89	5.29
472	SLU 15	-67	34	3882	-0.6	-480.7	8.13
472	SLU 16	-65	23	3826	-0.41	-474.94	5.32
472	SLU 17	-66	34	3857	-0.62	-477.74	8.16
472	SLU 18	-65	23	3922	-0.53	-486.21	5.45
472	SLU 19	-66	35	3953	-0.74	-489.02	8.28
472	SLU 20	-66	24	3962	-0.47	-491.06	5.57
472	SLU 21	-67	35	3993	-0.68	-493.87	8.4
472	SLU 22	-67	20	3823	-0.34	-474.7	4.54
472	SLU 23	-70	39	3876	-0.7	-479.38	9.27
472	SLU 24	-69	20	3889	-0.28	-482.51	4.62
472	SLU 25	-70	31	3920	-0.49	-485.32	7.46
472	SLU 26	-71	39	3916	-0.64	-484.23	9.39
472	SLU 27	-70	21	3929	-0.22	-487.36	4.74
472	SLU 28	-71	32	3961	-0.43	-490.17	7.58
472	SLU 29	-69	21	3904	-0.24	-484.4	4.78
472	SLU 30	-71	32	3935	-0.45	-487.21	7.61
472	SLU 31	-74	42	4288	-0.73	-528.34	10.12
472	SLU 32	-73	24	4301	-0.31	-531.47	5.47
472	SLU 33	-74	35	4332	-0.52	-534.28	8.31
472	SLU 34	-75	43	4328	-0.67	-533.19	10.24
472	SLU 35	-74	24	4341	-0.25	-536.32	5.59
472	SLU 36	-75	35	4373	-0.46	-539.13	8.43
472	SLU 37	-73	24	4316	-0.27	-533.36	5.63
472	SLU 38	-74	36	4348	-0.48	-536.17	8.47
472	SLU 39	-73	25	4412	-0.39	-544.64	5.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
472	SLU 40	-74	36	4444	-0.6	-547.45	8.59
472	SLU 41	-74	25	4453	-0.33	-549.49	5.87
472	SLU 42	-75	37	4484	-0.54	-552.3	8.71
472	SLU 43	-74	23	4164	-0.68	-521.12	5.4
472	SLU 44	-77	42	4217	-1.03	-525.8	10.13
472	SLU 45	-76	24	4230	-0.61	-528.93	5.48
472	SLU 46	-77	35	4261	-0.82	-531.74	8.32
472	SLU 47	-78	43	4257	-0.98	-530.65	10.25
472	SLU 48	-77	24	4270	-0.56	-533.78	5.6
472	SLU 49	-78	35	4302	-0.77	-536.59	8.44
472	SLU 50	-76	24	4245	-0.57	-530.83	5.64
472	SLU 51	-78	36	4276	-0.78	-533.63	8.48
472	SLU 52	-81	46	4629	-1.06	-574.76	10.98
472	SLU 53	-80	27	4642	-0.64	-577.89	6.33
472	SLU 54	-81	39	4674	-0.85	-580.7	9.17
472	SLU 55	-82	46	4669	-1.01	-579.61	11.1
472	SLU 56	-80	28	4683	-0.59	-582.74	6.45
472	SLU 57	-82	39	4714	-0.8	-585.55	9.29
472	SLU 58	-80	28	4657	-0.6	-579.78	6.49
472	SLU 59	-81	39	4689	-0.81	-582.59	9.33
472	SLU 60	-80	28	4753	-0.72	-591.06	6.61
472	SLU 61	-81	40	4785	-0.93	-593.87	9.45
472	SLU 62	-81	29	4794	-0.67	-595.91	6.73
472	SLU 63	-82	40	4825	-0.88	-598.72	9.57
472	SLU 64	-82	25	4655	-0.54	-579.54	5.7
472	SLU 65	-85	44	4707	-0.89	-584.23	10.43
472	SLU 66	-84	25	4721	-0.47	-587.36	5.79
472	SLU 67	-85	36	4752	-0.68	-590.17	8.62
472	SLU 68	-86	44	4748	-0.84	-589.08	10.55
472	SLU 69	-85	26	4761	-0.42	-592.21	5.91
472	SLU 70	-86	37	4792	-0.63	-595.02	8.74
472	SLU 71	-84	26	4736	-0.43	-589.25	5.94
472	SLU 72	-86	37	4767	-0.64	-592.06	8.78
472	SLU 73	-89	47	5119	-0.92	-633.19	11.28
472	SLU 74	-88	29	5133	-0.5	-636.32	6.64
472	SLU 75	-89	40	5164	-0.71	-639.12	9.47
472	SLU 76	-90	48	5160	-0.87	-638.04	11.4
472	SLU 77	-89	29	5173	-0.45	-641.17	6.76
472	SLU 78	-90	40	5204	-0.66	-643.98	9.59
472	SLU 79	-88	29	5148	-0.46	-638.21	6.79
472	SLU 80	-90	41	5179	-0.67	-641.02	9.63
472	SLU 81	-88	30	5244	-0.58	-649.49	6.92
472	SLU 82	-89	41	5275	-0.79	-652.3	9.75
472	SLU 83	-89	30	5284	-0.53	-654.34	7.04
472	SLU 84	-90	42	5315	-0.74	-657.15	9.87
472	SLE RA 1	-62	19	3473	-0.45	-432.96	4.32
472	SLE RA 2	-63	31	3508	-0.68	-436.08	7.47
472	SLE RA 3	-63	19	3517	-0.4	-438.17	4.38
472	SLE RA 4	-64	26	3538	-0.54	-440.04	6.27
472	SLE RA 5	-64	32	3535	-0.64	-439.32	7.55
472	SLE RA 6	-63	19	3544	-0.36	-441.41	4.46
472	SLE RA 7	-64	27	3564	-0.5	-443.28	6.35
472	SLE RA 8	-63	19	3527	-0.37	-439.43	4.48
472	SLE RA 9	-64	27	3548	-0.51	-441.31	6.37
472	SLE RA 10	-66	34	3783	-0.7	-468.72	8.04
472	SLE RA 11	-65	21	3791	-0.42	-470.81	4.94
472	SLE RA 12	-66	29	3812	-0.56	-472.68	6.83
472	SLE RA 13	-66	34	3809	-0.66	-471.96	8.12
472	SLE RA 14	-66	22	3818	-0.38	-474.05	5.02
472	SLE RA 15	-67	29	3839	-0.52	-475.92	6.91
472	SLE RA 16	-65	22	3801	-0.39	-472.07	5.05
472	SLE RA 17	-66	29	3822	-0.53	-473.95	6.94
472	SLE RA 18	-65	22	3865	-0.47	-479.59	5.13
472	SLE RA 19	-66	30	3886	-0.61	-481.46	7.02
472	SLE RA 20	-66	22	3892	-0.44	-482.83	5.21
472	SLE RA 21	-67	30	3913	-0.58	-484.7	7.1
472	SLE FR 1	-62	19	3473	-0.45	-432.96	4.32
472	SLE FR 2	-62	21	3480	-0.49	-433.59	4.95
472	SLE FR 3	-62	19	3484	-0.43	-434.26	4.35
472	SLE FR 4	-63	22	3598	-0.5	-447.58	5.19
472	SLE FR 5	-63	20	3601	-0.44	-448.25	4.59
472	SLE FR 6	-63	20	3669	-0.46	-456.28	4.72
472	SLE QP 1	-62	19	3473	-0.45	-432.96	4.32
472	SLE QP 2	-63	20	3591	-0.45	-446.95	4.56
472	SLD 1	210	296	5040	-3.4	-605.54	73.08
472	SLD 2	246	193	4985	-2.97	-601.37	47.53
472	SLD 3	235	56	4284	1.13	-538.13	13.16
472	SLD 4	272	-47	4229	1.56	-533.96	-12.39
472	SLD 5	-25	485	5182	-8.28	-597.48	120.38
472	SLD 6	-2	418	5147	-8	-594.79	103.93
472	SLD 7	58	-316	2661	6.82	-372.79	-79.34
472	SLD 8	82	-383	2626	7.1	-370.1	-95.79
472	SLD 9	-207	422	4556	-8.01	-523.8	104.91
472	SLD 10	-184	356	4520	-7.72	-521.11	88.46
472	SLD 11	-124	-379	2035	7.09	-299.11	-94.81
472	SLD 12	-100	-446	1999	7.38	-296.42	-111.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
472	SLD 13	-397	87	2952	-2.47	-359.94	21.51
472	SLD 14	-360	-16	2897	-2.04	-355.77	-4.04
472	SLD 15	-372	-154	2196	2.06	-292.54	-38.41
472	SLD 16	-335	-257	2141	2.49	-288.36	-63.95
472	SLV 1	362	469	5909	-5.4	-699.46	116.05
472	SLV 2	420	307	5822	-4.71	-692.89	75.78
472	SLV 3	405	59	4618	2.33	-584.35	13.83
472	SLV 4	462	-103	4531	3.02	-577.78	-26.44
472	SLV 5	-10	807	6260	-13.79	-698.52	200.56
472	SLV 6	28	697	6202	-13.32	-694.09	173.45
472	SLV 7	131	-560	1957	11.97	-314.81	-140.18
472	SLV 8	170	-669	1899	12.44	-310.38	-167.29
472	SLV 9	-295	709	5283	-13.35	-583.52	176.41
472	SLV 10	-257	599	5224	-12.88	-579.09	149.3
472	SLV 11	-154	-658	979	12.41	-199.81	-164.32
472	SLV 12	-115	-767	921	12.88	-195.38	-191.43
472	SLV 13	-588	143	2650	-3.93	-316.13	35.56
472	SLV 14	-530	-20	2563	-3.24	-309.55	-4.71
472	SLV 15	-545	-267	1359	3.8	-201.01	-66.66
472	SLV 16	-488	-430	1272	4.49	-194.44	-106.93
472	SLV FO 1	405	514	6141	-5.89	-724.71	127.2
472	SLV FO 2	468	335	6046	-5.13	-717.48	82.9
472	SLV FO 3	451	63	4721	2.61	-598.09	14.76
472	SLV FO 4	515	-116	4625	3.37	-590.86	-29.54
472	SLV FO 5	-5	885	6527	-15.12	-723.68	220.16
472	SLV FO 6	38	765	6463	-14.61	-718.81	190.33
472	SLV FO 7	151	-618	1794	13.22	-301.59	-154.65
472	SLV FO 8	193	-738	1729	13.73	-296.73	-184.47
472	SLV FO 9	-319	778	5452	-14.63	-597.18	193.59
472	SLV FO 10	-276	657	5388	-14.12	-592.31	163.77
472	SLV FO 11	-163	-726	718	13.7	-175.09	-181.21
472	SLV FO 12	-120	-846	654	14.21	-170.22	-211.03
472	SLV FO 13	-640	155	2556	-4.28	-303.04	38.66
472	SLV FO 14	-577	-24	2461	-3.52	-295.81	-5.64
472	SLV FO 15	-594	-296	1136	4.23	-176.42	-73.78
472	SLV FO 16	-530	-475	1040	4.98	-169.19	-118.08
472	CRTFP Ux+	0	0	0	0	0	0
472	CRTFP Ux-	0	0	0	0	0	0
472	CRTFP Uy+	0	0	0	0	0	0
472	CRTFP Uy-	0	0	0	0	0	0
475	SLU 1	-86	-42	6139	-0.98	-35.42	-2.28
475	SLU 2	-91	-10	6218	-1.55	-34.39	-2.48
475	SLU 3	-89	-43	6258	-0.84	-36.37	-2.35
475	SLU 4	-91	-24	6305	-1.18	-35.75	-2.47
475	SLU 5	-92	-11	6293	-1.45	-35.1	-2.52
475	SLU 6	-90	-44	6333	-0.74	-37.08	-2.4
475	SLU 7	-93	-25	6380	-1.08	-36.46	-2.52
475	SLU 8	-89	-43	6289	-0.77	-36.83	-2.37
475	SLU 9	-92	-24	6336	-1.11	-36.22	-2.49
475	SLU 10	-95	-14	7019	-1.58	-40.48	-2.75
475	SLU 11	-93	-46	7058	-0.87	-42.45	-2.62
475	SLU 12	-95	-27	7106	-1.21	-41.84	-2.74
475	SLU 13	-96	-14	7094	-1.47	-41.18	-2.8
475	SLU 14	-94	-47	7133	-0.76	-43.16	-2.67
475	SLU 15	-96	-28	7181	-1.11	-42.55	-2.79
475	SLU 16	-93	-47	7090	-0.8	-42.92	-2.65
475	SLU 17	-96	-28	7137	-1.14	-42.3	-2.77
475	SLU 18	-92	-47	7283	-1.02	-44.11	-2.67
475	SLU 19	-95	-28	7330	-1.37	-43.49	-2.79
475	SLU 20	-93	-47	7358	-0.92	-44.82	-2.71
475	SLU 21	-96	-28	7405	-1.26	-44.2	-2.83
475	SLU 22	-98	-47	7048	-0.66	-41.1	-2.73
475	SLU 23	-103	-15	7127	-1.23	-40.07	-2.93
475	SLU 24	-100	-48	7166	-0.52	-42.05	-2.8
475	SLU 25	-103	-29	7214	-0.86	-41.43	-2.92
475	SLU 26	-104	-16	7202	-1.12	-40.78	-2.97
475	SLU 27	-102	-49	7241	-0.41	-42.76	-2.85
475	SLU 28	-104	-30	7289	-0.76	-42.14	-2.97
475	SLU 29	-101	-48	7198	-0.45	-42.51	-2.82
475	SLU 30	-104	-29	7245	-0.79	-41.9	-2.94
475	SLU 31	-107	-19	7928	-1.26	-46.16	-3.2
475	SLU 32	-104	-51	7967	-0.55	-48.13	-3.07
475	SLU 33	-107	-32	8015	-0.89	-47.52	-3.19
475	SLU 34	-108	-19	8003	-1.15	-46.86	-3.25
475	SLU 35	-106	-52	8042	-0.44	-48.84	-3.12
475	SLU 36	-108	-33	8090	-0.78	-48.23	-3.24
475	SLU 37	-105	-52	7998	-0.48	-48.6	-3.1
475	SLU 38	-108	-33	8046	-0.82	-47.98	-3.22
475	SLU 39	-104	-52	8192	-0.7	-49.79	-3.12
475	SLU 40	-107	-33	8239	-1.04	-49.17	-3.24
475	SLU 41	-105	-53	8267	-0.6	-50.5	-3.16
475	SLU 42	-108	-34	8314	-0.94	-49.88	-3.28
475	SLU 43	-108	-53	7669	-1.39	-44.1	-2.81
475	SLU 44	-113	-21	7748	-1.96	-43.07	-3
475	SLU 45	-110	-54	7788	-1.25	-45.05	-2.88
475	SLU 46	-113	-35	7835	-1.59	-44.43	-3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
475	SLU 47	-114	-22	7823	-1.85	-43.78	-3.05
475	SLU 48	-112	-54	7863	-1.14	-45.76	-2.93
475	SLU 49	-114	-35	7910	-1.48	-45.14	-3.04
475	SLU 50	-111	-54	7819	-1.18	-45.51	-2.9
475	SLU 51	-113	-35	7866	-1.52	-44.9	-3.02
475	SLU 52	-117	-24	8549	-1.99	-49.15	-3.28
475	SLU 53	-114	-57	8588	-1.28	-51.13	-3.15
475	SLU 54	-117	-38	8636	-1.62	-50.52	-3.27
475	SLU 55	-118	-25	8624	-1.88	-49.86	-3.32
475	SLU 56	-116	-58	8663	-1.17	-51.84	-3.2
475	SLU 57	-118	-39	8711	-1.51	-51.22	-3.32
475	SLU 58	-115	-57	8620	-1.21	-51.6	-3.17
475	SLU 59	-117	-38	8667	-1.55	-50.98	-3.29
475	SLU 60	-114	-58	8813	-1.43	-52.79	-3.2
475	SLU 61	-116	-39	8860	-1.77	-52.17	-3.31
475	SLU 62	-115	-58	8888	-1.32	-53.5	-3.24
475	SLU 63	-118	-39	8935	-1.66	-52.88	-3.36
475	SLU 64	-120	-58	8578	-1.07	-49.78	-3.26
475	SLU 65	-125	-26	8657	-1.64	-48.75	-3.45
475	SLU 66	-122	-59	8696	-0.93	-50.73	-3.33
475	SLU 67	-125	-40	8744	-1.27	-50.11	-3.45
475	SLU 68	-126	-27	8732	-1.53	-49.46	-3.5
475	SLU 69	-124	-60	8771	-0.82	-51.44	-3.38
475	SLU 70	-126	-40	8819	-1.16	-50.82	-3.49
475	SLU 71	-123	-59	8728	-0.86	-51.19	-3.35
475	SLU 72	-125	-40	8775	-1.2	-50.58	-3.47
475	SLU 73	-128	-30	9458	-1.66	-54.83	-3.73
475	SLU 74	-126	-62	9497	-0.95	-56.81	-3.6
475	SLU 75	-129	-43	9545	-1.3	-56.2	-3.72
475	SLU 76	-130	-30	9533	-1.56	-55.54	-3.77
475	SLU 77	-128	-63	9572	-0.85	-57.52	-3.65
475	SLU 78	-130	-44	9620	-1.19	-56.9	-3.77
475	SLU 79	-127	-63	9528	-0.88	-57.28	-3.62
475	SLU 80	-129	-44	9576	-1.22	-56.66	-3.74
475	SLU 81	-126	-63	9722	-1.11	-58.47	-3.65
475	SLU 82	-128	-44	9769	-1.45	-57.85	-3.76
475	SLU 83	-127	-63	9797	-1	-59.18	-3.69
475	SLU 84	-130	-44	9844	-1.34	-58.56	-3.81
475	SLE RA 1	-90	-43	6398	-0.89	-37.04	-2.41
475	SLE RA 2	-93	-22	6451	-1.27	-36.36	-2.54
475	SLE RA 3	-91	-44	6478	-0.8	-37.68	-2.45
475	SLE RA 4	-93	-31	6509	-1.03	-37.26	-2.53
475	SLE RA 5	-94	-23	6501	-1.2	-36.83	-2.57
475	SLE RA 6	-92	-44	6528	-0.73	-38.15	-2.49
475	SLE RA 7	-94	-32	6559	-0.96	-37.74	-2.56
475	SLE RA 8	-92	-44	6498	-0.75	-37.99	-2.47
475	SLE RA 9	-93	-32	6530	-0.98	-37.57	-2.55
475	SLE RA 10	-95	-25	6985	-1.29	-40.41	-2.72
475	SLE RA 11	-94	-46	7011	-0.82	-41.73	-2.63
475	SLE RA 12	-96	-34	7043	-1.04	-41.32	-2.71
475	SLE RA 13	-96	-25	7035	-1.22	-40.88	-2.75
475	SLE RA 14	-95	-47	7061	-0.75	-42.2	-2.67
475	SLE RA 15	-97	-34	7093	-0.97	-41.79	-2.75
475	SLE RA 16	-94	-47	7032	-0.77	-42.04	-2.65
475	SLE RA 17	-96	-34	7064	-1	-41.63	-2.73
475	SLE RA 18	-94	-47	7161	-0.92	-42.84	-2.66
475	SLE RA 19	-95	-34	7193	-1.15	-42.43	-2.74
475	SLE RA 20	-94	-47	7211	-0.85	-43.31	-2.7
475	SLE RA 21	-96	-34	7243	-1.08	-42.9	-2.78
475	SLE FR 1	-90	-43	6398	-0.89	-37.04	-2.41
475	SLE FR 2	-90	-39	6409	-0.97	-36.9	-2.43
475	SLE FR 3	-90	-44	6418	-0.86	-37.23	-2.42
475	SLE FR 4	-91	-40	6638	-0.98	-38.64	-2.51
475	SLE FR 5	-91	-45	6647	-0.87	-38.97	-2.5
475	SLE FR 6	-92	-45	6780	-0.91	-39.94	-2.54
475	SLE QP 1	-90	-43	6398	-0.89	-37.04	-2.41
475	SLE QP 2	-91	-44	6627	-0.9	-38.78	-2.48
475	SLD 1	505	97	7755	-4.15	-11.8	0.41
475	SLD 2	587	16	7680	-3.72	-13.16	2.98
475	SLD 3	550	-298	6636	3.4	-20.94	2.48
475	SLD 4	632	-379	6560	3.83	-22.3	5.04
475	SLD 5	6	610	8677	-13.39	-16.58	-5.19
475	SLD 6	59	558	8629	-13.12	-17.46	-3.54
475	SLD 7	155	-704	4944	11.76	-47.07	1.7
475	SLD 8	208	-757	4895	12.04	-47.94	3.35
475	SLD 9	-390	668	8359	-13.84	-29.62	-8.32
475	SLD 10	-337	616	8310	-13.56	-30.49	-6.66
475	SLD 11	-240	-646	4626	11.31	-60.1	-1.43
475	SLD 12	-188	-699	4577	11.59	-60.98	0.23
475	SLD 13	-814	290	6694	-5.63	-55.26	-10.01
475	SLD 14	-732	209	6619	-5.2	-56.62	-7.44
475	SLD 15	-769	-104	5574	1.92	-64.4	-7.94
475	SLD 16	-687	-185	5499	2.35	-65.76	-5.37
475	SLV 1	839	205	8471	-6.51	4	1.87
475	SLV 2	968	77	8352	-5.83	1.86	5.91
475	SLV 3	915	-468	6560	6.37	-11.58	5.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
475	SLV 4	1044	-596	6441	7.05	-13.73	9.43
475	SLV 5	49	1074	10102	-22.24	-1.9	-7.27
475	SLV 6	136	988	10021	-21.78	-3.35	-4.55
475	SLV 7	302	-1167	3730	20.68	-53.86	4.46
475	SLV 8	389	-1253	3650	21.14	-55.3	7.19
475	SLV 9	-570	1165	9604	-22.94	-22.26	-12.15
475	SLV 10	-483	1079	9524	-22.48	-23.7	-9.43
475	SLV 11	-318	-1077	3233	19.98	-74.21	-0.42
475	SLV 12	-231	-1163	3153	20.44	-75.65	2.31
475	SLV 13	-1226	507	6813	-8.85	-63.83	-14.4
475	SLV 14	-1097	379	6694	-8.17	-65.98	-10.35
475	SLV 15	-1150	-166	4902	4.03	-79.42	-10.88
475	SLV 16	-1021	-293	4783	4.71	-81.56	-6.83
475	SLV FO 1	932	230	8656	-7.07	8.28	2.3
475	SLV FO 2	1074	89	8525	-6.32	5.92	6.75
475	SLV FO 3	1015	-510	6553	7.09	-8.86	6.17
475	SLV FO 4	1158	-651	6422	7.84	-11.22	10.62
475	SLV FO 5	63	1186	10449	-24.37	1.78	-7.75
475	SLV FO 6	159	1091	10361	-23.87	0.19	-4.76
475	SLV FO 7	341	-1280	3441	22.84	-55.37	5.16
475	SLV FO 8	437	-1374	3352	23.34	-56.96	8.15
475	SLV FO 9	-618	1286	9902	-25.14	-20.6	-13.12
475	SLV FO 10	-523	1191	9814	-24.64	-22.19	-10.12
475	SLV FO 11	-341	-1180	2893	22.06	-77.75	-0.21
475	SLV FO 12	-245	-1275	2805	22.57	-79.34	2.79
475	SLV FO 13	-1339	562	6832	-9.64	-66.34	-15.59
475	SLV FO 14	-1197	421	6701	-8.89	-68.7	-11.14
475	SLV FO 15	-1256	-178	4729	4.52	-83.48	-11.72
475	SLV FO 16	-1114	-318	4599	5.27	-85.84	-7.27
475	CRTFP Ux+	0	0	0	0	0	0
475	CRTFP Ux-	0	0	0	0	0	0
475	CRTFP Uy+	0	0	0	0	0	0
475	CRTFP Uy-	0	0	0	0	0	0
478	SLU 1	86	-95	6263	-2.07	32.07	-1.98
478	SLU 2	90	-63	6346	-2.65	30.29	-1.8
478	SLU 3	87	-97	6378	-1.95	32.69	-2.05
478	SLU 4	89	-78	6428	-2.29	31.62	-1.94
478	SLU 5	89	-64	6417	-2.54	30.71	-1.86
478	SLU 6	87	-98	6449	-1.85	33.11	-2.11
478	SLU 7	89	-79	6499	-2.19	32.04	-2.01
478	SLU 8	86	-97	6406	-1.87	32.9	-2.1
478	SLU 9	88	-78	6455	-2.21	31.83	-1.99
478	SLU 10	95	-72	7135	-2.89	34.64	-2.02
478	SLU 11	92	-106	7166	-2.19	37.04	-2.27
478	SLU 12	94	-87	7216	-2.53	35.98	-2.16
478	SLU 13	95	-74	7206	-2.78	35.06	-2.08
478	SLU 14	92	-107	7237	-2.09	37.46	-2.33
478	SLU 15	94	-88	7287	-2.43	36.39	-2.22
478	SLU 16	91	-106	7194	-2.1	37.25	-2.31
478	SLU 17	93	-87	7244	-2.45	36.19	-2.21
478	SLU 18	94	-108	7389	-2.41	38.28	-2.28
478	SLU 19	96	-89	7439	-2.76	37.22	-2.18
478	SLU 20	94	-109	7461	-2.31	38.7	-2.35
478	SLU 21	96	-90	7510	-2.65	37.63	-2.24
478	SLU 22	98	-105	7172	-1.94	36.48	-2.19
478	SLU 23	101	-74	7255	-2.51	34.71	-2.02
478	SLU 24	99	-107	7287	-1.82	37.11	-2.27
478	SLU 25	101	-88	7337	-2.16	36.04	-2.16
478	SLU 26	101	-75	7327	-2.41	35.12	-2.08
478	SLU 27	99	-108	7358	-1.71	37.52	-2.33
478	SLU 28	101	-89	7408	-2.06	36.46	-2.22
478	SLU 29	98	-108	7315	-1.73	37.32	-2.31
478	SLU 30	100	-89	7365	-2.08	36.25	-2.21
478	SLU 31	106	-83	8044	-2.75	39.06	-2.23
478	SLU 32	104	-116	8075	-2.05	41.46	-2.48
478	SLU 33	106	-97	8125	-2.4	40.39	-2.38
478	SLU 34	106	-84	8115	-2.65	39.48	-2.29
478	SLU 35	104	-118	8147	-1.95	41.88	-2.54
478	SLU 36	106	-99	8196	-2.3	40.81	-2.44
478	SLU 37	103	-117	8103	-1.97	41.67	-2.53
478	SLU 38	105	-98	8153	-2.31	40.6	-2.42
478	SLU 39	105	-118	8299	-2.28	42.7	-2.5
478	SLU 40	107	-99	8348	-2.62	41.63	-2.39
478	SLU 41	105	-120	8370	-2.18	43.12	-2.56
478	SLU 42	107	-101	8420	-2.52	42.05	-2.46
478	SLU 43	108	-120	7830	-2.74	40.17	-2.49
478	SLU 44	111	-88	7914	-3.32	38.39	-2.32
478	SLU 45	109	-122	7945	-2.62	40.8	-2.57
478	SLU 46	111	-103	7995	-2.96	39.73	-2.46
478	SLU 47	111	-89	7985	-3.21	38.81	-2.38
478	SLU 48	109	-123	8016	-2.52	41.21	-2.63
478	SLU 49	111	-104	8066	-2.86	40.15	-2.52
478	SLU 50	108	-122	7973	-2.53	41.01	-2.62
478	SLU 51	110	-103	8023	-2.88	39.94	-2.51
478	SLU 52	117	-97	8702	-3.55	42.75	-2.53
478	SLU 53	114	-131	8733	-2.86	45.15	-2.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
478	SLU 54	116	-112	8783	-3.2	44.08	-2.68
478	SLU 55	117	-99	8773	-3.45	43.16	-2.6
478	SLU 56	114	-132	8805	-2.75	45.57	-2.85
478	SLU 57	116	-113	8855	-3.1	44.5	-2.74
478	SLU 58	113	-131	8761	-2.77	45.36	-2.83
478	SLU 59	115	-112	8811	-3.12	44.29	-2.73
478	SLU 60	116	-133	8957	-3.08	46.39	-2.8
478	SLU 61	118	-114	9006	-3.43	45.32	-2.7
478	SLU 62	116	-134	9028	-2.98	46.81	-2.86
478	SLU 63	118	-115	9078	-3.32	45.74	-2.76
478	SLU 64	120	-130	8740	-2.61	44.59	-2.71
478	SLU 65	123	-99	8823	-3.18	42.81	-2.53
478	SLU 66	121	-132	8854	-2.48	45.21	-2.78
478	SLU 67	123	-113	8904	-2.83	44.15	-2.68
478	SLU 68	123	-100	8894	-3.08	43.23	-2.6
478	SLU 69	121	-133	8925	-2.38	45.63	-2.85
478	SLU 70	123	-114	8975	-2.73	44.56	-2.74
478	SLU 71	120	-133	8882	-2.4	45.42	-2.83
478	SLU 72	122	-114	8932	-2.74	44.36	-2.73
478	SLU 73	128	-108	9611	-3.42	47.16	-2.75
478	SLU 74	126	-141	9643	-2.72	49.57	-3
478	SLU 75	128	-122	9693	-3.07	48.5	-2.89
478	SLU 76	128	-109	9682	-3.32	47.58	-2.81
478	SLU 77	126	-143	9714	-2.62	49.98	-3.06
478	SLU 78	128	-124	9764	-2.96	48.92	-2.96
478	SLU 79	125	-142	9670	-2.64	49.78	-3.05
478	SLU 80	127	-123	9720	-2.98	48.71	-2.94
478	SLU 81	127	-143	9866	-2.95	50.81	-3.02
478	SLU 82	129	-124	9916	-3.29	49.74	-2.91
478	SLU 83	127	-145	9937	-2.84	51.22	-3.08
478	SLU 84	129	-126	9987	-3.19	50.16	-2.97
478	SLE RA 1	90	-98	6523	-2.04	33.33	-2.04
478	SLE RA 2	92	-77	6578	-2.42	32.14	-1.92
478	SLE RA 3	90	-99	6599	-1.95	33.74	-2.09
478	SLE RA 4	92	-87	6633	-2.18	33.03	-2.02
478	SLE RA 5	92	-78	6626	-2.35	32.42	-1.96
478	SLE RA 6	90	-100	6647	-1.88	34.02	-2.13
478	SLE RA 7	91	-87	6680	-2.11	33.31	-2.06
478	SLE RA 8	89	-100	6618	-1.9	33.89	-2.12
478	SLE RA 9	91	-87	6651	-2.13	33.17	-2.05
478	SLE RA 10	95	-83	7104	-2.58	35.04	-2.06
478	SLE RA 11	94	-105	7125	-2.11	36.65	-2.23
478	SLE RA 12	95	-93	7158	-2.34	35.93	-2.16
478	SLE RA 13	95	-84	7151	-2.51	35.32	-2.1
478	SLE RA 14	94	-106	7172	-2.04	36.92	-2.27
478	SLE RA 15	95	-93	7206	-2.27	36.21	-2.2
478	SLE RA 16	93	-106	7143	-2.06	36.79	-2.26
478	SLE RA 17	94	-93	7177	-2.29	36.08	-2.19
478	SLE RA 18	94	-107	7274	-2.26	37.47	-2.24
478	SLE RA 19	96	-94	7307	-2.49	36.76	-2.17
478	SLE RA 20	94	-107	7321	-2.19	37.75	-2.28
478	SLE RA 21	96	-95	7354	-2.42	37.04	-2.21
478	SLE FR 1	90	-98	6523	-2.04	33.33	-2.04
478	SLE FR 2	90	-94	6534	-2.11	33.09	-2.01
478	SLE FR 3	89	-98	6542	-2.01	33.44	-2.05
478	SLE FR 4	91	-96	6759	-2.18	34.34	-2.08
478	SLE FR 5	91	-101	6767	-2.08	34.68	-2.12
478	SLE FR 6	92	-102	6898	-2.15	35.4	-2.14
478	SLE QP 1	90	-98	6523	-2.04	33.33	-2.04
478	SLE QP 2	91	-101	6748	-2.1	34.57	-2.1
478	SLD 1	751	168	6883	-4.95	37.39	4.26
478	SLD 2	839	247	6966	-5.42	34.74	6.74
478	SLD 3	709	-234	5705	2.53	54.05	2.14
478	SLD 4	797	-154	5788	2.06	51.39	4.63
478	SLD 5	338	575	8561	-14.22	10.61	2.59
478	SLD 6	395	626	8614	-14.52	8.9	4.2
478	SLD 7	197	-763	4635	10.71	66.13	-4.47
478	SLD 8	253	-712	4688	10.4	64.42	-2.87
478	SLD 9	-71	511	8808	-14.61	4.72	-1.33
478	SLD 10	-15	562	8862	-14.91	3.01	0.27
478	SLD 11	-213	-827	4882	10.31	60.24	-8.39
478	SLD 12	-156	-776	4936	10.01	58.53	-6.79
478	SLD 13	-615	-47	7708	-6.26	17.75	-8.82
478	SLD 14	-527	32	7791	-6.73	15.1	-6.34
478	SLD 15	-657	-448	6531	1.22	34.41	-10.94
478	SLD 16	-569	-369	6614	0.75	31.75	-8.46
478	SLV 1	1126	347	7043	-7.07	37.89	7.96
478	SLV 2	1265	472	7174	-7.81	33.7	11.88
478	SLV 3	1054	-338	5034	5.68	66.27	4.34
478	SLV 4	1193	-213	5164	4.94	62.09	8.26
478	SLV 5	485	1049	9860	-22.8	-6.7	5.67
478	SLV 6	579	1133	9948	-23.3	-9.52	8.31
478	SLV 7	244	-1233	3162	19.72	87.91	-6.38
478	SLV 8	338	-1149	3250	19.22	85.09	-3.74
478	SLV 9	-156	948	10247	-23.43	-15.95	-0.46
478	SLV 10	-62	1032	10335	-23.92	-18.76	2.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
478	SLV 11	-397	-1334	3548	19.1	78.66	-12.51
478	SLV 12	-303	-1250	3636	18.6	75.85	-9.87
478	SLV 13	-1011	12	8332	-9.15	7.06	-12.46
478	SLV 14	-872	136	8463	-9.89	2.88	-8.54
478	SLV 15	-1083	-673	6322	3.61	35.44	-16.08
478	SLV 16	-944	-548	6453	2.87	31.26	-12.16
478	SLV FO 1	1230	392	7073	-7.57	38.22	8.97
478	SLV FO 2	1382	529	7217	-8.38	33.62	13.28
478	SLV FO 3	1150	-361	4862	6.46	69.44	4.99
478	SLV FO 4	1303	-224	5006	5.65	64.84	9.3
478	SLV FO 5	525	1164	10171	-24.87	-10.83	6.45
478	SLV FO 6	628	1256	10268	-25.42	-13.92	9.35
478	SLV FO 7	259	-1347	2803	21.9	93.24	-6.81
478	SLV FO 8	362	-1254	2900	21.35	90.15	-3.91
478	SLV FO 9	-180	1053	10597	-25.56	-21	-0.29
478	SLV FO 10	-77	1146	10693	-26.11	-24.1	2.61
478	SLV FO 11	-446	-1458	3228	21.22	83.07	-13.55
478	SLV FO 12	-343	-1365	3325	20.67	79.97	-10.65
478	SLV FO 13	-1121	23	8490	-9.85	4.31	-13.5
478	SLV FO 14	-968	160	8634	-10.67	-0.29	-9.19
478	SLV FO 15	-1200	-730	6280	4.18	35.53	-17.48
478	SLV FO 16	-1048	-593	6424	3.36	30.93	-13.16
478	CRTFP Ux+	0	0	0	0	0	0
478	CRTFP Ux-	0	0	0	0	0	0
478	CRTFP Uy+	0	0	0	0	0	0
478	CRTFP Uy-	0	0	0	0	0	0
481	SLU 1	46	25	3837	-0.18	774.35	-8.67
481	SLU 2	48	47	3893	-0.59	783.59	-16.46
481	SLU 3	46	26	3910	-0.07	788.51	-9.06
481	SLU 4	48	39	3944	-0.31	794.05	-13.74
481	SLU 5	48	49	3939	-0.49	792.46	-16.98
481	SLU 6	47	27	3956	0.03	797.38	-9.58
481	SLU 7	48	41	3990	-0.22	802.92	-14.26
481	SLU 8	46	28	3927	0.01	792.09	-9.71
481	SLU 9	48	41	3961	-0.23	797.63	-14.39
481	SLU 10	51	50	4356	-0.6	872.47	-17.43
481	SLU 11	49	29	4373	-0.08	877.39	-10.03
481	SLU 12	50	42	4407	-0.32	882.93	-14.71
481	SLU 13	51	51	4401	-0.5	881.34	-17.95
481	SLU 14	49	30	4419	0.01	886.26	-10.55
481	SLU 15	50	44	4453	-0.23	891.8	-15.23
481	SLU 16	49	31	4390	0	880.97	-10.68
481	SLU 17	50	44	4424	-0.25	886.51	-15.35
481	SLU 18	49	29	4498	-0.19	901.32	-10.05
481	SLU 19	51	42	4532	-0.44	906.86	-14.73
481	SLU 20	49	30	4543	-0.1	910.19	-10.57
481	SLU 21	51	44	4577	-0.34	915.73	-15.25
481	SLU 22	52	25	4383	0.03	879.75	-8.62
481	SLU 23	54	47	4440	-0.38	888.98	-16.42
481	SLU 24	52	26	4457	0.14	893.9	-9.02
481	SLU 25	54	39	4491	-0.1	899.45	-13.69
481	SLU 26	54	49	4485	-0.28	897.85	-16.94
481	SLU 27	52	27	4502	0.23	902.77	-9.54
481	SLU 28	54	41	4536	-0.01	908.31	-14.21
481	SLU 29	52	28	4474	0.22	897.49	-9.67
481	SLU 30	53	41	4508	-0.03	903.03	-14.34
481	SLU 31	56	50	4903	-0.39	977.86	-17.38
481	SLU 32	55	29	4920	0.13	982.78	-9.98
481	SLU 33	56	42	4954	-0.12	988.33	-14.66
481	SLU 34	57	51	4948	-0.3	986.73	-17.91
481	SLU 35	55	30	4965	0.22	991.65	-10.51
481	SLU 36	56	44	4999	-0.02	997.19	-15.18
481	SLU 37	54	31	4937	0.21	986.36	-10.63
481	SLU 38	56	44	4971	-0.04	991.91	-15.31
481	SLU 39	55	29	5044	0.01	1006.72	-10.01
481	SLU 40	56	42	5078	-0.23	1012.26	-14.68
481	SLU 41	55	30	5090	0.11	1015.59	-10.53
481	SLU 42	57	44	5124	-0.14	1021.13	-15.2
481	SLU 43	58	32	4800	-0.3	970.52	-11.28
481	SLU 44	60	55	4857	-0.71	979.76	-19.08
481	SLU 45	58	33	4874	-0.19	984.68	-11.68
481	SLU 46	60	47	4908	-0.44	990.22	-16.35
481	SLU 47	60	56	4902	-0.62	988.63	-19.6
481	SLU 48	58	35	4919	-0.1	993.55	-12.2
481	SLU 49	60	48	4953	-0.34	999.09	-16.87
481	SLU 50	58	35	4891	-0.11	988.26	-12.33
481	SLU 51	59	49	4925	-0.36	993.8	-17
481	SLU 52	62	57	5320	-0.72	1068.64	-20.05
481	SLU 53	61	36	5337	-0.2	1073.56	-12.65
481	SLU 54	62	50	5371	-0.45	1079.1	-17.32
481	SLU 55	63	59	5365	-0.63	1077.51	-20.57
481	SLU 56	61	38	5382	-0.11	1082.43	-13.17
481	SLU 57	62	51	5416	-0.35	1087.97	-17.84
481	SLU 58	60	38	5354	-0.13	1077.14	-13.3
481	SLU 59	62	51	5388	-0.37	1082.68	-17.97
481	SLU 60	61	36	5461	-0.32	1097.49	-12.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
481	SLU 61	62	50	5495	-0.56	1103.03	-17.34
481	SLU 62	61	38	5507	-0.22	1106.36	-13.19
481	SLU 63	63	51	5541	-0.47	1111.9	-17.86
481	SLU 64	63	32	5347	-0.09	1075.92	-11.24
481	SLU 65	66	55	5403	-0.5	1085.15	-19.03
481	SLU 66	64	33	5421	0.02	1090.07	-11.63
481	SLU 67	65	47	5455	-0.23	1095.62	-16.31
481	SLU 68	66	56	5449	-0.41	1094.02	-19.55
481	SLU 69	64	35	5466	0.11	1098.94	-12.15
481	SLU 70	66	48	5500	-0.14	1104.48	-16.83
481	SLU 71	64	35	5438	0.09	1093.66	-12.28
481	SLU 72	65	49	5472	-0.15	1099.2	-16.96
481	SLU 73	68	57	5866	-0.51	1174.03	-20
481	SLU 74	66	36	5883	0	1178.95	-12.6
481	SLU 75	68	50	5917	-0.24	1184.5	-17.28
481	SLU 76	68	59	5912	-0.42	1182.9	-20.52
481	SLU 77	67	38	5929	0.1	1187.82	-13.12
481	SLU 78	68	51	5963	-0.15	1193.36	-17.8
481	SLU 79	66	38	5901	0.08	1182.53	-13.25
481	SLU 80	67	51	5935	-0.16	1188.08	-17.93
481	SLU 81	67	36	6008	-0.11	1202.89	-12.62
481	SLU 82	68	50	6042	-0.35	1208.43	-17.3
481	SLU 83	67	38	6053	-0.02	1211.76	-13.14
481	SLU 84	68	51	6087	-0.26	1217.3	-17.82
481	SLE RA 1	47	25	3993	-0.12	804.46	-8.66
481	SLE RA 2	49	40	4031	-0.39	810.62	-13.85
481	SLE RA 3	48	26	4042	-0.04	813.9	-8.92
481	SLE RA 4	49	35	4065	-0.21	817.6	-12.03
481	SLE RA 5	49	41	4061	-0.33	816.53	-14.2
481	SLE RA 6	48	27	4072	0.02	819.82	-9.26
481	SLE RA 7	49	36	4095	-0.15	823.51	-12.38
481	SLE RA 8	48	27	4053	0.01	816.29	-9.35
481	SLE RA 9	49	36	4076	-0.16	819.98	-12.47
481	SLE RA 10	51	42	4339	-0.4	869.87	-14.5
481	SLE RA 11	50	27	4350	-0.05	873.16	-9.56
481	SLE RA 12	50	36	4373	-0.22	876.85	-12.68
481	SLE RA 13	51	43	4369	-0.33	875.79	-14.84
481	SLE RA 14	50	28	4381	0.01	879.07	-9.91
481	SLE RA 15	51	37	4403	-0.15	882.76	-13.03
481	SLE RA 16	49	29	4362	0	875.54	-10
481	SLE RA 17	50	38	4385	-0.16	879.24	-13.11
481	SLE RA 18	50	28	4434	-0.13	889.11	-9.58
481	SLE RA 19	51	36	4456	-0.29	892.81	-12.69
481	SLE RA 20	50	28	4464	-0.07	895.02	-9.93
481	SLE RA 21	51	37	4487	-0.23	898.72	-13.04
481	SLE FR 1	47	25	3993	-0.12	804.46	-8.66
481	SLE FR 2	48	28	4000	-0.17	805.7	-9.69
481	SLE FR 3	47	25	4005	-0.09	806.83	-8.79
481	SLE FR 4	48	29	4133	-0.18	831.09	-9.97
481	SLE FR 5	48	26	4137	-0.1	832.22	-9.07
481	SLE FR 6	49	26	4213	-0.12	846.79	-9.12
481	SLE QP 1	47	25	3993	-0.12	804.46	-8.66
481	SLE QP 2	48	26	4125	-0.12	829.86	-8.93
481	SLD 1	421	-6	3445	-2.08	696.99	1.93
481	SLD 2	467	113	3515	-2.59	707.58	-39.4
481	SLD 3	391	-279	2663	3.25	577.63	97.25
481	SLD 4	437	-160	2733	2.74	588.23	55.92
481	SLD 5	197	410	5095	-8.7	969.19	-143.14
481	SLD 6	227	486	5140	-9.03	976.01	-169.76
481	SLD 7	97	-500	2488	9.06	571.35	174.61
481	SLD 8	127	-424	2533	8.73	578.18	147.99
481	SLD 9	-31	475	5717	-8.98	1081.54	-165.85
481	SLD 10	-1	551	5762	-9.3	1088.36	-192.47
481	SLD 11	-131	-435	3110	8.79	683.7	151.89
481	SLD 12	-101	-358	3155	8.46	690.53	125.28
481	SLD 13	-341	212	5517	-2.98	1071.49	-73.78
481	SLD 14	-294	330	5587	-3.49	1082.08	-115.12
481	SLD 15	-371	-61	4735	2.34	952.14	21.54
481	SLD 16	-324	58	4805	1.84	962.73	-19.79
481	SLV 1	633	-5	3121	-3.55	631.17	1.41
481	SLV 2	706	182	3231	-4.35	647.87	-63.74
481	SLV 3	582	-471	1787	5.54	427.64	164.03
481	SLV 4	655	-284	1897	4.74	444.34	98.88
481	SLV 5	287	688	5827	-14.79	1075.83	-240.32
481	SLV 6	337	814	5901	-15.33	1087.08	-284.18
481	SLV 7	117	-864	1380	15.51	397.38	301.76
481	SLV 8	166	-738	1454	14.98	408.62	257.9
481	SLV 9	-70	790	6796	-15.22	1251.09	-275.76
481	SLV 10	-21	916	6870	-15.76	1262.34	-319.62
481	SLV 11	-240	-762	2349	15.09	572.64	266.31
481	SLV 12	-191	-636	2423	14.55	583.89	222.45
481	SLV 13	-559	335	6353	-4.98	1215.38	-116.75
481	SLV 14	-485	522	6463	-5.78	1232.08	-181.9
481	SLV 15	-610	-131	5019	4.11	1011.84	45.88
481	SLV 16	-536	57	5129	3.31	1028.54	-19.28
481	SLV FO 1	691	-8	3020	-3.9	611.3	2.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
481	SLV FO 2	772	198	3141	-4.77	629.68	-69.22
481	SLV FO 3	635	-521	1553	6.1	387.42	181.33
481	SLV FO 4	716	-315	1674	5.23	405.79	109.66
481	SLV FO 5	311	754	5997	-16.26	1100.43	-263.45
481	SLV FO 6	366	893	6078	-16.85	1112.8	-311.7
481	SLV FO 7	124	-953	1105	17.08	354.13	332.83
481	SLV FO 8	178	-815	1186	16.49	366.5	284.58
481	SLV FO 9	-82	866	7064	-16.73	1293.22	-302.45
481	SLV FO 10	-28	1005	7145	-17.32	1305.59	-350.69
481	SLV FO 11	-269	-841	2172	16.61	546.92	293.84
481	SLV FO 12	-215	-703	2253	16.02	559.29	245.59
481	SLV FO 13	-619	366	6576	-5.47	1253.93	-127.53
481	SLV FO 14	-539	572	6697	-6.34	1272.3	-199.19
481	SLV FO 15	-676	-146	5109	4.53	1030.04	51.36
481	SLV FO 16	-595	60	5230	3.66	1048.41	-20.31
481	CRTFP Ux+	0	0	0	0	0	0
481	CRTFP Ux-	0	0	0	0	0	0
481	CRTFP Uy+	0	0	0	0	0	0
481	CRTFP Uy-	0	0	0	0	0	0
483	SLU 1	38	-44	3723	1.49	1041.89	15.35
483	SLU 2	40	-22	3754	1.22	1049.18	7.61
483	SLU 3	38	-45	3793	1.59	1061.13	15.75
483	SLU 4	40	-32	3812	1.43	1065.51	11.11
483	SLU 5	40	-23	3799	1.29	1061.49	7.95
483	SLU 6	38	-46	3838	1.67	1073.44	16.09
483	SLU 7	40	-33	3857	1.5	1077.82	11.44
483	SLU 8	38	-46	3813	1.64	1066.51	16.02
483	SLU 9	39	-33	3831	1.47	1070.88	11.37
483	SLU 10	43	-27	4241	1.44	1183.32	9.31
483	SLU 11	42	-50	4280	1.82	1195.27	17.45
483	SLU 12	43	-37	4298	1.65	1199.65	12.81
483	SLU 13	43	-28	4285	1.51	1195.63	9.64
483	SLU 14	42	-51	4325	1.89	1207.58	17.78
483	SLU 15	43	-38	4343	1.73	1211.96	13.14
483	SLU 16	41	-51	4299	1.86	1200.64	17.72
483	SLU 17	43	-38	4318	1.7	1205.02	13.07
483	SLU 18	43	-51	4418	1.81	1233.51	17.78
483	SLU 19	44	-38	4437	1.64	1237.89	13.13
483	SLU 20	43	-52	4463	1.88	1245.82	18.11
483	SLU 21	44	-39	4482	1.72	1250.2	13.47
483	SLU 22	43	-50	4235	1.93	1182.49	17.39
483	SLU 23	45	-28	4266	1.66	1189.79	9.65
483	SLU 24	43	-51	4305	2.04	1201.74	17.79
483	SLU 25	45	-38	4324	1.88	1206.12	13.15
483	SLU 26	45	-29	4311	1.74	1202.1	9.98
483	SLU 27	43	-52	4350	2.11	1214.05	18.12
483	SLU 28	45	-39	4368	1.95	1218.43	13.48
483	SLU 29	43	-52	4325	2.08	1207.11	18.06
483	SLU 30	44	-39	4343	1.92	1211.49	13.41
483	SLU 31	48	-33	4752	1.89	1323.93	11.35
483	SLU 32	47	-56	4791	2.26	1335.88	19.49
483	SLU 33	48	-43	4810	2.1	1340.25	14.85
483	SLU 34	48	-34	4797	1.96	1336.24	11.68
483	SLU 35	47	-57	4836	2.34	1348.19	19.82
483	SLU 36	48	-44	4855	2.17	1352.56	15.18
483	SLU 37	46	-57	4811	2.31	1341.25	19.75
483	SLU 38	48	-44	4830	2.14	1345.63	15.11
483	SLU 39	48	-57	4930	2.25	1374.12	19.82
483	SLU 40	49	-44	4949	2.09	1378.5	15.17
483	SLU 41	48	-58	4975	2.33	1386.43	20.15
483	SLU 42	49	-45	4993	2.17	1390.8	15.51
483	SLU 43	48	-55	4665	1.78	1306.24	19.26
483	SLU 44	50	-33	4696	1.51	1313.54	11.52
483	SLU 45	48	-57	4735	1.88	1325.49	19.66
483	SLU 46	49	-43	4753	1.72	1329.87	15.02
483	SLU 47	50	-34	4741	1.58	1325.85	11.85
483	SLU 48	48	-58	4780	1.96	1337.8	19.99
483	SLU 49	49	-44	4798	1.8	1342.18	15.35
483	SLU 50	48	-57	4755	1.93	1330.86	19.92
483	SLU 51	49	-44	4773	1.77	1335.24	15.28
483	SLU 52	53	-38	5182	1.73	1447.68	13.22
483	SLU 53	51	-62	5221	2.11	1459.63	21.36
483	SLU 54	53	-48	5240	1.94	1464.01	16.71
483	SLU 55	53	-39	5227	1.81	1459.99	13.55
483	SLU 56	51	-63	5266	2.18	1471.94	21.69
483	SLU 57	53	-49	5285	2.02	1476.32	17.05
483	SLU 58	51	-62	5241	2.15	1465	21.62
483	SLU 59	52	-49	5260	1.99	1469.38	16.98
483	SLU 60	53	-62	5360	2.1	1497.87	21.68
483	SLU 61	54	-49	5378	1.94	1502.25	17.04
483	SLU 62	52	-63	5405	2.17	1510.18	22.02
483	SLU 63	54	-50	5423	2.01	1514.56	17.37
483	SLU 64	53	-61	5177	2.23	1446.85	21.3
483	SLU 65	55	-39	5208	1.96	1454.15	13.56
483	SLU 66	53	-62	5247	2.33	1466.1	21.7
483	SLU 67	54	-49	5265	2.17	1470.48	17.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
483	SLU 68	55	-40	5252	2.03	1466.46	13.89
483	SLU 69	53	-63	5291	2.41	1478.41	22.03
483	SLU 70	54	-50	5310	2.24	1482.79	17.39
483	SLU 71	53	-63	5266	2.38	1471.47	21.96
483	SLU 72	54	-50	5285	2.21	1475.85	17.32
483	SLU 73	58	-44	5694	2.18	1588.29	15.25
483	SLU 74	56	-67	5733	2.56	1600.23	23.4
483	SLU 75	58	-54	5752	2.39	1604.61	18.75
483	SLU 76	58	-45	5739	2.25	1600.59	15.59
483	SLU 77	56	-68	5778	2.63	1612.54	23.73
483	SLU 78	58	-55	5796	2.47	1616.92	19.09
483	SLU 79	56	-68	5753	2.6	1605.61	23.66
483	SLU 80	57	-55	5771	2.44	1609.99	19.02
483	SLU 81	58	-68	5872	2.55	1638.47	23.72
483	SLU 82	59	-55	5890	2.38	1642.85	19.08
483	SLU 83	58	-69	5916	2.62	1650.78	24.06
483	SLU 84	59	-56	5935	2.46	1655.16	19.41
483	SLE RA 1	40	-46	3870	1.61	1082.06	15.93
483	SLE RA 2	41	-31	3890	1.43	1086.92	10.77
483	SLE RA 3	40	-47	3916	1.68	1094.89	16.2
483	SLE RA 4	41	-38	3929	1.58	1097.81	13.11
483	SLE RA 5	41	-32	3920	1.48	1095.13	11
483	SLE RA 6	40	-47	3946	1.73	1103.1	16.42
483	SLE RA 7	41	-38	3958	1.63	1106.02	13.33
483	SLE RA 8	40	-47	3929	1.71	1098.47	16.38
483	SLE RA 9	40	-38	3942	1.61	1101.39	13.28
483	SLE RA 10	43	-34	4214	1.58	1176.35	11.91
483	SLE RA 11	42	-50	4241	1.83	1184.32	17.33
483	SLE RA 12	43	-41	4253	1.73	1187.23	14.24
483	SLE RA 13	43	-35	4244	1.63	1184.56	12.13
483	SLE RA 14	42	-51	4270	1.88	1192.52	17.56
483	SLE RA 15	43	-42	4283	1.77	1195.44	14.46
483	SLE RA 16	42	-50	4254	1.86	1187.9	17.51
483	SLE RA 17	43	-42	4266	1.75	1190.82	14.41
483	SLE RA 18	43	-51	4333	1.83	1209.81	17.55
483	SLE RA 19	43	-42	4345	1.72	1212.73	14.46
483	SLE RA 20	43	-51	4363	1.88	1218.02	17.77
483	SLE RA 21	43	-42	4375	1.77	1220.93	14.68
483	SLE FR 1	40	-46	3870	1.61	1082.06	15.93
483	SLE FR 2	40	-43	3874	1.58	1083.03	14.9
483	SLE FR 3	40	-46	3882	1.63	1085.34	16.02
483	SLE FR 4	41	-44	4013	1.64	1121.36	15.39
483	SLE FR 5	41	-48	4021	1.7	1123.67	16.51
483	SLE FR 6	41	-48	4101	1.72	1145.93	16.74
483	SLE QP 1	40	-46	3870	1.61	1082.06	15.93
483	SLE QP 2	41	-47	4009	1.68	1120.38	16.42
483	SLD 1	412	64	4177	-0.48	1160.3	-21.96
483	SLD 2	458	68	4180	-0.52	1159.34	-22.82
483	SLD 3	387	-208	3707	3.42	1046.59	73
483	SLD 4	433	-205	3709	3.38	1045.63	72.14
483	SLD 5	183	399	4772	-4.88	1304.98	-138.96
483	SLD 6	213	401	4774	-4.91	1304.36	-139.52
483	SLD 7	98	-510	3204	8.13	925.96	177.56
483	SLD 8	128	-508	3206	8.1	925.34	177
483	SLD 9	-46	413	4812	-4.75	1315.43	-144.16
483	SLD 10	-17	415	4813	-4.77	1314.81	-144.72
483	SLD 11	-131	-496	3243	8.27	936.41	172.35
483	SLD 12	-102	-494	3245	8.24	935.79	171.8
483	SLD 13	-352	111	4308	-0.02	1195.13	-39.3
483	SLD 14	-305	114	4310	-0.06	1194.18	-40.16
483	SLD 15	-377	-162	3837	3.88	1081.43	55.66
483	SLD 16	-331	-159	3840	3.84	1080.47	54.79
483	SLV 1	623	146	4306	-2	1190.81	-50.2
483	SLV 2	696	151	4310	-2.06	1189.3	-51.56
483	SLV 3	580	-319	3503	4.66	996.75	111.75
483	SLV 4	653	-314	3507	4.6	995.24	110.39
483	SLV 5	268	715	5315	-9.52	1436.11	-248.94
483	SLV 6	317	719	5318	-9.56	1435.1	-249.85
483	SLV 7	123	-835	2638	12.69	789.25	290.9
483	SLV 8	172	-832	2641	12.65	788.24	289.98
483	SLV 9	-91	737	5376	-9.29	1452.53	-257.14
483	SLV 10	-42	741	5379	-9.33	1451.51	-258.06
483	SLV 11	-236	-813	2700	12.91	805.67	282.69
483	SLV 12	-187	-810	2702	12.87	804.65	281.77
483	SLV 13	-572	219	4511	-1.24	1245.53	-77.55
483	SLV 14	-499	224	4515	-1.3	1244.02	-78.92
483	SLV 15	-615	-246	3708	5.42	1051.47	84.4
483	SLV 16	-542	-241	3712	5.36	1049.96	83.03
483	SLV FO 1	681	165	4335	-2.37	1197.85	-56.86
483	SLV FO 2	762	171	4340	-2.44	1196.19	-58.36
483	SLV FO 3	634	-346	3452	4.96	984.39	121.29
483	SLV FO 4	714	-340	3457	4.89	982.73	119.79
483	SLV FO 5	290	791	5445	-10.64	1467.69	-275.47
483	SLV FO 6	344	795	5448	-10.68	1466.57	-276.48
483	SLV FO 7	131	-914	2501	13.79	756.14	318.35
483	SLV FO 8	185	-910	2504	13.74	755.02	317.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
483	SLV FO 9	-104	815	5513	-10.39	1485.75	-284.5
483	SLV FO 10	-50	819	5516	-10.43	1484.63	-285.51
483	SLV FO 11	-263	-890	2569	14.04	774.2	309.32
483	SLV FO 12	-209	-886	2572	13.99	773.08	308.31
483	SLV FO 13	-633	246	4561	-1.53	1258.04	-86.95
483	SLV FO 14	-553	252	4565	-1.6	1256.38	-88.45
483	SLV FO 15	-681	-266	3677	5.79	1044.58	91.19
483	SLV FO 16	-600	-260	3682	5.72	1042.92	89.7
483	CRTFP Ux+	0	0	0	0	0	0
483	CRTFP Ux-	0	0	0	0	0	0
483	CRTFP Uy+	0	0	0	0	0	0
483	CRTFP Uy-	0	0	0	0	0	0
486	SLU 1	-51	16	3351	1.63	-425.32	3.7
486	SLU 2	-53	35	3393	1.33	-427.66	8.43
486	SLU 3	-52	16	3419	1.75	-433.89	3.77
486	SLU 4	-53	27	3445	1.56	-435.29	6.61
486	SLU 5	-54	35	3435	1.41	-433.06	8.54
486	SLU 6	-52	17	3462	1.83	-439.29	3.88
486	SLU 7	-54	28	3487	1.64	-440.69	6.72
486	SLU 8	-52	17	3436	1.8	-436.12	3.92
486	SLU 9	-53	28	3461	1.61	-437.52	6.76
486	SLU 10	-56	38	3809	1.59	-478.37	9.22
486	SLU 11	-54	19	3835	2.01	-484.6	4.55
486	SLU 12	-56	31	3860	1.82	-486	7.39
486	SLU 13	-56	38	3851	1.67	-483.77	9.33
486	SLU 14	-55	20	3877	2.09	-490	4.66
486	SLU 15	-56	31	3903	1.9	-491.4	7.5
486	SLU 16	-55	20	3851	2.06	-486.83	4.7
486	SLU 17	-56	31	3877	1.87	-488.23	7.55
486	SLU 18	-54	20	3945	2.01	-497.76	4.82
486	SLU 19	-56	32	3970	1.82	-499.17	7.66
486	SLU 20	-55	21	3987	2.09	-503.16	4.93
486	SLU 21	-56	32	4013	1.9	-504.56	7.77
486	SLU 22	-57	17	3851	2.12	-486.98	3.92
486	SLU 23	-59	36	3893	1.81	-489.32	8.65
486	SLU 24	-58	17	3919	2.23	-495.54	3.98
486	SLU 25	-59	29	3945	2.04	-496.95	6.83
486	SLU 26	-60	36	3936	1.89	-494.71	8.76
486	SLU 27	-59	18	3962	2.31	-500.94	4.09
486	SLU 28	-60	29	3987	2.12	-502.35	6.94
486	SLU 29	-58	18	3936	2.28	-497.77	4.14
486	SLU 30	-60	29	3961	2.09	-499.18	6.98
486	SLU 31	-62	39	4309	2.07	-540.02	9.44
486	SLU 32	-61	20	4335	2.49	-546.25	4.77
486	SLU 33	-62	32	4361	2.3	-547.66	7.61
486	SLU 34	-63	40	4351	2.15	-545.42	9.55
486	SLU 35	-62	21	4378	2.57	-551.65	4.88
486	SLU 36	-63	32	4403	2.38	-553.06	7.72
486	SLU 37	-61	21	4352	2.54	-548.48	4.92
486	SLU 38	-62	32	4377	2.35	-549.88	7.76
486	SLU 39	-61	22	4445	2.49	-559.42	5.04
486	SLU 40	-62	33	4470	2.3	-560.82	7.88
486	SLU 41	-62	22	4487	2.57	-564.82	5.15
486	SLU 42	-63	33	4513	2.38	-566.22	7.99
486	SLU 43	-64	20	4185	1.96	-531.78	4.73
486	SLU 44	-66	39	4227	1.65	-534.12	9.47
486	SLU 45	-65	20	4253	2.07	-540.35	4.8
486	SLU 46	-66	32	4278	1.89	-541.75	7.64
486	SLU 47	-66	40	4269	1.73	-539.51	9.58
486	SLU 48	-65	21	4295	2.15	-545.74	4.91
486	SLU 49	-67	32	4321	1.97	-547.15	7.75
486	SLU 50	-65	21	4269	2.12	-542.57	4.95
486	SLU 51	-66	32	4295	1.94	-543.98	7.79
486	SLU 52	-68	42	4643	1.91	-584.83	10.25
486	SLU 53	-67	24	4669	2.33	-591.06	5.59
486	SLU 54	-69	35	4694	2.15	-592.46	8.43
486	SLU 55	-69	43	4685	1.99	-590.22	10.36
486	SLU 56	-68	24	4711	2.41	-596.45	5.7
486	SLU 57	-69	36	4737	2.23	-597.86	8.54
486	SLU 58	-68	24	4685	2.38	-593.28	5.74
486	SLU 59	-69	36	4711	2.2	-594.69	8.58
486	SLU 60	-67	25	4779	2.33	-604.22	5.85
486	SLU 61	-69	36	4804	2.15	-605.62	8.7
486	SLU 62	-68	25	4821	2.41	-609.62	5.96
486	SLU 63	-69	37	4846	2.23	-611.02	8.81
486	SLU 64	-70	21	4685	2.44	-593.43	4.95
486	SLU 65	-72	40	4727	2.13	-595.77	9.69
486	SLU 66	-71	22	4753	2.55	-602	5.02
486	SLU 67	-72	33	4779	2.37	-603.41	7.86
486	SLU 68	-73	41	4769	2.21	-601.17	9.8
486	SLU 69	-72	22	4796	2.63	-607.4	5.13
486	SLU 70	-73	33	4821	2.45	-608.8	7.97
486	SLU 71	-71	22	4770	2.6	-604.23	5.17
486	SLU 72	-73	34	4795	2.42	-605.63	8.01
486	SLU 73	-75	43	5143	2.39	-646.48	10.47
486	SLU 74	-74	25	5169	2.81	-652.71	5.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
486	SLU 75	-75	36	5194	2.63	-654.11	8.65
486	SLU 76	-76	44	5185	2.47	-651.88	10.58
486	SLU 77	-75	25	5211	2.89	-658.11	5.91
486	SLU 78	-76	37	5237	2.71	-659.51	8.76
486	SLU 79	-74	25	5185	2.86	-654.94	5.96
486	SLU 80	-75	37	5211	2.68	-656.34	8.8
486	SLU 81	-74	26	5279	2.81	-665.87	6.07
486	SLU 82	-75	37	5304	2.63	-667.28	8.91
486	SLU 83	-75	26	5321	2.89	-671.27	6.18
486	SLU 84	-76	38	5347	2.71	-672.68	9.02
486	SLE RA 1	-52	16	3494	1.77	-442.94	3.76
486	SLE RA 2	-54	29	3522	1.57	-444.5	6.92
486	SLE RA 3	-53	16	3539	1.85	-448.65	3.81
486	SLE RA 4	-54	24	3556	1.72	-449.58	5.7
486	SLE RA 5	-54	29	3550	1.62	-448.09	6.99
486	SLE RA 6	-54	17	3568	1.9	-452.25	3.88
486	SLE RA 7	-55	24	3585	1.78	-453.18	5.77
486	SLE RA 8	-53	17	3550	1.88	-450.13	3.91
486	SLE RA 9	-54	24	3567	1.76	-451.07	5.8
486	SLE RA 10	-56	31	3799	1.74	-478.3	7.44
486	SLE RA 11	-55	18	3817	2.02	-482.45	4.33
486	SLE RA 12	-56	26	3833	1.9	-483.39	6.22
486	SLE RA 13	-56	31	3827	1.79	-481.9	7.51
486	SLE RA 14	-55	19	3845	2.07	-486.05	4.4
486	SLE RA 15	-56	26	3862	1.95	-486.99	6.3
486	SLE RA 16	-55	19	3828	2.05	-483.94	4.43
486	SLE RA 17	-56	26	3844	1.93	-484.88	6.32
486	SLE RA 18	-55	19	3890	2.02	-491.23	4.51
486	SLE RA 19	-56	27	3907	1.9	-492.17	6.4
486	SLE RA 20	-55	20	3918	2.07	-494.83	4.58
486	SLE RA 21	-56	27	3935	1.95	-495.77	6.48
486	SLE FR 1	-52	16	3494	1.77	-442.94	3.76
486	SLE FR 2	-53	19	3499	1.73	-443.25	4.39
486	SLE FR 3	-53	16	3505	1.79	-444.38	3.79
486	SLE FR 4	-53	20	3618	1.81	-457.74	4.62
486	SLE FR 5	-53	17	3624	1.87	-458.86	4.01
486	SLE FR 6	-54	18	3692	1.9	-467.08	4.13
486	SLE QP 1	-52	16	3494	1.77	-442.94	3.76
486	SLE QP 2	-53	17	3613	1.85	-457.42	3.98
486	SLD 1	212	84	5007	0.61	-606.05	72.61
486	SLD 2	242	-19	4965	1.01	-604.94	47.03
486	SLD 3	232	-156	4381	4.63	-567.68	12.74
486	SLD 4	262	-259	4339	5.02	-566.57	-12.84
486	SLD 5	-10	419	4988	-4.68	-560.4	119.77
486	SLD 6	9	352	4961	-4.42	-559.69	103.3
486	SLD 7	58	-381	2901	8.7	-432.49	-79.79
486	SLD 8	78	-448	2873	8.95	-431.78	-96.26
486	SLD 9	-184	482	4352	-5.26	-483.07	104.23
486	SLD 10	-165	415	4325	-5	-482.36	87.75
486	SLD 11	-116	-318	2264	8.11	-355.16	-95.33
486	SLD 12	-96	-385	2237	8.37	-354.45	-111.8
486	SLD 13	-369	293	2887	-1.33	-348.28	20.8
486	SLD 14	-339	190	2844	-0.93	-347.17	-4.78
486	SLD 15	-348	53	2260	2.68	-309.91	-39.06
486	SLD 16	-318	-50	2218	3.08	-308.8	-64.64
486	SLV 1	360	139	5836	-0.37	-692.22	115.64
486	SLV 2	408	-23	5769	0.25	-690.47	75.32
486	SLV 3	395	-270	4766	6.47	-626.64	13.51
486	SLV 4	442	-433	4700	7.1	-624.89	-26.82
486	SLV 5	9	705	5914	-9.32	-627.65	199.91
486	SLV 6	41	595	5869	-8.9	-626.48	172.77
486	SLV 7	125	-660	2350	13.5	-409.05	-140.54
486	SLV 8	157	-769	2305	13.92	-407.87	-167.69
486	SLV 9	-264	803	4921	-10.23	-506.97	175.66
486	SLV 10	-231	694	4876	-9.81	-505.8	148.51
486	SLV 11	-148	-561	1357	12.59	-288.37	-164.8
486	SLV 12	-116	-671	1312	13.01	-287.19	-191.95
486	SLV 13	-549	467	2526	-3.4	-289.96	34.78
486	SLV 14	-501	304	2459	-2.78	-288.21	-5.54
486	SLV 15	-514	57	1456	3.44	-224.37	-67.35
486	SLV 16	-466	-105	1390	4.06	-222.63	-107.68
486	SLV FO 1	401	152	6058	-0.59	-715.7	126.81
486	SLV FO 2	454	-27	5985	0.09	-713.78	82.45
486	SLV FO 3	440	-299	4882	6.93	-643.56	14.46
486	SLV FO 4	492	-478	4808	7.62	-641.64	-29.9
486	SLV FO 5	15	774	6144	-10.43	-644.68	219.51
486	SLV FO 6	51	653	6094	-9.97	-643.38	189.65
486	SLV FO 7	143	-727	2223	14.66	-404.21	-154.99
486	SLV FO 8	178	-848	2174	15.13	-402.92	-184.85
486	SLV FO 9	-285	882	5051	-11.43	-511.93	192.82
486	SLV FO 10	-249	761	5002	-10.97	-510.64	162.96
486	SLV FO 11	-157	-619	1131	13.66	-271.47	-181.68
486	SLV FO 12	-122	-740	1082	14.13	-270.17	-211.54
486	SLV FO 13	-598	512	2417	-3.93	-273.21	37.86
486	SLV FO 14	-546	333	2343	-3.24	-271.29	-6.49
486	SLV FO 15	-560	61	1241	3.6	-201.07	-74.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
486	SLV FO 16	-508	-117	1167	4.29	-199.15	-118.84
486	CRTFP Ux+	0	0	0	0	0	0
486	CRTFP Ux-	0	0	0	0	0	0
486	CRTFP Uy+	0	0	0	0	0	0
486	CRTFP Uy-	0	0	0	0	0	0
489	SLU 1	-76	-37	6128	0.25	-32.51	-1.68
489	SLU 2	-79	-5	6190	-0.3	-31.43	-1.87
489	SLU 3	-78	-38	6251	0.41	-33.42	-1.74
489	SLU 4	-80	-18	6289	0.09	-32.78	-1.85
489	SLU 5	-80	-5	6269	-0.18	-32.12	-1.91
489	SLU 6	-79	-38	6330	0.54	-34.11	-1.78
489	SLU 7	-81	-19	6367	0.21	-33.46	-1.89
489	SLU 8	-78	-38	6285	0.49	-33.88	-1.76
489	SLU 9	-80	-19	6322	0.17	-33.23	-1.87
489	SLU 10	-82	-8	6993	-0.13	-37.17	-2.07
489	SLU 11	-81	-40	7054	0.58	-39.16	-1.95
489	SLU 12	-83	-21	7092	0.25	-38.52	-2.06
489	SLU 13	-83	-8	7072	-0.01	-37.86	-2.11
489	SLU 14	-82	-41	7133	0.71	-39.85	-1.99
489	SLU 15	-84	-22	7170	0.38	-39.2	-2.1
489	SLU 16	-81	-41	7088	0.66	-39.62	-1.97
489	SLU 17	-83	-21	7125	0.33	-38.98	-2.08
489	SLU 18	-80	-41	7275	0.49	-40.71	-1.97
489	SLU 19	-82	-22	7312	0.16	-40.06	-2.09
489	SLU 20	-81	-41	7354	0.61	-41.39	-2.02
489	SLU 21	-83	-22	7391	0.28	-40.75	-2.13
489	SLU 22	-86	-41	7050	0.78	-37.8	-2.05
489	SLU 23	-89	-9	7112	0.23	-36.73	-2.24
489	SLU 24	-88	-42	7173	0.94	-38.72	-2.11
489	SLU 25	-90	-23	7211	0.62	-38.08	-2.22
489	SLU 26	-90	-10	7190	0.35	-37.42	-2.28
489	SLU 27	-89	-43	7252	1.07	-39.4	-2.15
489	SLU 28	-91	-23	7289	0.74	-38.76	-2.27
489	SLU 29	-88	-42	7207	1.02	-39.18	-2.13
489	SLU 30	-90	-23	7244	0.7	-38.53	-2.25
489	SLU 31	-92	-12	7915	0.4	-42.47	-2.45
489	SLU 32	-90	-45	7976	1.11	-44.46	-2.32
489	SLU 33	-92	-26	8014	0.78	-43.82	-2.43
489	SLU 34	-93	-13	7993	0.52	-43.16	-2.49
489	SLU 35	-91	-45	8055	1.23	-45.15	-2.36
489	SLU 36	-93	-26	8092	0.91	-44.5	-2.47
489	SLU 37	-91	-45	8010	1.19	-44.92	-2.34
489	SLU 38	-93	-26	8047	0.86	-44.27	-2.45
489	SLU 39	-90	-45	8197	1.01	-46.01	-2.35
489	SLU 40	-92	-26	8234	0.69	-45.36	-2.46
489	SLU 41	-91	-46	8275	1.14	-46.69	-2.39
489	SLU 42	-93	-27	8313	0.81	-46.05	-2.5
489	SLU 43	-95	-46	7650	0.14	-40.44	-2.05
489	SLU 44	-99	-14	7712	-0.41	-39.37	-2.24
489	SLU 45	-97	-47	7774	0.31	-41.36	-2.11
489	SLU 46	-99	-28	7811	-0.02	-40.71	-2.23
489	SLU 47	-100	-15	7791	-0.28	-40.05	-2.28
489	SLU 48	-98	-48	7852	0.43	-42.04	-2.15
489	SLU 49	-100	-29	7890	0.1	-41.4	-2.27
489	SLU 50	-98	-47	7807	0.39	-41.81	-2.14
489	SLU 51	-100	-28	7845	0.06	-41.17	-2.25
489	SLU 52	-102	-17	8515	-0.24	-45.11	-2.45
489	SLU 53	-100	-50	8577	0.47	-47.1	-2.32
489	SLU 54	-102	-31	8614	0.15	-46.45	-2.43
489	SLU 55	-103	-18	8594	-0.12	-45.8	-2.49
489	SLU 56	-101	-50	8655	0.6	-47.78	-2.36
489	SLU 57	-103	-31	8693	0.27	-47.14	-2.47
489	SLU 58	-100	-50	8610	0.55	-47.55	-2.34
489	SLU 59	-102	-31	8648	0.23	-46.91	-2.46
489	SLU 60	-99	-50	8797	0.38	-48.64	-2.35
489	SLU 61	-101	-31	8835	0.05	-48	-2.46
489	SLU 62	-100	-51	8876	0.5	-49.33	-2.39
489	SLU 63	-102	-32	8913	0.17	-48.69	-2.5
489	SLU 64	-105	-51	8572	0.67	-45.74	-2.43
489	SLU 65	-109	-19	8634	0.12	-44.67	-2.61
489	SLU 66	-107	-51	8696	0.84	-46.65	-2.49
489	SLU 67	-109	-32	8733	0.51	-46.01	-2.6
489	SLU 68	-110	-19	8713	0.25	-45.35	-2.66
489	SLU 69	-108	-52	8774	0.96	-47.34	-2.53
489	SLU 70	-110	-33	8811	0.63	-46.7	-2.64
489	SLU 71	-107	-52	8729	0.92	-47.11	-2.51
489	SLU 72	-109	-33	8766	0.59	-46.47	-2.62
489	SLU 73	-111	-22	9437	0.29	-50.41	-2.82
489	SLU 74	-110	-54	9498	1	-52.4	-2.69
489	SLU 75	-112	-35	9536	0.67	-51.75	-2.81
489	SLU 76	-112	-22	9516	0.41	-51.09	-2.86
489	SLU 77	-111	-55	9577	1.13	-53.08	-2.74
489	SLU 78	-113	-36	9614	0.8	-52.44	-2.85
489	SLU 79	-110	-55	9532	1.08	-52.85	-2.72
489	SLU 80	-112	-35	9569	0.76	-52.21	-2.83
489	SLU 81	-109	-55	9719	0.91	-53.94	-2.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
489	SLU 82	-111	-35	9756	0.58	-53.3	-2.84
489	SLU 83	-110	-55	9798	1.03	-54.63	-2.76
489	SLU 84	-112	-36	9835	0.7	-53.98	-2.88
489	SLE RA 1	-79	-38	6391	0.4	-34.02	-1.78
489	SLE RA 2	-81	-17	6433	0.03	-33.3	-1.91
489	SLE RA 3	-80	-39	6474	0.51	-34.63	-1.83
489	SLE RA 4	-81	-26	6498	0.29	-34.2	-1.9
489	SLE RA 5	-82	-17	6485	0.12	-33.76	-1.94
489	SLE RA 6	-81	-39	6526	0.59	-35.09	-1.85
489	SLE RA 7	-82	-26	6551	0.37	-34.66	-1.93
489	SLE RA 8	-80	-39	6496	0.56	-34.93	-1.84
489	SLE RA 9	-82	-26	6521	0.34	-34.51	-1.91
489	SLE RA 10	-83	-19	6968	0.14	-37.13	-2.05
489	SLE RA 11	-82	-40	7009	0.62	-38.46	-1.96
489	SLE RA 12	-83	-28	7034	0.4	-38.03	-2.04
489	SLE RA 13	-84	-19	7020	0.23	-37.59	-2.08
489	SLE RA 14	-83	-41	7061	0.7	-38.91	-1.99
489	SLE RA 15	-84	-28	7086	0.49	-38.49	-2.07
489	SLE RA 16	-82	-41	7031	0.67	-38.76	-1.98
489	SLE RA 17	-83	-28	7056	0.46	-38.33	-2.05
489	SLE RA 18	-81	-41	7156	0.56	-39.49	-1.98
489	SLE RA 19	-83	-28	7181	0.34	-39.06	-2.06
489	SLE RA 20	-82	-41	7208	0.64	-39.95	-2.01
489	SLE RA 21	-83	-28	7233	0.42	-39.52	-2.08
489	SLE FR 1	-79	-38	6391	0.4	-34.02	-1.78
489	SLE FR 2	-79	-34	6400	0.32	-33.88	-1.81
489	SLE FR 3	-79	-38	6412	0.43	-34.2	-1.8
489	SLE FR 4	-80	-35	6629	0.37	-35.52	-1.87
489	SLE FR 5	-80	-39	6642	0.48	-35.84	-1.86
489	SLE FR 6	-80	-39	6774	0.48	-36.75	-1.88
489	SLE QP 1	-79	-38	6391	0.4	-34.02	-1.78
489	SLE QP 2	-80	-39	6621	0.45	-35.66	-1.84
489	SLD 1	502	104	7647	-2.56	-7.96	1.04
489	SLD 2	570	24	7585	-2.13	-9.3	3.67
489	SLD 3	537	-291	6754	4.75	-18.29	3.01
489	SLD 4	605	-372	6692	5.18	-19.63	5.65
489	SLD 5	31	618	8295	-11.61	-11.46	-4.43
489	SLD 6	75	566	8255	-11.33	-12.32	-2.74
489	SLD 7	146	-701	5316	12.74	-45.88	2.16
489	SLD 8	189	-753	5276	13.01	-46.74	3.86
489	SLD 9	-348	675	7965	-12.12	-24.58	-7.54
489	SLD 10	-305	623	7925	-11.85	-25.44	-5.85
489	SLD 11	-234	-644	4987	12.22	-59	-0.95
489	SLD 12	-190	-696	4947	12.5	-59.86	0.74
489	SLD 13	-764	294	6550	-4.29	-51.7	-9.34
489	SLD 14	-696	214	6487	-3.86	-53.03	-6.7
489	SLD 15	-729	-101	5656	3.02	-62.02	-7.36
489	SLD 16	-661	-182	5594	3.45	-63.36	-4.72
489	SLV 1	829	214	8289	-4.77	8.33	2.49
489	SLV 2	936	87	8191	-4.09	6.22	6.64
489	SLV 3	886	-461	6764	7.69	-9.28	5.86
489	SLV 4	994	-588	6666	8.37	-11.38	10.01
489	SLV 5	85	1084	9453	-20.14	4.63	-6.42
489	SLV 6	158	999	9387	-19.69	3.21	-3.63
489	SLV 7	278	-1165	4369	21.39	-54.05	4.8
489	SLV 8	350	-1251	4303	21.85	-55.47	7.59
489	SLV 9	-509	1173	8939	-20.96	-15.85	-11.28
489	SLV 10	-437	1088	8872	-20.5	-17.27	-8.49
489	SLV 11	-317	-1076	3855	20.58	-74.53	-0.06
489	SLV 12	-244	-1162	3789	21.03	-75.95	2.74
489	SLV 13	-1153	511	6575	-7.48	-59.94	-13.7
489	SLV 14	-1045	383	6477	-6.8	-62.05	-9.55
489	SLV 15	-1095	-164	5050	4.98	-77.55	-10.33
489	SLV 16	-988	-291	4952	5.66	-79.65	-6.18
489	SLV FO 1	919	239	8456	-5.29	12.73	2.93
489	SLV FO 2	1037	99	8348	-4.54	10.41	7.49
489	SLV FO 3	983	-503	6779	8.42	-6.64	6.63
489	SLV FO 4	1101	-643	6671	9.16	-8.95	11.2
489	SLV FO 5	102	1196	9736	-22.2	8.66	-6.88
489	SLV FO 6	181	1102	9663	-21.7	7.1	-3.81
489	SLV FO 7	313	-1278	4144	23.49	-55.89	5.46
489	SLV FO 8	393	-1372	4071	23.99	-57.45	8.54
489	SLV FO 9	-552	1294	9170	-23.1	-13.87	-12.23
489	SLV FO 10	-473	1200	9098	-22.6	-15.43	-9.15
489	SLV FO 11	-340	-1180	3578	22.59	-78.42	0.12
489	SLV FO 12	-261	-1274	3505	23.09	-79.98	3.19
489	SLV FO 13	-1260	566	6571	-8.27	-62.37	-14.88
489	SLV FO 14	-1142	426	6463	-7.53	-64.68	-10.32
489	SLV FO 15	-1196	-177	4893	5.43	-81.74	-11.18
489	SLV FO 16	-1079	-317	4785	6.18	-84.05	-6.61
489	CRTFP Ux+	0	0	0	0	0	0
489	CRTFP Ux-	0	0	0	0	0	0
489	CRTFP Uy+	0	0	0	0	0	0
489	CRTFP Uy-	0	0	0	0	0	0
492	SLU 1	98	-91	6217	-0.98	27.7	-2.23
492	SLU 2	101	-59	6283	-1.54	25.77	-2.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
492	SLU 3	100	-92	6336	-0.84	28.24	-2.31
492	SLU 4	101	-73	6375	-1.17	27.08	-2.21
492	SLU 5	101	-60	6357	-1.42	26.12	-2.13
492	SLU 6	100	-94	6410	-0.72	28.59	-2.38
492	SLU 7	101	-75	6450	-1.05	27.43	-2.28
492	SLU 8	99	-93	6366	-0.75	28.41	-2.37
492	SLU 9	100	-74	6406	-1.08	27.25	-2.27
492	SLU 10	107	-68	7067	-1.61	29.47	-2.31
492	SLU 11	106	-101	7119	-0.91	31.94	-2.56
492	SLU 12	108	-82	7159	-1.24	30.78	-2.46
492	SLU 13	107	-69	7141	-1.49	29.82	-2.39
492	SLU 14	106	-102	7194	-0.79	32.29	-2.63
492	SLU 15	108	-83	7234	-1.13	31.13	-2.54
492	SLU 16	105	-101	7150	-0.82	32.11	-2.62
492	SLU 17	107	-82	7189	-1.15	30.95	-2.52
492	SLU 18	107	-103	7337	-1.09	32.99	-2.59
492	SLU 19	109	-84	7376	-1.42	31.83	-2.49
492	SLU 20	108	-104	7411	-0.97	33.34	-2.66
492	SLU 21	109	-85	7451	-1.3	32.18	-2.56
492	SLU 22	111	-100	7133	-0.68	31.46	-2.48
492	SLU 23	113	-69	7199	-1.23	29.52	-2.31
492	SLU 24	112	-102	7252	-0.53	31.99	-2.56
492	SLU 25	114	-83	7291	-0.86	30.83	-2.46
492	SLU 26	114	-70	7273	-1.11	29.88	-2.38
492	SLU 27	113	-103	7326	-0.42	32.35	-2.63
492	SLU 28	114	-84	7366	-0.75	31.19	-2.53
492	SLU 29	112	-103	7282	-0.44	32.16	-2.62
492	SLU 30	113	-84	7322	-0.77	31	-2.52
492	SLU 31	120	-77	7983	-1.3	33.22	-2.56
492	SLU 32	119	-111	8035	-0.61	35.69	-2.81
492	SLU 33	120	-92	8075	-0.94	34.53	-2.71
492	SLU 34	120	-78	8057	-1.18	33.58	-2.63
492	SLU 35	119	-112	8110	-0.49	36.05	-2.88
492	SLU 36	121	-93	8150	-0.82	34.89	-2.78
492	SLU 37	118	-111	8066	-0.52	35.86	-2.87
492	SLU 38	120	-92	8105	-0.85	34.7	-2.77
492	SLU 39	120	-113	8252	-0.78	36.74	-2.83
492	SLU 40	122	-94	8292	-1.11	35.58	-2.74
492	SLU 41	121	-114	8327	-0.66	37.1	-2.9
492	SLU 42	122	-95	8367	-0.99	35.94	-2.81
492	SLU 43	123	-114	7768	-1.38	34.73	-2.81
492	SLU 44	126	-83	7834	-1.94	32.79	-2.65
492	SLU 45	125	-116	7887	-1.24	35.26	-2.9
492	SLU 46	126	-97	7926	-1.57	34.1	-2.8
492	SLU 47	126	-84	7909	-1.82	33.14	-2.72
492	SLU 48	125	-117	7961	-1.12	35.62	-2.97
492	SLU 49	126	-98	8001	-1.45	34.45	-2.87
492	SLU 50	124	-117	7917	-1.15	35.43	-2.95
492	SLU 51	125	-98	7957	-1.48	34.27	-2.85
492	SLU 52	132	-91	8618	-2.01	36.49	-2.9
492	SLU 53	131	-125	8670	-1.31	38.96	-3.15
492	SLU 54	133	-106	8710	-1.64	37.8	-3.05
492	SLU 55	132	-92	8692	-1.89	36.84	-2.97
492	SLU 56	131	-126	8745	-1.19	39.32	-3.22
492	SLU 57	133	-107	8785	-1.53	38.15	-3.12
492	SLU 58	130	-125	8701	-1.22	39.13	-3.2
492	SLU 59	132	-106	8740	-1.55	37.97	-3.11
492	SLU 60	132	-127	8888	-1.49	40.01	-3.17
492	SLU 61	134	-108	8927	-1.82	38.85	-3.07
492	SLU 62	133	-128	8962	-1.37	40.37	-3.24
492	SLU 63	134	-109	9002	-1.7	39.2	-3.14
492	SLU 64	136	-124	8684	-1.08	38.48	-3.06
492	SLU 65	138	-93	8750	-1.63	36.55	-2.89
492	SLU 66	137	-126	8803	-0.93	39.02	-3.14
492	SLU 67	139	-107	8842	-1.26	37.86	-3.04
492	SLU 68	139	-94	8824	-1.51	36.9	-2.97
492	SLU 69	138	-127	8877	-0.82	39.37	-3.21
492	SLU 70	139	-108	8917	-1.15	38.21	-3.12
492	SLU 71	137	-127	8833	-0.84	39.19	-3.2
492	SLU 72	138	-107	8873	-1.17	38.03	-3.1
492	SLU 73	145	-101	9534	-1.7	40.25	-3.15
492	SLU 74	144	-135	9586	-1.01	42.72	-3.39
492	SLU 75	145	-116	9626	-1.34	41.56	-3.3
492	SLU 76	145	-102	9608	-1.58	40.6	-3.22
492	SLU 77	144	-136	9661	-0.89	43.07	-3.46
492	SLU 78	146	-117	9701	-1.22	41.91	-3.37
492	SLU 79	143	-135	9617	-0.92	42.89	-3.45
492	SLU 80	145	-116	9656	-1.25	41.73	-3.35
492	SLU 81	145	-137	9804	-1.18	43.77	-3.42
492	SLU 82	147	-118	9843	-1.51	42.61	-3.32
492	SLU 83	146	-138	9878	-1.06	44.12	-3.49
492	SLU 84	147	-119	9918	-1.39	42.96	-3.39
492	SLE RA 1	102	-93	6479	-0.9	28.78	-2.3
492	SLE RA 2	103	-72	6523	-1.26	27.49	-2.19
492	SLE RA 3	103	-95	6558	-0.8	29.13	-2.35
492	SLE RA 4	104	-82	6584	-1.02	28.36	-2.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
492	SLE RA 5	104	-73	6572	-1.19	27.72	-2.24
492	SLE RA 6	103	-95	6608	-0.72	29.37	-2.4
492	SLE RA 7	104	-83	6634	-0.94	28.59	-2.34
492	SLE RA 8	102	-95	6578	-0.74	29.25	-2.39
492	SLE RA 9	103	-82	6604	-0.96	28.47	-2.33
492	SLE RA 10	108	-78	7045	-1.31	29.95	-2.36
492	SLE RA 11	107	-100	7080	-0.85	31.6	-2.52
492	SLE RA 12	108	-88	7107	-1.07	30.83	-2.46
492	SLE RA 13	108	-79	7095	-1.23	30.19	-2.4
492	SLE RA 14	107	-101	7130	-0.77	31.83	-2.57
492	SLE RA 15	108	-88	7156	-0.99	31.06	-2.5
492	SLE RA 16	107	-101	7101	-0.79	31.71	-2.56
492	SLE RA 17	108	-88	7127	-1.01	30.94	-2.49
492	SLE RA 18	108	-102	7225	-0.97	32.3	-2.54
492	SLE RA 19	109	-89	7251	-1.19	31.53	-2.47
492	SLE RA 20	108	-102	7275	-0.89	32.54	-2.58
492	SLE RA 21	109	-90	7301	-1.11	31.76	-2.52
492	SLE FR 1	102	-93	6479	-0.9	28.78	-2.3
492	SLE FR 2	102	-89	6487	-0.97	28.52	-2.28
492	SLE FR 3	102	-94	6499	-0.86	28.87	-2.32
492	SLE FR 4	104	-92	6711	-0.99	29.58	-2.35
492	SLE FR 5	104	-96	6722	-0.89	29.93	-2.39
492	SLE FR 6	105	-98	6852	-0.93	30.54	-2.42
492	SLE QP 1	102	-93	6479	-0.9	28.78	-2.3
492	SLE QP 2	104	-96	6703	-0.92	29.83	-2.37
492	SLD 1	730	171	6744	-3.79	30.65	3.92
492	SLD 2	805	250	6813	-4.26	27.85	6.51
492	SLD 3	699	-231	5791	3.46	49.71	1.92
492	SLD 4	773	-152	5860	3	46.91	4.52
492	SLD 5	327	580	8149	-12.71	1.65	2.09
492	SLD 6	375	631	8193	-13.01	-0.15	3.76
492	SLD 7	221	-760	4972	11.49	65.19	-4.55
492	SLD 8	269	-709	5016	11.19	63.38	-2.88
492	SLD 9	-62	517	8389	-13.02	-3.72	-1.86
492	SLD 10	-14	568	8434	-13.32	-5.52	-0.19
492	SLD 11	-167	-823	5212	11.18	59.82	-8.5
492	SLD 12	-120	-772	5256	10.88	58.02	-6.83
492	SLD 13	-566	-39	7545	-4.83	12.76	-9.26
492	SLD 14	-491	39	7614	-5.3	9.96	-6.66
492	SLD 15	-597	-441	6592	2.43	31.82	-11.25
492	SLD 16	-523	-363	6661	1.96	29.02	-8.66
492	SLV 1	1086	349	6837	-5.92	29.88	7.57
492	SLV 2	1203	473	6945	-6.65	25.47	11.66
492	SLV 3	1032	-336	5210	6.47	62.37	4.17
492	SLV 4	1149	-212	5318	5.73	57.96	8.26
492	SLV 5	458	1054	9189	-21.06	-18.6	5
492	SLV 6	537	1138	9262	-21.56	-21.57	7.76
492	SLV 7	279	-1231	3768	20.22	89.69	-6.33
492	SLV 8	358	-1148	3841	19.72	86.72	-3.57
492	SLV 9	-150	956	9565	-21.56	-27.06	-1.17
492	SLV 10	-71	1039	9637	-22.05	-30.03	1.59
492	SLV 11	-330	-1330	4143	19.72	81.24	-12.5
492	SLV 12	-251	-1246	4216	19.23	78.27	-9.74
492	SLV 13	-942	20	8087	-7.57	1.71	-13
492	SLV 14	-825	145	8195	-8.3	-2.7	-8.91
492	SLV 15	-996	-665	6460	4.82	34.19	-16.4
492	SLV 16	-879	-541	6569	4.08	29.79	-12.31
492	SLV FO 1	1184	394	6850	-6.42	29.89	8.56
492	SLV FO 2	1313	530	6969	-7.23	25.04	13.06
492	SLV FO 3	1125	-361	5061	7.21	65.62	4.82
492	SLV FO 4	1254	-224	5180	6.4	60.77	9.32
492	SLV FO 5	493	1169	9438	-23.08	-23.45	5.74
492	SLV FO 6	580	1261	9518	-23.62	-26.71	8.77
492	SLV FO 7	296	-1345	3474	22.33	95.68	-6.72
492	SLV FO 8	383	-1253	3554	21.79	92.41	-3.69
492	SLV FO 9	-176	1061	9851	-23.62	-32.75	-1.05
492	SLV FO 10	-89	1153	9931	-24.17	-36.01	1.98
492	SLV FO 11	-373	-1453	3887	21.79	86.38	-13.51
492	SLV FO 12	-286	-1361	3967	21.24	83.11	-10.48
492	SLV FO 13	-1046	32	8225	-8.23	-1.11	-14.06
492	SLV FO 14	-918	169	8344	-9.04	-5.96	-9.56
492	SLV FO 15	-1106	-722	6436	5.39	34.63	-17.8
492	SLV FO 16	-977	-586	6555	4.58	29.78	-13.3
492	CRTFP Ux+	0	0	0	0	0	0
492	CRTFP Ux-	0	0	0	0	0	0
492	CRTFP Uy+	0	0	0	0	0	0
492	CRTFP Uy-	0	0	0	0	0	0
495	SLU 1	46	23	3870	2.33	792.85	-8.28
495	SLU 2	48	46	3915	1.98	798.31	-16.08
495	SLU 3	47	25	3948	2.5	808.5	-8.66
495	SLU 4	48	38	3975	2.28	811.78	-13.34
495	SLU 5	49	47	3964	2.1	808.36	-16.6
495	SLU 6	47	26	3997	2.62	818.56	-9.17
495	SLU 7	48	39	4024	2.41	821.83	-13.85
495	SLU 8	47	26	3968	2.59	812.95	-9.31
495	SLU 9	48	40	3995	2.37	816.23	-13.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
495	SLU 10	51	48	4383	2.3	889.99	-17
495	SLU 11	49	27	4416	2.82	900.18	-9.58
495	SLU 12	51	41	4443	2.61	903.46	-14.26
495	SLU 13	51	50	4431	2.43	900.04	-17.51
495	SLU 14	50	29	4464	2.95	910.24	-10.09
495	SLU 15	51	42	4491	2.73	913.51	-14.77
495	SLU 16	49	29	4435	2.91	904.63	-10.22
495	SLU 17	50	42	4462	2.7	907.91	-14.91
495	SLU 18	50	27	4538	2.8	923.82	-9.59
495	SLU 19	51	41	4565	2.58	927.1	-14.27
495	SLU 20	50	29	4587	2.93	933.87	-10.1
495	SLU 21	51	42	4614	2.71	937.15	-14.79
495	SLU 22	52	23	4429	2.94	903.7	-8.17
495	SLU 23	54	45	4474	2.58	909.16	-15.97
495	SLU 24	52	24	4507	3.1	919.35	-8.55
495	SLU 25	54	38	4534	2.88	922.63	-13.23
495	SLU 26	54	47	4523	2.7	919.21	-16.48
495	SLU 27	53	26	4556	3.22	929.41	-9.06
495	SLU 28	54	39	4583	3.01	932.68	-13.74
495	SLU 29	52	26	4527	3.19	923.8	-9.19
495	SLU 30	54	39	4554	2.97	927.08	-13.88
495	SLU 31	56	48	4942	2.9	1000.84	-16.89
495	SLU 32	55	27	4975	3.42	1011.03	-9.47
495	SLU 33	56	40	5002	3.21	1014.31	-14.15
495	SLU 34	56	50	4991	3.03	1010.89	-17.4
495	SLU 35	55	28	5024	3.55	1021.09	-9.98
495	SLU 36	56	42	5050	3.33	1024.36	-14.66
495	SLU 37	55	29	4994	3.51	1015.48	-10.11
495	SLU 38	56	42	5021	3.3	1018.76	-14.8
495	SLU 39	55	27	5097	3.4	1034.67	-9.48
495	SLU 40	56	40	5124	3.19	1037.94	-14.16
495	SLU 41	55	28	5146	3.53	1044.72	-9.99
495	SLU 42	57	42	5173	3.31	1048	-14.68
495	SLU 43	58	31	4839	2.83	992.69	-10.8
495	SLU 44	60	53	4884	2.47	998.16	-18.6
495	SLU 45	59	32	4917	2.99	1008.35	-11.18
495	SLU 46	60	45	4944	2.77	1011.63	-15.86
495	SLU 47	60	54	4933	2.6	1008.21	-19.12
495	SLU 48	59	33	4966	3.11	1018.4	-11.69
495	SLU 49	60	47	4993	2.9	1021.68	-16.38
495	SLU 50	59	34	4937	3.08	1012.8	-11.83
495	SLU 51	60	47	4964	2.86	1016.08	-16.51
495	SLU 52	63	56	5352	2.8	1089.84	-19.52
495	SLU 53	61	34	5385	3.32	1100.03	-12.1
495	SLU 54	63	48	5412	3.1	1103.31	-16.78
495	SLU 55	63	57	5401	2.92	1099.89	-20.04
495	SLU 56	62	36	5434	3.44	1110.08	-12.61
495	SLU 57	63	49	5461	3.22	1113.36	-17.29
495	SLU 58	61	36	5405	3.41	1104.48	-12.75
495	SLU 59	62	50	5432	3.19	1107.76	-17.43
495	SLU 60	62	34	5507	3.29	1123.67	-12.11
495	SLU 61	63	48	5534	3.08	1126.94	-16.79
495	SLU 62	62	36	5556	3.42	1133.72	-12.63
495	SLU 63	63	49	5583	3.2	1137	-17.31
495	SLU 64	64	30	5398	3.43	1103.54	-10.69
495	SLU 65	66	53	5443	3.07	1109.01	-18.49
495	SLU 66	64	31	5476	3.59	1119.2	-11.07
495	SLU 67	66	45	5503	3.38	1122.48	-15.75
495	SLU 68	66	54	5492	3.2	1119.06	-19.01
495	SLU 69	65	33	5525	3.72	1129.25	-11.58
495	SLU 70	66	46	5552	3.5	1132.53	-16.26
495	SLU 71	64	33	5496	3.68	1123.65	-11.72
495	SLU 72	65	47	5523	3.47	1126.93	-16.4
495	SLU 73	68	55	5911	3.4	1200.69	-19.41
495	SLU 74	67	34	5944	3.92	1210.88	-11.99
495	SLU 75	68	47	5971	3.7	1214.16	-16.67
495	SLU 76	68	57	5960	3.52	1210.74	-19.92
495	SLU 77	67	35	5993	4.04	1220.93	-12.5
495	SLU 78	68	49	6020	3.83	1224.21	-17.18
495	SLU 79	67	36	5964	4.01	1215.33	-12.63
495	SLU 80	68	49	5991	3.79	1218.6	-17.32
495	SLU 81	67	34	6067	3.9	1234.51	-12
495	SLU 82	68	47	6094	3.68	1237.79	-16.68
495	SLU 83	67	35	6115	4.02	1244.57	-12.51
495	SLU 84	69	49	6142	3.81	1247.84	-17.2
495	SLE RA 1	48	23	4030	2.51	824.52	-8.25
495	SLE RA 2	49	38	4060	2.27	828.16	-13.45
495	SLE RA 3	48	24	4082	2.61	834.96	-8.5
495	SLE RA 4	49	33	4100	2.47	837.14	-11.62
495	SLE RA 5	49	39	4092	2.35	834.86	-13.79
495	SLE RA 6	48	25	4114	2.7	841.66	-8.84
495	SLE RA 7	49	34	4132	2.55	843.84	-11.96
495	SLE RA 8	48	25	4095	2.67	837.92	-8.93
495	SLE RA 9	49	34	4113	2.53	840.1	-12.05
495	SLE RA 10	51	40	4371	2.48	889.28	-14.06
495	SLE RA 11	50	26	4393	2.83	896.08	-9.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
495	SLE RA 12	51	35	4411	2.69	898.26	-12.23
495	SLE RA 13	51	41	4404	2.57	895.98	-14.4
495	SLE RA 14	50	27	4426	2.91	902.78	-9.45
495	SLE RA 15	51	36	4444	2.77	904.96	-12.58
495	SLE RA 16	50	27	4407	2.89	899.04	-9.54
495	SLE RA 17	51	36	4425	2.75	901.22	-12.67
495	SLE RA 18	50	26	4475	2.82	911.83	-9.12
495	SLE RA 19	51	35	4493	2.67	914.02	-12.24
495	SLE RA 20	50	27	4508	2.9	918.53	-9.46
495	SLE RA 21	51	36	4526	2.76	920.72	-12.59
495	SLE FR 1	48	23	4030	2.51	824.52	-8.25
495	SLE FR 2	48	26	4036	2.46	825.25	-9.29
495	SLE FR 3	48	24	4043	2.54	827.2	-8.38
495	SLE FR 4	49	27	4169	2.55	851.44	-9.55
495	SLE FR 5	49	25	4176	2.63	853.39	-8.65
495	SLE FR 6	49	25	4252	2.66	868.17	-8.68
495	SLE QP 1	48	23	4030	2.51	824.52	-8.25
495	SLE QP 2	48	24	4163	2.6	850.71	-8.51
495	SLD 1	403	-8	3405	-0.34	692.59	2.45
495	SLD 2	442	111	3460	-0.79	698.69	-38.93
495	SLD 3	379	-281	2776	4.4	620.98	97.74
495	SLD 4	418	-162	2831	3.95	627.08	56.35
495	SLD 5	185	408	4880	-5.39	910.83	-142.62
495	SLD 6	210	484	4915	-5.68	914.76	-169.26
495	SLD 7	104	-501	2784	10.4	672.14	174.99
495	SLD 8	129	-425	2819	10.11	676.07	148.35
495	SLD 9	-32	473	5507	-4.91	1025.36	-165.36
495	SLD 10	-7	550	5543	-5.2	1029.28	-192.01
495	SLD 11	-113	-436	3411	10.88	786.67	152.25
495	SLD 12	-88	-359	3447	10.59	790.59	125.6
495	SLD 13	-321	210	5496	1.25	1074.34	-73.37
495	SLD 14	-282	329	5551	0.8	1080.44	-114.75
495	SLD 15	-345	-63	4867	5.99	1002.74	21.91
495	SLD 16	-306	56	4922	5.54	1008.83	-19.47
495	SLV 1	605	-7	3025	-2.33	609.16	1.99
495	SLV 2	667	180	3112	-3.04	618.78	-63.23
495	SLV 3	564	-472	1952	5.75	487.08	164.55
495	SLV 4	625	-285	2039	5.04	496.7	99.32
495	SLV 5	267	685	5432	-11	961.61	-239.72
495	SLV 6	308	811	5491	-11.48	968.08	-283.64
495	SLV 7	129	-865	1857	15.93	554.67	302.12
495	SLV 8	170	-739	1916	15.46	561.14	258.2
495	SLV 9	-73	787	6411	-10.26	1140.28	-275.22
495	SLV 10	-32	914	6469	-10.73	1146.75	-319.13
495	SLV 11	-211	-763	2836	16.68	733.34	266.62
495	SLV 12	-170	-637	2895	16.2	739.81	222.71
495	SLV 13	-529	333	6287	0.16	1204.73	-116.34
495	SLV 14	-467	521	6374	-0.55	1214.34	-181.56
495	SLV 15	-570	-132	5215	8.24	1082.65	46.22
495	SLV 16	-508	55	5302	7.53	1092.26	-19.01
495	SLV FO 1	661	-10	2911	-2.83	585.01	3.05
495	SLV FO 2	729	196	3007	-3.6	595.58	-68.71
495	SLV FO 3	615	-522	1731	6.06	450.72	181.85
495	SLV FO 4	683	-316	1827	5.28	461.29	110.1
495	SLV FO 5	289	751	5559	-12.36	972.7	-262.84
495	SLV FO 6	334	890	5623	-12.89	979.82	-311.15
495	SLV FO 7	137	-954	1627	17.26	525.07	333.18
495	SLV FO 8	182	-816	1691	16.74	532.19	284.88
495	SLV FO 9	-86	864	6636	-11.54	1169.24	-301.89
495	SLV FO 10	-40	1003	6700	-12.06	1176.35	-350.2
495	SLV FO 11	-237	-842	2703	18.09	721.61	294.13
495	SLV FO 12	-192	-703	2768	17.56	728.72	245.83
495	SLV FO 13	-586	364	6500	-0.08	1240.13	-127.12
495	SLV FO 14	-518	570	6595	-0.86	1250.7	-198.87
495	SLV FO 15	-632	-148	5320	8.8	1105.84	51.69
495	SLV FO 16	-564	59	5416	8.03	1116.41	-20.06
495	CRTFP Ux+	0	0	0	0	0	0
495	CRTFP Ux-	0	0	0	0	0	0
495	CRTFP Uy+	0	0	0	0	0	0
495	CRTFP Uy-	0	0	0	0	0	0
498	SLU 1	38	-43	3551	-41.97	1052.26	15.28
498	SLU 2	39	-22	3573	-42.44	1057.76	8.02
498	SLU 3	38	-44	3620	-42.72	1072.57	15.67
498	SLU 4	39	-31	3633	-43	1075.87	11.31
498	SLU 5	39	-23	3617	-42.92	1070.87	8.34
498	SLU 6	38	-45	3664	-43.19	1085.69	15.99
498	SLU 7	39	-32	3677	-43.48	1088.99	11.63
498	SLU 8	38	-44	3640	-42.92	1078.49	15.92
498	SLU 9	39	-32	3653	-43.2	1081.79	11.56
498	SLU 10	43	-27	4038	-47.9	1194.92	9.73
498	SLU 11	42	-49	4085	-48.17	1209.74	17.39
498	SLU 12	43	-36	4098	-48.46	1213.04	13.03
498	SLU 13	43	-27	4082	-48.37	1208.04	10.06
498	SLU 14	42	-49	4129	-48.65	1222.85	17.71
498	SLU 15	43	-37	4142	-48.93	1226.15	13.35
498	SLU 16	42	-49	4105	-48.37	1215.65	17.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
498	SLU 17	43	-37	4118	-48.66	1218.95	13.28
498	SLU 18	43	-50	4215	-49.76	1248.2	17.73
498	SLU 19	44	-37	4229	-50.04	1251.5	13.38
498	SLU 20	43	-50	4260	-50.24	1261.32	18.05
498	SLU 21	44	-38	4273	-50.52	1264.62	13.7
498	SLU 22	43	-48	4046	-47.6	1197.87	17.3
498	SLU 23	44	-27	4068	-48.07	1203.37	10.04
498	SLU 24	43	-49	4115	-48.34	1218.19	17.69
498	SLU 25	44	-37	4128	-48.63	1221.49	13.33
498	SLU 26	44	-28	4112	-48.54	1216.49	10.36
498	SLU 27	43	-50	4159	-48.82	1231.31	18.01
498	SLU 28	44	-38	4172	-49.1	1234.61	13.65
498	SLU 29	43	-50	4135	-48.55	1224.11	17.94
498	SLU 30	44	-38	4148	-48.83	1227.41	13.58
498	SLU 31	48	-32	4533	-53.52	1340.53	11.75
498	SLU 32	47	-54	4580	-53.8	1355.35	19.41
498	SLU 33	48	-42	4593	-54.08	1358.65	15.05
498	SLU 34	48	-33	4578	-53.99	1353.65	12.08
498	SLU 35	47	-55	4624	-54.27	1368.47	19.73
498	SLU 36	48	-43	4638	-54.55	1371.77	15.37
498	SLU 37	47	-55	4600	-54	1361.27	19.66
498	SLU 38	48	-42	4613	-54.28	1364.57	15.3
498	SLU 39	48	-55	4711	-55.39	1393.82	19.75
498	SLU 40	49	-43	4724	-55.67	1397.12	15.4
498	SLU 41	48	-56	4755	-55.86	1406.94	20.07
498	SLU 42	49	-44	4768	-56.14	1410.24	15.72
498	SLU 43	48	-53	4447	-52.64	1318.01	19.17
498	SLU 44	49	-33	4468	-53.11	1323.51	11.91
498	SLU 45	48	-55	4515	-53.38	1338.33	19.56
498	SLU 46	49	-42	4528	-53.67	1341.62	15.21
498	SLU 47	49	-33	4513	-53.58	1336.62	12.23
498	SLU 48	48	-55	4560	-53.86	1351.44	19.88
498	SLU 49	49	-43	4573	-54.14	1354.74	15.53
498	SLU 50	48	-55	4535	-53.59	1344.24	19.81
498	SLU 51	49	-43	4548	-53.87	1347.54	15.46
498	SLU 52	52	-37	4934	-58.56	1460.67	13.63
498	SLU 53	52	-59	4980	-58.84	1475.49	21.28
498	SLU 54	52	-47	4994	-59.12	1478.79	16.92
498	SLU 55	53	-38	4978	-59.03	1473.79	13.95
498	SLU 56	52	-60	5025	-59.31	1488.6	21.6
498	SLU 57	52	-48	5038	-59.59	1491.9	17.24
498	SLU 58	51	-60	5000	-59.04	1481.4	21.53
498	SLU 59	52	-48	5013	-59.32	1484.7	17.17
498	SLU 60	53	-60	5111	-60.43	1513.95	21.63
498	SLU 61	54	-48	5124	-60.71	1517.25	17.27
498	SLU 62	53	-61	5155	-60.9	1527.07	21.95
498	SLU 63	54	-49	5168	-61.18	1530.37	17.59
498	SLU 64	53	-59	4942	-58.26	1463.62	21.19
498	SLU 65	54	-38	4964	-58.73	1469.12	13.93
498	SLU 66	53	-60	5011	-59.01	1483.94	21.58
498	SLU 67	54	-48	5024	-59.29	1487.24	17.22
498	SLU 68	54	-39	5008	-59.21	1482.24	14.25
498	SLU 69	53	-61	5055	-59.48	1497.06	21.9
498	SLU 70	54	-49	5068	-59.76	1500.36	17.55
498	SLU 71	53	-61	5030	-59.21	1489.86	21.83
498	SLU 72	54	-48	5043	-59.49	1493.16	17.47
498	SLU 73	57	-43	5429	-64.18	1606.28	15.65
498	SLU 74	57	-65	5476	-64.46	1621.1	23.3
498	SLU 75	57	-52	5489	-64.74	1624.4	18.94
498	SLU 76	58	-44	5473	-64.66	1619.4	15.97
498	SLU 77	57	-66	5520	-64.93	1634.22	23.62
498	SLU 78	57	-53	5533	-65.22	1637.52	19.26
498	SLU 79	56	-66	5495	-64.66	1627.02	23.55
498	SLU 80	57	-53	5509	-64.94	1630.32	19.19
498	SLU 81	58	-66	5606	-66.05	1659.57	23.65
498	SLU 82	59	-53	5619	-66.33	1662.87	19.29
498	SLU 83	58	-67	5650	-66.52	1672.69	23.97
498	SLU 84	59	-54	5664	-66.81	1675.99	19.61
498	SLE RA 1	39	-44	3693	-43.58	1093.86	15.86
498	SLE RA 2	40	-30	3707	-43.89	1097.53	11.02
498	SLE RA 3	40	-45	3738	-44.08	1107.41	16.12
498	SLE RA 4	40	-37	3747	-44.27	1109.61	13.21
498	SLE RA 5	40	-31	3737	-44.21	1106.27	11.23
498	SLE RA 6	40	-46	3768	-44.39	1116.15	16.33
498	SLE RA 7	40	-37	3777	-44.58	1118.35	13.43
498	SLE RA 8	40	-45	3752	-44.21	1111.35	16.28
498	SLE RA 9	40	-37	3760	-44.4	1113.55	13.38
498	SLE RA 10	43	-33	4017	-47.53	1188.97	12.16
498	SLE RA 11	42	-48	4048	-47.71	1198.85	17.26
498	SLE RA 12	43	-40	4057	-47.9	1201.05	14.36
498	SLE RA 13	43	-34	4047	-47.84	1197.71	12.37
498	SLE RA 14	42	-49	4078	-48.03	1207.59	17.48
498	SLE RA 15	43	-40	4087	-48.22	1209.79	14.57
498	SLE RA 16	42	-49	4062	-47.85	1202.79	17.43
498	SLE RA 17	42	-40	4070	-48.04	1204.99	14.52
498	SLE RA 18	43	-49	4135	-48.77	1224.49	17.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
498	SLE RA 19	43	-40	4144	-48.96	1226.69	14.59
498	SLE RA 20	43	-49	4165	-49.09	1233.24	17.71
498	SLE RA 21	43	-41	4174	-49.28	1235.44	14.8
498	SLE FR 1	39	-44	3693	-43.58	1093.86	15.86
498	SLE FR 2	40	-41	3695	-43.64	1094.59	14.89
498	SLE FR 3	39	-44	3704	-43.71	1097.36	15.94
498	SLE FR 4	41	-43	3828	-45.2	1133.78	15.38
498	SLE FR 5	40	-46	3837	-45.26	1136.55	16.43
498	SLE FR 6	41	-47	3914	-46.18	1159.18	16.68
498	SLE QP 1	39	-44	3693	-43.58	1093.86	15.86
498	SLE QP 2	40	-46	3825	-45.14	1133.05	16.35
498	SLD 1	371	60	3930	-47.95	1156.23	-16.48
498	SLD 2	406	63	3931	-48	1155.12	-16.95
498	SLD 3	353	-196	3589	-40.88	1068.38	72.63
498	SLD 4	389	-193	3590	-40.93	1067.27	72.17
498	SLD 5	160	374	4374	-56.7	1273.44	-128.58
498	SLD 6	183	376	4375	-56.73	1272.72	-128.88
498	SLD 7	101	-480	3237	-33.12	980.6	168.48
498	SLD 8	124	-478	3238	-33.16	979.88	168.18
498	SLD 9	-43	387	4413	-57.12	1286.22	-135.48
498	SLD 10	-20	389	4414	-57.15	1285.5	-135.78
498	SLD 11	-102	-468	3276	-33.54	993.38	161.58
498	SLD 12	-79	-466	3277	-33.57	992.66	161.28
498	SLD 13	-308	102	4060	-49.34	1198.83	-39.48
498	SLD 14	-272	105	4062	-49.4	1197.72	-39.94
498	SLD 15	-325	-154	3719	-42.27	1110.98	49.64
498	SLD 16	-290	-151	3721	-42.32	1109.87	49.18
498	SLV 1	558	137	4013	-50.03	1175.54	-41.27
498	SLV 2	614	142	4015	-50.12	1173.79	-42
498	SLV 3	528	-300	3431	-37.96	1025.6	110.72
498	SLV 4	584	-295	3433	-38.05	1023.84	109.99
498	SLV 5	231	672	4764	-64.9	1373.54	-231.32
498	SLV 6	269	675	4765	-64.95	1372.36	-231.82
498	SLV 7	131	-786	2824	-24.66	873.73	275.32
498	SLV 8	168	-783	2825	-24.72	872.55	274.83
498	SLV 9	-87	692	4825	-65.56	1393.55	-242.13
498	SLV 10	-50	695	4827	-65.61	1392.37	-242.62
498	SLV 11	-188	-766	2885	-25.32	893.74	264.51
498	SLV 12	-150	-763	2887	-25.38	892.56	264.02
498	SLV 13	-503	204	4218	-52.23	1242.26	-77.3
498	SLV 14	-447	209	4220	-52.31	1240.5	-78.03
498	SLV 15	-533	-233	3636	-40.16	1092.31	74.7
498	SLV 16	-477	-228	3638	-40.24	1090.56	73.97
498	SLV FO 1	610	155	4032	-50.52	1179.79	-47.03
498	SLV FO 2	672	161	4034	-50.61	1177.86	-47.83
498	SLV FO 3	577	-326	3392	-37.25	1014.85	120.16
498	SLV FO 4	638	-320	3394	-37.34	1012.92	119.36
498	SLV FO 5	250	743	4858	-66.87	1397.59	-256.09
498	SLV FO 6	292	747	4859	-66.93	1396.29	-256.63
498	SLV FO 7	140	-860	2724	-22.62	847.79	301.22
498	SLV FO 8	181	-856	2725	-22.68	846.5	300.68
498	SLV FO 9	-100	765	4925	-67.6	1419.6	-267.98
498	SLV FO 10	-59	769	4927	-67.66	1418.31	-268.52
498	SLV FO 11	-211	-838	2791	-23.34	869.81	289.33
498	SLV FO 12	-169	-834	2793	-23.4	868.51	288.79
498	SLV FO 13	-558	229	4257	-52.94	1253.18	-86.66
498	SLV FO 14	-496	234	4259	-53.03	1251.25	-87.46
498	SLV FO 15	-591	-252	3617	-39.66	1088.24	80.53
498	SLV FO 16	-529	-247	3619	-39.75	1086.31	79.73
498	CRTFP Ux+	0	0	0	0	0	0
498	CRTFP Ux-	0	0	0	0	0	0
498	CRTFP Uy+	0	0	0	0	0	0
498	CRTFP Uy-	0	0	0	0	0	0
501	SLU 1	-45	13	3429	3.4	-475.24	3.14
501	SLU 2	-46	32	3462	3.12	-475.97	7.88
501	SLU 3	-46	13	3501	3.55	-485.42	3.19
501	SLU 4	-47	25	3521	3.38	-485.86	6.04
501	SLU 5	-47	33	3507	3.23	-482.44	7.98
501	SLU 6	-46	14	3546	3.65	-491.89	3.29
501	SLU 7	-47	25	3566	3.49	-492.33	6.14
501	SLU 8	-46	14	3519	3.6	-488.18	3.34
501	SLU 9	-47	25	3539	3.44	-488.61	6.19
501	SLU 10	-48	35	3889	3.62	-533.88	8.6
501	SLU 11	-47	16	3929	4.05	-543.33	3.91
501	SLU 12	-49	28	3949	3.88	-543.77	6.75
501	SLU 13	-49	36	3935	3.73	-540.34	8.7
501	SLU 14	-48	17	3974	4.15	-549.8	4.01
501	SLU 15	-49	28	3994	3.99	-550.23	6.85
501	SLU 16	-48	17	3947	4.1	-546.09	4.06
501	SLU 17	-49	28	3967	3.94	-546.52	6.9
501	SLU 18	-47	17	4039	4.11	-557.97	4.17
501	SLU 19	-48	29	4059	3.95	-558.4	7.01
501	SLU 20	-48	18	4085	4.22	-564.44	4.27
501	SLU 21	-49	29	4105	4.05	-564.87	7.11
501	SLU 22	-50	14	3948	4.16	-546.59	3.27
501	SLU 23	-52	33	3981	3.89	-547.32	8.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
501	SLU 24	-51	14	4020	4.31	-556.77	3.32
501	SLU 25	-52	25	4040	4.15	-557.21	6.17
501	SLU 26	-52	33	4026	3.99	-553.78	8.11
501	SLU 27	-51	14	4066	4.41	-563.24	3.42
501	SLU 28	-52	26	4086	4.25	-563.67	6.27
501	SLU 29	-51	15	4038	4.37	-559.53	3.47
501	SLU 30	-52	26	4058	4.2	-559.96	6.31
501	SLU 31	-53	36	4409	4.39	-605.22	8.73
501	SLU 32	-52	17	4448	4.81	-614.68	4.04
501	SLU 33	-54	28	4468	4.65	-615.11	6.88
501	SLU 34	-54	36	4454	4.49	-611.69	8.83
501	SLU 35	-53	17	4493	4.91	-621.15	4.14
501	SLU 36	-54	29	4513	4.75	-621.58	6.98
501	SLU 37	-53	18	4466	4.87	-617.44	4.19
501	SLU 38	-54	29	4486	4.7	-617.87	7.03
501	SLU 39	-52	18	4559	4.88	-629.32	4.29
501	SLU 40	-53	29	4579	4.71	-629.75	7.14
501	SLU 41	-53	18	4604	4.98	-635.79	4.39
501	SLU 42	-54	30	4624	4.82	-636.22	7.24
501	SLU 43	-56	17	4279	4.16	-593.35	4.04
501	SLU 44	-58	36	4313	3.88	-594.08	8.78
501	SLU 45	-57	17	4352	4.3	-603.53	4.09
501	SLU 46	-58	28	4372	4.14	-603.97	6.94
501	SLU 47	-59	36	4358	3.99	-600.55	8.88
501	SLU 48	-58	18	4397	4.41	-610	4.19
501	SLU 49	-59	29	4417	4.24	-610.44	7.04
501	SLU 50	-57	18	4370	4.36	-606.29	4.24
501	SLU 51	-59	29	4390	4.2	-606.72	7.08
501	SLU 52	-60	39	4740	4.38	-651.99	9.5
501	SLU 53	-59	20	4779	4.8	-661.44	4.81
501	SLU 54	-60	31	4799	4.64	-661.88	7.65
501	SLU 55	-61	39	4785	4.49	-658.45	9.6
501	SLU 56	-60	20	4824	4.91	-667.91	4.91
501	SLU 57	-61	32	4844	4.74	-668.34	7.75
501	SLU 58	-59	21	4797	4.86	-664.2	4.96
501	SLU 59	-60	32	4817	4.7	-664.63	7.8
501	SLU 60	-59	21	4890	4.87	-676.08	5.06
501	SLU 61	-60	33	4910	4.71	-676.51	7.91
501	SLU 62	-59	22	4935	4.97	-682.55	5.16
501	SLU 63	-61	33	4955	4.81	-682.98	8.01
501	SLU 64	-61	18	4799	4.92	-664.7	4.17
501	SLU 65	-63	37	4832	4.65	-665.43	8.91
501	SLU 66	-62	18	4871	5.07	-674.88	4.22
501	SLU 67	-63	29	4891	4.9	-675.32	7.06
501	SLU 68	-64	37	4877	4.75	-671.89	9.01
501	SLU 69	-63	18	4916	5.17	-681.35	4.32
501	SLU 70	-64	30	4936	5.01	-681.78	7.16
501	SLU 71	-62	18	4889	5.13	-677.64	4.37
501	SLU 72	-64	30	4909	4.96	-678.07	7.21
501	SLU 73	-65	39	5259	5.15	-723.33	9.63
501	SLU 74	-64	21	5298	5.57	-732.79	4.94
501	SLU 75	-65	32	5318	5.4	-733.22	7.78
501	SLU 76	-66	40	5305	5.25	-729.8	9.72
501	SLU 77	-65	21	5344	5.67	-739.26	5.04
501	SLU 78	-66	33	5364	5.51	-739.69	7.88
501	SLU 79	-64	21	5316	5.63	-735.55	5.08
501	SLU 80	-65	33	5336	5.46	-735.98	7.93
501	SLU 81	-64	22	5409	5.63	-747.43	5.19
501	SLU 82	-65	33	5429	5.47	-747.86	8.04
501	SLU 83	-64	22	5454	5.74	-753.9	5.29
501	SLU 84	-66	34	5474	5.57	-754.33	8.14
501	SLE RA 1	-46	13	3577	3.62	-495.63	3.18
501	SLE RA 2	-47	26	3599	3.43	-496.11	6.34
501	SLE RA 3	-47	13	3625	3.72	-502.41	3.21
501	SLE RA 4	-47	21	3639	3.61	-502.7	5.11
501	SLE RA 5	-48	26	3629	3.5	-500.42	6.4
501	SLE RA 6	-47	14	3655	3.78	-506.73	3.28
501	SLE RA 7	-48	21	3669	3.67	-507.02	5.18
501	SLE RA 8	-47	14	3637	3.75	-504.25	3.31
501	SLE RA 9	-48	21	3651	3.64	-504.54	5.21
501	SLE RA 10	-49	28	3884	3.77	-534.72	6.82
501	SLE RA 11	-48	15	3910	4.05	-541.02	3.69
501	SLE RA 12	-49	23	3924	3.94	-541.31	5.59
501	SLE RA 13	-49	28	3914	3.84	-539.03	6.88
501	SLE RA 14	-48	16	3940	4.12	-545.33	3.76
501	SLE RA 15	-49	23	3954	4.01	-545.62	5.65
501	SLE RA 16	-48	16	3922	4.09	-542.86	3.79
501	SLE RA 17	-49	23	3936	3.98	-543.15	5.69
501	SLE RA 18	-48	16	3984	4.09	-550.78	3.86
501	SLE RA 19	-49	24	3997	3.98	-551.07	5.76
501	SLE RA 20	-48	16	4014	4.16	-555.09	3.93
501	SLE RA 21	-49	24	4028	4.05	-555.38	5.82
501	SLE FR 1	-46	13	3577	3.62	-495.63	3.18
501	SLE FR 2	-46	16	3581	3.58	-495.72	3.81
501	SLE FR 3	-46	13	3589	3.64	-497.35	3.2
501	SLE FR 4	-47	17	3704	3.72	-512.27	4.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
501	SLE FR 5	-47	14	3711	3.79	-513.9	3.41
501	SLE FR 6	-47	15	3781	3.85	-523.2	3.52
501	SLE QP 1	-46	13	3577	3.62	-495.63	3.18
501	SLE QP 2	-47	14	3699	3.76	-512.17	3.38
501	SLD 1	213	80	5066	3.3	-668.78	20.04
501	SLD 2	237	-23	5036	3.66	-670	-5.55
501	SLD 3	230	-159	4556	6.89	-649.55	-39.73
501	SLD 4	255	-262	4525	7.25	-650.77	-65.32
501	SLD 5	0	415	4889	-1.89	-588.12	103.43
501	SLD 6	16	348	4869	-1.66	-588.9	86.95
501	SLD 7	59	-383	3187	10.09	-524	-95.8
501	SLD 8	75	-450	3167	10.32	-524.79	-112.28
501	SLD 9	-168	478	4231	-2.8	-499.56	119.05
501	SLD 10	-152	412	4211	-2.57	-500.34	102.56
501	SLD 11	-109	-320	2529	9.18	-435.44	-80.18
501	SLD 12	-94	-386	2509	9.41	-436.23	-96.67
501	SLD 13	-348	291	2873	0.26	-373.58	72.09
501	SLD 14	-323	187	2842	0.63	-374.79	46.49
501	SLD 15	-330	51	2363	3.86	-354.34	12.32
501	SLD 16	-306	-52	2332	4.22	-355.56	-13.28
501	SLV 1	358	136	5871	2.77	-757.98	33.93
501	SLV 2	397	-27	5822	3.34	-759.89	-6.42
501	SLV 3	388	-273	4999	8.91	-725.08	-68.04
501	SLV 4	426	-435	4951	9.48	-726.99	-108.39
501	SLV 5	23	700	5682	-5.94	-635.45	174.73
501	SLV 6	49	591	5649	-5.56	-636.74	147.57
501	SLV 7	121	-661	2776	14.5	-525.79	-165.17
501	SLV 8	147	-770	2743	14.88	-527.08	-192.33
501	SLV 9	-240	799	4655	-7.36	-497.27	199.1
501	SLV 10	-214	689	4622	-6.98	-498.56	171.93
501	SLV 11	-142	-563	1749	13.08	-387.6	-140.8
501	SLV 12	-116	-672	1717	13.46	-388.89	-167.96
501	SLV 13	-519	464	2448	-1.96	-297.35	115.16
501	SLV 14	-481	301	2399	-1.39	-299.27	74.81
501	SLV 15	-490	55	1576	4.18	-264.45	13.19
501	SLV 16	-451	-107	1528	4.74	-266.37	-27.16
501	SLV FO 1	399	148	6088	2.68	-782.56	36.98
501	SLV FO 2	441	-31	6035	3.3	-784.67	-7.4
501	SLV FO 3	431	-301	5129	9.42	-746.37	-75.19
501	SLV FO 4	474	-480	5076	10.05	-748.48	-119.57
501	SLV FO 5	30	769	5880	-6.91	-647.78	191.86
501	SLV FO 6	58	649	5844	-6.49	-649.2	161.98
501	SLV FO 7	138	-729	2684	15.57	-527.15	-182.02
501	SLV FO 8	167	-849	2648	15.99	-528.57	-211.9
501	SLV FO 9	-260	877	4751	-8.47	-495.77	218.67
501	SLV FO 10	-231	757	4715	-8.05	-497.19	188.79
501	SLV FO 11	-152	-620	1554	14.01	-375.14	-155.22
501	SLV FO 12	-123	-741	1518	14.43	-376.56	-185.1
501	SLV FO 13	-567	509	2323	-2.53	-275.87	126.33
501	SLV FO 14	-524	330	2269	-1.9	-277.98	81.95
501	SLV FO 15	-534	59	1364	4.22	-239.68	14.17
501	SLV FO 16	-492	-119	1310	4.84	-241.79	-30.22
501	CRTFP Ux+	0	0	0	0	0	0
501	CRTFP Ux-	0	0	0	0	0	0
501	CRTFP Uy+	0	0	0	0	0	0
501	CRTFP Uy-	0	0	0	0	0	0
504	SLU 1	-69	-32	6152	1.32	-29.6	-1.15
504	SLU 2	-71	0	6198	0.79	-28.48	-1.32
504	SLU 3	-70	-32	6281	1.51	-30.48	-1.2
504	SLU 4	-72	-13	6309	1.19	-29.81	-1.31
504	SLU 5	-72	0	6280	0.93	-29.15	-1.36
504	SLU 6	-71	-33	6364	1.65	-31.14	-1.24
504	SLU 7	-72	-14	6391	1.33	-30.47	-1.34
504	SLU 8	-70	-33	6317	1.6	-30.93	-1.22
504	SLU 9	-72	-14	6345	1.28	-30.26	-1.33
504	SLU 10	-73	-2	7009	1.13	-33.88	-1.48
504	SLU 11	-72	-35	7092	1.85	-35.88	-1.35
504	SLU 12	-73	-15	7119	1.53	-35.21	-1.46
504	SLU 13	-74	-2	7091	1.27	-34.55	-1.51
504	SLU 14	-73	-35	7174	1.99	-36.55	-1.39
504	SLU 15	-74	-16	7202	1.67	-35.87	-1.49
504	SLU 16	-72	-35	7128	1.94	-36.33	-1.37
504	SLU 17	-74	-16	7155	1.62	-35.66	-1.48
504	SLU 18	-71	-35	7310	1.8	-37.32	-1.37
504	SLU 19	-73	-16	7338	1.49	-36.65	-1.47
504	SLU 20	-72	-35	7393	1.94	-37.98	-1.4
504	SLU 21	-74	-16	7420	1.63	-37.31	-1.51
504	SLU 22	-77	-35	7093	2.03	-34.52	-1.45
504	SLU 23	-79	-3	7139	1.5	-33.4	-1.62
504	SLU 24	-78	-36	7222	2.22	-35.4	-1.5
504	SLU 25	-80	-17	7249	1.91	-34.72	-1.6
504	SLU 26	-80	-4	7221	1.64	-34.06	-1.66
504	SLU 27	-79	-37	7304	2.36	-36.06	-1.54
504	SLU 28	-80	-18	7332	2.05	-35.39	-1.64
504	SLU 29	-78	-36	7258	2.31	-35.85	-1.52
504	SLU 30	-80	-17	7286	2	-35.17	-1.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
504	SLU 31	-81	-6	7949	1.84	-38.8	-1.77
504	SLU 32	-80	-38	8033	2.56	-40.8	-1.65
504	SLU 33	-81	-19	8060	2.25	-40.13	-1.76
504	SLU 34	-82	-6	8032	1.98	-39.46	-1.81
504	SLU 35	-81	-39	8115	2.7	-41.46	-1.69
504	SLU 36	-82	-20	8143	2.39	-40.79	-1.79
504	SLU 37	-80	-39	8069	2.65	-41.25	-1.67
504	SLU 38	-82	-19	8096	2.33	-40.58	-1.77
504	SLU 39	-79	-38	8251	2.51	-42.24	-1.67
504	SLU 40	-81	-19	8279	2.2	-41.56	-1.77
504	SLU 41	-80	-39	8334	2.66	-42.9	-1.7
504	SLU 42	-81	-20	8361	2.34	-42.23	-1.81
504	SLU 43	-86	-40	7675	1.47	-36.8	-1.4
504	SLU 44	-89	-8	7721	0.94	-35.68	-1.57
504	SLU 45	-88	-41	7804	1.66	-37.68	-1.45
504	SLU 46	-89	-21	7832	1.35	-37	-1.55
504	SLU 47	-90	-8	7803	1.08	-36.34	-1.6
504	SLU 48	-89	-41	7887	1.8	-38.34	-1.48
504	SLU 49	-90	-22	7914	1.49	-37.67	-1.58
504	SLU 50	-88	-41	7840	1.75	-38.12	-1.47
504	SLU 51	-90	-22	7868	1.43	-37.45	-1.57
504	SLU 52	-91	-10	8532	1.28	-41.08	-1.72
504	SLU 53	-90	-43	8615	2	-43.08	-1.6
504	SLU 54	-91	-24	8642	1.68	-42.4	-1.7
504	SLU 55	-92	-11	8614	1.42	-41.74	-1.75
504	SLU 56	-91	-43	8697	2.14	-43.74	-1.63
504	SLU 57	-92	-24	8725	1.82	-43.07	-1.73
504	SLU 58	-90	-43	8651	2.09	-43.53	-1.62
504	SLU 59	-91	-24	8679	1.77	-42.85	-1.72
504	SLU 60	-89	-43	8833	1.95	-44.51	-1.61
504	SLU 61	-90	-24	8861	1.64	-43.84	-1.72
504	SLU 62	-90	-43	8916	2.09	-45.18	-1.65
504	SLU 63	-91	-24	8943	1.78	-44.5	-1.75
504	SLU 64	-94	-44	8616	2.18	-41.71	-1.7
504	SLU 65	-97	-12	8662	1.66	-40.59	-1.87
504	SLU 66	-96	-44	8745	2.37	-42.59	-1.75
504	SLU 67	-97	-25	8772	2.06	-41.92	-1.85
504	SLU 68	-98	-12	8744	1.8	-41.26	-1.9
504	SLU 69	-97	-45	8827	2.51	-43.26	-1.78
504	SLU 70	-98	-26	8855	2.2	-42.58	-1.88
504	SLU 71	-96	-45	8781	2.46	-43.04	-1.77
504	SLU 72	-98	-25	8809	2.15	-42.37	-1.87
504	SLU 73	-99	-14	9473	1.99	-45.99	-2.02
504	SLU 74	-98	-46	9556	2.71	-47.99	-1.9
504	SLU 75	-99	-27	9583	2.4	-47.32	-2
504	SLU 76	-100	-14	9555	2.13	-46.66	-2.05
504	SLU 77	-99	-47	9638	2.85	-48.66	-1.93
504	SLU 78	-100	-28	9666	2.54	-47.98	-2.03
504	SLU 79	-98	-47	9592	2.8	-48.44	-1.92
504	SLU 80	-99	-28	9619	2.49	-47.77	-2.02
504	SLU 81	-97	-47	9774	2.67	-49.43	-1.91
504	SLU 82	-98	-27	9802	2.35	-48.76	-2.01
504	SLU 83	-98	-47	9857	2.81	-50.09	-1.95
504	SLU 84	-99	-28	9884	2.49	-49.42	-2.05
504	SLE RA 1	-71	-33	6421	1.52	-31.01	-1.24
504	SLE RA 2	-72	-11	6451	1.17	-30.26	-1.35
504	SLE RA 3	-72	-33	6507	1.65	-31.59	-1.27
504	SLE RA 4	-73	-20	6525	1.44	-31.14	-1.34
504	SLE RA 5	-73	-12	6506	1.26	-30.7	-1.38
504	SLE RA 6	-72	-34	6562	1.74	-32.03	-1.3
504	SLE RA 7	-73	-21	6580	1.53	-31.59	-1.36
504	SLE RA 8	-72	-33	6531	1.71	-31.89	-1.29
504	SLE RA 9	-73	-21	6549	1.5	-31.44	-1.35
504	SLE RA 10	-74	-13	6992	1.4	-33.86	-1.45
504	SLE RA 11	-73	-35	7047	1.88	-35.19	-1.37
504	SLE RA 12	-74	-22	7066	1.67	-34.74	-1.44
504	SLE RA 13	-74	-13	7047	1.49	-34.3	-1.48
504	SLE RA 14	-74	-35	7102	1.97	-35.64	-1.4
504	SLE RA 15	-75	-22	7121	1.76	-35.19	-1.46
504	SLE RA 16	-73	-35	7071	1.94	-35.49	-1.39
504	SLE RA 17	-74	-22	7090	1.72	-35.04	-1.45
504	SLE RA 18	-73	-35	7193	1.84	-36.15	-1.38
504	SLE RA 19	-74	-22	7211	1.63	-35.7	-1.45
504	SLE RA 20	-73	-35	7248	1.94	-36.59	-1.41
504	SLE RA 21	-74	-22	7266	1.73	-36.15	-1.47
504	SLE FR 1	-71	-33	6421	1.52	-31.01	-1.24
504	SLE FR 2	-71	-28	6427	1.45	-30.86	-1.26
504	SLE FR 3	-71	-33	6443	1.56	-31.18	-1.25
504	SLE FR 4	-72	-29	6659	1.55	-32.4	-1.31
504	SLE FR 5	-72	-33	6675	1.66	-32.73	-1.29
504	SLE FR 6	-72	-34	6807	1.68	-33.58	-1.31
504	SLE QP 1	-71	-33	6421	1.52	-31.01	-1.24
504	SLE QP 2	-71	-33	6652	1.62	-32.55	-1.28
504	SLD 1	497	112	7586	-1.17	-4.09	1.35
504	SLD 2	551	31	7537	-0.75	-5.4	3.96
504	SLD 3	522	-285	6912	5.92	-15.62	3.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
504	SLD 4	575	-365	6863	6.34	-16.93	5.78
504	SLD 5	53	626	7963	-10.05	-6.3	-3.69
504	SLD 6	87	574	7932	-9.77	-7.15	-2.02
504	SLD 7	134	-696	5717	13.59	-44.73	2.36
504	SLD 8	169	-748	5685	13.86	-45.58	4.04
504	SLD 9	-312	682	7620	-10.63	-19.52	-6.6
504	SLD 10	-277	630	7588	-10.35	-20.37	-4.93
504	SLD 11	-230	-640	5373	13.01	-57.96	-0.55
504	SLD 12	-195	-692	5342	13.29	-58.8	1.13
504	SLD 13	-718	299	6442	-3.1	-48.17	-8.34
504	SLD 14	-664	218	6393	-2.68	-49.48	-5.74
504	SLD 15	-694	-98	5768	3.99	-59.7	-6.52
504	SLD 16	-640	-178	5719	4.41	-61.01	-3.92
504	SLV 1	817	222	8160	-3.25	12.72	2.68
504	SLV 2	902	96	8082	-2.58	10.65	6.79
504	SLV 3	858	-454	7009	8.85	-6.94	5.78
504	SLV 4	943	-581	6932	9.52	-9.01	9.88
504	SLV 5	117	1093	8864	-18.32	11.24	-5.55
504	SLV 6	174	1008	8812	-17.87	9.85	-2.79
504	SLV 7	254	-1162	5029	22.01	-54.3	4.76
504	SLV 8	311	-1247	4977	22.46	-55.7	7.52
504	SLV 9	-454	1181	8328	-19.23	-9.41	-10.09
504	SLV 10	-397	1095	8276	-18.77	-10.8	-7.33
504	SLV 11	-317	-1074	4493	21.11	-74.95	0.22
504	SLV 12	-260	-1160	4441	21.56	-76.34	2.98
504	SLV 13	-1085	514	6373	-6.28	-56.09	-12.45
504	SLV 14	-1000	387	6296	-5.61	-58.16	-8.34
504	SLV 15	-1044	-162	5223	5.82	-75.75	-9.35
504	SLV 16	-959	-289	5145	6.49	-77.82	-5.25
504	SLV FO 1	905	248	8310	-3.74	17.25	3.08
504	SLV FO 2	999	108	8225	-3	14.97	7.6
504	SLV FO 3	951	-496	7045	9.57	-4.38	6.48
504	SLV FO 4	1044	-636	6959	10.31	-6.66	11
504	SLV FO 5	136	1206	9085	-20.31	15.62	-5.98
504	SLV FO 6	199	1112	9028	-19.82	14.08	-2.94
504	SLV FO 7	286	-1275	4867	24.05	-56.48	5.36
504	SLV FO 8	349	-1369	4809	24.55	-58.01	8.4
504	SLV FO 9	-492	1302	8496	-21.31	-7.09	-10.97
504	SLV FO 10	-429	1208	8438	-20.81	-8.62	-7.93
504	SLV FO 11	-341	-1179	4277	23.05	-79.19	0.37
504	SLV FO 12	-278	-1272	4220	23.55	-80.72	3.41
504	SLV FO 13	-1187	569	6346	-7.07	-58.45	-13.56
504	SLV FO 14	-1093	430	6260	-6.33	-60.72	-9.05
504	SLV FO 15	-1142	-175	5080	6.24	-80.07	-10.16
504	SLV FO 16	-1048	-315	4995	6.98	-82.35	-5.65
504	CRTFP Ux+	0	0	0	0	0	0
504	CRTFP Ux-	0	0	0	0	0	0
504	CRTFP Uy+	0	0	0	0	0	0
504	CRTFP Uy-	0	0	0	0	0	0
507	SLU 1	110	-86	6201	-0.06	23.36	-2.1
507	SLU 2	112	-55	6251	-0.6	21.27	-1.96
507	SLU 3	112	-88	6325	0.1	23.81	-2.19
507	SLU 4	113	-69	6354	-0.22	22.55	-2.1
507	SLU 5	113	-56	6329	-0.47	21.56	-2.03
507	SLU 6	113	-89	6403	0.23	24.1	-2.26
507	SLU 7	114	-70	6433	-0.09	22.84	-2.17
507	SLU 8	112	-88	6358	0.2	23.94	-2.25
507	SLU 9	113	-69	6388	-0.12	22.68	-2.16
507	SLU 10	120	-63	7034	-0.53	24.32	-2.2
507	SLU 11	120	-96	7108	0.17	26.86	-2.43
507	SLU 12	121	-77	7138	-0.15	25.6	-2.34
507	SLU 13	121	-64	7113	-0.4	24.61	-2.27
507	SLU 14	121	-97	7187	0.3	27.15	-2.5
507	SLU 15	122	-78	7216	-0.02	25.89	-2.41
507	SLU 16	120	-96	7142	0.27	26.99	-2.49
507	SLU 17	121	-77	7171	-0.05	25.73	-2.4
507	SLU 18	122	-98	7321	0.04	27.72	-2.45
507	SLU 19	123	-79	7350	-0.28	26.46	-2.36
507	SLU 20	122	-99	7399	0.17	28.01	-2.52
507	SLU 21	123	-80	7429	-0.15	26.75	-2.43
507	SLU 22	125	-96	7129	0.39	26.46	-2.34
507	SLU 23	126	-64	7178	-0.14	24.36	-2.19
507	SLU 24	126	-97	7252	0.56	26.9	-2.42
507	SLU 25	127	-78	7282	0.24	25.65	-2.34
507	SLU 26	127	-65	7257	-0.01	24.65	-2.27
507	SLU 27	127	-98	7331	0.69	27.19	-2.49
507	SLU 28	128	-79	7360	0.37	25.93	-2.41
507	SLU 29	126	-98	7286	0.66	27.03	-2.48
507	SLU 30	127	-79	7315	0.33	25.78	-2.4
507	SLU 31	134	-72	7962	-0.07	27.41	-2.44
507	SLU 32	134	-105	8036	0.63	29.95	-2.66
507	SLU 33	135	-86	8066	0.31	28.7	-2.58
507	SLU 34	135	-73	8040	0.06	27.7	-2.51
507	SLU 35	135	-106	8114	0.76	30.24	-2.74
507	SLU 36	136	-87	8144	0.44	28.98	-2.65
507	SLU 37	134	-106	8069	0.73	30.08	-2.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
507	SLU 38	135	-87	8099	0.41	28.83	-2.64
507	SLU 39	136	-107	8248	0.5	30.81	-2.68
507	SLU 40	137	-88	8278	0.18	29.56	-2.6
507	SLU 41	137	-108	8327	0.63	31.1	-2.76
507	SLU 42	138	-89	8356	0.31	29.84	-2.67
507	SLU 43	139	-109	7744	-0.24	29.31	-2.65
507	SLU 44	140	-77	7793	-0.77	27.21	-2.51
507	SLU 45	140	-111	7867	-0.07	29.76	-2.74
507	SLU 46	141	-92	7897	-0.4	28.5	-2.65
507	SLU 47	141	-78	7871	-0.64	27.5	-2.58
507	SLU 48	141	-112	7945	0.06	30.05	-2.81
507	SLU 49	142	-93	7975	-0.27	28.79	-2.72
507	SLU 50	140	-111	7900	0.02	29.89	-2.8
507	SLU 51	141	-92	7930	-0.3	28.63	-2.71
507	SLU 52	148	-85	8577	-0.7	30.26	-2.75
507	SLU 53	148	-119	8651	0	32.81	-2.98
507	SLU 54	149	-100	8680	-0.32	31.55	-2.89
507	SLU 55	149	-86	8655	-0.57	30.55	-2.82
507	SLU 56	149	-120	8729	0.13	33.1	-3.05
507	SLU 57	150	-101	8759	-0.19	31.84	-2.96
507	SLU 58	148	-119	8684	0.1	32.94	-3.04
507	SLU 59	149	-100	8714	-0.23	31.68	-2.95
507	SLU 60	150	-120	8863	-0.13	33.67	-3
507	SLU 61	151	-101	8893	-0.46	32.41	-2.91
507	SLU 62	151	-121	8941	0	33.95	-3.07
507	SLU 63	152	-102	8971	-0.33	32.7	-2.98
507	SLU 64	153	-118	8671	0.22	32.4	-2.89
507	SLU 65	154	-87	8721	-0.32	30.31	-2.74
507	SLU 66	155	-120	8795	0.38	32.85	-2.97
507	SLU 67	156	-101	8824	0.06	31.59	-2.89
507	SLU 68	155	-88	8799	-0.19	30.6	-2.82
507	SLU 69	155	-121	8873	0.51	33.14	-3.04
507	SLU 70	156	-102	8903	0.19	31.88	-2.96
507	SLU 71	154	-120	8828	0.48	32.98	-3.03
507	SLU 72	155	-101	8857	0.16	31.72	-2.95
507	SLU 73	162	-95	9504	-0.24	33.36	-2.99
507	SLU 74	163	-128	9578	0.45	35.9	-3.21
507	SLU 75	164	-109	9608	0.13	34.64	-3.13
507	SLU 76	163	-96	9583	-0.11	33.65	-3.06
507	SLU 77	163	-129	9657	0.58	36.19	-3.29
507	SLU 78	164	-110	9686	0.26	34.93	-3.2
507	SLU 79	162	-128	9612	0.55	36.03	-3.27
507	SLU 80	163	-109	9641	0.23	34.77	-3.19
507	SLU 81	164	-130	9791	0.32	36.76	-3.23
507	SLU 82	165	-111	9820	0	35.5	-3.15
507	SLU 83	165	-131	9869	0.45	37.05	-3.31
507	SLU 84	166	-112	9899	0.13	35.79	-3.22
507	SLE RA 1	114	-89	6466	0.07	24.25	-2.17
507	SLE RA 2	115	-68	6499	-0.29	22.85	-2.07
507	SLE RA 3	116	-90	6549	0.18	24.54	-2.23
507	SLE RA 4	116	-77	6568	-0.04	23.71	-2.17
507	SLE RA 5	116	-68	6551	-0.2	23.04	-2.12
507	SLE RA 6	116	-91	6601	0.26	24.74	-2.27
507	SLE RA 7	117	-78	6621	0.05	23.9	-2.22
507	SLE RA 8	115	-90	6571	0.24	24.63	-2.27
507	SLE RA 9	116	-78	6590	0.03	23.79	-2.21
507	SLE RA 10	121	-73	7022	-0.24	24.88	-2.24
507	SLE RA 11	121	-95	7071	0.22	26.58	-2.39
507	SLE RA 12	122	-83	7091	0.01	25.74	-2.33
507	SLE RA 13	121	-74	7074	-0.15	25.07	-2.28
507	SLE RA 14	121	-96	7123	0.31	26.77	-2.44
507	SLE RA 15	122	-83	7143	0.1	25.93	-2.38
507	SLE RA 16	121	-96	7093	0.29	26.66	-2.43
507	SLE RA 17	121	-83	7113	0.08	25.83	-2.37
507	SLE RA 18	122	-97	7213	0.14	27.15	-2.4
507	SLE RA 19	123	-84	7232	-0.08	26.31	-2.34
507	SLE RA 20	122	-97	7265	0.22	27.34	-2.45
507	SLE RA 21	123	-85	7285	0.01	26.5	-2.39
507	SLE FR 1	114	-89	6466	0.07	24.25	-2.17
507	SLE FR 2	115	-85	6473	0	23.97	-2.15
507	SLE FR 3	115	-89	6487	0.1	24.32	-2.19
507	SLE FR 4	117	-87	6697	0.02	24.84	-2.22
507	SLE FR 5	117	-92	6711	0.12	25.19	-2.26
507	SLE FR 6	118	-93	6839	0.1	25.7	-2.28
507	SLE QP 1	114	-89	6466	0.07	24.25	-2.17
507	SLE QP 2	117	-91	6690	0.09	25.12	-2.24
507	SLD 1	712	174	6636	-2.79	23.98	3.49
507	SLD 2	772	252	6691	-3.26	21.03	6.1
507	SLD 3	690	-229	5902	4.33	45.48	1.77
507	SLD 4	750	-150	5957	3.86	42.53	4.38
507	SLD 5	318	585	7778	-11.5	-7.33	1.64
507	SLD 6	357	635	7813	-11.8	-9.23	3.32
507	SLD 7	245	-756	5331	12.25	64.34	-4.09
507	SLD 8	284	-705	5366	11.94	62.44	-2.41
507	SLD 9	-50	523	8014	-11.77	-12.21	-2.06
507	SLD 10	-11	573	8049	-12.07	-14.11	-0.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
507	SLD 11	-124	-818	5567	11.98	59.46	-7.8
507	SLD 12	-85	-767	5602	11.68	57.56	-6.12
507	SLD 13	-517	-32	7424	-3.68	7.7	-8.86
507	SLD 14	-456	46	7478	-4.15	4.76	-6.25
507	SLD 15	-539	-435	6690	3.44	29.2	-10.58
507	SLD 16	-479	-356	6744	2.97	26.26	-7.97
507	SLV 1	1049	351	6659	-4.9	22	6.81
507	SLV 2	1144	475	6745	-5.65	17.35	10.92
507	SLV 3	1012	-335	5407	7.25	58.65	3.87
507	SLV 4	1107	-211	5492	6.51	54.01	7.99
507	SLV 5	436	1059	8565	-19.7	-30.55	4.16
507	SLV 6	500	1142	8622	-20.2	-33.67	6.93
507	SLV 7	311	-1228	4389	20.81	91.64	-5.62
507	SLV 8	375	-1145	4447	20.31	88.51	-2.85
507	SLV 9	-141	962	8933	-20.13	-38.28	-1.62
507	SLV 10	-77	1045	8991	-20.63	-41.4	1.15
507	SLV 11	-266	-1325	4758	20.38	83.91	-11.4
507	SLV 12	-202	-1241	4816	19.88	80.78	-8.63
507	SLV 13	-874	29	7888	-6.33	-3.77	-12.46
507	SLV 14	-779	152	7974	-7.07	-8.42	-8.35
507	SLV 15	-911	-657	6635	5.82	32.88	-15.4
507	SLV 16	-816	-534	6721	5.08	28.24	-11.28
507	SLV FO 1	1143	395	6656	-5.4	21.69	7.71
507	SLV FO 2	1247	531	6750	-6.22	16.58	12.24
507	SLV FO 3	1101	-359	5278	7.96	62.01	4.48
507	SLV FO 4	1206	-223	5372	7.15	56.9	9.01
507	SLV FO 5	467	1174	8752	-21.68	-36.11	4.8
507	SLV FO 6	538	1265	8816	-22.23	-39.55	7.84
507	SLV FO 7	330	-1342	4159	22.88	98.29	-5.96
507	SLV FO 8	401	-1250	4223	22.33	94.85	-2.91
507	SLV FO 9	-167	1067	9158	-22.15	-44.62	-1.56
507	SLV FO 10	-97	1159	9221	-22.7	-48.06	1.48
507	SLV FO 11	-304	-1448	4565	22.41	89.79	-12.32
507	SLV FO 12	-234	-1356	4628	21.86	86.35	-9.27
507	SLV FO 13	-973	41	8008	-6.97	-6.66	-13.49
507	SLV FO 14	-868	177	8102	-7.79	-11.77	-8.96
507	SLV FO 15	-1014	-714	6630	6.4	33.66	-16.71
507	SLV FO 16	-909	-578	6724	5.58	28.55	-12.19
507	CRTFP Ux+	0	0	0	0	0	0
507	CRTFP Ux-	0	0	0	0	0	0
507	CRTFP Uy+	0	0	0	0	0	0
507	CRTFP Uy-	0	0	0	0	0	0
510	SLU 1	50	22	3975	4.51	868.52	-7.89
510	SLU 2	51	44	4010	4.2	871.22	-15.7
510	SLU 3	50	23	4059	4.72	886.87	-8.25
510	SLU 4	52	37	4080	4.53	888.49	-12.94
510	SLU 5	52	46	4063	4.35	883.19	-16.2
510	SLU 6	51	25	4112	4.87	898.83	-8.76
510	SLU 7	52	38	4133	4.68	900.45	-13.45
510	SLU 8	50	25	4082	4.82	892.45	-8.9
510	SLU 9	51	38	4102	4.63	894.07	-13.58
510	SLU 10	54	47	4492	4.81	973.25	-16.57
510	SLU 11	53	26	4541	5.33	988.9	-9.12
510	SLU 12	54	39	4562	5.14	990.52	-13.81
510	SLU 13	54	48	4545	4.97	985.22	-17.07
510	SLU 14	54	27	4594	5.49	1000.86	-9.63
510	SLU 15	55	40	4615	5.3	1002.48	-14.31
510	SLU 16	53	27	4564	5.43	994.48	-9.77
510	SLU 17	54	41	4585	5.25	996.1	-14.45
510	SLU 18	53	26	4664	5.39	1014.28	-9.13
510	SLU 19	54	39	4685	5.2	1015.9	-13.82
510	SLU 20	54	27	4717	5.55	1026.24	-9.63
510	SLU 21	55	40	4738	5.36	1027.86	-14.32
510	SLU 22	55	22	4558	5.46	993.71	-7.71
510	SLU 23	57	44	4593	5.14	996.41	-15.52
510	SLU 24	56	23	4642	5.66	1012.06	-8.08
510	SLU 25	57	36	4663	5.47	1013.68	-12.76
510	SLU 26	57	45	4646	5.29	1008.38	-16.03
510	SLU 27	57	24	4695	5.81	1024.02	-8.58
510	SLU 28	58	37	4716	5.62	1025.64	-13.27
510	SLU 29	56	24	4664	5.76	1017.64	-8.72
510	SLU 30	57	38	4685	5.57	1019.26	-13.41
510	SLU 31	60	46	5075	5.76	1098.44	-16.39
510	SLU 32	59	25	5124	6.28	1114.09	-8.95
510	SLU 33	60	38	5145	6.09	1115.71	-13.63
510	SLU 34	60	48	5128	5.91	1110.41	-16.9
510	SLU 35	59	26	5177	6.43	1126.05	-9.45
510	SLU 36	60	40	5198	6.24	1127.67	-14.14
510	SLU 37	59	27	5147	6.38	1119.67	-9.59
510	SLU 38	60	40	5167	6.19	1121.29	-14.28
510	SLU 39	59	25	5247	6.34	1139.47	-8.95
510	SLU 40	60	38	5268	6.15	1141.09	-13.64
510	SLU 41	59	26	5300	6.49	1151.44	-9.46
510	SLU 42	60	40	5321	6.3	1153.06	-14.14
510	SLU 43	62	29	4968	5.54	1086.15	-10.31
510	SLU 44	64	51	5003	5.23	1088.85	-18.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
510	SLU 45	63	30	5052	5.75	1104.5	-10.68
510	SLU 46	64	43	5072	5.56	1106.12	-15.37
510	SLU 47	65	53	5056	5.38	1100.82	-18.63
510	SLU 48	64	31	5105	5.9	1116.46	-11.18
510	SLU 49	65	45	5125	5.71	1118.08	-15.87
510	SLU 50	63	32	5074	5.85	1110.08	-11.32
510	SLU 51	64	45	5095	5.66	1111.7	-16.01
510	SLU 52	67	54	5485	5.84	1190.88	-19
510	SLU 53	66	32	5534	6.36	1206.53	-11.55
510	SLU 54	67	46	5555	6.17	1208.15	-16.24
510	SLU 55	67	55	5538	6	1202.85	-19.5
510	SLU 56	66	34	5587	6.52	1218.49	-12.05
510	SLU 57	68	47	5608	6.33	1220.11	-16.74
510	SLU 58	66	34	5557	6.46	1212.11	-12.19
510	SLU 59	67	48	5577	6.28	1213.73	-16.88
510	SLU 60	66	32	5657	6.42	1231.91	-11.56
510	SLU 61	67	46	5678	6.23	1233.53	-16.24
510	SLU 62	67	34	5710	6.58	1243.88	-12.06
510	SLU 63	68	47	5731	6.39	1245.5	-16.75
510	SLU 64	68	28	5551	6.49	1211.35	-10.14
510	SLU 65	70	51	5586	6.17	1214.05	-17.95
510	SLU 66	69	29	5635	6.69	1229.69	-10.5
510	SLU 67	70	43	5655	6.5	1231.31	-15.19
510	SLU 68	70	52	5639	6.32	1226.01	-18.45
510	SLU 69	70	31	5688	6.84	1241.66	-11.01
510	SLU 70	71	44	5708	6.65	1243.28	-15.69
510	SLU 71	69	31	5657	6.79	1235.28	-11.15
510	SLU 72	70	45	5678	6.6	1236.9	-15.83
510	SLU 73	73	53	6068	6.79	1316.08	-18.82
510	SLU 74	72	32	6117	7.31	1331.72	-11.37
510	SLU 75	73	45	6138	7.12	1333.34	-16.06
510	SLU 76	73	55	6121	6.94	1328.04	-19.32
510	SLU 77	72	33	6170	7.46	1343.69	-11.88
510	SLU 78	73	47	6191	7.27	1345.31	-16.56
510	SLU 79	72	34	6139	7.41	1337.31	-12.02
510	SLU 80	73	47	6160	7.22	1338.93	-16.7
510	SLU 81	72	32	6240	7.37	1357.1	-11.38
510	SLU 82	73	45	6261	7.18	1358.72	-16.07
510	SLU 83	72	33	6293	7.52	1369.07	-11.88
510	SLU 84	73	47	6314	7.33	1370.69	-16.57
510	SLE RA 1	51	22	4142	4.78	904.29	-7.84
510	SLE RA 2	52	37	4165	4.57	906.09	-13.04
510	SLE RA 3	52	23	4198	4.92	916.52	-8.08
510	SLE RA 4	52	32	4211	4.79	917.6	-11.2
510	SLE RA 5	53	38	4200	4.67	914.07	-13.38
510	SLE RA 6	52	24	4233	5.02	924.5	-8.42
510	SLE RA 7	53	33	4247	4.89	925.58	-11.54
510	SLE RA 8	52	24	4213	4.98	920.24	-8.51
510	SLE RA 9	52	33	4227	4.86	921.32	-11.63
510	SLE RA 10	54	38	4487	4.98	974.11	-13.62
510	SLE RA 11	54	24	4519	5.33	984.54	-8.66
510	SLE RA 12	54	33	4533	5.2	985.62	-11.78
510	SLE RA 13	54	39	4522	5.08	982.09	-13.96
510	SLE RA 14	54	25	4554	5.43	992.52	-9
510	SLE RA 15	55	34	4568	5.31	993.6	-12.12
510	SLE RA 16	54	25	4534	5.4	988.26	-9.09
510	SLE RA 17	54	34	4548	5.27	989.34	-12.21
510	SLE RA 18	54	24	4601	5.37	1001.46	-8.66
510	SLE RA 19	54	33	4615	5.24	1002.54	-11.79
510	SLE RA 20	54	25	4637	5.47	1009.44	-9
510	SLE RA 21	55	34	4650	5.35	1010.52	-12.13
510	SLE FR 1	51	22	4142	4.78	904.29	-7.84
510	SLE FR 2	51	25	4147	4.74	904.65	-8.88
510	SLE FR 3	51	22	4156	4.82	907.48	-7.97
510	SLE FR 4	52	26	4284	4.92	933.8	-9.13
510	SLE FR 5	52	23	4294	5	936.63	-8.22
510	SLE FR 6	52	23	4372	5.08	952.88	-8.25
510	SLE QP 1	51	22	4142	4.78	904.29	-7.84
510	SLE QP 2	52	23	4280	4.96	933.44	-8.08
510	SLD 1	392	-10	3429	1.68	740.32	2.98
510	SLD 2	424	109	3471	1.28	743.1	-38.43
510	SLD 3	372	-282	2936	5.91	703.25	98.19
510	SLD 4	404	-163	2979	5.51	706.02	56.77
510	SLD 5	178	406	4764	-2.37	931.26	-142.03
510	SLD 6	199	482	4791	-2.63	933.05	-168.71
510	SLD 7	112	-502	3123	11.72	807.68	175.31
510	SLD 8	133	-426	3150	11.47	809.46	148.64
510	SLD 9	-29	471	5409	-1.55	1057.42	-164.81
510	SLD 10	-8	548	5437	-1.81	1059.21	-191.48
510	SLD 11	-95	-437	3768	12.54	933.84	152.54
510	SLD 12	-75	-360	3796	12.29	935.62	125.87
510	SLD 13	-300	208	5581	4.41	1160.86	-72.94
510	SLD 14	-268	327	5623	4.01	1163.64	-114.36
510	SLD 15	-320	-64	5088	8.64	1123.79	22.27
510	SLD 16	-288	55	5131	8.24	1126.56	-19.15
510	SLV 1	585	-9	2987	-0.47	634.77	2.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
510	SLV 2	635	178	3054	-1.1	639.14	-62.69
510	SLV 3	551	-474	2148	6.75	571.62	165.01
510	SLV 4	602	-286	2215	6.12	575.99	99.72
510	SLV 5	254	683	5153	-7.5	938.8	-239.03
510	SLV 6	288	809	5198	-7.92	941.74	-282.98
510	SLV 7	141	-866	2355	16.56	728.31	302.36
510	SLV 8	175	-740	2399	16.13	731.25	258.41
510	SLV 9	-71	785	6160	-6.22	1135.63	-274.58
510	SLV 10	-37	911	6205	-6.64	1138.58	-318.53
510	SLV 11	-184	-764	3362	17.84	925.14	266.82
510	SLV 12	-150	-638	3407	17.41	928.09	222.86
510	SLV 13	-498	332	6345	3.8	1290.89	-115.89
510	SLV 14	-447	519	6411	3.17	1295.26	-181.18
510	SLV 15	-532	-133	5505	11.01	1227.74	46.52
510	SLV 16	-481	54	5572	10.38	1232.11	-18.76
510	SLV FO 1	638	-12	2858	-1.01	604.9	3.66
510	SLV FO 2	694	194	2932	-1.7	609.71	-68.15
510	SLV FO 3	601	-523	1935	6.93	535.44	182.32
510	SLV FO 4	656	-317	2008	6.23	540.25	110.51
510	SLV FO 5	274	749	5240	-8.74	939.33	-262.13
510	SLV FO 6	311	888	5290	-9.21	942.57	-310.47
510	SLV FO 7	150	-955	2162	17.71	707.79	333.41
510	SLV FO 8	187	-816	2211	17.25	711.03	285.06
510	SLV FO 9	-83	861	6348	-7.33	1155.85	-301.23
510	SLV FO 10	-46	1000	6397	-7.8	1159.09	-349.57
510	SLV FO 11	-208	-842	3270	19.12	924.31	294.31
510	SLV FO 12	-170	-704	3319	18.66	927.55	245.96
510	SLV FO 13	-553	362	6551	3.68	1326.64	-126.67
510	SLV FO 14	-497	569	6625	2.99	1331.44	-198.49
510	SLV FO 15	-590	-149	5628	11.62	1257.17	51.99
510	SLV FO 16	-534	58	5701	10.93	1261.98	-19.83
510	CRTFP Ux+	0	0	0	0	0	0
510	CRTFP Ux-	0	0	0	0	0	0
510	CRTFP Uy+	0	0	0	0	0	0
510	CRTFP Uy-	0	0	0	0	0	0
512	SLU 1	57	-62	5181	231.04	1684.39	19.09
512	SLU 2	58	-32	5202	231.4	1690.77	8.69
512	SLU 3	57	-64	5285	235.89	1718.67	19.62
512	SLU 4	58	-46	5298	236.11	1722.49	13.37
512	SLU 5	58	-33	5269	234.57	1713.17	9.13
512	SLU 6	58	-65	5353	239.06	1741.07	20.06
512	SLU 7	58	-47	5365	239.28	1744.89	13.82
512	SLU 8	57	-65	5316	237.38	1729.19	19.98
512	SLU 9	58	-47	5329	237.59	1733.02	13.73
512	SLU 10	63	-39	5883	261.97	1914.5	10.92
512	SLU 11	63	-71	5967	266.46	1942.39	21.85
512	SLU 12	64	-53	5979	266.68	1946.22	15.61
512	SLU 13	64	-41	5951	265.14	1936.9	11.36
512	SLU 14	63	-72	6034	269.63	1964.79	22.29
512	SLU 15	64	-54	6047	269.84	1968.62	16.05
512	SLU 16	63	-72	5998	267.94	1952.92	22.21
512	SLU 17	64	-54	6010	268.16	1956.75	15.96
512	SLU 18	65	-72	6155	274.71	2004	22.28
512	SLU 19	65	-54	6167	274.93	2007.83	16.04
512	SLU 20	65	-74	6222	277.88	2026.4	22.72
512	SLU 21	66	-56	6235	278.09	2030.23	16.48
512	SLU 22	64	-70	5917	264.63	1925.01	21.6
512	SLU 23	65	-40	5938	264.99	1931.38	11.2
512	SLU 24	65	-72	6022	269.48	1959.28	22.13
512	SLU 25	65	-54	6034	269.7	1963.11	15.88
512	SLU 26	65	-42	6006	268.16	1953.78	11.64
512	SLU 27	65	-73	6089	272.65	1981.68	22.57
512	SLU 28	66	-55	6102	272.86	1985.51	16.32
512	SLU 29	65	-73	6053	270.96	1969.81	22.49
512	SLU 30	65	-55	6065	271.18	1973.63	16.24
512	SLU 31	71	-47	6620	295.56	2155.11	13.43
512	SLU 32	71	-79	6703	300.05	2183.01	24.36
512	SLU 33	71	-61	6716	300.27	2186.83	18.12
512	SLU 34	71	-49	6687	298.73	2177.51	13.87
512	SLU 35	71	-80	6771	303.22	2205.41	24.8
512	SLU 36	71	-62	6783	303.43	2209.23	18.56
512	SLU 37	71	-80	6734	301.53	2193.53	24.72
512	SLU 38	71	-62	6747	301.75	2197.36	18.47
512	SLU 39	72	-80	6891	308.3	2244.61	24.79
512	SLU 40	73	-62	6904	308.52	2248.44	18.55
512	SLU 41	73	-82	6959	311.47	2267.01	25.23
512	SLU 42	73	-64	6971	311.68	2270.84	18.99
512	SLU 43	71	-78	6483	288.84	2107.22	23.96
512	SLU 44	72	-48	6504	289.2	2113.59	13.55
512	SLU 45	72	-79	6587	293.69	2141.49	24.49
512	SLU 46	72	-62	6600	293.91	2145.32	18.24
512	SLU 47	72	-49	6571	292.37	2135.99	14
512	SLU 48	72	-81	6655	296.86	2163.89	24.93
512	SLU 49	73	-63	6667	297.07	2167.72	18.68
512	SLU 50	72	-80	6618	295.17	2152.02	24.85
512	SLU 51	72	-63	6630	295.39	2155.84	18.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
512	SLU 52	78	-55	7185	319.77	2337.32	15.79
512	SLU 53	78	-87	7269	324.26	2365.22	26.72
512	SLU 54	78	-69	7281	324.48	2369.04	20.47
512	SLU 55	78	-56	7253	322.93	2359.72	16.23
512	SLU 56	78	-88	7336	327.43	2387.62	27.16
512	SLU 57	78	-70	7349	327.64	2391.44	20.92
512	SLU 58	78	-88	7300	325.74	2375.74	27.08
512	SLU 59	78	-70	7312	325.96	2379.57	20.83
512	SLU 60	79	-88	7457	332.51	2426.82	27.15
512	SLU 61	80	-70	7469	332.73	2430.65	20.91
512	SLU 62	80	-89	7524	335.68	2449.22	27.59
512	SLU 63	80	-71	7537	335.89	2453.05	21.35
512	SLU 64	79	-86	7219	322.43	2347.83	26.47
512	SLU 65	79	-56	7240	322.79	2354.21	16.06
512	SLU 66	79	-88	7324	327.28	2382.1	27
512	SLU 67	80	-70	7336	327.5	2385.93	20.75
512	SLU 68	80	-57	7308	325.96	2376.61	16.5
512	SLU 69	80	-89	7391	330.45	2404.5	27.44
512	SLU 70	80	-71	7403	330.66	2408.33	21.19
512	SLU 71	79	-89	7354	328.76	2392.63	27.36
512	SLU 72	80	-71	7367	328.98	2396.45	21.11
512	SLU 73	85	-63	7922	353.36	2577.93	18.3
512	SLU 74	85	-95	8005	357.85	2605.83	29.23
512	SLU 75	86	-77	8018	358.06	2609.65	22.98
512	SLU 76	86	-65	7989	356.52	2600.33	18.74
512	SLU 77	85	-96	8073	361.01	2628.23	29.67
512	SLU 78	86	-78	8085	361.23	2632.05	23.42
512	SLU 79	85	-96	8036	359.33	2616.35	29.59
512	SLU 80	86	-78	8048	359.55	2620.18	23.34
512	SLU 81	87	-96	8193	366.1	2667.44	29.66
512	SLU 82	87	-78	8205	366.32	2671.26	23.42
512	SLU 83	87	-98	8261	369.27	2689.84	30.1
512	SLU 84	88	-80	8273	369.48	2693.66	23.86
512	SLE RA 1	59	-64	5391	240.64	1753.14	19.81
512	SLE RA 2	59	-44	5405	240.88	1757.39	12.87
512	SLE RA 3	59	-65	5461	243.88	1775.99	20.16
512	SLE RA 4	60	-53	5469	244.02	1778.54	16
512	SLE RA 5	60	-45	5450	242.99	1772.32	13.17
512	SLE RA 6	60	-66	5506	245.99	1790.92	20.46
512	SLE RA 7	60	-54	5514	246.13	1793.47	16.29
512	SLE RA 8	59	-66	5482	244.86	1783.01	20.4
512	SLE RA 9	60	-54	5490	245.01	1785.56	16.24
512	SLE RA 10	63	-49	5860	261.26	1906.54	14.36
512	SLE RA 11	63	-70	5915	264.25	1925.14	21.65
512	SLE RA 12	63	-58	5924	264.4	1927.69	17.49
512	SLE RA 13	63	-50	5905	263.37	1921.48	14.65
512	SLE RA 14	63	-71	5960	266.36	1940.07	21.94
512	SLE RA 15	64	-59	5969	266.51	1942.62	17.78
512	SLE RA 16	63	-71	5936	265.24	1932.16	21.89
512	SLE RA 17	63	-59	5944	265.38	1934.71	17.72
512	SLE RA 18	64	-71	6041	269.75	1966.21	21.94
512	SLE RA 19	65	-59	6049	269.9	1968.76	17.77
512	SLE RA 20	64	-72	6086	271.86	1981.15	22.23
512	SLE RA 21	65	-60	6094	272.01	1983.7	18.07
512	SLE FR 1	59	-64	5391	240.64	1753.14	19.81
512	SLE FR 2	59	-60	5394	240.69	1753.99	18.42
512	SLE FR 3	59	-65	5409	241.49	1759.11	19.93
512	SLE FR 4	61	-62	5589	249.42	1817.91	19.06
512	SLE FR 5	61	-67	5604	250.22	1823.04	20.57
512	SLE FR 6	62	-68	5716	255.2	1859.68	20.87
512	SLE QP 1	59	-64	5391	240.64	1753.14	19.81
512	SLE QP 2	60	-66	5586	249.38	1817.06	20.45
512	SLD 1	510	85	5656	248.4	1832.74	-54.43
512	SLD 2	549	90	5655	248.27	1830.76	-57.2
512	SLD 3	494	-281	5319	241.38	1726.27	73.41
512	SLD 4	533	-276	5319	241.25	1724.3	70.64
512	SLD 5	213	533	6117	259.75	1983.57	-195.44
512	SLD 6	238	537	6117	259.66	1982.3	-197.22
512	SLD 7	160	-687	4996	236.36	1628.7	230.71
512	SLD 8	185	-684	4996	236.27	1627.43	228.93
512	SLD 9	-64	551	6176	262.48	2006.7	-188.03
512	SLD 10	-39	554	6176	262.39	2005.42	-189.81
512	SLD 11	-117	-669	5056	239.09	1651.83	238.12
512	SLD 12	-92	-666	5055	239	1650.55	236.33
512	SLD 13	-412	143	5854	257.5	1909.82	-29.75
512	SLD 14	-373	148	5853	257.37	1907.85	-32.52
512	SLD 15	-428	-223	5517	250.48	1803.36	98.1
512	SLD 16	-389	-218	5517	250.35	1801.39	95.33
512	SLV 1	765	196	5718	248.34	1849.18	-106.18
512	SLV 2	826	204	5718	248.13	1846.06	-110.54
512	SLV 3	738	-428	5144	236.36	1667.45	111.88
512	SLV 4	799	-421	5144	236.15	1664.34	107.51
512	SLV 5	301	958	6496	267.28	2102.89	-347.44
512	SLV 6	342	963	6496	267.14	2100.8	-350.38
512	SLV 7	212	-1123	4583	227.34	1497.14	379.41
512	SLV 8	252	-1118	4583	227.2	1495.05	376.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
512	SLV 9	-132	985	6590	271.56	2139.08	-335.57
512	SLV 10	-91	990	6589	271.41	2136.98	-338.51
512	SLV 11	-221	-1096	4676	231.62	1533.32	391.28
512	SLV 12	-180	-1091	4676	231.47	1531.23	388.34
512	SLV 13	-678	288	6028	262.6	1969.79	-66.61
512	SLV 14	-617	295	6028	262.39	1966.67	-70.98
512	SLV 15	-705	-337	5455	250.62	1788.06	151.44
512	SLV 16	-644	-329	5454	250.41	1784.95	147.08
512	SLV FO 1	835	222	5732	248.24	1852.39	-118.84
512	SLV FO 2	902	231	5731	248.01	1848.96	-123.64
512	SLV FO 3	806	-464	5100	235.06	1652.49	121.02
512	SLV FO 4	872	-456	5100	234.83	1649.07	116.22
512	SLV FO 5	325	1060	6588	269.07	2131.48	-384.23
512	SLV FO 6	370	1066	6587	268.91	2129.17	-387.46
512	SLV FO 7	227	-1229	4483	225.13	1465.15	415.3
512	SLV FO 8	272	-1223	4483	224.98	1462.84	412.07
512	SLV FO 9	-151	1091	6690	273.77	2171.28	-371.17
512	SLV FO 10	-106	1096	6690	273.62	2168.97	-374.4
512	SLV FO 11	-249	-1199	4585	229.84	1504.95	428.36
512	SLV FO 12	-204	-1193	4585	229.68	1502.65	425.13
512	SLV FO 13	-752	323	6073	263.93	1985.06	-75.32
512	SLV FO 14	-685	332	6072	263.69	1981.63	-80.12
512	SLV FO 15	-781	-364	5441	250.75	1785.16	164.54
512	SLV FO 16	-714	-355	5441	250.51	1781.73	159.74
512	CRTFP Ux+	0	0	0	0	0	0
512	CRTFP Ux-	0	0	0	0	0	0
512	CRTFP Uy+	0	0	0	0	0	0
512	CRTFP Uy-	0	0	0	0	0	0
528	SLU 1	-42	10	3553	4.63	-558.42	2.57
528	SLU 2	-43	29	3578	4.38	-558.13	7.31
528	SLU 3	-43	11	3630	4.8	-570.91	2.6
528	SLU 4	-44	22	3645	4.65	-570.73	5.45
528	SLU 5	-44	30	3627	4.5	-566.1	7.4
528	SLU 6	-43	11	3678	4.92	-578.88	2.69
528	SLU 7	-44	22	3694	4.77	-578.71	5.54
528	SLU 8	-43	11	3650	4.86	-574.36	2.75
528	SLU 9	-44	23	3665	4.71	-574.19	5.59
528	SLU 10	-45	32	4023	5.05	-627.63	7.96
528	SLU 11	-44	13	4075	5.46	-640.41	3.25
528	SLU 12	-45	25	4091	5.32	-640.24	6.09
528	SLU 13	-45	32	4072	5.16	-635.6	8.04
528	SLU 14	-44	14	4124	5.58	-648.38	3.34
528	SLU 15	-45	25	4139	5.44	-648.21	6.18
528	SLU 16	-44	14	4095	5.53	-643.86	3.39
528	SLU 17	-45	25	4110	5.38	-643.69	6.24
528	SLU 18	-44	14	4189	5.58	-657.7	3.49
528	SLU 19	-45	26	4204	5.43	-657.53	6.34
528	SLU 20	-44	15	4238	5.69	-665.67	3.58
528	SLU 21	-45	26	4253	5.55	-665.5	6.42
528	SLU 22	-46	11	4098	5.58	-644.69	2.6
528	SLU 23	-48	30	4124	5.34	-644.41	7.34
528	SLU 24	-47	11	4176	5.76	-657.18	2.64
528	SLU 25	-48	22	4191	5.61	-657.01	5.48
528	SLU 26	-48	30	4172	5.46	-652.38	7.43
528	SLU 27	-47	11	4224	5.87	-665.15	2.73
528	SLU 28	-48	23	4240	5.73	-664.98	5.57
528	SLU 29	-47	11	4196	5.82	-660.64	2.78
528	SLU 30	-48	23	4211	5.67	-660.46	5.62
528	SLU 31	-49	32	4569	6	-713.91	7.99
528	SLU 32	-48	13	4621	6.42	-726.68	3.28
528	SLU 33	-49	25	4636	6.27	-726.51	6.13
528	SLU 34	-49	33	4618	6.12	-721.88	8.08
528	SLU 35	-48	14	4670	6.54	-734.66	3.37
528	SLU 36	-49	25	4685	6.39	-734.48	6.22
528	SLU 37	-48	14	4641	6.48	-730.14	3.43
528	SLU 38	-49	25	4656	6.34	-729.97	6.27
528	SLU 39	-48	14	4735	6.53	-743.98	3.53
528	SLU 40	-49	26	4750	6.39	-743.81	6.37
528	SLU 41	-48	15	4783	6.65	-751.95	3.61
528	SLU 42	-49	26	4799	6.51	-751.78	6.46
528	SLU 43	-53	13	4431	5.68	-696.36	3.33
528	SLU 44	-54	32	4457	5.44	-696.07	8.07
528	SLU 45	-54	14	4508	5.86	-708.85	3.36
528	SLU 46	-55	25	4524	5.71	-708.68	6.21
528	SLU 47	-55	33	4505	5.56	-704.04	8.16
528	SLU 48	-54	14	4557	5.98	-716.82	3.45
528	SLU 49	-55	25	4572	5.83	-716.65	6.29
528	SLU 50	-54	14	4528	5.92	-712.3	3.5
528	SLU 51	-55	26	4544	5.77	-712.13	6.35
528	SLU 52	-56	35	4902	6.11	-765.57	8.71
528	SLU 53	-55	16	4954	6.52	-778.35	4.01
528	SLU 54	-56	28	4969	6.38	-778.18	6.85
528	SLU 55	-56	35	4951	6.22	-773.55	8.8
528	SLU 56	-55	17	5003	6.64	-786.32	4.1
528	SLU 57	-56	28	5018	6.49	-786.15	6.94
528	SLU 58	-55	17	4974	6.59	-781.8	4.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
528	SLU 59	-56	28	4989	6.44	-781.63	6.99
528	SLU 60	-55	17	5068	6.64	-795.65	4.25
528	SLU 61	-56	29	5083	6.49	-795.47	7.09
528	SLU 62	-55	18	5116	6.75	-803.62	4.34
528	SLU 63	-56	29	5131	6.61	-803.45	7.18
528	SLU 64	-57	14	4977	6.64	-782.64	3.36
528	SLU 65	-59	33	5002	6.4	-782.35	8.1
528	SLU 66	-58	14	5054	6.81	-795.13	3.4
528	SLU 67	-59	25	5070	6.67	-794.95	6.24
528	SLU 68	-59	33	5051	6.51	-790.32	8.19
528	SLU 69	-58	14	5103	6.93	-803.1	3.48
528	SLU 70	-59	26	5118	6.79	-802.93	6.33
528	SLU 71	-58	14	5074	6.88	-798.58	3.54
528	SLU 72	-59	26	5089	6.73	-798.41	6.38
528	SLU 73	-60	35	5448	7.06	-851.85	8.75
528	SLU 74	-59	16	5500	7.48	-864.63	4.04
528	SLU 75	-60	28	5515	7.33	-864.46	6.89
528	SLU 76	-60	36	5496	7.18	-859.82	8.84
528	SLU 77	-60	17	5548	7.6	-872.6	4.13
528	SLU 78	-61	28	5564	7.45	-872.43	6.97
528	SLU 79	-59	17	5520	7.54	-868.08	4.18
528	SLU 80	-60	28	5535	7.4	-867.91	7.03
528	SLU 81	-59	17	5613	7.59	-881.92	4.28
528	SLU 82	-60	29	5629	7.45	-881.75	7.13
528	SLU 83	-59	18	5662	7.71	-889.9	4.37
528	SLU 84	-60	29	5677	7.56	-889.72	7.22
528	SLE RA 1	-43	10	3708	4.9	-583.07	2.58
528	SLE RA 2	-44	23	3725	4.74	-582.87	5.74
528	SLE RA 3	-43	11	3760	5.01	-591.39	2.6
528	SLE RA 4	-44	18	3770	4.92	-591.28	4.5
528	SLE RA 5	-44	23	3758	4.81	-588.19	5.8
528	SLE RA 6	-44	11	3792	5.09	-596.71	2.66
528	SLE RA 7	-44	18	3803	4.99	-596.59	4.56
528	SLE RA 8	-44	11	3773	5.06	-593.69	2.7
528	SLE RA 9	-44	19	3783	4.96	-593.58	4.59
528	SLE RA 10	-45	25	4022	5.18	-629.21	6.17
528	SLE RA 11	-44	12	4057	5.46	-637.73	3.03
528	SLE RA 12	-45	20	4067	5.36	-637.61	4.93
528	SLE RA 13	-45	25	4055	5.26	-634.52	6.23
528	SLE RA 14	-45	13	4089	5.54	-643.04	3.09
528	SLE RA 15	-45	20	4100	5.44	-642.93	4.99
528	SLE RA 16	-44	13	4070	5.5	-640.03	3.13
528	SLE RA 17	-45	20	4080	5.4	-639.91	5.02
528	SLE RA 18	-44	13	4133	5.53	-649.26	3.19
528	SLE RA 19	-45	21	4143	5.44	-649.14	5.09
528	SLE RA 20	-44	13	4165	5.61	-654.57	3.25
528	SLE RA 21	-45	21	4175	5.51	-654.46	5.15
528	SLE FR 1	-43	10	3708	4.9	-583.07	2.58
528	SLE FR 2	-43	13	3712	4.87	-583.03	3.21
528	SLE FR 3	-43	11	3721	4.93	-585.19	2.6
528	SLE FR 4	-44	14	3839	5.06	-602.88	3.4
528	SLE FR 5	-43	11	3849	5.12	-605.05	2.79
528	SLE FR 6	-44	12	3921	5.22	-616.16	2.89
528	SLE QP 1	-43	10	3708	4.9	-583.07	2.58
528	SLE QP 2	-43	11	3836	5.09	-602.92	2.76
528	SLD 1	213	77	5197	5.2	-782.11	19.25
528	SLD 2	232	-26	5177	5.53	-784.99	-6.35
528	SLD 3	228	-162	4791	8.46	-773.5	-40.38
528	SLD 4	247	-265	4771	8.78	-776.38	-65.97
528	SLD 5	7	411	4864	0.12	-669.23	102.54
528	SLD 6	20	344	4851	0.33	-671.09	86.06
528	SLD 7	58	-385	3510	10.98	-640.55	-96.21
528	SLD 8	70	-451	3496	11.2	-642.41	-112.69
528	SLD 9	-157	474	4175	-1.02	-563.44	118.21
528	SLD 10	-144	408	4162	-0.81	-565.3	101.73
528	SLD 11	-106	-322	2821	9.84	-534.76	-80.53
528	SLD 12	-94	-388	2808	10.05	-536.61	-97.01
528	SLD 13	-334	287	2901	1.39	-429.46	71.5
528	SLD 14	-315	184	2881	1.72	-432.34	45.9
528	SLD 15	-319	49	2495	4.65	-420.86	11.87
528	SLD 16	-300	-54	2474	4.98	-423.74	-13.72
528	SLV 1	357	132	5990	5.02	-883.07	33.02
528	SLV 2	387	-31	5959	5.53	-887.61	-7.32
528	SLV 3	383	-276	5297	10.58	-868.45	-68.7
528	SLV 4	413	-438	5265	11.09	-872.99	-109.04
528	SLV 5	32	696	5541	-3.46	-708.28	173.65
528	SLV 6	53	586	5519	-3.11	-711.34	146.48
528	SLV 7	118	-662	3228	15.07	-659.57	-165.42
528	SLV 8	138	-772	3206	15.42	-662.63	-192.58
528	SLV 9	-225	794	4466	-5.24	-543.22	198.11
528	SLV 10	-204	685	4444	-4.89	-546.28	170.95
528	SLV 11	-139	-564	2152	13.29	-494.5	-140.96
528	SLV 12	-119	-673	2131	13.64	-497.56	-168.12
528	SLV 13	-500	460	2407	-0.92	-332.85	114.57
528	SLV 14	-469	298	2375	-0.4	-337.39	74.22
528	SLV 15	-474	53	1713	4.64	-318.24	12.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
528	SLV 16	-444	-109	1681	5.16	-322.78	-27.5
528	SLV FO 1	397	144	6206	5.01	-911.08	36.05
528	SLV FO 2	430	-35	6171	5.58	-916.08	-8.33
528	SLV FO 3	425	-304	5443	11.12	-895.01	-75.84
528	SLV FO 4	459	-483	5407	11.69	-900	-120.22
528	SLV FO 5	40	764	5711	-4.31	-718.82	190.73
528	SLV FO 6	62	644	5687	-3.93	-722.18	160.86
528	SLV FO 7	134	-730	3167	16.07	-665.23	-182.24
528	SLV FO 8	156	-850	3143	16.45	-668.6	-212.12
528	SLV FO 9	-243	872	4528	-6.27	-537.25	217.64
528	SLV FO 10	-220	752	4505	-5.89	-540.61	187.77
528	SLV FO 11	-149	-621	1984	14.11	-483.66	-155.33
528	SLV FO 12	-126	-741	1960	14.49	-487.03	-185.21
528	SLV FO 13	-545	505	2264	-1.52	-305.84	125.75
528	SLV FO 14	-512	327	2229	-0.95	-310.84	81.37
528	SLV FO 15	-517	57	1501	4.6	-289.77	13.86
528	SLV FO 16	-484	-121	1466	5.17	-294.76	-30.52
528	CRTFP Ux+	0	0	0	0	0	0
528	CRTFP Ux-	0	0	0	0	0	0
528	CRTFP Uy+	0	0	0	0	0	0
528	CRTFP Uy-	0	0	0	0	0	0
531	SLU 1	-64	-27	6206	2.22	-26.7	-0.71
531	SLU 2	-65	5	6237	1.72	-25.53	-0.86
531	SLU 3	-65	-27	6342	2.43	-27.54	-0.75
531	SLU 4	-66	-8	6360	2.13	-26.84	-0.84
531	SLU 5	-66	5	6324	1.87	-26.17	-0.89
531	SLU 6	-66	-28	6429	2.58	-28.18	-0.78
531	SLU 7	-67	-9	6447	2.28	-27.48	-0.86
531	SLU 8	-65	-28	6381	2.53	-27.99	-0.77
531	SLU 9	-66	-8	6399	2.22	-27.28	-0.85
531	SLU 10	-66	4	7060	2.2	-30.59	-0.96
531	SLU 11	-66	-29	7165	2.91	-32.61	-0.85
531	SLU 12	-67	-10	7183	2.61	-31.9	-0.94
531	SLU 13	-67	3	7147	2.35	-31.24	-0.99
531	SLU 14	-67	-29	7252	3.06	-33.25	-0.88
531	SLU 15	-68	-10	7270	2.76	-32.55	-0.97
531	SLU 16	-66	-29	7204	3.01	-33.05	-0.87
531	SLU 17	-67	-10	7222	2.7	-32.35	-0.96
531	SLU 18	-65	-29	7383	2.91	-33.93	-0.86
531	SLU 19	-66	-10	7401	2.61	-33.23	-0.95
531	SLU 20	-66	-29	7470	3.06	-34.58	-0.88
531	SLU 21	-67	-10	7488	2.76	-33.87	-0.97
531	SLU 22	-70	-30	7171	3.08	-31.24	-0.94
531	SLU 23	-72	2	7201	2.58	-30.07	-1.08
531	SLU 24	-72	-31	7307	3.3	-32.08	-0.97
531	SLU 25	-73	-11	7325	2.99	-31.38	-1.06
531	SLU 26	-73	2	7289	2.73	-30.71	-1.11
531	SLU 27	-72	-31	7394	3.45	-32.72	-1
531	SLU 28	-73	-12	7412	3.15	-32.02	-1.09
531	SLU 29	-72	-31	7345	3.39	-32.52	-0.99
531	SLU 30	-73	-12	7364	3.09	-31.82	-1.08
531	SLU 31	-73	1	8025	3.06	-35.13	-1.19
531	SLU 32	-73	-32	8130	3.78	-37.14	-1.08
531	SLU 33	-74	-13	8148	3.47	-36.44	-1.16
531	SLU 34	-74	0	8112	3.21	-35.77	-1.21
531	SLU 35	-74	-33	8217	3.93	-37.78	-1.1
531	SLU 36	-74	-13	8235	3.63	-37.08	-1.19
531	SLU 37	-73	-32	8169	3.87	-37.58	-1.09
531	SLU 38	-74	-13	8187	3.57	-36.88	-1.18
531	SLU 39	-72	-32	8348	3.77	-38.47	-1.08
531	SLU 40	-73	-13	8366	3.47	-37.77	-1.17
531	SLU 41	-73	-33	8435	3.92	-39.11	-1.11
531	SLU 42	-74	-13	8453	3.62	-38.41	-1.2
531	SLU 43	-81	-34	7738	2.59	-33.16	-0.85
531	SLU 44	-82	-2	7768	2.09	-31.99	-0.99
531	SLU 45	-82	-34	7873	2.8	-34	-0.89
531	SLU 46	-83	-15	7891	2.5	-33.3	-0.97
531	SLU 47	-83	-2	7855	2.24	-32.63	-1.02
531	SLU 48	-83	-35	7960	2.95	-34.64	-0.91
531	SLU 49	-84	-16	7978	2.65	-33.94	-1
531	SLU 50	-82	-35	7912	2.9	-34.44	-0.9
531	SLU 51	-83	-15	7930	2.59	-33.74	-0.99
531	SLU 52	-83	-3	8591	2.57	-37.05	-1.1
531	SLU 53	-83	-36	8696	3.28	-39.06	-0.99
531	SLU 54	-84	-17	8714	2.98	-38.36	-1.08
531	SLU 55	-84	-4	8678	2.72	-37.69	-1.12
531	SLU 56	-84	-36	8783	3.43	-39.7	-1.02
531	SLU 57	-85	-17	8801	3.13	-39	-1.1
531	SLU 58	-83	-36	8735	3.38	-39.5	-1
531	SLU 59	-84	-17	8753	3.07	-38.8	-1.09
531	SLU 60	-82	-36	8914	3.28	-40.39	-0.99
531	SLU 61	-83	-17	8932	2.98	-39.69	-1.08
531	SLU 62	-83	-36	9001	3.43	-41.03	-1.02
531	SLU 63	-84	-17	9019	3.13	-40.33	-1.11
531	SLU 64	-87	-37	8702	3.45	-37.69	-1.07
531	SLU 65	-89	-5	8733	2.95	-36.52	-1.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
531	SLU 66	-89	-38	8838	3.67	-38.53	-1.11
531	SLU 67	-90	-18	8856	3.36	-37.83	-1.2
531	SLU 68	-90	-5	8820	3.1	-37.16	-1.25
531	SLU 69	-89	-38	8925	3.82	-39.18	-1.14
531	SLU 70	-90	-19	8943	3.52	-38.47	-1.23
531	SLU 71	-89	-38	8877	3.76	-38.98	-1.13
531	SLU 72	-90	-19	8895	3.46	-38.27	-1.21
531	SLU 73	-90	-6	9556	3.43	-41.59	-1.32
531	SLU 74	-90	-39	9661	4.15	-43.6	-1.21
531	SLU 75	-91	-20	9679	3.84	-42.89	-1.3
531	SLU 76	-91	-7	9643	3.58	-42.23	-1.35
531	SLU 77	-90	-40	9748	4.3	-44.24	-1.24
531	SLU 78	-91	-20	9766	4	-43.54	-1.33
531	SLU 79	-90	-39	9700	4.24	-44.04	-1.23
531	SLU 80	-91	-20	9718	3.94	-43.34	-1.32
531	SLU 81	-89	-39	9879	4.14	-44.93	-1.22
531	SLU 82	-90	-20	9897	3.84	-44.22	-1.31
531	SLU 83	-90	-40	9966	4.29	-45.57	-1.25
531	SLU 84	-91	-20	9984	3.99	-44.87	-1.33
531	SLE RA 1	-66	-28	6482	2.47	-28	-0.77
531	SLE RA 2	-67	-6	6502	2.13	-27.22	-0.87
531	SLE RA 3	-67	-28	6572	2.61	-28.56	-0.8
531	SLE RA 4	-67	-15	6584	2.41	-28.09	-0.86
531	SLE RA 5	-67	-7	6560	2.23	-27.65	-0.89
531	SLE RA 6	-67	-28	6630	2.71	-28.99	-0.82
531	SLE RA 7	-68	-16	6642	2.51	-28.52	-0.88
531	SLE RA 8	-67	-28	6598	2.67	-28.85	-0.81
531	SLE RA 9	-67	-15	6610	2.47	-28.39	-0.87
531	SLE RA 10	-67	-7	7051	2.45	-30.59	-0.94
531	SLE RA 11	-67	-29	7121	2.93	-31.93	-0.87
531	SLE RA 12	-68	-16	7133	2.73	-31.47	-0.93
531	SLE RA 13	-68	-8	7109	2.55	-31.02	-0.96
531	SLE RA 14	-68	-29	7179	3.03	-32.36	-0.89
531	SLE RA 15	-68	-17	7191	2.83	-31.89	-0.95
531	SLE RA 16	-67	-29	7147	2.99	-32.23	-0.88
531	SLE RA 17	-68	-17	7159	2.79	-31.76	-0.94
531	SLE RA 18	-67	-29	7266	2.93	-32.82	-0.87
531	SLE RA 19	-67	-16	7278	2.72	-32.35	-0.93
531	SLE RA 20	-67	-29	7324	3.03	-33.25	-0.89
531	SLE RA 21	-68	-17	7336	2.83	-32.78	-0.95
531	SLE FR 1	-66	-28	6482	2.47	-28	-0.77
531	SLE FR 2	-66	-23	6486	2.4	-27.84	-0.79
531	SLE FR 3	-66	-28	6505	2.51	-28.17	-0.78
531	SLE FR 4	-66	-24	6721	2.54	-29.29	-0.82
531	SLE FR 5	-66	-28	6741	2.65	-29.62	-0.81
531	SLE FR 6	-66	-28	6874	2.7	-30.41	-0.82
531	SLE QP 1	-66	-28	6482	2.47	-28	-0.77
531	SLE QP 2	-66	-28	6717	2.6	-29.44	-0.8
531	SLD 1	491	119	7566	0.02	-0.18	1.44
531	SLD 2	531	39	7529	0.43	-1.47	3.92
531	SLD 3	507	-279	7104	6.84	-12.93	3.02
531	SLD 4	547	-359	7068	7.26	-14.23	5.51
531	SLD 5	69	632	7678	-8.6	-1.09	-2.97
531	SLD 6	95	581	7655	-8.33	-1.92	-1.37
531	SLD 7	124	-692	6140	14.16	-43.62	2.32
531	SLD 8	150	-744	6116	14.43	-44.45	3.93
531	SLD 9	-282	687	7319	-9.22	-14.44	-5.53
531	SLD 10	-256	636	7295	-8.95	-15.27	-3.93
531	SLD 11	-227	-637	5780	13.54	-56.96	-0.24
531	SLD 12	-201	-689	5757	13.81	-57.8	1.36
531	SLD 13	-679	302	6367	-2.05	-44.66	-7.12
531	SLD 14	-639	222	6331	-1.64	-45.95	-4.63
531	SLD 15	-663	-95	5906	4.78	-57.42	-5.53
531	SLD 16	-623	-175	5869	5.19	-58.71	-3.04
531	SLV 1	805	230	8075	-1.93	17.19	2.56
531	SLV 2	868	104	8018	-1.28	15.15	6.48
531	SLV 3	832	-447	7287	9.72	-4.57	5.26
531	SLV 4	895	-574	7230	10.37	-6.61	9.18
531	SLV 5	142	1101	8331	-16.55	17.93	-4.63
531	SLV 6	185	1016	8292	-16.11	16.56	-1.99
531	SLV 7	233	-1158	5704	22.29	-54.61	4.38
531	SLV 8	275	-1243	5665	22.73	-55.98	7.02
531	SLV 9	-407	1187	7770	-17.52	-2.91	-8.63
531	SLV 10	-365	1102	7731	-17.08	-4.28	-5.99
531	SLV 11	-317	-1072	5143	21.32	-75.45	0.38
531	SLV 12	-274	-1157	5104	21.76	-76.82	3.02
531	SLV 13	-1027	517	6205	-5.16	-52.28	-10.79
531	SLV 14	-964	391	6148	-4.51	-54.31	-6.87
531	SLV 15	-1000	-160	5417	6.49	-74.04	-8.09
531	SLV 16	-937	-287	5360	7.14	-76.07	-4.17
531	SLV FO 1	892	256	8211	-2.38	21.85	2.89
531	SLV FO 2	961	117	8148	-1.67	19.61	7.21
531	SLV FO 3	922	-489	7344	10.43	-2.09	5.87
531	SLV FO 4	991	-628	7281	11.15	-4.33	10.18
531	SLV FO 5	163	1214	8492	-18.46	22.67	-5.01
531	SLV FO 6	210	1120	8449	-17.98	21.16	-2.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
531	SLV FO 7	262	-1271	5602	24.26	-57.12	4.9
531	SLV FO 8	309	-1365	5560	24.74	-58.63	7.81
531	SLV FO 9	-441	1308	7875	-19.53	-0.26	-9.41
531	SLV FO 10	-394	1215	7832	-19.05	-1.77	-6.51
531	SLV FO 11	-342	-1176	4985	23.19	-80.05	0.5
531	SLV FO 12	-295	-1270	4943	23.67	-81.55	3.4
531	SLV FO 13	-1123	572	6154	-5.94	-54.56	-11.79
531	SLV FO 14	-1054	433	6091	-5.22	-56.8	-7.48
531	SLV FO 15	-1093	-173	5287	6.88	-78.5	-8.81
531	SLV FO 16	-1024	-312	5224	7.59	-80.74	-4.5
531	CRTFP Ux+	0	0	0	0	0	0
531	CRTFP Ux-	0	0	0	0	0	0
531	CRTFP Uy+	0	0	0	0	0	0
531	CRTFP Uy-	0	0	0	0	0	0
534	SLU 1	121	-82	6213	0.81	19.03	-1.59
534	SLU 2	122	-50	6246	0.29	16.78	-1.47
534	SLU 3	123	-84	6341	0.99	19.39	-1.66
534	SLU 4	124	-65	6361	0.68	18.04	-1.59
534	SLU 5	123	-51	6328	0.43	17	-1.54
534	SLU 6	124	-85	6424	1.14	19.62	-1.73
534	SLU 7	125	-66	6444	0.82	18.26	-1.66
534	SLU 8	123	-84	6378	1.1	19.48	-1.72
534	SLU 9	124	-65	6398	0.78	18.13	-1.65
534	SLU 10	131	-58	7034	0.5	19.18	-1.66
534	SLU 11	132	-91	7129	1.2	21.8	-1.85
534	SLU 12	133	-72	7149	0.89	20.44	-1.78
534	SLU 13	132	-59	7116	0.64	19.4	-1.73
534	SLU 14	133	-92	7212	1.35	22.02	-1.92
534	SLU 15	134	-73	7232	1.03	20.67	-1.85
534	SLU 16	132	-92	7166	1.31	21.88	-1.91
534	SLU 17	133	-72	7186	0.99	20.53	-1.84
534	SLU 18	134	-93	7338	1.11	22.47	-1.86
534	SLU 19	135	-74	7358	0.8	21.11	-1.79
534	SLU 20	135	-94	7421	1.25	22.69	-1.92
534	SLU 21	136	-75	7441	0.94	21.33	-1.86
534	SLU 22	136	-91	7156	1.41	21.47	-1.76
534	SLU 23	137	-59	7190	0.89	19.21	-1.65
534	SLU 24	139	-92	7285	1.6	21.83	-1.84
534	SLU 25	139	-73	7305	1.28	20.47	-1.77
534	SLU 26	138	-60	7272	1.03	19.43	-1.72
534	SLU 27	140	-93	7368	1.74	22.05	-1.9
534	SLU 28	140	-74	7388	1.43	20.7	-1.84
534	SLU 29	139	-93	7322	1.7	21.92	-1.9
534	SLU 30	139	-74	7341	1.39	20.56	-1.83
534	SLU 31	146	-67	7978	1.1	21.61	-1.84
534	SLU 32	148	-100	8073	1.81	24.23	-2.03
534	SLU 33	148	-81	8093	1.49	22.88	-1.96
534	SLU 34	148	-68	8060	1.24	21.84	-1.91
534	SLU 35	149	-101	8156	1.95	24.45	-2.09
534	SLU 36	149	-82	8176	1.64	23.1	-2.03
534	SLU 37	148	-100	8110	1.91	24.32	-2.09
534	SLU 38	148	-81	8129	1.6	22.96	-2.02
534	SLU 39	149	-101	8282	1.72	24.9	-2.04
534	SLU 40	150	-82	8302	1.4	23.54	-1.97
534	SLU 41	151	-102	8365	1.86	25.12	-2.1
534	SLU 42	151	-83	8385	1.54	23.77	-2.03
534	SLU 43	152	-104	7753	0.85	23.91	-2
534	SLU 44	153	-72	7786	0.32	21.65	-1.89
534	SLU 45	154	-105	7882	1.03	24.27	-2.07
534	SLU 46	155	-86	7902	0.71	22.92	-2.01
534	SLU 47	154	-73	7869	0.47	21.88	-1.95
534	SLU 48	155	-106	7964	1.17	24.49	-2.14
534	SLU 49	156	-87	7984	0.86	23.14	-2.07
534	SLU 50	154	-106	7918	1.13	24.36	-2.13
534	SLU 51	155	-87	7938	0.82	23	-2.07
534	SLU 52	162	-79	8574	0.53	24.05	-2.08
534	SLU 53	163	-113	8670	1.24	26.67	-2.26
534	SLU 54	164	-94	8690	0.92	25.32	-2.2
534	SLU 55	163	-80	8657	0.68	24.28	-2.14
534	SLU 56	164	-114	8752	1.38	26.9	-2.33
534	SLU 57	165	-95	8772	1.07	25.54	-2.26
534	SLU 58	163	-113	8706	1.34	26.76	-2.32
534	SLU 59	164	-94	8726	1.03	25.4	-2.26
534	SLU 60	165	-114	8879	1.15	27.34	-2.27
534	SLU 61	166	-95	8899	0.83	25.99	-2.2
534	SLU 62	166	-115	8961	1.29	27.57	-2.34
534	SLU 63	167	-96	8981	0.98	26.21	-2.27
534	SLU 64	167	-112	8697	1.45	26.34	-2.18
534	SLU 65	168	-81	8730	0.93	24.09	-2.07
534	SLU 66	170	-114	8825	1.63	26.7	-2.25
534	SLU 67	170	-95	8845	1.32	25.35	-2.18
534	SLU 68	169	-82	8812	1.07	24.31	-2.13
534	SLU 69	171	-115	8908	1.78	26.93	-2.32
534	SLU 70	171	-96	8928	1.46	25.57	-2.25
534	SLU 71	169	-114	8862	1.74	26.79	-2.31
534	SLU 72	170	-95	8882	1.42	25.44	-2.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
534	SLU 73	177	-88	9518	1.14	26.49	-2.26
534	SLU 74	179	-122	9613	1.84	29.11	-2.44
534	SLU 75	179	-103	9633	1.53	27.75	-2.37
534	SLU 76	179	-89	9600	1.28	26.71	-2.32
534	SLU 77	180	-123	9696	1.99	29.33	-2.51
534	SLU 78	180	-103	9716	1.67	27.98	-2.44
534	SLU 79	179	-122	9650	1.95	29.19	-2.5
534	SLU 80	179	-103	9670	1.63	27.84	-2.43
534	SLU 81	180	-123	9822	1.75	29.78	-2.45
534	SLU 82	181	-104	9842	1.44	28.42	-2.38
534	SLU 83	182	-124	9905	1.89	30	-2.52
534	SLU 84	182	-105	9925	1.58	28.64	-2.45
534	SLE RA 1	125	-85	6482	0.98	19.73	-1.64
534	SLE RA 2	126	-63	6504	0.63	18.22	-1.56
534	SLE RA 3	127	-86	6568	1.1	19.97	-1.69
534	SLE RA 4	127	-73	6581	0.9	19.07	-1.64
534	SLE RA 5	127	-64	6559	0.73	18.37	-1.61
534	SLE RA 6	128	-86	6623	1.2	20.12	-1.73
534	SLE RA 7	128	-74	6636	0.99	19.22	-1.69
534	SLE RA 8	127	-86	6592	1.17	20.03	-1.73
534	SLE RA 9	127	-73	6606	0.97	19.12	-1.68
534	SLE RA 10	132	-68	7030	0.77	19.83	-1.69
534	SLE RA 11	133	-91	7093	1.24	21.57	-1.81
534	SLE RA 12	133	-78	7107	1.04	20.67	-1.77
534	SLE RA 13	133	-69	7085	0.87	19.97	-1.73
534	SLE RA 14	134	-91	7149	1.34	21.72	-1.86
534	SLE RA 15	134	-79	7162	1.13	20.82	-1.81
534	SLE RA 16	133	-91	7118	1.32	21.63	-1.85
534	SLE RA 17	133	-78	7131	1.11	20.73	-1.81
534	SLE RA 18	134	-92	7233	1.18	22.02	-1.82
534	SLE RA 19	134	-79	7246	0.97	21.11	-1.77
534	SLE RA 20	135	-92	7288	1.28	22.17	-1.86
534	SLE RA 21	135	-80	7301	1.07	21.26	-1.82
534	SLE FR 1	125	-85	6482	0.98	19.73	-1.64
534	SLE FR 2	125	-80	6487	0.91	19.43	-1.62
534	SLE FR 3	126	-85	6504	1.02	19.79	-1.65
534	SLE FR 4	128	-83	6712	0.97	20.11	-1.68
534	SLE FR 5	128	-87	6729	1.08	20.48	-1.71
534	SLE FR 6	130	-88	6858	1.08	20.87	-1.73
534	SLE QP 1	125	-85	6482	0.98	19.73	-1.64
534	SLE QP 2	128	-87	6707	1.04	20.42	-1.69
534	SLD 1	697	176	6555	-2.68	17.4	3.08
534	SLD 2	743	254	6595	-3.15	14.3	5.62
534	SLD 3	682	-226	6036	4.35	41.38	1.77
534	SLD 4	728	-148	6076	3.88	38.28	4.31
534	SLD 5	313	588	7441	-10.65	-16.33	1.29
534	SLD 6	343	639	7467	-10.96	-18.32	2.92
534	SLD 7	263	-752	5713	12.78	63.61	-3.07
534	SLD 8	293	-701	5739	12.47	61.61	-1.44
534	SLD 9	-37	528	7676	-10.39	-20.78	-1.95
534	SLD 10	-8	578	7702	-10.69	-22.78	-0.31
534	SLD 11	-87	-812	5948	13.05	59.16	-6.3
534	SLD 12	-57	-762	5974	12.74	57.16	-4.67
534	SLD 13	-472	-26	7339	-1.79	2.56	-7.69
534	SLD 14	-426	52	7379	-2.26	-0.55	-5.16
534	SLD 15	-487	-428	6820	5.24	26.54	-9
534	SLD 16	-441	-350	6860	4.77	23.43	-6.46
534	SLV 1	1019	353	6507	-5.3	14.25	5.83
534	SLV 2	1092	476	6570	-6.05	9.37	9.82
534	SLV 3	994	-333	5622	6.69	55.14	3.6
534	SLV 4	1067	-210	5685	5.95	50.25	7.6
534	SLV 5	419	1062	7977	-18.91	-42.53	3.2
534	SLV 6	469	1145	8020	-19.41	-45.82	5.89
534	SLV 7	336	-1224	5028	21.07	93.76	-4.23
534	SLV 8	386	-1141	5070	20.56	90.47	-1.54
534	SLV 9	-130	967	8344	-18.48	-49.63	-1.84
534	SLV 10	-80	1050	8387	-18.98	-52.93	0.85
534	SLV 11	-213	-1319	5395	21.5	86.65	-9.27
534	SLV 12	-163	-1236	5438	21	83.36	-6.58
534	SLV 13	-811	37	7730	-3.86	-9.42	-10.98
534	SLV 14	-738	160	7793	-4.61	-14.31	-6.98
534	SLV 15	-836	-649	6845	8.13	31.47	-13.21
534	SLV 16	-763	-526	6908	7.39	26.58	-9.21
534	SLV FO 1	1108	397	6487	-5.93	13.64	6.58
534	SLV FO 2	1188	532	6556	-6.75	8.26	10.98
534	SLV FO 3	1080	-358	5513	7.26	58.61	4.13
534	SLV FO 4	1161	-223	5583	6.44	53.24	8.53
534	SLV FO 5	448	1177	8104	-20.9	-48.83	3.69
534	SLV FO 6	503	1268	8151	-21.46	-52.45	6.65
534	SLV FO 7	357	-1337	4860	23.07	101.09	-4.48
534	SLV FO 8	411	-1246	4907	22.52	97.47	-1.52
534	SLV FO 9	-155	1073	8508	-20.43	-56.64	-1.86
534	SLV FO 10	-101	1164	8555	-20.98	-60.26	1.1
534	SLV FO 11	-247	-1442	5264	23.54	93.28	-10.03
534	SLV FO 12	-192	-1351	5311	22.99	89.66	-7.07
534	SLV FO 13	-905	49	7832	-4.35	-12.4	-11.91

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
534	SLV FO 14	-824	184	7902	-5.17	-17.78	-7.51
534	SLV FO 15	-932	-705	6859	8.84	32.57	-14.36
534	SLV FO 16	-852	-570	6928	8.02	27.19	-9.96
534	CRTFP Ux+	0	0	0	0	0	0
534	CRTFP Ux-	0	0	0	0	0	0
534	CRTFP Uy+	0	0	0	0	0	0
534	CRTFP Uy-	0	0	0	0	0	0
537	SLU 1	55	21	4139	6.11	991.45	-7.5
537	SLU 2	57	43	4165	5.83	992.25	-15.32
537	SLU 3	57	22	4229	6.35	1013.47	-7.85
537	SLU 4	57	35	4245	6.18	1013.95	-12.54
537	SLU 5	57	45	4223	6	1006.74	-15.81
537	SLU 6	57	23	4287	6.52	1027.96	-8.35
537	SLU 7	58	37	4303	6.35	1028.44	-13.04
537	SLU 8	57	24	4255	6.46	1020.43	-8.49
537	SLU 9	58	37	4271	6.29	1020.91	-13.18
537	SLU 10	60	45	4669	6.66	1110.84	-16.14
537	SLU 11	60	24	4734	7.18	1132.06	-8.67
537	SLU 12	61	37	4749	7.01	1132.54	-13.36
537	SLU 13	61	47	4727	6.84	1125.33	-16.63
537	SLU 14	60	25	4792	7.35	1146.55	-9.17
537	SLU 15	61	39	4807	7.18	1147.03	-13.86
537	SLU 16	60	26	4760	7.29	1139.02	-9.31
537	SLU 17	61	39	4775	7.12	1139.5	-14
537	SLU 18	60	24	4860	7.3	1160.87	-8.67
537	SLU 19	61	37	4875	7.13	1161.35	-13.36
537	SLU 20	60	25	4918	7.47	1175.36	-9.17
537	SLU 21	61	39	4933	7.3	1175.84	-13.86
537	SLU 22	62	20	4755	7.3	1138.31	-7.26
537	SLU 23	63	42	4780	7.02	1139.11	-15.08
537	SLU 24	63	21	4845	7.54	1160.33	-7.61
537	SLU 25	64	34	4860	7.37	1160.81	-12.3
537	SLU 26	64	44	4838	7.2	1153.6	-15.57
537	SLU 27	63	22	4903	7.71	1174.82	-8.1
537	SLU 28	64	36	4918	7.54	1175.29	-12.8
537	SLU 29	63	23	4871	7.65	1167.29	-8.25
537	SLU 30	64	36	4886	7.48	1167.77	-12.94
537	SLU 31	66	45	5285	7.86	1257.7	-15.9
537	SLU 32	66	23	5350	8.37	1278.92	-8.43
537	SLU 33	67	37	5365	8.2	1279.4	-13.12
537	SLU 34	67	46	5343	8.03	1272.19	-16.39
537	SLU 35	67	25	5408	8.54	1293.41	-8.92
537	SLU 36	67	38	5423	8.38	1293.89	-13.62
537	SLU 37	66	25	5376	8.48	1285.88	-9.07
537	SLU 38	67	39	5391	8.31	1286.36	-13.76
537	SLU 39	66	23	5476	8.49	1307.73	-8.43
537	SLU 40	67	37	5491	8.32	1308.21	-13.12
537	SLU 41	67	25	5534	8.66	1322.22	-8.92
537	SLU 42	68	38	5549	8.5	1322.69	-13.62
537	SLU 43	70	27	5170	7.53	1238.54	-9.83
537	SLU 44	71	50	5195	7.26	1239.33	-17.65
537	SLU 45	71	28	5260	7.77	1260.55	-10.19
537	SLU 46	72	42	5275	7.6	1261.03	-14.88
537	SLU 47	72	51	5253	7.43	1253.82	-18.15
537	SLU 48	72	30	5318	7.94	1275.04	-10.68
537	SLU 49	73	43	5333	7.78	1275.52	-15.37
537	SLU 50	71	30	5286	7.88	1267.51	-10.82
537	SLU 51	72	43	5301	7.71	1267.99	-15.52
537	SLU 52	74	52	5700	8.09	1357.93	-18.47
537	SLU 53	74	31	5764	8.6	1379.15	-11.01
537	SLU 54	75	44	5780	8.44	1379.62	-15.7
537	SLU 55	75	53	5758	8.26	1372.41	-18.97
537	SLU 56	75	32	5823	8.78	1393.63	-11.5
537	SLU 57	76	45	5838	8.61	1394.11	-16.19
537	SLU 58	74	32	5790	8.71	1386.1	-11.64
537	SLU 59	75	46	5806	8.54	1386.58	-16.34
537	SLU 60	74	31	5891	8.72	1407.95	-11.01
537	SLU 61	75	44	5906	8.56	1408.43	-15.7
537	SLU 62	75	32	5949	8.9	1422.44	-11.5
537	SLU 63	76	45	5964	8.73	1422.92	-16.19
537	SLU 64	76	27	5785	8.73	1385.4	-9.59
537	SLU 65	77	49	5811	8.45	1386.19	-17.41
537	SLU 66	77	28	5876	8.96	1407.41	-9.94
537	SLU 67	78	41	5891	8.8	1407.89	-14.63
537	SLU 68	78	50	5869	8.62	1400.68	-17.91
537	SLU 69	78	29	5934	9.14	1421.9	-10.44
537	SLU 70	79	42	5949	8.97	1422.38	-15.13
537	SLU 71	77	29	5902	9.07	1414.37	-10.58
537	SLU 72	78	43	5917	8.91	1414.85	-15.27
537	SLU 73	81	51	6316	9.28	1504.78	-18.23
537	SLU 74	80	30	6380	9.8	1526	-10.76
537	SLU 75	81	43	6396	9.63	1526.48	-15.45
537	SLU 76	81	53	6374	9.45	1519.27	-18.73
537	SLU 77	81	31	6438	9.97	1540.49	-11.26
537	SLU 78	82	45	6454	9.8	1540.97	-15.95
537	SLU 79	80	32	6406	9.9	1532.96	-11.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
537	SLU 80	81	45	6421	9.74	1533.44	-16.09
537	SLU 81	81	30	6506	9.92	1554.81	-10.76
537	SLU 82	81	43	6522	9.75	1555.29	-15.45
537	SLU 83	81	31	6564	10.09	1569.3	-11.26
537	SLU 84	82	45	6580	9.92	1569.78	-15.95
537	SLE RA 1	57	21	4315	6.45	1033.41	-7.43
537	SLE RA 2	58	35	4332	6.27	1033.94	-12.64
537	SLE RA 3	58	21	4375	6.61	1048.09	-7.67
537	SLE RA 4	58	30	4385	6.5	1048.41	-10.79
537	SLE RA 5	59	36	4371	6.38	1043.6	-12.97
537	SLE RA 6	58	22	4414	6.72	1057.75	-8
537	SLE RA 7	59	31	4424	6.61	1058.07	-11.12
537	SLE RA 8	58	22	4392	6.68	1052.73	-8.09
537	SLE RA 9	59	31	4403	6.57	1053.05	-11.22
537	SLE RA 10	60	37	4668	6.82	1113	-13.19
537	SLE RA 11	60	23	4712	7.16	1127.15	-8.21
537	SLE RA 12	61	32	4722	7.05	1127.47	-11.34
537	SLE RA 13	61	38	4707	6.93	1122.66	-13.52
537	SLE RA 14	60	24	4750	7.28	1136.81	-8.54
537	SLE RA 15	61	33	4760	7.17	1137.13	-11.67
537	SLE RA 16	60	24	4729	7.24	1131.79	-8.64
537	SLE RA 17	61	33	4739	7.12	1132.11	-11.77
537	SLE RA 18	60	23	4796	7.24	1146.36	-8.21
537	SLE RA 19	61	32	4806	7.13	1146.68	-11.34
537	SLE RA 20	61	24	4834	7.36	1156.01	-8.54
537	SLE RA 21	61	33	4844	7.25	1156.33	-11.67
537	SLE FR 1	57	21	4315	6.45	1033.41	-7.43
537	SLE FR 2	57	24	4318	6.41	1033.52	-8.47
537	SLE FR 3	57	21	4330	6.5	1037.28	-7.56
537	SLE FR 4	58	24	4463	6.65	1067.4	-8.71
537	SLE FR 5	58	22	4475	6.73	1071.16	-7.8
537	SLE FR 6	59	22	4555	6.85	1089.88	-7.82
537	SLE QP 1	57	21	4315	6.45	1033.41	-7.43
537	SLE QP 2	58	21	4459	6.69	1067.3	-7.67
537	SLD 1	385	-11	3505	3.15	831.22	3.51
537	SLD 2	411	108	3536	2.79	831.68	-37.93
537	SLD 3	369	-283	3135	6.95	817.39	98.6
537	SLD 4	395	-164	3166	6.59	817.85	57.16
537	SLD 5	177	403	4729	-0.08	1017.36	-141.4
537	SLD 6	193	480	4749	-0.31	1017.66	-168.09
537	SLD 7	122	-503	3495	12.59	971.28	175.56
537	SLD 8	139	-427	3515	12.36	971.57	148.87
537	SLD 9	-23	469	5403	1.02	1163.02	-164.2
537	SLD 10	-6	546	5423	0.79	1163.31	-190.89
537	SLD 11	-77	-438	4170	13.68	1116.93	152.76
537	SLD 12	-61	-361	4189	13.45	1117.23	126.07
537	SLD 13	-279	207	5752	6.79	1316.74	-72.49
537	SLD 14	-253	326	5783	6.43	1317.2	-113.93
537	SLD 15	-295	-65	5382	10.59	1302.91	22.6
537	SLD 16	-269	54	5413	10.23	1303.37	-18.84
537	SLV 1	572	-11	2997	0.88	699.86	3.19
537	SLV 2	612	177	3046	0.32	700.58	-62.13
537	SLV 3	544	-475	2366	7.37	676.47	165.41
537	SLV 4	584	-287	2415	6.81	677.19	100.09
537	SLV 5	247	680	4968	-4.78	992.41	-238.25
537	SLV 6	274	807	5001	-5.16	992.89	-282.23
537	SLV 7	154	-866	2865	16.83	914.43	302.48
537	SLV 8	181	-740	2898	16.46	914.92	258.5
537	SLV 9	-65	783	6020	-3.08	1219.67	-273.84
537	SLV 10	-38	909	6053	-3.45	1220.16	-317.81
537	SLV 11	-158	-764	3917	18.54	1141.7	266.9
537	SLV 12	-131	-638	3950	18.16	1142.18	222.92
537	SLV 13	-468	330	6503	6.57	1457.4	-115.42
537	SLV 14	-428	517	6552	6.01	1458.12	-180.74
537	SLV 15	-496	-134	5872	13.06	1434.01	46.8
537	SLV 16	-455	53	5921	12.5	1434.73	-18.52
537	SLV FO 1	623	-14	2851	0.3	663.11	4.27
537	SLV FO 2	667	192	2905	-0.31	663.91	-67.58
537	SLV FO 3	592	-525	2157	7.43	637.38	182.71
537	SLV FO 4	637	-318	2211	6.82	638.18	110.86
537	SLV FO 5	265	746	5019	-5.93	984.92	-261.31
537	SLV FO 6	295	885	5055	-6.35	985.45	-309.69
537	SLV FO 7	164	-955	2706	17.85	899.15	333.49
537	SLV FO 8	194	-816	2742	17.43	899.69	285.12
537	SLV FO 9	-78	859	6176	-4.05	1234.91	-300.45
537	SLV FO 10	-48	998	6212	-4.47	1235.44	-348.83
537	SLV FO 11	-179	-843	3863	19.72	1149.14	294.35
537	SLV FO 12	-149	-704	3899	19.31	1149.67	245.98
537	SLV FO 13	-520	361	6708	6.56	1496.41	-126.19
537	SLV FO 14	-476	567	6761	5.94	1497.21	-198.05
537	SLV FO 15	-551	-150	6014	13.69	1470.68	52.25
537	SLV FO 16	-507	57	6067	13.08	1471.48	-19.6
537	CRTFP Ux+	0	0	0	0	0	0
537	CRTFP Ux-	0	0	0	0	0	0
537	CRTFP Uy+	0	0	0	0	0	0
537	CRTFP Uy-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
538	SLU 1	-252	-11	10023	-61.75	-8.67	-18.97
538	SLU 2	-255	64	10019	-69.73	-8.25	-20.03
538	SLU 3	-257	-11	10254	-60.05	-8.96	-19.46
538	SLU 4	-259	34	10252	-64.84	-8.71	-20.1
538	SLU 5	-258	63	10171	-68.32	-8.46	-20.35
538	SLU 6	-260	-13	10407	-58.65	-9.16	-19.79
538	SLU 7	-262	32	10404	-63.43	-8.91	-20.42
538	SLU 8	-258	-14	10328	-58.94	-9.08	-19.62
538	SLU 9	-260	31	10325	-63.73	-8.83	-20.25
538	SLU 10	-274	62	11380	-73.89	-9.68	-21.85
538	SLU 11	-276	-13	11616	-64.22	-10.38	-21.28
538	SLU 12	-278	32	11613	-69	-10.13	-21.92
538	SLU 13	-277	61	11533	-72.49	-9.88	-22.17
538	SLU 14	-279	-15	11768	-62.81	-10.59	-21.61
538	SLU 15	-281	30	11766	-67.6	-10.34	-22.24
538	SLU 16	-277	-16	11689	-63.11	-10.51	-21.44
538	SLU 17	-279	29	11687	-67.89	-10.26	-22.07
538	SLU 18	-279	-13	11968	-67.7	-10.71	-21.57
538	SLU 19	-281	32	11965	-72.49	-10.46	-22.2
538	SLU 20	-282	-15	12121	-66.3	-10.91	-21.89
538	SLU 21	-284	30	12118	-71.08	-10.66	-22.53
538	SLU 22	-282	-5	11558	-58.53	-9.81	-22.01
538	SLU 23	-285	70	11554	-66.5	-9.39	-23.07
538	SLU 24	-287	-6	11789	-56.83	-10.1	-22.5
538	SLU 25	-289	39	11787	-61.61	-9.85	-23.14
538	SLU 26	-288	68	11706	-65.09	-9.6	-23.39
538	SLU 27	-290	-8	11942	-55.42	-10.31	-22.83
538	SLU 28	-292	37	11939	-60.2	-10.06	-23.46
538	SLU 29	-288	-8	11863	-55.72	-10.23	-22.66
538	SLU 30	-290	37	11860	-60.5	-9.97	-23.29
538	SLU 31	-304	68	12915	-70.66	-10.82	-24.89
538	SLU 32	-306	-8	13151	-60.99	-11.53	-24.32
538	SLU 33	-308	37	13148	-65.77	-11.28	-24.96
538	SLU 34	-307	66	13068	-69.26	-11.03	-25.21
538	SLU 35	-309	-9	13303	-59.59	-11.74	-24.65
538	SLU 36	-311	36	13301	-64.37	-11.48	-25.28
538	SLU 37	-307	-10	13225	-59.88	-11.65	-24.48
538	SLU 38	-309	35	13222	-64.66	-11.4	-25.11
538	SLU 39	-309	-8	13503	-64.48	-11.85	-24.61
538	SLU 40	-311	37	13501	-69.26	-11.6	-25.24
538	SLU 41	-312	-10	13656	-63.07	-12.06	-24.93
538	SLU 42	-314	35	13653	-67.85	-11.81	-25.57
538	SLU 43	-318	-16	12504	-81.39	-10.88	-23.62
538	SLU 44	-321	59	12499	-89.36	-10.46	-24.68
538	SLU 45	-323	-16	12735	-79.69	-11.16	-24.11
538	SLU 46	-324	29	12732	-84.47	-10.91	-24.75
538	SLU 47	-324	58	12652	-87.95	-10.66	-25
538	SLU 48	-326	-18	12887	-78.28	-11.37	-24.44
538	SLU 49	-328	27	12885	-83.07	-11.12	-25.07
538	SLU 50	-324	-19	12809	-78.58	-11.29	-24.27
538	SLU 51	-326	26	12806	-83.36	-11.04	-24.9
538	SLU 52	-339	57	13861	-93.52	-11.89	-26.5
538	SLU 53	-341	-18	14096	-83.85	-12.59	-25.93
538	SLU 54	-343	27	14094	-88.64	-12.34	-26.57
538	SLU 55	-342	56	14013	-92.12	-12.09	-26.82
538	SLU 56	-344	-20	14249	-82.45	-12.8	-26.25
538	SLU 57	-346	25	14246	-87.23	-12.55	-26.89
538	SLU 58	-342	-21	14170	-82.74	-12.72	-26.08
538	SLU 59	-344	24	14168	-87.53	-12.47	-26.72
538	SLU 60	-344	-18	14449	-87.34	-12.92	-26.22
538	SLU 61	-346	27	14446	-92.12	-12.67	-26.85
538	SLU 62	-347	-20	14601	-85.93	-13.12	-26.54
538	SLU 63	-349	25	14599	-90.72	-12.87	-27.18
538	SLU 64	-348	-10	14039	-78.16	-12.02	-26.66
538	SLU 65	-351	65	14034	-86.13	-11.6	-27.72
538	SLU 66	-353	-11	14270	-76.46	-12.31	-27.15
538	SLU 67	-355	34	14267	-81.24	-12.06	-27.79
538	SLU 68	-354	63	14187	-84.73	-11.81	-28.04
538	SLU 69	-356	-13	14422	-75.05	-12.52	-27.48
538	SLU 70	-358	32	14420	-79.84	-12.26	-28.11
538	SLU 71	-354	-13	14344	-75.35	-12.43	-27.31
538	SLU 72	-356	32	14341	-80.13	-12.18	-27.94
538	SLU 73	-369	63	15396	-90.3	-13.03	-29.54
538	SLU 74	-371	-13	15631	-80.62	-13.74	-28.97
538	SLU 75	-373	32	15629	-85.41	-13.49	-29.61
538	SLU 76	-372	61	15548	-88.89	-13.24	-29.86
538	SLU 77	-374	-14	15784	-79.22	-13.94	-29.29
538	SLU 78	-376	31	15781	-84	-13.69	-29.93
538	SLU 79	-372	-15	15705	-79.51	-13.86	-29.12
538	SLU 80	-374	30	15703	-84.3	-13.61	-29.76
538	SLU 81	-374	-13	15984	-84.11	-14.06	-29.25
538	SLU 82	-376	32	15981	-88.89	-13.81	-29.89
538	SLU 83	-377	-15	16136	-82.7	-14.27	-29.58
538	SLU 84	-379	30	16134	-87.49	-14.02	-30.22
538	SLE RA 1	-261	-9	10462	-60.83	-9	-19.84
538	SLE RA 2	-263	41	10459	-66.15	-8.72	-20.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
538	SLE RA 3	-264	-10	10616	-59.7	-9.19	-20.17
538	SLE RA 4	-265	20	10614	-62.89	-9.02	-20.59
538	SLE RA 5	-265	40	10560	-65.21	-8.85	-20.76
538	SLE RA 6	-266	-11	10717	-58.76	-9.33	-20.38
538	SLE RA 7	-267	19	10716	-61.95	-9.16	-20.81
538	SLE RA 8	-265	-11	10665	-58.96	-9.27	-20.27
538	SLE RA 9	-266	19	10663	-62.15	-9.1	-20.69
538	SLE RA 10	-275	40	11366	-68.92	-9.67	-21.76
538	SLE RA 11	-277	-11	11523	-62.48	-10.14	-21.38
538	SLE RA 12	-278	19	11522	-65.66	-9.97	-21.8
538	SLE RA 13	-277	39	11468	-67.99	-9.81	-21.97
538	SLE RA 14	-279	-12	11625	-61.54	-10.28	-21.6
538	SLE RA 15	-280	18	11623	-64.73	-10.11	-22.02
538	SLE RA 16	-277	-12	11573	-61.73	-10.22	-21.48
538	SLE RA 17	-278	18	11571	-64.92	-10.06	-21.91
538	SLE RA 18	-278	-11	11758	-64.8	-10.36	-21.57
538	SLE RA 19	-280	19	11757	-67.99	-10.19	-21.99
538	SLE RA 20	-281	-12	11860	-63.86	-10.49	-21.79
538	SLE RA 21	-282	18	11858	-67.05	-10.33	-22.21
538	SLE FR 1	-261	-9	10462	-60.83	-9	-19.84
538	SLE FR 2	-261	1	10461	-61.89	-8.94	-19.98
538	SLE FR 3	-262	-10	10502	-60.46	-9.05	-19.93
538	SLE FR 4	-267	0	10850	-63.08	-9.35	-20.5
538	SLE FR 5	-267	-10	10891	-61.65	-9.46	-20.44
538	SLE FR 6	-270	-10	11110	-62.81	-9.68	-20.7
538	SLE QP 1	-261	-9	10462	-60.83	-9	-19.84
538	SLE QP 2	-266	-10	10851	-62.02	-9.4	-20.36
538	SLD 1	841	517	10331	-127.06	-2.9	12.8
538	SLD 2	913	478	10306	-126.25	-2.95	25.22
538	SLD 3	871	-392	10280	-8.84	-8.11	23.75
538	SLD 4	942	-431	10255	-8.04	-8.17	36.16
538	SLD 5	9	1533	10776	-260.96	0.46	-29.15
538	SLD 6	55	1508	10760	-260.44	0.43	-21.15
538	SLD 7	108	-1496	10606	133.08	-16.91	7.34
538	SLD 8	154	-1521	10590	133.6	-16.95	15.33
538	SLD 9	-686	1501	11111	-257.65	-1.86	-56.05
538	SLD 10	-640	1477	11095	-257.13	-1.89	-48.06
538	SLD 11	-587	-1528	10941	136.4	-19.24	-19.56
538	SLD 12	-541	-1553	10925	136.92	-19.27	-11.57
538	SLD 13	-1475	411	11447	-116.01	-10.64	-76.88
538	SLD 14	-1403	372	11422	-115.2	-10.69	-64.46
538	SLD 15	-1445	-498	11395	2.21	-15.85	-65.93
538	SLD 16	-1374	-536	11371	3.01	-15.91	-53.52
538	SLV 1	1467	882	10044	-172.67	1.15	30.66
538	SLV 2	1579	821	10005	-171.4	1.07	50.23
538	SLV 3	1515	-668	9956	29.09	-7.74	49.28
538	SLV 4	1628	-729	9917	30.36	-7.83	68.85
538	SLV 5	159	2620	10749	-401.47	7.27	-36.95
538	SLV 6	234	2579	10723	-400.61	7.21	-23.78
538	SLV 7	321	-2546	10456	271.09	-22.38	25.13
538	SLV 8	397	-2588	10430	271.95	-22.44	38.3
538	SLV 9	-929	2568	11272	-395.99	3.63	-79.02
538	SLV 10	-854	2527	11245	-395.13	3.57	-65.85
538	SLV 11	-767	-2598	10978	276.57	-26.02	-16.94
538	SLV 12	-691	-2639	10952	277.43	-26.08	-3.76
538	SLV 13	-2160	710	11785	-154.41	-10.98	-109.57
538	SLV 14	-2048	649	11746	-153.14	-11.07	-90
538	SLV 15	-2111	-840	11697	47.36	-19.87	-90.94
538	SLV 16	-1999	-901	11658	48.63	-19.96	-71.38
538	SLV FO 1	1640	971	9963	-183.74	2.21	35.76
538	SLV FO 2	1763	904	9920	-182.34	2.11	57.29
538	SLV FO 3	1693	-734	9866	38.2	-7.58	56.25
538	SLV FO 4	1817	-801	9823	39.6	-7.67	77.77
538	SLV FO 5	201	2882	10739	-435.41	8.94	-38.61
538	SLV FO 6	284	2837	10710	-434.47	8.88	-24.12
538	SLV FO 7	380	-2800	10417	304.4	-23.68	29.68
538	SLV FO 8	463	-2845	10388	305.34	-23.74	44.17
538	SLV FO 9	-996	2826	11314	-429.38	4.94	-84.89
538	SLV FO 10	-912	2781	11285	-428.44	4.87	-70.4
538	SLV FO 11	-817	-2857	10991	310.43	-27.68	-16.6
538	SLV FO 12	-734	-2902	10962	311.37	-27.75	-2.1
538	SLV FO 13	-2349	782	11878	-163.65	-11.14	-118.49
538	SLV FO 14	-2226	715	11835	-162.25	-11.23	-96.96
538	SLV FO 15	-2296	-923	11781	58.3	-20.92	-98
538	SLV FO 16	-2172	-990	11738	59.7	-21.02	-76.48
538	CRTFP Ux+	0	0	0	0	0	0
538	CRTFP Ux-	0	0	0	0	0	0
538	CRTFP Uy+	0	0	0	0	0	0
538	CRTFP Uy-	0	0	0	0	0	0
540	SLU 1	120	-140	11387	-187.9	4582.41	60.19
540	SLU 2	120	-76	11407	-191.43	4590.21	34.15
540	SLU 3	122	-143	11626	-190.45	4678.97	61.67
540	SLU 4	122	-105	11638	-192.57	4683.65	46.04
540	SLU 5	121	-78	11563	-192.94	4653.4	35.35
540	SLU 6	123	-146	11782	-191.96	4742.15	62.86
540	SLU 7	123	-108	11794	-194.08	4746.84	47.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
540	SLU 8	122	-146	11699	-190.91	4708.78	62.59
540	SLU 9	122	-107	11711	-193.04	4713.46	46.96
540	SLU 10	132	-92	12915	-216.61	5200.33	41.43
540	SLU 11	134	-160	13133	-215.63	5289.08	68.95
540	SLU 12	134	-122	13146	-217.75	5293.77	53.32
540	SLU 13	133	-95	13071	-218.12	5263.51	42.63
540	SLU 14	135	-163	13289	-217.14	5352.27	70.15
540	SLU 15	135	-125	13301	-219.26	5356.95	54.52
540	SLU 16	134	-162	13206	-216.1	5318.89	69.87
540	SLU 17	134	-124	13218	-218.22	5323.57	54.24
540	SLU 18	137	-164	13541	-223.87	5454	70.6
540	SLU 19	137	-125	13553	-225.99	5458.68	54.97
540	SLU 20	138	-167	13697	-225.38	5517.18	71.79
540	SLU 21	138	-128	13709	-227.5	5521.87	56.17
540	SLU 22	136	-158	13043	-210.68	5250.65	67.96
540	SLU 23	136	-94	13063	-214.22	5258.46	41.92
540	SLU 24	137	-161	13282	-213.23	5347.22	69.44
540	SLU 25	138	-123	13294	-215.36	5351.9	53.81
540	SLU 26	137	-97	13219	-215.73	5321.65	43.11
540	SLU 27	139	-164	13438	-214.74	5410.4	70.63
540	SLU 28	139	-126	13450	-216.87	5415.09	55.01
540	SLU 29	138	-164	13355	-213.7	5377.02	70.35
540	SLU 30	138	-125	13367	-215.82	5381.71	54.73
540	SLU 31	148	-111	14571	-239.4	5868.57	49.2
540	SLU 32	149	-178	14789	-238.42	5957.33	76.72
540	SLU 33	150	-140	14802	-240.54	5962.01	61.09
540	SLU 34	149	-113	14727	-240.91	5931.76	50.4
540	SLU 35	151	-181	14945	-239.93	6020.51	77.92
540	SLU 36	151	-143	14958	-242.05	6025.2	62.29
540	SLU 37	150	-181	14862	-238.88	5987.14	77.64
540	SLU 38	150	-142	14875	-241	5991.82	62.01
540	SLU 39	153	-182	15197	-246.65	6122.24	78.37
540	SLU 40	153	-143	15209	-248.78	6126.93	62.74
540	SLU 41	154	-185	15353	-248.16	6185.43	79.56
540	SLU 42	154	-146	15365	-250.29	6190.11	63.94
540	SLU 43	150	-175	14235	-236.45	5728.01	75.59
540	SLU 44	150	-111	14256	-239.99	5735.82	49.54
540	SLU 45	152	-179	14474	-239.01	5824.58	77.06
540	SLU 46	152	-141	14486	-241.13	5829.26	61.44
540	SLU 47	151	-114	14411	-241.5	5799.01	50.74
540	SLU 48	153	-182	14630	-240.51	5887.76	78.26
540	SLU 49	153	-143	14642	-242.64	5892.45	62.63
540	SLU 50	152	-181	14547	-239.47	5854.38	77.98
540	SLU 51	152	-143	14559	-241.59	5859.07	62.35
540	SLU 52	162	-128	15763	-265.17	6345.93	56.83
540	SLU 53	164	-196	15982	-264.19	6434.69	84.35
540	SLU 54	164	-157	15994	-266.31	6439.37	68.72
540	SLU 55	163	-131	15919	-266.68	6409.12	58.02
540	SLU 56	165	-199	16138	-265.7	6497.87	85.54
540	SLU 57	165	-160	16150	-267.82	6502.56	69.92
540	SLU 58	164	-198	16055	-264.65	6464.5	85.26
540	SLU 59	164	-160	16067	-266.77	6469.18	69.64
540	SLU 60	167	-199	16389	-272.42	6599.6	85.99
540	SLU 61	167	-161	16401	-274.55	6604.29	70.37
540	SLU 62	168	-202	16545	-273.93	6662.79	87.19
540	SLU 63	168	-164	16557	-276.06	6667.47	71.56
540	SLU 64	166	-194	15891	-259.24	6396.26	83.36
540	SLU 65	166	-129	15912	-262.77	6404.07	57.31
540	SLU 66	168	-197	16130	-261.79	6492.82	84.83
540	SLU 67	168	-159	16142	-263.91	6497.51	69.2
540	SLU 68	167	-132	16067	-264.28	6467.25	58.51
540	SLU 69	169	-200	16286	-263.3	6556.01	86.03
540	SLU 70	169	-162	16298	-265.42	6560.69	70.4
540	SLU 71	168	-199	16203	-262.26	6522.63	85.75
540	SLU 72	168	-161	16215	-264.38	6527.32	70.12
540	SLU 73	178	-146	17419	-287.95	7014.18	64.6
540	SLU 74	180	-214	17638	-286.97	7102.94	92.11
540	SLU 75	180	-175	17650	-289.09	7107.62	76.49
540	SLU 76	179	-149	17575	-289.46	7077.37	65.79
540	SLU 77	181	-217	17794	-288.48	7166.12	93.31
540	SLU 78	181	-178	17806	-290.6	7170.81	77.68
540	SLU 79	180	-216	17711	-287.44	7132.75	93.03
540	SLU 80	180	-178	17723	-289.56	7137.43	77.41
540	SLU 81	183	-218	18045	-295.21	7267.85	93.76
540	SLU 82	183	-179	18057	-297.33	7272.54	78.13
540	SLU 83	184	-221	18201	-296.72	7331.04	94.96
540	SLU 84	184	-182	18213	-298.84	7335.72	79.33
540	SLE RA 1	124	-145	11860	-194.41	4773.33	62.41
540	SLE RA 2	124	-102	11874	-196.76	4778.54	45.05
540	SLE RA 3	125	-147	12019	-196.11	4837.71	63.4
540	SLE RA 4	126	-122	12027	-197.52	4840.83	52.98
540	SLE RA 5	125	-104	11978	-197.77	4820.66	45.85
540	SLE RA 6	126	-149	12123	-197.11	4879.83	64.19
540	SLE RA 7	126	-124	12131	-198.53	4882.96	53.78
540	SLE RA 8	126	-149	12068	-196.42	4857.58	64.01
540	SLE RA 9	126	-123	12076	-197.83	4860.7	53.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
540	SLE RA 10	132	-113	12879	-213.55	5185.28	49.91
540	SLE RA 11	133	-159	13024	-212.9	5244.45	68.25
540	SLE RA 12	134	-133	13032	-214.31	5247.57	57.83
540	SLE RA 13	133	-115	12983	-214.56	5227.4	50.7
540	SLE RA 14	134	-160	13128	-213.9	5286.57	69.05
540	SLE RA 15	134	-135	13136	-215.32	5289.7	58.63
540	SLE RA 16	134	-160	13073	-213.21	5264.32	68.86
540	SLE RA 17	134	-134	13081	-214.62	5267.45	58.45
540	SLE RA 18	136	-161	13296	-218.39	5354.39	69.35
540	SLE RA 19	136	-135	13304	-219.8	5357.52	58.93
540	SLE RA 20	136	-163	13400	-219.39	5396.52	70.15
540	SLE RA 21	136	-137	13408	-220.81	5399.64	59.73
540	SLE FR 1	124	-145	11860	-194.41	4773.33	62.41
540	SLE FR 2	124	-136	11863	-194.88	4774.38	58.94
540	SLE FR 3	124	-146	11902	-194.81	4790.18	62.73
540	SLE FR 4	128	-141	12294	-202.07	4948.69	61.02
540	SLE FR 5	128	-151	12332	-202	4964.5	64.81
540	SLE FR 6	130	-153	12578	-206.4	5063.86	65.88
540	SLE QP 1	124	-145	11860	-194.41	4773.33	62.41
540	SLE QP 2	128	-150	12291	-201.6	4947.65	64.49
540	SLD 1	1065	182	12264	-218.22	4921.8	-56.64
540	SLD 2	1122	194	12257	-218.64	4916.88	-59.38
540	SLD 3	1045	-606	11878	-167.1	4770.88	262.54
540	SLD 4	1102	-594	11872	-167.52	4765.96	259.8
540	SLD 5	429	1142	12868	-284.05	5169.64	-455.46
540	SLD 6	466	1149	12864	-284.32	5166.47	-457.23
540	SLD 7	363	-1483	11584	-113.64	4666.57	608.47
540	SLD 8	400	-1475	11579	-113.92	4663.4	606.7
540	SLD 9	-145	1175	13002	-289.29	5231.91	-477.71
540	SLD 10	-108	1183	12998	-289.56	5228.73	-479.48
540	SLD 11	-210	-1449	11718	-118.88	4728.84	586.22
540	SLD 12	-174	-1441	11713	-119.15	4725.66	584.45
540	SLD 13	-847	294	12710	-235.68	5129.35	-130.81
540	SLD 14	-790	306	12703	-236.1	5124.42	-133.55
540	SLD 15	-867	-493	12324	-184.56	4978.43	188.37
540	SLD 16	-810	-481	12318	-184.98	4973.5	185.63
540	SLV 1	1594	423	12276	-231.24	4917.97	-147.34
540	SLV 2	1685	442	12265	-231.9	4910.2	-151.66
540	SLV 3	1562	-920	11618	-144.01	4660.27	397.02
540	SLV 4	1652	-901	11607	-144.68	4652.5	392.71
540	SLV 5	600	2055	13286	-342.66	5331.04	-823.87
540	SLV 6	660	2068	13279	-343.11	5325.81	-826.78
540	SLV 7	492	-2421	11093	-51.91	4472.05	990.68
540	SLV 8	553	-2408	11086	-52.36	4466.82	987.77
540	SLV 9	-298	2109	13496	-350.84	5428.49	-858.79
540	SLV 10	-237	2121	13489	-351.29	5423.26	-861.69
540	SLV 11	-405	-2367	11303	-60.1	4569.5	955.77
540	SLV 12	-344	-2354	11296	-60.54	4564.27	952.86
540	SLV 13	-1397	602	12974	-258.52	5242.8	-263.72
540	SLV 14	-1307	621	12964	-259.19	5235.03	-268.04
540	SLV 15	-1429	-741	12316	-171.3	4985.11	280.65
540	SLV 16	-1339	-722	12306	-171.96	4977.34	276.33
540	SLV FO 1	1741	480	12274	-234.2	4915	-168.52
540	SLV FO 2	1840	501	12263	-234.93	4906.45	-173.28
540	SLV FO 3	1706	-997	11550	-138.25	4631.53	430.28
540	SLV FO 4	1805	-976	11539	-138.99	4622.99	425.53
540	SLV FO 5	647	2275	13386	-356.76	5369.37	-912.71
540	SLV FO 6	714	2289	13378	-357.26	5363.62	-915.91
540	SLV FO 7	529	-2648	10973	-36.94	4424.49	1083.3
540	SLV FO 8	596	-2634	10965	-37.43	4418.74	1080.1
540	SLV FO 9	-340	2334	13616	-365.77	5476.57	-951.11
540	SLV FO 10	-274	2349	13609	-366.26	5470.82	-954.31
540	SLV FO 11	-458	-2589	11204	-45.94	4531.68	1044.89
540	SLV FO 12	-392	-2575	11196	-46.44	4525.93	1041.7
540	SLV FO 13	-1550	677	13043	-264.22	5272.32	-296.54
540	SLV FO 14	-1450	698	13031	-264.95	5263.77	-301.29
540	SLV FO 15	-1585	-800	12319	-168.27	4988.85	302.26
540	SLV FO 16	-1486	-779	12308	-169	4980.31	297.51
540	CRTFP Ux+	0	0	0	0	0	0
540	CRTFP Ux-	0	0	0	0	0	0
540	CRTFP Uy+	0	0	0	0	0	0
540	CRTFP Uy-	0	0	0	0	0	0
541	SLU 1	34	-53	4133	-27.28	-741.04	-9.82
541	SLU 2	34	-31	4145	-29.61	-743.15	-5.87
541	SLU 3	35	-53	4227	-26.13	-757.75	-9.85
541	SLU 4	35	-40	4234	-27.53	-759.02	-7.48
541	SLU 5	34	-31	4207	-28.78	-754.16	-5.9
541	SLU 6	35	-53	4288	-25.3	-768.76	-9.89
541	SLU 7	35	-40	4296	-26.7	-770.03	-7.51
541	SLU 8	35	-53	4256	-25.63	-763.05	-9.89
541	SLU 9	35	-40	4264	-27.02	-764.32	-7.52
541	SLU 10	37	-39	4735	-42.79	-848.68	-7.34
541	SLU 11	38	-61	4816	-39.31	-863.28	-11.32
541	SLU 12	38	-48	4823	-40.71	-864.55	-8.95
541	SLU 13	38	-39	4796	-41.96	-859.69	-7.37
541	SLU 14	38	-61	4878	-38.48	-874.29	-11.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
541	SLU 15	38	-48	4885	-39.88	-875.56	-8.99
541	SLU 16	38	-61	4846	-38.81	-868.58	-11.36
541	SLU 17	38	-48	4853	-40.2	-869.85	-8.99
541	SLU 18	39	-64	4975	-46.11	-891.79	-11.93
541	SLU 19	39	-51	4982	-47.51	-893.06	-9.55
541	SLU 20	39	-64	5037	-45.28	-902.8	-11.96
541	SLU 21	39	-51	5044	-46.68	-904.07	-9.59
541	SLU 22	38	-55	4773	-30.09	-855.49	-10.32
541	SLU 23	39	-33	4785	-32.41	-857.61	-6.36
541	SLU 24	39	-55	4866	-28.94	-872.2	-10.35
541	SLU 25	39	-42	4874	-30.33	-873.47	-7.97
541	SLU 26	39	-33	4846	-31.58	-868.62	-6.4
541	SLU 27	39	-55	4928	-28.11	-883.21	-10.38
541	SLU 28	39	-42	4935	-29.5	-884.48	-8.01
541	SLU 29	39	-55	4896	-28.43	-877.51	-10.38
541	SLU 30	39	-42	4903	-29.82	-878.78	-8.01
541	SLU 31	42	-41	5374	-45.59	-963.14	-7.83
541	SLU 32	42	-63	5456	-42.12	-977.73	-11.82
541	SLU 33	42	-50	5463	-43.51	-979	-9.45
541	SLU 34	42	-41	5436	-44.76	-974.14	-7.87
541	SLU 35	42	-63	5517	-41.29	-988.74	-11.85
541	SLU 36	42	-50	5524	-42.68	-990.01	-9.48
541	SLU 37	42	-63	5485	-41.61	-983.04	-11.86
541	SLU 38	42	-50	5492	-43	-984.31	-9.48
541	SLU 39	43	-66	5615	-48.92	-1006.25	-12.42
541	SLU 40	43	-53	5622	-50.31	-1007.52	-10.05
541	SLU 41	43	-67	5676	-48.09	-1017.25	-12.45
541	SLU 42	43	-53	5683	-49.48	-1018.52	-10.08
541	SLU 43	43	-68	5154	-34.51	-924.11	-12.6
541	SLU 44	43	-46	5166	-36.83	-926.22	-8.64
541	SLU 45	43	-68	5247	-33.36	-940.82	-12.63
541	SLU 46	43	-55	5255	-34.75	-942.09	-10.26
541	SLU 47	43	-46	5228	-36	-937.23	-8.68
541	SLU 48	44	-68	5309	-32.53	-951.83	-12.66
541	SLU 49	44	-55	5316	-33.92	-953.1	-10.29
541	SLU 50	43	-68	5277	-32.85	-946.12	-12.67
541	SLU 51	43	-55	5284	-34.24	-947.39	-10.29
541	SLU 52	46	-54	5755	-50.01	-1031.75	-10.12
541	SLU 53	47	-76	5837	-46.54	-1046.35	-14.1
541	SLU 54	47	-63	5844	-47.93	-1047.62	-11.73
541	SLU 55	46	-54	5817	-49.18	-1042.76	-10.15
541	SLU 56	47	-76	5898	-45.71	-1057.35	-14.14
541	SLU 57	47	-63	5905	-47.1	-1058.62	-11.76
541	SLU 58	47	-76	5866	-46.03	-1051.65	-14.14
541	SLU 59	47	-63	5874	-47.42	-1052.92	-11.77
541	SLU 60	47	-79	5996	-53.34	-1074.86	-14.7
541	SLU 61	48	-66	6003	-54.73	-1076.13	-12.33
541	SLU 62	48	-79	6057	-52.51	-1085.87	-14.74
541	SLU 63	48	-66	6064	-53.9	-1087.14	-12.36
541	SLU 64	47	-70	5794	-37.31	-1038.56	-13.09
541	SLU 65	47	-48	5806	-39.63	-1040.68	-9.14
541	SLU 66	48	-70	5887	-36.16	-1055.27	-13.12
541	SLU 67	48	-57	5894	-37.55	-1056.54	-10.75
541	SLU 68	48	-48	5867	-38.81	-1051.68	-9.17
541	SLU 69	48	-70	5949	-35.33	-1066.28	-13.16
541	SLU 70	48	-57	5956	-36.72	-1067.55	-10.78
541	SLU 71	48	-71	5917	-35.65	-1060.58	-13.16
541	SLU 72	48	-57	5924	-37.05	-1061.85	-10.79
541	SLU 73	51	-56	6395	-52.81	-1146.21	-10.61
541	SLU 74	51	-78	6476	-49.34	-1160.8	-14.6
541	SLU 75	51	-65	6483	-50.73	-1162.07	-12.22
541	SLU 76	51	-56	6456	-51.99	-1157.21	-10.65
541	SLU 77	51	-78	6538	-48.51	-1171.81	-14.63
541	SLU 78	51	-65	6545	-49.9	-1173.08	-12.26
541	SLU 79	51	-78	6506	-48.83	-1166.1	-14.63
541	SLU 80	51	-65	6513	-50.23	-1167.37	-12.26
541	SLU 81	52	-82	6635	-56.14	-1189.32	-15.2
541	SLU 82	52	-68	6643	-57.53	-1190.59	-12.82
541	SLU 83	52	-82	6697	-55.31	-1200.32	-15.23
541	SLU 84	52	-68	6704	-56.7	-1201.59	-12.86
541	SLE RA 1	35	-54	4316	-28.08	-773.74	-9.96
541	SLE RA 2	35	-39	4324	-29.63	-775.15	-7.33
541	SLE RA 3	36	-54	4378	-27.32	-784.88	-9.98
541	SLE RA 4	36	-45	4383	-28.25	-785.73	-8.4
541	SLE RA 5	36	-39	4365	-29.08	-782.49	-7.35
541	SLE RA 6	36	-54	4419	-26.76	-792.22	-10.01
541	SLE RA 7	36	-45	4424	-27.69	-793.06	-8.42
541	SLE RA 8	36	-54	4398	-26.98	-788.41	-10.01
541	SLE RA 9	36	-45	4403	-27.91	-789.26	-8.43
541	SLE RA 10	38	-44	4717	-38.42	-845.5	-8.31
541	SLE RA 11	38	-59	4771	-36.1	-855.23	-10.97
541	SLE RA 12	38	-50	4776	-37.03	-856.08	-9.38
541	SLE RA 13	38	-44	4758	-37.87	-852.84	-8.33
541	SLE RA 14	38	-59	4812	-35.55	-862.57	-10.99
541	SLE RA 15	38	-50	4817	-36.48	-863.42	-9.41
541	SLE RA 16	38	-59	4791	-35.77	-858.77	-10.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
541	SLE RA 17	38	-50	4796	-36.7	-859.61	-9.41
541	SLE RA 18	38	-61	4877	-40.64	-874.24	-11.37
541	SLE RA 19	38	-52	4882	-41.57	-875.09	-9.78
541	SLE RA 20	39	-61	4918	-40.08	-881.58	-11.39
541	SLE RA 21	39	-52	4923	-41.01	-882.43	-9.81
541	SLE FR 1	35	-54	4316	-28.08	-773.74	-9.96
541	SLE FR 2	35	-51	4318	-28.39	-774.02	-9.44
541	SLE FR 3	35	-54	4332	-27.86	-776.67	-9.97
541	SLE FR 4	36	-53	4486	-32.16	-804.17	-9.86
541	SLE FR 5	36	-56	4501	-31.63	-806.82	-10.39
541	SLE FR 6	37	-57	4597	-34.36	-823.99	-10.67
541	SLE QP 1	35	-54	4316	-28.08	-773.74	-9.96
541	SLE QP 2	36	-56	4484	-31.85	-803.89	-10.38
541	SLD 1	328	37	4386	-53.63	-785.79	6.53
541	SLD 2	346	24	4372	-54.18	-783.33	4.27
541	SLD 3	322	-226	4182	-21.03	-749.66	-40.74
541	SLD 4	340	-239	4168	-21.58	-747.21	-42.99
541	SLD 5	130	373	4767	-87.74	-853.67	66.76
541	SLD 6	141	365	4758	-88.08	-852.09	65.31
541	SLD 7	110	-503	4086	20.93	-733.26	-90.78
541	SLD 8	121	-512	4077	20.58	-731.68	-92.24
541	SLD 9	-49	400	4892	-84.28	-876.1	71.47
541	SLD 10	-37	392	4883	-84.63	-874.52	70.01
541	SLD 11	-69	-476	4210	24.38	-755.69	-86.07
541	SLD 12	-57	-484	4202	24.04	-754.11	-87.53
541	SLD 13	-267	127	4801	-42.12	-860.57	22.22
541	SLD 14	-250	114	4787	-42.67	-858.12	19.97
541	SLD 15	-273	-135	4596	-9.52	-824.45	-25.04
541	SLD 16	-256	-148	4583	-10.07	-821.99	-27.29
541	SLV 1	493	108	4346	-68.28	-778.3	19.42
541	SLV 2	521	87	4324	-69.13	-774.43	15.86
541	SLV 3	483	-341	3997	-12.65	-716.66	-61.18
541	SLV 4	511	-361	3976	-13.5	-712.79	-64.74
541	SLV 5	183	677	4976	-126.99	-890.43	121.46
541	SLV 6	202	663	4961	-127.57	-887.83	119.07
541	SLV 7	150	-817	3813	58.44	-684.94	-147.21
541	SLV 8	169	-831	3799	57.87	-682.34	-149.6
541	SLV 9	-96	719	5170	-121.57	-925.44	128.83
541	SLV 10	-78	706	5155	-122.14	-922.84	126.44
541	SLV 11	-129	-775	4007	63.87	-719.95	-139.84
541	SLV 12	-111	-789	3993	63.29	-717.34	-142.23
541	SLV 13	-439	249	4993	-50.2	-894.99	43.97
541	SLV 14	-411	229	4972	-51.05	-891.12	40.42
541	SLV 15	-448	-199	4644	5.43	-833.35	-36.63
541	SLV 16	-421	-219	4623	4.58	-829.48	-40.19
541	SLV FO 1	539	124	4332	-71.92	-775.74	22.4
541	SLV FO 2	569	102	4308	-72.86	-771.49	18.49
541	SLV FO 3	528	-369	3948	-10.73	-707.93	-66.27
541	SLV FO 4	559	-391	3925	-11.67	-703.68	-70.17
541	SLV FO 5	198	750	5025	-136.51	-899.09	134.65
541	SLV FO 6	218	735	5009	-137.14	-896.22	132.02
541	SLV FO 7	162	-893	3746	67.47	-673.05	-160.89
541	SLV FO 8	182	-909	3730	66.84	-670.18	-163.52
541	SLV FO 9	-110	797	5238	-130.54	-937.6	142.75
541	SLV FO 10	-89	782	5223	-131.17	-934.73	140.12
541	SLV FO 11	-146	-847	3960	73.44	-711.56	-152.79
541	SLV FO 12	-125	-862	3944	72.81	-708.69	-155.42
541	SLV FO 13	-486	280	5044	-52.03	-904.1	49.41
541	SLV FO 14	-455	257	5020	-52.97	-899.85	45.5
541	SLV FO 15	-497	-213	4660	9.16	-836.29	-39.26
541	SLV FO 16	-466	-236	4637	8.22	-832.03	-43.17
541	CRTFP Ux+	0	0	0	0	0	0
541	CRTFP Ux-	0	0	0	0	0	0
541	CRTFP Uy+	0	0	0	0	0	0
541	CRTFP Uy-	0	0	0	0	0	0
542	SLU 1	54	-102	6266	-115.6	15.03	-0.9
542	SLU 2	54	-69	6281	-119.75	15.21	-0.96
542	SLU 3	55	-103	6404	-114.77	15.52	-0.95
542	SLU 4	55	-83	6414	-117.26	15.62	-0.98
542	SLU 5	55	-69	6373	-119.1	15.53	-0.99
542	SLU 6	56	-104	6496	-114.12	15.84	-0.98
542	SLU 7	56	-84	6505	-116.61	15.95	-1.01
542	SLU 8	55	-104	6448	-114.3	15.67	-0.97
542	SLU 9	55	-84	6458	-116.79	15.78	-1
542	SLU 10	60	-84	7166	-159.49	17.93	-1.09
542	SLU 11	60	-119	7289	-154.52	18.24	-1.09
542	SLU 12	60	-99	7298	-157.01	18.35	-1.12
542	SLU 13	60	-85	7257	-158.84	18.25	-1.13
542	SLU 14	61	-120	7380	-153.86	18.56	-1.12
542	SLU 15	61	-100	7389	-156.36	18.67	-1.15
542	SLU 16	60	-120	7333	-154.04	18.39	-1.1
542	SLU 17	60	-99	7342	-156.53	18.5	-1.14
542	SLU 18	62	-125	7529	-172.37	18.92	-1.1
542	SLU 19	62	-104	7538	-174.86	19.02	-1.13
542	SLU 20	62	-125	7620	-171.72	19.24	-1.13
542	SLU 21	62	-105	7630	-174.21	19.35	-1.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
542	SLU 22	61	-111	7221	-133.06	18.11	-1.16
542	SLU 23	61	-77	7237	-137.22	18.29	-1.22
542	SLU 24	62	-112	7360	-132.24	18.6	-1.21
542	SLU 25	62	-92	7369	-134.73	18.71	-1.24
542	SLU 26	62	-78	7328	-136.56	18.61	-1.25
542	SLU 27	62	-113	7451	-131.59	18.92	-1.24
542	SLU 28	62	-93	7460	-134.08	19.03	-1.27
542	SLU 29	62	-113	7404	-131.76	18.76	-1.23
542	SLU 30	62	-92	7413	-134.25	18.86	-1.26
542	SLU 31	66	-93	8121	-176.96	21.01	-1.35
542	SLU 32	67	-128	8244	-171.98	21.32	-1.34
542	SLU 33	67	-107	8253	-174.47	21.43	-1.38
542	SLU 34	67	-94	8212	-176.31	21.33	-1.39
542	SLU 35	68	-128	8335	-171.33	21.64	-1.38
542	SLU 36	68	-108	8345	-173.82	21.75	-1.41
542	SLU 37	67	-128	8288	-171.5	21.48	-1.36
542	SLU 38	67	-108	8298	-173.99	21.59	-1.4
542	SLU 39	69	-133	8484	-189.84	22	-1.36
542	SLU 40	69	-113	8494	-192.33	22.11	-1.39
542	SLU 41	69	-134	8576	-189.19	22.32	-1.39
542	SLU 42	69	-114	8585	-191.68	22.43	-1.42
542	SLU 43	68	-130	7818	-144.29	18.48	-1.08
542	SLU 44	68	-96	7833	-148.44	18.66	-1.14
542	SLU 45	69	-131	7956	-143.46	18.97	-1.13
542	SLU 46	69	-111	7966	-145.96	19.08	-1.16
542	SLU 47	69	-97	7925	-147.79	18.98	-1.17
542	SLU 48	69	-132	8048	-142.81	19.29	-1.16
542	SLU 49	70	-112	8057	-145.3	19.4	-1.2
542	SLU 50	69	-132	8000	-142.99	19.13	-1.15
542	SLU 51	69	-112	8010	-145.48	19.23	-1.18
542	SLU 52	74	-112	8718	-188.18	21.38	-1.28
542	SLU 53	74	-147	8841	-183.21	21.69	-1.27
542	SLU 54	74	-126	8850	-185.7	21.8	-1.3
542	SLU 55	74	-113	8809	-187.53	21.7	-1.31
542	SLU 56	75	-148	8932	-182.56	22.01	-1.3
542	SLU 57	75	-127	8942	-185.05	22.12	-1.33
542	SLU 58	74	-147	8885	-182.73	21.85	-1.29
542	SLU 59	74	-127	8894	-185.22	21.95	-1.32
542	SLU 60	76	-152	9081	-201.06	22.37	-1.28
542	SLU 61	76	-132	9091	-203.56	22.48	-1.31
542	SLU 62	76	-153	9173	-200.41	22.69	-1.31
542	SLU 63	76	-133	9182	-202.91	22.8	-1.35
542	SLU 64	75	-139	8773	-161.75	21.57	-1.34
542	SLU 65	75	-105	8789	-165.91	21.74	-1.4
542	SLU 66	76	-140	8912	-160.93	22.05	-1.39
542	SLU 67	76	-120	8921	-163.42	22.16	-1.42
542	SLU 68	76	-106	8880	-165.26	22.07	-1.43
542	SLU 69	76	-141	9003	-160.28	22.38	-1.42
542	SLU 70	76	-120	9013	-162.77	22.48	-1.46
542	SLU 71	76	-141	8956	-160.45	22.21	-1.41
542	SLU 72	76	-120	8965	-162.94	22.32	-1.44
542	SLU 73	80	-121	9673	-205.65	24.46	-1.53
542	SLU 74	81	-155	9796	-200.67	24.77	-1.53
542	SLU 75	81	-135	9806	-203.16	24.88	-1.56
542	SLU 76	81	-121	9765	-205	24.79	-1.57
542	SLU 77	81	-156	9888	-200.02	25.1	-1.56
542	SLU 78	82	-136	9897	-202.51	25.2	-1.59
542	SLU 79	81	-156	9840	-200.19	24.93	-1.54
542	SLU 80	81	-136	9850	-202.69	25.04	-1.58
542	SLU 81	83	-161	10037	-218.53	25.45	-1.54
542	SLU 82	83	-141	10046	-221.02	25.56	-1.57
542	SLU 83	83	-162	10128	-217.88	25.78	-1.57
542	SLU 84	83	-142	10137	-220.37	25.88	-1.6
542	SLE RA 1	56	-105	6539	-120.59	15.91	-0.97
542	SLE RA 2	56	-82	6549	-123.36	16.03	-1.01
542	SLE RA 3	57	-106	6631	-120.04	16.24	-1.01
542	SLE RA 4	57	-92	6637	-121.7	16.31	-1.03
542	SLE RA 5	57	-83	6610	-122.92	16.24	-1.03
542	SLE RA 6	57	-106	6692	-119.6	16.45	-1.03
542	SLE RA 7	57	-93	6698	-121.26	16.52	-1.05
542	SLE RA 8	57	-106	6660	-119.72	16.34	-1.02
542	SLE RA 9	57	-92	6667	-121.38	16.41	-1.04
542	SLE RA 10	60	-93	7139	-149.85	17.84	-1.1
542	SLE RA 11	60	-116	7221	-146.53	18.05	-1.1
542	SLE RA 12	60	-102	7227	-148.19	18.12	-1.12
542	SLE RA 13	60	-93	7200	-149.42	18.06	-1.13
542	SLE RA 14	61	-117	7282	-146.1	18.26	-1.12
542	SLE RA 15	61	-103	7288	-147.76	18.34	-1.14
542	SLE RA 16	60	-116	7250	-146.21	18.15	-1.11
542	SLE RA 17	60	-103	7256	-147.88	18.23	-1.13
542	SLE RA 18	61	-120	7381	-158.44	18.5	-1.11
542	SLE RA 19	61	-106	7387	-160.1	18.57	-1.13
542	SLE RA 20	61	-120	7442	-158	18.72	-1.13
542	SLE RA 21	62	-107	7448	-159.67	18.79	-1.15
542	SLE FR 1	56	-105	6539	-120.59	15.91	-0.97
542	SLE FR 2	56	-100	6541	-121.14	15.94	-0.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
542	SLE FR 3	56	-105	6563	-120.41	16	-0.98
542	SLE FR 4	58	-105	6793	-132.5	16.71	-1.02
542	SLE FR 5	58	-110	6816	-131.77	16.77	-1.02
542	SLE FR 6	59	-112	6960	-139.51	17.21	-1.04
542	SLE QP 1	56	-105	6539	-120.59	15.91	-0.97
542	SLE QP 2	58	-109	6791	-131.94	16.69	-1.01
542	SLD 1	521	52	6611	-163.76	18.46	-0.15
542	SLD 2	549	37	6589	-163.94	18.5	0.18
542	SLD 3	511	-354	6335	-105.25	15.95	0.42
542	SLD 4	539	-369	6313	-105.43	15.99	0.75
542	SLD 5	206	558	7160	-230.2	21.01	-1.66
542	SLD 6	225	549	7146	-230.32	21.04	-1.45
542	SLD 7	174	-797	6239	-35.16	12.65	0.21
542	SLD 8	193	-806	6225	-35.27	12.69	0.43
542	SLD 9	-77	588	7358	-228.61	20.69	-2.45
542	SLD 10	-59	578	7343	-228.73	20.72	-2.24
542	SLD 11	-109	-767	6437	-33.56	12.33	-0.58
542	SLD 12	-91	-777	6422	-33.68	12.36	-0.36
542	SLD 13	-424	150	7270	-158.46	17.38	-2.77
542	SLD 14	-396	136	7247	-158.64	17.43	-2.44
542	SLD 15	-433	-256	6994	-99.94	14.88	-2.21
542	SLD 16	-405	-271	6971	-100.13	14.92	-1.88
542	SLV 1	783	172	6531	-186.15	19.64	0.3
542	SLV 2	827	148	6496	-186.44	19.72	0.82
542	SLV 3	767	-522	6060	-86.31	15.36	1.26
542	SLV 4	811	-545	6024	-86.6	15.44	1.78
542	SLV 5	291	1031	7435	-299.58	24.05	-2.17
542	SLV 6	321	1015	7411	-299.78	24.1	-1.82
542	SLV 7	238	-1280	5863	33.23	9.79	1.03
542	SLV 8	268	-1296	5839	33.04	9.84	1.38
542	SLV 9	-153	1077	7743	-296.92	23.54	-3.4
542	SLV 10	-123	1062	7719	-297.12	23.59	-3.05
542	SLV 11	-205	-1234	6171	35.89	9.28	-0.2
542	SLV 12	-175	-1250	6147	35.69	9.33	0.15
542	SLV 13	-696	326	7558	-177.29	17.94	-3.8
542	SLV 14	-651	303	7523	-177.58	18.01	-3.28
542	SLV 15	-711	-367	7087	-77.44	13.66	-2.85
542	SLV 16	-667	-391	7051	-77.73	13.74	-2.32
542	SLV FO 1	855	200	6505	-191.57	19.94	0.43
542	SLV FO 2	904	174	6466	-191.89	20.02	1
542	SLV FO 3	838	-563	5987	-81.74	15.23	1.48
542	SLV FO 4	886	-588	5947	-82.06	15.31	2.06
542	SLV FO 5	314	1145	7499	-316.34	24.78	-2.29
542	SLV FO 6	347	1128	7473	-316.56	24.84	-1.9
542	SLV FO 7	257	-1397	5770	49.75	9.1	1.23
542	SLV FO 8	289	-1415	5744	49.53	9.16	1.62
542	SLV FO 9	-174	1196	7838	-313.42	24.22	-3.64
542	SLV FO 10	-141	1179	7812	-313.63	24.28	-3.26
542	SLV FO 11	-231	-1346	6109	52.67	8.54	-0.12
542	SLV FO 12	-198	-1364	6083	52.46	8.59	0.26
542	SLV FO 13	-771	370	7635	-181.82	18.06	-4.08
542	SLV FO 14	-722	344	7596	-182.14	18.15	-3.51
542	SLV FO 15	-788	-393	7116	-71.99	13.36	-3.03
542	SLV FO 16	-739	-419	7077	-72.31	13.44	-2.45
542	CRTFP Ux+	0	0	0	0	0	0
542	CRTFP Ux-	0	0	0	0	0	0
542	CRTFP Uy+	0	0	0	0	0	0
542	CRTFP Uy-	0	0	0	0	0	0
543	SLU 1	106	-187	11040	-108.78	-1904.65	-28.59
543	SLU 2	106	-125	11062	-112.27	-1907.86	-17.86
543	SLU 3	108	-190	11278	-108.91	-1944.92	-29.23
543	SLU 4	108	-153	11291	-111	-1946.84	-22.79
543	SLU 5	107	-128	11218	-112.24	-1934.26	-18.37
543	SLU 6	109	-192	11434	-108.87	-1971.32	-29.73
543	SLU 7	109	-156	11447	-110.96	-1973.25	-23.29
543	SLU 8	108	-192	11352	-108.71	-1957.46	-29.6
543	SLU 9	108	-155	11366	-110.81	-1959.38	-23.16
543	SLU 10	117	-152	12577	-140.63	-2163.4	-21.63
543	SLU 11	118	-217	12792	-137.26	-2200.46	-33
543	SLU 12	118	-180	12806	-139.36	-2202.38	-26.56
543	SLU 13	118	-155	12733	-140.59	-2189.8	-22.14
543	SLU 14	119	-219	12949	-137.23	-2226.86	-33.5
543	SLU 15	119	-182	12962	-139.32	-2228.79	-27.07
543	SLU 16	118	-218	12867	-137.07	-2213	-33.38
543	SLU 17	118	-182	12880	-139.16	-2214.92	-26.94
543	SLU 18	121	-225	13204	-149.29	-2269.71	-33.98
543	SLU 19	121	-188	13217	-151.39	-2271.63	-27.54
543	SLU 20	122	-227	13360	-149.26	-2296.11	-34.49
543	SLU 21	122	-191	13373	-151.35	-2298.04	-28.05
543	SLU 22	120	-208	12683	-123.88	-2183.45	-32.22
543	SLU 23	120	-147	12704	-127.36	-2186.66	-21.49
543	SLU 24	122	-211	12920	-124	-2223.71	-32.86
543	SLU 25	122	-174	12933	-126.09	-2225.64	-26.42
543	SLU 26	121	-149	12861	-127.33	-2213.06	-21.99
543	SLU 27	122	-214	13076	-123.96	-2250.12	-33.36
543	SLU 28	123	-177	13089	-126.06	-2252.04	-26.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
543	SLU 29	122	-213	12995	-123.81	-2236.25	-33.23
543	SLU 30	122	-176	13008	-125.9	-2238.18	-26.79
543	SLU 31	130	-173	14219	-155.72	-2442.19	-25.26
543	SLU 32	132	-238	14435	-152.35	-2479.25	-36.63
543	SLU 33	132	-201	14448	-154.45	-2481.18	-30.19
543	SLU 34	131	-176	14375	-155.68	-2468.6	-25.77
543	SLU 35	133	-240	14591	-152.32	-2505.66	-37.13
543	SLU 36	133	-204	14604	-154.41	-2507.58	-30.69
543	SLU 37	132	-240	14510	-152.16	-2491.79	-37
543	SLU 38	132	-203	14523	-154.25	-2493.72	-30.56
543	SLU 39	135	-246	14847	-164.38	-2548.5	-37.61
543	SLU 40	135	-209	14860	-166.48	-2550.43	-31.17
543	SLU 41	136	-248	15003	-164.35	-2574.91	-38.11
543	SLU 42	136	-212	15016	-166.44	-2576.83	-31.67
543	SLU 43	133	-235	13789	-136.25	-2380.46	-35.93
543	SLU 44	134	-174	13811	-139.73	-2383.67	-25.2
543	SLU 45	135	-239	14027	-136.37	-2420.73	-36.56
543	SLU 46	135	-202	14040	-138.46	-2422.65	-30.12
543	SLU 47	134	-177	13967	-139.7	-2410.07	-25.7
543	SLU 48	136	-241	14183	-136.33	-2447.13	-37.07
543	SLU 49	136	-204	14196	-138.43	-2449.06	-30.63
543	SLU 50	135	-240	14101	-136.18	-2433.27	-36.94
543	SLU 51	135	-204	14115	-138.27	-2435.19	-30.5
543	SLU 52	144	-201	15326	-168.09	-2639.21	-28.97
543	SLU 53	145	-265	15541	-164.72	-2676.27	-40.33
543	SLU 54	145	-229	15555	-166.82	-2678.19	-33.89
543	SLU 55	145	-203	15482	-168.05	-2665.61	-29.47
543	SLU 56	146	-268	15698	-164.69	-2702.67	-40.84
543	SLU 57	146	-231	15711	-166.78	-2704.59	-34.4
543	SLU 58	145	-267	15616	-164.53	-2688.81	-40.71
543	SLU 59	146	-230	15629	-166.62	-2690.73	-34.27
543	SLU 60	148	-274	15953	-176.75	-2745.52	-41.32
543	SLU 61	148	-237	15966	-178.85	-2747.44	-34.88
543	SLU 62	149	-276	16109	-176.72	-2771.92	-41.82
543	SLU 63	149	-239	16122	-178.81	-2773.84	-35.38
543	SLU 64	147	-256	15432	-151.34	-2659.26	-39.56
543	SLU 65	147	-195	15453	-154.82	-2662.47	-28.82
543	SLU 66	149	-260	15669	-151.46	-2699.52	-40.19
543	SLU 67	149	-223	15682	-153.55	-2701.45	-33.75
543	SLU 68	148	-198	15610	-154.79	-2688.87	-29.33
543	SLU 69	150	-262	15825	-151.42	-2725.93	-40.69
543	SLU 70	150	-226	15838	-153.52	-2727.85	-34.26
543	SLU 71	149	-262	15744	-151.27	-2712.06	-40.57
543	SLU 72	149	-225	15757	-153.36	-2713.99	-34.13
543	SLU 73	158	-222	16968	-183.18	-2918	-32.59
543	SLU 74	159	-286	17184	-179.82	-2955.06	-43.96
543	SLU 75	159	-250	17197	-181.91	-2956.99	-37.52
543	SLU 76	159	-225	17124	-183.14	-2944.41	-33.1
543	SLU 77	160	-289	17340	-179.78	-2981.47	-44.47
543	SLU 78	160	-252	17353	-181.87	-2983.39	-38.03
543	SLU 79	159	-288	17259	-179.62	-2967.6	-44.34
543	SLU 80	159	-252	17272	-181.71	-2969.53	-37.9
543	SLU 81	162	-295	17596	-191.85	-3024.31	-44.94
543	SLU 82	162	-258	17609	-193.94	-3026.24	-38.5
543	SLU 83	163	-297	17752	-191.81	-3050.72	-45.45
543	SLU 84	163	-261	17765	-193.9	-3052.64	-39.01
543	SLE RA 1	110	-193	11510	-113.1	-1984.31	-29.63
543	SLE RA 2	110	-152	11524	-115.42	-1986.45	-22.48
543	SLE RA 3	111	-195	11668	-113.18	-2011.15	-30.05
543	SLE RA 4	111	-170	11677	-114.57	-2012.44	-25.76
543	SLE RA 5	111	-154	11628	-115.4	-2004.05	-22.81
543	SLE RA 6	112	-197	11772	-113.15	-2028.75	-30.39
543	SLE RA 7	112	-172	11781	-114.55	-2030.04	-26.1
543	SLE RA 8	111	-196	11718	-113.05	-2019.51	-30.3
543	SLE RA 9	111	-172	11726	-114.44	-2020.8	-26.01
543	SLE RA 10	117	-170	12534	-134.32	-2156.81	-24.99
543	SLE RA 11	118	-213	12678	-132.08	-2181.51	-32.57
543	SLE RA 12	118	-188	12686	-133.48	-2182.8	-28.27
543	SLE RA 13	118	-171	12638	-134.3	-2174.41	-25.33
543	SLE RA 14	119	-214	12782	-132.06	-2199.11	-32.9
543	SLE RA 15	119	-190	12790	-133.45	-2200.4	-28.61
543	SLE RA 16	118	-214	12727	-131.95	-2189.87	-32.82
543	SLE RA 17	118	-189	12736	-133.35	-2191.15	-28.52
543	SLE RA 18	120	-218	12952	-140.1	-2227.68	-33.22
543	SLE RA 19	120	-194	12961	-141.5	-2228.96	-28.93
543	SLE RA 20	121	-220	13056	-140.08	-2245.28	-33.56
543	SLE RA 21	121	-195	13065	-141.47	-2246.56	-29.27
543	SLE FR 1	110	-193	11510	-113.1	-1984.31	-29.63
543	SLE FR 2	110	-184	11512	-113.56	-1984.74	-28.2
543	SLE FR 3	110	-193	11551	-113.09	-1991.35	-29.76
543	SLE FR 4	113	-192	11945	-121.66	-2057.75	-29.28
543	SLE FR 5	113	-201	11984	-121.19	-2064.36	-30.84
543	SLE FR 6	115	-205	12231	-126.6	-2105.99	-31.43
543	SLE QP 1	110	-193	11510	-113.1	-1984.31	-29.63
543	SLE QP 2	113	-200	11942	-121.2	-2057.32	-30.71
543	SLD 1	987	120	11680	-136.95	-2030.28	26.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
543	SLD 2	1040	110	11648	-137.19	-2026.7	26.36
543	SLD 3	969	-622	11273	-87.28	-1967.94	-104.94
543	SLD 4	1022	-632	11241	-87.53	-1964.35	-104.89
543	SLD 5	394	1023	12486	-201.2	-2144.38	185.45
543	SLD 6	428	1016	12466	-201.36	-2142.07	185.48
543	SLD 7	333	-1450	11130	-35.66	-1936.57	-252.05
543	SLD 8	367	-1457	11109	-35.82	-1934.26	-252.01
543	SLD 9	-141	1057	12775	-206.57	-2180.38	190.6
543	SLD 10	-107	1050	12755	-206.73	-2178.07	190.63
543	SLD 11	-202	-1417	11419	-41.04	-1972.57	-246.9
543	SLD 12	-168	-1424	11398	-41.2	-1970.26	-246.86
543	SLD 13	-796	232	12643	-154.86	-2150.29	43.47
543	SLD 14	-743	221	12611	-155.11	-2146.7	43.53
543	SLD 15	-814	-510	12236	-105.2	-2087.94	-87.78
543	SLD 16	-761	-521	12204	-105.45	-2084.36	-87.72
543	SLV 1	1481	352	11564	-149.37	-2019.65	67.42
543	SLV 2	1565	336	11513	-149.76	-2013.99	67.51
543	SLV 3	1452	-913	10869	-64.63	-1913.19	-156.43
543	SLV 4	1535	-930	10818	-65.02	-1907.54	-156.34
543	SLV 5	553	1888	12892	-258.09	-2208.53	338.22
543	SLV 6	609	1877	12858	-258.35	-2204.72	338.28
543	SLV 7	454	-2330	10576	24.35	-1853.68	-407.95
543	SLV 8	510	-2342	10542	24.09	-1849.88	-407.88
543	SLV 9	-284	1941	13343	-266.49	-2264.76	346.47
543	SLV 10	-228	1930	13309	-266.75	-2260.96	346.53
543	SLV 11	-383	-2277	11027	15.95	-1909.92	-399.7
543	SLV 12	-327	-2289	10993	15.69	-1906.11	-399.64
543	SLV 13	-1309	529	13067	-177.37	-2207.1	94.92
543	SLV 14	-1226	513	13016	-177.76	-2201.45	95.01
543	SLV 15	-1339	-736	12372	-92.64	-2100.65	-128.93
543	SLV 16	-1255	-753	12321	-93.03	-2094.99	-128.84
543	SLV FO 1	1618	408	11526	-152.18	-2015.88	77.24
543	SLV FO 2	1710	389	11470	-152.61	-2009.66	77.34
543	SLV FO 3	1586	-984	10762	-58.98	-1898.78	-169
543	SLV FO 4	1677	-1003	10706	-59.41	-1892.56	-168.9
543	SLV FO 5	597	2097	12987	-271.78	-2223.65	375.11
543	SLV FO 6	659	2085	12949	-272.06	-2219.46	375.18
543	SLV FO 7	488	-2544	10439	38.91	-1833.32	-445.67
543	SLV FO 8	550	-2556	10402	38.62	-1829.13	-445.6
543	SLV FO 9	-324	2155	13483	-281.02	-2285.51	384.19
543	SLV FO 10	-262	2143	13445	-281.31	-2281.32	384.25
543	SLV FO 11	-432	-2485	10935	29.67	-1895.18	-436.6
543	SLV FO 12	-371	-2497	10898	29.38	-1890.99	-436.53
543	SLV FO 13	-1451	602	13179	-182.99	-2222.08	107.48
543	SLV FO 14	-1360	584	13123	-183.42	-2215.86	107.58
543	SLV FO 15	-1484	-790	12415	-89.78	-2104.98	-138.75
543	SLV FO 16	-1392	-808	12359	-90.21	-2098.76	-138.65
543	CRTFP Ux+	0	0	0	0	0	0
543	CRTFP Ux-	0	0	0	0	0	0
543	CRTFP Uy+	0	0	0	0	0	0
543	CRTFP Uy-	0	0	0	0	0	0
546	SLU 1	-42	8	3702	5.05	-663.65	1.98
546	SLU 2	-44	27	3721	4.83	-662.87	6.72
546	SLU 3	-43	8	3785	5.23	-678.9	2
546	SLU 4	-44	19	3796	5.09	-678.43	4.84
546	SLU 5	-44	27	3773	4.95	-672.62	6.8
546	SLU 6	-44	8	3837	5.35	-688.65	2.07
546	SLU 7	-44	19	3848	5.22	-688.18	4.92
546	SLU 8	-43	8	3807	5.29	-683.15	2.14
546	SLU 9	-44	20	3818	5.16	-682.68	4.98
546	SLU 10	-45	29	4188	5.55	-746.77	7.29
546	SLU 11	-44	10	4252	5.94	-762.8	2.57
546	SLU 12	-45	21	4263	5.81	-762.33	5.41
546	SLU 13	-45	29	4240	5.67	-756.52	7.37
546	SLU 14	-45	10	4304	6.07	-772.55	2.65
546	SLU 15	-45	22	4315	5.93	-772.08	5.49
546	SLU 16	-44	11	4274	6.01	-767.05	2.71
546	SLU 17	-45	22	4285	5.88	-766.59	5.55
546	SLU 18	-44	11	4369	6.07	-783.52	2.8
546	SLU 19	-44	22	4380	5.94	-783.05	5.64
546	SLU 20	-44	11	4422	6.2	-793.26	2.88
546	SLU 21	-45	23	4433	6.06	-792.8	5.72
546	SLU 22	-46	7	4279	6.06	-768.2	1.92
546	SLU 23	-47	26	4297	5.84	-767.42	6.66
546	SLU 24	-47	7	4361	6.24	-783.45	1.94
546	SLU 25	-48	19	4372	6.11	-782.98	4.78
546	SLU 26	-48	27	4349	5.96	-777.17	6.74
546	SLU 27	-47	8	4414	6.36	-793.2	2.01
546	SLU 28	-48	19	4425	6.23	-792.73	4.86
546	SLU 29	-47	8	4383	6.3	-787.7	2.07
546	SLU 30	-48	19	4394	6.17	-787.23	4.92
546	SLU 31	-48	29	4764	6.56	-851.33	7.23
546	SLU 32	-48	10	4828	6.96	-867.36	2.51
546	SLU 33	-49	21	4839	6.83	-866.89	5.35
546	SLU 34	-49	29	4816	6.68	-861.08	7.31
546	SLU 35	-48	10	4880	7.08	-877.11	2.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
546	SLU 36	-49	21	4891	6.95	-876.64	5.43
546	SLU 37	-48	10	4850	7.02	-871.61	2.65
546	SLU 38	-49	22	4861	6.89	-871.14	5.49
546	SLU 39	-47	11	4946	7.09	-888.07	2.74
546	SLU 40	-48	22	4957	6.96	-887.6	5.58
546	SLU 41	-48	11	4998	7.21	-897.82	2.82
546	SLU 42	-49	22	5009	7.08	-897.35	5.66
546	SLU 43	-54	10	4615	6.21	-826.9	2.6
546	SLU 44	-55	29	4634	6	-826.12	7.34
546	SLU 45	-54	10	4698	6.39	-842.14	2.61
546	SLU 46	-55	21	4709	6.26	-841.68	5.46
546	SLU 47	-55	29	4686	6.12	-835.87	7.41
546	SLU 48	-55	10	4750	6.51	-851.89	2.69
546	SLU 49	-56	22	4761	6.38	-851.43	5.53
546	SLU 50	-55	11	4720	6.46	-846.4	2.75
546	SLU 51	-55	22	4731	6.33	-845.93	5.59
546	SLU 52	-56	31	5101	6.71	-910.02	7.91
546	SLU 53	-55	12	5165	7.11	-926.05	3.19
546	SLU 54	-56	24	5176	6.98	-925.58	6.03
546	SLU 55	-56	32	5153	6.84	-919.77	7.99
546	SLU 56	-56	13	5217	7.23	-935.8	3.26
546	SLU 57	-57	24	5228	7.1	-935.33	6.11
546	SLU 58	-56	13	5187	7.18	-930.3	3.32
546	SLU 59	-56	24	5198	7.04	-929.83	6.17
546	SLU 60	-55	13	5282	7.24	-946.76	3.42
546	SLU 61	-56	25	5293	7.11	-946.29	6.26
546	SLU 62	-56	14	5335	7.36	-956.51	3.49
546	SLU 63	-56	25	5346	7.23	-956.04	6.34
546	SLU 64	-57	10	5192	7.23	-931.45	2.54
546	SLU 65	-59	29	5210	7.01	-930.67	7.28
546	SLU 66	-58	10	5274	7.41	-946.7	2.55
546	SLU 67	-59	21	5285	7.28	-946.23	5.4
546	SLU 68	-59	29	5262	7.13	-940.42	7.35
546	SLU 69	-59	10	5327	7.53	-956.45	2.63
546	SLU 70	-60	22	5338	7.4	-955.98	5.47
546	SLU 71	-58	10	5296	7.47	-950.95	2.69
546	SLU 72	-59	22	5307	7.34	-950.48	5.53
546	SLU 73	-60	31	5677	7.73	-1014.58	7.85
546	SLU 74	-59	12	5741	8.13	-1030.6	3.13
546	SLU 75	-60	24	5752	7.99	-1030.14	5.97
546	SLU 76	-60	31	5729	7.85	-1024.33	7.93
546	SLU 77	-60	12	5794	8.25	-1040.35	3.2
546	SLU 78	-61	24	5805	8.11	-1039.89	6.05
546	SLU 79	-59	13	5763	8.19	-1034.86	3.26
546	SLU 80	-60	24	5774	8.06	-1034.39	6.11
546	SLU 81	-59	13	5859	8.26	-1051.32	3.36
546	SLU 82	-60	24	5870	8.12	-1050.85	6.2
546	SLU 83	-59	13	5911	8.38	-1061.07	3.43
546	SLU 84	-60	25	5922	8.24	-1060.6	6.28
546	SLE RA 1	-43	8	3867	5.34	-693.52	1.97
546	SLE RA 2	-44	20	3879	5.19	-693	5.13
546	SLE RA 3	-44	8	3922	5.46	-703.69	1.98
546	SLE RA 4	-44	15	3929	5.37	-703.37	3.87
546	SLE RA 5	-45	20	3914	5.27	-699.5	5.18
546	SLE RA 6	-44	8	3957	5.54	-710.19	2.03
546	SLE RA 7	-45	15	3964	5.45	-709.87	3.92
546	SLE RA 8	-44	8	3937	5.5	-706.52	2.07
546	SLE RA 9	-44	16	3944	5.41	-706.21	3.96
546	SLE RA 10	-45	22	4190	5.67	-748.94	5.51
546	SLE RA 11	-45	9	4233	5.94	-759.62	2.36
546	SLE RA 12	-45	17	4241	5.85	-759.31	4.25
546	SLE RA 13	-45	22	4225	5.75	-755.44	5.56
546	SLE RA 14	-45	9	4268	6.02	-766.12	2.41
546	SLE RA 15	-45	17	4276	5.93	-765.81	4.3
546	SLE RA 16	-45	10	4248	5.98	-762.46	2.45
546	SLE RA 17	-45	17	4255	5.89	-762.15	4.34
546	SLE RA 18	-44	10	4312	6.02	-773.43	2.51
546	SLE RA 19	-45	17	4319	5.93	-773.12	4.41
546	SLE RA 20	-45	10	4346	6.1	-779.93	2.56
546	SLE RA 21	-45	18	4354	6.02	-779.62	4.46
546	SLE FR 1	-43	8	3867	5.34	-693.52	1.97
546	SLE FR 2	-44	10	3869	5.31	-693.42	2.6
546	SLE FR 3	-43	8	3881	5.37	-696.12	1.99
546	SLE FR 4	-44	11	4003	5.51	-717.39	2.76
546	SLE FR 5	-44	8	4014	5.58	-720.09	2.15
546	SLE FR 6	-44	9	4089	5.68	-733.48	2.24
546	SLE QP 1	-43	8	3867	5.34	-693.52	1.97
546	SLE QP 2	-44	8	4000	5.54	-717.49	2.13
546	SLD 1	212	73	5369	5.92	-929.46	18.44
546	SLD 2	226	-30	5359	6.21	-933.32	-7.13
546	SLD 3	225	-165	5058	8.89	-923.85	-40.99
546	SLD 4	239	-268	5047	9.18	-927.72	-66.56
546	SLD 5	11	407	4886	1.1	-788.92	101.56
546	SLD 6	20	340	4879	1.29	-791.41	85.09
546	SLD 7	54	-387	3847	11	-770.24	-96.54
546	SLD 8	63	-453	3840	11.19	-772.73	-113.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
546	SLD 9	-151	470	4161	-0.1	-662.26	117.27
546	SLD 10	-142	403	4154	0.09	-664.75	100.8
546	SLD 11	-107	-324	3122	9.8	-643.58	-80.83
546	SLD 12	-98	-390	3115	9.98	-646.07	-97.3
546	SLD 13	-327	284	2954	1.9	-507.27	70.82
546	SLD 14	-312	181	2943	2.2	-511.13	45.25
546	SLD 15	-314	46	2642	4.87	-501.67	11.39
546	SLD 16	-299	-57	2631	5.17	-505.53	-14.18
546	SLV 1	356	128	6160	5.91	-1048.39	32.1
546	SLV 2	378	-34	6143	6.37	-1054.48	-8.21
546	SLV 3	378	-278	5627	10.98	-1039.2	-69.29
546	SLV 4	400	-440	5610	11.44	-1045.3	-109.59
546	SLV 5	39	690	5459	-2.12	-829.55	172.42
546	SLV 6	54	581	5447	-1.81	-833.66	145.28
546	SLV 7	112	-663	3684	14.77	-798.94	-165.55
546	SLV 8	127	-773	3673	15.08	-803.04	-192.68
546	SLV 9	-214	789	4328	-3.99	-631.94	196.94
546	SLV 10	-199	680	4317	-3.68	-636.05	169.8
546	SLV 11	-141	-565	2553	12.89	-601.33	-141.02
546	SLV 12	-126	-674	2542	13.2	-605.43	-168.16
546	SLV 13	-488	457	2390	-0.35	-389.69	113.85
546	SLV 14	-465	295	2373	0.11	-395.78	73.55
546	SLV 15	-466	51	1858	4.71	-380.51	12.46
546	SLV 16	-443	-111	1841	5.18	-386.6	-27.84
546	SLV FO 1	396	140	6376	5.95	-1081.48	35.1
546	SLV FO 2	421	-39	6357	6.45	-1088.18	-9.24
546	SLV FO 3	420	-307	5790	11.52	-1071.38	-76.43
546	SLV FO 4	445	-485	5771	12.03	-1078.08	-120.77
546	SLV FO 5	47	759	5605	-2.88	-840.76	189.44
546	SLV FO 6	64	638	5592	-2.54	-845.27	159.59
546	SLV FO 7	127	-730	3653	15.69	-807.09	-182.31
546	SLV FO 8	144	-851	3640	16.03	-811.6	-212.16
546	SLV FO 9	-231	867	4361	-4.95	-623.39	216.42
546	SLV FO 10	-215	747	4348	-4.61	-627.9	186.57
546	SLV FO 11	-151	-622	2409	13.63	-589.72	-155.33
546	SLV FO 12	-134	-742	2396	13.97	-594.23	-185.18
546	SLV FO 13	-532	502	2229	-0.94	-356.91	125.03
546	SLV FO 14	-507	323	2211	-0.43	-363.61	80.69
546	SLV FO 15	-508	55	1644	4.63	-346.81	13.5
546	SLV FO 16	-483	-123	1625	5.14	-353.51	-30.84
546	CRTFP Ux+	0	0	0	0	0	0
546	CRTFP Ux-	0	0	0	0	0	0
546	CRTFP Uy+	0	0	0	0	0	0
546	CRTFP Uy-	0	0	0	0	0	0
549	SLU 1	-61	-22	6285	2.86	-23.8	-0.35
549	SLU 2	-62	10	6300	2.4	-22.58	-0.47
549	SLU 3	-62	-23	6426	3.08	-24.61	-0.38
549	SLU 4	-63	-4	6436	2.8	-23.87	-0.45
549	SLU 5	-63	9	6392	2.55	-23.2	-0.49
549	SLU 6	-63	-23	6518	3.24	-25.23	-0.4
549	SLU 7	-63	-4	6527	2.96	-24.5	-0.47
549	SLU 8	-62	-23	6468	3.18	-25.04	-0.39
549	SLU 9	-63	-4	6478	2.9	-24.31	-0.46
549	SLU 10	-63	9	7140	2.97	-27.31	-0.53
549	SLU 11	-63	-24	7266	3.66	-29.34	-0.44
549	SLU 12	-63	-5	7275	3.38	-28.6	-0.51
549	SLU 13	-63	8	7231	3.13	-27.93	-0.55
549	SLU 14	-64	-24	7358	3.81	-29.96	-0.46
549	SLU 15	-64	-5	7367	3.53	-29.22	-0.53
549	SLU 16	-63	-24	7308	3.75	-29.77	-0.45
549	SLU 17	-64	-5	7317	3.47	-29.04	-0.53
549	SLU 18	-62	-24	7484	3.68	-30.56	-0.44
549	SLU 19	-63	-5	7493	3.4	-29.82	-0.51
549	SLU 20	-63	-24	7576	3.84	-31.18	-0.46
549	SLU 21	-63	-5	7585	3.56	-30.44	-0.53
549	SLU 22	-67	-25	7278	3.82	-27.96	-0.5
549	SLU 23	-68	7	7293	3.36	-26.74	-0.62
549	SLU 24	-68	-25	7419	4.04	-28.76	-0.53
549	SLU 25	-68	-6	7429	3.76	-28.03	-0.6
549	SLU 26	-68	7	7385	3.51	-27.36	-0.64
549	SLU 27	-68	-26	7511	4.2	-29.38	-0.55
549	SLU 28	-69	-7	7520	3.92	-28.65	-0.62
549	SLU 29	-68	-26	7461	4.14	-29.2	-0.54
549	SLU 30	-68	-6	7470	3.86	-28.47	-0.61
549	SLU 31	-68	6	8133	3.93	-31.46	-0.68
549	SLU 32	-69	-27	8259	4.62	-33.49	-0.59
549	SLU 33	-69	-7	8268	4.34	-32.76	-0.66
549	SLU 34	-69	6	8224	4.09	-32.08	-0.7
549	SLU 35	-69	-27	8351	4.77	-34.11	-0.61
549	SLU 36	-70	-8	8360	4.49	-33.38	-0.68
549	SLU 37	-69	-27	8301	4.71	-33.93	-0.61
549	SLU 38	-69	-8	8310	4.43	-33.19	-0.68
549	SLU 39	-68	-26	8477	4.64	-34.71	-0.59
549	SLU 40	-68	-7	8486	4.36	-33.98	-0.66
549	SLU 41	-68	-27	8569	4.8	-35.33	-0.61
549	SLU 42	-69	-8	8578	4.52	-34.6	-0.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
549	SLU 43	-78	-28	7830	3.39	-29.52	-0.4
549	SLU 44	-78	4	7845	2.93	-28.3	-0.52
549	SLU 45	-79	-29	7971	3.61	-30.32	-0.43
549	SLU 46	-79	-9	7981	3.33	-29.59	-0.5
549	SLU 47	-79	4	7937	3.08	-28.92	-0.54
549	SLU 48	-79	-29	8063	3.77	-30.94	-0.45
549	SLU 49	-80	-10	8072	3.49	-30.21	-0.52
549	SLU 50	-79	-29	8013	3.71	-30.76	-0.45
549	SLU 51	-79	-10	8023	3.43	-30.03	-0.52
549	SLU 52	-79	3	8685	3.5	-33.03	-0.59
549	SLU 53	-79	-30	8811	4.19	-35.05	-0.49
549	SLU 54	-80	-11	8820	3.91	-34.32	-0.56
549	SLU 55	-80	2	8776	3.66	-33.65	-0.61
549	SLU 56	-80	-30	8903	4.34	-35.67	-0.51
549	SLU 57	-81	-11	8912	4.06	-34.94	-0.59
549	SLU 58	-79	-30	8853	4.28	-35.49	-0.51
549	SLU 59	-80	-11	8862	4	-34.76	-0.58
549	SLU 60	-79	-30	9029	4.21	-36.27	-0.49
549	SLU 61	-79	-10	9038	3.93	-35.54	-0.56
549	SLU 62	-79	-30	9121	4.37	-36.89	-0.51
549	SLU 63	-80	-11	9130	4.09	-36.16	-0.59
549	SLU 64	-83	-31	8823	4.35	-33.67	-0.55
549	SLU 65	-84	1	8838	3.89	-32.45	-0.67
549	SLU 66	-84	-31	8964	4.57	-34.48	-0.58
549	SLU 67	-85	-12	8974	4.29	-33.75	-0.65
549	SLU 68	-85	1	8930	4.04	-33.07	-0.69
549	SLU 69	-85	-32	9056	4.73	-35.1	-0.6
549	SLU 70	-85	-12	9065	4.45	-34.37	-0.67
549	SLU 71	-84	-31	9006	4.67	-34.92	-0.6
549	SLU 72	-85	-12	9015	4.39	-34.18	-0.67
549	SLU 73	-85	0	9677	4.46	-37.18	-0.74
549	SLU 74	-85	-32	9804	5.15	-39.21	-0.64
549	SLU 75	-85	-13	9813	4.87	-38.47	-0.72
549	SLU 76	-85	0	9769	4.62	-37.8	-0.76
549	SLU 77	-86	-33	9896	5.3	-39.83	-0.66
549	SLU 78	-86	-14	9905	5.02	-39.09	-0.74
549	SLU 79	-85	-33	9846	5.24	-39.64	-0.66
549	SLU 80	-86	-13	9855	4.96	-38.91	-0.73
549	SLU 81	-84	-32	10022	5.17	-40.43	-0.64
549	SLU 82	-85	-13	10031	4.89	-39.69	-0.72
549	SLU 83	-85	-33	10114	5.33	-41.05	-0.66
549	SLU 84	-85	-13	10123	5.05	-40.32	-0.74
549	SLE RA 1	-63	-23	6568	3.14	-24.99	-0.39
549	SLE RA 2	-63	-2	6579	2.83	-24.18	-0.47
549	SLE RA 3	-63	-23	6663	3.28	-25.53	-0.41
549	SLE RA 4	-64	-11	6669	3.1	-25.04	-0.46
549	SLE RA 5	-64	-2	6640	2.93	-24.59	-0.49
549	SLE RA 6	-64	-24	6724	3.39	-25.94	-0.43
549	SLE RA 7	-64	-11	6730	3.2	-25.45	-0.47
549	SLE RA 8	-64	-24	6691	3.35	-25.82	-0.42
549	SLE RA 9	-64	-11	6697	3.16	-25.33	-0.47
549	SLE RA 10	-64	-2	7138	3.21	-27.33	-0.51
549	SLE RA 11	-64	-24	7223	3.67	-28.68	-0.45
549	SLE RA 12	-64	-11	7229	3.48	-28.19	-0.5
549	SLE RA 13	-64	-3	7200	3.31	-27.74	-0.53
549	SLE RA 14	-64	-24	7284	3.77	-29.09	-0.47
549	SLE RA 15	-65	-12	7290	3.58	-28.6	-0.51
549	SLE RA 16	-64	-24	7251	3.73	-28.97	-0.46
549	SLE RA 17	-64	-11	7257	3.54	-28.48	-0.51
549	SLE RA 18	-63	-24	7368	3.68	-29.49	-0.45
549	SLE RA 19	-64	-11	7374	3.5	-29	-0.5
549	SLE RA 20	-64	-24	7429	3.79	-29.91	-0.47
549	SLE RA 21	-64	-12	7435	3.6	-29.42	-0.51
549	SLE FR 1	-63	-23	6568	3.14	-24.99	-0.39
549	SLE FR 2	-63	-19	6570	3.08	-24.83	-0.41
549	SLE FR 3	-63	-23	6593	3.18	-25.16	-0.4
549	SLE FR 4	-63	-19	6810	3.24	-26.18	-0.43
549	SLE FR 5	-63	-23	6833	3.34	-26.51	-0.42
549	SLE FR 6	-63	-24	6968	3.41	-27.24	-0.42
549	SLE QP 1	-63	-23	6568	3.14	-24.99	-0.39
549	SLE QP 2	-63	-23	6808	3.3	-26.34	-0.41
549	SLD 1	484	125	7579	0.96	3.79	1.35
549	SLD 2	512	45	7554	1.35	2.51	3.64
549	SLD 3	495	-273	7319	7.37	-10.22	2.65
549	SLD 4	523	-352	7295	7.75	-11.5	4.94
549	SLD 5	80	638	7437	-7.18	4.17	-2.24
549	SLD 6	98	586	7422	-6.93	3.34	-0.76
549	SLD 7	116	-687	6572	14.17	-42.53	2.07
549	SLD 8	134	-739	6556	14.42	-43.36	3.55
549	SLD 9	-260	692	7060	-7.81	-9.33	-4.37
549	SLD 10	-242	641	7045	-7.57	-10.15	-2.9
549	SLD 11	-223	-633	6195	13.54	-56.03	-0.06
549	SLD 12	-206	-685	6179	13.79	-56.85	1.41
549	SLD 13	-649	306	6322	-1.15	-41.18	-5.76
549	SLD 14	-621	226	6298	-0.76	-42.46	-3.47
549	SLD 15	-638	-92	6062	5.26	-55.19	-4.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
549	SLD 16	-610	-172	6038	5.64	-56.47	-2.18
549	SLV 1	794	237	8030	-0.82	21.73	2.23
549	SLV 2	837	112	7991	-0.21	19.72	5.84
549	SLV 3	811	-441	7586	10.11	-2.17	4.43
549	SLV 4	854	-567	7548	10.72	-4.18	8.04
549	SLV 5	159	1107	7854	-14.62	24.71	-3.63
549	SLV 6	188	1022	7828	-14.22	23.35	-1.2
549	SLV 7	218	-1154	6376	21.81	-54.97	3.71
549	SLV 8	247	-1238	6351	22.22	-56.32	6.14
549	SLV 9	-373	1192	7266	-15.61	3.64	-6.96
549	SLV 10	-344	1107	7240	-15.2	2.28	-4.53
549	SLV 11	-314	-1069	5788	20.82	-76.03	0.38
549	SLV 12	-285	-1153	5762	21.23	-77.39	2.81
549	SLV 13	-980	520	6069	-4.12	-48.5	-8.86
549	SLV 14	-937	394	6030	-3.51	-50.51	-5.25
549	SLV 15	-963	-158	5625	6.81	-72.4	-6.66
549	SLV 16	-920	-284	5587	7.42	-74.41	-3.05
549	SLV FO 1	879	263	8152	-1.23	26.54	2.49
549	SLV FO 2	927	125	8110	-0.56	24.33	6.47
549	SLV FO 3	899	-483	7664	10.79	0.24	4.92
549	SLV FO 4	946	-621	7622	11.46	-1.97	8.89
549	SLV FO 5	182	1220	7959	-16.42	29.81	-3.95
549	SLV FO 6	214	1127	7931	-15.97	28.32	-1.28
549	SLV FO 7	246	-1267	6333	23.66	-57.83	4.12
549	SLV FO 8	278	-1360	6305	24.11	-59.32	6.79
549	SLV FO 9	-404	1313	7312	-17.5	6.63	-7.62
549	SLV FO 10	-372	1220	7283	-17.06	5.15	-4.94
549	SLV FO 11	-339	-1173	5686	22.57	-81	0.46
549	SLV FO 12	-307	-1266	5658	23.02	-82.49	3.13
549	SLV FO 13	-1072	574	5995	-4.86	-50.72	-9.71
549	SLV FO 14	-1025	436	5953	-4.19	-52.93	-5.74
549	SLV FO 15	-1053	-172	5507	7.17	-77.01	-7.29
549	SLV FO 16	-1005	-310	5465	7.83	-79.22	-3.32
549	CRTFP Ux+	0	0	0	0	0	0
549	CRTFP Ux-	0	0	0	0	0	0
549	CRTFP Uy+	0	0	0	0	0	0
549	CRTFP Uy-	0	0	0	0	0	0
552	SLU 1	128	-78	6251	1.68	14.72	-0.67
552	SLU 2	128	-46	6268	1.17	12.29	-0.59
552	SLU 3	130	-80	6385	1.89	14.99	-0.72
552	SLU 4	131	-61	6396	1.58	13.53	-0.67
552	SLU 5	129	-47	6355	1.32	12.45	-0.64
552	SLU 6	132	-81	6472	2.04	15.15	-0.77
552	SLU 7	132	-62	6483	1.73	13.69	-0.73
552	SLU 8	131	-80	6425	2	15.04	-0.77
552	SLU 9	131	-61	6435	1.69	13.58	-0.73
552	SLU 10	138	-53	7065	1.51	14.05	-0.68
552	SLU 11	140	-87	7182	2.23	16.74	-0.81
552	SLU 12	141	-68	7192	1.92	15.29	-0.77
552	SLU 13	140	-54	7152	1.67	14.21	-0.74
552	SLU 14	142	-88	7269	2.39	16.9	-0.87
552	SLU 15	142	-68	7279	2.08	15.45	-0.82
552	SLU 16	141	-87	7221	2.35	16.79	-0.87
552	SLU 17	141	-68	7232	2.04	15.34	-0.82
552	SLU 18	142	-88	7389	2.18	17.22	-0.8
552	SLU 19	142	-69	7399	1.87	15.77	-0.75
552	SLU 20	143	-89	7476	2.34	17.38	-0.85
552	SLU 21	144	-70	7486	2.03	15.93	-0.81
552	SLU 22	144	-86	7215	2.44	16.49	-0.74
552	SLU 23	144	-55	7233	1.92	14.07	-0.67
552	SLU 24	147	-88	7350	2.64	16.76	-0.8
552	SLU 25	147	-69	7360	2.33	15.31	-0.75
552	SLU 26	146	-56	7320	2.08	14.23	-0.72
552	SLU 27	148	-89	7437	2.8	16.92	-0.85
552	SLU 28	148	-70	7447	2.49	15.47	-0.8
552	SLU 29	147	-88	7389	2.75	16.81	-0.85
552	SLU 30	147	-69	7400	2.44	15.35	-0.8
552	SLU 31	154	-62	8029	2.27	15.82	-0.76
552	SLU 32	157	-95	8146	2.99	18.52	-0.89
552	SLU 33	157	-76	8157	2.68	17.06	-0.84
552	SLU 34	156	-62	8116	2.43	15.98	-0.81
552	SLU 35	158	-96	8233	3.14	18.68	-0.94
552	SLU 36	158	-77	8244	2.83	17.22	-0.9
552	SLU 37	157	-95	8186	3.1	18.56	-0.94
552	SLU 38	157	-76	8196	2.79	17.11	-0.9
552	SLU 39	158	-96	8353	2.93	19	-0.88
552	SLU 40	158	-77	8363	2.62	17.54	-0.83
552	SLU 41	160	-97	8440	3.09	19.16	-0.93
552	SLU 42	160	-78	8451	2.78	17.7	-0.88
552	SLU 43	160	-99	7795	1.93	18.52	-0.84
552	SLU 44	161	-67	7813	1.41	16.1	-0.76
552	SLU 45	163	-100	7930	2.13	18.8	-0.89
552	SLU 46	163	-81	7940	1.82	17.34	-0.85
552	SLU 47	162	-68	7900	1.57	16.26	-0.82
552	SLU 48	165	-101	8017	2.29	18.96	-0.95
552	SLU 49	165	-82	8027	1.98	17.5	-0.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
552	SLU 50	163	-101	7969	2.24	18.84	-0.95
552	SLU 51	164	-82	7980	1.93	17.39	-0.9
552	SLU 52	171	-74	8609	1.76	17.85	-0.86
552	SLU 53	173	-107	8726	2.48	20.55	-0.99
552	SLU 54	173	-88	8737	2.17	19.1	-0.94
552	SLU 55	172	-75	8696	1.92	18.01	-0.91
552	SLU 56	175	-108	8813	2.64	20.71	-1.04
552	SLU 57	175	-89	8824	2.33	19.26	-0.99
552	SLU 58	173	-108	8766	2.59	20.6	-1.04
552	SLU 59	174	-88	8776	2.28	19.14	-1
552	SLU 60	175	-109	8933	2.43	21.03	-0.97
552	SLU 61	175	-90	8943	2.12	19.58	-0.93
552	SLU 62	176	-110	9020	2.58	21.19	-1.03
552	SLU 63	176	-91	9031	2.27	19.73	-0.98
552	SLU 64	177	-107	8760	2.68	20.3	-0.92
552	SLU 65	177	-75	8777	2.17	17.87	-0.84
552	SLU 66	179	-109	8894	2.89	20.57	-0.97
552	SLU 67	180	-89	8905	2.58	19.12	-0.92
552	SLU 68	178	-76	8864	2.32	18.03	-0.89
552	SLU 69	181	-109	8981	3.04	20.73	-1.02
552	SLU 70	181	-90	8992	2.73	19.28	-0.98
552	SLU 71	179	-109	8934	3	20.62	-1.02
552	SLU 72	180	-90	8944	2.69	19.16	-0.98
552	SLU 73	187	-82	9574	2.52	19.63	-0.93
552	SLU 74	189	-115	9691	3.23	22.33	-1.06
552	SLU 75	190	-96	9701	2.92	20.87	-1.02
552	SLU 76	188	-83	9661	2.67	19.79	-0.99
552	SLU 77	191	-116	9778	3.39	22.48	-1.12
552	SLU 78	191	-97	9788	3.08	21.03	-1.07
552	SLU 79	190	-116	9730	3.35	22.37	-1.12
552	SLU 80	190	-97	9741	3.04	20.92	-1.07
552	SLU 81	191	-117	9898	3.18	22.8	-1.05
552	SLU 82	191	-98	9908	2.87	21.35	-1
552	SLU 83	192	-118	9985	3.34	22.96	-1.1
552	SLU 84	193	-99	9995	3.03	21.51	-1.06
552	SLE RA 1	132	-81	6526	1.9	15.22	-0.69
552	SLE RA 2	133	-59	6538	1.55	13.61	-0.64
552	SLE RA 3	134	-82	6616	2.03	15.41	-0.72
552	SLE RA 4	134	-69	6623	1.83	14.44	-0.69
552	SLE RA 5	134	-60	6596	1.66	13.71	-0.67
552	SLE RA 6	135	-82	6674	2.14	15.51	-0.76
552	SLE RA 7	135	-69	6681	1.93	14.54	-0.73
552	SLE RA 8	134	-82	6642	2.11	15.44	-0.76
552	SLE RA 9	134	-69	6649	1.9	14.47	-0.73
552	SLE RA 10	139	-64	7069	1.79	14.78	-0.7
552	SLE RA 11	141	-86	7147	2.27	16.58	-0.79
552	SLE RA 12	141	-73	7154	2.06	15.61	-0.76
552	SLE RA 13	140	-65	7127	1.89	14.88	-0.74
552	SLE RA 14	142	-87	7205	2.37	16.68	-0.82
552	SLE RA 15	142	-74	7212	2.16	15.71	-0.79
552	SLE RA 16	141	-86	7173	2.34	16.61	-0.82
552	SLE RA 17	141	-74	7180	2.13	15.64	-0.79
552	SLE RA 18	142	-87	7285	2.23	16.89	-0.78
552	SLE RA 19	142	-74	7292	2.02	15.93	-0.75
552	SLE RA 20	143	-88	7343	2.33	17	-0.81
552	SLE RA 21	143	-75	7350	2.13	16.03	-0.78
552	SLE FR 1	132	-81	6526	1.9	15.22	-0.69
552	SLE FR 2	132	-76	6529	1.83	14.9	-0.68
552	SLE FR 3	133	-81	6550	1.94	15.27	-0.7
552	SLE FR 4	135	-78	6756	1.93	15.4	-0.7
552	SLE FR 5	136	-83	6777	2.04	15.77	-0.73
552	SLE FR 6	137	-84	6906	2.06	16.06	-0.73
552	SLE QP 1	132	-81	6526	1.9	15.22	-0.69
552	SLE QP 2	135	-82	6754	2	15.73	-0.71
552	SLD 1	684	178	6498	-1.78	10.93	2.79
552	SLD 2	717	256	6523	-2.25	7.66	5.17
552	SLD 3	673	-223	6192	5.19	37.43	2.03
552	SLD 4	707	-145	6218	4.71	34.17	4.41
552	SLD 5	311	591	7136	-9.62	-25.35	1.08
552	SLD 6	332	641	7153	-9.92	-27.45	2.61
552	SLD 7	274	-747	6117	13.6	62.99	-1.45
552	SLD 8	296	-697	6134	13.3	60.89	0.08
552	SLD 9	-26	532	7374	-9.3	-29.44	-1.51
552	SLD 10	-4	582	7390	-9.61	-31.54	0.02
552	SLD 11	-62	-806	6355	13.92	58.9	-4.04
552	SLD 12	-40	-756	6371	13.61	56.8	-2.51
552	SLD 13	-436	-19	7290	-0.72	-2.72	-5.84
552	SLD 14	-403	58	7315	-1.19	-5.98	-3.46
552	SLD 15	-447	-421	6984	6.25	23.79	-6.6
552	SLD 16	-414	-343	7010	5.77	20.52	-4.22
552	SLV 1	995	354	6377	-4.42	6.69	4.79
552	SLV 2	1047	476	6417	-5.18	1.55	8.54
552	SLV 3	977	-331	5855	7.46	51.88	3.5
552	SLV 4	1029	-209	5895	6.71	46.74	7.25
552	SLV 5	410	1064	7425	-17.81	-54.56	2.2
552	SLV 6	445	1147	7452	-18.32	-58.03	4.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
552	SLV 7	351	-1219	5685	21.8	96.07	-2.11
552	SLV 8	387	-1137	5712	21.3	92.61	0.42
552	SLV 9	-116	972	7795	-17.3	-61.16	-1.84
552	SLV 10	-81	1054	7822	-17.81	-64.62	0.68
552	SLV 11	-175	-1312	6056	22.32	89.48	-6.15
552	SLV 12	-140	-1229	6083	21.81	86.02	-3.63
552	SLV 13	-759	44	7613	-2.71	-15.29	-8.68
552	SLV 14	-707	166	7653	-3.47	-20.43	-4.93
552	SLV 15	-777	-641	7091	9.17	29.9	-9.97
552	SLV 16	-724	-519	7131	8.42	24.76	-6.22
552	SLV FO 1	1081	397	6339	-5.07	5.78	5.34
552	SLV FO 2	1138	532	6383	-5.89	0.13	9.47
552	SLV FO 3	1061	-356	5765	8.01	55.49	3.92
552	SLV FO 4	1119	-222	5809	7.18	49.84	8.05
552	SLV FO 5	437	1179	7492	-19.79	-61.59	2.49
552	SLV FO 6	476	1270	7521	-20.35	-65.4	5.27
552	SLV FO 7	373	-1333	5578	23.78	104.1	-2.25
552	SLV FO 8	412	-1242	5608	23.23	100.29	0.53
552	SLV FO 9	-141	1077	7900	-19.23	-68.84	-1.96
552	SLV FO 10	-102	1168	7929	-19.79	-72.65	0.82
552	SLV FO 11	-206	-1435	5986	24.35	96.85	-6.7
552	SLV FO 12	-167	-1344	6016	23.79	93.04	-3.92
552	SLV FO 13	-848	57	7699	-3.18	-18.39	-9.48
552	SLV FO 14	-791	191	7743	-4.01	-24.04	-5.35
552	SLV FO 15	-868	-697	7125	9.89	31.32	-10.9
552	SLV FO 16	-810	-562	7169	9.06	25.67	-6.77
552	CRTFP Ux+	0	0	0	0	0	0
552	CRTFP Ux-	0	0	0	0	0	0
552	CRTFP Uy+	0	0	0	0	0	0
552	CRTFP Uy-	0	0	0	0	0	0
555	SLU 1	63	20	4338	6.79	1146.52	-7.14
555	SLU 2	64	42	4356	6.55	1146.15	-14.96
555	SLU 3	64	21	4436	7.04	1172.86	-7.47
555	SLU 4	65	34	4447	6.89	1172.64	-12.17
555	SLU 5	65	43	4419	6.73	1163.56	-15.44
555	SLU 6	65	22	4500	7.22	1190.27	-7.96
555	SLU 7	66	35	4510	7.07	1190.05	-12.65
555	SLU 8	65	22	4465	7.15	1181.34	-8.1
555	SLU 9	65	36	4476	7	1181.12	-12.8
555	SLU 10	68	44	4888	7.47	1285.47	-15.73
555	SLU 11	68	23	4968	7.96	1312.18	-8.24
555	SLU 12	69	36	4978	7.81	1311.96	-12.94
555	SLU 13	69	45	4951	7.65	1302.88	-16.21
555	SLU 14	69	24	5031	8.14	1329.59	-8.73
555	SLU 15	70	37	5042	7.99	1329.36	-13.42
555	SLU 16	69	24	4997	8.07	1320.66	-8.88
555	SLU 17	69	38	5008	7.92	1320.44	-13.57
555	SLU 18	68	23	5098	8.11	1345.55	-8.24
555	SLU 19	69	36	5108	7.96	1345.33	-12.93
555	SLU 20	69	24	5161	8.29	1362.96	-8.72
555	SLU 21	70	37	5172	8.14	1362.73	-13.42
555	SLU 22	70	19	4992	8.08	1319.92	-6.83
555	SLU 23	71	41	5010	7.84	1319.54	-14.65
555	SLU 24	71	20	5090	8.33	1346.25	-7.16
555	SLU 25	72	33	5101	8.18	1346.03	-11.86
555	SLU 26	72	42	5073	8.02	1336.95	-15.14
555	SLU 27	72	21	5154	8.51	1363.66	-7.65
555	SLU 28	73	34	5164	8.36	1363.44	-12.34
555	SLU 29	72	21	5119	8.44	1354.73	-7.8
555	SLU 30	72	35	5130	8.29	1354.51	-12.49
555	SLU 31	75	43	5542	8.76	1458.86	-15.42
555	SLU 32	75	22	5622	9.25	1485.57	-7.94
555	SLU 33	76	35	5632	9.1	1485.35	-12.63
555	SLU 34	76	45	5605	8.94	1476.27	-15.91
555	SLU 35	76	23	5685	9.43	1502.98	-8.42
555	SLU 36	77	37	5696	9.28	1502.75	-13.11
555	SLU 37	76	24	5651	9.36	1494.05	-8.57
555	SLU 38	76	37	5662	9.21	1493.83	-13.26
555	SLU 39	75	22	5752	9.4	1518.94	-7.93
555	SLU 40	76	35	5763	9.25	1518.72	-12.63
555	SLU 41	76	23	5815	9.58	1536.35	-8.42
555	SLU 42	77	36	5826	9.43	1536.13	-13.11
555	SLU 43	79	26	5416	8.39	1431.03	-9.38
555	SLU 44	81	48	5433	8.14	1430.66	-17.2
555	SLU 45	81	27	5513	8.64	1457.37	-9.72
555	SLU 46	82	40	5524	8.49	1457.15	-14.41
555	SLU 47	81	50	5497	8.32	1448.07	-17.69
555	SLU 48	82	28	5577	8.82	1474.78	-10.2
555	SLU 49	82	42	5587	8.67	1474.56	-14.89
555	SLU 50	81	29	5543	8.75	1465.85	-10.35
555	SLU 51	82	42	5553	8.6	1465.63	-15.04
555	SLU 52	84	50	5965	9.06	1569.98	-17.98
555	SLU 53	85	29	6045	9.56	1596.69	-10.49
555	SLU 54	85	42	6056	9.41	1596.46	-15.18
555	SLU 55	85	52	6028	9.24	1587.39	-18.46
555	SLU 56	86	30	6108	9.74	1614.1	-10.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
555	SLU 57	86	44	6119	9.59	1613.87	-15.67
555	SLU 58	85	31	6074	9.67	1605.17	-11.12
555	SLU 59	86	44	6085	9.52	1604.94	-15.82
555	SLU 60	85	29	6175	9.71	1630.06	-10.49
555	SLU 61	86	42	6186	9.56	1629.84	-15.18
555	SLU 62	86	30	6239	9.88	1647.47	-10.97
555	SLU 63	86	44	6249	9.74	1647.24	-15.66
555	SLU 64	86	25	6070	9.68	1604.42	-9.08
555	SLU 65	88	47	6087	9.43	1604.05	-16.9
555	SLU 66	88	26	6167	9.93	1630.76	-9.41
555	SLU 67	89	39	6178	9.78	1630.54	-14.1
555	SLU 68	88	49	6151	9.61	1621.46	-17.38
555	SLU 69	89	27	6231	10.11	1648.17	-9.89
555	SLU 70	89	41	6241	9.96	1647.95	-14.59
555	SLU 71	88	28	6197	10.04	1639.24	-10.04
555	SLU 72	89	41	6207	9.89	1639.02	-14.74
555	SLU 73	91	49	6619	10.35	1743.37	-17.67
555	SLU 74	92	28	6699	10.85	1770.08	-10.18
555	SLU 75	92	41	6710	10.7	1769.86	-14.88
555	SLU 76	92	51	6682	10.53	1760.78	-18.15
555	SLU 77	93	29	6762	11.03	1787.49	-10.67
555	SLU 78	93	43	6773	10.88	1787.26	-15.36
555	SLU 79	92	30	6728	10.96	1778.56	-10.81
555	SLU 80	93	43	6739	10.81	1778.34	-15.51
555	SLU 81	92	28	6829	11	1803.45	-10.18
555	SLU 82	93	41	6840	10.85	1803.23	-14.87
555	SLU 83	93	29	6893	11.17	1820.86	-10.66
555	SLU 84	93	43	6903	11.03	1820.63	-15.36
555	SLE RA 1	65	19	4525	7.16	1196.07	-7.05
555	SLE RA 2	66	34	4537	7	1195.82	-12.26
555	SLE RA 3	66	20	4590	7.33	1213.62	-7.27
555	SLE RA 4	66	29	4597	7.23	1213.47	-10.4
555	SLE RA 5	66	35	4579	7.12	1207.42	-12.59
555	SLE RA 6	67	21	4633	7.45	1225.23	-7.59
555	SLE RA 7	67	30	4640	7.35	1225.08	-10.72
555	SLE RA 8	66	21	4610	7.4	1219.28	-7.69
555	SLE RA 9	67	30	4617	7.3	1219.13	-10.82
555	SLE RA 10	68	36	4891	7.61	1288.7	-12.78
555	SLE RA 11	68	21	4945	7.94	1306.5	-7.79
555	SLE RA 12	69	30	4952	7.84	1306.35	-10.92
555	SLE RA 13	69	37	4934	7.73	1300.3	-13.1
555	SLE RA 14	69	22	4987	8.06	1318.11	-8.11
555	SLE RA 15	70	31	4994	7.96	1317.96	-11.24
555	SLE RA 16	69	23	4964	8.01	1312.15	-8.21
555	SLE RA 17	69	32	4971	7.92	1312.01	-11.34
555	SLE RA 18	69	21	5032	8.04	1328.75	-7.78
555	SLE RA 19	69	30	5039	7.94	1328.6	-10.91
555	SLE RA 20	69	22	5074	8.16	1340.35	-8.11
555	SLE RA 21	70	31	5081	8.06	1340.2	-11.24
555	SLE FR 1	65	19	4525	7.16	1196.07	-7.05
555	SLE FR 2	65	22	4528	7.13	1196.02	-8.09
555	SLE FR 3	65	20	4542	7.21	1200.71	-7.18
555	SLE FR 4	66	23	4680	7.39	1235.82	-8.31
555	SLE FR 5	66	20	4694	7.47	1240.51	-7.4
555	SLE FR 6	67	20	4778	7.6	1262.41	-7.42
555	SLE QP 1	65	19	4525	7.16	1196.07	-7.05
555	SLE QP 2	66	20	4677	7.43	1235.87	-7.27
555	SLD 1	384	-13	3615	3.83	954.43	4.01
555	SLD 2	403	106	3635	3.51	953.46	-37.44
555	SLD 3	371	-285	3355	7.26	949.64	98.95
555	SLD 4	390	-166	3375	6.94	948.67	57.5
555	SLD 5	178	401	4749	1.19	1158.87	-140.74
555	SLD 6	190	478	4763	0.99	1158.25	-167.43
555	SLD 7	134	-504	3882	12.64	1142.9	175.71
555	SLD 8	147	-427	3896	12.43	1142.28	149.02
555	SLD 9	-15	467	5459	2.42	1329.46	-163.56
555	SLD 10	-2	544	5472	2.22	1328.84	-190.25
555	SLD 11	-58	-438	4592	13.86	1313.49	152.89
555	SLD 12	-46	-362	4605	13.66	1312.87	126.2
555	SLD 13	-258	205	5979	7.91	1523.07	-72.04
555	SLD 14	-239	324	6000	7.59	1522.1	-113.48
555	SLD 15	-271	-66	5719	11.34	1518.28	22.9
555	SLD 16	-252	53	5740	11.03	1517.31	-18.55
555	SLV 1	565	-13	3038	1.56	796.87	3.76
555	SLV 2	595	175	3070	1.06	795.34	-61.57
555	SLV 3	542	-476	2595	7.41	789.14	165.71
555	SLV 4	572	-288	2627	6.92	787.61	100.38
555	SLV 5	244	678	4851	-3.13	1116.17	-237.41
555	SLV 6	264	804	4873	-3.46	1115.14	-281.39
555	SLV 7	170	-866	3374	16.4	1090.42	302.45
555	SLV 8	190	-740	3396	16.06	1089.39	258.47
555	SLV 9	-58	780	5958	-1.21	1382.35	-273.01
555	SLV 10	-37	906	5980	-1.55	1381.32	-316.99
555	SLV 11	-132	-764	4481	18.31	1356.6	266.85
555	SLV 12	-112	-638	4503	17.98	1355.57	222.87
555	SLV 13	-440	328	6727	7.93	1684.13	-114.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
555	SLV 14	-410	516	6760	7.44	1682.6	-180.25
555	SLV 15	-463	-135	6284	13.79	1676.4	47.04
555	SLV 16	-433	53	6317	13.29	1674.87	-18.29
555	SLV FO 1	615	-16	2874	0.97	752.97	4.86
555	SLV FO 2	648	190	2910	0.42	751.28	-67.01
555	SLV FO 3	590	-526	2386	7.41	744.47	183.01
555	SLV FO 4	623	-319	2422	6.87	742.79	111.15
555	SLV FO 5	262	744	4869	-4.18	1104.2	-260.42
555	SLV FO 6	284	882	4893	-4.55	1103.07	-308.8
555	SLV FO 7	180	-955	3244	17.3	1075.88	333.42
555	SLV FO 8	202	-816	3268	16.93	1074.74	285.04
555	SLV FO 9	-70	856	6086	-2.08	1397	-299.58
555	SLV FO 10	-48	995	6110	-2.44	1395.86	-347.96
555	SLV FO 11	-152	-843	4461	19.4	1368.67	294.26
555	SLV FO 12	-129	-704	4485	19.03	1367.54	245.88
555	SLV FO 13	-491	359	6932	7.98	1728.95	-125.69
555	SLV FO 14	-458	565	6968	7.44	1727.27	-197.55
555	SLV FO 15	-515	-150	6445	14.43	1720.46	52.47
555	SLV FO 16	-482	56	6480	13.88	1718.77	-19.4
555	CRTFP Ux+	0	0	0	0	0	0
555	CRTFP Ux-	0	0	0	0	0	0
555	CRTFP Uy+	0	0	0	0	0	0
555	CRTFP Uy-	0	0	0	0	0	0
557	SLU 1	35	-40	3425	0.02	1348.08	16.05
557	SLU 2	35	-21	3426	-0.13	1347.87	8.36
557	SLU 3	36	-41	3499	0.08	1377.46	16.46
557	SLU 4	36	-30	3499	-0.01	1377.33	11.85
557	SLU 5	35	-22	3474	-0.08	1367.23	8.7
557	SLU 6	36	-42	3548	0.13	1396.82	16.81
557	SLU 7	36	-30	3548	0.04	1396.7	12.19
557	SLU 8	36	-42	3522	0.11	1386.81	16.73
557	SLU 9	36	-30	3523	0.03	1386.68	12.12
557	SLU 10	39	-26	3880	-0.08	1528.2	10.24
557	SLU 11	39	-46	3954	0.12	1557.79	18.35
557	SLU 12	39	-34	3954	0.04	1557.66	13.73
557	SLU 13	39	-26	3929	-0.04	1547.56	10.58
557	SLU 14	40	-47	4002	0.17	1577.15	18.69
557	SLU 15	40	-35	4003	0.09	1577.03	14.07
557	SLU 16	40	-47	3977	0.16	1567.13	18.61
557	SLU 17	39	-35	3977	0.07	1567.01	14
557	SLU 18	40	-47	4074	0.08	1605.7	18.74
557	SLU 19	40	-35	4075	-0.01	1605.57	14.12
557	SLU 20	41	-48	4123	0.13	1625.06	19.08
557	SLU 21	41	-36	4123	0.04	1624.93	14.46
557	SLU 22	40	-45	3931	0.25	1547.82	18.13
557	SLU 23	40	-26	3932	0.11	1547.61	10.44
557	SLU 24	41	-46	4005	0.32	1577.2	18.54
557	SLU 25	41	-35	4006	0.23	1577.08	13.93
557	SLU 26	40	-27	3980	0.16	1566.97	10.78
557	SLU 27	41	-47	4054	0.36	1596.57	18.89
557	SLU 28	41	-36	4054	0.28	1596.44	14.27
557	SLU 29	41	-47	4028	0.35	1586.55	18.81
557	SLU 30	41	-35	4029	0.26	1586.42	14.2
557	SLU 31	44	-31	4386	0.15	1727.94	12.32
557	SLU 32	44	-51	4460	0.36	1757.53	20.43
557	SLU 33	44	-40	4460	0.27	1757.41	15.81
557	SLU 34	44	-32	4435	0.2	1747.3	12.66
557	SLU 35	45	-52	4508	0.41	1776.89	20.77
557	SLU 36	45	-40	4509	0.32	1776.77	16.15
557	SLU 37	44	-52	4483	0.39	1766.88	20.69
557	SLU 38	44	-40	4483	0.31	1766.75	16.08
557	SLU 39	45	-52	4581	0.31	1805.44	20.82
557	SLU 40	45	-40	4581	0.23	1805.31	16.2
557	SLU 41	46	-53	4629	0.36	1824.8	21.16
557	SLU 42	45	-41	4630	0.28	1824.67	16.54
557	SLU 43	44	-50	4279	-0.06	1684.02	20.15
557	SLU 44	44	-31	4280	-0.2	1683.81	12.46
557	SLU 45	45	-51	4353	0	1713.4	20.57
557	SLU 46	45	-40	4353	-0.08	1713.28	15.95
557	SLU 47	44	-32	4328	-0.16	1703.17	12.8
557	SLU 48	45	-52	4402	0.05	1732.77	20.91
557	SLU 49	45	-41	4402	-0.03	1732.64	16.29
557	SLU 50	45	-52	4376	0.04	1722.75	20.84
557	SLU 51	45	-41	4377	-0.05	1722.62	16.22
557	SLU 52	47	-36	4734	-0.16	1864.14	14.34
557	SLU 53	48	-56	4808	0.05	1893.73	22.45
557	SLU 54	48	-45	4808	-0.04	1893.61	17.83
557	SLU 55	48	-37	4783	-0.11	1883.5	14.68
557	SLU 56	49	-57	4856	0.1	1913.09	22.79
557	SLU 57	49	-45	4857	0.01	1912.97	18.17
557	SLU 58	48	-57	4831	0.08	1903.08	22.72
557	SLU 59	48	-45	4831	0	1902.95	18.1
557	SLU 60	49	-57	4928	0	1941.64	22.84
557	SLU 61	49	-46	4929	-0.08	1941.51	18.22
557	SLU 62	50	-58	4977	0.05	1961	23.18
557	SLU 63	49	-46	4977	-0.03	1960.87	18.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
557	SLU 64	49	-56	4785	0.18	1883.77	22.23
557	SLU 65	49	-36	4786	0.03	1883.55	14.54
557	SLU 66	50	-57	4859	0.24	1913.15	22.65
557	SLU 67	50	-45	4860	0.15	1913.02	18.03
557	SLU 68	49	-37	4834	0.08	1902.92	14.88
557	SLU 69	50	-57	4908	0.29	1932.51	22.99
557	SLU 70	50	-46	4908	0.2	1932.38	18.37
557	SLU 71	50	-57	4882	0.27	1922.49	22.92
557	SLU 72	50	-46	4883	0.19	1922.36	18.3
557	SLU 73	52	-41	5240	0.08	2063.88	16.42
557	SLU 74	53	-61	5314	0.28	2093.48	24.53
557	SLU 75	53	-50	5314	0.2	2093.35	19.91
557	SLU 76	53	-42	5289	0.12	2083.24	16.76
557	SLU 77	54	-62	5362	0.33	2112.84	24.87
557	SLU 78	53	-51	5363	0.25	2112.71	20.25
557	SLU 79	53	-62	5337	0.32	2102.82	24.8
557	SLU 80	53	-50	5337	0.23	2102.69	20.18
557	SLU 81	54	-62	5435	0.24	2141.38	24.92
557	SLU 82	54	-51	5435	0.15	2141.25	20.3
557	SLU 83	54	-63	5483	0.29	2160.74	25.26
557	SLU 84	54	-52	5484	0.2	2160.61	20.64
557	SLE RA 1	37	-42	3570	0.08	1405.15	16.64
557	SLE RA 2	37	-29	3570	-0.01	1405.01	11.52
557	SLE RA 3	37	-42	3619	0.13	1424.74	16.92
557	SLE RA 4	37	-35	3619	0.07	1424.65	13.84
557	SLE RA 5	37	-29	3602	0.02	1417.92	11.74
557	SLE RA 6	37	-43	3651	0.16	1437.65	17.15
557	SLE RA 7	37	-35	3652	0.1	1437.56	14.07
557	SLE RA 8	37	-43	3634	0.15	1430.97	17.1
557	SLE RA 9	37	-35	3635	0.09	1430.88	14.02
557	SLE RA 10	39	-32	3873	0.02	1525.23	12.77
557	SLE RA 11	39	-45	3922	0.15	1544.96	18.17
557	SLE RA 12	39	-38	3922	0.1	1544.87	15.1
557	SLE RA 13	39	-32	3906	0.05	1538.14	13
557	SLE RA 14	40	-46	3955	0.19	1557.87	18.4
557	SLE RA 15	40	-38	3955	0.13	1557.78	15.33
557	SLE RA 16	39	-46	3938	0.18	1551.19	18.35
557	SLE RA 17	39	-38	3938	0.12	1551.1	15.28
557	SLE RA 18	40	-46	4003	0.13	1576.89	18.44
557	SLE RA 19	40	-38	4003	0.07	1576.81	15.36
557	SLE RA 20	40	-47	4035	0.16	1589.8	18.66
557	SLE RA 21	40	-39	4035	0.1	1589.72	15.59
557	SLE FR 1	37	-42	3570	0.08	1405.15	16.64
557	SLE FR 2	37	-39	3570	0.06	1405.12	15.62
557	SLE FR 3	37	-42	3583	0.1	1410.31	16.74
557	SLE FR 4	38	-40	3700	0.08	1456.65	16.16
557	SLE FR 5	38	-43	3712	0.11	1461.84	17.27
557	SLE FR 6	38	-44	3786	0.1	1491.02	17.54
557	SLE QP 1	37	-42	3570	0.08	1405.15	16.64
557	SLE QP 2	38	-43	3700	0.1	1456.67	17.18
557	SLD 1	314	57	3670	-0.48	1440.39	-22.58
557	SLD 2	326	60	3667	-0.49	1438.43	-23.83
557	SLD 3	319	-180	3629	1.53	1429.62	71.85
557	SLD 4	331	-177	3626	1.52	1427.66	70.6
557	SLD 5	111	345	3753	-3.12	1468.47	-137.75
557	SLD 6	119	347	3752	-3.13	1467.21	-138.55
557	SLD 7	127	-443	3616	3.58	1432.55	177.01
557	SLD 8	135	-441	3615	3.57	1431.29	176.21
557	SLD 9	-60	355	3784	-3.37	1482.06	-141.85
557	SLD 10	-52	357	3783	-3.38	1480.8	-142.65
557	SLD 11	-44	-433	3647	3.32	1446.14	172.91
557	SLD 12	-36	-431	3646	3.31	1444.88	172.11
557	SLD 13	-256	91	3773	-1.33	1485.69	-36.24
557	SLD 14	-244	94	3770	-1.34	1483.73	-37.48
557	SLD 15	-251	-146	3732	0.68	1474.92	58.19
557	SLD 16	-239	-142	3729	0.67	1472.96	56.94
557	SLV 1	470	129	3656	-0.94	1431.77	-51.5
557	SLV 2	489	134	3652	-0.96	1428.67	-53.46
557	SLV 3	478	-274	3585	2.49	1413.29	109.55
557	SLV 4	497	-269	3581	2.46	1410.2	107.59
557	SLV 5	152	619	3794	-5.41	1477.8	-247.32
557	SLV 6	165	623	3791	-5.42	1475.72	-248.64
557	SLV 7	178	-725	3559	6.01	1416.21	289.52
557	SLV 8	191	-722	3557	6	1414.13	288.2
557	SLV 9	-116	636	3842	-5.81	1499.22	-253.83
557	SLV 10	-103	639	3840	-5.82	1497.14	-255.16
557	SLV 11	-90	-709	3608	5.61	1437.63	283
557	SLV 12	-76	-705	3605	5.6	1435.55	281.68
557	SLV 13	-422	183	3818	-2.27	1503.15	-73.23
557	SLV 14	-402	189	3814	-2.29	1500.06	-75.19
557	SLV 15	-414	-220	3747	1.15	1484.67	87.82
557	SLV 16	-394	-215	3743	1.13	1481.58	85.86
557	SLV FO 1	513	146	3651	-1.04	1429.27	-58.37
557	SLV FO 2	535	152	3647	-1.07	1425.87	-60.52
557	SLV FO 3	522	-298	3574	2.73	1408.95	118.79
557	SLV FO 4	543	-292	3570	2.7	1405.55	116.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
557	SLV FO 5	163	686	3803	-5.96	1479.91	-273.77
557	SLV FO 6	178	690	3800	-5.97	1477.62	-275.22
557	SLV FO 7	192	-793	3545	6.61	1412.17	316.75
557	SLV FO 8	207	-789	3543	6.59	1409.88	315.3
557	SLV FO 9	-131	704	3856	-6.4	1503.47	-280.94
557	SLV FO 10	-117	708	3854	-6.41	1501.18	-282.39
557	SLV FO 11	-102	-776	3599	6.17	1435.72	309.58
557	SLV FO 12	-88	-771	3596	6.15	1433.44	308.13
557	SLV FO 13	-468	206	3829	-2.51	1507.8	-82.27
557	SLV FO 14	-446	212	3825	-2.53	1504.4	-84.43
557	SLV FO 15	-459	-238	3752	1.26	1487.47	94.89
557	SLV FO 16	-438	-232	3748	1.23	1484.07	92.73
557	CRTFP Ux+	0	0	0	0	0	0
557	CRTFP Ux-	0	0	0	0	0	0
557	CRTFP Uy+	0	0	0	0	0	0
557	CRTFP Uy-	0	0	0	0	0	0
562	SLU 1	-46	5	3847	4.24	-775.55	1.4
562	SLU 2	-47	24	3859	4.05	-774.77	6.13
562	SLU 3	-47	5	3935	4.39	-793.64	1.39
562	SLU 4	-47	16	3942	4.28	-793.17	4.23
562	SLU 5	-47	24	3915	4.15	-786.34	6.2
562	SLU 6	-47	5	3991	4.5	-805.21	1.46
562	SLU 7	-48	17	3998	4.38	-804.74	4.3
562	SLU 8	-47	5	3959	4.45	-798.7	1.53
562	SLU 9	-47	17	3966	4.33	-798.23	4.37
562	SLU 10	-48	26	4347	4.64	-873.71	6.63
562	SLU 11	-48	7	4423	4.99	-892.58	1.89
562	SLU 12	-48	18	4430	4.87	-892.11	4.73
562	SLU 13	-48	26	4402	4.75	-885.28	6.7
562	SLU 14	-48	7	4478	5.09	-904.15	1.96
562	SLU 15	-49	19	4486	4.98	-903.68	4.8
562	SLU 16	-48	7	4446	5.05	-897.63	2.03
562	SLU 17	-48	19	4453	4.93	-897.16	4.87
562	SLU 18	-47	8	4544	5.09	-916.89	2.11
562	SLU 19	-48	19	4551	4.98	-916.42	4.95
562	SLU 20	-48	8	4599	5.2	-928.46	2.18
562	SLU 21	-48	19	4607	5.08	-927.99	5.02
562	SLU 22	-50	4	4453	5.1	-899.07	1.24
562	SLU 23	-51	23	4465	4.9	-898.29	5.98
562	SLU 24	-51	4	4540	5.25	-917.16	1.24
562	SLU 25	-51	16	4548	5.13	-916.69	4.08
562	SLU 26	-51	24	4520	5.01	-909.87	6.04
562	SLU 27	-51	5	4596	5.35	-928.73	1.3
562	SLU 28	-52	16	4603	5.24	-928.27	4.14
562	SLU 29	-51	5	4564	5.31	-922.22	1.37
562	SLU 30	-51	16	4571	5.19	-921.75	4.21
562	SLU 31	-52	25	4952	5.5	-997.23	6.48
562	SLU 32	-52	6	5028	5.85	-1016.1	1.74
562	SLU 33	-52	18	5035	5.73	-1015.63	4.58
562	SLU 34	-52	26	5008	5.6	-1008.8	6.54
562	SLU 35	-52	6	5084	5.95	-1027.67	1.8
562	SLU 36	-53	18	5091	5.84	-1027.2	4.64
562	SLU 37	-52	7	5052	5.9	-1021.16	1.87
562	SLU 38	-52	18	5059	5.79	-1020.69	4.71
562	SLU 39	-51	7	5149	5.95	-1040.41	1.96
562	SLU 40	-52	19	5156	5.83	-1039.95	4.8
562	SLU 41	-52	7	5205	6.05	-1051.99	2.02
562	SLU 42	-52	19	5212	5.94	-1051.52	4.86
562	SLU 43	-58	7	4794	5.22	-965.87	1.87
562	SLU 44	-59	26	4806	5.02	-965.09	6.61
562	SLU 45	-59	7	4882	5.37	-983.95	1.87
562	SLU 46	-60	18	4889	5.25	-983.49	4.71
562	SLU 47	-60	26	4862	5.13	-976.66	6.67
562	SLU 48	-59	7	4937	5.48	-995.53	1.93
562	SLU 49	-60	18	4945	5.36	-995.06	4.77
562	SLU 50	-59	7	4905	5.43	-989.01	2
562	SLU 51	-60	19	4913	5.31	-988.54	4.84
562	SLU 52	-60	28	5293	5.62	-1064.02	7.11
562	SLU 53	-60	9	5369	5.97	-1082.89	2.37
562	SLU 54	-61	20	5376	5.85	-1082.42	5.21
562	SLU 55	-61	28	5349	5.73	-1075.6	7.17
562	SLU 56	-61	9	5425	6.07	-1094.46	2.43
562	SLU 57	-61	20	5432	5.96	-1094	5.27
562	SLU 58	-60	9	5393	6.02	-1087.95	2.5
562	SLU 59	-61	21	5400	5.91	-1087.48	5.34
562	SLU 60	-60	10	5490	6.07	-1107.21	2.59
562	SLU 61	-60	21	5497	5.96	-1106.74	5.43
562	SLU 62	-60	10	5546	6.18	-1118.78	2.65
562	SLU 63	-61	21	5553	6.06	-1118.31	5.49
562	SLU 64	-62	6	5399	6.07	-1089.39	1.72
562	SLU 65	-63	25	5411	5.88	-1088.61	6.45
562	SLU 66	-63	6	5487	6.23	-1107.48	1.71
562	SLU 67	-63	17	5494	6.11	-1107.01	4.55
562	SLU 68	-63	25	5467	5.99	-1100.18	6.51
562	SLU 69	-63	6	5543	6.33	-1119.05	1.78
562	SLU 70	-64	18	5550	6.22	-1118.58	4.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
562	SLU 71	-63	7	5511	6.28	-1112.53	1.84
562	SLU 72	-64	18	5518	6.17	-1112.06	4.68
562	SLU 73	-64	27	5899	6.48	-1187.55	6.95
562	SLU 74	-64	8	5975	6.83	-1206.42	2.21
562	SLU 75	-65	19	5982	6.71	-1205.95	5.05
562	SLU 76	-65	27	5954	6.58	-1199.12	7.01
562	SLU 77	-65	8	6030	6.93	-1217.99	2.28
562	SLU 78	-65	20	6037	6.81	-1217.52	5.11
562	SLU 79	-64	9	5998	6.88	-1211.47	2.34
562	SLU 80	-65	20	6005	6.76	-1211	5.18
562	SLU 81	-64	9	6096	6.93	-1230.73	2.43
562	SLU 82	-64	20	6103	6.81	-1230.26	5.27
562	SLU 83	-64	9	6151	7.03	-1242.3	2.49
562	SLU 84	-65	20	6159	6.92	-1241.83	5.33
562	SLE RA 1	-47	5	4020	4.48	-810.84	1.36
562	SLE RA 2	-47	17	4028	4.36	-810.32	4.51
562	SLE RA 3	-47	5	4079	4.59	-822.9	1.35
562	SLE RA 4	-48	12	4084	4.51	-822.59	3.25
562	SLE RA 5	-48	18	4065	4.42	-818.04	4.55
562	SLE RA 6	-48	5	4116	4.66	-830.62	1.39
562	SLE RA 7	-48	13	4121	4.58	-830.3	3.29
562	SLE RA 8	-48	5	4095	4.62	-826.27	1.44
562	SLE RA 9	-48	13	4099	4.55	-825.96	3.33
562	SLE RA 10	-48	19	4353	4.75	-876.28	4.84
562	SLE RA 11	-48	6	4404	4.98	-888.86	1.68
562	SLE RA 12	-49	14	4409	4.91	-888.55	3.58
562	SLE RA 13	-49	19	4390	4.82	-884	4.89
562	SLE RA 14	-49	6	4441	5.05	-896.58	1.73
562	SLE RA 15	-49	14	4446	4.98	-896.26	3.62
562	SLE RA 16	-48	6	4419	5.02	-892.23	1.77
562	SLE RA 17	-49	14	4424	4.94	-891.92	3.67
562	SLE RA 18	-48	7	4484	5.05	-905.07	1.83
562	SLE RA 19	-48	14	4489	4.98	-904.76	3.72
562	SLE RA 20	-48	7	4522	5.12	-912.79	1.87
562	SLE RA 21	-49	14	4526	5.05	-912.47	3.77
562	SLE FR 1	-47	5	4020	4.48	-810.84	1.36
562	SLE FR 2	-47	7	4022	4.46	-810.74	1.99
562	SLE FR 3	-47	5	4035	4.51	-813.93	1.37
562	SLE FR 4	-47	8	4161	4.63	-839.01	2.13
562	SLE FR 5	-47	5	4174	4.68	-842.2	1.51
562	SLE FR 6	-47	6	4252	4.77	-857.96	1.59
562	SLE QP 1	-47	5	4020	4.48	-810.84	1.36
562	SLE QP 2	-47	5	4159	4.65	-839.11	1.5
562	SLD 1	210	70	5538	4.85	-1086.67	17.65
562	SLD 2	219	-33	5536	5.1	-1090.69	-7.87
562	SLD 3	220	-167	5312	7.55	-1080.34	-41.54
562	SLD 4	229	-270	5310	7.8	-1084.36	-67.06
562	SLD 5	13	402	4916	0.58	-922.29	100.5
562	SLD 6	19	336	4914	0.74	-924.88	84.07
562	SLD 7	47	-389	4163	9.58	-901.19	-96.79
562	SLD 8	53	-455	4162	9.74	-903.78	-113.23
562	SLD 9	-147	465	4157	-0.43	-774.45	116.23
562	SLD 10	-141	399	4155	-0.27	-777.04	99.79
562	SLD 11	-113	-325	3405	8.57	-753.35	-81.07
562	SLD 12	-107	-391	3403	8.73	-755.94	-97.51
562	SLD 13	-324	281	3009	1.51	-593.87	70.06
562	SLD 14	-314	178	3006	1.76	-597.89	44.53
562	SLD 15	-313	44	2783	4.21	-587.54	10.87
562	SLD 16	-304	-59	2781	4.46	-591.56	-14.65
562	SLV 1	355	124	6328	4.76	-1225.57	31.21
562	SLV 2	369	-38	6324	5.15	-1231.91	-9.03
562	SLV 3	372	-281	5942	9.37	-1215.18	-69.77
562	SLV 4	386	-443	5938	9.76	-1221.53	-110
562	SLV 5	45	685	5395	-2.37	-969.62	171.07
562	SLV 6	55	576	5393	-2.11	-973.88	143.98
562	SLV 7	102	-664	4110	12.98	-935	-165.52
562	SLV 8	111	-773	4107	13.25	-939.27	-192.61
562	SLV 9	-206	784	4211	-3.94	-738.95	195.6
562	SLV 10	-196	675	4209	-3.67	-743.22	168.52
562	SLV 11	-149	-565	2926	11.42	-704.34	-140.98
562	SLV 12	-139	-674	2923	11.68	-708.61	-168.07
562	SLV 13	-481	453	2381	-0.45	-456.7	113
562	SLV 14	-466	291	2377	-0.06	-463.04	72.76
562	SLV 15	-464	49	1995	4.16	-446.31	12.02
562	SLV 16	-449	-113	1991	4.54	-452.66	-28.21
562	SLV FO 1	395	136	6544	4.78	-1264.22	34.18
562	SLV FO 2	411	-42	6540	5.2	-1271.19	-10.08
562	SLV FO 3	414	-309	6120	9.84	-1252.79	-76.9
562	SLV FO 4	430	-487	6116	10.27	-1259.77	-121.15
562	SLV FO 5	54	753	5519	-3.07	-982.67	188.02
562	SLV FO 6	65	633	5516	-2.78	-987.36	158.23
562	SLV FO 7	117	-731	4105	13.82	-944.59	-182.22
562	SLV FO 8	127	-851	4102	14.1	-949.29	-212.02
562	SLV FO 9	-222	862	4217	-4.79	-728.94	215.01
562	SLV FO 10	-211	742	4214	-4.51	-733.63	185.22
562	SLV FO 11	-159	-622	2803	12.09	-690.86	-155.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
562	SLV FO 12	-148	-742	2800	12.38	-695.56	-185.03
562	SLV FO 13	-524	498	2203	-0.96	-418.46	124.15
562	SLV FO 14	-508	320	2199	-0.53	-425.43	79.89
562	SLV FO 15	-505	53	1779	4.11	-407.04	13.08
562	SLV FO 16	-489	-125	1775	4.53	-414.01	-31.18
562	CRTFP Ux+	0	0	0	0	0	0
562	CRTFP Ux-	0	0	0	0	0	0
562	CRTFP Uy+	0	0	0	0	0	0
562	CRTFP Uy-	0	0	0	0	0	0
565	SLU 1	-60	-18	6376	3.02	-20.91	-0.08
565	SLU 2	-60	14	6378	2.61	-19.64	-0.16
565	SLU 3	-61	-19	6524	3.23	-21.68	-0.09
565	SLU 4	-61	1	6525	2.98	-20.91	-0.14
565	SLU 5	-61	13	6474	2.76	-20.24	-0.18
565	SLU 6	-62	-19	6621	3.37	-22.28	-0.11
565	SLU 7	-62	0	6622	3.13	-21.51	-0.16
565	SLU 8	-61	-19	6569	3.32	-22.11	-0.11
565	SLU 9	-61	0	6570	3.07	-21.35	-0.16
565	SLU 10	-61	13	7235	3.18	-24.03	-0.19
565	SLU 11	-62	-19	7381	3.8	-26.07	-0.12
565	SLU 12	-62	0	7382	3.55	-25.31	-0.17
565	SLU 13	-61	13	7331	3.33	-24.63	-0.21
565	SLU 14	-62	-20	7478	3.95	-26.67	-0.14
565	SLU 15	-62	-1	7479	3.7	-25.91	-0.19
565	SLU 16	-62	-20	7426	3.89	-26.51	-0.14
565	SLU 17	-62	0	7427	3.64	-25.74	-0.19
565	SLU 18	-61	-19	7600	3.83	-27.19	-0.12
565	SLU 19	-61	0	7602	3.59	-26.42	-0.17
565	SLU 20	-61	-20	7697	3.98	-27.79	-0.13
565	SLU 21	-62	0	7698	3.74	-27.02	-0.19
565	SLU 22	-65	-20	7398	3.97	-24.68	-0.16
565	SLU 23	-65	12	7400	3.56	-23.41	-0.24
565	SLU 24	-66	-21	7546	4.18	-25.45	-0.17
565	SLU 25	-66	-2	7548	3.93	-24.69	-0.22
565	SLU 26	-66	11	7497	3.71	-24.01	-0.26
565	SLU 27	-67	-21	7643	4.33	-26.05	-0.19
565	SLU 28	-67	-2	7644	4.08	-25.29	-0.24
565	SLU 29	-66	-21	7591	4.27	-25.88	-0.18
565	SLU 30	-66	-2	7592	4.02	-25.12	-0.24
565	SLU 31	-66	11	8257	4.13	-27.8	-0.27
565	SLU 32	-67	-22	8404	4.75	-29.85	-0.2
565	SLU 33	-67	-2	8405	4.5	-29.08	-0.25
565	SLU 34	-66	11	8354	4.28	-28.4	-0.29
565	SLU 35	-67	-22	8500	4.9	-30.45	-0.22
565	SLU 36	-67	-3	8501	4.65	-29.68	-0.27
565	SLU 37	-67	-22	8449	4.84	-30.28	-0.21
565	SLU 38	-67	-3	8450	4.59	-29.51	-0.27
565	SLU 39	-66	-21	8623	4.79	-30.96	-0.2
565	SLU 40	-66	-2	8624	4.54	-30.2	-0.25
565	SLU 41	-66	-22	8719	4.93	-31.56	-0.21
565	SLU 42	-67	-2	8720	4.69	-30.8	-0.27
565	SLU 43	-77	-23	7938	3.6	-25.89	-0.07
565	SLU 44	-77	9	7940	3.19	-24.61	-0.16
565	SLU 45	-78	-23	8086	3.81	-26.66	-0.09
565	SLU 46	-78	-4	8087	3.56	-25.89	-0.14
565	SLU 47	-77	9	8036	3.34	-25.21	-0.17
565	SLU 48	-78	-24	8183	3.95	-27.26	-0.1
565	SLU 49	-78	-5	8184	3.71	-26.49	-0.16
565	SLU 50	-78	-24	8131	3.9	-27.09	-0.1
565	SLU 51	-78	-4	8132	3.65	-26.32	-0.15
565	SLU 52	-77	8	8797	3.76	-29.01	-0.19
565	SLU 53	-78	-24	8944	4.38	-31.05	-0.12
565	SLU 54	-78	-5	8945	4.13	-30.29	-0.17
565	SLU 55	-78	8	8894	3.91	-29.61	-0.2
565	SLU 56	-79	-24	9040	4.53	-31.65	-0.13
565	SLU 57	-79	-5	9041	4.28	-30.89	-0.19
565	SLU 58	-78	-24	8988	4.47	-31.48	-0.13
565	SLU 59	-78	-5	8989	4.22	-30.72	-0.18
565	SLU 60	-77	-24	9163	4.41	-32.17	-0.12
565	SLU 61	-77	-5	9164	4.17	-31.4	-0.17
565	SLU 62	-78	-24	9259	4.56	-32.77	-0.13
565	SLU 63	-78	-5	9260	4.32	-32	-0.18
565	SLU 64	-82	-25	8960	4.55	-29.66	-0.15
565	SLU 65	-82	7	8962	4.14	-28.39	-0.24
565	SLU 66	-83	-26	9109	4.76	-30.43	-0.17
565	SLU 67	-83	-6	9110	4.51	-29.67	-0.22
565	SLU 68	-82	7	9059	4.29	-28.99	-0.25
565	SLU 69	-83	-26	9205	4.9	-31.03	-0.18
565	SLU 70	-83	-7	9206	4.66	-30.27	-0.23
565	SLU 71	-83	-26	9153	4.85	-30.86	-0.18
565	SLU 72	-83	-7	9155	4.6	-30.1	-0.23
565	SLU 73	-82	6	9819	4.71	-32.78	-0.27
565	SLU 74	-83	-26	9966	5.33	-34.83	-0.2
565	SLU 75	-83	-7	9967	5.08	-34.06	-0.25
565	SLU 76	-83	6	9916	4.86	-33.38	-0.28
565	SLU 77	-84	-27	10062	5.48	-35.43	-0.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
565	SLU 78	-84	-7	10064	5.23	-34.66	-0.26
565	SLU 79	-83	-26	10011	5.42	-35.26	-0.21
565	SLU 80	-83	-7	10012	5.17	-34.49	-0.26
565	SLU 81	-82	-26	10185	5.36	-35.94	-0.2
565	SLU 82	-82	-7	10186	5.12	-35.18	-0.25
565	SLU 83	-83	-26	10282	5.51	-36.54	-0.21
565	SLU 84	-83	-7	10283	5.27	-35.78	-0.26
565	SLE RA 1	-62	-19	6668	3.29	-21.99	-0.1
565	SLE RA 2	-62	3	6669	3.02	-21.14	-0.16
565	SLE RA 3	-62	-19	6767	3.43	-22.5	-0.11
565	SLE RA 4	-62	-6	6767	3.26	-21.99	-0.15
565	SLE RA 5	-62	2	6733	3.12	-21.54	-0.17
565	SLE RA 6	-63	-19	6831	3.53	-22.9	-0.12
565	SLE RA 7	-63	-7	6832	3.36	-22.39	-0.15
565	SLE RA 8	-62	-19	6797	3.49	-22.79	-0.12
565	SLE RA 9	-62	-6	6797	3.32	-22.28	-0.15
565	SLE RA 10	-62	2	7241	3.4	-24.07	-0.18
565	SLE RA 11	-63	-20	7338	3.81	-25.43	-0.13
565	SLE RA 12	-63	-7	7339	3.65	-24.92	-0.17
565	SLE RA 13	-62	2	7305	3.5	-24.47	-0.19
565	SLE RA 14	-63	-20	7403	3.91	-25.83	-0.14
565	SLE RA 15	-63	-7	7403	3.74	-25.32	-0.17
565	SLE RA 16	-63	-20	7368	3.87	-25.72	-0.14
565	SLE RA 17	-63	-7	7369	3.71	-25.21	-0.17
565	SLE RA 18	-62	-19	7484	3.83	-26.17	-0.13
565	SLE RA 19	-62	-7	7485	3.67	-25.66	-0.16
565	SLE RA 20	-62	-20	7549	3.93	-26.57	-0.14
565	SLE RA 21	-63	-7	7549	3.77	-26.06	-0.17
565	SLE FR 1	-62	-19	6668	3.29	-21.99	-0.1
565	SLE FR 2	-62	-15	6668	3.23	-21.82	-0.11
565	SLE FR 3	-62	-19	6694	3.33	-22.15	-0.1
565	SLE FR 4	-62	-15	6913	3.4	-23.07	-0.12
565	SLE FR 5	-62	-19	6939	3.49	-23.4	-0.11
565	SLE FR 6	-62	-19	7076	3.56	-24.08	-0.11
565	SLE QP 1	-62	-19	6668	3.29	-21.99	-0.1
565	SLE QP 2	-62	-19	6913	3.45	-23.24	-0.11
565	SLD 1	478	130	7616	1.46	7.79	1.18
565	SLD 2	494	51	7603	1.79	6.53	3.2
565	SLD 3	487	-267	7540	7.16	-7.49	2.11
565	SLD 4	503	-346	7526	7.49	-8.75	4.13
565	SLD 5	83	642	7241	-5.84	9.47	-1.48
565	SLD 6	94	591	7233	-5.63	8.66	-0.19
565	SLD 7	114	-682	6988	13.15	-41.49	1.63
565	SLD 8	125	-734	6979	13.37	-42.3	2.93
565	SLD 9	-248	696	6846	-6.46	-4.19	-3.14
565	SLD 10	-238	644	6838	-6.25	-5	-1.84
565	SLD 11	-217	-629	6593	12.54	-55.15	-0.03
565	SLD 12	-207	-680	6584	12.75	-55.96	1.27
565	SLD 13	-627	308	6299	-0.59	-37.73	-4.35
565	SLD 14	-611	229	6286	-0.26	-38.99	-2.33
565	SLD 15	-617	-89	6223	5.11	-53.02	-3.42
565	SLD 16	-602	-168	6210	5.44	-54.28	-1.4
565	SLV 1	783	243	8015	-0.07	26.34	1.82
565	SLV 2	808	118	7994	0.46	24.36	5
565	SLV 3	798	-434	7885	9.66	0.26	3.41
565	SLV 4	823	-560	7864	10.18	-1.73	6.59
565	SLV 5	165	1111	7445	-12.45	31.57	-2.54
565	SLV 6	181	1027	7431	-12.1	30.23	-0.39
565	SLV 7	214	-1148	7011	19.96	-55.39	2.76
565	SLV 8	231	-1233	6997	20.32	-56.72	4.9
565	SLV 9	-354	1195	6828	-13.41	10.24	-5.12
565	SLV 10	-338	1110	6814	-13.06	8.9	-2.98
565	SLV 11	-305	-1065	6395	19	-76.72	0.18
565	SLV 12	-288	-1149	6381	19.35	-78.06	2.32
565	SLV 13	-947	522	5961	-3.27	-44.76	-6.8
565	SLV 14	-922	396	5940	-2.75	-46.75	-3.62
565	SLV 15	-932	-156	5831	6.45	-70.85	-5.22
565	SLV 16	-907	-281	5810	6.97	-72.83	-2.03
565	SLV FO 1	868	270	8126	-0.42	31.3	2.01
565	SLV FO 2	895	132	8103	0.16	29.12	5.51
565	SLV FO 3	884	-476	7982	10.28	2.61	3.76
565	SLV FO 4	912	-614	7959	10.85	0.42	7.26
565	SLV FO 5	187	1224	7498	-14.04	37.05	-2.78
565	SLV FO 6	206	1132	7482	-13.65	35.58	-0.42
565	SLV FO 7	242	-1261	7021	21.61	-58.6	3.05
565	SLV FO 8	260	-1354	7006	22	-60.07	5.41
565	SLV FO 9	-384	1316	6820	-15.1	13.58	-5.62
565	SLV FO 10	-365	1223	6805	-14.71	12.11	-3.27
565	SLV FO 11	-329	-1169	6343	20.56	-82.07	0.2
565	SLV FO 12	-311	-1262	6328	20.94	-83.54	2.56
565	SLV FO 13	-1035	576	5866	-3.95	-46.91	-7.47
565	SLV FO 14	-1008	438	5843	-3.37	-49.1	-3.97
565	SLV FO 15	-1019	-170	5723	6.75	-75.61	-5.73
565	SLV FO 16	-991	-308	5700	7.33	-77.79	-2.23
565	CRTFP Ux+	0	0	0	0	0	0
565	CRTFP Ux-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
565	CRTFP Uy+	0	0	0	0	0	0
565	CRTFP Uy-	0	0	0	0	0	0
568	SLU 1	129	-74	6316	2.59	10.41	0.67
568	SLU 2	129	-43	6317	2.08	7.81	0.7
568	SLU 3	131	-76	6457	2.81	10.59	0.65
568	SLU 4	131	-57	6458	2.5	9.04	0.67
568	SLU 5	130	-44	6410	2.25	7.91	0.67
568	SLU 6	133	-77	6549	2.98	10.69	0.62
568	SLU 7	133	-58	6550	2.67	9.13	0.64
568	SLU 8	132	-76	6500	2.93	10.6	0.61
568	SLU 9	132	-57	6501	2.62	9.04	0.63
568	SLU 10	139	-49	7127	2.56	8.92	0.75
568	SLU 11	142	-82	7266	3.3	11.7	0.7
568	SLU 12	142	-63	7267	2.99	10.14	0.72
568	SLU 13	140	-50	7219	2.73	9.01	0.72
568	SLU 14	143	-83	7358	3.47	11.8	0.67
568	SLU 15	143	-64	7359	3.16	10.24	0.68
568	SLU 16	142	-83	7309	3.42	11.7	0.66
568	SLU 17	142	-64	7310	3.11	10.15	0.67
568	SLU 18	143	-84	7472	3.28	11.99	0.74
568	SLU 19	143	-65	7473	2.98	10.43	0.76
568	SLU 20	145	-85	7564	3.46	12.08	0.71
568	SLU 21	145	-66	7565	3.15	10.53	0.73
568	SLU 22	145	-82	7306	3.5	11.52	0.75
568	SLU 23	145	-51	7307	2.98	8.93	0.78
568	SLU 24	148	-84	7447	3.72	11.71	0.73
568	SLU 25	148	-65	7448	3.41	10.15	0.74
568	SLU 26	147	-51	7399	3.16	9.02	0.74
568	SLU 27	149	-85	7539	3.89	11.8	0.69
568	SLU 28	149	-65	7540	3.58	10.25	0.71
568	SLU 29	148	-84	7490	3.84	11.71	0.68
568	SLU 30	148	-65	7491	3.53	10.15	0.7
568	SLU 31	155	-57	8117	3.47	10.03	0.83
568	SLU 32	158	-90	8256	4.21	12.82	0.77
568	SLU 33	158	-71	8257	3.9	11.26	0.79
568	SLU 34	157	-58	8209	3.64	10.13	0.79
568	SLU 35	160	-91	8348	4.38	12.91	0.74
568	SLU 36	160	-72	8349	4.07	11.35	0.76
568	SLU 37	158	-90	8299	4.33	12.82	0.73
568	SLU 38	158	-71	8300	4.02	11.26	0.75
568	SLU 39	159	-92	8462	4.19	13.11	0.82
568	SLU 40	159	-72	8463	3.89	11.55	0.84
568	SLU 41	161	-92	8554	4.36	13.2	0.79
568	SLU 42	161	-73	8555	4.06	11.64	0.8
568	SLU 43	161	-94	7871	3.05	13.15	0.85
568	SLU 44	162	-62	7873	2.54	10.55	0.88
568	SLU 45	164	-96	8012	3.28	13.33	0.83
568	SLU 46	164	-77	8013	2.97	11.78	0.84
568	SLU 47	163	-63	7965	2.71	10.65	0.84
568	SLU 48	166	-96	8104	3.45	13.43	0.79
568	SLU 49	166	-77	8105	3.14	11.87	0.81
568	SLU 50	165	-96	8055	3.4	13.34	0.78
568	SLU 51	165	-77	8056	3.09	11.78	0.8
568	SLU 52	172	-69	8682	3.03	11.66	0.93
568	SLU 53	175	-102	8822	3.76	14.44	0.87
568	SLU 54	175	-83	8823	3.45	12.88	0.89
568	SLU 55	173	-70	8774	3.2	11.75	0.89
568	SLU 56	176	-103	8914	3.93	14.54	0.84
568	SLU 57	176	-84	8915	3.63	12.98	0.86
568	SLU 58	175	-102	8865	3.88	14.44	0.83
568	SLU 59	175	-83	8866	3.57	12.89	0.85
568	SLU 60	176	-103	9027	3.75	14.73	0.92
568	SLU 61	176	-84	9028	3.44	13.17	0.94
568	SLU 62	178	-104	9119	3.92	14.82	0.89
568	SLU 63	178	-85	9120	3.61	13.27	0.9
568	SLU 64	178	-102	8861	3.96	14.26	0.92
568	SLU 65	178	-70	8863	3.45	11.67	0.95
568	SLU 66	181	-103	9002	4.19	14.45	0.9
568	SLU 67	181	-84	9003	3.88	12.89	0.92
568	SLU 68	180	-71	8955	3.62	11.76	0.92
568	SLU 69	182	-104	9094	4.36	14.54	0.87
568	SLU 70	182	-85	9095	4.05	12.99	0.89
568	SLU 71	181	-104	9045	4.3	14.45	0.86
568	SLU 72	181	-85	9046	4	12.89	0.88
568	SLU 73	188	-77	9672	3.94	12.77	1
568	SLU 74	191	-110	9811	4.67	15.56	0.95
568	SLU 75	191	-91	9812	4.36	14	0.97
568	SLU 76	190	-78	9764	4.11	12.87	0.97
568	SLU 77	193	-111	9904	4.84	15.65	0.92
568	SLU 78	193	-92	9904	4.54	14.09	0.94
568	SLU 79	191	-110	9855	4.79	15.56	0.91
568	SLU 80	191	-91	9856	4.48	14	0.93
568	SLU 81	192	-111	10017	4.66	15.84	0.99
568	SLU 82	192	-92	10018	4.35	14.29	1.01
568	SLU 83	194	-112	10109	4.83	15.94	0.96
568	SLU 84	194	-93	10110	4.52	14.38	0.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
568	SLE RA 1	133	-77	6599	2.85	10.73	0.69
568	SLE RA 2	133	-56	6600	2.51	9	0.71
568	SLE RA 3	135	-78	6693	3	10.85	0.68
568	SLE RA 4	135	-65	6693	2.79	9.81	0.69
568	SLE RA 5	134	-56	6661	2.62	9.06	0.69
568	SLE RA 6	136	-78	6754	3.11	10.91	0.66
568	SLE RA 7	136	-66	6755	2.91	9.87	0.67
568	SLE RA 8	135	-78	6721	3.08	10.85	0.65
568	SLE RA 9	135	-65	6722	2.87	9.81	0.66
568	SLE RA 10	140	-60	7139	2.83	9.73	0.75
568	SLE RA 11	142	-82	7232	3.32	11.59	0.71
568	SLE RA 12	142	-69	7233	3.12	10.55	0.72
568	SLE RA 13	141	-60	7201	2.94	9.8	0.72
568	SLE RA 14	143	-83	7294	3.44	11.65	0.69
568	SLE RA 15	143	-70	7294	3.23	10.61	0.7
568	SLE RA 16	142	-82	7261	3.4	11.59	0.68
568	SLE RA 17	142	-69	7262	3.2	10.55	0.7
568	SLE RA 18	143	-83	7369	3.31	11.78	0.74
568	SLE RA 19	143	-70	7370	3.11	10.74	0.75
568	SLE RA 20	144	-83	7431	3.43	11.84	0.72
568	SLE RA 21	144	-71	7431	3.22	10.81	0.73
568	SLE FR 1	133	-77	6599	2.85	10.73	0.69
568	SLE FR 2	133	-72	6599	2.78	10.38	0.7
568	SLE FR 3	134	-77	6623	2.89	10.75	0.68
568	SLE FR 4	136	-74	6830	2.92	10.7	0.71
568	SLE FR 5	137	-79	6854	3.03	11.07	0.7
568	SLE FR 6	138	-80	6984	3.08	11.25	0.72
568	SLE QP 1	133	-77	6599	2.85	10.73	0.69
568	SLE QP 2	136	-79	6830	2.99	11.04	0.71
568	SLD 1	663	180	6466	-0.94	4.59	2.81
568	SLD 2	685	257	6477	-1.42	1.16	4.96
568	SLD 3	673	-220	6369	6	33.65	2.61
568	SLD 4	694	-143	6380	5.52	30.23	4.76
568	SLD 5	276	594	6867	-8.64	-34.39	1.27
568	SLD 6	290	643	6874	-8.95	-36.6	2.65
568	SLD 7	308	-742	6542	14.5	62.5	0.61
568	SLD 8	321	-693	6549	14.19	60.29	1.99
568	SLD 9	-49	535	7111	-8.22	-38.21	-0.58
568	SLD 10	-36	585	7118	-8.53	-40.42	0.81
568	SLD 11	-18	-800	6786	14.92	58.68	-1.24
568	SLD 12	-4	-751	6793	14.61	56.47	0.15
568	SLD 13	-422	-14	7280	0.46	-8.14	-3.35
568	SLD 14	-401	63	7291	-0.03	-11.57	-1.2
568	SLD 15	-412	-415	7183	7.4	20.92	-3.54
568	SLD 16	-391	-337	7193	6.92	17.5	-1.39
568	SLV 1	961	354	6270	-3.67	-0.67	3.98
568	SLV 2	995	476	6287	-4.43	-6.07	7.37
568	SLV 3	977	-329	6103	8.17	48.9	3.64
568	SLV 4	1010	-208	6120	7.41	43.5	7.04
568	SLV 5	354	1066	6912	-16.83	-66.64	1.56
568	SLV 6	377	1147	6923	-17.34	-70.28	3.85
568	SLV 7	405	-1213	6356	22.64	98.59	0.45
568	SLV 8	427	-1132	6367	22.13	94.95	2.73
568	SLV 9	-155	974	7293	-16.16	-72.87	-1.32
568	SLV 10	-133	1056	7304	-16.67	-76.5	0.97
568	SLV 11	-105	-1304	6737	23.32	92.36	-2.43
568	SLV 12	-82	-1223	6748	22.81	88.73	-0.15
568	SLV 13	-738	51	7540	-1.43	-21.42	-5.62
568	SLV 14	-704	172	7557	-2.19	-26.82	-2.23
568	SLV 15	-723	-633	7373	10.41	28.15	-5.95
568	SLV 16	-689	-511	7390	9.65	22.75	-2.56
568	SLV FO 1	1044	398	6214	-4.34	-1.84	4.31
568	SLV FO 2	1081	531	6233	-5.18	-7.78	8.04
568	SLV FO 3	1061	-354	6030	8.69	52.69	3.94
568	SLV FO 4	1097	-221	6049	7.85	46.75	7.67
568	SLV FO 5	376	1180	6920	-18.81	-74.41	1.65
568	SLV FO 6	401	1270	6932	-19.38	-78.41	4.16
568	SLV FO 7	432	-1327	6308	24.61	107.34	0.42
568	SLV FO 8	457	-1237	6321	24.05	103.34	2.93
568	SLV FO 9	-184	1080	7339	-18.07	-81.26	-1.52
568	SLV FO 10	-160	1170	7351	-18.64	-85.26	0.99
568	SLV FO 11	-129	-1427	6727	25.35	100.49	-2.75
568	SLV FO 12	-104	-1337	6740	24.79	96.5	-0.23
568	SLV FO 13	-825	64	7611	-1.88	-24.66	-6.25
568	SLV FO 14	-788	197	7629	-2.71	-30.61	-2.52
568	SLV FO 15	-808	-688	7427	11.15	29.86	-6.62
568	SLV FO 16	-772	-555	7446	10.32	23.92	-2.89
568	CRTFP Ux+	0	0	0	0	0	0
568	CRTFP Ux-	0	0	0	0	0	0
568	CRTFP Uy+	0	0	0	0	0	0
568	CRTFP Uy-	0	0	0	0	0	0
571	SLU 1	71	19	4539	6.1	1311.73	-6.82
571	SLU 2	72	41	4549	5.88	1310.83	-14.64
571	SLU 3	73	20	4644	6.32	1342.51	-7.14
571	SLU 4	73	33	4650	6.19	1341.97	-11.83
571	SLU 5	73	42	4618	6.04	1331.22	-15.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
571	SLU 6	74	21	4712	6.48	1362.9	-7.61
571	SLU 7	75	34	4719	6.35	1362.36	-12.3
571	SLU 8	73	21	4676	6.42	1352.51	-7.76
571	SLU 9	74	35	4682	6.29	1351.97	-12.46
571	SLU 10	77	43	5108	6.7	1472.05	-15.37
571	SLU 11	78	22	5202	7.14	1503.73	-7.87
571	SLU 12	78	35	5209	7.01	1503.19	-12.56
571	SLU 13	78	44	5177	6.86	1492.44	-15.84
571	SLU 14	79	23	5271	7.31	1524.12	-8.34
571	SLU 15	79	36	5277	7.18	1523.58	-13.03
571	SLU 16	78	23	5235	7.24	1513.73	-8.49
571	SLU 17	79	37	5241	7.11	1513.19	-13.18
571	SLU 18	78	22	5337	7.27	1542.04	-7.86
571	SLU 19	78	35	5343	7.14	1541.5	-12.55
571	SLU 20	79	23	5406	7.43	1562.43	-8.33
571	SLU 21	79	36	5412	7.3	1561.89	-13.03
571	SLU 22	79	18	5231	7.25	1512.88	-6.45
571	SLU 23	80	40	5241	7.04	1511.98	-14.28
571	SLU 24	81	18	5336	7.48	1543.66	-6.77
571	SLU 25	81	32	5342	7.35	1543.12	-11.47
571	SLU 26	81	41	5310	7.2	1532.37	-14.75
571	SLU 27	82	20	5404	7.64	1564.05	-7.25
571	SLU 28	83	33	5411	7.51	1563.51	-11.94
571	SLU 29	81	20	5368	7.58	1553.66	-7.4
571	SLU 30	82	34	5374	7.45	1553.12	-12.09
571	SLU 31	85	42	5800	7.86	1673.2	-15.01
571	SLU 32	86	20	5894	8.3	1704.88	-7.5
571	SLU 33	86	34	5901	8.17	1704.34	-12.2
571	SLU 34	86	43	5869	8.02	1693.59	-15.48
571	SLU 35	87	22	5963	8.46	1725.27	-7.97
571	SLU 36	87	35	5969	8.33	1724.73	-12.67
571	SLU 37	86	22	5927	8.4	1714.88	-8.13
571	SLU 38	87	36	5933	8.27	1714.34	-12.82
571	SLU 39	86	20	6029	8.43	1743.19	-7.5
571	SLU 40	86	34	6035	8.3	1742.65	-12.19
571	SLU 41	87	22	6098	8.59	1763.58	-7.97
571	SLU 42	87	35	6104	8.46	1763.04	-12.66
571	SLU 43	90	25	5663	7.53	1636.28	-8.99
571	SLU 44	91	47	5674	7.31	1635.38	-16.81
571	SLU 45	92	26	5768	7.75	1667.06	-9.31
571	SLU 46	92	39	5774	7.62	1666.52	-14
571	SLU 47	92	48	5742	7.47	1655.77	-17.28
571	SLU 48	93	27	5837	7.92	1687.45	-9.78
571	SLU 49	93	40	5843	7.79	1686.92	-14.47
571	SLU 50	92	27	5800	7.85	1677.06	-9.93
571	SLU 51	93	41	5807	7.72	1676.52	-14.63
571	SLU 52	95	49	6232	8.13	1796.6	-17.54
571	SLU 53	96	28	6327	8.58	1828.28	-10.04
571	SLU 54	97	41	6333	8.45	1827.74	-14.73
571	SLU 55	96	50	6301	8.3	1816.99	-18.01
571	SLU 56	97	29	6395	8.74	1848.67	-10.51
571	SLU 57	98	42	6402	8.61	1848.14	-15.2
571	SLU 58	97	29	6359	8.68	1838.28	-10.66
571	SLU 59	97	43	6365	8.55	1837.74	-15.35
571	SLU 60	97	28	6461	8.7	1866.59	-10.03
571	SLU 61	97	41	6468	8.57	1866.05	-14.72
571	SLU 62	98	29	6530	8.87	1886.98	-10.5
571	SLU 63	98	42	6536	8.74	1886.45	-15.2
571	SLU 64	98	24	6355	8.69	1837.43	-8.62
571	SLU 65	99	46	6365	8.47	1836.53	-16.45
571	SLU 66	100	24	6460	8.91	1868.21	-8.94
571	SLU 67	100	38	6466	8.78	1867.67	-13.64
571	SLU 68	100	47	6434	8.63	1856.92	-16.92
571	SLU 69	101	26	6529	9.07	1888.6	-9.42
571	SLU 70	101	39	6535	8.94	1888.07	-14.11
571	SLU 71	100	26	6492	9.01	1878.21	-9.57
571	SLU 72	101	40	6499	8.88	1877.67	-14.26
571	SLU 73	103	48	6924	9.29	1997.75	-17.18
571	SLU 74	104	26	7019	9.73	2029.43	-9.67
571	SLU 75	105	40	7025	9.6	2028.89	-14.37
571	SLU 76	104	49	6993	9.45	2018.14	-17.65
571	SLU 77	105	28	7087	9.89	2049.82	-10.14
571	SLU 78	106	41	7094	9.76	2049.29	-14.84
571	SLU 79	105	28	7051	9.83	2039.43	-10.3
571	SLU 80	105	42	7057	9.7	2038.89	-14.99
571	SLU 81	105	26	7153	9.86	2067.74	-9.67
571	SLU 82	105	40	7159	9.73	2067.2	-14.36
571	SLU 83	106	28	7222	10.02	2088.13	-10.14
571	SLU 84	106	41	7228	9.89	2087.6	-14.83
571	SLE RA 1	74	18	4736	6.43	1369.2	-6.71
571	SLE RA 2	74	33	4743	6.28	1368.6	-11.93
571	SLE RA 3	75	19	4806	6.58	1389.72	-6.93
571	SLE RA 4	75	28	4811	6.49	1389.36	-10.06
571	SLE RA 5	75	34	4789	6.39	1382.19	-12.24
571	SLE RA 6	75	20	4852	6.68	1403.31	-7.24
571	SLE RA 7	76	29	4856	6.6	1402.96	-10.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
571	SLE RA 8	75	20	4828	6.64	1396.39	-7.34
571	SLE RA 9	75	29	4832	6.56	1396.03	-10.47
571	SLE RA 10	77	35	5116	6.83	1476.08	-12.42
571	SLE RA 11	78	20	5179	7.12	1497.2	-7.41
571	SLE RA 12	78	29	5183	7.04	1496.84	-10.54
571	SLE RA 13	78	36	5162	6.94	1489.67	-12.73
571	SLE RA 14	79	21	5225	7.23	1510.79	-7.73
571	SLE RA 15	79	30	5229	7.15	1510.44	-10.86
571	SLE RA 16	78	21	5200	7.19	1503.87	-7.83
571	SLE RA 17	78	30	5205	7.11	1503.51	-10.96
571	SLE RA 18	78	20	5269	7.21	1522.74	-7.41
571	SLE RA 19	78	29	5273	7.12	1522.38	-10.54
571	SLE RA 20	79	21	5314	7.32	1536.33	-7.72
571	SLE RA 21	79	30	5319	7.23	1535.98	-10.85
571	SLE FR 1	74	18	4736	6.43	1369.2	-6.71
571	SLE FR 2	74	21	4738	6.4	1369.08	-7.76
571	SLE FR 3	74	19	4755	6.47	1374.63	-6.84
571	SLE FR 4	75	22	4897	6.63	1415.14	-7.97
571	SLE FR 5	75	19	4914	6.71	1420.7	-7.05
571	SLE FR 6	76	19	5002	6.82	1445.97	-7.06
571	SLE QP 1	74	18	4736	6.43	1369.2	-6.71
571	SLE QP 2	75	19	4896	6.66	1415.26	-6.92
571	SLD 1	386	-14	3728	3.36	1082.19	4.45
571	SLD 2	399	105	3740	3.08	1080.61	-36.99
571	SLD 3	376	-285	3567	6.46	1091.71	99.19
571	SLD 4	389	-166	3579	6.18	1090.12	57.76
571	SLD 5	181	400	4788	1.01	1301.19	-140.08
571	SLD 6	189	476	4795	0.84	1300.17	-166.76
571	SLD 7	148	-504	4251	11.35	1332.89	175.73
571	SLD 8	156	-427	4259	11.17	1331.87	149.05
571	SLD 9	-6	465	5533	2.15	1498.65	-162.89
571	SLD 10	2	542	5541	1.97	1497.63	-189.58
571	SLD 11	-39	-438	4997	12.49	1530.35	152.92
571	SLD 12	-31	-362	5004	12.31	1529.33	126.23
571	SLD 13	-239	204	6213	7.14	1740.4	-71.6
571	SLD 14	-226	323	6225	6.87	1738.81	-113.04
571	SLD 15	-249	-67	6052	10.24	1749.91	23.14
571	SLD 16	-236	52	6064	9.97	1748.33	-18.3
571	SLV 1	563	-14	3085	1.28	894.99	4.26
571	SLV 2	583	173	3103	0.84	892.5	-61.05
571	SLV 3	546	-476	2811	6.57	910.99	165.89
571	SLV 4	566	-289	2829	6.14	908.5	100.58
571	SLV 5	243	675	4765	-2.9	1235.37	-236.52
571	SLV 6	256	802	4777	-3.19	1233.7	-280.49
571	SLV 7	187	-866	3852	14.74	1288.72	302.25
571	SLV 8	201	-740	3864	14.45	1287.04	258.28
571	SLV 9	-51	778	5928	-1.13	1543.48	-272.12
571	SLV 10	-37	904	5940	-1.42	1541.8	-316.09
571	SLV 11	-107	-764	5015	16.52	1596.82	266.64
571	SLV 12	-93	-637	5027	16.22	1595.15	222.67
571	SLV 13	-416	327	6963	7.19	1922.02	-114.42
571	SLV 14	-396	514	6981	6.75	1919.53	-179.74
571	SLV 15	-433	-136	6689	12.48	1938.02	47.21
571	SLV 16	-413	52	6707	12.05	1935.53	-18.11
571	SLV FO 1	612	-17	2904	0.74	842.96	5.38
571	SLV FO 2	634	189	2924	0.26	840.22	-66.46
571	SLV FO 3	593	-526	2602	6.56	860.57	183.17
571	SLV FO 4	615	-320	2623	6.08	857.82	111.33
571	SLV FO 5	260	741	4752	-3.86	1217.38	-259.48
571	SLV FO 6	275	880	4765	-4.18	1215.54	-307.84
571	SLV FO 7	198	-954	3747	15.55	1276.06	333.17
571	SLV FO 8	213	-816	3761	15.23	1274.21	284.8
571	SLV FO 9	-63	853	6031	-1.91	1556.3	-298.64
571	SLV FO 10	-49	992	6045	-2.23	1554.46	-347.01
571	SLV FO 11	-125	-842	5027	17.5	1614.98	294
571	SLV FO 12	-110	-703	5040	17.18	1613.13	245.63
571	SLV FO 13	-465	358	7169	7.24	1972.7	-125.17
571	SLV FO 14	-443	564	7190	6.76	1969.95	-197.02
571	SLV FO 15	-484	-151	6868	13.06	1990.3	52.62
571	SLV FO 16	-462	55	6888	12.58	1987.56	-19.23
571	CRTFP Ux+	0	0	0	0	0	0
571	CRTFP Ux-	0	0	0	0	0	0
571	CRTFP Uy+	0	0	0	0	0	0
571	CRTFP Uy-	0	0	0	0	0	0
573	SLU 1	33	-39	3416	-0.54	1349.91	15.86
573	SLU 2	33	-20	3411	-0.68	1347.59	8.16
573	SLU 3	34	-40	3492	-0.49	1380.21	16.27
573	SLU 4	34	-29	3489	-0.57	1378.82	11.65
573	SLU 5	33	-21	3462	-0.64	1367.65	8.5
573	SLU 6	34	-41	3542	-0.45	1400.27	16.61
573	SLU 7	34	-30	3540	-0.53	1398.88	11.99
573	SLU 8	34	-41	3516	-0.46	1390.03	16.54
573	SLU 9	34	-30	3514	-0.54	1388.64	11.92
573	SLU 10	36	-25	3866	-0.71	1528.49	10.01
573	SLU 11	37	-45	3947	-0.52	1561.12	18.12
573	SLU 12	37	-34	3944	-0.6	1559.72	13.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
573	SLU 13	37	-26	3917	-0.67	1548.55	10.35
573	SLU 14	38	-46	3997	-0.48	1581.18	18.46
573	SLU 15	38	-34	3994	-0.56	1579.78	13.84
573	SLU 16	37	-46	3971	-0.49	1570.94	18.38
573	SLU 17	37	-34	3969	-0.57	1569.54	13.77
573	SLU 18	38	-46	4066	-0.58	1608.35	18.5
573	SLU 19	38	-34	4063	-0.67	1606.95	13.88
573	SLU 20	38	-47	4116	-0.54	1628.4	18.84
573	SLU 21	38	-35	4113	-0.62	1627.01	14.22
573	SLU 22	38	-45	3929	-0.38	1553.03	17.9
573	SLU 23	38	-25	3925	-0.52	1550.71	10.21
573	SLU 24	39	-46	4005	-0.33	1583.33	18.31
573	SLU 25	39	-34	4002	-0.41	1581.94	13.7
573	SLU 26	38	-26	3975	-0.48	1570.77	10.55
573	SLU 27	39	-46	4055	-0.29	1603.39	18.65
573	SLU 28	39	-35	4053	-0.37	1602	14.04
573	SLU 29	39	-46	4029	-0.3	1593.15	18.58
573	SLU 30	39	-35	4027	-0.38	1591.76	13.96
573	SLU 31	41	-30	4379	-0.55	1731.61	12.06
573	SLU 32	42	-50	4460	-0.36	1764.23	20.16
573	SLU 33	42	-39	4457	-0.44	1762.84	15.54
573	SLU 34	42	-31	4430	-0.51	1751.67	12.4
573	SLU 35	43	-51	4510	-0.32	1784.29	20.5
573	SLU 36	42	-39	4508	-0.4	1782.9	15.88
573	SLU 37	42	-51	4484	-0.33	1774.05	20.43
573	SLU 38	42	-39	4482	-0.41	1772.66	15.81
573	SLU 39	43	-51	4579	-0.42	1811.46	20.54
573	SLU 40	43	-40	4576	-0.5	1810.07	15.93
573	SLU 41	43	-52	4629	-0.38	1831.52	20.88
573	SLU 42	43	-40	4626	-0.46	1830.13	16.27
573	SLU 43	41	-50	4265	-0.76	1685.25	19.92
573	SLU 44	41	-30	4260	-0.9	1682.93	12.22
573	SLU 45	42	-51	4341	-0.71	1715.55	20.33
573	SLU 46	42	-39	4338	-0.79	1714.16	15.71
573	SLU 47	42	-31	4311	-0.86	1702.99	12.56
573	SLU 48	42	-51	4391	-0.67	1735.61	20.66
573	SLU 49	42	-40	4388	-0.75	1734.22	16.05
573	SLU 50	42	-51	4365	-0.68	1725.37	20.59
573	SLU 51	42	-40	4363	-0.76	1723.98	15.98
573	SLU 52	45	-35	4715	-0.93	1863.83	14.07
573	SLU 53	45	-55	4796	-0.74	1896.45	22.17
573	SLU 54	45	-44	4793	-0.82	1895.06	17.56
573	SLU 55	45	-36	4765	-0.89	1883.89	14.41
573	SLU 56	46	-56	4846	-0.7	1916.51	22.51
573	SLU 57	46	-44	4843	-0.78	1915.12	17.9
573	SLU 58	46	-56	4820	-0.71	1906.27	22.44
573	SLU 59	46	-44	4817	-0.79	1904.88	17.82
573	SLU 60	46	-56	4914	-0.8	1943.68	22.56
573	SLU 61	46	-45	4912	-0.88	1942.29	17.94
573	SLU 62	47	-57	4965	-0.76	1963.74	22.89
573	SLU 63	47	-45	4962	-0.84	1962.35	18.28
573	SLU 64	46	-55	4778	-0.6	1888.37	21.96
573	SLU 65	46	-35	4773	-0.74	1886.04	14.27
573	SLU 66	47	-56	4854	-0.55	1918.67	22.37
573	SLU 67	47	-44	4851	-0.63	1917.27	17.75
573	SLU 68	47	-36	4824	-0.7	1906.1	14.6
573	SLU 69	47	-57	4904	-0.51	1938.73	22.71
573	SLU 70	47	-45	4901	-0.59	1937.33	18.09
573	SLU 71	47	-56	4878	-0.52	1928.48	22.64
573	SLU 72	47	-45	4876	-0.6	1927.09	18.02
573	SLU 73	49	-40	5228	-0.77	2066.94	16.11
573	SLU 74	50	-60	5309	-0.58	2099.57	24.22
573	SLU 75	50	-49	5306	-0.66	2098.17	19.6
573	SLU 76	50	-41	5279	-0.72	2087	16.45
573	SLU 77	51	-61	5359	-0.53	2119.63	24.56
573	SLU 78	51	-50	5356	-0.62	2118.23	19.94
573	SLU 79	51	-61	5333	-0.54	2109.39	24.49
573	SLU 80	50	-49	5330	-0.63	2107.99	19.87
573	SLU 81	51	-61	5428	-0.64	2146.8	24.6
573	SLU 82	51	-50	5425	-0.72	2145.4	19.98
573	SLU 83	52	-62	5478	-0.6	2166.86	24.94
573	SLU 84	51	-51	5475	-0.68	2165.46	20.32
573	SLE RA 1	35	-41	3562	-0.5	1407.95	16.44
573	SLE RA 2	34	-28	3560	-0.59	1406.4	11.31
573	SLE RA 3	35	-42	3613	-0.46	1428.15	16.72
573	SLE RA 4	35	-34	3611	-0.52	1427.22	13.64
573	SLE RA 5	35	-29	3593	-0.56	1419.77	11.54
573	SLE RA 6	35	-42	3647	-0.43	1441.52	16.94
573	SLE RA 7	35	-34	3645	-0.49	1440.59	13.86
573	SLE RA 8	35	-42	3629	-0.44	1434.69	16.89
573	SLE RA 9	35	-34	3628	-0.5	1433.77	13.82
573	SLE RA 10	37	-31	3863	-0.61	1527	12.55
573	SLE RA 11	37	-45	3916	-0.48	1548.75	17.95
573	SLE RA 12	37	-37	3915	-0.54	1547.82	14.87
573	SLE RA 13	37	-32	3896	-0.58	1540.37	12.77
573	SLE RA 14	38	-45	3950	-0.45	1562.12	18.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
573	SLE RA 15	37	-38	3948	-0.51	1561.19	15.1
573	SLE RA 16	37	-45	3933	-0.46	1555.3	18.13
573	SLE RA 17	37	-37	3931	-0.52	1554.37	15.05
573	SLE RA 18	38	-45	3996	-0.52	1580.23	18.2
573	SLE RA 19	38	-38	3994	-0.58	1579.31	15.13
573	SLE RA 20	38	-46	4029	-0.5	1593.61	18.43
573	SLE RA 21	38	-38	4027	-0.55	1592.68	15.35
573	SLE FR 1	35	-41	3562	-0.5	1407.95	16.44
573	SLE FR 2	35	-38	3562	-0.52	1407.64	15.42
573	SLE FR 3	35	-41	3576	-0.49	1413.3	16.53
573	SLE FR 4	35	-40	3692	-0.52	1459.32	15.95
573	SLE FR 5	36	-42	3706	-0.49	1464.98	17.06
573	SLE FR 6	36	-43	3779	-0.51	1494.09	17.32
573	SLE QP 1	35	-41	3562	-0.5	1407.95	16.44
573	SLE QP 2	36	-42	3692	-0.5	1459.63	16.97
573	SLD 1	313	57	3640	-1.01	1436.17	-22.92
573	SLD 2	321	61	3637	-1.01	1434.27	-24.19
573	SLD 3	318	-179	3672	0.92	1456.85	71.55
573	SLD 4	326	-176	3669	0.91	1454.94	70.28
573	SLD 5	110	346	3628	-3.57	1421.57	-138.06
573	SLD 6	115	348	3626	-3.58	1420.34	-138.88
573	SLD 7	126	-442	3736	2.84	1490.48	176.85
573	SLD 8	131	-440	3734	2.84	1489.26	176.03
573	SLD 9	-60	356	3651	-3.85	1430.01	-142.09
573	SLD 10	-55	358	3649	-3.85	1428.79	-142.9
573	SLD 11	-44	-432	3759	2.57	1498.93	172.82
573	SLD 12	-39	-430	3757	2.56	1497.7	172
573	SLD 13	-255	91	3715	-1.92	1464.32	-36.34
573	SLD 14	-247	95	3713	-1.93	1462.42	-37.61
573	SLD 15	-250	-145	3748	0	1485	58.14
573	SLD 16	-242	-142	3745	0	1483.1	56.87
573	SLV 1	470	130	3606	-1.43	1420.75	-51.91
573	SLV 2	483	135	3602	-1.44	1417.75	-53.91
573	SLV 3	477	-273	3662	1.86	1455.99	109.21
573	SLV 4	490	-268	3657	1.85	1452.99	107.22
573	SLV 5	152	620	3583	-5.76	1395.08	-247.7
573	SLV 6	161	624	3581	-5.77	1393.06	-249.04
573	SLV 7	177	-724	3768	5.19	1512.55	289.39
573	SLV 8	186	-720	3765	5.18	1510.53	288.05
573	SLV 9	-115	636	3620	-6.19	1408.74	-254.11
573	SLV 10	-106	640	3617	-6.2	1406.72	-255.45
573	SLV 11	-90	-708	3804	4.76	1526.21	282.99
573	SLV 12	-81	-704	3801	4.75	1524.18	281.64
573	SLV 13	-419	183	3728	-2.86	1466.27	-73.27
573	SLV 14	-406	189	3723	-2.87	1463.27	-75.27
573	SLV 15	-412	-220	3783	0.43	1501.51	87.85
573	SLV 16	-399	-214	3778	0.42	1498.51	85.85
573	SLV FO 1	513	147	3598	-1.52	1416.87	-58.8
573	SLV FO 2	527	153	3593	-1.53	1413.57	-61
573	SLV FO 3	522	-296	3658	2.09	1455.63	118.44
573	SLV FO 4	536	-290	3654	2.08	1452.33	116.24
573	SLV FO 5	164	686	3573	-6.29	1388.63	-274.16
573	SLV FO 6	173	690	3569	-6.3	1386.4	-275.65
573	SLV FO 7	191	-792	3775	5.76	1517.84	316.64
573	SLV FO 8	201	-788	3772	5.75	1515.62	315.16
573	SLV FO 9	-130	704	3613	-6.76	1403.65	-281.21
573	SLV FO 10	-120	708	3609	-6.77	1401.43	-282.69
573	SLV FO 11	-102	-775	3815	5.29	1532.86	309.59
573	SLV FO 12	-93	-771	3812	5.28	1530.64	308.11
573	SLV FO 13	-465	206	3731	-3.09	1466.94	-82.3
573	SLV FO 14	-450	212	3726	-3.1	1463.64	-84.5
573	SLV FO 15	-456	-238	3792	0.52	1505.7	94.94
573	SLV FO 16	-442	-231	3787	0.51	1502.4	92.74
573	CRTFP Ux+	0	0	0	0	0	0
573	CRTFP Ux-	0	0	0	0	0	0
573	CRTFP Uy+	0	0	0	0	0	0
573	CRTFP Uy-	0	0	0	0	0	0
578	SLU 1	-34	2	2712	-167.51	-595.69	-1.55
578	SLU 2	-35	15	2717	-167.88	-595.49	1.69
578	SLU 3	-35	2	2775	-171.38	-609.66	-1.61
578	SLU 4	-35	10	2778	-171.6	-609.54	0.33
578	SLU 5	-35	15	2757	-170.34	-604.42	1.7
578	SLU 6	-35	2	2815	-173.84	-618.6	-1.6
578	SLU 7	-36	10	2818	-174.06	-618.47	0.35
578	SLU 8	-35	2	2792	-172.43	-613.56	-1.53
578	SLU 9	-35	10	2795	-172.65	-613.44	0.42
578	SLU 10	-36	16	3061	-189.14	-671.66	1.92
578	SLU 11	-36	3	3119	-192.64	-685.83	-1.37
578	SLU 12	-36	11	3122	-192.87	-685.71	0.57
578	SLU 13	-36	16	3101	-191.6	-680.59	1.94
578	SLU 14	-36	3	3159	-195.1	-694.77	-1.36
578	SLU 15	-37	11	3162	-195.33	-694.64	0.58
578	SLU 16	-36	4	3136	-193.7	-689.73	-1.29
578	SLU 17	-36	11	3139	-193.92	-689.61	0.65
578	SLU 18	-36	4	3204	-197.89	-704.51	-1.21
578	SLU 19	-36	12	3207	-198.11	-704.38	0.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
578	SLU 20	-36	4	3244	-200.35	-713.44	-1.2
578	SLU 21	-36	12	3247	-200.57	-713.32	0.74
578	SLU 22	-37	1	3142	-194.01	-690.88	-1.91
578	SLU 23	-38	14	3147	-194.38	-690.67	1.33
578	SLU 24	-38	1	3205	-197.88	-704.84	-1.96
578	SLU 25	-38	9	3208	-198.1	-704.72	-0.02
578	SLU 26	-38	15	3187	-196.84	-699.61	1.34
578	SLU 27	-38	1	3245	-200.34	-713.78	-1.95
578	SLU 28	-39	9	3248	-200.56	-713.66	-0.01
578	SLU 29	-38	2	3222	-198.93	-708.75	-1.88
578	SLU 30	-38	10	3225	-199.15	-708.62	0.06
578	SLU 31	-39	16	3491	-215.64	-766.84	1.57
578	SLU 32	-39	3	3549	-219.14	-781.01	-1.73
578	SLU 33	-39	10	3552	-219.36	-780.89	0.22
578	SLU 34	-39	16	3531	-218.1	-775.78	1.58
578	SLU 35	-39	3	3589	-221.6	-789.95	-1.71
578	SLU 36	-40	11	3592	-221.82	-789.83	0.23
578	SLU 37	-39	3	3566	-220.19	-784.92	-1.64
578	SLU 38	-39	11	3569	-220.41	-784.79	0.3
578	SLU 39	-39	3	3634	-224.39	-799.69	-1.57
578	SLU 40	-39	11	3637	-224.61	-799.57	0.38
578	SLU 41	-39	3	3674	-226.85	-808.62	-1.55
578	SLU 42	-39	11	3677	-227.07	-808.5	0.39
578	SLU 43	-44	3	3378	-208.68	-741.77	-1.9
578	SLU 44	-44	16	3383	-209.05	-741.56	1.34
578	SLU 45	-44	3	3441	-212.55	-755.74	-1.95
578	SLU 46	-45	11	3444	-212.77	-755.61	-0.01
578	SLU 47	-44	16	3423	-211.51	-750.5	1.36
578	SLU 48	-45	3	3481	-215.01	-764.67	-1.94
578	SLU 49	-45	11	3484	-215.23	-764.55	0
578	SLU 50	-44	3	3458	-213.6	-759.64	-1.87
578	SLU 51	-45	11	3461	-213.82	-759.51	0.07
578	SLU 52	-45	17	3728	-230.31	-817.73	1.58
578	SLU 53	-45	4	3785	-233.81	-831.91	-1.72
578	SLU 54	-45	12	3788	-234.03	-831.78	0.23
578	SLU 55	-45	17	3768	-232.77	-826.67	1.59
578	SLU 56	-46	4	3825	-236.27	-840.84	-1.7
578	SLU 57	-46	12	3829	-236.49	-840.72	0.24
578	SLU 58	-45	4	3803	-234.86	-835.81	-1.63
578	SLU 59	-46	12	3806	-235.08	-835.68	0.31
578	SLU 60	-45	5	3870	-239.06	-850.58	-1.56
578	SLU 61	-45	13	3873	-239.28	-850.46	0.39
578	SLU 62	-45	5	3910	-241.52	-859.52	-1.54
578	SLU 63	-46	13	3913	-241.74	-859.39	0.4
578	SLU 64	-47	2	3808	-235.18	-836.95	-2.25
578	SLU 65	-47	15	3813	-235.54	-836.75	0.99
578	SLU 66	-47	2	3871	-239.04	-850.92	-2.31
578	SLU 67	-48	10	3874	-239.27	-850.8	-0.36
578	SLU 68	-47	15	3853	-238	-845.68	1
578	SLU 69	-48	2	3911	-241.5	-859.85	-2.29
578	SLU 70	-48	10	3914	-241.73	-859.73	-0.35
578	SLU 71	-47	3	3888	-240.1	-854.82	-2.23
578	SLU 72	-48	10	3891	-240.32	-854.7	-0.28
578	SLU 73	-48	17	4157	-256.81	-912.91	1.23
578	SLU 74	-48	3	4215	-260.31	-927.09	-2.07
578	SLU 75	-49	11	4218	-260.53	-926.97	-0.13
578	SLU 76	-48	17	4197	-259.27	-921.85	1.24
578	SLU 77	-49	4	4255	-262.77	-936.02	-2.06
578	SLU 78	-49	11	4258	-262.99	-935.9	-0.11
578	SLU 79	-48	4	4232	-261.36	-930.99	-1.99
578	SLU 80	-49	12	4235	-261.58	-930.87	-0.04
578	SLU 81	-48	4	4300	-265.55	-945.76	-1.91
578	SLU 82	-48	12	4303	-265.78	-945.64	0.03
578	SLU 83	-48	4	4340	-268.01	-954.7	-1.9
578	SLU 84	-49	12	4343	-268.24	-954.58	0.04
578	SLE RA 1	-35	2	2835	-175.08	-622.89	-1.65
578	SLE RA 2	-35	11	2838	-175.33	-622.75	0.51
578	SLE RA 3	-36	2	2877	-177.66	-632.2	-1.69
578	SLE RA 4	-36	7	2879	-177.81	-632.12	-0.4
578	SLE RA 5	-36	11	2865	-176.97	-628.71	0.51
578	SLE RA 6	-36	2	2903	-179.3	-638.16	-1.68
578	SLE RA 7	-36	7	2905	-179.45	-638.08	-0.39
578	SLE RA 8	-36	2	2888	-178.36	-634.8	-1.64
578	SLE RA 9	-36	7	2890	-178.51	-634.72	-0.34
578	SLE RA 10	-36	11	3068	-189.5	-673.53	0.66
578	SLE RA 11	-36	3	3106	-191.84	-682.98	-1.53
578	SLE RA 12	-36	8	3108	-191.98	-682.9	-0.24
578	SLE RA 13	-36	11	3094	-191.14	-679.49	0.67
578	SLE RA 14	-37	3	3133	-193.48	-688.94	-1.52
578	SLE RA 15	-37	8	3135	-193.62	-688.86	-0.23
578	SLE RA 16	-36	3	3118	-192.54	-685.58	-1.48
578	SLE RA 17	-37	8	3120	-192.68	-685.5	-0.18
578	SLE RA 18	-36	3	3163	-195.33	-695.43	-1.43
578	SLE RA 19	-36	8	3165	-195.48	-695.35	-0.13
578	SLE RA 20	-36	3	3189	-196.97	-701.39	-1.42
578	SLE RA 21	-37	8	3191	-197.12	-701.31	-0.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
578	SLE FR 1	-35	2	2835	-175.08	-622.89	-1.65
578	SLE FR 2	-35	4	2835	-175.13	-622.86	-1.22
578	SLE FR 3	-35	2	2845	-175.74	-625.27	-1.65
578	SLE FR 4	-36	4	2934	-181.21	-644.62	-1.15
578	SLE FR 5	-36	2	2944	-181.81	-647.03	-1.58
578	SLE FR 6	-36	2	2999	-185.21	-659.16	-1.54
578	SLE QP 1	-35	2	2835	-175.08	-622.89	-1.65
578	SLE QP 2	-35	2	2933	-181.16	-644.65	-1.58
578	SLD 1	143	46	3882	-240.18	-834.86	43.16
578	SLD 2	146	-24	3885	-240.25	-837.07	25.73
578	SLD 3	148	-117	3772	-232.56	-827.37	2.69
578	SLD 4	151	-187	3775	-232.64	-829.59	-14.74
578	SLD 5	10	275	3384	-210.4	-712.69	76.21
578	SLD 6	12	229	3386	-210.45	-714.12	64.99
578	SLD 7	26	-268	3018	-185.02	-687.73	-58.68
578	SLD 8	28	-314	3019	-185.07	-689.15	-69.9
578	SLD 9	-99	319	2847	-177.25	-600.15	66.73
578	SLD 10	-97	273	2848	-177.29	-601.57	55.51
578	SLD 11	-83	-225	2481	-151.87	-575.19	-68.16
578	SLD 12	-81	-270	2482	-151.92	-576.61	-79.38
578	SLD 13	-222	192	2092	-129.67	-459.72	11.57
578	SLD 14	-219	121	2094	-129.75	-461.93	-5.86
578	SLD 15	-217	29	1982	-122.06	-452.23	-28.9
578	SLD 16	-214	-42	1984	-122.13	-454.44	-46.33
578	SLV 1	244	84	4422	-273.81	-941.9	71.42
578	SLV 2	249	-28	4426	-273.93	-945.38	43.95
578	SLV 3	252	-194	4234	-260.81	-929.24	2.37
578	SLV 4	257	-306	4238	-260.92	-932.72	-25.09
578	SLV 5	35	469	3664	-228.66	-752.38	130.16
578	SLV 6	39	394	3666	-228.74	-754.72	111.67
578	SLV 7	62	-458	3038	-185.3	-710.17	-99.99
578	SLV 8	65	-533	3040	-185.38	-712.52	-118.48
578	SLV 9	-136	537	2826	-176.93	-576.78	115.31
578	SLV 10	-133	462	2828	-177.01	-579.13	96.82
578	SLV 11	-110	-390	2200	-133.57	-534.58	-114.84
578	SLV 12	-106	-465	2202	-133.65	-536.92	-133.33
578	SLV 13	-327	310	1628	-101.39	-356.58	21.92
578	SLV 14	-323	199	1632	-101.51	-360.07	-5.54
578	SLV 15	-320	32	1440	-88.38	-343.92	-47.12
578	SLV 16	-315	-79	1444	-88.5	-347.4	-74.59
578	SLV FO 1	272	92	4571	-283.08	-971.62	78.72
578	SLV FO 2	277	-31	4575	-283.21	-975.46	48.5
578	SLV FO 3	280	-214	4365	-268.77	-957.7	2.77
578	SLV FO 4	286	-337	4368	-268.9	-961.53	-27.45
578	SLV FO 5	42	516	3737	-233.41	-763.15	143.33
578	SLV FO 6	46	433	3740	-233.5	-765.73	122.99
578	SLV FO 7	71	-504	3048	-185.71	-716.73	-109.83
578	SLV FO 8	75	-586	3051	-185.8	-719.31	-130.17
578	SLV FO 9	-146	591	2815	-176.51	-570	127
578	SLV FO 10	-142	508	2818	-176.6	-572.58	106.66
578	SLV FO 11	-117	-429	2126	-128.81	-523.57	-126.16
578	SLV FO 12	-113	-512	2129	-128.9	-526.15	-146.5
578	SLV FO 13	-357	341	1498	-93.41	-327.77	24.28
578	SLV FO 14	-351	219	1502	-93.54	-331.61	-5.94
578	SLV FO 15	-348	35	1291	-79.1	-313.85	-51.67
578	SLV FO 16	-343	-87	1295	-79.23	-317.68	-81.89
578	CRTFP Ux+	0	0	0	0	0	0
578	CRTFP Ux-	0	0	0	0	0	0
578	CRTFP Uy+	0	0	0	0	0	0
578	CRTFP Uy-	0	0	0	0	0	0
581	SLU 1	-52	-13	5553	-153.43	-15.82	-1.37
581	SLU 2	-52	15	5545	-153.43	-14.67	-1.41
581	SLU 3	-53	-13	5685	-157.02	-16.46	-1.4
581	SLU 4	-53	3	5680	-157.02	-15.77	-1.42
581	SLU 5	-52	15	5631	-155.77	-15.18	-1.43
581	SLU 6	-53	-13	5771	-159.35	-16.96	-1.42
581	SLU 7	-53	3	5767	-159.35	-16.27	-1.44
581	SLU 8	-53	-13	5725	-158.1	-16.83	-1.41
581	SLU 9	-53	3	5721	-158.1	-16.14	-1.43
581	SLU 10	-52	14	6295	-174.09	-18.22	-1.43
581	SLU 11	-53	-13	6435	-177.68	-20	-1.41
581	SLU 12	-53	3	6430	-177.67	-19.31	-1.44
581	SLU 13	-53	14	6382	-176.42	-18.72	-1.44
581	SLU 14	-53	-14	6521	-180.01	-20.5	-1.43
581	SLU 15	-53	3	6517	-180.01	-19.82	-1.46
581	SLU 16	-53	-14	6475	-178.76	-20.37	-1.42
581	SLU 17	-53	3	6471	-178.76	-19.68	-1.45
581	SLU 18	-52	-13	6624	-182.94	-20.88	-1.39
581	SLU 19	-52	3	6620	-182.94	-20.19	-1.42
581	SLU 20	-53	-14	6710	-185.28	-21.38	-1.41
581	SLU 21	-53	3	6706	-185.28	-20.7	-1.43
581	SLU 22	-56	-14	6454	-178.08	-18.79	-1.5
581	SLU 23	-56	13	6446	-178.08	-17.64	-1.54
581	SLU 24	-57	-15	6586	-181.67	-19.43	-1.52
581	SLU 25	-57	2	6581	-181.67	-18.74	-1.55
581	SLU 26	-56	13	6532	-180.42	-18.15	-1.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
581	SLU 27	-57	-15	6672	-184	-19.93	-1.54
581	SLU 28	-57	2	6668	-184	-19.24	-1.57
581	SLU 29	-57	-15	6626	-182.75	-19.79	-1.53
581	SLU 30	-57	2	6622	-182.75	-19.11	-1.56
581	SLU 31	-56	13	7196	-198.74	-21.18	-1.55
581	SLU 32	-57	-15	7336	-202.33	-22.97	-1.54
581	SLU 33	-57	1	7331	-202.32	-22.28	-1.56
581	SLU 34	-57	13	7283	-201.07	-21.69	-1.57
581	SLU 35	-58	-15	7422	-204.66	-23.47	-1.56
581	SLU 36	-58	1	7418	-204.66	-22.78	-1.58
581	SLU 37	-57	-15	7376	-203.41	-23.34	-1.55
581	SLU 38	-57	1	7372	-203.41	-22.65	-1.57
581	SLU 39	-57	-15	7525	-207.59	-23.85	-1.52
581	SLU 40	-56	2	7521	-207.59	-23.16	-1.54
581	SLU 41	-57	-15	7611	-209.93	-24.35	-1.54
581	SLU 42	-57	1	7607	-209.93	-23.66	-1.56
581	SLU 43	-66	-16	6909	-191.01	-19.55	-1.74
581	SLU 44	-66	12	6902	-191.01	-18.4	-1.78
581	SLU 45	-67	-16	7042	-194.6	-20.19	-1.77
581	SLU 46	-67	0	7037	-194.6	-19.5	-1.79
581	SLU 47	-66	11	6988	-193.35	-18.91	-1.8
581	SLU 48	-67	-17	7128	-196.93	-20.69	-1.79
581	SLU 49	-67	0	7124	-196.93	-20	-1.81
581	SLU 50	-67	-17	7082	-195.68	-20.56	-1.78
581	SLU 51	-67	0	7078	-195.68	-19.87	-1.8
581	SLU 52	-66	11	7652	-211.67	-21.95	-1.8
581	SLU 53	-67	-17	7792	-215.25	-23.73	-1.78
581	SLU 54	-67	0	7787	-215.25	-23.04	-1.81
581	SLU 55	-67	11	7738	-214	-22.45	-1.81
581	SLU 56	-68	-17	7878	-217.59	-24.23	-1.8
581	SLU 57	-68	-1	7874	-217.59	-23.55	-1.83
581	SLU 58	-67	-17	7832	-216.34	-24.1	-1.79
581	SLU 59	-67	0	7828	-216.34	-23.41	-1.82
581	SLU 60	-67	-17	7981	-220.52	-24.61	-1.76
581	SLU 61	-67	0	7976	-220.52	-23.92	-1.79
581	SLU 62	-67	-17	8067	-222.86	-25.11	-1.78
581	SLU 63	-67	0	8063	-222.86	-24.43	-1.8
581	SLU 64	-70	-18	7810	-215.66	-22.52	-1.87
581	SLU 65	-70	10	7803	-215.66	-21.37	-1.91
581	SLU 66	-71	-18	7943	-219.25	-23.15	-1.89
581	SLU 67	-71	-1	7938	-219.25	-22.47	-1.92
581	SLU 68	-71	10	7889	-217.99	-21.87	-1.92
581	SLU 69	-71	-18	8029	-221.58	-23.66	-1.91
581	SLU 70	-71	-2	8025	-221.58	-22.97	-1.94
581	SLU 71	-71	-18	7983	-220.33	-23.52	-1.9
581	SLU 72	-71	-2	7979	-220.33	-22.84	-1.93
581	SLU 73	-70	10	8553	-236.32	-24.91	-1.92
581	SLU 74	-71	-18	8693	-239.9	-26.7	-1.91
581	SLU 75	-71	-2	8688	-239.9	-26.01	-1.93
581	SLU 76	-71	9	8639	-238.65	-25.42	-1.94
581	SLU 77	-72	-19	8779	-242.24	-27.2	-1.93
581	SLU 78	-72	-2	8775	-242.24	-26.51	-1.95
581	SLU 79	-71	-18	8733	-240.99	-27.07	-1.92
581	SLU 80	-71	-2	8729	-240.99	-26.38	-1.94
581	SLU 81	-71	-18	8882	-245.17	-27.58	-1.89
581	SLU 82	-71	-2	8877	-245.17	-26.89	-1.91
581	SLU 83	-71	-18	8968	-247.51	-28.08	-1.9
581	SLU 84	-71	-2	8964	-247.51	-27.39	-1.93
581	SLE RA 1	-53	-13	5810	-160.48	-16.67	-1.41
581	SLE RA 2	-53	5	5805	-160.48	-15.9	-1.43
581	SLE RA 3	-54	-13	5898	-162.87	-17.09	-1.43
581	SLE RA 4	-54	-2	5895	-162.87	-16.64	-1.44
581	SLE RA 5	-53	5	5863	-162.03	-16.24	-1.45
581	SLE RA 6	-54	-14	5956	-164.42	-17.43	-1.44
581	SLE RA 7	-54	-3	5953	-164.42	-16.97	-1.45
581	SLE RA 8	-54	-14	5925	-163.59	-17.34	-1.43
581	SLE RA 9	-54	-3	5922	-163.59	-16.88	-1.45
581	SLE RA 10	-53	5	6305	-174.25	-18.27	-1.44
581	SLE RA 11	-54	-14	6398	-176.64	-19.46	-1.44
581	SLE RA 12	-54	-3	6395	-176.64	-19	-1.45
581	SLE RA 13	-54	5	6363	-175.8	-18.6	-1.46
581	SLE RA 14	-54	-14	6456	-178.19	-19.79	-1.45
581	SLE RA 15	-54	-3	6453	-178.19	-19.33	-1.46
581	SLE RA 16	-54	-14	6425	-177.36	-19.7	-1.44
581	SLE RA 17	-54	-3	6422	-177.36	-19.24	-1.46
581	SLE RA 18	-53	-14	6524	-180.15	-20.04	-1.42
581	SLE RA 19	-53	-2	6521	-180.15	-19.58	-1.44
581	SLE RA 20	-54	-14	6582	-181.71	-20.38	-1.43
581	SLE RA 21	-54	-3	6579	-181.71	-19.92	-1.45
581	SLE FR 1	-53	-13	5810	-160.48	-16.67	-1.41
581	SLE FR 2	-53	-9	5809	-160.48	-16.52	-1.41
581	SLE FR 3	-53	-13	5833	-161.1	-16.8	-1.41
581	SLE FR 4	-53	-10	6023	-166.38	-17.53	-1.42
581	SLE FR 5	-53	-13	6047	-167	-17.81	-1.42
581	SLE FR 6	-53	-13	6167	-170.31	-18.36	-1.41
581	SLE QP 1	-53	-13	5810	-160.48	-16.67	-1.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
581	SLE QP 2	-53	-13	6024	-166.38	-17.68	-1.41
581	SLD 1	407	116	6583	-183.02	9.92	11.88
581	SLD 2	413	48	6579	-182.74	8.84	13.43
581	SLD 3	416	-225	6649	-181.75	-4.33	12.29
581	SLD 4	421	-293	6645	-181.47	-5.41	13.84
581	SLD 5	71	555	6092	-173.34	12.4	1.68
581	SLD 6	74	511	6089	-173.17	11.7	2.68
581	SLD 7	100	-583	6313	-169.11	-35.1	3.06
581	SLD 8	103	-627	6311	-168.93	-35.8	4.06
581	SLD 9	-210	600	5738	-163.82	0.44	-6.89
581	SLD 10	-206	556	5735	-163.64	-0.26	-5.89
581	SLD 11	-181	-538	5960	-159.59	-47.06	-5.5
581	SLD 12	-177	-581	5957	-159.41	-47.76	-4.5
581	SLD 13	-528	267	5404	-151.28	-29.95	-16.67
581	SLD 14	-522	199	5399	-151.01	-31.03	-15.12
581	SLD 15	-519	-75	5470	-150.01	-44.2	-16.25
581	SLD 16	-513	-142	5466	-149.74	-45.28	-14.7
581	SLV 1	667	213	6891	-192.43	26.47	19.36
581	SLV 2	676	106	6884	-192	24.77	21.81
581	SLV 3	682	-369	7004	-190.27	2.15	20.05
581	SLV 4	690	-476	6997	-189.83	0.45	22.49
581	SLV 5	140	958	6114	-177.56	32.76	3.32
581	SLV 6	146	886	6110	-177.27	31.62	4.97
581	SLV 7	187	-983	6490	-170.34	-48.29	5.61
581	SLV 8	193	-1055	6486	-170.05	-49.44	7.25
581	SLV 9	-299	1029	5563	-162.71	14.08	-10.08
581	SLV 10	-294	956	5558	-162.42	12.93	-8.43
581	SLV 11	-252	-912	5939	-155.49	-66.98	-7.79
581	SLV 12	-246	-984	5934	-155.19	-68.12	-6.15
581	SLV 13	-797	449	5052	-142.93	-35.81	-25.32
581	SLV 14	-788	342	5045	-142.49	-37.51	-22.87
581	SLV 15	-783	-133	5164	-140.76	-60.13	-24.63
581	SLV 16	-774	-240	5158	-140.32	-61.83	-22.19
581	SLV FO 1	739	236	6977	-195.04	30.88	21.44
581	SLV FO 2	749	118	6970	-194.56	29.01	24.13
581	SLV FO 3	755	-404	7102	-192.66	4.13	22.19
581	SLV FO 4	765	-522	7094	-192.17	2.26	24.88
581	SLV FO 5	159	1055	6123	-178.68	37.81	3.8
581	SLV FO 6	166	976	6119	-178.36	36.55	5.61
581	SLV FO 7	211	-1080	6537	-170.74	-51.36	6.31
581	SLV FO 8	218	-1159	6532	-170.41	-52.62	8.12
581	SLV FO 9	-324	1133	5516	-162.34	17.26	-10.95
581	SLV FO 10	-318	1053	5512	-162.02	16	-9.14
581	SLV FO 11	-272	-1002	5930	-154.4	-71.91	-8.43
581	SLV FO 12	-266	-1081	5925	-154.08	-73.17	-6.62
581	SLV FO 13	-871	496	4954	-140.58	-37.62	-27.71
581	SLV FO 14	-861	378	4947	-140.1	-39.5	-25.02
581	SLV FO 15	-855	-145	5078	-138.2	-64.37	-26.95
581	SLV FO 16	-846	-263	5071	-137.72	-66.24	-24.26
581	CRTFP Ux+	0	0	0	0	0	0
581	CRTFP Ux-	0	0	0	0	0	0
581	CRTFP Uy+	0	0	0	0	0	0
581	CRTFP Uy-	0	0	0	0	0	0
584	SLU 1	105	-61	5506	-151.51	5.62	4.82
584	SLU 2	105	-34	5495	-151.53	3.24	4.81
584	SLU 3	107	-63	5633	-154.9	5.71	4.91
584	SLU 4	108	-46	5626	-154.91	4.28	4.9
584	SLU 5	107	-35	5578	-153.75	3.27	4.84
584	SLU 6	109	-63	5716	-157.12	5.74	4.94
584	SLU 7	109	-47	5710	-157.13	4.31	4.93
584	SLU 8	108	-63	5673	-155.94	5.68	4.9
584	SLU 9	108	-46	5666	-155.95	4.25	4.89
584	SLU 10	113	-39	6204	-170.95	3.69	5.22
584	SLU 11	116	-68	6342	-174.32	6.16	5.32
584	SLU 12	116	-51	6336	-174.33	4.73	5.31
584	SLU 13	115	-40	6288	-173.16	3.72	5.26
584	SLU 14	117	-68	6426	-176.54	6.19	5.36
584	SLU 15	117	-52	6419	-176.55	4.76	5.35
584	SLU 16	116	-68	6382	-175.36	6.13	5.31
584	SLU 17	116	-52	6376	-175.37	4.7	5.3
584	SLU 18	117	-69	6519	-179.25	6.26	5.42
584	SLU 19	117	-53	6513	-179.26	4.83	5.41
584	SLU 20	118	-70	6603	-181.47	6.29	5.45
584	SLU 21	118	-53	6596	-181.48	4.86	5.44
584	SLU 22	118	-68	6381	-175.28	6.07	5.41
584	SLU 23	118	-40	6370	-175.3	3.68	5.39
584	SLU 24	121	-69	6508	-178.67	6.16	5.49
584	SLU 25	121	-53	6502	-178.68	4.73	5.48
584	SLU 26	120	-41	6454	-177.51	3.71	5.43
584	SLU 27	122	-70	6592	-180.89	6.19	5.53
584	SLU 28	122	-53	6585	-180.9	4.76	5.52
584	SLU 29	121	-69	6548	-179.71	6.13	5.49
584	SLU 30	121	-53	6542	-179.72	4.7	5.48
584	SLU 31	127	-46	7080	-194.71	4.13	5.81
584	SLU 32	129	-74	7218	-198.09	6.61	5.91
584	SLU 33	129	-58	7211	-198.1	5.18	5.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
584	SLU 34	128	-46	7163	-196.93	4.16	5.85
584	SLU 35	131	-75	7301	-200.3	6.64	5.95
584	SLU 36	131	-58	7295	-200.31	5.21	5.94
584	SLU 37	130	-74	7258	-199.13	6.58	5.9
584	SLU 38	130	-58	7251	-199.14	5.15	5.89
584	SLU 39	130	-75	7395	-203.02	6.71	6
584	SLU 40	130	-59	7388	-203.03	5.28	5.99
584	SLU 41	132	-76	7478	-205.23	6.74	6.04
584	SLU 42	132	-60	7472	-205.24	5.31	6.03
584	SLU 43	132	-78	6858	-188.82	7.15	6.07
584	SLU 44	132	-50	6846	-188.84	4.77	6.05
584	SLU 45	134	-79	6985	-192.21	7.24	6.15
584	SLU 46	134	-62	6978	-192.22	5.81	6.14
584	SLU 47	133	-51	6930	-191.05	4.8	6.09
584	SLU 48	136	-79	7068	-194.43	7.27	6.19
584	SLU 49	136	-63	7061	-194.44	5.85	6.18
584	SLU 50	135	-79	7025	-193.25	7.21	6.14
584	SLU 51	135	-63	7018	-193.26	5.78	6.13
584	SLU 52	140	-56	7556	-208.25	5.22	6.47
584	SLU 53	143	-84	7694	-211.63	7.69	6.57
584	SLU 54	143	-68	7687	-211.64	6.26	6.56
584	SLU 55	142	-56	7639	-210.47	5.25	6.5
584	SLU 56	144	-85	7778	-213.84	7.73	6.6
584	SLU 57	144	-68	7771	-213.85	6.3	6.59
584	SLU 58	143	-84	7734	-212.67	7.66	6.56
584	SLU 59	143	-68	7727	-212.68	6.24	6.55
584	SLU 60	144	-85	7871	-216.56	7.8	6.66
584	SLU 61	144	-69	7864	-216.57	6.37	6.65
584	SLU 62	145	-86	7955	-218.77	7.83	6.7
584	SLU 63	145	-69	7948	-218.78	6.4	6.69
584	SLU 64	145	-84	7733	-212.59	7.6	6.66
584	SLU 65	145	-57	7722	-212.6	5.22	6.64
584	SLU 66	148	-85	7860	-215.98	7.69	6.74
584	SLU 67	148	-69	7853	-215.99	6.26	6.73
584	SLU 68	147	-57	7805	-214.82	5.25	6.68
584	SLU 69	149	-86	7943	-218.19	7.72	6.78
584	SLU 70	149	-69	7937	-218.2	6.29	6.77
584	SLU 71	148	-85	7900	-217.02	7.66	6.73
584	SLU 72	148	-69	7893	-217.03	6.23	6.72
584	SLU 73	154	-62	8431	-232.02	5.67	7.05
584	SLU 74	156	-90	8569	-235.39	8.14	7.15
584	SLU 75	156	-74	8563	-235.4	6.71	7.15
584	SLU 76	155	-63	8515	-234.23	5.7	7.09
584	SLU 77	158	-91	8653	-237.61	8.17	7.19
584	SLU 78	158	-75	8646	-237.62	6.74	7.18
584	SLU 79	157	-91	8610	-236.43	8.11	7.15
584	SLU 80	157	-74	8603	-236.44	6.68	7.14
584	SLU 81	157	-91	8746	-240.32	8.24	7.25
584	SLU 82	157	-75	8740	-240.33	6.81	7.24
584	SLU 83	159	-92	8830	-242.54	8.27	7.29
584	SLU 84	159	-76	8823	-242.55	6.84	7.28
584	SLE RA 1	109	-63	5756	-158.3	5.75	4.99
584	SLE RA 2	109	-45	5749	-158.32	4.16	4.98
584	SLE RA 3	110	-64	5841	-160.56	5.81	5.05
584	SLE RA 4	110	-53	5836	-160.57	4.85	5.04
584	SLE RA 5	110	-45	5804	-159.79	4.18	5
584	SLE RA 6	111	-64	5896	-162.04	5.83	5.07
584	SLE RA 7	111	-54	5892	-162.05	4.88	5.07
584	SLE RA 8	111	-64	5867	-161.26	5.79	5.04
584	SLE RA 9	111	-53	5863	-161.26	4.84	5.03
584	SLE RA 10	114	-49	6222	-171.26	4.46	5.26
584	SLE RA 11	116	-67	6314	-173.51	6.11	5.32
584	SLE RA 12	116	-57	6309	-173.52	5.16	5.32
584	SLE RA 13	115	-49	6277	-172.74	4.48	5.28
584	SLE RA 14	117	-68	6369	-174.99	6.13	5.35
584	SLE RA 15	117	-57	6365	-174.99	5.18	5.34
584	SLE RA 16	116	-68	6340	-174.2	6.09	5.32
584	SLE RA 17	116	-57	6336	-174.21	5.14	5.31
584	SLE RA 18	117	-68	6432	-176.8	6.18	5.39
584	SLE RA 19	117	-57	6427	-176.8	5.22	5.38
584	SLE RA 20	118	-69	6487	-178.27	6.2	5.41
584	SLE RA 21	118	-58	6483	-178.28	5.24	5.4
584	SLE FR 1	109	-63	5756	-158.3	5.75	4.99
584	SLE FR 2	109	-60	5755	-158.31	5.43	4.99
584	SLE FR 3	109	-63	5778	-158.89	5.75	5
584	SLE FR 4	111	-61	5957	-163.85	5.56	5.11
584	SLE FR 5	112	-65	5981	-164.44	5.88	5.12
584	SLE FR 6	113	-66	6094	-167.55	5.96	5.19
584	SLE QP 1	109	-63	5756	-158.3	5.75	4.99
584	SLE QP 2	111	-65	5959	-163.85	5.88	5.11
584	SLD 1	561	156	5547	-155.06	-0.89	17.71
584	SLD 2	570	222	5544	-155.3	-3.99	19.52
584	SLD 3	569	-188	5642	-152.99	26.3	18.28
584	SLD 4	579	-122	5640	-153.23	23.2	20.09
584	SLD 5	232	512	5691	-164.31	-36.87	7.71
584	SLD 6	238	554	5689	-164.46	-38.86	8.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
584	SLD 7	260	-634	6009	-157.42	53.78	9.62
584	SLD 8	266	-592	6007	-157.57	51.79	10.78
584	SLD 9	-44	463	5910	-170.13	-40.04	-0.56
584	SLD 10	-38	505	5908	-170.28	-42.03	0.6
584	SLD 11	-15	-684	6228	-163.24	50.61	1.34
584	SLD 12	-9	-641	6226	-163.4	48.62	2.5
584	SLD 13	-356	-8	6278	-174.47	-11.45	-9.87
584	SLD 14	-347	58	6275	-174.71	-14.55	-8.06
584	SLD 15	-348	-352	6373	-172.4	15.74	-9.3
584	SLD 16	-339	-286	6370	-172.64	12.64	-7.49
584	SLV 1	815	305	5309	-150.28	-6.17	24.8
584	SLV 2	830	409	5305	-150.66	-11.05	27.64
584	SLV 3	829	-282	5472	-146.75	40.21	25.75
584	SLV 4	844	-178	5468	-147.13	35.33	28.6
584	SLV 5	299	916	5518	-165.07	-67.17	9.03
584	SLV 6	309	986	5515	-165.33	-70.46	10.95
584	SLV 7	345	-1039	6060	-153.29	87.43	12.22
584	SLV 8	355	-969	6058	-153.54	84.14	14.14
584	SLV 9	-132	839	5860	-174.16	-72.39	-3.92
584	SLV 10	-122	909	5857	-174.41	-75.68	-2.01
584	SLV 11	-86	-1116	6402	-162.38	82.21	-0.73
584	SLV 12	-76	-1046	6400	-162.63	78.92	1.19
584	SLV 13	-621	48	6450	-180.57	-23.58	-18.38
584	SLV 14	-607	152	6445	-180.95	-28.46	-15.53
584	SLV 15	-608	-538	6612	-177.04	22.8	-17.42
584	SLV 16	-593	-434	6608	-177.42	17.92	-14.58
584	SLV FO 1	885	342	5244	-148.93	-7.37	26.76
584	SLV FO 2	902	456	5240	-149.34	-12.74	29.89
584	SLV FO 3	901	-303	5423	-145.04	43.65	27.82
584	SLV FO 4	917	-189	5419	-145.46	38.28	30.94
584	SLV FO 5	317	1015	5474	-165.19	-74.47	9.42
584	SLV FO 6	328	1092	5471	-165.47	-78.09	11.53
584	SLV FO 7	368	-1136	6070	-152.23	95.59	12.94
584	SLV FO 8	379	-1059	6067	-152.51	91.97	15.04
584	SLV FO 9	-157	930	5850	-175.19	-80.22	-4.82
584	SLV FO 10	-146	1007	5847	-175.47	-83.84	-2.72
584	SLV FO 11	-106	-1221	6447	-162.23	89.84	-1.31
584	SLV FO 12	-95	-1144	6444	-162.51	86.22	0.79
584	SLV FO 13	-695	60	6499	-182.25	-26.53	-20.73
584	SLV FO 14	-678	174	6494	-182.66	-31.9	-17.6
584	SLV FO 15	-680	-586	6678	-178.36	24.49	-19.67
584	SLV FO 16	-663	-471	6673	-178.78	19.12	-16.55
584	CRTFP Ux+	0	0	0	0	0	0
584	CRTFP Ux-	0	0	0	0	0	0
584	CRTFP Uy+	0	0	0	0	0	0
584	CRTFP Uy-	0	0	0	0	0	0
587	SLU 1	67	16	4028	-110.09	1249.46	-3.76
587	SLU 2	68	35	4032	-110.32	1248.78	-10.49
587	SLU 3	69	16	4123	-112.64	1279.13	-3.98
587	SLU 4	69	28	4125	-112.78	1278.72	-8.01
587	SLU 5	69	36	4094	-111.99	1268.45	-10.86
587	SLU 6	70	18	4185	-114.31	1298.8	-4.35
587	SLU 7	70	29	4188	-114.45	1298.39	-8.38
587	SLU 8	69	18	4153	-113.43	1288.8	-4.5
587	SLU 9	70	30	4155	-113.57	1288.39	-8.53
587	SLU 10	72	37	4529	-123.89	1403.33	-10.96
587	SLU 11	74	18	4620	-126.21	1433.68	-4.45
587	SLU 12	74	30	4622	-126.35	1433.27	-8.48
587	SLU 13	73	38	4591	-125.56	1423	-11.32
587	SLU 14	75	19	4682	-127.88	1453.35	-4.81
587	SLU 15	75	31	4685	-128.02	1452.94	-8.85
587	SLU 16	74	20	4650	-127	1443.35	-4.97
587	SLU 17	74	31	4652	-127.14	1442.94	-9
587	SLU 18	74	18	4738	-129.47	1470.25	-4.43
587	SLU 19	74	30	4740	-129.61	1469.84	-8.47
587	SLU 20	75	19	4800	-131.14	1489.91	-4.8
587	SLU 21	75	31	4803	-131.28	1489.5	-8.83
587	SLU 22	75	15	4647	-126.9	1442.48	-3.2
587	SLU 23	75	34	4651	-127.13	1441.79	-9.92
587	SLU 24	77	15	4742	-129.45	1472.15	-3.41
587	SLU 25	77	27	4744	-129.59	1471.74	-7.45
587	SLU 26	76	35	4713	-128.8	1461.46	-10.29
587	SLU 27	78	17	4804	-131.12	1491.81	-3.78
587	SLU 28	78	28	4807	-131.26	1491.4	-7.81
587	SLU 29	77	17	4772	-130.24	1481.81	-3.93
587	SLU 30	77	28	4774	-130.38	1481.4	-7.96
587	SLU 31	80	36	5148	-140.7	1596.34	-10.39
587	SLU 32	81	17	5239	-143.02	1626.7	-3.88
587	SLU 33	81	29	5241	-143.16	1626.29	-7.91
587	SLU 34	81	37	5210	-142.37	1616.01	-10.75
587	SLU 35	82	18	5301	-144.69	1646.36	-4.25
587	SLU 36	83	30	5304	-144.83	1645.95	-8.28
587	SLU 37	82	19	5269	-143.81	1636.36	-4.4
587	SLU 38	82	30	5271	-143.95	1635.95	-8.43
587	SLU 39	82	17	5357	-146.28	1663.26	-3.86
587	SLU 40	82	29	5359	-146.42	1662.85	-7.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
587	SLU 41	83	18	5419	-147.95	1682.93	-4.23
587	SLU 42	83	30	5422	-148.09	1682.52	-8.26
587	SLU 43	85	21	5024	-137.35	1558.12	-5.09
587	SLU 44	85	40	5028	-137.58	1557.44	-11.81
587	SLU 45	87	22	5119	-139.9	1587.8	-5.3
587	SLU 46	87	33	5121	-140.04	1587.39	-9.34
587	SLU 47	86	41	5090	-139.25	1577.11	-12.18
587	SLU 48	88	23	5181	-141.57	1607.46	-5.67
587	SLU 49	88	34	5184	-141.71	1607.05	-9.71
587	SLU 50	87	23	5149	-140.69	1597.46	-5.82
587	SLU 51	87	35	5151	-140.83	1597.05	-9.86
587	SLU 52	90	42	5525	-151.15	1711.99	-12.28
587	SLU 53	91	23	5616	-153.47	1742.34	-5.77
587	SLU 54	91	35	5618	-153.61	1741.93	-9.81
587	SLU 55	91	43	5587	-152.82	1731.66	-12.65
587	SLU 56	92	24	5678	-155.14	1762.01	-6.14
587	SLU 57	92	36	5681	-155.28	1761.6	-10.17
587	SLU 58	92	25	5646	-154.26	1752.01	-6.29
587	SLU 59	92	36	5648	-154.4	1751.6	-10.32
587	SLU 60	92	23	5734	-156.73	1778.91	-5.76
587	SLU 61	92	35	5736	-156.87	1778.5	-9.79
587	SLU 62	93	24	5797	-158.4	1798.58	-6.12
587	SLU 63	93	36	5799	-158.54	1798.17	-10.16
587	SLU 64	93	20	5643	-154.16	1751.14	-4.52
587	SLU 65	93	39	5647	-154.39	1750.46	-11.24
587	SLU 66	94	21	5738	-156.71	1780.81	-4.74
587	SLU 67	94	32	5740	-156.85	1780.4	-8.77
587	SLU 68	94	40	5709	-156.07	1770.12	-11.61
587	SLU 69	95	22	5800	-158.38	1800.48	-5.1
587	SLU 70	95	33	5803	-158.52	1800.07	-9.14
587	SLU 71	95	22	5768	-157.5	1790.47	-5.25
587	SLU 72	95	34	5770	-157.64	1790.06	-9.29
587	SLU 73	97	41	6144	-167.96	1905	-11.71
587	SLU 74	99	22	6235	-170.28	1935.36	-5.2
587	SLU 75	99	34	6237	-170.42	1934.95	-9.24
587	SLU 76	99	42	6206	-169.63	1924.67	-12.08
587	SLU 77	100	23	6297	-171.95	1955.03	-5.57
587	SLU 78	100	35	6300	-172.09	1954.62	-9.6
587	SLU 79	99	24	6265	-171.07	1945.02	-5.72
587	SLU 80	99	35	6267	-171.21	1944.61	-9.76
587	SLU 81	99	22	6353	-173.54	1971.92	-5.19
587	SLU 82	99	34	6355	-173.68	1971.51	-9.22
587	SLU 83	100	23	6416	-175.21	1991.59	-5.55
587	SLU 84	100	35	6418	-175.35	1991.18	-9.59
587	SLE RA 1	70	15	4204	-114.89	1304.61	-3.6
587	SLE RA 2	70	28	4207	-115.05	1304.15	-8.08
587	SLE RA 3	71	16	4268	-116.59	1324.39	-3.75
587	SLE RA 4	71	24	4269	-116.68	1324.12	-6.44
587	SLE RA 5	70	29	4249	-116.16	1317.27	-8.33
587	SLE RA 6	71	17	4309	-117.71	1337.5	-3.99
587	SLE RA 7	71	24	4311	-117.8	1337.23	-6.68
587	SLE RA 8	71	17	4288	-117.12	1330.83	-4.09
587	SLE RA 9	71	25	4289	-117.21	1330.56	-6.78
587	SLE RA 10	73	29	4539	-124.09	1407.19	-8.4
587	SLE RA 11	74	17	4599	-125.64	1427.42	-4.06
587	SLE RA 12	74	25	4601	-125.73	1427.15	-6.75
587	SLE RA 13	73	30	4580	-125.21	1420.3	-8.64
587	SLE RA 14	74	18	4641	-126.75	1440.53	-4.3
587	SLE RA 15	75	25	4643	-126.84	1440.26	-6.99
587	SLE RA 16	74	18	4619	-126.16	1433.87	-4.4
587	SLE RA 17	74	26	4621	-126.26	1433.59	-7.09
587	SLE RA 18	74	17	4678	-127.81	1451.8	-4.05
587	SLE RA 19	74	25	4680	-127.9	1451.52	-6.74
587	SLE RA 20	75	18	4720	-128.93	1464.91	-4.29
587	SLE RA 21	75	25	4721	-129.02	1464.64	-6.98
587	SLE FR 1	70	15	4204	-114.89	1304.61	-3.6
587	SLE FR 2	70	18	4205	-114.92	1304.52	-4.5
587	SLE FR 3	70	16	4221	-115.34	1309.85	-3.7
587	SLE FR 4	71	18	4347	-118.8	1348.67	-4.63
587	SLE FR 5	71	16	4363	-119.21	1354.01	-3.83
587	SLE FR 6	72	16	4441	-121.35	1378.2	-3.82
587	SLE QP 1	70	15	4204	-114.89	1304.61	-3.6
587	SLE QP 2	71	16	4346	-118.77	1348.77	-3.74
587	SLD 1	335	-13	3270	-90.32	1029.3	5.76
587	SLD 2	341	90	3274	-90.57	1028.14	-29.74
587	SLD 3	329	-245	3203	-86.68	1037	87
587	SLD 4	335	-143	3206	-86.94	1035.84	51.5
587	SLD 5	158	343	4125	-115.7	1241.46	-117.99
587	SLD 6	162	409	4128	-115.87	1240.71	-140.85
587	SLD 7	138	-433	3900	-103.58	1267.1	152.8
587	SLD 8	142	-367	3903	-103.75	1266.36	129.94
587	SLD 9	-1	399	4790	-133.79	1431.18	-137.41
587	SLD 10	3	465	4793	-133.95	1430.43	-160.27
587	SLD 11	-20	-377	4565	-121.66	1456.82	133.38
587	SLD 12	-16	-311	4568	-121.83	1456.07	110.52
587	SLD 13	-193	175	5487	-150.59	1661.7	-58.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
587	SLD 14	-187	277	5490	-150.85	1660.53	-94.47
587	SLD 15	-199	-58	5419	-146.96	1669.39	22.27
587	SLD 16	-193	45	5423	-147.21	1668.23	-13.24
587	SLV 1	485	-13	2671	-74.64	849.88	5.45
587	SLV 2	494	148	2677	-75.04	848.05	-50.5
587	SLV 3	475	-410	2557	-68.45	862.71	144.04
587	SLV 4	484	-248	2563	-68.85	860.88	88.08
587	SLV 5	208	579	4016	-114.84	1179.97	-200.72
587	SLV 6	214	688	4020	-115.11	1178.74	-238.4
587	SLV 7	176	-744	3635	-94.21	1222.76	261.23
587	SLV 8	182	-635	3639	-94.48	1221.53	223.55
587	SLV 9	-40	667	5054	-143.05	1476	-231.02
587	SLV 10	-34	776	5058	-143.32	1474.77	-268.7
587	SLV 11	-72	-656	4673	-122.43	1518.79	230.92
587	SLV 12	-66	-547	4677	-122.7	1517.56	193.25
587	SLV 13	-343	280	6130	-168.68	1836.65	-95.55
587	SLV 14	-333	442	6136	-169.08	1834.82	-151.51
587	SLV 15	-352	-117	6016	-162.49	1849.49	43.03
587	SLV 16	-343	45	6022	-162.89	1847.65	-12.93
587	SLV FO 1	526	-16	2504	-70.22	799.99	6.37
587	SLV FO 2	536	162	2510	-70.67	797.97	-55.18
587	SLV FO 3	515	-452	2378	-63.42	814.11	158.82
587	SLV FO 4	526	-275	2385	-63.86	812.09	97.26
587	SLV FO 5	222	636	3983	-114.44	1163.09	-220.42
587	SLV FO 6	228	755	3987	-114.74	1161.74	-261.86
587	SLV FO 7	186	-820	3564	-91.76	1210.16	287.72
587	SLV FO 8	193	-701	3569	-92.06	1208.8	246.28
587	SLV FO 9	-51	732	5124	-145.48	1488.73	-253.75
587	SLV FO 10	-44	852	5129	-145.77	1487.37	-295.19
587	SLV FO 11	-87	-723	4706	-122.79	1535.8	254.39
587	SLV FO 12	-80	-604	4710	-123.09	1534.44	212.95
587	SLV FO 13	-384	307	6308	-173.67	1885.44	-104.73
587	SLV FO 14	-374	484	6315	-174.11	1883.42	-166.29
587	SLV FO 15	-394	-130	6183	-166.87	1899.56	47.71
587	SLV FO 16	-384	47	6189	-167.31	1897.54	-13.84
587	CRTFP Ux+	0	0	0	0	0	0
587	CRTFP Ux-	0	0	0	0	0	0
587	CRTFP Uy+	0	0	0	0	0	0
587	CRTFP Uy-	0	0	0	0	0	0
589	SLU 1	24	-33	2846	-80.13	1127.12	13.8
589	SLU 2	23	-16	2839	-80	1123.66	7.34
589	SLU 3	24	-33	2911	-81.92	1153.1	14.15
589	SLU 4	24	-24	2907	-81.85	1151.03	10.28
589	SLU 5	24	-17	2882	-81.19	1140.93	7.63
589	SLU 6	24	-34	2954	-83.11	1170.37	14.44
589	SLU 7	24	-24	2950	-83.03	1168.29	10.57
589	SLU 8	24	-34	2932	-82.5	1161.65	14.38
589	SLU 9	24	-24	2928	-82.43	1159.58	10.5
589	SLU 10	26	-20	3219	-90.68	1275.02	8.93
589	SLU 11	27	-37	3291	-92.6	1304.46	15.75
589	SLU 12	27	-27	3287	-92.52	1302.39	11.87
589	SLU 13	26	-21	3262	-91.86	1292.29	9.22
589	SLU 14	27	-38	3334	-93.79	1321.73	16.04
589	SLU 15	27	-28	3330	-93.71	1319.65	12.16
589	SLU 16	27	-38	3312	-93.18	1313.01	15.98
589	SLU 17	27	-28	3308	-93.1	1310.94	12.1
589	SLU 18	27	-38	3389	-95.38	1343.35	16.08
589	SLU 19	27	-28	3385	-95.3	1341.28	12.2
589	SLU 20	27	-39	3432	-96.57	1360.62	16.37
589	SLU 21	27	-29	3428	-96.49	1358.54	12.49
589	SLU 22	27	-37	3280	-92.2	1299.23	15.59
589	SLU 23	27	-21	3273	-92.08	1295.77	9.13
589	SLU 24	28	-38	3345	-94	1325.21	15.95
589	SLU 25	28	-28	3341	-93.92	1323.13	12.07
589	SLU 26	28	-21	3316	-93.26	1313.04	9.42
589	SLU 27	28	-38	3388	-95.19	1342.48	16.24
589	SLU 28	28	-29	3384	-95.11	1340.4	12.36
589	SLU 29	28	-38	3366	-94.58	1333.76	16.17
589	SLU 30	28	-28	3362	-94.5	1331.69	12.3
589	SLU 31	30	-24	3653	-102.75	1447.13	10.73
589	SLU 32	30	-41	3725	-104.68	1476.57	17.55
589	SLU 33	30	-32	3721	-104.6	1474.49	13.67
589	SLU 34	30	-25	3696	-103.94	1464.4	11.02
589	SLU 35	31	-42	3768	-105.86	1493.83	17.84
589	SLU 36	31	-32	3764	-105.79	1491.76	13.96
589	SLU 37	31	-42	3746	-105.25	1485.12	17.77
589	SLU 38	30	-32	3742	-105.18	1483.05	13.89
589	SLU 39	31	-42	3823	-107.45	1515.46	17.87
589	SLU 40	31	-32	3819	-107.38	1513.39	14
589	SLU 41	31	-43	3866	-108.64	1532.73	18.17
589	SLU 42	31	-33	3862	-108.57	1530.65	14.29
589	SLU 43	29	-41	3551	-100.02	1406.25	17.32
589	SLU 44	29	-25	3543	-99.9	1402.79	10.86
589	SLU 45	30	-42	3616	-101.82	1432.23	17.68
589	SLU 46	30	-32	3611	-101.74	1430.15	13.8
589	SLU 47	30	-25	3587	-101.08	1420.06	11.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
589	SLU 48	30	-42	3659	-103.01	1449.49	17.97
589	SLU 49	30	-33	3655	-102.93	1447.42	14.09
589	SLU 50	30	-42	3637	-102.4	1440.78	17.9
589	SLU 51	30	-33	3633	-102.32	1438.71	14.03
589	SLU 52	32	-28	3924	-110.57	1554.15	12.46
589	SLU 53	32	-45	3996	-112.5	1583.59	19.27
589	SLU 54	32	-36	3992	-112.42	1581.51	15.4
589	SLU 55	32	-29	3967	-111.76	1571.42	12.75
589	SLU 56	33	-46	4039	-113.68	1600.85	19.56
589	SLU 57	33	-37	4035	-113.61	1598.78	15.69
589	SLU 58	32	-46	4017	-113.08	1592.14	19.5
589	SLU 59	32	-36	4013	-113	1590.07	15.62
589	SLU 60	33	-46	4094	-115.28	1622.48	19.6
589	SLU 61	33	-37	4090	-115.2	1620.4	15.73
589	SLU 62	33	-47	4137	-116.46	1639.75	19.89
589	SLU 63	33	-37	4133	-116.39	1637.67	16.02
589	SLU 64	33	-45	3985	-112.1	1578.36	19.12
589	SLU 65	33	-29	3978	-111.97	1574.9	12.66
589	SLU 66	34	-46	4050	-113.9	1604.34	19.47
589	SLU 67	34	-36	4046	-113.82	1602.26	15.59
589	SLU 68	33	-30	4021	-113.16	1592.17	12.95
589	SLU 69	34	-47	4093	-115.08	1621.6	19.76
589	SLU 70	34	-37	4089	-115.01	1619.53	15.89
589	SLU 71	34	-46	4071	-114.47	1612.89	19.7
589	SLU 72	34	-37	4067	-114.4	1610.82	15.82
589	SLU 73	36	-33	4358	-122.65	1726.26	14.25
589	SLU 74	36	-50	4430	-124.57	1755.7	21.07
589	SLU 75	36	-40	4426	-124.5	1753.62	17.19
589	SLU 76	36	-33	4401	-123.84	1743.53	14.54
589	SLU 77	36	-50	4473	-125.76	1772.96	21.36
589	SLU 78	36	-41	4469	-125.68	1770.89	17.48
589	SLU 79	36	-50	4451	-125.15	1764.25	21.3
589	SLU 80	36	-41	4447	-125.08	1762.17	17.42
589	SLU 81	37	-50	4528	-127.35	1794.59	21.4
589	SLU 82	37	-41	4524	-127.28	1792.51	17.52
589	SLU 83	37	-51	4571	-128.54	1811.85	21.69
589	SLU 84	37	-41	4567	-128.46	1809.78	17.81
589	SLE RA 1	25	-34	2970	-83.58	1176.3	14.31
589	SLE RA 2	25	-23	2965	-83.49	1173.99	10
589	SLE RA 3	25	-34	3013	-84.77	1193.62	14.55
589	SLE RA 4	25	-28	3010	-84.72	1192.23	11.96
589	SLE RA 5	25	-23	2994	-84.28	1185.5	10.2
589	SLE RA 6	25	-35	3042	-85.57	1205.13	14.74
589	SLE RA 7	25	-28	3039	-85.52	1203.74	12.16
589	SLE RA 8	25	-35	3027	-85.16	1199.32	14.7
589	SLE RA 9	25	-28	3025	-85.11	1197.93	12.11
589	SLE RA 10	26	-25	3218	-90.61	1274.9	11.07
589	SLE RA 11	27	-37	3267	-91.89	1294.52	15.61
589	SLE RA 12	27	-30	3264	-91.84	1293.14	13.03
589	SLE RA 13	26	-26	3247	-91.4	1286.41	11.26
589	SLE RA 14	27	-37	3295	-92.68	1306.03	15.81
589	SLE RA 15	27	-31	3293	-92.63	1304.65	13.22
589	SLE RA 16	27	-37	3281	-92.28	1300.22	15.76
589	SLE RA 17	27	-31	3278	-92.23	1298.84	13.18
589	SLE RA 18	27	-37	3332	-93.74	1320.45	15.83
589	SLE RA 19	27	-31	3329	-93.69	1319.07	13.25
589	SLE RA 20	27	-38	3361	-94.54	1331.96	16.03
589	SLE RA 21	27	-31	3358	-94.49	1330.58	13.44
589	SLE FR 1	25	-34	2970	-83.58	1176.3	14.31
589	SLE FR 2	25	-32	2969	-83.56	1175.84	13.45
589	SLE FR 3	25	-34	2981	-83.89	1180.9	14.39
589	SLE FR 4	25	-33	3077	-86.61	1219.08	13.91
589	SLE FR 5	25	-35	3090	-86.94	1224.15	14.84
589	SLE FR 6	26	-36	3151	-88.66	1248.37	15.07
589	SLE QP 1	25	-34	2970	-83.58	1176.3	14.31
589	SLE QP 2	25	-35	3078	-86.63	1219.54	14.77
589	SLD 1	260	49	3018	-85.3	1193.29	-12.84
589	SLD 2	264	52	3016	-85.23	1191.8	-13.85
589	SLD 3	264	-149	3094	-86.4	1231.46	66.45
589	SLD 4	268	-147	3091	-86.33	1229.97	65.44
589	SLD 5	89	291	2946	-84.57	1154.04	-113.6
589	SLD 6	92	292	2944	-84.53	1153.08	-114.25
589	SLD 7	102	-370	3199	-88.24	1281.26	150.71
589	SLD 8	105	-369	3197	-88.19	1280.3	150.06
589	SLD 9	-54	299	2960	-85.06	1158.79	-120.52
589	SLD 10	-52	301	2958	-85.02	1157.82	-121.17
589	SLD 11	-41	-362	3213	-88.72	1286.01	143.78
589	SLD 12	-38	-360	3211	-88.68	1285.05	143.13
589	SLD 13	-217	77	3065	-86.92	1209.12	-35.91
589	SLD 14	-213	80	3063	-86.85	1207.62	-36.92
589	SLD 15	-213	-121	3141	-88.02	1247.29	43.38
589	SLD 16	-209	-118	3139	-87.95	1245.79	42.37
589	SLV 1	393	110	2977	-84.44	1174.62	-34
589	SLV 2	399	114	2973	-84.33	1172.26	-35.59
589	SLV 3	399	-229	3106	-86.31	1239.69	101.23
589	SLV 4	405	-224	3102	-86.2	1237.34	99.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
589	SLV 5	125	521	2853	-83.15	1107.81	-204.67
589	SLV 6	129	524	2850	-83.08	1106.22	-205.74
589	SLV 7	146	-607	3283	-89.39	1324.73	246.11
589	SLV 8	150	-604	3281	-89.32	1323.14	245.04
589	SLV 9	-99	534	2876	-83.93	1115.95	-215.5
589	SLV 10	-95	537	2873	-83.86	1114.36	-216.57
589	SLV 11	-78	-593	3307	-90.18	1332.87	235.27
589	SLV 12	-74	-590	3304	-90.11	1331.28	234.2
589	SLV 13	-354	154	3055	-87.05	1201.75	-70.11
589	SLV 14	-348	159	3051	-86.94	1199.39	-71.7
589	SLV 15	-348	-184	3184	-88.92	1266.83	65.12
589	SLV 16	-342	-179	3180	-88.82	1264.47	63.53
589	SLV FO 1	429	124	2966	-84.22	1170.12	-38.88
589	SLV FO 2	436	129	2962	-84.1	1167.53	-40.63
589	SLV FO 3	436	-248	3109	-86.28	1241.71	109.88
589	SLV FO 4	443	-243	3104	-86.16	1239.11	108.13
589	SLV FO 5	135	576	2830	-82.8	1096.63	-226.61
589	SLV FO 6	139	580	2827	-82.72	1094.89	-227.79
589	SLV FO 7	158	-664	3304	-89.67	1335.25	269.24
589	SLV FO 8	162	-661	3301	-89.59	1333.5	268.06
589	SLV FO 9	-112	591	2856	-83.66	1105.59	-238.53
589	SLV FO 10	-107	594	2853	-83.58	1103.84	-239.71
589	SLV FO 11	-89	-649	3330	-90.53	1344.2	257.32
589	SLV FO 12	-84	-646	3327	-90.45	1342.46	256.15
589	SLV FO 13	-392	173	3052	-87.09	1199.97	-78.6
589	SLV FO 14	-386	178	3048	-86.98	1197.38	-80.34
589	SLV FO 15	-385	-199	3195	-89.15	1271.56	70.16
589	SLV FO 16	-379	-194	3190	-89.04	1268.96	68.41
589	CRTFP Ux+	0	0	0	0	0	0
589	CRTFP Ux-	0	0	0	0	0	0
589	CRTFP Uy+	0	0	0	0	0	0
589	CRTFP Uy-	0	0	0	0	0	0
609	SLU 1	-90	-1	8216	2956.83	-483.62	30.58
609	SLU 2	-90	38	8206	2950.04	-482.34	32.88
609	SLU 3	-92	-2	8414	3029.15	-495.36	31.12
609	SLU 4	-91	22	8408	3025.08	-494.59	32.5
609	SLU 5	-91	38	8335	2997.27	-490.02	33.14
609	SLU 6	-92	-2	8543	3076.37	-503.03	31.38
609	SLU 7	-92	22	8537	3072.3	-502.27	32.76
609	SLU 8	-92	-2	8474	3051.28	-498.98	31.09
609	SLU 9	-91	22	8468	3047.21	-498.21	32.47
609	SLU 10	-92	39	9309	3346.93	-547.57	33.53
609	SLU 11	-94	-1	9517	3426.04	-560.58	31.77
609	SLU 12	-93	23	9511	3421.97	-559.82	33.15
609	SLU 13	-92	39	9438	3394.16	-555.25	33.79
609	SLU 14	-94	-2	9646	3473.26	-568.26	32.03
609	SLU 15	-94	22	9640	3469.19	-567.49	33.41
609	SLU 16	-94	-1	9577	3448.17	-564.2	31.74
609	SLU 17	-93	22	9571	3444.1	-563.44	33.12
609	SLU 18	-93	-1	9792	3523.81	-576.8	31.51
609	SLU 19	-93	23	9786	3519.74	-576.03	32.89
609	SLU 20	-94	-1	9921	3571.04	-584.48	31.77
609	SLU 21	-93	23	9915	3566.97	-583.71	33.15
609	SLU 22	-98	-3	9564	3445.89	-562.93	33.36
609	SLU 23	-98	37	9554	3439.1	-561.65	35.66
609	SLU 24	-100	-3	9762	3518.21	-574.66	33.9
609	SLU 25	-100	21	9756	3514.14	-573.89	35.28
609	SLU 26	-99	37	9683	3486.33	-569.32	35.92
609	SLU 27	-101	-3	9891	3565.43	-582.34	34.16
609	SLU 28	-100	21	9885	3561.36	-581.57	35.54
609	SLU 29	-100	-3	9822	3540.34	-578.28	33.87
609	SLU 30	-100	21	9816	3536.27	-577.51	35.25
609	SLU 31	-100	38	10657	3835.99	-626.87	36.31
609	SLU 32	-102	-3	10865	3915.1	-639.89	34.55
609	SLU 33	-101	21	10859	3911.03	-639.12	35.93
609	SLU 34	-101	37	10786	3883.22	-634.55	36.57
609	SLU 35	-102	-3	10994	3962.32	-647.56	34.81
609	SLU 36	-102	21	10988	3958.25	-646.8	36.19
609	SLU 37	-102	-3	10925	3937.23	-643.51	34.53
609	SLU 38	-101	21	10919	3933.16	-642.74	35.9
609	SLU 39	-101	-2	11140	4012.87	-656.11	34.29
609	SLU 40	-101	22	11134	4008.8	-655.34	35.67
609	SLU 41	-102	-2	11269	4060.1	-663.78	34.55
609	SLU 42	-101	22	11263	4056.03	-663.02	35.93
609	SLU 43	-114	-1	10219	3676.2	-601.52	38.8
609	SLU 44	-114	38	10208	3669.41	-600.24	41.1
609	SLU 45	-116	-2	10416	3748.52	-613.25	39.34
609	SLU 46	-116	22	10410	3744.45	-612.49	40.72
609	SLU 47	-115	38	10337	3716.64	-607.92	41.36
609	SLU 48	-117	-2	10545	3795.74	-620.93	39.6
609	SLU 49	-117	22	10539	3791.67	-620.16	40.98
609	SLU 50	-116	-2	10476	3770.65	-616.87	39.31
609	SLU 51	-116	22	10470	3766.58	-616.11	40.69
609	SLU 52	-116	39	11312	4066.3	-665.47	41.75
609	SLU 53	-118	-1	11520	4145.41	-678.48	39.99
609	SLU 54	-118	23	11514	4141.34	-677.71	41.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
609	SLU 55	-117	39	11441	4113.53	-673.14	42.01
609	SLU 56	-119	-2	11649	4192.63	-686.16	40.25
609	SLU 57	-118	22	11642	4188.56	-685.39	41.63
609	SLU 58	-118	-1	11580	4167.54	-682.1	39.96
609	SLU 59	-118	22	11574	4163.47	-681.33	41.34
609	SLU 60	-117	-1	11795	4243.18	-694.7	39.73
609	SLU 61	-117	23	11789	4239.11	-693.93	41.11
609	SLU 62	-118	-1	11924	4290.41	-702.38	39.99
609	SLU 63	-118	23	11917	4286.34	-701.61	41.37
609	SLU 64	-122	-3	11567	4165.26	-680.82	41.59
609	SLU 65	-122	37	11557	4158.47	-679.54	43.88
609	SLU 66	-124	-3	11765	4237.58	-692.56	42.12
609	SLU 67	-124	21	11759	4233.51	-691.79	43.5
609	SLU 68	-123	37	11686	4205.7	-687.22	44.14
609	SLU 69	-125	-3	11894	4284.8	-700.23	42.38
609	SLU 70	-125	20	11888	4280.73	-699.47	43.76
609	SLU 71	-124	-3	11825	4259.71	-696.18	42.1
609	SLU 72	-124	21	11819	4255.64	-695.41	43.48
609	SLU 73	-124	38	12660	4555.36	-744.77	44.53
609	SLU 74	-126	-3	12868	4634.47	-757.78	42.77
609	SLU 75	-126	21	12862	4630.4	-757.02	44.15
609	SLU 76	-125	37	12789	4602.59	-752.45	44.79
609	SLU 77	-127	-3	12997	4681.69	-765.46	43.03
609	SLU 78	-126	21	12991	4677.62	-764.69	44.41
609	SLU 79	-126	-3	12928	4656.6	-761.4	42.75
609	SLU 80	-126	21	12922	4652.53	-760.64	44.13
609	SLU 81	-125	-2	13143	4732.24	-774	42.51
609	SLU 82	-125	22	13137	4728.17	-773.24	43.89
609	SLU 83	-126	-2	13272	4779.47	-781.68	42.77
609	SLU 84	-126	22	13266	4775.4	-780.91	44.15
609	SLE RA 1	-92	-2	8601	3096.56	-506.28	31.38
609	SLE RA 2	-92	25	8595	3092.03	-505.43	32.91
609	SLE RA 3	-93	-2	8733	3144.77	-514.1	31.74
609	SLE RA 4	-93	14	8729	3142.06	-513.59	32.66
609	SLE RA 5	-93	25	8680	3123.52	-510.55	33.08
609	SLE RA 6	-94	-2	8819	3176.26	-519.22	31.91
609	SLE RA 7	-94	14	8815	3173.54	-518.71	32.83
609	SLE RA 8	-93	-2	8773	3159.53	-516.52	31.72
609	SLE RA 9	-93	14	8769	3156.81	-516.01	32.64
609	SLE RA 10	-93	25	9330	3356.63	-548.91	33.34
609	SLE RA 11	-95	-2	9469	3409.37	-557.59	32.17
609	SLE RA 12	-95	14	9465	3406.65	-557.08	33.09
609	SLE RA 13	-94	25	9416	3388.11	-554.03	33.51
609	SLE RA 14	-95	-2	9555	3440.85	-562.71	32.34
609	SLE RA 15	-95	14	9551	3438.13	-562.19	33.26
609	SLE RA 16	-95	-2	9509	3424.12	-560	32.15
609	SLE RA 17	-95	14	9505	3421.4	-559.49	33.07
609	SLE RA 18	-94	-1	9652	3474.55	-568.4	32
609	SLE RA 19	-94	15	9648	3471.83	-567.89	32.92
609	SLE RA 20	-95	-2	9738	3506.03	-573.52	32.17
609	SLE RA 21	-95	14	9734	3503.32	-573.01	33.09
609	SLE FR 1	-92	-2	8601	3096.56	-506.28	31.38
609	SLE FR 2	-92	3	8600	3095.65	-506.11	31.68
609	SLE FR 3	-93	-2	8636	3109.15	-508.33	31.45
609	SLE FR 4	-93	4	8915	3209.05	-524.75	31.87
609	SLE FR 5	-93	-2	8951	3222.55	-526.96	31.63
609	SLE FR 6	-93	-2	9127	3285.55	-537.34	31.69
609	SLE QP 1	-92	-2	8601	3096.56	-506.28	31.38
609	SLE QP 2	-93	-2	8916	3209.95	-524.92	31.56
609	SLD 1	569	424	9872	3535.55	-574.21	-194.43
609	SLD 2	563	309	9861	3533.88	-574.23	-197.35
609	SLD 3	582	-68	9976	3621.76	-589.42	-221.81
609	SLD 4	576	-183	9966	3620.09	-589.43	-224.73
609	SLD 5	86	892	9046	3177.17	-516.64	5.8
609	SLD 6	83	818	9039	3176.09	-516.65	3.92
609	SLD 7	131	-748	9395	3464.54	-567.33	-85.48
609	SLD 8	127	-822	9389	3463.46	-567.34	-87.36
609	SLD 9	-313	818	8444	2956.45	-482.49	150.48
609	SLD 10	-317	744	8438	2955.37	-482.5	148.6
609	SLD 11	-269	-821	8794	3243.82	-533.18	59.21
609	SLD 12	-272	-895	8787	3242.74	-533.2	57.33
609	SLD 13	-762	180	7867	2799.82	-460.4	287.86
609	SLD 14	-768	65	7857	2798.15	-460.42	284.93
609	SLD 15	-749	-312	7972	2886.03	-475.61	260.47
609	SLD 16	-754	-427	7961	2884.36	-475.62	257.55
609	SLV 1	943	699	10400	3711.79	-600.71	-320.57
609	SLV 2	934	518	10384	3709.15	-600.74	-325.18
609	SLV 3	965	-140	10577	3858.63	-626.61	-367.08
609	SLV 4	956	-321	10561	3855.99	-626.64	-371.68
609	SLV 5	186	1515	9095	3138.28	-508.37	-2.69
609	SLV 6	180	1393	9084	3136.5	-508.39	-5.79
609	SLV 7	259	-1282	9687	3627.77	-594.7	-157.7
609	SLV 8	253	-1404	9677	3625.99	-594.72	-160.8
609	SLV 9	-439	1400	8156	2793.92	-455.11	223.93
609	SLV 10	-445	1278	8146	2792.14	-455.13	220.83
609	SLV 11	-366	-1396	8749	3283.4	-541.44	68.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
609	SLV 12	-372	-1518	8738	3281.63	-541.46	65.81
609	SLV 13	-1142	318	7272	2563.92	-423.19	434.81
609	SLV 14	-1151	137	7256	2561.28	-423.22	430.2
609	SLV 15	-1120	-521	7449	2710.76	-449.09	388.31
609	SLV 16	-1129	-702	7433	2708.12	-449.12	383.7
609	SLV FO 1	1046	769	10548	3761.97	-608.29	-355.79
609	SLV FO 2	1037	570	10530	3759.07	-608.32	-360.86
609	SLV FO 3	1070	-154	10744	3923.5	-636.78	-406.94
609	SLV FO 4	1061	-353	10726	3920.6	-636.81	-412.01
609	SLV FO 5	214	1666	9113	3131.11	-506.71	-6.11
609	SLV FO 6	207	1532	9101	3129.16	-506.74	-9.53
609	SLV FO 7	295	-1410	9765	3669.55	-601.68	-176.63
609	SLV FO 8	288	-1544	9753	3667.59	-601.7	-180.04
609	SLV FO 9	-474	1540	8080	2752.32	-448.13	243.16
609	SLV FO 10	-480	1406	8068	2750.36	-448.15	239.75
609	SLV FO 11	-393	-1535	8732	3290.75	-543.1	72.65
609	SLV FO 12	-400	-1670	8720	3288.79	-543.12	69.24
609	SLV FO 13	-1247	350	7107	2499.31	-413.02	475.13
609	SLV FO 14	-1256	150	7089	2496.41	-413.05	470.07
609	SLV FO 15	-1223	-573	7303	2660.84	-441.51	423.98
609	SLV FO 16	-1232	-772	7285	2657.94	-441.54	418.91
609	CRTFP Ux+	0	0	0	0	0	0
609	CRTFP Ux-	0	0	0	0	0	0
609	CRTFP Uy+	0	0	0	0	0	0
609	CRTFP Uy-	0	0	0	0	0	0
646	SLU 1	5	-4	2378	1095.18	-14.08	-2.03
646	SLU 2	5	9	2371	1091.15	-14.08	-2.2
646	SLU 3	5	-5	2434	1121.27	-14.4	-2.14
646	SLU 4	5	3	2430	1118.85	-14.4	-2.24
646	SLU 5	6	8	2408	1108.54	-14.29	-2.27
646	SLU 6	5	-5	2471	1138.66	-14.61	-2.21
646	SLU 7	6	3	2467	1136.24	-14.61	-2.31
646	SLU 8	5	-5	2453	1129.96	-14.5	-2.18
646	SLU 9	6	3	2448	1127.54	-14.5	-2.28
646	SLU 10	6	8	2688	1237.62	-15.93	-2.56
646	SLU 11	6	-6	2751	1267.74	-16.25	-2.49
646	SLU 12	6	2	2747	1265.32	-16.25	-2.59
646	SLU 13	6	7	2725	1255.01	-16.14	-2.63
646	SLU 14	6	-6	2789	1285.13	-16.45	-2.56
646	SLU 15	6	2	2784	1282.71	-16.46	-2.66
646	SLU 16	6	-6	2770	1276.43	-16.35	-2.53
646	SLU 17	6	2	2765	1274.01	-16.35	-2.63
646	SLU 18	6	-6	2831	1304.43	-16.72	-2.54
646	SLU 19	6	2	2827	1302.01	-16.72	-2.64
646	SLU 20	6	-6	2868	1321.81	-16.93	-2.61
646	SLU 21	7	2	2864	1319.4	-16.93	-2.71
646	SLU 22	7	-5	2751	1268.71	-16.28	-2.82
646	SLU 23	7	8	2744	1264.68	-16.28	-2.99
646	SLU 24	7	-6	2807	1294.8	-16.6	-2.93
646	SLU 25	7	2	2803	1292.38	-16.6	-3.03
646	SLU 26	7	7	2781	1282.07	-16.49	-3.06
646	SLU 27	7	-6	2845	1312.19	-16.81	-3
646	SLU 28	7	2	2840	1309.77	-16.81	-3.1
646	SLU 29	7	-6	2826	1303.49	-16.7	-2.97
646	SLU 30	7	2	2821	1301.07	-16.7	-3.07
646	SLU 31	8	7	3061	1411.15	-18.13	-3.35
646	SLU 32	8	-7	3125	1441.27	-18.45	-3.28
646	SLU 33	8	1	3120	1438.85	-18.45	-3.38
646	SLU 34	8	6	3098	1428.54	-18.34	-3.42
646	SLU 35	8	-7	3162	1458.66	-18.66	-3.35
646	SLU 36	8	1	3157	1456.24	-18.66	-3.45
646	SLU 37	8	-7	3143	1449.96	-18.55	-3.32
646	SLU 38	8	1	3139	1447.54	-18.55	-3.42
646	SLU 39	8	-7	3205	1477.95	-18.92	-3.33
646	SLU 40	8	1	3200	1475.54	-18.92	-3.43
646	SLU 41	8	-7	3242	1495.34	-19.13	-3.4
646	SLU 42	8	1	3237	1492.92	-19.13	-3.5
646	SLU 43	6	-5	2964	1364.24	-17.55	-2.37
646	SLU 44	6	8	2956	1360.21	-17.55	-2.54
646	SLU 45	6	-5	3020	1390.33	-17.87	-2.48
646	SLU 46	6	2	3015	1387.91	-17.87	-2.58
646	SLU 47	6	7	2993	1377.6	-17.76	-2.61
646	SLU 48	6	-6	3057	1407.72	-18.07	-2.55
646	SLU 49	6	2	3052	1405.3	-18.08	-2.65
646	SLU 50	6	-6	3038	1399.02	-17.97	-2.52
646	SLU 51	6	2	3034	1396.6	-17.97	-2.62
646	SLU 52	7	7	3273	1506.68	-19.4	-2.9
646	SLU 53	7	-7	3337	1536.8	-19.71	-2.83
646	SLU 54	7	1	3332	1534.38	-19.72	-2.93
646	SLU 55	7	6	3310	1524.07	-19.61	-2.97
646	SLU 56	7	-7	3374	1554.19	-19.92	-2.9
646	SLU 57	7	1	3369	1551.77	-19.92	-3
646	SLU 58	7	-7	3355	1545.49	-19.81	-2.87
646	SLU 59	7	1	3351	1543.07	-19.82	-2.97
646	SLU 60	7	-7	3417	1573.49	-20.19	-2.88
646	SLU 61	7	1	3412	1571.07	-20.19	-2.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
646	SLU 62	7	-7	3454	1590.87	-20.4	-2.95
646	SLU 63	7	1	3449	1588.46	-20.4	-3.05
646	SLU 64	8	-6	3337	1537.77	-19.75	-3.16
646	SLU 65	8	7	3329	1533.74	-19.75	-3.33
646	SLU 66	8	-7	3393	1563.86	-20.07	-3.26
646	SLU 67	8	1	3388	1561.44	-20.07	-3.37
646	SLU 68	8	6	3367	1551.13	-19.96	-3.4
646	SLU 69	8	-7	3430	1581.25	-20.28	-3.34
646	SLU 70	8	1	3426	1578.83	-20.28	-3.44
646	SLU 71	8	-7	3411	1572.55	-20.17	-3.31
646	SLU 72	8	1	3407	1570.13	-20.17	-3.41
646	SLU 73	9	6	3647	1680.21	-21.6	-3.69
646	SLU 74	9	-8	3710	1710.33	-21.92	-3.62
646	SLU 75	9	0	3706	1707.91	-21.92	-3.72
646	SLU 76	9	5	3684	1697.6	-21.81	-3.76
646	SLU 77	9	-8	3747	1727.72	-22.13	-3.69
646	SLU 78	9	0	3743	1725.3	-22.13	-3.79
646	SLU 79	9	-8	3729	1719.02	-22.02	-3.66
646	SLU 80	9	0	3724	1716.6	-22.02	-3.76
646	SLU 81	9	-8	3790	1747.01	-22.39	-3.67
646	SLU 82	9	0	3785	1744.6	-22.39	-3.77
646	SLU 83	9	-8	3827	1764.4	-22.6	-3.74
646	SLU 84	9	0	3823	1761.98	-22.6	-3.84
646	SLE RA 1	5	-5	2485	1144.76	-14.71	-2.26
646	SLE RA 2	6	4	2480	1142.08	-14.71	-2.37
646	SLE RA 3	6	-5	2522	1162.16	-14.92	-2.33
646	SLE RA 4	6	0	2519	1160.54	-14.92	-2.39
646	SLE RA 5	6	4	2505	1153.67	-14.85	-2.42
646	SLE RA 6	6	-5	2547	1173.75	-15.06	-2.37
646	SLE RA 7	6	0	2544	1172.14	-15.06	-2.44
646	SLE RA 8	6	-5	2534	1167.95	-14.99	-2.35
646	SLE RA 9	6	0	2531	1166.34	-14.99	-2.42
646	SLE RA 10	6	3	2691	1239.72	-15.94	-2.61
646	SLE RA 11	6	-6	2734	1259.8	-16.15	-2.56
646	SLE RA 12	6	0	2731	1258.19	-16.15	-2.63
646	SLE RA 13	6	3	2716	1251.31	-16.08	-2.65
646	SLE RA 14	6	-6	2758	1271.39	-16.29	-2.61
646	SLE RA 15	6	-1	2755	1269.78	-16.29	-2.68
646	SLE RA 16	6	-6	2746	1265.59	-16.22	-2.59
646	SLE RA 17	6	-1	2743	1263.98	-16.22	-2.66
646	SLE RA 18	6	-6	2787	1284.26	-16.47	-2.6
646	SLE RA 19	6	0	2784	1282.65	-16.47	-2.66
646	SLE RA 20	6	-6	2812	1295.85	-16.61	-2.64
646	SLE RA 21	6	-1	2809	1294.24	-16.61	-2.71
646	SLE FR 1	5	-5	2485	1144.76	-14.71	-2.26
646	SLE FR 2	5	-3	2484	1144.23	-14.71	-2.28
646	SLE FR 3	5	-5	2495	1149.4	-14.76	-2.28
646	SLE FR 4	6	-3	2574	1186.08	-15.24	-2.38
646	SLE FR 5	6	-5	2585	1191.25	-15.29	-2.38
646	SLE FR 6	6	-5	2636	1214.51	-15.59	-2.43
646	SLE QP 1	5	-5	2485	1144.76	-14.71	-2.26
646	SLE QP 2	6	-5	2575	1186.61	-15.24	-2.36
646	SLD 1	218	57	2496	1146.73	-14.54	-101.68
646	SLD 2	216	65	2496	1147.08	-14.57	-101.04
646	SLD 3	208	-102	2584	1195.77	-14.45	-98.14
646	SLD 4	207	-95	2584	1196.12	-14.48	-97.5
646	SLD 5	83	254	2418	1100.2	-15.17	-37.64
646	SLD 6	82	259	2418	1100.42	-15.18	-37.23
646	SLD 7	53	-277	2711	1263.69	-14.85	-25.83
646	SLD 8	52	-272	2712	1263.91	-14.87	-25.42
646	SLD 9	-41	262	2439	1109.31	-15.6	20.7
646	SLD 10	-42	267	2439	1109.54	-15.62	21.11
646	SLD 11	-71	-268	2733	1272.8	-15.29	32.51
646	SLD 12	-72	-264	2733	1273.03	-15.31	32.92
646	SLD 13	-196	85	2567	1177.1	-16	92.78
646	SLD 14	-197	92	2567	1177.45	-16.02	93.42
646	SLD 15	-205	-74	2655	1226.15	-15.9	96.32
646	SLD 16	-206	-67	2655	1226.5	-15.93	96.96
646	SLV 1	338	104	2444	1120.51	-14.16	-158.05
646	SLV 2	336	115	2445	1121.06	-14.2	-157.05
646	SLV 3	322	-168	2594	1204.15	-14	-152.05
646	SLV 4	321	-156	2595	1204.7	-14.05	-151.04
646	SLV 5	129	437	2308	1039.83	-15.15	-58.36
646	SLV 6	128	445	2309	1040.2	-15.18	-57.69
646	SLV 7	78	-468	2809	1318.62	-14.62	-38.35
646	SLV 8	76	-460	2809	1318.99	-14.65	-37.67
646	SLV 9	-65	450	2342	1054.23	-15.83	32.95
646	SLV 10	-66	458	2342	1054.6	-15.86	33.63
646	SLV 11	-117	-455	2842	1333.03	-15.3	52.97
646	SLV 12	-118	-447	2843	1333.4	-15.33	53.64
646	SLV 13	-309	147	2556	1168.52	-16.43	146.32
646	SLV 14	-311	158	2557	1169.08	-16.47	147.33
646	SLV 15	-325	-125	2706	1252.16	-16.27	152.33
646	SLV 16	-327	-113	2707	1252.71	-16.31	153.33
646	SLV FO 1	371	114	2431	1113.9	-14.05	-173.62
646	SLV FO 2	369	127	2432	1114.51	-14.1	-172.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
646	SLV FO 3	354	-184	2596	1205.9	-13.88	-167.02
646	SLV FO 4	352	-172	2597	1206.51	-13.93	-165.91
646	SLV FO 5	142	482	2282	1025.15	-15.14	-63.96
646	SLV FO 6	140	490	2282	1025.56	-15.17	-63.22
646	SLV FO 7	85	-514	2832	1331.83	-14.56	-41.95
646	SLV FO 8	83	-506	2832	1332.23	-14.59	-41.2
646	SLV FO 9	-72	496	2318	1040.99	-15.89	36.48
646	SLV FO 10	-73	504	2319	1041.4	-15.92	37.22
646	SLV FO 11	-129	-500	2869	1347.67	-15.3	58.5
646	SLV FO 12	-130	-491	2869	1348.08	-15.33	59.24
646	SLV FO 13	-341	162	2554	1166.72	-16.55	161.19
646	SLV FO 14	-343	175	2555	1167.32	-16.59	162.3
646	SLV FO 15	-358	-137	2719	1258.72	-16.37	167.8
646	SLV FO 16	-360	-124	2720	1259.33	-16.42	168.9
646	CRTFP Ux+	0	0	0	0	0	0
646	CRTFP Ux-	0	0	0	0	0	0
646	CRTFP Uy+	0	0	0	0	0	0
646	CRTFP Uy-	0	0	0	0	0	0
647	SLU 1	7	9	2453	1121.18	0.73	-2.77
647	SLU 2	7	22	2448	1118.35	0.66	-3.03
647	SLU 3	7	9	2510	1147.46	0.76	-2.89
647	SLU 4	7	17	2507	1145.76	0.72	-3.05
647	SLU 5	7	22	2486	1135.8	0.69	-3.11
647	SLU 6	7	9	2548	1164.92	0.79	-2.97
647	SLU 7	7	17	2545	1163.22	0.75	-3.13
647	SLU 8	7	9	2529	1156.09	0.78	-2.93
647	SLU 9	7	17	2526	1154.39	0.74	-3.09
647	SLU 10	8	23	2774	1267.74	0.79	-3.43
647	SLU 11	8	10	2836	1296.86	0.89	-3.29
647	SLU 12	8	17	2833	1295.16	0.86	-3.45
647	SLU 13	8	22	2812	1285.2	0.82	-3.51
647	SLU 14	8	9	2874	1314.31	0.92	-3.37
647	SLU 15	8	17	2871	1312.61	0.88	-3.53
647	SLU 16	8	9	2855	1305.49	0.91	-3.33
647	SLU 17	8	17	2852	1303.79	0.87	-3.49
647	SLU 18	8	10	2919	1334.6	0.91	-3.34
647	SLU 19	8	17	2916	1332.9	0.88	-3.5
647	SLU 20	8	9	2957	1352.06	0.94	-3.42
647	SLU 21	8	17	2953	1350.35	0.9	-3.58
647	SLU 22	9	10	2838	1298.48	0.85	-3.67
647	SLU 23	9	23	2833	1295.64	0.79	-3.93
647	SLU 24	9	10	2895	1324.76	0.89	-3.79
647	SLU 25	9	18	2892	1323.06	0.85	-3.95
647	SLU 26	9	23	2870	1313.1	0.82	-4.01
647	SLU 27	9	10	2933	1342.22	0.92	-3.87
647	SLU 28	9	17	2930	1340.52	0.88	-4.03
647	SLU 29	9	9	2914	1333.39	0.91	-3.83
647	SLU 30	9	17	2910	1331.69	0.87	-3.99
647	SLU 31	10	23	3158	1445.04	0.92	-4.33
647	SLU 32	10	10	3221	1474.15	1.02	-4.19
647	SLU 33	10	18	3218	1472.45	0.98	-4.34
647	SLU 34	10	23	3196	1462.49	0.95	-4.41
647	SLU 35	10	10	3259	1491.61	1.05	-4.27
647	SLU 36	10	18	3256	1489.91	1.01	-4.42
647	SLU 37	10	10	3240	1482.78	1.04	-4.23
647	SLU 38	10	17	3236	1481.08	1	-4.39
647	SLU 39	10	10	3304	1511.9	1.04	-4.24
647	SLU 40	10	18	3300	1510.2	1	-4.4
647	SLU 41	10	10	3341	1529.35	1.07	-4.32
647	SLU 42	10	18	3338	1527.65	1.03	-4.48
647	SLU 43	8	12	3057	1396.75	0.9	-3.29
647	SLU 44	8	25	3052	1393.91	0.84	-3.56
647	SLU 45	8	12	3115	1423.03	0.94	-3.41
647	SLU 46	9	20	3111	1421.33	0.9	-3.57
647	SLU 47	9	25	3090	1411.37	0.87	-3.64
647	SLU 48	8	12	3152	1440.49	0.96	-3.49
647	SLU 49	9	20	3149	1438.78	0.93	-3.65
647	SLU 50	8	12	3133	1431.66	0.96	-3.45
647	SLU 51	9	19	3130	1429.96	0.92	-3.61
647	SLU 52	9	25	3378	1543.31	0.97	-3.96
647	SLU 53	9	12	3440	1572.42	1.07	-3.81
647	SLU 54	9	20	3437	1570.72	1.03	-3.97
647	SLU 55	10	25	3416	1560.76	1	-4.04
647	SLU 56	9	12	3478	1589.88	1.09	-3.89
647	SLU 57	10	20	3475	1588.18	1.06	-4.05
647	SLU 58	9	12	3459	1581.05	1.09	-3.85
647	SLU 59	10	20	3456	1579.35	1.05	-4.01
647	SLU 60	9	12	3523	1610.17	1.09	-3.86
647	SLU 61	10	20	3520	1608.46	1.05	-4.02
647	SLU 62	9	12	3561	1627.62	1.12	-3.94
647	SLU 63	10	20	3558	1625.92	1.08	-4.1
647	SLU 64	10	13	3442	1574.04	1.03	-4.19
647	SLU 65	10	26	3437	1571.21	0.97	-4.45
647	SLU 66	10	13	3499	1600.33	1.06	-4.31
647	SLU 67	11	20	3496	1598.63	1.03	-4.47
647	SLU 68	11	25	3475	1588.66	0.99	-4.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
647	SLU 69	10	12	3537	1617.78	1.09	-4.39
647	SLU 70	11	20	3534	1616.08	1.05	-4.55
647	SLU 71	10	12	3518	1608.96	1.08	-4.35
647	SLU 72	11	20	3515	1607.26	1.04	-4.51
647	SLU 73	11	26	3763	1720.6	1.1	-4.85
647	SLU 74	11	13	3825	1749.72	1.19	-4.71
647	SLU 75	11	20	3822	1748.02	1.16	-4.87
647	SLU 76	12	26	3800	1738.06	1.12	-4.93
647	SLU 77	11	12	3863	1767.18	1.22	-4.79
647	SLU 78	12	20	3860	1765.48	1.18	-4.95
647	SLU 79	11	12	3844	1758.35	1.21	-4.75
647	SLU 80	12	20	3840	1756.65	1.18	-4.91
647	SLU 81	11	13	3908	1787.46	1.22	-4.76
647	SLU 82	12	21	3904	1785.76	1.18	-4.92
647	SLU 83	11	13	3946	1804.92	1.24	-4.84
647	SLU 84	12	20	3942	1803.22	1.2	-5
647	SLE RA 1	7	10	2563	1171.84	0.76	-3.03
647	SLE RA 2	8	18	2560	1169.95	0.72	-3.2
647	SLE RA 3	7	10	2601	1189.36	0.79	-3.11
647	SLE RA 4	8	15	2599	1188.22	0.76	-3.21
647	SLE RA 5	8	18	2585	1181.58	0.74	-3.26
647	SLE RA 6	8	9	2627	1201	0.81	-3.16
647	SLE RA 7	8	15	2624	1199.86	0.78	-3.26
647	SLE RA 8	7	9	2614	1195.11	0.8	-3.13
647	SLE RA 9	8	14	2612	1193.98	0.77	-3.24
647	SLE RA 10	8	18	2777	1269.54	0.81	-3.47
647	SLE RA 11	8	10	2819	1288.95	0.87	-3.37
647	SLE RA 12	8	15	2816	1287.82	0.85	-3.48
647	SLE RA 13	8	18	2802	1281.18	0.83	-3.52
647	SLE RA 14	8	9	2844	1300.59	0.89	-3.43
647	SLE RA 15	8	15	2842	1299.46	0.87	-3.53
647	SLE RA 16	8	9	2831	1294.71	0.89	-3.4
647	SLE RA 17	8	15	2829	1293.57	0.86	-3.51
647	SLE RA 18	8	10	2874	1314.12	0.89	-3.41
647	SLE RA 19	8	15	2871	1312.98	0.86	-3.51
647	SLE RA 20	8	10	2899	1325.75	0.91	-3.46
647	SLE RA 21	8	15	2897	1324.62	0.88	-3.57
647	SLE FR 1	7	10	2563	1171.84	0.76	-3.03
647	SLE FR 2	7	11	2563	1171.46	0.75	-3.06
647	SLE FR 3	7	10	2573	1176.49	0.77	-3.05
647	SLE FR 4	8	11	2656	1214.14	0.79	-3.18
647	SLE FR 5	8	10	2666	1219.18	0.81	-3.16
647	SLE FR 6	8	10	2718	1242.98	0.83	-3.22
647	SLE QP 1	7	10	2563	1171.84	0.76	-3.03
647	SLE QP 2	7	10	2656	1214.52	0.8	-3.14
647	SLD 1	228	70	2562	1169.19	1.19	-107.03
647	SLD 2	227	79	2564	1170.23	1.16	-106.43
647	SLD 3	219	-89	2624	1202.81	2	-102.35
647	SLD 4	218	-79	2626	1203.85	1.97	-101.76
647	SLD 5	88	267	2534	1149.76	-0.3	-41.5
647	SLD 6	88	273	2535	1150.42	-0.32	-41.12
647	SLD 7	57	-262	2741	1261.82	2.39	-25.91
647	SLD 8	56	-256	2742	1262.48	2.37	-25.53
647	SLD 9	-41	275	2571	1166.56	-0.77	19.25
647	SLD 10	-42	281	2572	1167.22	-0.79	19.63
647	SLD 11	-73	-254	2778	1278.62	1.92	34.84
647	SLD 12	-73	-247	2779	1279.28	1.9	35.22
647	SLD 13	-203	98	2687	1225.19	-0.37	95.48
647	SLD 14	-204	108	2688	1226.23	-0.4	96.07
647	SLD 15	-212	-60	2749	1258.81	0.44	100.15
647	SLD 16	-213	-51	2750	1259.85	0.41	100.74
647	SLV 1	354	115	2505	1141.28	1.36	-166.07
647	SLV 2	352	130	2507	1142.91	1.31	-165.14
647	SLV 3	338	-155	2611	1198.6	2.74	-158.11
647	SLV 4	336	-141	2613	1200.24	2.69	-157.18
647	SLV 5	136	449	2450	1105.3	-1.12	-64.26
647	SLV 6	135	459	2451	1106.4	-1.15	-63.64
647	SLV 7	82	-453	2803	1296.38	3.48	-37.74
647	SLV 8	81	-443	2805	1297.48	3.45	-37.11
647	SLV 9	-66	462	2508	1131.56	-1.85	30.82
647	SLV 10	-67	472	2510	1132.66	-1.88	31.45
647	SLV 11	-120	-440	2861	1322.64	2.75	57.35
647	SLV 12	-121	-430	2863	1323.74	2.72	57.98
647	SLV 13	-321	160	2700	1228.8	-1.09	150.89
647	SLV 14	-323	175	2702	1230.44	-1.14	151.83
647	SLV 15	-337	-111	2805	1286.13	0.29	158.85
647	SLV 16	-339	-96	2808	1287.76	0.24	159.79
647	SLV FO 1	388	126	2490	1133.96	1.41	-182.36
647	SLV FO 2	386	142	2492	1135.75	1.36	-181.34
647	SLV FO 3	371	-172	2606	1197.01	2.93	-173.61
647	SLV FO 4	369	-156	2609	1198.81	2.88	-172.58
647	SLV FO 5	149	493	2429	1094.38	-1.31	-70.38
647	SLV FO 6	148	504	2431	1095.59	-1.34	-69.69
647	SLV FO 7	90	-499	2818	1304.57	3.75	-41.2
647	SLV FO 8	88	-488	2819	1305.78	3.72	-40.5
647	SLV FO 9	-73	507	2493	1123.26	-2.11	34.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
647	SLV FO 10	-75	519	2495	1124.47	-2.15	34.91
647	SLV FO 11	-133	-484	2882	1333.45	2.94	63.4
647	SLV FO 12	-134	-473	2884	1334.66	2.91	64.09
647	SLV FO 13	-354	175	2704	1230.23	-1.28	166.3
647	SLV FO 14	-356	191	2706	1232.03	-1.33	167.32
647	SLV FO 15	-371	-123	2820	1293.29	0.24	175.05
647	SLV FO 16	-374	-106	2823	1295.08	0.19	176.08
647	CRTFP Ux+	0	0	0	0	0	0
647	CRTFP Ux-	0	0	0	0	0	0
647	CRTFP Uy+	0	0	0	0	0	0
647	CRTFP Uy-	0	0	0	0	0	0
649	SLU 1	-114	4	8451	149.68	-1461.37	3.49
649	SLU 2	-114	44	8455	147	-1462.06	10.48
649	SLU 3	-117	4	8651	153.94	-1495.81	3.49
649	SLU 4	-116	28	8653	152.34	-1496.23	7.68
649	SLU 5	-115	45	8582	149.84	-1484.08	10.57
649	SLU 6	-118	4	8778	156.78	-1517.83	3.58
649	SLU 7	-118	28	8780	155.17	-1518.25	7.77
649	SLU 8	-117	5	8706	155.34	-1505.41	3.67
649	SLU 9	-117	29	8708	153.74	-1505.83	7.86
649	SLU 10	-118	48	9527	165.84	-1648.1	11.19
649	SLU 11	-120	7	9723	172.78	-1681.85	4.2
649	SLU 12	-120	31	9725	171.17	-1682.27	8.4
649	SLU 13	-119	48	9654	168.67	-1670.12	11.28
649	SLU 14	-121	7	9850	175.61	-1703.87	4.29
649	SLU 15	-121	32	9852	174.01	-1704.29	8.49
649	SLU 16	-120	8	9778	174.18	-1691.45	4.38
649	SLU 17	-120	32	9780	172.58	-1691.86	8.58
649	SLU 18	-120	9	9983	176.58	-1727.14	4.51
649	SLU 19	-120	33	9985	174.98	-1727.55	8.7
649	SLU 20	-121	9	10110	179.42	-1749.16	4.6
649	SLU 21	-121	33	10112	177.81	-1749.57	8.79
649	SLU 22	-125	1	9798	175.25	-1694.64	3.33
649	SLU 23	-125	42	9801	172.58	-1695.34	10.32
649	SLU 24	-127	1	9997	179.52	-1729.08	3.33
649	SLU 25	-127	25	9999	177.91	-1729.5	7.52
649	SLU 26	-126	42	9929	175.41	-1717.36	10.41
649	SLU 27	-128	1	10125	182.35	-1751.1	3.42
649	SLU 28	-128	26	10127	180.75	-1751.52	7.62
649	SLU 29	-127	2	10053	180.92	-1738.68	3.51
649	SLU 30	-127	26	10055	179.32	-1739.1	7.71
649	SLU 31	-128	45	10873	191.42	-1881.37	11.03
649	SLU 32	-131	4	11069	198.36	-1915.12	4.04
649	SLU 33	-131	29	11071	196.75	-1915.54	8.24
649	SLU 34	-130	45	11001	194.25	-1903.39	11.12
649	SLU 35	-132	5	11197	201.19	-1937.14	4.14
649	SLU 36	-132	29	11199	199.59	-1937.56	8.33
649	SLU 37	-131	5	11125	199.76	-1924.72	4.23
649	SLU 38	-131	30	11127	198.15	-1925.14	8.42
649	SLU 39	-130	6	11330	202.16	-1960.41	4.35
649	SLU 40	-130	30	11332	200.56	-1960.83	8.54
649	SLU 41	-131	6	11457	205	-1982.43	4.44
649	SLU 42	-131	31	11459	203.39	-1982.85	8.63
649	SLU 43	-145	6	10525	185.81	-1819.8	4.59
649	SLU 44	-145	46	10528	183.13	-1820.49	11.58
649	SLU 45	-147	6	10724	190.07	-1854.24	4.59
649	SLU 46	-147	30	10726	188.47	-1854.66	8.79
649	SLU 47	-146	47	10656	185.97	-1842.51	11.67
649	SLU 48	-148	6	10852	192.91	-1876.26	4.68
649	SLU 49	-148	30	10854	191.3	-1876.68	8.88
649	SLU 50	-147	7	10780	191.48	-1863.84	4.77
649	SLU 51	-147	31	10782	189.87	-1864.26	8.97
649	SLU 52	-149	50	11600	201.97	-2006.53	12.29
649	SLU 53	-151	9	11796	208.91	-2040.28	5.31
649	SLU 54	-151	33	11798	207.31	-2040.7	9.5
649	SLU 55	-150	50	11728	204.8	-2028.55	12.38
649	SLU 56	-152	9	11924	211.75	-2062.3	5.4
649	SLU 57	-152	34	11926	210.14	-2062.72	9.59
649	SLU 58	-151	10	11852	210.31	-2049.88	5.49
649	SLU 59	-151	34	11854	208.71	-2050.29	9.68
649	SLU 60	-150	11	12057	212.72	-2085.57	5.61
649	SLU 61	-150	35	12059	211.11	-2085.98	9.8
649	SLU 62	-152	11	12184	215.55	-2107.59	5.7
649	SLU 63	-151	35	12186	213.95	-2108	9.89
649	SLU 64	-156	3	11872	211.39	-2053.07	4.43
649	SLU 65	-155	44	11875	208.71	-2053.77	11.42
649	SLU 66	-158	3	12071	215.65	-2087.51	4.43
649	SLU 67	-158	27	12073	214.05	-2087.93	8.63
649	SLU 68	-157	44	12002	211.55	-2075.79	11.51
649	SLU 69	-159	3	12198	218.49	-2109.54	4.53
649	SLU 70	-159	28	12200	216.88	-2109.95	8.72
649	SLU 71	-158	4	12126	217.05	-2097.11	4.62
649	SLU 72	-158	28	12128	215.45	-2097.53	8.81
649	SLU 73	-159	47	12947	227.55	-2239.8	12.13
649	SLU 74	-161	6	13143	234.49	-2273.55	5.15
649	SLU 75	-161	31	13145	232.88	-2273.97	9.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
649	SLU 76	-160	48	13074	230.38	-2261.83	12.22
649	SLU 77	-163	7	13270	237.32	-2295.57	5.24
649	SLU 78	-163	31	13272	235.72	-2295.99	9.43
649	SLU 79	-162	7	13198	235.89	-2283.15	5.33
649	SLU 80	-162	32	13200	234.29	-2283.57	9.52
649	SLU 81	-161	8	13403	238.3	-2318.84	5.45
649	SLU 82	-161	32	13405	236.69	-2319.26	9.64
649	SLU 83	-162	8	13531	241.13	-2340.86	5.54
649	SLU 84	-162	33	13533	239.53	-2341.28	9.73
649	SLE RA 1	-117	3	8836	156.98	-1528.02	3.45
649	SLE RA 2	-117	30	8838	155.2	-1528.48	8.1
649	SLE RA 3	-119	3	8969	159.83	-1550.98	3.45
649	SLE RA 4	-119	19	8970	158.76	-1551.26	6.24
649	SLE RA 5	-118	30	8923	157.09	-1543.16	8.16
649	SLE RA 6	-120	3	9054	161.72	-1565.66	3.51
649	SLE RA 7	-120	19	9055	160.65	-1565.94	6.3
649	SLE RA 8	-119	4	9006	160.76	-1557.38	3.57
649	SLE RA 9	-119	20	9007	159.69	-1557.66	6.36
649	SLE RA 10	-120	32	9553	167.76	-1652.51	8.58
649	SLE RA 11	-121	5	9684	172.39	-1675	3.92
649	SLE RA 12	-121	21	9685	171.32	-1675.28	6.72
649	SLE RA 13	-120	33	9638	169.65	-1667.19	8.64
649	SLE RA 14	-122	5	9769	174.27	-1689.68	3.98
649	SLE RA 15	-122	22	9770	173.2	-1689.96	6.78
649	SLE RA 16	-121	6	9721	173.32	-1681.4	4.04
649	SLE RA 17	-121	22	9722	172.25	-1681.68	6.84
649	SLE RA 18	-121	6	9857	174.92	-1705.2	4.12
649	SLE RA 19	-121	22	9858	173.85	-1705.47	6.92
649	SLE RA 20	-122	7	9942	176.81	-1719.88	4.18
649	SLE RA 21	-122	23	9943	175.74	-1720.15	6.98
649	SLE FR 1	-117	3	8836	156.98	-1528.02	3.45
649	SLE FR 2	-117	8	8837	156.63	-1528.11	4.38
649	SLE FR 3	-118	3	8870	157.74	-1533.89	3.47
649	SLE FR 4	-118	9	9143	162.01	-1581.26	4.58
649	SLE FR 5	-119	4	9176	163.12	-1587.04	3.67
649	SLE FR 6	-119	5	9347	165.95	-1616.61	3.78
649	SLE QP 1	-117	3	8836	156.98	-1528.02	3.45
649	SLE QP 2	-118	4	9142	162.37	-1581.17	3.65
649	SLD 1	431	140	12042	192.61	-2063.54	22.12
649	SLD 2	426	-80	12062	195.64	-2066.21	-14.88
649	SLD 3	442	-365	11879	230.93	-2034.77	-64.84
649	SLD 4	437	-585	11900	233.97	-2037.44	-101.84
649	SLD 5	31	848	10255	112.79	-1769.06	147.44
649	SLD 6	28	707	10268	114.75	-1770.78	123.61
649	SLD 7	67	-834	9714	240.54	-1673.15	-142.42
649	SLD 8	64	-976	9727	242.49	-1674.87	-166.25
649	SLD 9	-301	984	8558	82.24	-1487.47	173.55
649	SLD 10	-304	842	8571	84.19	-1489.19	149.72
649	SLD 11	-264	-698	8017	209.98	-1391.56	-116.32
649	SLD 12	-268	-840	8030	211.94	-1393.28	-140.14
649	SLD 13	-674	593	6385	90.76	-1124.9	109.14
649	SLD 14	-679	373	6406	93.8	-1127.57	72.14
649	SLD 15	-663	88	6223	129.09	-1096.13	22.18
649	SLD 16	-668	-132	6243	132.12	-1098.8	-14.82
649	SLV 1	743	255	13677	206.71	-2335.85	39.1
649	SLV 2	735	-92	13710	211.49	-2340.06	-19.23
649	SLV 3	761	-606	13401	272.09	-2286.82	-109.25
649	SLV 4	753	-953	13433	276.87	-2291.03	-167.57
649	SLV 5	114	1450	10917	75.62	-1881.16	250.15
649	SLV 6	109	1216	10938	78.84	-1883.99	210.89
649	SLV 7	174	-1420	9994	293.55	-1717.71	-244.32
649	SLV 8	168	-1654	10016	296.77	-1720.54	-283.59
649	SLV 9	-405	1662	8269	27.96	-1441.8	290.89
649	SLV 10	-411	1428	8291	31.18	-1444.63	251.62
649	SLV 11	-346	-1208	7347	245.89	-1278.35	-203.59
649	SLV 12	-351	-1442	7368	249.11	-1281.18	-242.86
649	SLV 13	-989	962	4852	47.86	-871.31	174.87
649	SLV 14	-997	614	4884	52.64	-875.52	116.54
649	SLV 15	-971	100	4575	113.24	-822.28	26.53
649	SLV 16	-980	-247	4607	118.02	-826.48	-31.8
649	SLV FO 1	829	280	14131	211.14	-2411.32	42.64
649	SLV FO 2	820	-102	14167	216.41	-2415.95	-21.52
649	SLV FO 3	849	-667	13827	283.06	-2357.39	-120.54
649	SLV FO 4	840	-1049	13862	288.32	-2362.01	-184.69
649	SLV FO 5	138	1595	11094	66.94	-1911.16	274.81
649	SLV FO 6	132	1338	11118	70.49	-1914.27	231.61
649	SLV FO 7	203	-1563	10079	306.67	-1731.37	-269.12
649	SLV FO 8	197	-1820	10103	310.21	-1734.48	-312.31
649	SLV FO 9	-434	1828	8182	14.52	-1427.86	319.61
649	SLV FO 10	-440	1571	8206	18.07	-1430.97	276.42
649	SLV FO 11	-368	-1330	7167	254.24	-1248.07	-224.31
649	SLV FO 12	-374	-1587	7191	257.79	-1251.18	-267.51
649	SLV FO 13	-1076	1057	4423	36.41	-800.33	191.99
649	SLV FO 14	-1085	675	4458	41.67	-804.95	127.83
649	SLV FO 15	-1057	110	4118	108.32	-746.39	28.82
649	SLV FO 16	-1066	-272	4154	113.59	-751.02	-35.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
649	CRTFP Ux+	0	0	0	0	0	0
649	CRTFP Ux-	0	0	0	0	0	0
649	CRTFP Uy+	0	0	0	0	0	0
649	CRTFP Uy-	0	0	0	0	0	0
651	SLU 1	-90	5	6619	1.16	-182.59	0.73
651	SLU 2	-90	37	6622	-1.91	-182.69	1.42
651	SLU 3	-92	5	6775	2.02	-186.9	0.73
651	SLU 4	-92	24	6777	0.18	-186.96	1.14
651	SLU 5	-91	37	6722	-1.24	-185.44	1.42
651	SLU 6	-93	5	6875	2.69	-189.66	0.74
651	SLU 7	-93	24	6877	0.85	-189.71	1.15
651	SLU 8	-92	6	6818	2.51	-188.11	0.74
651	SLU 9	-92	25	6820	0.66	-188.16	1.15
651	SLU 10	-93	39	7465	-1.96	-206.08	1.52
651	SLU 11	-95	8	7618	1.97	-210.29	0.83
651	SLU 12	-95	27	7620	0.13	-210.35	1.25
651	SLU 13	-94	40	7565	-1.29	-208.83	1.53
651	SLU 14	-96	8	7718	2.64	-213.05	0.84
651	SLU 15	-96	27	7720	0.8	-213.1	1.25
651	SLU 16	-95	9	7661	2.45	-211.49	0.84
651	SLU 17	-95	27	7663	0.61	-211.55	1.26
651	SLU 18	-95	9	7823	1.09	-216.01	0.87
651	SLU 19	-94	28	7825	-0.75	-216.06	1.29
651	SLU 20	-95	9	7923	1.76	-218.76	0.88
651	SLU 21	-95	28	7925	-0.08	-218.82	1.29
651	SLU 22	-99	3	7676	3.29	-211.85	0.76
651	SLU 23	-99	35	7679	0.22	-211.95	1.46
651	SLU 24	-100	3	7832	4.15	-216.16	0.77
651	SLU 25	-100	22	7834	2.3	-216.22	1.18
651	SLU 26	-99	35	7779	0.89	-214.7	1.46
651	SLU 27	-101	4	7932	4.82	-218.92	0.77
651	SLU 28	-101	22	7934	2.97	-218.97	1.19
651	SLU 29	-101	4	7875	4.63	-217.36	0.78
651	SLU 30	-100	23	7877	2.79	-217.42	1.19
651	SLU 31	-101	38	8522	0.16	-235.34	1.56
651	SLU 32	-103	6	8675	4.09	-239.55	0.87
651	SLU 33	-103	25	8677	2.25	-239.6	1.28
651	SLU 34	-102	38	8622	0.83	-238.09	1.56
651	SLU 35	-104	6	8775	4.76	-242.3	0.88
651	SLU 36	-104	25	8777	2.92	-242.36	1.29
651	SLU 37	-103	7	8718	4.58	-240.75	0.88
651	SLU 38	-103	26	8720	2.73	-240.81	1.29
651	SLU 39	-103	7	8880	3.21	-245.27	0.91
651	SLU 40	-103	26	8882	1.37	-245.32	1.32
651	SLU 41	-104	8	8980	3.88	-248.02	0.92
651	SLU 42	-104	27	8982	2.04	-248.08	1.33
651	SLU 43	-115	7	8242	0.79	-227.34	0.93
651	SLU 44	-115	39	8245	-2.28	-227.43	1.62
651	SLU 45	-116	7	8398	1.65	-231.65	0.94
651	SLU 46	-116	26	8400	-0.2	-231.7	1.35
651	SLU 47	-115	39	8345	-1.61	-230.19	1.63
651	SLU 48	-117	7	8498	2.32	-234.4	0.94
651	SLU 49	-117	26	8500	0.47	-234.46	1.36
651	SLU 50	-117	8	8442	2.13	-232.85	0.95
651	SLU 51	-116	27	8444	0.29	-232.91	1.36
651	SLU 52	-117	42	9088	-2.34	-250.82	1.73
651	SLU 53	-119	10	9241	1.59	-255.04	1.04
651	SLU 54	-119	29	9243	-0.25	-255.09	1.45
651	SLU 55	-118	42	9188	-1.67	-253.58	1.73
651	SLU 56	-120	10	9341	2.26	-257.79	1.04
651	SLU 57	-120	29	9343	0.42	-257.85	1.46
651	SLU 58	-119	11	9285	2.08	-256.24	1.05
651	SLU 59	-119	30	9287	0.23	-256.3	1.46
651	SLU 60	-119	11	9447	0.71	-260.75	1.08
651	SLU 61	-119	30	9448	-1.13	-260.81	1.49
651	SLU 62	-120	12	9546	1.38	-263.51	1.08
651	SLU 63	-120	30	9548	-0.46	-263.57	1.5
651	SLU 64	-123	6	9299	2.91	-256.6	0.97
651	SLU 65	-123	37	9302	-0.16	-256.69	1.66
651	SLU 66	-125	5	9455	3.77	-260.91	0.97
651	SLU 67	-125	24	9457	1.92	-260.96	1.39
651	SLU 68	-124	37	9402	0.51	-259.45	1.67
651	SLU 69	-126	6	9555	4.44	-263.66	0.98
651	SLU 70	-126	25	9557	2.6	-263.72	1.39
651	SLU 71	-125	6	9499	4.25	-262.11	0.98
651	SLU 72	-125	25	9501	2.41	-262.17	1.4
651	SLU 73	-126	40	10145	-0.22	-280.08	1.76
651	SLU 74	-128	8	10298	3.71	-284.3	1.07
651	SLU 75	-128	27	10300	1.87	-284.35	1.49
651	SLU 76	-127	40	10245	0.46	-282.84	1.77
651	SLU 77	-129	8	10398	4.39	-287.05	1.08
651	SLU 78	-128	27	10400	2.54	-287.11	1.5
651	SLU 79	-128	9	10342	4.2	-285.5	1.08
651	SLU 80	-128	28	10344	2.36	-285.56	1.5
651	SLU 81	-127	10	10504	2.83	-290.01	1.12
651	SLU 82	-127	28	10505	0.99	-290.07	1.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
651	SLU 83	-128	10	10603	3.5	-292.77	1.12
651	SLU 84	-128	29	10605	1.66	-292.82	1.54
651	SLE RA 1	-93	5	6921	1.77	-190.95	0.74
651	SLE RA 2	-93	26	6923	-0.28	-191.02	1.2
651	SLE RA 3	-94	5	7025	2.34	-193.83	0.74
651	SLE RA 4	-94	17	7026	1.11	-193.86	1.02
651	SLE RA 5	-93	26	6989	0.17	-192.85	1.2
651	SLE RA 6	-95	5	7091	2.79	-195.66	0.74
651	SLE RA 7	-94	17	7093	1.56	-195.7	1.02
651	SLE RA 8	-94	5	7054	2.67	-194.63	0.75
651	SLE RA 9	-94	18	7055	1.44	-194.67	1.02
651	SLE RA 10	-95	27	7485	-0.31	-206.61	1.27
651	SLE RA 11	-96	6	7587	2.31	-209.42	0.81
651	SLE RA 12	-96	19	7588	1.08	-209.45	1.08
651	SLE RA 13	-95	28	7551	0.14	-208.45	1.27
651	SLE RA 14	-96	7	7653	2.76	-211.25	0.81
651	SLE RA 15	-96	19	7655	1.53	-211.29	1.09
651	SLE RA 16	-96	7	7616	2.63	-210.22	0.81
651	SLE RA 17	-96	20	7617	1.4	-210.26	1.09
651	SLE RA 18	-95	7	7724	1.72	-213.23	0.83
651	SLE RA 19	-95	20	7725	0.49	-213.27	1.11
651	SLE RA 20	-96	8	7790	2.17	-215.07	0.84
651	SLE RA 21	-96	20	7792	0.94	-215.1	1.12
651	SLE FR 1	-93	5	6921	1.77	-190.95	0.74
651	SLE FR 2	-93	9	6921	1.36	-190.97	0.83
651	SLE FR 3	-93	5	6948	1.95	-191.69	0.74
651	SLE FR 4	-94	10	7162	1.35	-197.65	0.86
651	SLE FR 5	-94	6	7188	1.94	-198.37	0.77
651	SLE FR 6	-94	6	7322	1.75	-202.09	0.79
651	SLE QP 1	-93	5	6921	1.77	-190.95	0.74
651	SLE QP 2	-94	5	7162	1.76	-197.64	0.77
651	SLD 1	342	113	9356	-26.01	-255.16	9.31
651	SLD 2	338	-55	9369	-23	-255.44	6.47
651	SLD 3	350	-278	9224	20.16	-251.55	0.7
651	SLD 4	347	-446	9238	23.17	-251.83	-2.14
651	SLD 5	25	660	8017	-77.11	-220.32	16.88
651	SLD 6	23	552	8026	-75.17	-220.5	15.06
651	SLD 7	53	-644	7579	76.78	-208.29	-11.83
651	SLD 8	51	-752	7587	78.71	-208.46	-13.66
651	SLD 9	-238	763	6736	-75.2	-186.81	15.19
651	SLD 10	-240	655	6745	-73.27	-186.99	13.36
651	SLD 11	-210	-541	6298	78.68	-174.77	-13.52
651	SLD 12	-212	-649	6306	80.62	-174.95	-15.35
651	SLD 13	-534	457	5086	-19.65	-143.45	3.67
651	SLD 14	-537	289	5099	-16.65	-143.72	0.84
651	SLD 15	-526	66	4954	26.51	-139.84	-4.94
651	SLD 16	-529	-102	4968	29.52	-140.11	-7.78
651	SLV 1	589	203	10595	-45.11	-287.65	14.75
651	SLV 2	583	-62	10616	-40.37	-288.09	10.28
651	SLV 3	603	-465	10370	33.69	-281.5	0.06
651	SLV 4	597	-729	10391	38.43	-281.93	-4.41
651	SLV 5	92	1127	8528	-132.69	-233.9	28.08
651	SLV 6	88	948	8542	-129.5	-234.19	25.07
651	SLV 7	137	-1099	7780	129.95	-213.37	-20.9
651	SLV 8	133	-1277	7794	133.15	-213.67	-23.91
651	SLV 9	-320	1288	6529	-129.63	-181.61	25.44
651	SLV 10	-324	1110	6543	-126.44	-181.9	22.43
651	SLV 11	-275	-937	5781	133.01	-161.08	-23.54
651	SLV 12	-279	-1116	5796	136.2	-161.38	-26.55
651	SLV 13	-784	740	3932	-34.91	-113.34	5.95
651	SLV 14	-790	476	3953	-30.17	-113.78	1.47
651	SLV 15	-770	73	3708	43.88	-107.19	-8.75
651	SLV 16	-776	-192	3729	48.62	-107.62	-13.22
651	SLV FO 1	657	223	10938	-49.79	-296.65	16.15
651	SLV FO 2	651	-68	10961	-44.58	-297.13	11.23
651	SLV FO 3	672	-512	10691	36.88	-289.88	-0.01
651	SLV FO 4	666	-803	10714	42.09	-290.36	-4.93
651	SLV FO 5	110	1239	8665	-146.14	-237.52	30.81
651	SLV FO 6	106	1043	8680	-142.63	-237.85	27.5
651	SLV FO 7	160	-1209	7842	142.77	-214.95	-23.06
651	SLV FO 8	156	-1405	7858	146.28	-215.27	-26.37
651	SLV FO 9	-343	1416	6466	-142.77	-180	27.91
651	SLV FO 10	-347	1220	6481	-139.26	-180.33	24.6
651	SLV FO 11	-293	-1032	5643	146.14	-157.43	-25.97
651	SLV FO 12	-297	-1228	5659	149.65	-157.75	-29.28
651	SLV FO 13	-853	814	3609	-38.58	-104.91	6.46
651	SLV FO 14	-859	523	3632	-33.37	-105.39	1.55
651	SLV FO 15	-838	79	3362	48.09	-98.14	-9.7
651	SLV FO 16	-844	-212	3385	53.31	-98.62	-14.62
651	CRTFP Ux+	0	0	0	0	0	0
651	CRTFP Ux-	0	0	0	0	0	0
651	CRTFP Uy+	0	0	0	0	0	0
651	CRTFP Uy-	0	0	0	0	0	0
652	SLU 1	-105	9	7641	0.03	2.17	0.44
652	SLU 2	-105	44	7645	-3.44	2.16	0.21
652	SLU 3	-107	9	7821	0.97	2.21	0.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
652	SLU 4	-107	30	7823	-1.1	2.21	0.31
652	SLU 5	-106	45	7760	-2.69	2.18	0.2
652	SLU 6	-108	9	7936	1.72	2.24	0.44
652	SLU 7	-108	30	7939	-0.36	2.23	0.3
652	SLU 8	-107	9	7871	1.52	2.22	0.43
652	SLU 9	-107	31	7874	-0.56	2.21	0.29
652	SLU 10	-109	48	8624	-3.69	2.21	0.2
652	SLU 11	-111	12	8800	0.72	2.27	0.44
652	SLU 12	-111	33	8803	-1.36	2.26	0.3
652	SLU 13	-110	48	8739	-2.95	2.24	0.2
652	SLU 14	-112	12	8916	1.46	2.3	0.43
652	SLU 15	-112	33	8918	-0.62	2.29	0.29
652	SLU 16	-111	13	8851	1.26	2.28	0.42
652	SLU 17	-111	34	8853	-0.82	2.27	0.28
652	SLU 18	-110	13	9040	-0.34	2.25	0.43
652	SLU 19	-110	35	9042	-2.42	2.24	0.29
652	SLU 20	-111	14	9155	0.4	2.27	0.42
652	SLU 21	-111	35	9158	-1.67	2.27	0.29
652	SLU 22	-115	7	8866	2.23	2.34	0.51
652	SLU 23	-115	43	8870	-1.23	2.33	0.28
652	SLU 24	-117	7	9046	3.18	2.39	0.51
652	SLU 25	-117	28	9048	1.1	2.39	0.37
652	SLU 26	-116	43	8985	-0.49	2.36	0.27
652	SLU 27	-118	7	9161	3.92	2.42	0.51
652	SLU 28	-118	29	9164	1.84	2.41	0.37
652	SLU 29	-117	8	9096	3.72	2.4	0.5
652	SLU 30	-117	29	9099	1.64	2.39	0.36
652	SLU 31	-118	46	9849	-1.49	2.39	0.27
652	SLU 32	-120	10	10025	2.92	2.45	0.51
652	SLU 33	-120	32	10028	0.84	2.44	0.37
652	SLU 34	-119	46	9964	-0.75	2.42	0.26
652	SLU 35	-121	11	10141	3.66	2.47	0.5
652	SLU 36	-121	32	10143	1.59	2.47	0.36
652	SLU 37	-120	11	10076	3.46	2.45	0.49
652	SLU 38	-120	32	10078	1.39	2.45	0.35
652	SLU 39	-120	12	10265	1.86	2.43	0.5
652	SLU 40	-120	33	10267	-0.21	2.42	0.36
652	SLU 41	-121	12	10380	2.61	2.45	0.49
652	SLU 42	-121	33	10383	0.53	2.45	0.35
652	SLU 43	-133	12	9513	-0.72	2.76	0.55
652	SLU 44	-133	47	9517	-4.18	2.75	0.32
652	SLU 45	-135	12	9693	0.23	2.8	0.56
652	SLU 46	-135	33	9696	-1.85	2.8	0.42
652	SLU 47	-134	48	9632	-3.44	2.77	0.31
652	SLU 48	-137	12	9809	0.97	2.83	0.55
652	SLU 49	-137	33	9811	-1.11	2.82	0.41
652	SLU 50	-136	13	9744	0.77	2.81	0.54
652	SLU 51	-136	34	9746	-1.31	2.8	0.4
652	SLU 52	-137	51	10496	-4.44	2.8	0.31
652	SLU 53	-139	15	10673	-0.03	2.86	0.55
652	SLU 54	-139	36	10675	-2.11	2.85	0.41
652	SLU 55	-138	51	10612	-3.7	2.83	0.31
652	SLU 56	-140	15	10788	0.71	2.89	0.54
652	SLU 57	-140	37	10790	-1.36	2.88	0.4
652	SLU 58	-139	16	10723	0.51	2.86	0.53
652	SLU 59	-139	37	10725	-1.57	2.86	0.39
652	SLU 60	-138	17	10912	-1.09	2.84	0.54
652	SLU 61	-138	38	10915	-3.17	2.83	0.4
652	SLU 62	-139	17	11028	-0.34	2.86	0.54
652	SLU 63	-139	38	11030	-2.42	2.86	0.4
652	SLU 64	-143	10	10738	1.48	2.93	0.62
652	SLU 65	-143	46	10742	-1.98	2.92	0.39
652	SLU 66	-145	10	10918	2.43	2.98	0.62
652	SLU 67	-145	31	10921	0.35	2.97	0.49
652	SLU 68	-144	46	10857	-1.24	2.95	0.38
652	SLU 69	-146	10	11034	3.17	3.01	0.62
652	SLU 70	-146	32	11036	1.1	3	0.48
652	SLU 71	-145	11	10969	2.97	2.98	0.61
652	SLU 72	-145	32	10971	0.89	2.98	0.47
652	SLU 73	-146	49	11721	-2.24	2.98	0.38
652	SLU 74	-149	13	11898	2.17	3.04	0.62
652	SLU 75	-149	35	11900	0.09	3.03	0.48
652	SLU 76	-148	49	11837	-1.49	3.01	0.37
652	SLU 77	-150	14	12013	2.92	3.06	0.61
652	SLU 78	-150	35	12015	0.84	3.06	0.47
652	SLU 79	-149	14	11948	2.72	3.04	0.6
652	SLU 80	-149	36	11950	0.64	3.04	0.46
652	SLU 81	-148	15	12137	1.12	3.02	0.61
652	SLU 82	-148	36	12140	-0.96	3.01	0.47
652	SLU 83	-149	15	12253	1.86	3.04	0.6
652	SLU 84	-149	37	12255	-0.22	3.03	0.46
652	SLE RA 1	-108	8	7991	0.66	2.22	0.46
652	SLE RA 2	-108	32	7993	-1.65	2.21	0.31
652	SLE RA 3	-109	8	8111	1.29	2.25	0.47
652	SLE RA 4	-109	22	8113	-0.1	2.24	0.37
652	SLE RA 5	-109	32	8070	-1.16	2.23	0.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
652	SLE RA 6	-110	8	8188	1.78	2.27	0.46
652	SLE RA 7	-110	23	8189	0.4	2.26	0.37
652	SLE RA 8	-109	9	8145	1.65	2.25	0.45
652	SLE RA 9	-109	23	8146	0.26	2.25	0.36
652	SLE RA 10	-110	34	8646	-1.82	2.25	0.3
652	SLE RA 11	-112	10	8764	1.12	2.29	0.46
652	SLE RA 12	-112	25	8765	-0.27	2.28	0.37
652	SLE RA 13	-111	34	8723	-1.33	2.27	0.3
652	SLE RA 14	-112	11	8841	1.61	2.3	0.46
652	SLE RA 15	-112	25	8842	0.23	2.3	0.36
652	SLE RA 16	-112	11	8798	1.48	2.29	0.45
652	SLE RA 17	-112	25	8799	0.09	2.29	0.35
652	SLE RA 18	-111	11	8924	0.41	2.27	0.45
652	SLE RA 19	-111	26	8925	-0.97	2.27	0.36
652	SLE RA 20	-112	12	9000	0.91	2.29	0.45
652	SLE RA 21	-112	26	9002	-0.48	2.28	0.36
652	SLE FR 1	-108	8	7991	0.66	2.22	0.46
652	SLE FR 2	-108	13	7991	0.19	2.22	0.43
652	SLE FR 3	-108	8	8022	0.85	2.22	0.46
652	SLE FR 4	-109	14	8271	0.12	2.23	0.43
652	SLE FR 5	-109	9	8301	0.78	2.24	0.46
652	SLE FR 6	-110	10	8457	0.53	2.24	0.46
652	SLE QP 1	-108	8	7991	0.66	2.22	0.46
652	SLE QP 2	-109	9	8271	0.58	2.23	0.46
652	SLD 1	400	134	10667	-30.45	7.67	0.29
652	SLD 2	396	-51	10678	-27.11	7.81	2.57
652	SLD 3	410	-308	10516	21.76	7.55	3.21
652	SLD 4	406	-493	10527	25.09	7.69	5.49
652	SLD 5	30	749	9217	-88.49	4.04	-4.41
652	SLD 6	27	630	9224	-86.34	4.12	-2.94
652	SLD 7	62	-725	8713	85.54	3.61	5.31
652	SLD 8	59	-843	8720	87.69	3.7	6.78
652	SLD 9	-277	862	7821	-86.53	0.77	-5.86
652	SLD 10	-280	743	7828	-84.38	0.86	-4.39
652	SLD 11	-245	-611	7317	87.5	0.34	3.86
652	SLD 12	-248	-730	7325	89.65	0.43	5.33
652	SLD 13	-623	511	6014	-23.93	-3.22	-4.57
652	SLD 14	-628	327	6025	-20.59	-3.08	-2.29
652	SLD 15	-614	69	5863	28.28	-3.35	-1.65
652	SLD 16	-618	-115	5874	31.62	-3.21	0.63
652	SLV 1	688	237	12020	-51.88	10.73	-0.04
652	SLV 2	682	-54	12038	-46.61	10.95	3.56
652	SLV 3	704	-517	11763	37.24	10.52	4.94
652	SLV 4	698	-808	11781	42.5	10.74	8.54
652	SLV 5	107	1275	9783	-151.29	5.06	-7.91
652	SLV 6	103	1079	9795	-147.75	5.21	-5.49
652	SLV 7	160	-1238	8924	145.75	4.36	8.68
652	SLV 8	156	-1434	8936	149.29	4.51	11.1
652	SLV 9	-374	1452	7605	-148.13	-0.04	-10.18
652	SLV 10	-378	1256	7617	-144.58	0.11	-7.76
652	SLV 11	-321	-1061	6746	148.91	-0.74	6.41
652	SLV 12	-325	-1257	6758	152.45	-0.59	8.83
652	SLV 13	-915	826	4761	-41.33	-6.27	-7.62
652	SLV 14	-922	535	4779	-36.07	-6.05	-4.02
652	SLV 15	-900	72	4503	47.78	-6.48	-2.64
652	SLV 16	-906	-218	4521	53.04	-6.26	0.96
652	SLV FO 1	768	260	12395	-57.12	11.58	-0.09
652	SLV FO 2	761	-60	12415	-51.33	11.82	3.87
652	SLV FO 3	786	-570	12112	40.9	11.35	5.38
652	SLV FO 4	778	-890	12132	46.69	11.59	9.34
652	SLV FO 5	129	1402	9934	-166.48	5.34	-8.75
652	SLV FO 6	124	1186	9947	-162.58	5.5	-6.08
652	SLV FO 7	187	-1362	8990	160.26	4.57	9.5
652	SLV FO 8	182	-1578	9003	164.16	4.73	12.17
652	SLV FO 9	-400	1596	7538	-163	-0.27	-11.25
652	SLV FO 10	-405	1381	7552	-159.1	-0.11	-8.58
652	SLV FO 11	-342	-1168	6594	163.74	-1.04	7
652	SLV FO 12	-347	-1383	6607	167.64	-0.87	9.67
652	SLV FO 13	-996	908	4410	-45.52	-7.12	-8.42
652	SLV FO 14	-1003	588	4429	-39.74	-6.88	-4.46
652	SLV FO 15	-979	79	4126	52.5	-7.35	-2.95
652	SLV FO 16	-986	-241	4146	58.29	-7.11	1.01
652	CRTFP Ux+	0	0	0	0	0	0
652	CRTFP Ux-	0	0	0	0	0	0
652	CRTFP Uy+	0	0	0	0	0	0
652	CRTFP Uy-	0	0	0	0	0	0
653	SLU 1	-105	10	7583	-1.43	1.65	0.2
653	SLU 2	-105	45	7587	-4.79	1.64	-0.02
653	SLU 3	-107	10	7762	-0.54	1.68	0.2
653	SLU 4	-107	31	7764	-2.55	1.68	0.07
653	SLU 5	-106	45	7702	-4.08	1.66	-0.03
653	SLU 6	-108	10	7876	0.17	1.7	0.19
653	SLU 7	-108	31	7879	-1.84	1.69	0.06
653	SLU 8	-107	11	7812	-0.01	1.68	0.18
653	SLU 9	-107	32	7815	-2.03	1.68	0.05
653	SLU 10	-108	48	8566	-5.26	1.63	-0.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
653	SLU 11	-110	13	8741	-1.01	1.68	0.16
653	SLU 12	-110	34	8743	-3.02	1.67	0.03
653	SLU 13	-109	48	8680	-4.55	1.65	-0.07
653	SLU 14	-111	14	8855	-0.3	1.69	0.15
653	SLU 15	-111	34	8858	-2.31	1.69	0.02
653	SLU 16	-110	14	8791	-0.48	1.68	0.14
653	SLU 17	-110	35	8793	-2.5	1.67	0.01
653	SLU 18	-110	15	8981	-2.1	1.64	0.15
653	SLU 19	-110	35	8984	-4.12	1.63	0.01
653	SLU 20	-111	15	9096	-1.4	1.66	0.13
653	SLU 21	-111	36	9098	-3.41	1.65	0
653	SLU 22	-115	9	8804	0.49	1.75	0.24
653	SLU 23	-114	43	8808	-2.87	1.74	0.02
653	SLU 24	-117	9	8983	1.38	1.78	0.23
653	SLU 25	-116	29	8985	-0.63	1.77	0.1
653	SLU 26	-116	44	8923	-2.16	1.75	0.01
653	SLU 27	-118	9	9097	2.09	1.8	0.22
653	SLU 28	-118	30	9100	0.08	1.79	0.09
653	SLU 29	-117	10	9033	1.91	1.78	0.21
653	SLU 30	-117	30	9036	-0.11	1.78	0.08
653	SLU 31	-118	46	9787	-3.34	1.73	-0.02
653	SLU 32	-120	12	9961	0.91	1.77	0.19
653	SLU 33	-120	32	9964	-1.1	1.77	0.06
653	SLU 34	-119	47	9901	-2.63	1.75	-0.04
653	SLU 35	-121	12	10076	1.62	1.79	0.18
653	SLU 36	-121	33	10079	-0.39	1.79	0.05
653	SLU 37	-120	13	10012	1.44	1.78	0.17
653	SLU 38	-120	33	10014	-0.58	1.77	0.04
653	SLU 39	-119	13	10202	-0.18	1.74	0.18
653	SLU 40	-119	34	10204	-2.2	1.73	0.05
653	SLU 41	-121	14	10317	0.53	1.76	0.17
653	SLU 42	-120	34	10319	-1.49	1.75	0.03
653	SLU 43	-133	14	9439	-2.52	2.11	0.25
653	SLU 44	-133	48	9443	-5.87	2.1	0.03
653	SLU 45	-135	14	9618	-1.62	2.14	0.25
653	SLU 46	-135	34	9621	-3.64	2.14	0.12
653	SLU 47	-134	49	9558	-5.17	2.12	0.02
653	SLU 48	-136	14	9733	-0.92	2.16	0.24
653	SLU 49	-136	35	9735	-2.93	2.15	0.11
653	SLU 50	-135	15	9668	-1.1	2.14	0.23
653	SLU 51	-135	35	9671	-3.11	2.14	0.1
653	SLU 52	-136	51	10422	-6.35	2.09	-0.01
653	SLU 53	-138	17	10597	-2.1	2.14	0.21
653	SLU 54	-138	37	10599	-4.11	2.13	0.08
653	SLU 55	-137	52	10537	-5.64	2.11	-0.02
653	SLU 56	-140	17	10711	-1.39	2.16	0.2
653	SLU 57	-140	38	10714	-3.4	2.15	0.07
653	SLU 58	-139	18	10647	-1.57	2.14	0.19
653	SLU 59	-139	38	10650	-3.59	2.13	0.06
653	SLU 60	-138	18	10837	-3.19	2.1	0.2
653	SLU 61	-138	39	10840	-5.21	2.09	0.06
653	SLU 62	-139	19	10952	-2.48	2.12	0.18
653	SLU 63	-139	39	10955	-4.5	2.11	0.05
653	SLU 64	-143	13	10660	-0.6	2.21	0.29
653	SLU 65	-143	47	10664	-3.95	2.2	0.07
653	SLU 66	-145	12	10839	0.3	2.24	0.28
653	SLU 67	-145	33	10841	-1.72	2.24	0.15
653	SLU 68	-144	47	10779	-3.25	2.21	0.06
653	SLU 69	-146	13	10954	1.01	2.26	0.27
653	SLU 70	-146	33	10956	-1.01	2.25	0.14
653	SLU 71	-145	13	10889	0.82	2.24	0.26
653	SLU 72	-145	34	10892	-1.19	2.24	0.13
653	SLU 73	-146	50	11643	-4.43	2.19	0.03
653	SLU 74	-148	16	11818	-0.18	2.24	0.24
653	SLU 75	-148	36	11820	-2.19	2.23	0.11
653	SLU 76	-147	50	11758	-3.72	2.21	0.01
653	SLU 77	-149	16	11932	0.53	2.25	0.23
653	SLU 78	-149	36	11935	-1.48	2.25	0.1
653	SLU 79	-148	16	11868	0.35	2.24	0.22
653	SLU 80	-148	37	11871	-1.67	2.23	0.09
653	SLU 81	-148	17	12058	-1.27	2.2	0.23
653	SLU 82	-148	38	12061	-3.29	2.19	0.1
653	SLU 83	-149	17	12173	-0.56	2.22	0.22
653	SLU 84	-149	38	12175	-2.58	2.21	0.08
653	SLE RA 1	-108	10	7932	-0.88	1.68	0.21
653	SLE RA 2	-108	33	7934	-3.12	1.67	0.07
653	SLE RA 3	-109	10	8051	-0.29	1.7	0.21
653	SLE RA 4	-109	24	8053	-1.63	1.7	0.12
653	SLE RA 5	-108	33	8011	-2.65	1.68	0.06
653	SLE RA 6	-110	10	8127	0.19	1.71	0.2
653	SLE RA 7	-110	24	8129	-1.16	1.71	0.12
653	SLE RA 8	-109	10	8084	0.06	1.7	0.2
653	SLE RA 9	-109	24	8086	-1.28	1.7	0.11
653	SLE RA 10	-110	35	8587	-3.43	1.67	0.04
653	SLE RA 11	-111	12	8703	-0.6	1.7	0.18
653	SLE RA 12	-111	26	8705	-1.94	1.69	0.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
653	SLE RA 13	-111	35	8663	-2.96	1.68	0.03
653	SLE RA 14	-112	12	8780	-0.13	1.71	0.18
653	SLE RA 15	-112	26	8782	-1.47	1.7	0.09
653	SLE RA 16	-111	12	8737	-0.25	1.7	0.17
653	SLE RA 17	-111	26	8739	-1.59	1.69	0.08
653	SLE RA 18	-111	13	8864	-1.33	1.67	0.17
653	SLE RA 19	-111	27	8865	-2.67	1.67	0.09
653	SLE RA 20	-112	13	8940	-0.86	1.68	0.17
653	SLE RA 21	-112	27	8942	-2.2	1.68	0.08
653	SLE FR 1	-108	10	7932	-0.88	1.68	0.21
653	SLE FR 2	-108	15	7932	-1.33	1.67	0.18
653	SLE FR 3	-108	10	7962	-0.69	1.68	0.21
653	SLE FR 4	-109	15	8212	-1.46	1.67	0.17
653	SLE FR 5	-109	11	8242	-0.83	1.68	0.2
653	SLE FR 6	-109	11	8398	-1.11	1.67	0.19
653	SLE QP 1	-108	10	7932	-0.88	1.68	0.21
653	SLE QP 2	-109	11	8211	-1.02	1.67	0.2
653	SLD 1	401	134	10444	-30.9	6.86	0.02
653	SLD 2	397	-38	10451	-27.72	6.98	2.25
653	SLD 3	411	-292	10295	19.9	6.74	2.81
653	SLD 4	407	-465	10302	23.08	6.87	5.04
653	SLD 5	30	725	9106	-87.57	3.38	-4.47
653	SLD 6	28	613	9111	-85.53	3.46	-3.03
653	SLD 7	63	-697	8609	81.76	3	4.83
653	SLD 8	60	-809	8613	83.8	3.08	6.26
653	SLD 9	-277	830	7809	-85.84	0.27	-5.86
653	SLD 10	-280	719	7814	-83.79	0.35	-4.43
653	SLD 11	-245	-592	7312	83.49	-0.11	3.43
653	SLD 12	-248	-703	7317	85.54	-0.03	4.87
653	SLD 13	-624	487	6121	-25.11	-3.52	-4.63
653	SLD 14	-628	314	6128	-21.93	-3.39	-2.4
653	SLD 15	-614	60	5972	25.69	-3.64	-1.85
653	SLD 16	-618	-112	5979	28.87	-3.51	0.38
653	SLV 1	690	236	11705	-51.59	9.76	-0.31
653	SLV 2	684	-36	11717	-46.58	9.96	3.21
653	SLV 3	706	-492	11451	35.12	9.58	4.45
653	SLV 4	700	-764	11462	40.13	9.78	7.97
653	SLV 5	108	1233	9643	-148.63	4.35	-7.83
653	SLV 6	104	1050	9651	-145.26	4.48	-5.46
653	SLV 7	161	-1193	8795	140.39	3.72	8.04
653	SLV 8	157	-1376	8803	143.76	3.86	10.41
653	SLV 9	-374	1398	7620	-145.8	-0.51	-10
653	SLV 10	-378	1215	7627	-142.43	-0.37	-7.64
653	SLV 11	-321	-1028	6772	143.22	-1.13	5.86
653	SLV 12	-325	-1211	6779	146.59	-1	8.23
653	SLV 13	-917	786	4960	-42.16	-6.43	-7.56
653	SLV 14	-923	514	4972	-37.15	-6.23	-4.05
653	SLV 15	-901	58	4706	44.55	-6.61	-2.8
653	SLV 16	-907	-214	4717	49.56	-6.41	0.71
653	SLV FO 1	770	258	12055	-56.65	10.57	-0.36
653	SLV FO 2	763	-41	12067	-51.14	10.79	3.51
653	SLV FO 3	788	-542	11775	38.73	10.37	4.88
653	SLV FO 4	780	-842	11787	44.24	10.59	8.74
653	SLV FO 5	130	1355	9786	-163.39	4.61	-8.63
653	SLV FO 6	125	1154	9795	-159.68	4.76	-6.03
653	SLV FO 7	188	-1313	8854	154.53	3.93	8.82
653	SLV FO 8	183	-1515	8862	158.24	4.08	11.43
653	SLV FO 9	-400	1537	7560	-160.28	-0.73	-11.03
653	SLV FO 10	-405	1335	7569	-156.57	-0.58	-8.42
653	SLV FO 11	-342	-1132	6628	157.65	-1.41	6.43
653	SLV FO 12	-347	-1333	6636	161.36	-1.26	9.03
653	SLV FO 13	-998	863	4635	-46.27	-7.24	-8.34
653	SLV FO 14	-1005	564	4648	-40.76	-7.02	-4.48
653	SLV FO 15	-980	63	4355	49.1	-7.44	-3.1
653	SLV FO 16	-987	-236	4368	54.61	-7.22	0.76
653	CRTFP Ux+	0	0	0	0	0	0
653	CRTFP Ux-	0	0	0	0	0	0
653	CRTFP Uy+	0	0	0	0	0	0
653	CRTFP Uy-	0	0	0	0	0	0
654	SLU 1	-104	11	7533	-2.89	1.6	0.01
654	SLU 2	-104	44	7537	-6.14	1.59	-0.18
654	SLU 3	-106	11	7711	-2.05	1.63	0.01
654	SLU 4	-106	31	7714	-4	1.63	-0.11
654	SLU 5	-105	44	7652	-5.47	1.61	-0.19
654	SLU 6	-107	11	7825	-1.37	1.65	-0.01
654	SLU 7	-107	31	7828	-3.32	1.65	-0.12
654	SLU 8	-107	11	7761	-1.54	1.64	-0.02
654	SLU 9	-106	31	7764	-3.49	1.63	-0.13
654	SLU 10	-108	47	8516	-6.83	1.59	-0.24
654	SLU 11	-110	13	8690	-2.73	1.64	-0.06
654	SLU 12	-110	33	8693	-4.69	1.63	-0.17
654	SLU 13	-109	47	8631	-6.16	1.61	-0.26
654	SLU 14	-111	14	8804	-2.06	1.65	-0.07
654	SLU 15	-111	34	8807	-4.01	1.65	-0.19
654	SLU 16	-110	14	8740	-2.23	1.64	-0.08
654	SLU 17	-110	34	8743	-4.18	1.63	-0.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
654	SLU 18	-109	15	8931	-3.87	1.6	-0.08
654	SLU 19	-109	35	8934	-5.82	1.6	-0.2
654	SLU 20	-110	15	9046	-3.2	1.62	-0.09
654	SLU 21	-110	35	9048	-5.15	1.61	-0.21
654	SLU 22	-114	10	8751	-1.25	1.7	0.02
654	SLU 23	-114	43	8755	-4.5	1.69	-0.17
654	SLU 24	-116	9	8929	-0.4	1.74	0.01
654	SLU 25	-116	29	8931	-2.36	1.73	-0.1
654	SLU 26	-115	43	8869	-3.83	1.71	-0.19
654	SLU 27	-117	10	9043	0.27	1.75	0
654	SLU 28	-117	29	9046	-1.68	1.75	-0.12
654	SLU 29	-116	10	8979	0.1	1.74	-0.01
654	SLU 30	-116	30	8982	-1.85	1.73	-0.13
654	SLU 31	-117	46	9734	-5.19	1.69	-0.24
654	SLU 32	-120	12	9908	-1.09	1.74	-0.05
654	SLU 33	-120	32	9910	-3.04	1.73	-0.17
654	SLU 34	-119	46	9848	-4.51	1.71	-0.25
654	SLU 35	-121	12	10022	-0.42	1.76	-0.07
654	SLU 36	-121	32	10025	-2.37	1.75	-0.18
654	SLU 37	-120	13	9958	-0.59	1.74	-0.08
654	SLU 38	-120	33	9961	-2.54	1.73	-0.19
654	SLU 39	-119	14	10149	-2.23	1.7	-0.07
654	SLU 40	-119	33	10152	-4.18	1.7	-0.19
654	SLU 41	-120	14	10263	-1.55	1.72	-0.09
654	SLU 42	-120	34	10266	-3.51	1.72	-0.2
654	SLU 43	-132	15	9375	-4.32	2.05	0.01
654	SLU 44	-132	48	9380	-7.57	2.04	-0.18
654	SLU 45	-134	14	9553	-3.47	2.08	0.01
654	SLU 46	-134	34	9556	-5.43	2.07	-0.11
654	SLU 47	-133	48	9494	-6.9	2.05	-0.19
654	SLU 48	-135	15	9667	-2.8	2.1	-0.01
654	SLU 49	-135	34	9670	-4.75	2.09	-0.12
654	SLU 50	-134	15	9603	-2.97	2.08	-0.01
654	SLU 51	-134	35	9606	-4.92	2.07	-0.13
654	SLU 52	-136	51	10359	-8.26	2.04	-0.24
654	SLU 53	-138	17	10532	-4.16	2.08	-0.06
654	SLU 54	-138	37	10535	-6.12	2.07	-0.17
654	SLU 55	-137	51	10473	-7.59	2.05	-0.26
654	SLU 56	-139	17	10646	-3.49	2.1	-0.07
654	SLU 57	-139	37	10649	-5.44	2.09	-0.19
654	SLU 58	-138	18	10582	-3.66	2.08	-0.08
654	SLU 59	-138	38	10585	-5.61	2.08	-0.19
654	SLU 60	-137	19	10774	-5.3	2.05	-0.08
654	SLU 61	-137	38	10776	-7.25	2.04	-0.19
654	SLU 62	-138	19	10888	-4.63	2.06	-0.09
654	SLU 63	-138	39	10891	-6.58	2.06	-0.21
654	SLU 64	-142	13	10593	-2.67	2.15	0.02
654	SLU 65	-142	46	10598	-5.93	2.14	-0.17
654	SLU 66	-144	13	10771	-1.83	2.18	0.01
654	SLU 67	-144	33	10774	-3.79	2.18	-0.1
654	SLU 68	-143	47	10712	-5.26	2.16	-0.19
654	SLU 69	-145	13	10885	-1.16	2.2	0
654	SLU 70	-145	33	10888	-3.11	2.19	-0.12
654	SLU 71	-144	14	10821	-1.33	2.18	-0.01
654	SLU 72	-144	34	10824	-3.28	2.18	-0.12
654	SLU 73	-145	49	11577	-6.62	2.14	-0.24
654	SLU 74	-148	16	11750	-2.52	2.18	-0.05
654	SLU 75	-147	36	11753	-4.47	2.18	-0.17
654	SLU 76	-146	49	11691	-5.94	2.16	-0.25
654	SLU 77	-149	16	11864	-1.85	2.2	-0.07
654	SLU 78	-149	36	11867	-3.8	2.19	-0.18
654	SLU 79	-148	16	11800	-2.01	2.18	-0.07
654	SLU 80	-148	36	11803	-3.97	2.18	-0.19
654	SLU 81	-147	17	11992	-3.66	2.15	-0.07
654	SLU 82	-147	37	11994	-5.61	2.14	-0.19
654	SLU 83	-148	17	12106	-2.98	2.17	-0.09
654	SLU 84	-148	37	12108	-4.94	2.16	-0.2
654	SLE RA 1	-107	10	7881	-2.42	1.63	0.01
654	SLE RA 2	-107	33	7884	-4.59	1.62	-0.11
654	SLE RA 3	-108	10	7999	-1.86	1.65	0.01
654	SLE RA 4	-108	24	8001	-3.16	1.65	-0.07
654	SLE RA 5	-108	33	7960	-4.14	1.64	-0.12
654	SLE RA 6	-109	10	8076	-1.41	1.66	0
654	SLE RA 7	-109	24	8077	-2.71	1.66	-0.08
654	SLE RA 8	-109	11	8033	-1.52	1.65	-0.01
654	SLE RA 9	-109	24	8035	-2.82	1.65	-0.08
654	SLE RA 10	-109	34	8537	-5.05	1.62	-0.16
654	SLE RA 11	-111	12	8652	-2.32	1.65	-0.03
654	SLE RA 12	-111	25	8654	-3.62	1.65	-0.11
654	SLE RA 13	-110	35	8613	-4.6	1.64	-0.17
654	SLE RA 14	-112	12	8728	-1.87	1.66	-0.04
654	SLE RA 15	-111	26	8730	-3.17	1.66	-0.12
654	SLE RA 16	-111	13	8686	-1.98	1.65	-0.05
654	SLE RA 17	-111	26	8688	-3.28	1.65	-0.13
654	SLE RA 18	-110	13	8813	-3.07	1.63	-0.05
654	SLE RA 19	-110	26	8815	-4.38	1.63	-0.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
654	SLE RA 20	-111	13	8889	-2.62	1.64	-0.06
654	SLE RA 21	-111	27	8891	-3.93	1.64	-0.13
654	SLE FR 1	-107	10	7881	-2.42	1.63	0.01
654	SLE FR 2	-107	15	7881	-2.85	1.63	-0.01
654	SLE FR 3	-107	11	7911	-2.24	1.64	0.01
654	SLE FR 4	-108	16	8161	-3.05	1.63	-0.03
654	SLE FR 5	-108	11	8191	-2.43	1.64	-0.01
654	SLE FR 6	-109	12	8347	-2.75	1.63	-0.02
654	SLE QP 1	-107	10	7881	-2.42	1.63	0.01
654	SLE QP 2	-108	11	8161	-2.61	1.63	0
654	SLD 1	403	134	10235	-31.52	6.6	-0.13
654	SLD 2	399	-27	10238	-28.5	6.72	1.98
654	SLD 3	412	-279	10087	17.94	6.71	2.35
654	SLD 4	408	-440	10090	20.96	6.83	4.46
654	SLD 5	31	701	9006	-86.82	2.94	-4.17
654	SLD 6	29	598	9008	-84.88	3.01	-2.81
654	SLD 7	63	-674	8514	78.05	3.3	4.1
654	SLD 8	61	-777	8516	79.99	3.37	5.46
654	SLD 9	-277	800	7805	-85.22	-0.11	-5.47
654	SLD 10	-280	696	7807	-83.28	-0.04	-4.11
654	SLD 11	-245	-575	7313	79.65	0.25	2.8
654	SLD 12	-247	-679	7315	81.59	0.32	4.16
654	SLD 13	-625	462	6231	-26.19	-3.57	-4.47
654	SLD 14	-629	301	6234	-23.17	-3.45	-2.36
654	SLD 15	-615	50	6083	23.27	-3.46	-1.99
654	SLD 16	-619	-111	6087	26.29	-3.34	0.12
654	SLV 1	692	233	11408	-51.58	9.38	-0.41
654	SLV 2	686	-20	11413	-46.82	9.57	2.92
654	SLV 3	708	-470	11156	32.84	9.56	3.83
654	SLV 4	702	-724	11161	37.6	9.74	7.16
654	SLV 5	109	1193	9516	-146.24	3.65	-7.17
654	SLV 6	105	1022	9519	-143.03	3.78	-4.93
654	SLV 7	162	-1153	8676	135.18	4.24	6.95
654	SLV 8	158	-1324	8680	138.38	4.37	9.19
654	SLV 9	-374	1347	7641	-143.61	-1.1	-9.2
654	SLV 10	-378	1176	7645	-140.41	-0.98	-6.96
654	SLV 11	-321	-999	6802	137.8	-0.52	4.92
654	SLV 12	-325	-1170	6805	141.01	-0.39	7.16
654	SLV 13	-918	747	5160	-42.83	-6.48	-7.17
654	SLV 14	-924	493	5165	-38.07	-6.29	-3.84
654	SLV 15	-902	43	4908	41.59	-6.31	-2.93
654	SLV 16	-908	-211	4914	46.35	-6.12	0.4
654	SLV FO 1	772	256	11732	-56.48	10.16	-0.45
654	SLV FO 2	765	-24	11738	-51.24	10.36	3.21
654	SLV FO 3	790	-518	11455	36.39	10.35	4.21
654	SLV FO 4	783	-798	11461	41.62	10.56	7.87
654	SLV FO 5	131	1311	9651	-160.6	3.86	-7.89
654	SLV FO 6	126	1123	9655	-157.07	4	-5.42
654	SLV FO 7	189	-1270	8728	148.96	4.5	7.64
654	SLV FO 8	184	-1458	8732	152.48	4.64	10.11
654	SLV FO 9	-400	1480	7590	-157.71	-1.38	-10.12
654	SLV FO 10	-405	1292	7593	-154.19	-1.24	-7.65
654	SLV FO 11	-342	-1100	6666	151.84	-0.73	5.41
654	SLV FO 12	-347	-1288	6670	155.37	-0.6	7.88
654	SLV FO 13	-999	820	4860	-46.85	-7.29	-7.88
654	SLV FO 14	-1006	541	4866	-41.62	-7.09	-4.22
654	SLV FO 15	-981	46	4583	46.01	-7.1	-3.22
654	SLV FO 16	-988	-233	4589	51.25	-6.89	0.44
654	CRTFP Ux+	0	0	0	0	0	0
654	CRTFP Ux-	0	0	0	0	0	0
654	CRTFP Uy+	0	0	0	0	0	0
654	CRTFP Uy-	0	0	0	0	0	0
655	SLU 1	-104	10	7480	-4.35	1.8	-0.13
655	SLU 2	-104	43	7485	-7.51	1.79	-0.29
655	SLU 3	-106	10	7657	-3.56	1.84	-0.14
655	SLU 4	-106	30	7660	-5.45	1.83	-0.23
655	SLU 5	-105	43	7599	-6.87	1.81	-0.3
655	SLU 6	-107	10	7771	-2.92	1.86	-0.16
655	SLU 7	-107	30	7774	-4.81	1.85	-0.25
655	SLU 8	-106	11	7707	-3.07	1.84	-0.16
655	SLU 9	-106	30	7710	-4.96	1.83	-0.26
655	SLU 10	-107	45	8464	-8.41	1.83	-0.37
655	SLU 11	-109	13	8636	-4.46	1.88	-0.22
655	SLU 12	-109	32	8638	-6.36	1.87	-0.31
655	SLU 13	-108	45	8577	-7.77	1.85	-0.38
655	SLU 14	-110	13	8749	-3.82	1.9	-0.24
655	SLU 15	-110	32	8752	-5.72	1.89	-0.33
655	SLU 16	-109	13	8686	-3.97	1.88	-0.24
655	SLU 17	-109	32	8689	-5.87	1.88	-0.34
655	SLU 18	-109	14	8878	-5.64	1.86	-0.25
655	SLU 19	-109	33	8881	-7.53	1.85	-0.34
655	SLU 20	-110	14	8992	-5	1.88	-0.26
655	SLU 21	-110	33	8994	-6.89	1.87	-0.36
655	SLU 22	-113	9	8694	-2.98	1.95	-0.15
655	SLU 23	-113	41	8699	-6.14	1.94	-0.3
655	SLU 24	-115	9	8871	-2.19	1.99	-0.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
655	SLU 25	-115	28	8874	-4.09	1.98	-0.25
655	SLU 26	-114	41	8813	-5.5	1.96	-0.32
655	SLU 27	-116	9	8985	-1.55	2.01	-0.17
655	SLU 28	-116	28	8988	-3.45	2	-0.26
655	SLU 29	-116	9	8921	-1.7	1.99	-0.18
655	SLU 30	-115	29	8924	-3.6	1.98	-0.27
655	SLU 31	-117	44	9678	-7.04	1.98	-0.38
655	SLU 32	-119	11	9850	-3.1	2.03	-0.23
655	SLU 33	-119	31	9852	-4.99	2.03	-0.33
655	SLU 34	-118	44	9791	-6.4	2	-0.4
655	SLU 35	-120	11	9963	-2.46	2.05	-0.25
655	SLU 36	-120	31	9966	-4.35	2.05	-0.34
655	SLU 37	-119	12	9900	-2.61	2.03	-0.26
655	SLU 38	-119	31	9903	-4.5	2.03	-0.35
655	SLU 39	-118	13	10092	-4.27	2.01	-0.26
655	SLU 40	-118	32	10095	-6.17	2.01	-0.35
655	SLU 41	-120	13	10206	-3.63	2.03	-0.28
655	SLU 42	-120	32	10208	-5.53	2.03	-0.37
655	SLU 43	-131	14	9308	-6.12	2.28	-0.17
655	SLU 44	-131	46	9313	-9.28	2.27	-0.32
655	SLU 45	-133	14	9485	-5.33	2.32	-0.18
655	SLU 46	-133	33	9488	-7.22	2.32	-0.27
655	SLU 47	-132	46	9427	-8.64	2.29	-0.34
655	SLU 48	-135	14	9599	-4.69	2.34	-0.19
655	SLU 49	-134	33	9602	-6.58	2.34	-0.29
655	SLU 50	-134	14	9535	-4.84	2.32	-0.2
655	SLU 51	-134	34	9538	-6.74	2.32	-0.29
655	SLU 52	-135	49	10291	-10.18	2.32	-0.4
655	SLU 53	-137	16	10463	-6.23	2.37	-0.26
655	SLU 54	-137	36	10466	-8.13	2.36	-0.35
655	SLU 55	-136	49	10405	-9.54	2.34	-0.42
655	SLU 56	-138	16	10577	-5.59	2.39	-0.27
655	SLU 57	-138	36	10580	-7.49	2.38	-0.37
655	SLU 58	-137	17	10514	-5.74	2.37	-0.28
655	SLU 59	-137	36	10517	-7.64	2.36	-0.37
655	SLU 60	-137	18	10706	-7.41	2.35	-0.28
655	SLU 61	-136	37	10709	-9.31	2.34	-0.37
655	SLU 62	-138	18	10819	-6.77	2.37	-0.3
655	SLU 63	-138	37	10822	-8.67	2.36	-0.39
655	SLU 64	-141	13	10522	-4.75	2.44	-0.18
655	SLU 65	-141	45	10527	-7.91	2.43	-0.34
655	SLU 66	-143	12	10699	-3.96	2.47	-0.19
655	SLU 67	-143	32	10702	-5.86	2.47	-0.28
655	SLU 68	-142	45	10641	-7.27	2.45	-0.35
655	SLU 69	-144	13	10813	-3.32	2.49	-0.21
655	SLU 70	-144	32	10816	-5.22	2.49	-0.3
655	SLU 71	-143	13	10749	-3.48	2.48	-0.21
655	SLU 72	-143	32	10752	-5.37	2.47	-0.31
655	SLU 73	-145	47	11505	-8.82	2.47	-0.42
655	SLU 74	-147	15	11677	-4.87	2.52	-0.27
655	SLU 75	-147	34	11680	-6.76	2.51	-0.36
655	SLU 76	-146	48	11619	-8.18	2.49	-0.43
655	SLU 77	-148	15	11791	-4.23	2.54	-0.29
655	SLU 78	-148	34	11794	-6.12	2.53	-0.38
655	SLU 79	-147	15	11728	-4.38	2.52	-0.29
655	SLU 80	-147	35	11731	-6.27	2.51	-0.39
655	SLU 81	-146	16	11920	-6.05	2.5	-0.29
655	SLU 82	-146	36	11923	-7.94	2.49	-0.39
655	SLU 83	-147	16	12033	-5.41	2.52	-0.31
655	SLU 84	-147	36	12036	-7.3	2.51	-0.4
655	SLE RA 1	-106	10	7827	-3.96	1.84	-0.14
655	SLE RA 2	-106	32	7830	-6.06	1.83	-0.24
655	SLE RA 3	-108	10	7945	-3.43	1.87	-0.14
655	SLE RA 4	-108	23	7947	-4.69	1.86	-0.2
655	SLE RA 5	-107	32	7906	-5.64	1.85	-0.25
655	SLE RA 6	-108	10	8021	-3	1.88	-0.15
655	SLE RA 7	-108	23	8023	-4.27	1.88	-0.22
655	SLE RA 8	-108	10	7979	-3.1	1.87	-0.16
655	SLE RA 9	-108	23	7981	-4.37	1.86	-0.22
655	SLE RA 10	-109	33	8483	-6.67	1.86	-0.29
655	SLE RA 11	-110	12	8597	-4.03	1.9	-0.2
655	SLE RA 12	-110	24	8599	-5.3	1.89	-0.26
655	SLE RA 13	-109	33	8558	-6.24	1.88	-0.3
655	SLE RA 14	-111	12	8673	-3.61	1.91	-0.21
655	SLE RA 15	-111	24	8675	-4.87	1.9	-0.27
655	SLE RA 16	-110	12	8631	-3.71	1.9	-0.21
655	SLE RA 17	-110	25	8633	-4.97	1.89	-0.27
655	SLE RA 18	-110	12	8759	-4.82	1.88	-0.21
655	SLE RA 19	-110	25	8761	-6.08	1.88	-0.27
655	SLE RA 20	-111	12	8835	-4.39	1.9	-0.22
655	SLE RA 21	-111	25	8837	-5.66	1.89	-0.29
655	SLE FR 1	-106	10	7827	-3.96	1.84	-0.14
655	SLE FR 2	-106	14	7828	-4.38	1.84	-0.16
655	SLE FR 3	-107	10	7857	-3.79	1.85	-0.14
655	SLE FR 4	-107	15	8107	-4.64	1.85	-0.18
655	SLE FR 5	-108	11	8137	-4.05	1.86	-0.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
655	SLE FR 6	-108	11	8293	-4.39	1.86	-0.17
655	SLE QP 1	-106	10	7827	-3.96	1.84	-0.14
655	SLE QP 2	-107	11	8107	-4.22	1.85	-0.16
655	SLD 1	404	133	10024	-32.36	6.8	-0.18
655	SLD 2	400	-18	10024	-29.49	6.91	1.77
655	SLD 3	414	-268	9878	15.83	6.9	1.86
655	SLD 4	410	-418	9878	18.7	7.01	3.81
655	SLD 5	32	681	8904	-86.25	3.16	-3.61
655	SLD 6	30	584	8904	-84.4	3.23	-2.35
655	SLD 7	64	-654	8416	74.4	3.51	3.22
655	SLD 8	62	-751	8416	76.25	3.58	4.47
655	SLD 9	-277	773	7797	-84.68	0.13	-4.79
655	SLD 10	-279	676	7797	-82.83	0.2	-3.54
655	SLD 11	-244	-562	7310	75.97	0.48	2.03
655	SLD 12	-247	-659	7310	77.82	0.55	3.29
655	SLD 13	-625	440	6336	-27.13	-3.31	-4.13
655	SLD 14	-629	289	6335	-24.27	-3.19	-2.18
655	SLD 15	-615	39	6189	21.06	-3.2	-2.08
655	SLD 16	-619	-111	6189	23.93	-3.09	-0.13
655	SLV 1	694	231	11110	-51.9	9.56	-0.37
655	SLV 2	688	-6	11109	-47.39	9.74	2.71
655	SLV 3	710	-452	10860	30.36	9.73	3.13
655	SLV 4	704	-689	10860	34.88	9.91	6.2
655	SLV 5	110	1157	9386	-144.13	3.87	-6.1
655	SLV 6	106	998	9386	-141.09	3.99	-4.03
655	SLV 7	163	-1120	8554	130.08	4.44	5.56
655	SLV 8	159	-1280	8554	133.12	4.56	7.63
655	SLV 9	-374	1301	7660	-141.55	-0.86	-7.94
655	SLV 10	-378	1142	7659	-138.51	-0.74	-5.88
655	SLV 11	-321	-976	6827	132.66	-0.29	3.71
655	SLV 12	-325	-1136	6827	135.7	-0.17	5.78
655	SLV 13	-919	710	5354	-43.31	-6.2	-6.52
655	SLV 14	-925	474	5353	-38.79	-6.03	-3.45
655	SLV 15	-903	27	5104	38.96	-6.03	-3.03
655	SLV 16	-909	-210	5104	43.47	-5.85	0.05
655	SLV FO 1	774	253	11410	-56.67	10.33	-0.39
655	SLV FO 2	768	-7	11410	-51.7	10.53	3
655	SLV FO 3	792	-498	11135	33.82	10.52	3.46
655	SLV FO 4	785	-759	11135	38.79	10.72	6.84
655	SLV FO 5	132	1272	9514	-158.12	4.07	-6.69
655	SLV FO 6	127	1097	9514	-154.78	4.21	-4.42
655	SLV FO 7	190	-1233	8599	143.51	4.7	6.13
655	SLV FO 8	185	-1409	8599	146.86	4.83	8.41
655	SLV FO 9	-400	1430	7615	-155.29	-1.13	-8.72
655	SLV FO 10	-405	1255	7614	-151.94	-1	-6.45
655	SLV FO 11	-342	-1075	6700	146.35	-0.5	4.1
655	SLV FO 12	-347	-1251	6699	149.69	-0.37	6.37
655	SLV FO 13	-1000	780	5078	-47.22	-7.01	-7.16
655	SLV FO 14	-1007	520	5078	-42.25	-6.81	-3.78
655	SLV FO 15	-982	29	4804	43.27	-6.82	-3.31
655	SLV FO 16	-989	-232	4803	48.24	-6.62	0.07
655	CRTFP Ux+	0	0	0	0	0	0
655	CRTFP Ux-	0	0	0	0	0	0
655	CRTFP Uy+	0	0	0	0	0	0
655	CRTFP Uy-	0	0	0	0	0	0
656	SLU 1	-103	9	7419	-5.81	2.14	-0.23
656	SLU 2	-103	41	7425	-8.88	2.13	-0.35
656	SLU 3	-105	9	7595	-5.07	2.19	-0.24
656	SLU 4	-105	28	7598	-6.91	2.18	-0.31
656	SLU 5	-104	41	7537	-8.27	2.16	-0.36
656	SLU 6	-106	9	7708	-4.47	2.21	-0.26
656	SLU 7	-106	28	7711	-6.3	2.21	-0.33
656	SLU 8	-105	9	7645	-4.6	2.19	-0.26
656	SLU 9	-105	28	7648	-6.44	2.18	-0.33
656	SLU 10	-106	43	8401	-10	2.24	-0.43
656	SLU 11	-108	11	8571	-6.19	2.3	-0.33
656	SLU 12	-108	30	8574	-8.03	2.29	-0.4
656	SLU 13	-107	43	8513	-9.39	2.27	-0.45
656	SLU 14	-109	11	8684	-5.59	2.32	-0.34
656	SLU 15	-109	30	8687	-7.43	2.32	-0.41
656	SLU 16	-109	11	8621	-5.72	2.3	-0.35
656	SLU 17	-108	30	8624	-7.56	2.29	-0.42
656	SLU 18	-108	12	8814	-7.42	2.3	-0.35
656	SLU 19	-108	31	8817	-9.26	2.29	-0.42
656	SLU 20	-109	12	8927	-6.81	2.32	-0.37
656	SLU 21	-109	31	8930	-8.65	2.32	-0.44
656	SLU 22	-113	8	8627	-4.72	2.37	-0.26
656	SLU 23	-112	39	8633	-7.79	2.36	-0.37
656	SLU 24	-114	8	8803	-3.98	2.41	-0.27
656	SLU 25	-114	27	8806	-5.82	2.41	-0.33
656	SLU 26	-113	40	8745	-7.18	2.38	-0.39
656	SLU 27	-116	8	8916	-3.37	2.44	-0.28
656	SLU 28	-116	27	8919	-5.21	2.43	-0.35
656	SLU 29	-115	8	8853	-3.51	2.42	-0.29
656	SLU 30	-115	27	8856	-5.35	2.41	-0.36
656	SLU 31	-116	41	9609	-8.91	2.47	-0.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
656	SLU 32	-118	10	9779	-5.1	2.52	-0.35
656	SLU 33	-118	29	9782	-6.94	2.52	-0.42
656	SLU 34	-117	41	9721	-8.3	2.49	-0.47
656	SLU 35	-119	10	9892	-4.5	2.55	-0.37
656	SLU 36	-119	29	9895	-6.34	2.54	-0.44
656	SLU 37	-118	10	9829	-4.63	2.53	-0.37
656	SLU 38	-118	29	9832	-6.47	2.52	-0.44
656	SLU 39	-118	11	10022	-6.33	2.53	-0.38
656	SLU 40	-118	30	10025	-8.16	2.52	-0.45
656	SLU 41	-119	11	10135	-5.72	2.55	-0.4
656	SLU 42	-119	30	10138	-7.56	2.55	-0.46
656	SLU 43	-130	13	9231	-7.93	2.7	-0.29
656	SLU 44	-130	44	9236	-11	2.69	-0.41
656	SLU 45	-132	12	9407	-7.19	2.75	-0.3
656	SLU 46	-132	31	9410	-9.03	2.74	-0.37
656	SLU 47	-131	44	9349	-10.39	2.72	-0.42
656	SLU 48	-133	12	9519	-6.58	2.77	-0.32
656	SLU 49	-133	31	9522	-8.42	2.77	-0.39
656	SLU 50	-132	13	9457	-6.72	2.75	-0.32
656	SLU 51	-132	32	9460	-8.56	2.75	-0.39
656	SLU 52	-134	46	10212	-12.12	2.8	-0.49
656	SLU 53	-136	14	10383	-8.31	2.86	-0.39
656	SLU 54	-136	33	10386	-10.15	2.85	-0.46
656	SLU 55	-135	46	10325	-11.51	2.83	-0.51
656	SLU 56	-137	14	10495	-7.71	2.88	-0.4
656	SLU 57	-137	33	10498	-9.54	2.88	-0.47
656	SLU 58	-136	15	10433	-7.84	2.86	-0.41
656	SLU 59	-136	34	10436	-9.68	2.86	-0.48
656	SLU 60	-135	16	10625	-9.53	2.86	-0.42
656	SLU 61	-135	34	10628	-11.37	2.85	-0.48
656	SLU 62	-137	16	10738	-8.93	2.89	-0.43
656	SLU 63	-136	35	10741	-10.77	2.88	-0.5
656	SLU 64	-140	11	10439	-6.84	2.93	-0.32
656	SLU 65	-140	43	10444	-9.91	2.92	-0.43
656	SLU 66	-142	11	10615	-6.1	2.98	-0.33
656	SLU 67	-142	30	10618	-7.94	2.97	-0.39
656	SLU 68	-141	43	10557	-9.3	2.95	-0.45
656	SLU 69	-143	11	10727	-5.49	3	-0.34
656	SLU 70	-143	30	10731	-7.33	3	-0.41
656	SLU 71	-142	11	10665	-5.63	2.98	-0.35
656	SLU 72	-142	30	10668	-7.47	2.98	-0.42
656	SLU 73	-144	45	11420	-11.03	3.03	-0.52
656	SLU 74	-146	13	11591	-7.22	3.09	-0.41
656	SLU 75	-146	32	11594	-9.06	3.08	-0.48
656	SLU 76	-145	45	11533	-10.42	3.06	-0.53
656	SLU 77	-147	13	11703	-6.62	3.11	-0.43
656	SLU 78	-147	32	11707	-8.45	3.11	-0.5
656	SLU 79	-146	13	11641	-6.75	3.09	-0.44
656	SLU 80	-146	32	11644	-8.59	3.09	-0.5
656	SLU 81	-145	14	11833	-8.44	3.09	-0.44
656	SLU 82	-145	33	11836	-10.28	3.08	-0.51
656	SLU 83	-146	14	11946	-7.84	3.11	-0.46
656	SLU 84	-146	33	11949	-9.68	3.11	-0.53
656	SLE RA 1	-106	9	7765	-5.5	2.2	-0.24
656	SLE RA 2	-105	30	7768	-7.54	2.2	-0.31
656	SLE RA 3	-107	9	7882	-5.01	2.24	-0.24
656	SLE RA 4	-107	21	7884	-6.23	2.23	-0.29
656	SLE RA 5	-106	30	7843	-7.14	2.22	-0.33
656	SLE RA 6	-108	9	7957	-4.6	2.25	-0.26
656	SLE RA 7	-108	21	7959	-5.83	2.25	-0.3
656	SLE RA 8	-107	9	7915	-4.69	2.24	-0.26
656	SLE RA 9	-107	22	7917	-5.92	2.23	-0.31
656	SLE RA 10	-108	31	8419	-8.29	2.27	-0.37
656	SLE RA 11	-109	10	8532	-5.76	2.31	-0.3
656	SLE RA 12	-109	23	8534	-6.98	2.31	-0.35
656	SLE RA 13	-109	31	8494	-7.89	2.29	-0.38
656	SLE RA 14	-110	10	8607	-5.35	2.33	-0.31
656	SLE RA 15	-110	23	8610	-6.58	2.32	-0.36
656	SLE RA 16	-109	10	8566	-5.44	2.31	-0.32
656	SLE RA 17	-109	23	8568	-6.67	2.31	-0.36
656	SLE RA 18	-109	11	8694	-6.57	2.31	-0.32
656	SLE RA 19	-109	23	8696	-7.8	2.31	-0.37
656	SLE RA 20	-110	11	8769	-6.17	2.33	-0.33
656	SLE RA 21	-110	24	8771	-7.39	2.32	-0.38
656	SLE FR 1	-106	9	7765	-5.5	2.2	-0.24
656	SLE FR 2	-106	13	7765	-5.91	2.2	-0.25
656	SLE FR 3	-106	9	7795	-5.34	2.21	-0.24
656	SLE FR 4	-107	14	8044	-6.23	2.23	-0.28
656	SLE FR 5	-107	10	8073	-5.66	2.24	-0.27
656	SLE FR 6	-107	10	8229	-6.04	2.26	-0.28
656	SLE QP 1	-106	9	7765	-5.5	2.2	-0.24
656	SLE QP 2	-107	10	8043	-5.82	2.24	-0.26
656	SLD 1	406	419	9805	-33.43	7.28	-0.15
656	SLD 2	402	279	9801	-30.71	7.39	1.61
656	SLD 3	416	28	9660	13.57	7.18	1.39
656	SLD 4	412	-113	9657	16.28	7.28	3.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
656	SLD 5	33	750	8792	-85.85	3.9	-2.87
656	SLD 6	31	659	8790	-84.1	3.96	-1.73
656	SLD 7	65	-554	8310	70.81	3.54	2.27
656	SLD 8	63	-645	8307	72.56	3.6	3.4
656	SLD 9	-276	664	7780	-84.2	0.87	-3.93
656	SLD 10	-279	573	7777	-82.45	0.94	-2.79
656	SLD 11	-244	-640	7297	72.46	0.51	1.21
656	SLD 12	-246	-731	7295	74.21	0.58	2.35
656	SLD 13	-625	132	6430	-27.93	-2.81	-3.68
656	SLD 14	-629	-9	6426	-25.21	-2.7	-1.92
656	SLD 15	-615	-259	6285	19.07	-2.92	-2.14
656	SLD 16	-619	-400	6282	21.79	-2.81	-0.37
656	SLV 1	696	678	10803	-52.57	10.11	-0.22
656	SLV 2	690	457	10797	-48.29	10.28	2.57
656	SLV 3	712	11	10556	27.65	9.94	2.42
656	SLV 4	706	-210	10550	31.93	10.11	5.2
656	SLV 5	112	1264	9247	-142.32	4.83	-4.76
656	SLV 6	107	1114	9243	-139.44	4.95	-2.89
656	SLV 7	164	-961	8423	125.09	4.25	4.02
656	SLV 8	160	-1110	8419	127.98	4.36	5.89
656	SLV 9	-373	1129	7667	-139.62	0.11	-6.42
656	SLV 10	-377	980	7663	-136.74	0.22	-4.54
656	SLV 11	-321	-1095	6844	127.79	-0.48	2.36
656	SLV 12	-325	-1244	6840	130.68	-0.36	4.24
656	SLV 13	-919	230	5537	-43.58	-5.64	-5.72
656	SLV 14	-925	8	5531	-39.29	-5.47	-2.94
656	SLV 15	-904	-438	5290	36.65	-5.81	-3.09
656	SLV 16	-910	-659	5284	40.93	-5.64	-0.31
656	SLV FO 1	777	745	11079	-57.25	10.9	-0.21
656	SLV FO 2	770	502	11073	-52.54	11.09	2.85
656	SLV FO 3	794	11	10807	31	10.71	2.68
656	SLV FO 4	787	-232	10801	35.71	10.89	5.75
656	SLV FO 5	133	1389	9368	-155.97	5.09	-5.21
656	SLV FO 6	129	1225	9363	-152.8	5.22	-3.15
656	SLV FO 7	191	-1058	8461	138.19	4.45	4.44
656	SLV FO 8	187	-1222	8457	141.36	4.57	6.51
656	SLV FO 9	-400	1241	7630	-153	-0.1	-7.03
656	SLV FO 10	-404	1077	7625	-149.83	0.02	-4.97
656	SLV FO 11	-342	-1206	6724	141.16	-0.75	2.63
656	SLV FO 12	-347	-1370	6719	144.33	-0.62	4.69
656	SLV FO 13	-1001	252	5286	-47.35	-6.42	-6.27
656	SLV FO 14	-1007	8	5280	-42.64	-6.24	-3.21
656	SLV FO 15	-983	-482	5014	40.9	-6.62	-3.37
656	SLV FO 16	-990	-726	5008	45.6	-6.43	-0.31
656	CRTFP Ux+	0	0	0	0	0	0
656	CRTFP Ux-	0	0	0	0	0	0
656	CRTFP Uy+	0	0	0	0	0	0
656	CRTFP Uy-	0	0	0	0	0	0
657	SLU 1	-102	8	7346	-7.29	2.61	-0.29
657	SLU 2	-101	39	7351	-10.26	2.61	-0.36
657	SLU 3	-104	8	7520	-6.59	2.67	-0.29
657	SLU 4	-103	26	7523	-8.38	2.67	-0.34
657	SLU 5	-103	39	7463	-9.69	2.64	-0.37
657	SLU 6	-105	8	7632	-6.02	2.7	-0.31
657	SLU 7	-105	26	7635	-7.81	2.7	-0.35
657	SLU 8	-104	8	7570	-6.14	2.68	-0.32
657	SLU 9	-104	27	7573	-7.92	2.68	-0.36
657	SLU 10	-105	41	8322	-11.6	2.8	-0.44
657	SLU 11	-107	9	8491	-7.94	2.87	-0.38
657	SLU 12	-107	28	8494	-9.72	2.87	-0.42
657	SLU 13	-106	40	8434	-11.03	2.84	-0.46
657	SLU 14	-108	9	8603	-7.36	2.9	-0.4
657	SLU 15	-108	28	8606	-9.15	2.9	-0.44
657	SLU 16	-107	9	8541	-7.48	2.88	-0.4
657	SLU 17	-107	28	8544	-9.27	2.87	-0.44
657	SLU 18	-107	10	8733	-9.2	2.9	-0.41
657	SLU 19	-107	29	8736	-10.99	2.89	-0.45
657	SLU 20	-108	10	8845	-8.63	2.93	-0.42
657	SLU 21	-108	29	8848	-10.42	2.93	-0.47
657	SLU 22	-111	6	8545	-6.47	2.95	-0.31
657	SLU 23	-111	37	8551	-9.45	2.94	-0.38
657	SLU 24	-113	6	8719	-5.78	3	-0.32
657	SLU 25	-113	25	8722	-7.56	3	-0.36
657	SLU 26	-112	37	8662	-8.87	2.97	-0.4
657	SLU 27	-114	6	8831	-5.2	3.04	-0.34
657	SLU 28	-114	25	8834	-6.99	3.03	-0.38
657	SLU 29	-113	6	8769	-5.32	3.01	-0.34
657	SLU 30	-113	25	8772	-7.11	3.01	-0.39
657	SLU 31	-115	39	9522	-10.79	3.14	-0.47
657	SLU 32	-117	8	9690	-7.12	3.2	-0.41
657	SLU 33	-117	26	9694	-8.9	3.2	-0.45
657	SLU 34	-116	39	9634	-10.21	3.17	-0.48
657	SLU 35	-118	7	9802	-6.55	3.24	-0.42
657	SLU 36	-118	26	9806	-8.33	3.23	-0.47
657	SLU 37	-117	8	9740	-6.66	3.21	-0.43
657	SLU 38	-117	26	9744	-8.45	3.21	-0.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
657	SLU 39	-117	9	9933	-8.39	3.23	-0.43
657	SLU 40	-116	27	9936	-10.17	3.22	-0.48
657	SLU 41	-118	8	10045	-7.81	3.26	-0.45
657	SLU 42	-118	27	10048	-9.6	3.26	-0.49
657	SLU 43	-129	11	9138	-9.75	3.28	-0.36
657	SLU 44	-129	42	9144	-12.73	3.28	-0.43
657	SLU 45	-131	11	9312	-9.06	3.34	-0.37
657	SLU 46	-131	29	9315	-10.85	3.34	-0.41
657	SLU 47	-130	42	9256	-12.16	3.31	-0.45
657	SLU 48	-132	11	9424	-8.49	3.38	-0.39
657	SLU 49	-132	29	9427	-10.27	3.37	-0.43
657	SLU 50	-131	11	9362	-8.61	3.35	-0.39
657	SLU 51	-131	29	9365	-10.39	3.35	-0.44
657	SLU 52	-132	43	10115	-14.07	3.48	-0.52
657	SLU 53	-134	12	10283	-10.4	3.54	-0.46
657	SLU 54	-134	31	10287	-12.19	3.54	-0.5
657	SLU 55	-133	43	10227	-13.5	3.51	-0.53
657	SLU 56	-135	12	10395	-9.83	3.57	-0.47
657	SLU 57	-135	31	10399	-11.61	3.57	-0.52
657	SLU 58	-135	12	10333	-9.95	3.55	-0.48
657	SLU 59	-134	31	10337	-11.73	3.54	-0.52
657	SLU 60	-134	13	10526	-11.67	3.57	-0.48
657	SLU 61	-134	32	10529	-13.46	3.56	-0.53
657	SLU 62	-135	13	10638	-11.1	3.6	-0.5
657	SLU 63	-135	32	10641	-12.88	3.6	-0.54
657	SLU 64	-138	9	10338	-8.94	3.62	-0.39
657	SLU 65	-138	40	10343	-11.91	3.61	-0.46
657	SLU 66	-140	9	10512	-8.24	3.67	-0.4
657	SLU 67	-140	28	10515	-10.03	3.67	-0.44
657	SLU 68	-139	40	10455	-11.34	3.64	-0.48
657	SLU 69	-141	9	10623	-7.67	3.71	-0.41
657	SLU 70	-141	28	10627	-9.45	3.7	-0.46
657	SLU 71	-141	9	10562	-7.79	3.68	-0.42
657	SLU 72	-140	28	10565	-9.57	3.68	-0.46
657	SLU 73	-142	42	11314	-13.25	3.81	-0.55
657	SLU 74	-144	10	11483	-9.59	3.87	-0.48
657	SLU 75	-144	29	11486	-11.37	3.87	-0.53
657	SLU 76	-143	42	11426	-12.68	3.84	-0.56
657	SLU 77	-145	10	11595	-9.01	3.91	-0.5
657	SLU 78	-145	29	11598	-10.8	3.9	-0.54
657	SLU 79	-144	11	11533	-9.13	3.88	-0.51
657	SLU 80	-144	29	11536	-10.92	3.88	-0.55
657	SLU 81	-144	11	11725	-10.85	3.9	-0.51
657	SLU 82	-144	30	11728	-12.64	3.9	-0.55
657	SLU 83	-145	11	11837	-10.28	3.93	-0.53
657	SLU 84	-145	30	11840	-12.06	3.93	-0.57
657	SLE RA 1	-104	8	7688	-7.05	2.71	-0.29
657	SLE RA 2	-104	28	7692	-9.04	2.7	-0.34
657	SLE RA 3	-106	7	7804	-6.59	2.75	-0.3
657	SLE RA 4	-106	20	7807	-7.78	2.74	-0.33
657	SLE RA 5	-105	28	7767	-8.65	2.73	-0.35
657	SLE RA 6	-106	7	7879	-6.21	2.77	-0.31
657	SLE RA 7	-106	20	7881	-7.4	2.77	-0.34
657	SLE RA 8	-106	7	7838	-6.29	2.75	-0.31
657	SLE RA 9	-106	20	7840	-7.48	2.75	-0.34
657	SLE RA 10	-107	29	8340	-9.93	2.84	-0.4
657	SLE RA 11	-108	8	8452	-7.49	2.88	-0.36
657	SLE RA 12	-108	21	8454	-8.68	2.88	-0.39
657	SLE RA 13	-107	29	8414	-9.55	2.86	-0.41
657	SLE RA 14	-109	8	8526	-7.1	2.9	-0.37
657	SLE RA 15	-109	21	8529	-8.29	2.9	-0.4
657	SLE RA 16	-108	8	8485	-7.18	2.89	-0.37
657	SLE RA 17	-108	21	8487	-8.37	2.88	-0.4
657	SLE RA 18	-108	9	8613	-8.33	2.9	-0.37
657	SLE RA 19	-108	21	8616	-9.52	2.89	-0.4
657	SLE RA 20	-109	9	8688	-7.95	2.92	-0.38
657	SLE RA 21	-109	21	8690	-9.14	2.92	-0.41
657	SLE FR 1	-104	8	7688	-7.05	2.71	-0.29
657	SLE FR 2	-104	12	7689	-7.45	2.71	-0.3
657	SLE FR 3	-105	8	7718	-6.9	2.72	-0.3
657	SLE FR 4	-105	12	7967	-7.83	2.76	-0.33
657	SLE FR 5	-106	8	7996	-7.28	2.77	-0.32
657	SLE FR 6	-106	8	8151	-7.69	2.8	-0.33
657	SLE QP 1	-104	8	7688	-7.05	2.71	-0.29
657	SLE QP 2	-105	8	7966	-7.44	2.77	-0.32
657	SLD 1	408	401	9571	-34.71	7.81	-0.06
657	SLD 2	404	269	9564	-32.14	7.91	1.52
657	SLD 3	418	17	9429	11.17	7.69	0.96
657	SLD 4	414	-115	9422	13.73	7.79	2.54
657	SLD 5	35	732	8665	-85.63	4.45	-2.05
657	SLD 6	32	647	8661	-83.98	4.51	-1.04
657	SLD 7	67	-550	8190	67.28	4.04	1.34
657	SLD 8	64	-635	8185	68.93	4.1	2.35
657	SLD 9	-275	651	7747	-83.8	1.43	-2.99
657	SLD 10	-278	566	7742	-82.15	1.49	-1.97
657	SLD 11	-243	-631	7271	69.11	1.02	0.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
657	SLD 12	-245	-716	7267	70.76	1.08	1.42
657	SLD 13	-625	131	6510	-28.61	-2.26	-3.17
657	SLD 14	-628	-1	6503	-26.04	-2.16	-1.6
657	SLD 15	-615	-254	6367	17.27	-2.38	-2.16
657	SLD 16	-619	-385	6360	19.83	-2.28	-0.58
657	SLV 1	699	651	10482	-53.56	10.64	0
657	SLV 2	693	443	10471	-49.51	10.8	2.49
657	SLV 3	715	-5	10238	24.74	10.44	1.74
657	SLV 4	709	-213	10227	28.79	10.6	4.23
657	SLV 5	113	1235	9092	-140.79	5.41	-3.33
657	SLV 6	109	1095	9085	-138.06	5.52	-1.65
657	SLV 7	166	-952	8280	120.22	4.73	2.48
657	SLV 8	162	-1092	8273	122.95	4.83	4.15
657	SLV 9	-372	1108	7659	-137.82	0.7	-4.79
657	SLV 10	-376	968	7652	-135.1	0.8	-3.11
657	SLV 11	-320	-1079	6847	123.19	0.01	1.02
657	SLV 12	-324	-1219	6840	125.92	0.12	2.69
657	SLV 13	-920	229	5705	-43.67	-5.07	-4.86
657	SLV 14	-925	21	5694	-39.62	-4.91	-2.38
657	SLV 15	-904	-427	5461	34.64	-5.27	-3.12
657	SLV 16	-910	-635	5450	38.69	-5.11	-0.64
657	SLV FO 1	779	715	10733	-58.17	11.43	0.03
657	SLV FO 2	773	487	10721	-53.72	11.61	2.77
657	SLV FO 3	797	-7	10465	27.96	11.21	1.95
657	SLV FO 4	790	-235	10453	32.42	11.38	4.68
657	SLV FO 5	135	1357	9205	-154.13	5.67	-3.63
657	SLV FO 6	131	1204	9197	-151.13	5.79	-1.78
657	SLV FO 7	193	-1048	8312	132.99	4.92	2.76
657	SLV FO 8	188	-1202	8304	135.99	5.04	4.6
657	SLV FO 9	-399	1218	7628	-150.86	0.49	-5.23
657	SLV FO 10	-403	1064	7620	-147.86	0.61	-3.39
657	SLV FO 11	-341	-1188	6735	136.25	-0.26	1.15
657	SLV FO 12	-346	-1341	6727	139.25	-0.14	2.99
657	SLV FO 13	-1001	251	5478	-47.29	-5.85	-5.32
657	SLV FO 14	-1007	23	5466	-42.84	-5.67	-2.58
657	SLV FO 15	-984	-471	5211	38.84	-6.07	-3.4
657	SLV FO 16	-990	-699	5199	43.3	-5.9	-0.67
657	CRTFP Ux+	0	0	0	0	0	0
657	CRTFP Ux-	0	0	0	0	0	0
657	CRTFP Uy+	0	0	0	0	0	0
657	CRTFP Uy-	0	0	0	0	0	0
658	SLU 1	-100	6	7255	-8.77	3.25	-0.3
658	SLU 2	-100	37	7260	-11.66	3.25	-0.33
658	SLU 3	-102	6	7427	-8.13	3.33	-0.3
658	SLU 4	-102	24	7430	-9.86	3.32	-0.32
658	SLU 5	-101	37	7371	-11.12	3.29	-0.34
658	SLU 6	-103	6	7537	-7.58	3.37	-0.32
658	SLU 7	-103	24	7541	-9.32	3.37	-0.34
658	SLU 8	-102	6	7476	-7.69	3.34	-0.32
658	SLU 9	-102	25	7480	-9.42	3.34	-0.34
658	SLU 10	-104	38	8224	-13.23	3.56	-0.4
658	SLU 11	-106	7	8390	-9.69	3.64	-0.38
658	SLU 12	-106	25	8393	-11.42	3.64	-0.4
658	SLU 13	-105	38	8335	-12.68	3.6	-0.42
658	SLU 14	-107	7	8501	-9.15	3.68	-0.39
658	SLU 15	-107	25	8504	-10.88	3.68	-0.41
658	SLU 16	-106	7	8440	-9.25	3.65	-0.4
658	SLU 17	-106	26	8443	-10.99	3.65	-0.42
658	SLU 18	-105	8	8631	-11	3.7	-0.41
658	SLU 19	-105	26	8634	-12.74	3.7	-0.43
658	SLU 20	-106	8	8742	-10.46	3.74	-0.42
658	SLU 21	-106	26	8745	-12.2	3.74	-0.44
658	SLU 22	-110	5	8442	-8.23	3.72	-0.32
658	SLU 23	-110	35	8447	-11.12	3.71	-0.35
658	SLU 24	-112	4	8614	-7.58	3.79	-0.32
658	SLU 25	-112	23	8617	-9.32	3.79	-0.34
658	SLU 26	-111	35	8558	-10.58	3.76	-0.36
658	SLU 27	-113	4	8725	-7.04	3.83	-0.34
658	SLU 28	-113	23	8728	-8.77	3.83	-0.36
658	SLU 29	-112	4	8663	-7.14	3.8	-0.34
658	SLU 30	-112	23	8667	-8.88	3.8	-0.36
658	SLU 31	-113	36	9411	-12.68	4.03	-0.43
658	SLU 32	-115	5	9577	-9.14	4.1	-0.4
658	SLU 33	-115	24	9581	-10.88	4.1	-0.42
658	SLU 34	-114	36	9522	-12.14	4.07	-0.44
658	SLU 35	-116	5	9688	-8.6	4.14	-0.42
658	SLU 36	-116	24	9691	-10.34	4.14	-0.43
658	SLU 37	-115	5	9627	-8.71	4.11	-0.42
658	SLU 38	-115	24	9630	-10.44	4.11	-0.44
658	SLU 39	-115	6	9818	-10.46	4.16	-0.43
658	SLU 40	-115	25	9822	-12.19	4.16	-0.45
658	SLU 41	-116	6	9929	-9.92	4.2	-0.44
658	SLU 42	-116	24	9932	-11.65	4.2	-0.46
658	SLU 43	-127	9	9024	-11.59	4.07	-0.38
658	SLU 44	-127	40	9030	-14.48	4.07	-0.41
658	SLU 45	-129	8	9196	-10.94	4.14	-0.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
658	SLU 46	-129	27	9199	-12.68	4.14	-0.4
658	SLU 47	-128	40	9141	-13.94	4.11	-0.42
658	SLU 48	-130	8	9307	-10.4	4.19	-0.4
658	SLU 49	-130	27	9310	-12.14	4.18	-0.42
658	SLU 50	-129	9	9246	-10.51	4.15	-0.4
658	SLU 51	-129	27	9249	-12.24	4.15	-0.42
658	SLU 52	-130	41	9993	-16.04	4.38	-0.49
658	SLU 53	-132	10	10160	-12.51	4.45	-0.46
658	SLU 54	-132	28	10163	-14.24	4.45	-0.48
658	SLU 55	-131	41	10104	-15.5	4.42	-0.5
658	SLU 56	-133	9	10270	-11.97	4.5	-0.48
658	SLU 57	-133	28	10274	-13.7	4.5	-0.49
658	SLU 58	-132	10	10209	-12.07	4.47	-0.48
658	SLU 59	-132	28	10213	-13.8	4.46	-0.5
658	SLU 60	-132	10	10401	-13.82	4.51	-0.49
658	SLU 61	-132	29	10404	-15.56	4.51	-0.51
658	SLU 62	-133	10	10511	-13.28	4.56	-0.5
658	SLU 63	-133	29	10515	-15.02	4.56	-0.52
658	SLU 64	-136	7	10211	-11.04	4.53	-0.4
658	SLU 65	-136	38	10217	-13.94	4.53	-0.43
658	SLU 66	-138	7	10383	-10.4	4.61	-0.41
658	SLU 67	-138	25	10387	-12.13	4.61	-0.43
658	SLU 68	-137	38	10328	-13.39	4.57	-0.44
658	SLU 69	-139	7	10494	-9.86	4.65	-0.42
658	SLU 70	-139	25	10497	-11.59	4.65	-0.44
658	SLU 71	-138	7	10433	-9.96	4.62	-0.43
658	SLU 72	-138	25	10436	-11.7	4.62	-0.44
658	SLU 73	-140	39	11180	-15.5	4.84	-0.51
658	SLU 74	-142	8	11347	-11.96	4.92	-0.48
658	SLU 75	-142	26	11350	-13.7	4.92	-0.5
658	SLU 76	-141	39	11291	-14.96	4.89	-0.52
658	SLU 77	-143	8	11457	-11.42	4.96	-0.5
658	SLU 78	-143	26	11461	-13.16	4.96	-0.52
658	SLU 79	-142	8	11396	-11.52	4.93	-0.5
658	SLU 80	-142	26	11400	-13.26	4.93	-0.52
658	SLU 81	-142	9	11588	-13.28	4.98	-0.51
658	SLU 82	-142	27	11591	-15.01	4.98	-0.53
658	SLU 83	-143	9	11698	-12.74	5.02	-0.52
658	SLU 84	-143	27	11702	-14.47	5.02	-0.54
658	SLE RA 1	-103	6	7594	-8.62	3.39	-0.3
658	SLE RA 2	-103	26	7598	-10.54	3.38	-0.32
658	SLE RA 3	-104	6	7709	-8.19	3.43	-0.31
658	SLE RA 4	-104	18	7711	-9.34	3.43	-0.32
658	SLE RA 5	-103	26	7672	-10.18	3.41	-0.33
658	SLE RA 6	-105	6	7782	-7.82	3.46	-0.32
658	SLE RA 7	-105	18	7785	-8.98	3.46	-0.33
658	SLE RA 8	-104	6	7742	-7.89	3.44	-0.32
658	SLE RA 9	-104	18	7744	-9.05	3.44	-0.33
658	SLE RA 10	-105	27	8240	-11.59	3.59	-0.37
658	SLE RA 11	-107	6	8351	-9.23	3.64	-0.36
658	SLE RA 12	-106	19	8353	-10.38	3.64	-0.37
658	SLE RA 13	-106	27	8314	-11.22	3.62	-0.38
658	SLE RA 14	-107	6	8425	-8.87	3.67	-0.37
658	SLE RA 15	-107	19	8427	-10.02	3.67	-0.38
658	SLE RA 16	-107	6	8384	-8.94	3.65	-0.37
658	SLE RA 17	-107	19	8386	-10.09	3.65	-0.38
658	SLE RA 18	-106	7	8511	-10.1	3.68	-0.38
658	SLE RA 19	-106	19	8514	-11.26	3.68	-0.39
658	SLE RA 20	-107	7	8585	-9.74	3.71	-0.38
658	SLE RA 21	-107	19	8588	-10.9	3.71	-0.4
658	SLE FR 1	-103	6	7594	-8.62	3.39	-0.3
658	SLE FR 2	-103	10	7595	-9	3.38	-0.31
658	SLE FR 3	-103	6	7624	-8.47	3.4	-0.31
658	SLE FR 4	-104	10	7870	-9.45	3.47	-0.33
658	SLE FR 5	-104	6	7899	-8.92	3.49	-0.33
658	SLE FR 6	-105	6	8053	-9.36	3.53	-0.34
658	SLE QP 1	-103	6	7594	-8.62	3.39	-0.3
658	SLE QP 2	-104	6	7869	-9.06	3.47	-0.32
658	SLD 1	410	386	9319	-36.15	8.49	0.08
658	SLD 2	407	262	9309	-33.73	8.58	1.48
658	SLD 3	420	5	9180	8.66	8.31	0.62
658	SLD 4	416	-119	9170	11.09	8.4	2.02
658	SLD 5	36	719	8516	-85.58	5.24	-1.26
658	SLD 6	34	639	8510	-84.02	5.3	-0.36
658	SLD 7	69	-551	8054	63.81	4.63	0.53
658	SLD 8	66	-630	8047	65.37	4.69	1.44
658	SLD 9	-274	643	7691	-83.49	2.26	-2.09
658	SLD 10	-276	563	7685	-81.93	2.31	-1.18
658	SLD 11	-242	-627	7229	65.89	1.65	-0.29
658	SLD 12	-244	-707	7222	67.45	1.71	0.61
658	SLD 13	-624	131	6569	-29.21	-1.45	-2.67
658	SLD 14	-628	7	6559	-26.79	-1.36	-1.27
658	SLD 15	-614	-250	6430	15.6	-1.64	-2.13
658	SLD 16	-618	-374	6420	18.03	-1.54	-0.73
658	SLV 1	702	628	10141	-54.81	11.32	0.25
658	SLV 2	696	432	10126	-50.98	11.46	2.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
658	SLV 3	717	-22	9904	21.69	11.01	1.17
658	SLV 4	712	-217	9889	25.52	11.15	3.39
658	SLV 5	115	1215	8914	-139.53	6.26	-1.97
658	SLV 6	111	1083	8903	-136.95	6.36	-0.48
658	SLV 7	167	-951	8123	115.48	5.24	1.11
658	SLV 8	164	-1083	8112	118.05	5.34	2.6
658	SLV 9	-371	1095	7626	-136.18	1.61	-3.25
658	SLV 10	-375	964	7616	-133.6	1.7	-1.76
658	SLV 11	-319	-1071	6835	118.83	0.59	-0.17
658	SLV 12	-323	-1202	6825	121.4	0.68	1.32
658	SLV 13	-919	230	5850	-43.64	-4.2	-4.04
658	SLV 14	-925	34	5834	-39.82	-4.06	-1.82
658	SLV 15	-904	-420	5613	32.86	-4.51	-3.11
658	SLV 16	-909	-615	5597	36.68	-4.37	-0.9
658	SLV FO 1	782	690	10369	-59.38	12.1	0.31
658	SLV FO 2	776	475	10351	-55.18	12.26	2.74
658	SLV FO 3	799	-25	10108	24.77	11.76	1.32
658	SLV FO 4	793	-240	10090	28.98	11.92	3.76
658	SLV FO 5	137	1336	9018	-152.57	6.54	-2.13
658	SLV FO 6	133	1191	9006	-149.74	6.65	-0.49
658	SLV FO 7	195	-1047	8148	127.93	5.42	1.26
658	SLV FO 8	190	-1192	8137	130.76	5.53	2.9
658	SLV FO 9	-398	1204	7602	-148.89	1.42	-3.54
658	SLV FO 10	-402	1059	7590	-146.06	1.53	-1.91
658	SLV FO 11	-340	-1178	6732	131.62	0.3	-0.16
658	SLV FO 12	-345	-1323	6721	134.45	0.41	1.48
658	SLV FO 13	-1001	252	5648	-47.1	-4.97	-4.41
658	SLV FO 14	-1007	37	5631	-42.89	-4.81	-1.97
658	SLV FO 15	-984	-463	5387	37.05	-5.31	-3.39
658	SLV FO 16	-990	-678	5370	41.26	-5.15	-0.96
658	CRTFP Ux+	0	0	0	0	0	0
658	CRTFP Ux-	0	0	0	0	0	0
658	CRTFP Uy+	0	0	0	0	0	0
658	CRTFP Uy-	0	0	0	0	0	0
659	SLU 1	-98	5	7141	-10.27	4.08	-0.27
659	SLU 2	-98	36	7147	-13.08	4.09	-0.26
659	SLU 3	-100	4	7310	-9.67	4.18	-0.27
659	SLU 4	-100	23	7314	-11.36	4.18	-0.27
659	SLU 5	-99	35	7256	-12.57	4.15	-0.27
659	SLU 6	-101	4	7420	-9.16	4.23	-0.28
659	SLU 7	-101	23	7423	-10.84	4.24	-0.28
659	SLU 8	-100	4	7360	-9.25	4.19	-0.28
659	SLU 9	-100	23	7363	-10.93	4.2	-0.28
659	SLU 10	-102	36	8098	-14.87	4.54	-0.32
659	SLU 11	-103	5	8262	-11.46	4.63	-0.33
659	SLU 12	-103	23	8265	-13.14	4.63	-0.33
659	SLU 13	-103	36	8207	-14.35	4.6	-0.33
659	SLU 14	-104	5	8371	-10.95	4.68	-0.34
659	SLU 15	-104	23	8375	-12.63	4.69	-0.34
659	SLU 16	-104	5	8311	-11.03	4.65	-0.35
659	SLU 17	-104	24	8314	-12.72	4.65	-0.34
659	SLU 18	-103	6	8500	-12.82	4.73	-0.35
659	SLU 19	-103	24	8504	-14.51	4.74	-0.35
659	SLU 20	-104	6	8610	-12.31	4.79	-0.36
659	SLU 21	-104	24	8613	-14	4.79	-0.36
659	SLU 22	-107	3	8311	-10	4.72	-0.27
659	SLU 23	-107	34	8317	-12.81	4.72	-0.27
659	SLU 24	-109	3	8481	-9.4	4.81	-0.28
659	SLU 25	-109	21	8484	-11.08	4.81	-0.27
659	SLU 26	-108	34	8426	-12.29	4.78	-0.28
659	SLU 27	-110	2	8590	-8.89	4.86	-0.29
659	SLU 28	-110	21	8593	-10.57	4.87	-0.28
659	SLU 29	-109	3	8530	-8.97	4.83	-0.29
659	SLU 30	-109	21	8533	-10.66	4.83	-0.29
659	SLU 31	-111	34	9268	-14.59	5.18	-0.33
659	SLU 32	-113	3	9432	-11.18	5.26	-0.34
659	SLU 33	-113	22	9435	-12.87	5.27	-0.33
659	SLU 34	-112	34	9378	-14.08	5.23	-0.34
659	SLU 35	-114	3	9541	-10.67	5.32	-0.35
659	SLU 36	-114	21	9545	-12.36	5.32	-0.34
659	SLU 37	-113	3	9481	-10.76	5.28	-0.35
659	SLU 38	-113	22	9485	-12.45	5.28	-0.35
659	SLU 39	-113	4	9671	-12.55	5.36	-0.36
659	SLU 40	-113	22	9674	-14.23	5.37	-0.36
659	SLU 41	-114	4	9780	-12.04	5.42	-0.37
659	SLU 42	-114	22	9783	-13.72	5.42	-0.37
659	SLU 43	-124	7	8882	-13.44	5.09	-0.34
659	SLU 44	-124	38	8888	-16.25	5.1	-0.34
659	SLU 45	-126	6	9052	-12.84	5.18	-0.35
659	SLU 46	-126	25	9055	-14.53	5.19	-0.35
659	SLU 47	-125	37	8997	-15.74	5.15	-0.35
659	SLU 48	-127	6	9161	-12.33	5.24	-0.36
659	SLU 49	-127	25	9164	-14.02	5.24	-0.36
659	SLU 50	-126	7	9101	-12.42	5.2	-0.36
659	SLU 51	-126	25	9104	-14.11	5.21	-0.36
659	SLU 52	-128	38	9839	-18.04	5.55	-0.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
659	SLU 53	-130	7	10003	-14.63	5.64	-0.41
659	SLU 54	-130	26	10006	-16.32	5.64	-0.41
659	SLU 55	-129	38	9949	-17.53	5.61	-0.41
659	SLU 56	-131	7	10112	-14.12	5.69	-0.42
659	SLU 57	-131	25	10116	-15.81	5.7	-0.42
659	SLU 58	-130	7	10052	-14.21	5.66	-0.42
659	SLU 59	-130	26	10056	-15.89	5.66	-0.42
659	SLU 60	-129	8	10242	-16	5.74	-0.43
659	SLU 61	-129	26	10245	-17.68	5.74	-0.43
659	SLU 62	-130	8	10351	-15.48	5.79	-0.44
659	SLU 63	-130	26	10354	-17.17	5.8	-0.44
659	SLU 64	-134	5	10052	-13.17	5.72	-0.35
659	SLU 65	-134	36	10058	-15.98	5.73	-0.35
659	SLU 66	-135	5	10222	-12.57	5.82	-0.35
659	SLU 67	-135	23	10225	-14.26	5.82	-0.35
659	SLU 68	-135	36	10167	-15.47	5.79	-0.36
659	SLU 69	-136	4	10331	-12.06	5.87	-0.36
659	SLU 70	-136	23	10334	-13.75	5.88	-0.36
659	SLU 71	-136	5	10271	-12.15	5.83	-0.37
659	SLU 72	-136	23	10274	-13.83	5.84	-0.37
659	SLU 73	-137	36	11009	-17.77	6.18	-0.41
659	SLU 74	-139	5	11173	-14.36	6.27	-0.41
659	SLU 75	-139	24	11177	-16.04	6.27	-0.41
659	SLU 76	-138	36	11119	-17.26	6.24	-0.42
659	SLU 77	-140	5	11282	-13.85	6.32	-0.42
659	SLU 78	-140	24	11286	-15.53	6.33	-0.42
659	SLU 79	-139	5	11222	-13.93	6.29	-0.43
659	SLU 80	-139	24	11226	-15.62	6.29	-0.43
659	SLU 81	-139	6	11412	-15.72	6.37	-0.44
659	SLU 82	-139	24	11415	-17.41	6.38	-0.43
659	SLU 83	-140	6	11521	-15.21	6.43	-0.45
659	SLU 84	-140	24	11524	-16.9	6.43	-0.44
659	SLE RA 1	-101	4	7475	-10.19	4.26	-0.27
659	SLE RA 2	-101	25	7479	-12.06	4.27	-0.27
659	SLE RA 3	-102	4	7588	-9.79	4.33	-0.27
659	SLE RA 4	-102	16	7590	-10.92	4.33	-0.27
659	SLE RA 5	-101	25	7552	-11.72	4.31	-0.27
659	SLE RA 6	-103	4	7661	-9.45	4.36	-0.28
659	SLE RA 7	-103	16	7663	-10.57	4.37	-0.28
659	SLE RA 8	-102	4	7621	-9.51	4.34	-0.28
659	SLE RA 9	-102	16	7623	-10.63	4.34	-0.28
659	SLE RA 10	-103	25	8113	-13.25	4.57	-0.31
659	SLE RA 11	-104	4	8223	-10.98	4.63	-0.31
659	SLE RA 12	-104	17	8225	-12.11	4.63	-0.31
659	SLE RA 13	-104	25	8186	-12.91	4.61	-0.31
659	SLE RA 14	-105	4	8295	-10.64	4.66	-0.32
659	SLE RA 15	-105	17	8298	-11.77	4.67	-0.32
659	SLE RA 16	-104	4	8255	-10.7	4.64	-0.32
659	SLE RA 17	-104	17	8258	-11.82	4.64	-0.32
659	SLE RA 18	-104	5	8382	-11.89	4.7	-0.32
659	SLE RA 19	-104	17	8384	-13.02	4.7	-0.32
659	SLE RA 20	-105	5	8454	-11.55	4.73	-0.33
659	SLE RA 21	-105	17	8457	-12.68	4.74	-0.33
659	SLE FR 1	-101	4	7475	-10.19	4.26	-0.27
659	SLE FR 2	-101	8	7476	-10.57	4.27	-0.27
659	SLE FR 3	-101	4	7505	-10.05	4.28	-0.27
659	SLE FR 4	-102	9	7748	-11.08	4.39	-0.28
659	SLE FR 5	-102	4	7776	-10.56	4.41	-0.29
659	SLE FR 6	-102	5	7929	-11.04	4.48	-0.3
659	SLE QP 1	-101	4	7475	-10.19	4.26	-0.27
659	SLE QP 2	-102	4	7747	-10.7	4.39	-0.28
659	SLD 1	413	374	9042	-37.74	9.33	0.43
659	SLD 2	410	257	9029	-35.45	9.4	1.69
659	SLD 3	423	-6	8910	6.09	9	0.19
659	SLD 4	419	-123	8898	8.37	9.08	1.45
659	SLD 5	39	712	8337	-85.67	6.35	0.07
659	SLD 6	37	636	8329	-84.2	6.4	0.88
659	SLD 7	71	-555	7899	60.41	5.27	-0.72
659	SLD 8	69	-630	7891	61.88	5.32	0.09
659	SLD 9	-272	639	7604	-83.28	3.47	-0.66
659	SLD 10	-274	564	7596	-81.81	3.52	0.15
659	SLD 11	-240	-627	7165	62.8	2.39	-1.45
659	SLD 12	-242	-703	7157	64.27	2.43	-0.64
659	SLD 13	-623	132	6597	-29.77	-0.29	-2.02
659	SLD 14	-626	15	6584	-27.49	-0.22	-0.76
659	SLD 15	-613	-248	6465	14.05	-0.61	-2.26
659	SLD 16	-617	-365	6453	16.33	-0.54	-1
659	SLV 1	705	609	9778	-56.26	12.11	0.84
659	SLV 2	699	425	9758	-52.66	12.23	2.83
659	SLV 3	721	-39	9553	18.55	11.56	0.43
659	SLV 4	715	-223	9533	22.15	11.68	2.42
659	SLV 5	117	1203	8701	-138.5	7.53	0.3
659	SLV 6	114	1079	8688	-136.08	7.61	1.64
659	SLV 7	170	-957	7952	110.86	5.68	-1.06
659	SLV 8	166	-1081	7938	113.29	5.76	0.27
659	SLV 9	-370	1090	7556	-134.69	3.03	-0.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
659	SLV 10	-373	966	7543	-132.27	3.11	0.49
659	SLV 11	-317	-1070	6807	114.68	1.18	-2.21
659	SLV 12	-321	-1194	6794	117.1	1.26	-0.87
659	SLV 13	-919	232	5961	-43.55	-2.89	-2.98
659	SLV 14	-924	48	5942	-39.95	-2.77	-1
659	SLV 15	-903	-416	5737	31.26	-3.45	-3.39
659	SLV 16	-908	-600	5717	34.86	-3.33	-1.41
659	SLV FO 1	785	670	9981	-60.82	12.89	0.95
659	SLV FO 2	779	467	9959	-56.86	13.02	3.14
659	SLV FO 3	803	-43	9733	21.47	12.28	0.5
659	SLV FO 4	797	-246	9712	25.43	12.41	2.69
659	SLV FO 5	139	1323	8796	-151.28	7.84	0.36
659	SLV FO 6	135	1186	8782	-148.62	7.93	1.83
659	SLV FO 7	197	-1053	7972	123.02	5.81	-1.14
659	SLV FO 8	193	-1189	7958	125.69	5.9	0.33
659	SLV FO 9	-396	1198	7537	-147.09	2.89	-0.9
659	SLV FO 10	-400	1062	7522	-144.42	2.98	0.57
659	SLV FO 11	-339	-1177	6713	127.21	0.86	-2.4
659	SLV FO 12	-343	-1314	6698	129.88	0.95	-0.93
659	SLV FO 13	-1000	255	5783	-46.84	-3.62	-3.25
659	SLV FO 14	-1006	52	5761	-42.88	-3.49	-1.07
659	SLV FO 15	-983	-458	5536	35.45	-4.23	-3.71
659	SLV FO 16	-989	-661	5514	39.42	-4.1	-1.52
659	CRTFP Ux+	0	0	0	0	0	0
659	CRTFP Ux-	0	0	0	0	0	0
659	CRTFP Uy+	0	0	0	0	0	0
659	CRTFP Uy-	0	0	0	0	0	0
660	SLU 1	-95	4	6999	-11.78	5.07	-0.19
660	SLU 2	-95	34	7004	-14.51	5.09	-0.17
660	SLU 3	-97	3	7165	-11.23	5.18	-0.19
660	SLU 4	-97	22	7168	-12.87	5.2	-0.18
660	SLU 5	-96	34	7111	-14.03	5.16	-0.17
660	SLU 6	-98	3	7272	-10.75	5.25	-0.2
660	SLU 7	-98	21	7275	-12.39	5.27	-0.18
660	SLU 8	-97	3	7214	-10.82	5.21	-0.2
660	SLU 9	-97	22	7217	-12.46	5.22	-0.19
660	SLU 10	-99	35	7939	-16.53	5.71	-0.2
660	SLU 11	-101	3	8100	-13.24	5.8	-0.23
660	SLU 12	-101	22	8103	-14.88	5.81	-0.21
660	SLU 13	-100	35	8046	-16.05	5.78	-0.21
660	SLU 14	-102	3	8207	-12.76	5.87	-0.23
660	SLU 15	-101	22	8210	-14.4	5.88	-0.22
660	SLU 16	-101	3	8148	-12.83	5.82	-0.24
660	SLU 17	-101	22	8152	-14.47	5.84	-0.22
660	SLU 18	-100	4	8335	-14.66	5.95	-0.25
660	SLU 19	-100	23	8338	-16.3	5.96	-0.23
660	SLU 20	-101	4	8442	-14.18	6.01	-0.25
660	SLU 21	-101	22	8445	-15.82	6.03	-0.24
660	SLU 22	-105	2	8146	-11.78	5.89	-0.18
660	SLU 23	-104	33	8151	-14.51	5.92	-0.15
660	SLU 24	-106	1	8312	-11.23	6.01	-0.17
660	SLU 25	-106	20	8315	-12.87	6.02	-0.16
660	SLU 26	-105	32	8259	-14.03	5.99	-0.16
660	SLU 27	-107	1	8420	-10.75	6.08	-0.18
660	SLU 28	-107	20	8423	-12.38	6.09	-0.16
660	SLU 29	-106	1	8361	-10.82	6.03	-0.19
660	SLU 30	-106	20	8364	-12.46	6.05	-0.17
660	SLU 31	-108	33	9086	-16.52	6.54	-0.19
660	SLU 32	-110	2	9247	-13.24	6.62	-0.21
660	SLU 33	-110	20	9250	-14.88	6.64	-0.2
660	SLU 34	-109	33	9194	-16.04	6.6	-0.19
660	SLU 35	-111	1	9355	-12.76	6.69	-0.22
660	SLU 36	-111	20	9358	-14.4	6.71	-0.2
660	SLU 37	-110	2	9296	-12.83	6.65	-0.22
660	SLU 38	-110	20	9299	-14.47	6.66	-0.21
660	SLU 39	-110	2	9482	-14.66	6.77	-0.23
660	SLU 40	-110	21	9485	-16.3	6.79	-0.21
660	SLU 41	-111	2	9589	-14.18	6.84	-0.23
660	SLU 42	-110	21	9592	-15.81	6.86	-0.22
660	SLU 43	-121	5	8705	-15.32	6.3	-0.26
660	SLU 44	-121	36	8710	-18.05	6.33	-0.23
660	SLU 45	-122	5	8871	-14.76	6.42	-0.25
660	SLU 46	-122	23	8874	-16.4	6.44	-0.24
660	SLU 47	-122	36	8817	-17.57	6.4	-0.24
660	SLU 48	-123	5	8979	-14.28	6.49	-0.26
660	SLU 49	-123	23	8982	-15.92	6.5	-0.24
660	SLU 50	-123	5	8920	-14.35	6.44	-0.27
660	SLU 51	-123	23	8923	-15.99	6.46	-0.25
660	SLU 52	-124	36	9645	-20.06	6.95	-0.27
660	SLU 53	-126	5	9806	-16.78	7.03	-0.29
660	SLU 54	-126	24	9809	-18.42	7.05	-0.28
660	SLU 55	-125	36	9752	-19.58	7.02	-0.27
660	SLU 56	-127	5	9914	-16.3	7.1	-0.3
660	SLU 57	-127	23	9917	-17.93	7.12	-0.28
660	SLU 58	-126	5	9855	-16.37	7.06	-0.3
660	SLU 59	-126	24	9858	-18.01	7.07	-0.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
660	SLU 60	-126	6	10041	-18.19	7.18	-0.31
660	SLU 61	-126	24	10044	-19.83	7.2	-0.29
660	SLU 62	-127	6	10148	-17.71	7.25	-0.31
660	SLU 63	-127	24	10151	-19.35	7.27	-0.3
660	SLU 64	-130	3	9853	-15.31	7.13	-0.24
660	SLU 65	-130	34	9858	-18.05	7.16	-0.21
660	SLU 66	-132	3	10019	-14.76	7.25	-0.24
660	SLU 67	-132	21	10022	-16.4	7.26	-0.22
660	SLU 68	-131	34	9965	-17.57	7.23	-0.22
660	SLU 69	-133	3	10126	-14.28	7.31	-0.24
660	SLU 70	-133	21	10129	-15.92	7.33	-0.23
660	SLU 71	-132	3	10067	-14.35	7.27	-0.25
660	SLU 72	-132	21	10070	-15.99	7.28	-0.23
660	SLU 73	-133	35	10793	-20.06	7.77	-0.25
660	SLU 74	-135	3	10954	-16.77	7.86	-0.27
660	SLU 75	-135	22	10957	-18.41	7.88	-0.26
660	SLU 76	-134	34	10900	-19.58	7.84	-0.26
660	SLU 77	-136	3	11061	-16.29	7.93	-0.28
660	SLU 78	-136	22	11064	-17.93	7.95	-0.26
660	SLU 79	-135	3	11002	-16.37	7.88	-0.29
660	SLU 80	-135	22	11005	-18.01	7.9	-0.27
660	SLU 81	-135	4	11188	-18.19	8.01	-0.29
660	SLU 82	-135	22	11191	-19.83	8.02	-0.28
660	SLU 83	-136	4	11296	-17.71	8.08	-0.3
660	SLU 84	-136	22	11299	-19.35	8.09	-0.28
660	SLE RA 1	-98	3	7327	-11.78	5.3	-0.19
660	SLE RA 2	-98	24	7330	-13.6	5.32	-0.17
660	SLE RA 3	-99	3	7437	-11.41	5.38	-0.19
660	SLE RA 4	-99	15	7439	-12.5	5.39	-0.18
660	SLE RA 5	-98	23	7402	-13.28	5.37	-0.17
660	SLE RA 6	-100	3	7509	-11.09	5.43	-0.19
660	SLE RA 7	-100	15	7511	-12.18	5.44	-0.18
660	SLE RA 8	-99	3	7470	-11.14	5.4	-0.19
660	SLE RA 9	-99	15	7472	-12.23	5.41	-0.18
660	SLE RA 10	-100	24	7953	-14.94	5.73	-0.2
660	SLE RA 11	-101	3	8061	-12.75	5.79	-0.21
660	SLE RA 12	-101	15	8063	-13.85	5.8	-0.2
660	SLE RA 13	-101	24	8025	-14.62	5.78	-0.2
660	SLE RA 14	-102	3	8132	-12.43	5.84	-0.21
660	SLE RA 15	-102	15	8134	-13.53	5.85	-0.2
660	SLE RA 16	-102	3	8093	-12.48	5.81	-0.22
660	SLE RA 17	-101	15	8095	-13.57	5.82	-0.21
660	SLE RA 18	-101	3	8217	-13.7	5.89	-0.22
660	SLE RA 19	-101	16	8219	-14.79	5.9	-0.21
660	SLE RA 20	-102	3	8289	-13.38	5.93	-0.23
660	SLE RA 21	-102	16	8291	-14.47	5.95	-0.22
660	SLE FR 1	-98	3	7327	-11.78	5.3	-0.19
660	SLE FR 2	-98	7	7327	-12.14	5.31	-0.18
660	SLE FR 3	-98	3	7355	-11.65	5.32	-0.19
660	SLE FR 4	-99	7	7595	-12.72	5.48	-0.19
660	SLE FR 5	-99	3	7623	-12.23	5.5	-0.2
660	SLE FR 6	-100	3	7772	-12.74	5.6	-0.21
660	SLE QP 1	-98	3	7327	-11.78	5.3	-0.19
660	SLE QP 2	-99	3	7594	-12.36	5.48	-0.2
660	SLD 1	417	364	8738	-39.43	10.21	0.52
660	SLD 2	413	253	8724	-37.28	10.26	1.68
660	SLD 3	426	-17	8620	3.47	9.61	0.19
660	SLD 4	423	-128	8606	5.62	9.66	1.35
660	SLD 5	42	708	8118	-85.91	7.8	0.32
660	SLD 6	40	637	8109	-84.52	7.83	1.06
660	SLD 7	74	-561	7726	57.08	5.8	-0.78
660	SLD 8	72	-633	7717	58.46	5.83	-0.03
660	SLD 9	-270	639	7471	-83.18	5.12	-0.36
660	SLD 10	-272	568	7462	-81.79	5.16	0.38
660	SLD 11	-237	-630	7079	59.81	3.13	-1.46
660	SLD 12	-239	-702	7070	61.19	3.16	-0.71
660	SLD 13	-621	134	6582	-30.33	1.29	-1.75
660	SLD 14	-624	23	6567	-28.18	1.34	-0.58
660	SLD 15	-611	-247	6464	12.57	0.69	-2.07
660	SLD 16	-614	-357	6450	14.71	0.74	-0.91
660	SLV 1	709	594	9388	-57.89	12.91	0.93
660	SLV 2	703	420	9366	-54.5	12.99	2.76
660	SLV 3	724	-55	9187	15.34	11.89	0.37
660	SLV 4	719	-230	9165	18.73	11.96	2.2
660	SLV 5	120	1198	8441	-137.71	9.25	0.65
660	SLV 6	117	1081	8426	-135.43	9.3	1.88
660	SLV 7	173	-967	7771	106.39	5.83	-1.22
660	SLV 8	170	-1084	7756	108.66	5.88	0.01
660	SLV 9	-367	1091	7432	-133.37	5.07	-0.41
660	SLV 10	-371	973	7416	-131.1	5.12	0.82
660	SLV 11	-315	-1074	6762	110.72	1.66	-2.28
660	SLV 12	-318	-1192	6746	113	1.71	-1.05
660	SLV 13	-917	236	6023	-43.44	-1.01	-2.6
660	SLV 14	-922	61	6000	-40.05	-0.93	-0.77
660	SLV 15	-901	-414	5822	29.79	-2.03	-3.16
660	SLV 16	-906	-588	5799	33.17	-1.96	-1.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
660	SLV FO 1	789	654	9568	-62.44	13.66	1.05
660	SLV FO 2	784	462	9543	-58.72	13.74	3.06
660	SLV FO 3	807	-61	9347	18.11	12.53	0.43
660	SLV FO 4	801	-253	9322	21.84	12.61	2.44
660	SLV FO 5	142	1318	8526	-150.24	9.63	0.74
660	SLV FO 6	138	1188	8509	-147.74	9.68	2.09
660	SLV FO 7	200	-1064	7789	118.26	5.87	-1.32
660	SLV FO 8	196	-1193	7772	120.77	5.92	0.03
660	SLV FO 9	-394	1199	7416	-145.48	5.03	-0.43
660	SLV FO 10	-398	1070	7399	-142.97	5.09	0.93
660	SLV FO 11	-336	-1182	6679	123.03	1.27	-2.49
660	SLV FO 12	-340	-1311	6662	125.53	1.33	-1.13
660	SLV FO 13	-999	259	5866	-46.55	-1.66	-2.84
660	SLV FO 14	-1005	67	5841	-42.82	-1.57	-0.82
660	SLV FO 15	-981	-455	5645	34	-2.78	-3.45
660	SLV FO 16	-987	-647	5620	37.73	-2.7	-1.44
660	CRTFP Ux+	0	0	0	0	0	0
660	CRTFP Ux-	0	0	0	0	0	0
660	CRTFP Uy+	0	0	0	0	0	0
660	CRTFP Uy-	0	0	0	0	0	0
661	SLU 1	-92	3	6826	-13.31	5.98	-0.08
661	SLU 2	-92	34	6830	-15.97	6.04	-0.05
661	SLU 3	-93	2	6989	-12.8	6.12	-0.07
661	SLU 4	-93	21	6991	-14.4	6.15	-0.05
661	SLU 5	-92	34	6935	-15.52	6.12	-0.04
661	SLU 6	-94	2	7094	-12.35	6.2	-0.07
661	SLU 7	-94	21	7096	-13.95	6.23	-0.05
661	SLU 8	-93	2	7036	-12.41	6.15	-0.08
661	SLU 9	-93	21	7039	-14	6.18	-0.06
661	SLU 10	-95	34	7744	-18.21	6.81	-0.05
661	SLU 11	-97	3	7902	-15.05	6.88	-0.08
661	SLU 12	-97	21	7904	-16.64	6.92	-0.06
661	SLU 13	-96	34	7848	-17.76	6.89	-0.05
661	SLU 14	-98	2	8007	-14.6	6.96	-0.07
661	SLU 15	-98	21	8009	-16.19	7	-0.05
661	SLU 16	-97	3	7950	-14.65	6.91	-0.08
661	SLU 17	-97	21	7952	-16.25	6.95	-0.06
661	SLU 18	-96	3	8131	-16.52	7.08	-0.09
661	SLU 19	-96	22	8134	-18.11	7.11	-0.07
661	SLU 20	-97	3	8236	-16.06	7.16	-0.09
661	SLU 21	-97	22	8238	-17.66	7.19	-0.07
661	SLU 22	-101	1	7945	-13.58	6.99	-0.03
661	SLU 23	-100	32	7949	-16.24	7.05	0
661	SLU 24	-102	1	8107	-13.07	7.12	-0.02
661	SLU 25	-102	19	8110	-14.67	7.16	0
661	SLU 26	-101	32	8054	-15.79	7.13	0.01
661	SLU 27	-103	0	8212	-12.62	7.2	-0.02
661	SLU 28	-103	19	8215	-14.22	7.24	0
661	SLU 29	-102	1	8155	-12.68	7.15	-0.03
661	SLU 30	-102	19	8157	-14.27	7.19	-0.01
661	SLU 31	-104	32	8862	-18.48	7.81	0
661	SLU 32	-106	1	9021	-15.32	7.89	-0.03
661	SLU 33	-106	20	9023	-16.91	7.92	-0.01
661	SLU 34	-105	32	8967	-18.03	7.89	0
661	SLU 35	-106	1	9126	-14.87	7.97	-0.03
661	SLU 36	-106	19	9128	-16.46	8	0
661	SLU 37	-106	1	9069	-14.92	7.92	-0.03
661	SLU 38	-106	19	9071	-16.52	7.95	-0.01
661	SLU 39	-105	1	9250	-16.79	8.08	-0.04
661	SLU 40	-105	20	9252	-18.38	8.12	-0.02
661	SLU 41	-106	1	9355	-16.33	8.16	-0.04
661	SLU 42	-106	20	9357	-17.93	8.2	-0.02
661	SLU 43	-116	4	8491	-17.21	7.43	-0.12
661	SLU 44	-116	35	8494	-19.87	7.49	-0.09
661	SLU 45	-118	4	8653	-16.7	7.57	-0.11
661	SLU 46	-118	22	8655	-18.3	7.6	-0.09
661	SLU 47	-117	35	8599	-19.42	7.57	-0.09
661	SLU 48	-119	3	8758	-16.25	7.65	-0.11
661	SLU 49	-119	22	8760	-17.85	7.68	-0.09
661	SLU 50	-118	4	8701	-16.31	7.6	-0.12
661	SLU 51	-118	22	8703	-17.9	7.63	-0.1
661	SLU 52	-119	35	9408	-22.11	8.26	-0.09
661	SLU 53	-121	4	9566	-18.95	8.33	-0.12
661	SLU 54	-121	23	9569	-20.54	8.37	-0.1
661	SLU 55	-120	35	9513	-21.66	8.34	-0.09
661	SLU 56	-122	4	9671	-18.5	8.41	-0.12
661	SLU 57	-122	22	9674	-20.09	8.45	-0.1
661	SLU 58	-121	4	9614	-18.55	8.36	-0.12
661	SLU 59	-121	23	9616	-20.15	8.4	-0.1
661	SLU 60	-121	5	9796	-20.42	8.53	-0.13
661	SLU 61	-121	23	9798	-22.01	8.56	-0.11
661	SLU 62	-122	4	9901	-19.96	8.61	-0.13
661	SLU 63	-122	23	9903	-21.56	8.64	-0.11
661	SLU 64	-125	2	9610	-17.48	8.44	-0.07
661	SLU 65	-125	33	9613	-20.14	8.5	-0.04
661	SLU 66	-127	2	9772	-16.97	8.57	-0.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
661	SLU 67	-127	21	9774	-18.57	8.61	-0.04
661	SLU 68	-126	33	9718	-19.69	8.58	-0.04
661	SLU 69	-128	2	9877	-16.52	8.65	-0.06
661	SLU 70	-128	20	9879	-18.12	8.69	-0.04
661	SLU 71	-127	2	9820	-16.58	8.6	-0.07
661	SLU 72	-127	21	9822	-18.17	8.64	-0.05
661	SLU 73	-128	34	10527	-22.38	9.26	-0.04
661	SLU 74	-130	2	10685	-19.22	9.34	-0.07
661	SLU 75	-130	21	10687	-20.81	9.37	-0.05
661	SLU 76	-129	34	10632	-21.93	9.34	-0.04
661	SLU 77	-131	2	10790	-18.77	9.42	-0.07
661	SLU 78	-131	21	10792	-20.36	9.46	-0.05
661	SLU 79	-130	2	10733	-18.82	9.37	-0.07
661	SLU 80	-130	21	10735	-20.42	9.4	-0.05
661	SLU 81	-130	3	10914	-20.69	9.53	-0.08
661	SLU 82	-130	21	10917	-22.28	9.57	-0.06
661	SLU 83	-131	3	11019	-20.24	9.61	-0.08
661	SLU 84	-131	21	11022	-21.83	9.65	-0.06
661	SLE RA 1	-94	2	7146	-13.39	6.27	-0.06
661	SLE RA 2	-94	23	7149	-15.16	6.31	-0.04
661	SLE RA 3	-95	2	7254	-13.05	6.36	-0.06
661	SLE RA 4	-95	14	7256	-14.11	6.38	-0.05
661	SLE RA 5	-95	23	7219	-14.86	6.36	-0.04
661	SLE RA 6	-96	2	7324	-12.75	6.41	-0.06
661	SLE RA 7	-96	14	7326	-13.81	6.44	-0.04
661	SLE RA 8	-95	2	7286	-12.79	6.38	-0.06
661	SLE RA 9	-95	14	7288	-13.85	6.4	-0.05
661	SLE RA 10	-96	23	7757	-16.66	6.82	-0.05
661	SLE RA 11	-98	2	7863	-14.55	6.87	-0.06
661	SLE RA 12	-98	15	7865	-15.61	6.89	-0.05
661	SLE RA 13	-97	23	7827	-16.35	6.87	-0.05
661	SLE RA 14	-98	2	7933	-14.24	6.92	-0.06
661	SLE RA 15	-98	14	7935	-15.31	6.95	-0.05
661	SLE RA 16	-98	2	7895	-14.28	6.89	-0.07
661	SLE RA 17	-98	15	7896	-15.35	6.91	-0.05
661	SLE RA 18	-97	3	8016	-15.52	7	-0.07
661	SLE RA 19	-97	15	8017	-16.59	7.02	-0.06
661	SLE RA 20	-98	2	8086	-15.22	7.05	-0.07
661	SLE RA 21	-98	15	8087	-16.29	7.08	-0.06
661	SLE FR 1	-94	2	7146	-13.39	6.27	-0.06
661	SLE FR 2	-94	6	7147	-13.74	6.28	-0.06
661	SLE FR 3	-94	2	7174	-13.27	6.29	-0.06
661	SLE FR 4	-95	6	7408	-14.38	6.5	-0.06
661	SLE FR 5	-95	2	7435	-13.91	6.51	-0.07
661	SLE FR 6	-96	2	7581	-14.46	6.64	-0.07
661	SLE QP 1	-94	2	7146	-13.39	6.27	-0.06
661	SLE QP 2	-95	2	7407	-14.03	6.49	-0.07
661	SLD 1	421	355	8409	-41.21	10.86	0.69
661	SLD 2	418	250	8394	-39.2	10.86	1.81
661	SLD 3	431	-27	8317	0.82	9.81	0.27
661	SLD 4	428	-132	8301	2.83	9.82	1.39
661	SLD 5	45	707	7851	-86.27	9.38	0.6
661	SLD 6	43	639	7841	-84.98	9.39	1.33
661	SLD 7	78	-569	7542	53.82	5.9	-0.79
661	SLD 8	76	-637	7532	55.12	5.91	-0.07
661	SLD 9	-266	642	7282	-83.18	7.07	-0.06
661	SLD 10	-268	574	7272	-81.88	7.08	0.66
661	SLD 11	-234	-635	6973	56.92	3.59	-1.46
661	SLD 12	-236	-702	6963	58.22	3.6	-0.74
661	SLD 13	-618	137	6513	-30.89	3.16	-1.53
661	SLD 14	-621	32	6497	-28.88	3.17	-0.4
661	SLD 15	-608	-246	6420	11.14	2.12	-1.94
661	SLD 16	-611	-351	6405	13.15	2.12	-0.82
661	SLV 1	713	582	8978	-59.65	13.38	1.13
661	SLV 2	708	417	8954	-56.48	13.39	2.9
661	SLV 3	729	-71	8820	12.1	11.6	0.42
661	SLV 4	724	-236	8796	15.27	11.61	2.19
661	SLV 5	124	1198	8123	-137.13	11.26	1.05
661	SLV 6	121	1086	8107	-135	11.27	2.24
661	SLV 7	177	-979	7595	102.04	5.32	-1.33
661	SLV 8	174	-1091	7579	104.17	5.32	-0.14
661	SLV 9	-364	1095	7235	-132.23	7.66	0.01
661	SLV 10	-368	984	7219	-130.1	7.66	1.2
661	SLV 11	-311	-1082	6707	106.94	1.71	-2.37
661	SLV 12	-314	-1193	6691	109.07	1.72	-1.18
661	SLV 13	-915	241	6018	-43.33	1.37	-2.32
661	SLV 14	-919	76	5994	-40.16	1.38	-0.55
661	SLV 15	-899	-412	5860	28.42	-0.41	-3.03
661	SLV 16	-904	-577	5836	31.59	-0.4	-1.27
661	SLV FO 1	794	640	9135	-64.21	14.07	1.25
661	SLV FO 2	789	458	9109	-60.73	14.08	3.2
661	SLV FO 3	812	-78	8961	14.71	12.11	0.47
661	SLV FO 4	806	-260	8935	18.2	12.12	2.41
661	SLV FO 5	146	1317	8195	-149.44	11.74	1.16
661	SLV FO 6	142	1195	8177	-147.09	11.75	2.47
661	SLV FO 7	204	-1077	7614	113.65	5.2	-1.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
661	SLV FO 8	201	-1200	7596	115.99	5.21	-0.15
661	SLV FO 9	-391	1205	7218	-144.05	7.77	0.02
661	SLV FO 10	-395	1082	7200	-141.7	7.78	1.33
661	SLV FO 11	-333	-1190	6638	119.03	1.23	-2.6
661	SLV FO 12	-336	-1312	6620	121.38	1.24	-1.29
661	SLV FO 13	-996	265	5879	-46.26	0.86	-2.55
661	SLV FO 14	-1002	83	5853	-42.77	0.87	-0.6
661	SLV FO 15	-979	-453	5705	32.67	-1.11	-3.33
661	SLV FO 16	-984	-635	5679	36.16	-1.09	-1.38
661	CRTFP Ux+	0	0	0	0	0	0
661	CRTFP Ux-	0	0	0	0	0	0
661	CRTFP Uy+	0	0	0	0	0	0
661	CRTFP Uy-	0	0	0	0	0	0
662	SLU 1	-113	3	8668	882.78	297.26	11.25
662	SLU 2	-113	44	8668	880.35	297.85	9.98
662	SLU 3	-115	3	8875	904.63	304.26	11.49
662	SLU 4	-115	27	8875	903.17	304.62	10.73
662	SLU 5	-114	44	8802	894.64	302.36	10.11
662	SLU 6	-116	3	9010	918.92	308.77	11.62
662	SLU 7	-116	27	9009	917.46	309.12	10.86
662	SLU 8	-115	3	8937	911.37	306.27	11.5
662	SLU 9	-115	27	8937	909.91	306.63	10.74
662	SLU 10	-117	45	9828	998.09	337.48	10.37
662	SLU 11	-119	3	10036	1022.37	343.89	11.88
662	SLU 12	-119	28	10036	1020.91	344.24	11.12
662	SLU 13	-118	44	9963	1012.38	341.98	10.5
662	SLU 14	-120	3	10170	1036.66	348.39	12.01
662	SLU 15	-120	27	10170	1035.2	348.75	11.25
662	SLU 16	-119	3	10097	1029.11	345.9	11.89
662	SLU 17	-119	28	10097	1027.65	346.25	11.13
662	SLU 18	-119	4	10326	1050.98	353.87	11.8
662	SLU 19	-118	28	10326	1049.52	354.22	11.04
662	SLU 20	-120	4	10460	1065.28	358.37	11.93
662	SLU 21	-120	28	10460	1063.82	358.73	11.17
662	SLU 22	-124	2	10089	1029.3	346.04	12.49
662	SLU 23	-124	42	10089	1026.87	346.63	11.23
662	SLU 24	-126	1	10296	1051.15	353.04	12.74
662	SLU 25	-126	26	10296	1049.69	353.4	11.98
662	SLU 26	-125	42	10223	1041.16	351.14	11.36
662	SLU 27	-127	1	10431	1065.44	357.55	12.87
662	SLU 28	-127	25	10431	1063.98	357.9	12.11
662	SLU 29	-126	1	10358	1057.89	355.05	12.75
662	SLU 30	-126	25	10358	1056.43	355.41	11.99
662	SLU 31	-128	43	11250	1144.61	386.26	11.61
662	SLU 32	-130	2	11457	1168.89	392.67	13.13
662	SLU 33	-130	26	11457	1167.43	393.02	12.37
662	SLU 34	-129	43	11384	1158.9	390.76	11.74
662	SLU 35	-131	1	11591	1183.18	397.17	13.26
662	SLU 36	-131	26	11591	1181.72	397.53	12.5
662	SLU 37	-130	1	11519	1175.63	394.68	13.14
662	SLU 38	-130	26	11518	1174.17	395.03	12.38
662	SLU 39	-130	2	11747	1197.5	402.65	13.05
662	SLU 40	-129	27	11747	1196.04	403	12.29
662	SLU 41	-131	2	11882	1211.79	407.15	13.17
662	SLU 42	-131	26	11881	1210.33	407.51	12.41
662	SLU 43	-143	5	10782	1097.38	369.71	14.19
662	SLU 44	-143	46	10781	1094.95	370.3	12.93
662	SLU 45	-145	5	10989	1119.23	376.71	14.44
662	SLU 46	-145	29	10988	1117.77	377.07	13.68
662	SLU 47	-144	46	10916	1109.24	374.81	13.06
662	SLU 48	-147	4	11123	1133.53	381.22	14.57
662	SLU 49	-146	29	11123	1132.06	381.57	13.81
662	SLU 50	-146	4	11050	1125.97	378.72	14.45
662	SLU 51	-145	29	11050	1124.51	379.08	13.69
662	SLU 52	-147	46	11942	1212.69	409.93	13.31
662	SLU 53	-149	5	12149	1236.97	416.34	14.83
662	SLU 54	-149	29	12149	1235.51	416.69	14.07
662	SLU 55	-148	46	12076	1226.98	414.44	13.44
662	SLU 56	-150	5	12283	1251.26	420.84	14.96
662	SLU 57	-150	29	12283	1249.8	421.2	14.2
662	SLU 58	-149	5	12211	1243.71	418.35	14.84
662	SLU 59	-149	29	12211	1242.25	418.7	14.08
662	SLU 60	-149	6	12439	1265.58	426.32	14.75
662	SLU 61	-149	30	12439	1264.12	426.68	13.99
662	SLU 62	-150	5	12574	1279.88	430.82	14.87
662	SLU 63	-150	30	12574	1278.42	431.18	14.11
662	SLU 64	-154	3	12203	1243.9	418.49	15.44
662	SLU 65	-154	44	12202	1241.47	419.09	14.17
662	SLU 66	-156	3	12410	1265.75	425.49	15.69
662	SLU 67	-156	27	12409	1264.29	425.85	14.93
662	SLU 68	-155	44	12337	1255.76	423.59	14.3
662	SLU 69	-158	2	12544	1280.04	430	15.82
662	SLU 70	-157	27	12544	1278.58	430.36	15.06
662	SLU 71	-156	3	12471	1272.49	427.5	15.7
662	SLU 72	-156	27	12471	1271.03	427.86	14.94
662	SLU 73	-158	44	13363	1359.21	458.71	14.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
662	SLU 74	-160	3	13570	1383.49	465.12	16.07
662	SLU 75	-160	28	13570	1382.03	465.48	15.31
662	SLU 76	-159	44	13497	1373.5	463.22	14.69
662	SLU 77	-161	3	13704	1397.78	469.63	16.2
662	SLU 78	-161	27	13704	1396.32	469.98	15.44
662	SLU 79	-160	3	13632	1390.23	467.13	16.08
662	SLU 80	-160	28	13632	1388.77	467.49	15.32
662	SLU 81	-160	4	13860	1412.1	475.1	15.99
662	SLU 82	-160	28	13860	1410.64	475.46	15.23
662	SLU 83	-161	4	13995	1426.4	479.61	16.12
662	SLU 84	-161	28	13995	1424.93	479.96	15.36
662	SLE RA 1	-116	3	9074	924.65	311.2	11.6
662	SLE RA 2	-116	30	9074	923.02	311.59	10.76
662	SLE RA 3	-118	3	9212	939.21	315.86	11.77
662	SLE RA 4	-118	19	9212	938.24	316.1	11.26
662	SLE RA 5	-117	30	9164	932.55	314.6	10.84
662	SLE RA 6	-118	2	9302	948.74	318.87	11.85
662	SLE RA 7	-118	19	9302	947.77	319.1	11.35
662	SLE RA 8	-118	3	9253	943.7	317.2	11.77
662	SLE RA 9	-118	19	9253	942.73	317.44	11.27
662	SLE RA 10	-119	30	9848	1001.52	338.01	11.02
662	SLE RA 11	-120	3	9986	1017.7	342.28	12.03
662	SLE RA 12	-120	19	9986	1016.73	342.52	11.52
662	SLE RA 13	-119	30	9937	1011.04	341.01	11.1
662	SLE RA 14	-121	3	10076	1027.23	345.28	12.11
662	SLE RA 15	-121	19	10075	1026.26	345.52	11.6
662	SLE RA 16	-120	3	10027	1022.2	343.62	12.03
662	SLE RA 17	-120	19	10027	1021.22	343.86	11.53
662	SLE RA 18	-120	3	10180	1036.78	348.94	11.97
662	SLE RA 19	-120	20	10179	1035.8	349.17	11.47
662	SLE RA 20	-121	3	10269	1046.31	351.94	12.06
662	SLE RA 21	-121	19	10269	1045.33	352.18	11.55
662	SLE FR 1	-116	3	9074	924.65	311.2	11.6
662	SLE FR 2	-116	8	9074	924.32	311.28	11.43
662	SLE FR 3	-117	3	9110	928.46	312.4	11.64
662	SLE FR 4	-117	8	9406	957.96	322.6	11.55
662	SLE FR 5	-118	3	9442	962.1	323.72	11.75
662	SLE FR 6	-118	3	9627	980.71	330.07	11.79
662	SLE QP 1	-116	3	9074	924.65	311.2	11.6
662	SLE QP 2	-117	3	9406	958.29	322.52	11.71
662	SLD 1	557	456	10539	1048.76	375.53	-66.77
662	SLD 2	551	326	10521	1048.63	374.65	-60.67
662	SLD 3	570	-48	10498	1083.61	365.26	-50.69
662	SLD 4	564	-178	10480	1083.48	364.39	-44.6
662	SLD 5	67	925	9812	932.59	354.14	-37.26
662	SLD 6	63	841	9800	932.51	353.58	-33.33
662	SLD 7	109	-754	9674	1048.77	319.92	16.32
662	SLD 8	105	-837	9662	1048.68	319.36	20.25
662	SLD 9	-340	844	9150	867.89	325.68	3.18
662	SLD 10	-344	760	9138	867.81	325.11	7.1
662	SLD 11	-297	-835	9012	984.07	291.46	56.76
662	SLD 12	-301	-919	9000	983.98	290.89	60.69
662	SLD 13	-799	184	8332	833.09	280.65	68.03
662	SLD 14	-805	54	8314	832.96	279.77	74.12
662	SLD 15	-786	-319	8291	867.94	270.38	84.1
662	SLD 16	-792	-450	8273	867.81	269.51	90.2
662	SLV 1	939	747	11177	1096.94	406.04	-112.46
662	SLV 2	930	542	11149	1096.74	404.66	-102.85
662	SLV 3	960	-111	11107	1156.38	388.5	-85.01
662	SLV 4	951	-317	11079	1156.17	387.12	-75.4
662	SLV 5	170	1567	10049	909.78	374.44	-68.97
662	SLV 6	163	1429	10030	909.64	373.51	-62.5
662	SLV 7	240	-1296	9815	1107.89	315.97	22.54
662	SLV 8	233	-1434	9796	1107.76	315.03	29.01
662	SLV 9	-468	1440	9015	808.82	330	-5.58
662	SLV 10	-474	1302	8997	808.68	329.07	0.89
662	SLV 11	-398	-1423	8782	1006.93	271.53	85.93
662	SLV 12	-404	-1561	8763	1006.79	270.6	92.4
662	SLV 13	-1185	323	7733	760.4	257.92	98.83
662	SLV 14	-1195	118	7705	760.19	256.54	108.44
662	SLV 15	-1164	-536	7663	819.84	240.38	126.28
662	SLV 16	-1174	-741	7634	819.63	238.99	135.89
662	SLV FO 1	1045	822	11355	1110.81	414.4	-124.88
662	SLV FO 2	1034	596	11324	1110.58	412.87	-114.31
662	SLV FO 3	1068	-123	11277	1176.19	395.1	-94.68
662	SLV FO 4	1057	-349	11246	1175.96	393.58	-84.11
662	SLV FO 5	198	1724	10113	904.93	379.63	-77.04
662	SLV FO 6	191	1572	10092	904.78	378.61	-69.92
662	SLV FO 7	275	-1426	9856	1122.86	315.31	23.62
662	SLV FO 8	268	-1578	9835	1122.7	314.29	30.74
662	SLV FO 9	-503	1584	8976	793.87	330.75	-7.31
662	SLV FO 10	-510	1432	8956	793.72	329.73	-0.2
662	SLV FO 11	-426	-1566	8719	1011.8	266.43	93.35
662	SLV FO 12	-433	-1718	8699	1011.64	265.41	100.46
662	SLV FO 13	-1292	355	7565	740.61	251.46	107.54
662	SLV FO 14	-1303	129	7534	740.39	249.94	118.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
662	SLV FO 15	-1269	-590	7488	805.99	232.16	137.73
662	SLV FO 16	-1280	-816	7457	805.76	230.64	148.3
662	CRTFP Ux+	0	0	0	0	0	0
662	CRTFP Ux-	0	0	0	0	0	0
662	CRTFP Uy+	0	0	0	0	0	0
662	CRTFP Uy-	0	0	0	0	0	0
663	SLU 1	-26	1	2074	-496.39	-19.88	-6.51
663	SLU 2	-26	11	2075	-496.87	-19.87	-6.39
663	SLU 3	-26	1	2123	-507.95	-20.36	-6.62
663	SLU 4	-26	7	2123	-508.25	-20.35	-6.55
663	SLU 5	-26	11	2106	-504.36	-20.18	-6.45
663	SLU 6	-27	1	2155	-515.44	-20.66	-6.68
663	SLU 7	-27	6	2155	-515.74	-20.66	-6.61
663	SLU 8	-26	1	2137	-511.36	-20.5	-6.63
663	SLU 9	-26	6	2138	-511.66	-20.49	-6.56
663	SLU 10	-27	11	2353	-563.3	-22.54	-6.58
663	SLU 11	-27	1	2401	-574.39	-23.03	-6.81
663	SLU 12	-27	7	2401	-574.68	-23.02	-6.74
663	SLU 13	-27	11	2385	-570.79	-22.85	-6.64
663	SLU 14	-27	1	2433	-581.88	-23.34	-6.87
663	SLU 15	-27	7	2433	-582.17	-23.33	-6.8
663	SLU 16	-27	1	2415	-577.8	-23.17	-6.81
663	SLU 17	-27	7	2416	-578.09	-23.16	-6.74
663	SLU 18	-27	1	2471	-591.29	-23.7	-6.77
663	SLU 19	-27	7	2472	-591.58	-23.69	-6.7
663	SLU 20	-27	1	2503	-598.78	-24.01	-6.83
663	SLU 21	-27	7	2503	-599.07	-24	-6.76
663	SLU 22	-28	0	2412	-576.62	-23.12	-7.1
663	SLU 23	-28	10	2413	-577.1	-23.11	-6.98
663	SLU 24	-29	0	2461	-588.19	-23.6	-7.21
663	SLU 25	-29	6	2462	-588.48	-23.59	-7.14
663	SLU 26	-29	10	2445	-584.59	-23.42	-7.04
663	SLU 27	-29	0	2493	-595.68	-23.9	-7.27
663	SLU 28	-29	6	2493	-595.97	-23.9	-7.2
663	SLU 29	-29	0	2476	-591.6	-23.74	-7.21
663	SLU 30	-29	6	2476	-591.89	-23.73	-7.14
663	SLU 31	-29	10	2691	-643.54	-25.78	-7.17
663	SLU 32	-30	0	2739	-654.62	-26.27	-7.39
663	SLU 33	-30	6	2740	-654.91	-26.26	-7.32
663	SLU 34	-29	10	2723	-651.03	-26.09	-7.22
663	SLU 35	-30	0	2771	-662.11	-26.57	-7.45
663	SLU 36	-30	6	2772	-662.4	-26.57	-7.38
663	SLU 37	-30	0	2754	-658.03	-26.41	-7.4
663	SLU 38	-30	6	2754	-658.32	-26.4	-7.33
663	SLU 39	-29	1	2809	-671.52	-26.94	-7.36
663	SLU 40	-29	6	2810	-671.81	-26.93	-7.29
663	SLU 41	-30	0	2841	-679.01	-27.25	-7.42
663	SLU 42	-30	6	2842	-679.3	-27.24	-7.35
663	SLU 43	-33	1	2580	-617.79	-24.74	-8.26
663	SLU 44	-33	11	2581	-618.28	-24.73	-8.14
663	SLU 45	-33	1	2629	-629.36	-25.21	-8.37
663	SLU 46	-33	7	2629	-629.65	-25.2	-8.3
663	SLU 47	-33	11	2612	-625.77	-25.03	-8.2
663	SLU 48	-34	1	2661	-636.85	-25.52	-8.43
663	SLU 49	-34	7	2661	-637.14	-25.51	-8.36
663	SLU 50	-34	1	2643	-632.77	-25.35	-8.38
663	SLU 51	-33	7	2644	-633.06	-25.35	-8.31
663	SLU 52	-34	11	2859	-684.71	-27.4	-8.33
663	SLU 53	-34	1	2907	-695.8	-27.88	-8.56
663	SLU 54	-34	7	2908	-696.09	-27.88	-8.49
663	SLU 55	-34	11	2891	-692.2	-27.71	-8.39
663	SLU 56	-34	1	2939	-703.29	-28.19	-8.62
663	SLU 57	-34	7	2939	-703.58	-28.18	-8.55
663	SLU 58	-34	1	2922	-699.21	-28.03	-8.56
663	SLU 59	-34	7	2922	-699.5	-28.02	-8.49
663	SLU 60	-34	1	2977	-712.7	-28.55	-8.52
663	SLU 61	-34	7	2978	-712.99	-28.55	-8.45
663	SLU 62	-34	1	3009	-720.19	-28.86	-8.58
663	SLU 63	-34	7	3009	-720.48	-28.86	-8.51
663	SLU 64	-35	1	2918	-698.02	-27.98	-8.85
663	SLU 65	-35	11	2919	-698.51	-27.97	-8.73
663	SLU 66	-36	1	2967	-709.59	-28.45	-8.96
663	SLU 67	-36	6	2968	-709.89	-28.44	-8.89
663	SLU 68	-36	10	2951	-706	-28.27	-8.79
663	SLU 69	-36	0	2999	-717.08	-28.76	-9.02
663	SLU 70	-36	6	3000	-717.37	-28.75	-8.95
663	SLU 71	-36	1	2982	-713	-28.59	-8.96
663	SLU 72	-36	6	2982	-713.29	-28.59	-8.9
663	SLU 73	-36	11	3197	-764.94	-30.64	-8.92
663	SLU 74	-37	1	3245	-776.03	-31.12	-9.15
663	SLU 75	-37	7	3246	-776.32	-31.11	-9.08
663	SLU 76	-36	11	3229	-772.43	-30.94	-8.97
663	SLU 77	-37	1	3277	-783.52	-31.43	-9.2
663	SLU 78	-37	7	3278	-783.81	-31.42	-9.13
663	SLU 79	-37	1	3260	-779.44	-31.26	-9.15
663	SLU 80	-37	7	3260	-779.73	-31.26	-9.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
663	SLU 81	-36	1	3316	-792.93	-31.79	-9.11
663	SLU 82	-36	7	3316	-793.22	-31.79	-9.04
663	SLU 83	-37	1	3347	-800.42	-32.1	-9.17
663	SLU 84	-37	7	3348	-800.71	-32.09	-9.1
663	SLE RA 1	-27	1	2170	-519.31	-20.81	-6.68
663	SLE RA 2	-27	7	2171	-519.63	-20.8	-6.6
663	SLE RA 3	-27	1	2203	-527.02	-21.12	-6.75
663	SLE RA 4	-27	4	2203	-527.22	-21.12	-6.71
663	SLE RA 5	-27	7	2192	-524.63	-21.01	-6.64
663	SLE RA 6	-27	0	2224	-532.01	-21.33	-6.79
663	SLE RA 7	-27	4	2225	-532.21	-21.32	-6.75
663	SLE RA 8	-27	0	2213	-529.29	-21.22	-6.75
663	SLE RA 9	-27	4	2213	-529.49	-21.21	-6.71
663	SLE RA 10	-27	7	2356	-563.92	-22.58	-6.72
663	SLE RA 11	-27	1	2389	-571.31	-22.91	-6.88
663	SLE RA 12	-27	5	2389	-571.5	-22.9	-6.83
663	SLE RA 13	-27	7	2378	-568.91	-22.79	-6.76
663	SLE RA 14	-28	1	2410	-576.3	-23.11	-6.91
663	SLE RA 15	-28	5	2410	-576.5	-23.11	-6.87
663	SLE RA 16	-28	1	2398	-573.58	-23	-6.88
663	SLE RA 17	-27	5	2399	-573.78	-23	-6.83
663	SLE RA 18	-27	1	2435	-582.58	-23.35	-6.85
663	SLE RA 19	-27	5	2436	-582.77	-23.35	-6.81
663	SLE RA 20	-28	1	2456	-587.57	-23.56	-6.89
663	SLE RA 21	-28	5	2457	-587.77	-23.55	-6.84
663	SLE FR 1	-27	1	2170	-519.31	-20.81	-6.68
663	SLE FR 2	-27	2	2170	-519.37	-20.81	-6.66
663	SLE FR 3	-27	1	2179	-521.31	-20.89	-6.69
663	SLE FR 4	-27	2	2250	-538.35	-21.57	-6.71
663	SLE FR 5	-27	1	2258	-540.29	-21.65	-6.75
663	SLE FR 6	-27	1	2303	-550.94	-22.08	-6.76
663	SLE QP 1	-27	1	2170	-519.31	-20.81	-6.68
663	SLE QP 2	-27	1	2250	-538.29	-21.57	-6.73
663	SLD 1	137	109	2520	-612.7	-23.84	35.56
663	SLD 2	137	78	2515	-611.28	-23.81	35.37
663	SLD 3	140	-14	2495	-602.02	-23.91	33.74
663	SLD 4	141	-44	2490	-600.6	-23.88	33.55
663	SLD 5	17	224	2369	-577.06	-22.15	8.75
663	SLD 6	17	204	2366	-576.14	-22.13	8.62
663	SLD 7	28	-184	2287	-541.45	-22.39	2.69
663	SLD 8	28	-203	2283	-540.54	-22.37	2.57
663	SLD 9	-82	205	2216	-536.04	-20.78	-16.03
663	SLD 10	-82	185	2213	-535.13	-20.76	-16.15
663	SLD 11	-71	-203	2134	-500.43	-21.02	-22.08
663	SLD 12	-71	-222	2131	-499.52	-20.99	-22.2
663	SLD 13	-194	45	2010	-475.98	-19.26	-47.01
663	SLD 14	-194	15	2005	-474.56	-19.23	-47.2
663	SLD 15	-191	-77	1985	-465.3	-19.34	-48.83
663	SLD 16	-191	-107	1980	-463.88	-19.3	-49.02
663	SLV 1	230	178	2673	-655.2	-25.11	59.65
663	SLV 2	230	131	2665	-652.96	-25.06	59.34
663	SLV 3	235	-30	2630	-636.95	-25.23	56.56
663	SLV 4	236	-78	2622	-634.71	-25.18	56.25
663	SLV 5	42	379	2442	-601.46	-22.47	17.93
663	SLV 6	42	347	2437	-599.96	-22.43	17.73
663	SLV 7	60	-316	2301	-540.62	-22.86	7.62
663	SLV 8	60	-348	2296	-539.11	-22.82	7.41
663	SLV 9	-114	349	2204	-537.46	-20.32	-20.87
663	SLV 10	-114	317	2198	-535.96	-20.29	-21.08
663	SLV 11	-96	-346	2063	-476.62	-20.71	-31.19
663	SLV 12	-95	-378	2057	-475.12	-20.68	-31.39
663	SLV 13	-290	79	1877	-441.87	-17.97	-69.71
663	SLV 14	-289	32	1869	-439.63	-17.92	-70.01
663	SLV 15	-284	-129	1835	-423.62	-18.09	-72.8
663	SLV 16	-284	-177	1827	-421.38	-18.03	-73.11
663	SLV FO 1	255	196	2715	-666.89	-25.47	66.29
663	SLV FO 2	256	144	2706	-664.43	-25.41	65.95
663	SLV FO 3	261	-33	2668	-646.81	-25.59	62.88
663	SLV FO 4	262	-86	2660	-644.35	-25.54	62.55
663	SLV FO 5	48	417	2461	-607.78	-22.56	20.4
663	SLV FO 6	49	382	2456	-606.12	-22.52	20.17
663	SLV FO 7	69	-348	2307	-540.85	-22.98	9.06
663	SLV FO 8	69	-383	2301	-539.2	-22.95	8.83
663	SLV FO 9	-123	384	2199	-537.38	-20.2	-22.29
663	SLV FO 10	-122	349	2193	-535.72	-20.16	-22.51
663	SLV FO 11	-103	-380	2044	-470.46	-20.63	-33.63
663	SLV FO 12	-102	-416	2038	-468.8	-20.59	-33.86
663	SLV FO 13	-316	87	1840	-432.23	-17.61	-76.01
663	SLV FO 14	-315	35	1831	-429.77	-17.55	-76.34
663	SLV FO 15	-310	-142	1794	-412.15	-17.74	-79.41
663	SLV FO 16	-309	-195	1785	-409.69	-17.68	-79.75
663	CRTFP Ux+	0	0	0	0	0	0
663	CRTFP Ux-	0	0	0	0	0	0
663	CRTFP Uy+	0	0	0	0	0	0
663	CRTFP Uy-	0	0	0	0	0	0
664	SLU 1	-70	-10	6829	13.16	365.38	-0.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
664	SLU 2	-70	24	6815	10.28	364.89	-2.1
664	SLU 3	-71	-10	6993	14.46	374.17	-0.3
664	SLU 4	-71	10	6985	12.73	373.87	-1.37
664	SLU 5	-70	23	6923	11.23	370.61	-2.09
664	SLU 6	-72	-11	7101	15.4	379.89	-0.29
664	SLU 7	-71	9	7093	13.68	379.59	-1.36
664	SLU 8	-71	-11	7044	15.05	376.83	-0.3
664	SLU 9	-71	10	7036	13.32	376.53	-1.37
664	SLU 10	-71	24	7735	12.23	413.99	-2.14
664	SLU 11	-72	-10	7914	16.4	423.27	-0.34
664	SLU 12	-72	10	7906	14.68	422.98	-1.41
664	SLU 13	-71	23	7843	13.17	419.72	-2.14
664	SLU 14	-72	-11	8021	17.35	429	-0.34
664	SLU 15	-72	9	8013	15.62	428.7	-1.41
664	SLU 16	-72	-11	7964	17	425.94	-0.34
664	SLU 17	-72	10	7956	15.27	425.64	-1.42
664	SLU 18	-71	-10	8143	15.94	435.54	-0.37
664	SLU 19	-71	10	8135	14.21	435.24	-1.45
664	SLU 20	-72	-10	8251	16.88	441.26	-0.37
664	SLU 21	-72	10	8243	15.16	440.96	-1.44
664	SLU 22	-76	-12	7947	18.83	425.21	-0.26
664	SLU 23	-75	22	7934	15.96	424.72	-2.05
664	SLU 24	-77	-12	8112	20.13	434	-0.25
664	SLU 25	-77	8	8104	18.41	433.7	-1.32
664	SLU 26	-76	22	8041	16.9	430.44	-2.04
664	SLU 27	-77	-12	8220	21.08	439.72	-0.24
664	SLU 28	-77	8	8212	19.35	439.42	-1.31
664	SLU 29	-77	-12	8162	20.72	436.66	-0.25
664	SLU 30	-77	8	8154	19	436.36	-1.32
664	SLU 31	-76	22	8854	17.9	473.82	-2.09
664	SLU 32	-78	-12	9032	22.08	483.1	-0.29
664	SLU 33	-78	8	9024	20.35	482.81	-1.36
664	SLU 34	-77	22	8962	18.85	479.55	-2.09
664	SLU 35	-78	-12	9140	23.02	488.83	-0.28
664	SLU 36	-78	8	9132	21.3	488.53	-1.36
664	SLU 37	-78	-12	9082	22.67	485.77	-0.29
664	SLU 38	-78	8	9075	20.94	485.47	-1.36
664	SLU 39	-77	-12	9262	21.61	495.37	-0.32
664	SLU 40	-77	9	9254	19.89	495.07	-1.4
664	SLU 41	-78	-12	9369	22.56	501.09	-0.32
664	SLU 42	-77	8	9361	20.83	500.79	-1.39
664	SLU 43	-89	-12	8494	15.16	454.49	-0.42
664	SLU 44	-89	21	8480	12.28	453.99	-2.21
664	SLU 45	-90	-13	8659	16.46	463.27	-0.41
664	SLU 46	-90	7	8651	14.73	462.97	-1.48
664	SLU 47	-89	21	8588	13.23	459.71	-2.2
664	SLU 48	-90	-13	8766	17.4	468.99	-0.4
664	SLU 49	-90	7	8758	15.68	468.69	-1.47
664	SLU 50	-90	-13	8709	17.05	465.93	-0.41
664	SLU 51	-90	7	8701	15.32	465.64	-1.48
664	SLU 52	-90	21	9401	14.23	503.1	-2.25
664	SLU 53	-91	-13	9579	18.4	512.38	-0.45
664	SLU 54	-91	7	9571	16.68	512.08	-1.53
664	SLU 55	-90	21	9508	15.17	508.82	-2.25
664	SLU 56	-91	-13	9686	19.35	518.1	-0.45
664	SLU 57	-91	7	9678	17.62	517.8	-1.52
664	SLU 58	-91	-13	9629	19	515.04	-0.45
664	SLU 59	-91	7	9621	17.27	514.74	-1.53
664	SLU 60	-90	-13	9808	17.94	524.64	-0.49
664	SLU 61	-90	8	9800	16.21	524.34	-1.56
664	SLU 62	-91	-13	9916	18.88	530.36	-0.48
664	SLU 63	-91	7	9908	17.16	530.07	-1.55
664	SLU 64	-95	-14	9612	20.83	514.32	-0.37
664	SLU 65	-94	20	9599	17.96	513.82	-2.16
664	SLU 66	-96	-14	9777	22.13	523.1	-0.36
664	SLU 67	-96	6	9769	20.41	522.8	-1.43
664	SLU 68	-95	19	9707	18.9	519.54	-2.15
664	SLU 69	-96	-15	9885	23.08	528.82	-0.35
664	SLU 70	-96	5	9877	21.35	528.52	-1.42
664	SLU 71	-96	-15	9828	22.72	525.76	-0.36
664	SLU 72	-96	6	9820	21	525.47	-1.43
664	SLU 73	-95	20	10519	19.9	562.93	-2.2
664	SLU 74	-97	-14	10697	24.08	572.21	-0.4
664	SLU 75	-97	6	10689	22.35	571.91	-1.47
664	SLU 76	-96	19	10627	20.85	568.65	-2.2
664	SLU 77	-97	-15	10805	25.03	577.93	-0.39
664	SLU 78	-97	5	10797	23.3	577.63	-1.47
664	SLU 79	-97	-15	10748	24.67	574.87	-0.4
664	SLU 80	-97	6	10740	22.95	574.57	-1.48
664	SLU 81	-96	-14	10927	23.61	584.47	-0.43
664	SLU 82	-96	6	10919	21.89	584.17	-1.51
664	SLU 83	-97	-14	11034	24.56	590.19	-0.43
664	SLU 84	-96	6	11026	22.83	589.89	-1.5
664	SLE RA 1	-72	-10	7148	14.78	382.48	-0.3
664	SLE RA 2	-71	12	7139	12.86	382.15	-1.49
664	SLE RA 3	-72	-11	7258	15.64	388.33	-0.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
664	SLE RA 4	-72	3	7253	14.49	388.13	-1
664	SLE RA 5	-72	12	7211	13.49	385.96	-1.48
664	SLE RA 6	-73	-11	7330	16.27	392.15	-0.28
664	SLE RA 7	-73	3	7325	15.12	391.95	-1
664	SLE RA 8	-72	-11	7292	16.04	390.11	-0.29
664	SLE RA 9	-72	3	7286	14.89	389.91	-1
664	SLE RA 10	-72	12	7753	14.16	414.88	-1.52
664	SLE RA 11	-73	-11	7871	16.94	421.07	-0.32
664	SLE RA 12	-73	3	7866	15.79	420.87	-1.03
664	SLE RA 13	-72	12	7825	14.79	418.7	-1.51
664	SLE RA 14	-73	-11	7943	17.57	424.89	-0.31
664	SLE RA 15	-73	3	7938	16.42	424.69	-1.03
664	SLE RA 16	-73	-11	7905	17.34	422.85	-0.32
664	SLE RA 17	-73	3	7900	16.19	422.65	-1.03
664	SLE RA 18	-72	-10	8024	16.63	429.25	-0.34
664	SLE RA 19	-72	3	8019	15.48	429.05	-1.05
664	SLE RA 20	-73	-11	8096	17.26	433.06	-0.33
664	SLE RA 21	-73	3	8091	16.11	432.86	-1.05
664	SLE FR 1	-72	-10	7148	14.78	382.48	-0.3
664	SLE FR 2	-71	-6	7146	14.39	382.41	-0.54
664	SLE FR 3	-72	-10	7177	15.03	384	-0.3
664	SLE FR 4	-72	-6	7409	14.95	396.44	-0.55
664	SLE FR 5	-72	-11	7440	15.59	398.03	-0.31
664	SLE FR 6	-72	-10	7586	15.7	405.86	-0.32
664	SLE QP 1	-72	-10	7148	14.78	382.48	-0.3
664	SLE QP 2	-72	-10	7411	15.33	396.51	-0.31
664	SLD 1	486	341	8144	3.15	438.4	-20.76
664	SLD 2	484	250	8140	5.13	438.02	-14.64
664	SLD 3	498	-75	8292	46.6	443.5	1.28
664	SLD 4	495	-165	8288	48.59	443.12	7.4
664	SLD 5	79	741	7407	-54.57	401.4	-40.93
664	SLD 6	77	682	7405	-53.29	401.16	-36.99
664	SLD 7	117	-644	7900	90.28	418.41	32.55
664	SLD 8	115	-703	7898	91.56	418.16	36.49
664	SLD 9	-259	682	6924	-60.89	374.85	-37.11
664	SLD 10	-260	624	6922	-59.61	374.61	-33.17
664	SLD 11	-221	-703	7417	83.96	391.86	36.37
664	SLD 12	-223	-761	7415	85.24	391.61	40.31
664	SLD 13	-639	144	6534	-17.92	349.9	-8.02
664	SLD 14	-641	54	6531	-15.94	349.52	-1.9
664	SLD 15	-627	-271	6682	25.54	355	14.03
664	SLD 16	-630	-361	6679	27.52	354.62	20.15
664	SLV 1	802	568	8543	-6.85	461.51	-33.89
664	SLV 2	798	426	8538	-3.72	460.92	-24.24
664	SLV 3	821	-140	8795	67.32	470.17	3.71
664	SLV 4	817	-283	8790	70.44	469.57	13.36
664	SLV 5	163	1265	7370	-104.39	403	-69.21
664	SLV 6	160	1169	7366	-102.29	402.59	-62.71
664	SLV 7	225	-1098	8209	142.83	431.84	56.12
664	SLV 8	222	-1194	8206	144.94	431.44	62.61
664	SLV 9	-366	1173	6617	-114.27	361.57	-63.23
664	SLV 10	-369	1077	6613	-112.17	361.17	-56.74
664	SLV 11	-304	-1190	7456	132.95	390.42	62.09
664	SLV 12	-306	-1286	7452	135.06	390.02	68.59
664	SLV 13	-960	262	6032	-39.78	323.44	-13.97
664	SLV 14	-964	119	6027	-36.65	322.85	-4.33
664	SLV 15	-942	-447	6284	34.39	332.1	23.62
664	SLV 16	-946	-589	6279	37.51	331.5	33.27
664	SLV FO 1	890	626	8656	-9.07	468.01	-37.25
664	SLV FO 2	885	470	8651	-5.63	467.36	-26.63
664	SLV FO 3	910	-153	8933	72.52	477.53	4.11
664	SLV FO 4	906	-310	8928	75.96	476.88	14.72
664	SLV FO 5	186	1392	7366	-116.36	403.64	-76.1
664	SLV FO 6	183	1287	7362	-114.05	403.2	-68.95
664	SLV FO 7	255	-1206	8289	155.58	435.38	61.76
664	SLV FO 8	252	-1312	8285	157.9	434.94	68.91
664	SLV FO 9	-395	1291	6537	-127.23	358.08	-69.52
664	SLV FO 10	-398	1186	6533	-124.92	357.64	-62.38
664	SLV FO 11	-327	-1308	7460	144.72	389.81	68.33
664	SLV FO 12	-330	-1413	7457	147.03	389.37	75.48
664	SLV FO 13	-1049	289	5894	-45.29	316.14	-15.34
664	SLV FO 14	-1054	132	5889	-41.85	315.48	-4.73
664	SLV FO 15	-1029	-491	6171	36.3	325.66	26.02
664	SLV FO 16	-1033	-647	6166	39.73	325	36.63
664	CRTFP Ux+	0	0	0	0	0	0
664	CRTFP Ux-	0	0	0	0	0	0
664	CRTFP Uy+	0	0	0	0	0	0
664	CRTFP Uy-	0	0	0	0	0	0
666	SLU 1	-110	-22	11665	-516.98	-8.06	-4.67
666	SLU 2	-109	36	11635	-519.03	-7.02	-4.71
666	SLU 3	-111	-22	11948	-528.35	-8.5	-4.75
666	SLU 4	-111	12	11930	-529.58	-7.88	-4.77
666	SLU 5	-110	35	11820	-526.37	-7.39	-4.76
666	SLU 6	-112	-23	12133	-535.68	-8.87	-4.79
666	SLU 7	-112	11	12115	-536.91	-8.24	-4.81
666	SLU 8	-111	-23	12036	-531.65	-8.79	-4.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
666	SLU 9	-111	12	12018	-532.88	-8.17	-4.78
666	SLU 10	-110	35	13214	-588.69	-9.4	-4.73
666	SLU 11	-112	-23	13527	-598	-10.88	-4.76
666	SLU 12	-112	11	13509	-599.23	-10.26	-4.79
666	SLU 13	-111	35	13399	-596.02	-9.77	-4.77
666	SLU 14	-113	-23	13712	-605.34	-11.25	-4.8
666	SLU 15	-113	11	13694	-606.57	-10.62	-4.83
666	SLU 16	-112	-23	13615	-601.3	-11.17	-4.77
666	SLU 17	-112	11	13597	-602.53	-10.55	-4.79
666	SLU 18	-111	-22	13921	-616.49	-11.46	-4.7
666	SLU 19	-111	12	13903	-617.72	-10.84	-4.72
666	SLU 20	-112	-23	14106	-623.82	-11.83	-4.74
666	SLU 21	-111	11	14088	-625.05	-11.2	-4.76
666	SLU 22	-118	-24	13576	-597.36	-9.76	-4.99
666	SLU 23	-118	33	13546	-599.41	-8.72	-5.03
666	SLU 24	-120	-25	13858	-608.73	-10.19	-5.06
666	SLU 25	-120	9	13840	-609.96	-9.57	-5.09
666	SLU 26	-119	32	13731	-606.75	-9.08	-5.07
666	SLU 27	-121	-26	14044	-616.06	-10.56	-5.1
666	SLU 28	-121	9	14026	-617.29	-9.93	-5.13
666	SLU 29	-120	-26	13946	-612.03	-10.49	-5.07
666	SLU 30	-120	9	13928	-613.26	-9.86	-5.1
666	SLU 31	-119	32	15125	-669.07	-11.09	-5.04
666	SLU 32	-121	-26	15437	-678.38	-12.57	-5.08
666	SLU 33	-121	9	15419	-679.61	-11.95	-5.1
666	SLU 34	-120	32	15310	-676.4	-11.46	-5.08
666	SLU 35	-122	-26	15623	-685.72	-12.94	-5.12
666	SLU 36	-121	8	15605	-686.95	-12.31	-5.14
666	SLU 37	-121	-26	15525	-681.68	-12.87	-5.09
666	SLU 38	-120	8	15507	-682.91	-12.24	-5.11
666	SLU 39	-120	-25	15831	-696.87	-13.16	-5.01
666	SLU 40	-119	9	15813	-698.1	-12.53	-5.03
666	SLU 41	-120	-26	16017	-704.2	-13.52	-5.05
666	SLU 42	-120	9	15999	-705.43	-12.9	-5.08
666	SLU 43	-140	-27	14510	-644.52	-9.9	-5.97
666	SLU 44	-139	30	14480	-646.57	-8.86	-6.01
666	SLU 45	-141	-28	14792	-655.88	-10.34	-6.04
666	SLU 46	-141	6	14774	-657.12	-9.72	-6.07
666	SLU 47	-140	29	14665	-653.9	-9.23	-6.05
666	SLU 48	-142	-29	14978	-663.22	-10.71	-6.08
666	SLU 49	-142	6	14960	-664.45	-10.08	-6.11
666	SLU 50	-141	-28	14880	-659.18	-10.63	-6.05
666	SLU 51	-141	6	14862	-660.42	-10.01	-6.07
666	SLU 52	-140	30	16059	-716.22	-11.24	-6.02
666	SLU 53	-142	-28	16371	-725.54	-12.72	-6.06
666	SLU 54	-142	6	16353	-726.77	-12.1	-6.08
666	SLU 55	-141	29	16244	-723.56	-11.61	-6.06
666	SLU 56	-143	-29	16557	-732.87	-13.08	-6.1
666	SLU 57	-143	5	16539	-734.1	-12.46	-6.12
666	SLU 58	-142	-29	16459	-728.84	-13.01	-6.07
666	SLU 59	-142	6	16441	-730.07	-12.39	-6.09
666	SLU 60	-141	-28	16765	-744.02	-13.3	-5.99
666	SLU 61	-141	6	16747	-745.25	-12.68	-6.01
666	SLU 62	-142	-28	16951	-751.36	-13.67	-6.03
666	SLU 63	-141	6	16933	-752.59	-13.04	-6.05
666	SLU 64	-148	-30	16420	-724.89	-11.6	-6.28
666	SLU 65	-148	27	16390	-726.95	-10.56	-6.32
666	SLU 66	-150	-31	16703	-736.26	-12.03	-6.36
666	SLU 67	-150	4	16685	-737.49	-11.41	-6.38
666	SLU 68	-149	27	16575	-734.28	-10.92	-6.36
666	SLU 69	-151	-31	16888	-743.6	-12.4	-6.4
666	SLU 70	-151	3	16870	-744.83	-11.77	-6.42
666	SLU 71	-150	-31	16791	-739.56	-12.33	-6.37
666	SLU 72	-150	3	16773	-740.79	-11.7	-6.39
666	SLU 73	-149	27	17969	-796.6	-12.93	-6.34
666	SLU 74	-151	-31	18282	-805.92	-14.41	-6.37
666	SLU 75	-151	3	18264	-807.15	-13.79	-6.4
666	SLU 76	-149	26	18154	-803.94	-13.3	-6.38
666	SLU 77	-152	-32	18467	-813.25	-14.78	-6.41
666	SLU 78	-151	3	18449	-814.48	-14.15	-6.44
666	SLU 79	-151	-32	18370	-809.22	-14.7	-6.38
666	SLU 80	-150	3	18352	-810.45	-14.08	-6.4
666	SLU 81	-149	-31	18676	-824.4	-14.99	-6.3
666	SLU 82	-149	4	18658	-825.63	-14.37	-6.33
666	SLU 83	-150	-31	18861	-831.74	-15.36	-6.35
666	SLU 84	-150	3	18843	-832.97	-14.73	-6.37
666	SLE RA 1	-112	-22	12211	-539.95	-8.55	-4.76
666	SLE RA 2	-112	16	12191	-541.31	-7.85	-4.79
666	SLE RA 3	-113	-23	12400	-547.52	-8.84	-4.81
666	SLE RA 4	-113	0	12388	-548.35	-8.42	-4.83
666	SLE RA 5	-112	15	12314	-546.2	-8.1	-4.82
666	SLE RA 6	-114	-23	12523	-552.41	-9.08	-4.84
666	SLE RA 7	-114	0	12511	-553.23	-8.67	-4.86
666	SLE RA 8	-113	-23	12458	-549.72	-9.03	-4.82
666	SLE RA 9	-113	0	12446	-550.55	-8.62	-4.84
666	SLE RA 10	-112	15	13244	-587.75	-9.44	-4.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
666	SLE RA 11	-114	-23	13452	-593.96	-10.43	-4.82
666	SLE RA 12	-114	0	13440	-594.78	-10.01	-4.84
666	SLE RA 13	-113	15	13367	-592.64	-9.68	-4.83
666	SLE RA 14	-114	-24	13576	-598.85	-10.67	-4.85
666	SLE RA 15	-114	-1	13564	-599.67	-10.25	-4.87
666	SLE RA 16	-114	-24	13511	-596.16	-10.62	-4.83
666	SLE RA 17	-114	-1	13499	-596.98	-10.2	-4.84
666	SLE RA 18	-113	-23	13715	-606.28	-10.81	-4.78
666	SLE RA 19	-113	0	13703	-607.1	-10.4	-4.79
666	SLE RA 20	-113	-23	13838	-611.17	-11.06	-4.81
666	SLE RA 21	-113	0	13826	-611.99	-10.64	-4.82
666	SLE FR 1	-112	-22	12211	-539.95	-8.55	-4.76
666	SLE FR 2	-112	-15	12207	-540.22	-8.41	-4.77
666	SLE FR 3	-112	-23	12260	-541.9	-8.65	-4.78
666	SLE FR 4	-112	-15	12658	-560.12	-9.09	-4.77
666	SLE FR 5	-113	-23	12712	-561.8	-9.33	-4.78
666	SLE FR 6	-113	-23	12963	-573.11	-9.68	-4.77
666	SLE QP 1	-112	-22	12211	-539.95	-8.55	-4.76
666	SLE QP 2	-112	-23	12662	-559.85	-9.23	-4.77
666	SLD 1	843	558	13764	-624.29	16.54	39.4
666	SLD 2	841	417	13766	-621.94	15.57	41.95
666	SLD 3	863	-152	14109	-588.52	3.36	40.18
666	SLD 4	860	-293	14111	-586.18	2.39	42.73
666	SLD 5	145	1252	12469	-633.83	18.66	6.86
666	SLD 6	143	1161	12471	-632.32	18.03	8.51
666	SLD 7	210	-1113	13619	-514.6	-25.27	9.46
666	SLD 8	209	-1204	13620	-513.09	-25.9	11.1
666	SLD 9	-433	1159	11704	-606.6	7.44	-20.64
666	SLD 10	-435	1068	11706	-605.09	6.82	-19
666	SLD 11	-368	-1206	12854	-487.37	-36.49	-18.04
666	SLD 12	-370	-1297	12855	-485.86	-37.11	-16.4
666	SLD 13	-1085	247	11214	-533.52	-20.84	-52.27
666	SLD 14	-1088	106	11216	-531.18	-21.82	-49.71
666	SLD 15	-1066	-462	11559	-497.75	-34.02	-51.49
666	SLD 16	-1068	-603	11561	-495.41	-34.99	-48.94
666	SLV 1	1383	937	14356	-663.05	31.98	64.36
666	SLV 2	1380	714	14359	-659.36	30.45	68.39
666	SLV 3	1416	-274	14943	-601.96	9.49	65.6
666	SLV 4	1412	-496	14946	-598.27	7.96	69.63
666	SLV 5	288	2142	12279	-684.15	37.53	13.34
666	SLV 6	286	1993	12281	-681.67	36.5	16.05
666	SLV 7	396	-1892	14236	-480.52	-37.44	17.47
666	SLV 8	393	-2042	14239	-478.03	-38.47	20.18
666	SLV 9	-618	1997	11086	-641.66	20.01	-29.72
666	SLV 10	-621	1847	11088	-639.18	18.98	-27.01
666	SLV 11	-510	-2038	13043	-438.03	-54.96	-25.59
666	SLV 12	-513	-2188	13045	-435.54	-55.99	-22.88
666	SLV 13	-1637	451	10378	-521.42	-26.41	-79.17
666	SLV 14	-1641	229	10381	-517.73	-27.94	-75.14
666	SLV 15	-1604	-760	10966	-460.33	-48.9	-77.93
666	SLV 16	-1608	-982	10969	-456.64	-50.43	-73.9
666	SLV FO 1	1533	1032	14525	-673.38	36.1	71.28
666	SLV FO 2	1529	788	14528	-669.32	34.42	75.71
666	SLV FO 3	1569	-299	15171	-606.18	11.36	72.64
666	SLV FO 4	1564	-543	15174	-602.12	9.68	77.07
666	SLV FO 5	328	2359	12241	-696.58	42.21	15.15
666	SLV FO 6	325	2194	12243	-693.85	41.07	18.14
666	SLV FO 7	446	-2079	14394	-472.58	-40.26	19.69
666	SLV FO 8	444	-2244	14396	-469.85	-41.39	22.68
666	SLV FO 9	-668	2199	10928	-649.84	22.94	-32.22
666	SLV FO 10	-671	2034	10930	-647.11	21.8	-29.23
666	SLV FO 11	-550	-2240	13081	-425.84	-59.53	-27.67
666	SLV FO 12	-553	-2404	13084	-423.11	-60.66	-24.69
666	SLV FO 13	-1789	498	10150	-517.58	-28.13	-86.61
666	SLV FO 14	-1793	254	10153	-513.52	-29.82	-82.18
666	SLV FO 15	-1754	-833	10796	-450.38	-52.87	-85.25
666	SLV FO 16	-1758	-1078	10799	-446.32	-54.56	-80.81
666	CRTFP Ux+	0	0	0	0	0	0
666	CRTFP Ux-	0	0	0	0	0	0
666	CRTFP Uy+	0	0	0	0	0	0
666	CRTFP Uy-	0	0	0	0	0	0
668	SLU 1	-50	-7	5708	10.47	-107.56	0.92
668	SLU 2	-50	21	5691	8.2	-107.2	1.43
668	SLU 3	-51	-7	5847	11.49	-110.21	0.94
668	SLU 4	-51	9	5837	10.13	-109.99	1.24
668	SLU 5	-50	20	5782	8.94	-108.94	1.43
668	SLU 6	-51	-8	5939	12.23	-111.95	0.94
668	SLU 7	-51	9	5928	10.86	-111.73	1.24
668	SLU 8	-51	-8	5891	11.95	-111.04	0.93
668	SLU 9	-51	9	5881	10.58	-110.83	1.23
668	SLU 10	-50	21	6467	9.74	-121.95	1.5
668	SLU 11	-51	-7	6624	13.03	-124.95	1.01
668	SLU 12	-51	9	6614	11.67	-124.73	1.31
668	SLU 13	-50	20	6559	10.48	-123.69	1.51
668	SLU 14	-51	-8	6716	13.77	-126.69	1.01
668	SLU 15	-51	9	6705	12.41	-126.47	1.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
668	SLU 16	-51	-8	6668	13.49	-125.79	1
668	SLU 17	-51	9	6657	12.13	-125.57	1.3
668	SLU 18	-50	-7	6818	12.67	-128.63	1.02
668	SLU 19	-50	10	6807	11.31	-128.41	1.33
668	SLU 20	-51	-7	6909	13.41	-130.37	1.03
668	SLU 21	-51	9	6899	12.05	-130.15	1.33
668	SLU 22	-54	-8	6645	15.09	-125.27	1.05
668	SLU 23	-54	20	6628	12.82	-124.91	1.56
668	SLU 24	-55	-8	6785	16.11	-127.91	1.06
668	SLU 25	-55	8	6774	14.75	-127.69	1.37
668	SLU 26	-54	20	6719	13.56	-126.65	1.56
668	SLU 27	-55	-8	6876	16.85	-129.65	1.07
668	SLU 28	-55	8	6866	15.49	-129.43	1.37
668	SLU 29	-55	-8	6828	16.57	-128.75	1.05
668	SLU 30	-55	8	6818	15.21	-128.53	1.36
668	SLU 31	-54	20	7405	14.36	-139.65	1.63
668	SLU 32	-55	-8	7561	17.65	-142.66	1.14
668	SLU 33	-55	9	7551	16.29	-142.44	1.44
668	SLU 34	-54	20	7496	15.1	-141.39	1.63
668	SLU 35	-55	-8	7653	18.39	-144.4	1.14
668	SLU 36	-55	8	7642	17.03	-144.18	1.44
668	SLU 37	-55	-8	7605	18.11	-143.49	1.13
668	SLU 38	-55	8	7595	16.75	-143.28	1.43
668	SLU 39	-54	-8	7755	17.29	-146.33	1.15
668	SLU 40	-54	9	7745	15.93	-146.12	1.46
668	SLU 41	-55	-8	7847	18.03	-148.07	1.15
668	SLU 42	-54	9	7836	16.67	-147.85	1.46
668	SLU 43	-64	-9	7099	12.03	-133.76	1.16
668	SLU 44	-64	19	7082	9.75	-133.4	1.67
668	SLU 45	-65	-9	7239	13.05	-136.41	1.17
668	SLU 46	-65	7	7228	11.68	-136.19	1.48
668	SLU 47	-64	19	7173	10.49	-135.14	1.67
668	SLU 48	-65	-9	7330	13.78	-138.15	1.17
668	SLU 49	-65	7	7320	12.42	-137.93	1.48
668	SLU 50	-65	-9	7282	13.5	-137.24	1.16
668	SLU 51	-64	7	7272	12.14	-137.02	1.47
668	SLU 52	-64	19	7858	11.29	-148.14	1.74
668	SLU 53	-65	-9	8015	14.59	-151.15	1.24
668	SLU 54	-65	8	8005	13.22	-150.93	1.55
668	SLU 55	-64	19	7950	12.03	-149.88	1.74
668	SLU 56	-65	-9	8107	15.33	-152.89	1.24
668	SLU 57	-65	7	8096	13.96	-152.67	1.55
668	SLU 58	-65	-9	8059	15.05	-151.99	1.23
668	SLU 59	-65	7	8048	13.68	-151.77	1.54
668	SLU 60	-64	-9	8209	14.23	-154.83	1.26
668	SLU 61	-64	8	8198	12.86	-154.61	1.56
668	SLU 62	-64	-9	8300	14.97	-156.57	1.26
668	SLU 63	-64	8	8290	13.6	-156.35	1.57
668	SLU 64	-68	-10	8037	16.65	-151.47	1.28
668	SLU 65	-68	18	8019	14.37	-151.11	1.79
668	SLU 66	-69	-10	8176	17.67	-154.11	1.3
668	SLU 67	-68	7	8165	16.3	-153.89	1.6
668	SLU 68	-68	18	8110	15.11	-152.85	1.8
668	SLU 69	-69	-10	8267	18.41	-155.85	1.3
668	SLU 70	-69	6	8257	17.04	-155.63	1.61
668	SLU 71	-68	-10	8219	18.13	-154.95	1.29
668	SLU 72	-68	6	8209	16.76	-154.73	1.59
668	SLU 73	-68	18	8796	15.92	-165.85	1.87
668	SLU 74	-69	-10	8953	19.21	-168.86	1.37
668	SLU 75	-68	7	8942	17.85	-168.64	1.68
668	SLU 76	-68	18	8887	16.66	-167.59	1.87
668	SLU 77	-69	-10	9044	19.95	-170.59	1.37
668	SLU 78	-69	6	9034	18.58	-170.38	1.68
668	SLU 79	-69	-10	8996	19.67	-169.69	1.36
668	SLU 80	-68	6	8986	18.3	-169.47	1.66
668	SLU 81	-68	-10	9146	18.85	-172.53	1.39
668	SLU 82	-68	7	9136	17.49	-172.31	1.69
668	SLU 83	-68	-10	9238	19.59	-174.27	1.39
668	SLU 84	-68	7	9227	18.23	-174.05	1.69
668	SLE RA 1	-51	-7	5976	11.79	-112.62	0.96
668	SLE RA 2	-51	11	5964	10.27	-112.38	1.3
668	SLE RA 3	-52	-7	6069	12.47	-114.38	0.97
668	SLE RA 4	-52	4	6062	11.56	-114.24	1.17
668	SLE RA 5	-51	11	6025	10.77	-113.54	1.3
668	SLE RA 6	-52	-8	6130	12.96	-115.54	0.97
668	SLE RA 7	-52	3	6123	12.05	-115.4	1.17
668	SLE RA 8	-52	-8	6098	12.78	-114.94	0.96
668	SLE RA 9	-52	3	6091	11.87	-114.8	1.17
668	SLE RA 10	-51	11	6482	11.3	-122.21	1.35
668	SLE RA 11	-52	-7	6587	13.5	-124.21	1.02
668	SLE RA 12	-52	4	6580	12.59	-124.07	1.22
668	SLE RA 13	-51	11	6543	11.8	-123.37	1.35
668	SLE RA 14	-52	-8	6648	13.99	-125.37	1.02
668	SLE RA 15	-52	3	6641	13.08	-125.23	1.22
668	SLE RA 16	-52	-8	6616	13.8	-124.77	1.01
668	SLE RA 17	-52	4	6609	12.89	-124.63	1.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
668	SLE RA 18	-51	-7	6716	13.26	-126.67	1.03
668	SLE RA 19	-51	4	6709	12.35	-126.52	1.23
668	SLE RA 20	-52	-7	6777	13.75	-127.83	1.03
668	SLE RA 21	-52	4	6770	12.84	-127.68	1.23
668	SLE FR 1	-51	-7	5976	11.79	-112.62	0.96
668	SLE FR 2	-51	-4	5974	11.49	-112.57	1.03
668	SLE FR 3	-51	-7	6000	11.99	-113.09	0.96
668	SLE FR 4	-51	-4	6196	11.93	-116.79	1.05
668	SLE FR 5	-51	-7	6222	12.43	-117.3	0.98
668	SLE FR 6	-51	-7	6346	12.52	-119.64	0.99
668	SLE QP 1	-51	-7	5976	11.79	-112.62	0.96
668	SLE QP 2	-51	-7	6198	12.23	-116.84	0.98
668	SLD 1	413	264	6652	4.09	-123.21	4.53
668	SLD 2	411	202	6655	5.7	-123.29	4.44
668	SLD 3	423	-79	6860	38.37	-127.56	-1.77
668	SLD 4	421	-141	6863	39.98	-127.63	-1.87
668	SLD 5	73	606	6018	-42.48	-112.14	11.62
668	SLD 6	72	566	6020	-41.44	-112.19	11.56
668	SLD 7	106	-539	6711	71.79	-126.63	-9.39
668	SLD 8	105	-579	6713	72.83	-126.68	-9.45
668	SLD 9	-208	565	5683	-48.37	-106.99	11.41
668	SLD 10	-209	525	5685	-47.33	-107.04	11.35
668	SLD 11	-175	-580	6375	65.91	-121.48	-9.6
668	SLD 12	-176	-620	6378	66.95	-121.53	-9.66
668	SLD 13	-524	127	5533	-15.52	-106.04	3.83
668	SLD 14	-526	65	5536	-13.91	-106.11	3.73
668	SLD 15	-514	-216	5741	18.76	-110.39	-2.48
668	SLD 16	-516	-279	5744	20.37	-110.46	-2.57
668	SLV 1	676	442	6891	-2.98	-126.46	7.01
668	SLV 2	673	344	6896	-0.44	-126.58	6.86
668	SLV 3	692	-144	7245	55.53	-133.87	-3.74
668	SLV 4	689	-242	7250	58.07	-133.99	-3.89
668	SLV 5	143	1034	5868	-81.55	-108.46	19.12
668	SLV 6	141	968	5871	-79.83	-108.54	19.02
668	SLV 7	197	-918	7048	113.48	-133.17	-16.71
668	SLV 8	195	-984	7052	115.2	-133.25	-16.81
668	SLV 9	-298	970	5344	-90.74	-100.43	18.77
668	SLV 10	-300	904	5348	-89.02	-100.51	18.67
668	SLV 11	-243	-983	6525	104.29	-125.13	-17.06
668	SLV 12	-245	-1049	6528	106.01	-125.21	-17.16
668	SLV 13	-792	227	5146	-33.61	-99.68	5.85
668	SLV 14	-795	129	5151	-31.07	-99.8	5.7
668	SLV 15	-775	-358	5500	24.9	-107.09	-4.9
668	SLV 16	-778	-456	5505	27.44	-107.21	-5.05
668	SLV FO 1	748	487	6960	-4.5	-127.43	7.62
668	SLV FO 2	745	379	6966	-1.7	-127.56	7.45
668	SLV FO 3	766	-158	7350	59.86	-135.58	-4.21
668	SLV FO 4	763	-265	7355	62.66	-135.71	-4.38
668	SLV FO 5	162	1138	5835	-90.92	-107.62	20.94
668	SLV FO 6	160	1066	5838	-89.04	-107.71	20.82
668	SLV FO 7	222	-1009	7133	123.61	-134.8	-18.48
668	SLV FO 8	220	-1082	7137	125.49	-134.89	-18.59
668	SLV FO 9	-322	1068	5259	-101.03	-98.79	20.55
668	SLV FO 10	-324	995	5263	-99.15	-98.87	20.44
668	SLV FO 11	-262	-1080	6557	113.5	-125.96	-18.86
668	SLV FO 12	-265	-1153	6561	115.38	-126.05	-18.98
668	SLV FO 13	-866	251	5040	-38.2	-97.96	6.34
668	SLV FO 14	-869	143	5046	-35.4	-98.09	6.17
668	SLV FO 15	-848	-394	5430	26.16	-106.12	-5.49
668	SLV FO 16	-851	-501	5436	28.96	-106.25	-5.66
668	CRTFP Ux+	0	0	0	0	0	0
668	CRTFP Ux-	0	0	0	0	0	0
668	CRTFP Uy+	0	0	0	0	0	0
668	CRTFP Uy-	0	0	0	0	0	0
669	SLU 1	-52	1	6376	7.85	-1.78	2.02
669	SLU 2	-52	32	6356	5.62	-1.78	2.03
669	SLU 3	-53	1	6532	8.78	-1.85	2.06
669	SLU 4	-53	19	6520	7.44	-1.85	2.06
669	SLU 5	-52	31	6459	6.3	-1.83	2.05
669	SLU 6	-54	1	6635	9.45	-1.89	2.07
669	SLU 7	-53	19	6623	8.12	-1.89	2.08
669	SLU 8	-53	1	6581	9.2	-1.88	2.05
669	SLU 9	-53	19	6569	7.86	-1.88	2.06
669	SLU 10	-52	32	7228	6.62	-2.17	2.17
669	SLU 11	-53	1	7404	9.78	-2.24	2.19
669	SLU 12	-53	20	7392	8.45	-2.24	2.2
669	SLU 13	-52	32	7331	7.3	-2.22	2.18
669	SLU 14	-53	1	7507	10.46	-2.28	2.21
669	SLU 15	-53	20	7495	9.12	-2.28	2.21
669	SLU 16	-53	1	7454	10.21	-2.27	2.19
669	SLU 17	-53	20	7441	8.87	-2.27	2.19
669	SLU 18	-52	2	7622	9.28	-2.34	2.21
669	SLU 19	-52	20	7610	7.95	-2.34	2.22
669	SLU 20	-53	2	7725	9.96	-2.39	2.23
669	SLU 21	-52	20	7712	8.62	-2.39	2.24
669	SLU 22	-56	1	7425	12.1	-2.14	2.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
669	SLU 23	-56	32	7404	9.88	-2.14	2.29
669	SLU 24	-57	1	7581	13.04	-2.2	2.32
669	SLU 25	-57	19	7569	11.7	-2.2	2.33
669	SLU 26	-56	32	7507	10.55	-2.19	2.31
669	SLU 27	-57	1	7684	13.71	-2.25	2.33
669	SLU 28	-57	19	7672	12.38	-2.25	2.34
669	SLU 29	-57	1	7630	13.46	-2.23	2.31
669	SLU 30	-57	19	7618	12.12	-2.23	2.32
669	SLU 31	-56	33	8277	10.88	-2.53	2.43
669	SLU 32	-57	2	8453	14.04	-2.59	2.45
669	SLU 33	-57	20	8441	12.7	-2.59	2.46
669	SLU 34	-56	32	8379	11.56	-2.58	2.45
669	SLU 35	-57	1	8556	14.72	-2.64	2.47
669	SLU 36	-57	20	8544	13.38	-2.64	2.48
669	SLU 37	-57	1	8502	14.46	-2.62	2.45
669	SLU 38	-57	20	8490	13.13	-2.62	2.46
669	SLU 39	-56	2	8671	13.54	-2.7	2.48
669	SLU 40	-56	21	8658	12.2	-2.7	2.48
669	SLU 41	-57	2	8773	14.22	-2.74	2.49
669	SLU 42	-56	20	8761	12.88	-2.74	2.5
669	SLU 43	-67	1	7929	8.74	-2.2	2.53
669	SLU 44	-67	32	7909	6.51	-2.2	2.55
669	SLU 45	-68	1	8085	9.67	-2.26	2.57
669	SLU 46	-67	19	8073	8.34	-2.26	2.58
669	SLU 47	-67	32	8012	7.19	-2.24	2.56
669	SLU 48	-68	1	8188	10.35	-2.31	2.59
669	SLU 49	-68	19	8176	9.01	-2.31	2.59
669	SLU 50	-67	1	8135	10.1	-2.29	2.56
669	SLU 51	-67	19	8123	8.76	-2.29	2.57
669	SLU 52	-66	32	8781	7.52	-2.59	2.68
669	SLU 53	-68	2	8957	10.68	-2.65	2.71
669	SLU 54	-67	20	8945	9.34	-2.65	2.71
669	SLU 55	-67	32	8884	8.2	-2.63	2.7
669	SLU 56	-68	1	9060	11.35	-2.7	2.72
669	SLU 57	-68	20	9048	10.02	-2.7	2.73
669	SLU 58	-67	1	9007	11.1	-2.68	2.7
669	SLU 59	-67	20	8995	9.76	-2.68	2.71
669	SLU 60	-67	2	9175	10.18	-2.75	2.73
669	SLU 61	-67	20	9163	8.84	-2.75	2.74
669	SLU 62	-67	2	9278	10.85	-2.8	2.74
669	SLU 63	-67	20	9266	9.52	-2.8	2.75
669	SLU 64	-71	1	8978	13	-2.55	2.8
669	SLU 65	-70	32	8958	10.77	-2.55	2.81
669	SLU 66	-71	1	9134	13.93	-2.62	2.83
669	SLU 67	-71	20	9122	12.59	-2.62	2.84
669	SLU 68	-71	32	9060	11.45	-2.6	2.83
669	SLU 69	-72	1	9237	14.61	-2.66	2.85
669	SLU 70	-72	19	9225	13.27	-2.66	2.86
669	SLU 71	-71	1	9183	14.35	-2.65	2.83
669	SLU 72	-71	19	9171	13.02	-2.65	2.84
669	SLU 73	-70	33	9830	11.78	-2.94	2.95
669	SLU 74	-71	2	10006	14.93	-3.01	2.97
669	SLU 75	-71	20	9994	13.6	-3.01	2.98
669	SLU 76	-71	32	9933	12.45	-2.99	2.96
669	SLU 77	-72	2	10109	15.61	-3.05	2.99
669	SLU 78	-72	20	10097	14.27	-3.05	2.99
669	SLU 79	-71	2	10056	15.36	-3.04	2.96
669	SLU 80	-71	20	10043	14.02	-3.04	2.97
669	SLU 81	-71	2	10224	14.43	-3.11	2.99
669	SLU 82	-70	21	10212	13.1	-3.11	3
669	SLU 83	-71	2	10326	15.11	-3.16	3.01
669	SLU 84	-71	20	10314	13.77	-3.16	3.02
669	SLE RA 1	-54	1	6676	9.06	-1.89	2.09
669	SLE RA 2	-53	21	6662	7.58	-1.89	2.1
669	SLE RA 3	-54	1	6780	9.68	-1.93	2.12
669	SLE RA 4	-54	13	6772	8.79	-1.93	2.12
669	SLE RA 5	-54	21	6731	8.03	-1.92	2.11
669	SLE RA 6	-54	1	6848	10.14	-1.96	2.13
669	SLE RA 7	-54	13	6840	9.24	-1.96	2.13
669	SLE RA 8	-54	1	6813	9.97	-1.95	2.11
669	SLE RA 9	-54	13	6805	9.08	-1.95	2.12
669	SLE RA 10	-53	22	7243	8.25	-2.15	2.19
669	SLE RA 11	-54	1	7361	10.35	-2.19	2.21
669	SLE RA 12	-54	14	7353	9.46	-2.19	2.21
669	SLE RA 13	-54	22	7312	8.7	-2.18	2.2
669	SLE RA 14	-54	1	7430	10.81	-2.22	2.22
669	SLE RA 15	-54	13	7422	9.91	-2.22	2.22
669	SLE RA 16	-54	1	7394	10.64	-2.21	2.21
669	SLE RA 17	-54	13	7386	9.75	-2.21	2.21
669	SLE RA 18	-53	2	7506	10.02	-2.26	2.22
669	SLE RA 19	-53	14	7498	9.13	-2.26	2.23
669	SLE RA 20	-54	1	7575	10.47	-2.29	2.23
669	SLE RA 21	-54	14	7567	9.58	-2.29	2.24
669	SLE FR 1	-54	1	6676	9.06	-1.89	2.09
669	SLE FR 2	-53	5	6673	8.77	-1.89	2.1
669	SLE FR 3	-54	1	6703	9.24	-1.9	2.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
669	SLE FR 4	-53	5	6922	9.05	-2	2.13
669	SLE FR 5	-54	1	6952	9.53	-2.01	2.14
669	SLE FR 6	-54	1	7091	9.54	-2.07	2.16
669	SLE QP 1	-54	1	6676	9.06	-1.89	2.09
669	SLE QP 2	-54	1	6925	9.35	-2	2.13
669	SLD 1	473	292	7337	3	1.13	3.15
669	SLD 2	471	229	7341	4.59	1.17	4.24
669	SLD 3	462	-88	7578	37.03	1.02	2.99
669	SLD 4	460	-151	7581	38.61	1.06	4.09
669	SLD 5	122	675	6683	-44.43	-0.9	2.48
669	SLD 6	121	635	6685	-43.41	-0.87	3.19
669	SLD 7	84	-591	7485	68.98	-1.27	1.97
669	SLD 8	83	-632	7487	70	-1.24	2.68
669	SLD 9	-190	634	6362	-51.3	-2.75	1.59
669	SLD 10	-191	593	6364	-50.28	-2.73	2.29
669	SLD 11	-228	-632	7164	62.11	-3.13	1.08
669	SLD 12	-229	-673	7167	63.13	-3.1	1.79
669	SLD 13	-567	154	6268	-19.91	-5.06	0.18
669	SLD 14	-569	91	6271	-18.33	-5.02	1.27
669	SLD 15	-578	-226	6509	14.12	-5.17	0.02
669	SLD 16	-580	-289	6512	15.7	-5.13	1.12
669	SLV 1	772	483	7551	-3.04	2.89	3.71
669	SLV 2	768	384	7556	-0.55	2.96	5.44
669	SLV 3	753	-165	7961	55.03	2.7	3.45
669	SLV 4	750	-264	7966	57.52	2.77	5.18
669	SLV 5	223	1147	6490	-82.91	-0.26	2.68
669	SLV 6	221	1080	6493	-81.23	-0.21	3.85
669	SLV 7	161	-1013	7857	110.66	-0.89	1.81
669	SLV 8	158	-1080	7860	112.34	-0.84	2.97
669	SLV 9	-265	1082	5989	-93.64	-3.15	1.29
669	SLV 10	-268	1015	5993	-91.96	-3.11	2.46
669	SLV 11	-328	-1078	7357	99.93	-3.78	0.42
669	SLV 12	-330	-1145	7360	101.61	-3.74	1.58
669	SLV 13	-857	267	5883	-38.82	-6.77	-0.92
669	SLV 14	-860	167	5888	-36.33	-6.7	0.81
669	SLV 15	-875	-381	6293	19.25	-6.95	-1.18
669	SLV 16	-879	-481	6298	21.74	-6.89	0.55
669	SLV FO 1	854	531	7614	-4.28	3.38	3.87
669	SLV FO 2	851	422	7619	-1.54	3.45	5.77
669	SLV FO 3	834	-182	8065	59.6	3.17	3.58
669	SLV FO 4	830	-291	8070	62.34	3.25	5.49
669	SLV FO 5	251	1262	6446	-92.13	-0.08	2.74
669	SLV FO 6	248	1188	6450	-90.29	-0.03	4.02
669	SLV FO 7	182	-1114	7950	120.79	-0.77	1.78
669	SLV FO 8	180	-1188	7954	122.64	-0.73	3.06
669	SLV FO 9	-287	1190	5896	-103.94	-3.27	1.21
669	SLV FO 10	-289	1117	5899	-102.09	-3.22	2.49
669	SLV FO 11	-355	-1186	7400	108.99	-3.96	0.25
669	SLV FO 12	-358	-1259	7403	110.84	-3.91	1.53
669	SLV FO 13	-937	293	5779	-43.64	-7.24	-1.22
669	SLV FO 14	-941	184	5785	-40.89	-7.17	0.68
669	SLV FO 15	-958	-419	6230	20.24	-7.45	-1.51
669	SLV FO 16	-961	-529	6236	22.98	-7.38	0.39
669	CRTFP Ux+	0	0	0	0	0	0
669	CRTFP Ux-	0	0	0	0	0	0
669	CRTFP Uy+	0	0	0	0	0	0
669	CRTFP Uy-	0	0	0	0	0	0
670	SLU 1	-50	13	6424	3.88	-1.19	2.46
670	SLU 2	-49	44	6404	1.95	-1.22	2.5
670	SLU 3	-51	13	6582	4.6	-1.23	2.51
670	SLU 4	-50	32	6570	3.44	-1.25	2.53
670	SLU 5	-50	44	6509	2.47	-1.26	2.52
670	SLU 6	-51	13	6686	5.13	-1.26	2.53
670	SLU 7	-51	32	6674	3.97	-1.28	2.55
670	SLU 8	-50	13	6632	4.94	-1.25	2.5
670	SLU 9	-50	32	6620	3.78	-1.27	2.53
670	SLU 10	-49	46	7287	2.2	-1.51	2.67
670	SLU 11	-50	15	7465	4.86	-1.52	2.67
670	SLU 12	-50	33	7453	3.7	-1.54	2.7
670	SLU 13	-50	46	7392	2.73	-1.55	2.69
670	SLU 14	-51	15	7569	5.39	-1.55	2.69
670	SLU 15	-50	33	7557	4.23	-1.57	2.72
670	SLU 16	-50	15	7515	5.19	-1.54	2.67
670	SLU 17	-50	33	7503	4.03	-1.56	2.69
670	SLU 18	-50	15	7686	4.25	-1.61	2.7
670	SLU 19	-49	34	7674	3.09	-1.63	2.72
670	SLU 20	-50	15	7790	4.78	-1.64	2.72
670	SLU 21	-50	34	7778	3.62	-1.66	2.74
670	SLU 22	-53	15	7483	7.24	-1.43	2.78
670	SLU 23	-53	46	7463	5.31	-1.47	2.82
670	SLU 24	-54	15	7640	7.96	-1.48	2.83
670	SLU 25	-54	34	7629	6.8	-1.5	2.85
670	SLU 26	-53	46	7567	5.83	-1.5	2.84
670	SLU 27	-54	15	7745	8.49	-1.51	2.85
670	SLU 28	-54	34	7733	7.33	-1.53	2.87
670	SLU 29	-54	15	7691	8.3	-1.5	2.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
670	SLU 30	-54	33	7679	7.14	-1.52	2.84
670	SLU 31	-53	48	8346	5.56	-1.76	2.99
670	SLU 32	-54	17	8524	8.22	-1.77	2.99
670	SLU 33	-54	35	8512	7.06	-1.79	3.02
670	SLU 34	-53	47	8450	6.09	-1.79	3
670	SLU 35	-54	17	8628	8.75	-1.8	3.01
670	SLU 36	-54	35	8616	7.59	-1.82	3.03
670	SLU 37	-54	16	8574	8.55	-1.79	2.99
670	SLU 38	-54	35	8562	7.39	-1.81	3.01
670	SLU 39	-53	17	8744	7.61	-1.85	3.02
670	SLU 40	-53	36	8732	6.45	-1.87	3.04
670	SLU 41	-53	17	8848	8.14	-1.88	3.04
670	SLU 42	-53	36	8836	6.98	-1.9	3.06
670	SLU 43	-64	17	7988	3.89	-1.47	3.09
670	SLU 44	-63	48	7969	1.96	-1.5	3.13
670	SLU 45	-64	17	8146	4.61	-1.51	3.14
670	SLU 46	-64	35	8135	3.45	-1.53	3.16
670	SLU 47	-63	47	8073	2.49	-1.53	3.15
670	SLU 48	-65	17	8250	5.14	-1.54	3.16
670	SLU 49	-64	35	8239	3.98	-1.56	3.18
670	SLU 50	-64	17	8197	4.95	-1.53	3.13
670	SLU 51	-64	35	8185	3.79	-1.55	3.15
670	SLU 52	-63	49	8852	2.21	-1.79	3.3
670	SLU 53	-64	18	9029	4.87	-1.8	3.3
670	SLU 54	-64	37	9018	3.71	-1.82	3.33
670	SLU 55	-63	49	8956	2.74	-1.82	3.32
670	SLU 56	-64	18	9133	5.4	-1.83	3.32
670	SLU 57	-64	37	9122	4.24	-1.85	3.35
670	SLU 58	-64	18	9080	5.2	-1.82	3.3
670	SLU 59	-64	36	9068	4.05	-1.84	3.32
670	SLU 60	-63	19	9250	4.26	-1.88	3.33
670	SLU 61	-63	37	9238	3.1	-1.9	3.35
670	SLU 62	-64	19	9354	4.79	-1.91	3.35
670	SLU 63	-63	37	9342	3.63	-1.93	3.37
670	SLU 64	-67	19	9047	7.25	-1.71	3.41
670	SLU 65	-67	49	9027	5.32	-1.74	3.45
670	SLU 66	-68	19	9205	7.97	-1.75	3.46
670	SLU 67	-68	37	9193	6.81	-1.77	3.48
670	SLU 68	-67	49	9131	5.85	-1.77	3.47
670	SLU 69	-68	19	9309	8.5	-1.78	3.48
670	SLU 70	-68	37	9297	7.34	-1.8	3.5
670	SLU 71	-68	18	9255	8.31	-1.77	3.45
670	SLU 72	-67	37	9243	7.15	-1.79	3.47
670	SLU 73	-67	51	9910	5.57	-2.03	3.62
670	SLU 74	-68	20	10088	8.23	-2.04	3.62
670	SLU 75	-67	39	10076	7.07	-2.06	3.65
670	SLU 76	-67	51	10014	6.1	-2.06	3.63
670	SLU 77	-68	20	10192	8.76	-2.07	3.64
670	SLU 78	-68	38	10180	7.6	-2.09	3.66
670	SLU 79	-68	20	10138	8.57	-2.06	3.62
670	SLU 80	-67	38	10126	7.41	-2.08	3.64
670	SLU 81	-67	21	10308	7.62	-2.12	3.65
670	SLU 82	-67	39	10297	6.46	-2.14	3.67
670	SLU 83	-67	21	10412	8.15	-2.15	3.67
670	SLU 84	-67	39	10401	6.99	-2.17	3.69
670	SLE RA 1	-51	14	6727	4.84	-1.26	2.56
670	SLE RA 2	-51	34	6713	3.55	-1.28	2.58
670	SLE RA 3	-51	14	6832	5.32	-1.29	2.59
670	SLE RA 4	-51	26	6824	4.55	-1.3	2.6
670	SLE RA 5	-51	34	6783	3.9	-1.3	2.59
670	SLE RA 6	-52	14	6901	5.67	-1.31	2.6
670	SLE RA 7	-51	26	6893	4.9	-1.32	2.61
670	SLE RA 8	-51	14	6865	5.54	-1.3	2.58
670	SLE RA 9	-51	26	6857	4.77	-1.32	2.6
670	SLE RA 10	-51	35	7302	3.72	-1.48	2.69
670	SLE RA 11	-51	15	7420	5.49	-1.48	2.7
670	SLE RA 12	-51	27	7413	4.72	-1.5	2.71
670	SLE RA 13	-51	35	7371	4.07	-1.5	2.7
670	SLE RA 14	-51	15	7490	5.84	-1.5	2.71
670	SLE RA 15	-51	27	7482	5.07	-1.52	2.72
670	SLE RA 16	-51	15	7454	5.71	-1.5	2.69
670	SLE RA 17	-51	27	7446	4.94	-1.51	2.71
670	SLE RA 18	-51	15	7567	5.08	-1.54	2.71
670	SLE RA 19	-51	28	7560	4.31	-1.55	2.73
670	SLE RA 20	-51	15	7637	5.44	-1.56	2.73
670	SLE RA 21	-51	28	7629	4.66	-1.57	2.74
670	SLE FR 1	-51	14	6727	4.84	-1.26	2.56
670	SLE FR 2	-51	18	6724	4.58	-1.27	2.56
670	SLE FR 3	-51	14	6754	4.98	-1.27	2.56
670	SLE FR 4	-51	18	6976	4.65	-1.35	2.61
670	SLE FR 5	-51	14	7007	5.05	-1.35	2.61
670	SLE FR 6	-51	15	7147	4.96	-1.4	2.63
670	SLE QP 1	-51	14	6727	4.84	-1.26	2.56
670	SLE QP 2	-51	14	6979	4.91	-1.34	2.6
670	SLD 1	477	296	7290	1.39	1.92	3.76
670	SLD 2	475	238	7291	2.76	2	4.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
670	SLD 3	465	-85	7526	31.4	2.27	3.44
670	SLD 4	463	-143	7528	32.77	2.35	4.43
670	SLD 5	126	686	6714	-41.89	-0.91	3.27
670	SLD 6	124	649	6715	-41.01	-0.86	3.91
670	SLD 7	87	-583	7501	58.13	0.26	2.2
670	SLD 8	85	-620	7502	59.01	0.31	2.84
670	SLD 9	-187	649	6456	-49.19	-3	2.37
670	SLD 10	-188	612	6457	-48.31	-2.95	3.01
670	SLD 11	-226	-620	7243	50.83	-1.83	1.3
670	SLD 12	-227	-657	7244	51.71	-1.78	1.94
670	SLD 13	-565	171	6430	-22.95	-5.04	0.77
670	SLD 14	-567	114	6431	-21.58	-4.96	1.77
670	SLD 15	-576	-209	6666	7.06	-4.69	0.45
670	SLD 16	-578	-267	6667	8.43	-4.61	1.45
670	SLV 1	776	482	7447	-2.78	3.72	4.42
670	SLV 2	773	391	7449	-0.62	3.85	5.99
670	SLV 3	757	-167	7850	48.44	4.32	3.87
670	SLV 4	753	-258	7852	50.6	4.45	5.44
670	SLV 5	227	1156	6508	-75.48	-0.75	3.69
670	SLV 6	225	1095	6510	-74.03	-0.66	4.74
670	SLV 7	163	-1008	7850	95.25	1.23	1.86
670	SLV 8	160	-1069	7852	96.7	1.32	2.92
670	SLV 9	-262	1098	6106	-86.88	-4.01	2.29
670	SLV 10	-264	1037	6107	-85.42	-3.92	3.34
670	SLV 11	-327	-1066	7448	83.85	-2.02	0.46
670	SLV 12	-329	-1128	7449	85.3	-1.94	1.52
670	SLV 13	-855	287	6106	-40.77	-7.13	-0.24
670	SLV 14	-858	196	6108	-38.61	-7.01	1.33
670	SLV 15	-874	-362	6508	10.44	-6.54	-0.78
670	SLV 16	-878	-453	6510	12.6	-6.41	0.78
670	SLV FO 1	859	529	7494	-3.55	4.23	4.6
670	SLV FO 2	855	428	7496	-1.17	4.37	6.33
670	SLV FO 3	837	-186	7937	52.79	4.89	4
670	SLV FO 4	834	-286	7939	55.17	5.02	5.73
670	SLV FO 5	255	1271	6461	-83.52	-0.69	3.79
670	SLV FO 6	253	1203	6463	-81.92	-0.6	4.95
670	SLV FO 7	184	-1110	7938	104.28	1.49	1.79
670	SLV FO 8	182	-1178	7939	105.88	1.58	2.95
670	SLV FO 9	-283	1206	6019	-96.06	-4.27	2.26
670	SLV FO 10	-286	1139	6020	-94.46	-4.18	3.42
670	SLV FO 11	-354	-1174	7495	91.74	-2.09	0.25
670	SLV FO 12	-357	-1242	7496	93.34	-2	1.41
670	SLV FO 13	-936	314	6018	-45.34	-7.71	-0.52
670	SLV FO 14	-939	214	6021	-42.97	-7.57	1.2
670	SLV FO 15	-957	-400	6461	11	-7.06	-1.12
670	SLV FO 16	-960	-500	6464	13.37	-6.92	0.6
670	CRTFP Ux+	0	0	0	0	0	0
670	CRTFP Ux-	0	0	0	0	0	0
670	CRTFP Uy+	0	0	0	0	0	0
670	CRTFP Uy-	0	0	0	0	0	0
671	SLU 1	-48	27	6447	-0.09	-0.19	2.48
671	SLU 2	-47	58	6429	-1.73	-0.25	2.54
671	SLU 3	-48	27	6606	0.42	-0.2	2.53
671	SLU 4	-48	46	6595	-0.56	-0.23	2.56
671	SLU 5	-48	58	6533	-1.35	-0.26	2.56
671	SLU 6	-49	27	6710	0.8	-0.21	2.55
671	SLU 7	-48	46	6699	-0.18	-0.24	2.58
671	SLU 8	-48	27	6656	0.67	-0.21	2.52
671	SLU 9	-48	46	6645	-0.31	-0.24	2.56
671	SLU 10	-47	60	7318	-2.22	-0.37	2.71
671	SLU 11	-48	30	7495	-0.07	-0.33	2.69
671	SLU 12	-48	48	7484	-1.05	-0.36	2.73
671	SLU 13	-47	60	7423	-1.84	-0.38	2.73
671	SLU 14	-49	30	7600	0.31	-0.34	2.71
671	SLU 15	-48	48	7589	-0.67	-0.37	2.75
671	SLU 16	-48	29	7546	0.18	-0.34	2.68
671	SLU 17	-48	48	7535	-0.8	-0.37	2.72
671	SLU 18	-48	30	7718	-0.79	-0.37	2.72
671	SLU 19	-47	49	7707	-1.78	-0.4	2.75
671	SLU 20	-48	30	7822	-0.41	-0.38	2.74
671	SLU 21	-48	49	7812	-1.39	-0.41	2.77
671	SLU 22	-51	31	7510	2.37	-0.24	2.81
671	SLU 23	-51	62	7492	0.73	-0.3	2.87
671	SLU 24	-52	31	7669	2.89	-0.25	2.85
671	SLU 25	-52	50	7658	1.91	-0.28	2.89
671	SLU 26	-51	62	7596	1.12	-0.31	2.89
671	SLU 27	-52	31	7773	3.27	-0.26	2.87
671	SLU 28	-52	50	7763	2.29	-0.29	2.91
671	SLU 29	-52	31	7719	3.14	-0.26	2.85
671	SLU 30	-51	49	7708	2.15	-0.29	2.88
671	SLU 31	-51	64	8381	0.24	-0.42	3.03
671	SLU 32	-52	33	8558	2.4	-0.38	3.02
671	SLU 33	-51	52	8548	1.42	-0.41	3.05
671	SLU 34	-51	64	8486	0.63	-0.43	3.05
671	SLU 35	-52	33	8663	2.78	-0.39	3.03
671	SLU 36	-52	52	8652	1.8	-0.42	3.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
671	SLU 37	-52	33	8609	2.65	-0.39	3.01
671	SLU 38	-51	52	8598	1.66	-0.42	3.05
671	SLU 39	-51	34	8781	1.67	-0.42	3.04
671	SLU 40	-51	53	8770	0.69	-0.45	3.08
671	SLU 41	-51	34	8886	2.05	-0.43	3.06
671	SLU 42	-51	53	8875	1.07	-0.46	3.1
671	SLU 43	-61	34	8016	-0.97	-0.23	3.12
671	SLU 44	-61	65	7998	-2.61	-0.29	3.18
671	SLU 45	-62	34	8175	-0.45	-0.24	3.16
671	SLU 46	-61	53	8164	-1.43	-0.28	3.2
671	SLU 47	-61	65	8103	-2.22	-0.3	3.2
671	SLU 48	-62	34	8280	-0.07	-0.25	3.18
671	SLU 49	-62	53	8269	-1.05	-0.28	3.22
671	SLU 50	-61	34	8226	-0.2	-0.25	3.15
671	SLU 51	-61	53	8215	-1.19	-0.29	3.19
671	SLU 52	-60	67	8888	-3.1	-0.41	3.34
671	SLU 53	-61	37	9065	-0.94	-0.37	3.32
671	SLU 54	-61	55	9054	-1.92	-0.4	3.36
671	SLU 55	-61	67	8992	-2.71	-0.42	3.36
671	SLU 56	-62	37	9169	-0.56	-0.38	3.34
671	SLU 57	-61	55	9158	-1.54	-0.41	3.38
671	SLU 58	-61	36	9115	-0.69	-0.38	3.32
671	SLU 59	-61	55	9104	-1.68	-0.41	3.35
671	SLU 60	-61	37	9287	-1.67	-0.41	3.35
671	SLU 61	-60	56	9276	-2.65	-0.44	3.39
671	SLU 62	-61	37	9392	-1.29	-0.42	3.37
671	SLU 63	-61	56	9381	-2.27	-0.45	3.41
671	SLU 64	-64	38	9080	1.5	-0.28	3.44
671	SLU 65	-64	69	9061	-0.14	-0.34	3.5
671	SLU 66	-65	38	9238	2.01	-0.29	3.49
671	SLU 67	-65	56	9227	1.03	-0.33	3.52
671	SLU 68	-64	69	9166	0.24	-0.35	3.52
671	SLU 69	-65	38	9343	2.4	-0.3	3.5
671	SLU 70	-65	56	9332	1.41	-0.33	3.54
671	SLU 71	-65	37	9289	2.26	-0.3	3.48
671	SLU 72	-65	56	9278	1.28	-0.33	3.52
671	SLU 73	-64	71	9951	-0.63	-0.46	3.67
671	SLU 74	-65	40	10128	1.52	-0.42	3.65
671	SLU 75	-65	59	10117	0.54	-0.45	3.69
671	SLU 76	-64	71	10056	-0.25	-0.47	3.68
671	SLU 77	-65	40	10233	1.91	-0.43	3.67
671	SLU 78	-65	59	10222	0.92	-0.46	3.7
671	SLU 79	-65	40	10179	1.77	-0.43	3.64
671	SLU 80	-64	58	10168	0.79	-0.46	3.68
671	SLU 81	-64	41	10351	0.8	-0.46	3.68
671	SLU 82	-64	60	10340	-0.18	-0.49	3.71
671	SLU 83	-64	41	10455	1.18	-0.47	3.69
671	SLU 84	-64	60	10444	0.2	-0.5	3.73
671	SLE RA 1	-49	28	6751	0.61	-0.21	2.58
671	SLE RA 2	-48	49	6738	-0.48	-0.24	2.62
671	SLE RA 3	-49	28	6856	0.95	-0.21	2.61
671	SLE RA 4	-49	41	6849	0.3	-0.23	2.63
671	SLE RA 5	-49	49	6808	-0.23	-0.25	2.63
671	SLE RA 6	-49	28	6926	1.21	-0.22	2.62
671	SLE RA 7	-49	41	6919	0.55	-0.24	2.64
671	SLE RA 8	-49	28	6890	1.12	-0.22	2.6
671	SLE RA 9	-49	40	6883	0.46	-0.24	2.62
671	SLE RA 10	-48	50	7332	-0.81	-0.33	2.73
671	SLE RA 11	-49	30	7450	0.63	-0.3	2.71
671	SLE RA 12	-49	42	7442	-0.03	-0.32	2.74
671	SLE RA 13	-49	50	7401	-0.55	-0.33	2.74
671	SLE RA 14	-49	30	7519	0.88	-0.3	2.73
671	SLE RA 15	-49	42	7512	0.23	-0.32	2.75
671	SLE RA 16	-49	30	7483	0.79	-0.3	2.71
671	SLE RA 17	-49	42	7476	0.14	-0.32	2.73
671	SLE RA 18	-49	30	7598	0.14	-0.33	2.73
671	SLE RA 19	-48	43	7591	-0.51	-0.35	2.76
671	SLE RA 20	-49	30	7668	0.4	-0.33	2.74
671	SLE RA 21	-49	43	7660	-0.26	-0.35	2.77
671	SLE FR 1	-49	28	6751	0.61	-0.21	2.58
671	SLE FR 2	-49	32	6748	0.39	-0.21	2.58
671	SLE FR 3	-49	28	6778	0.71	-0.21	2.58
671	SLE FR 4	-49	33	7002	0.25	-0.25	2.63
671	SLE FR 5	-49	29	7033	0.57	-0.25	2.63
671	SLE FR 6	-49	29	7174	0.38	-0.27	2.65
671	SLE QP 1	-49	28	6751	0.61	-0.21	2.58
671	SLE QP 2	-49	29	7005	0.47	-0.24	2.62
671	SLD 1	480	302	7212	-0.22	3.05	3.9
671	SLD 2	478	249	7210	0.94	3.15	4.81
671	SLD 3	468	-81	7433	25.81	3.65	3.34
671	SLD 4	466	-133	7431	26.97	3.75	4.25
671	SLD 5	128	700	6732	-39.42	-0.19	3.69
671	SLD 6	127	666	6731	-38.67	-0.13	4.28
671	SLD 7	88	-575	7469	47.35	1.83	1.83
671	SLD 8	87	-609	7468	48.1	1.89	2.42
671	SLD 9	-184	667	6542	-47.16	-2.38	2.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
671	SLD 10	-186	633	6541	-46.41	-2.31	3.41
671	SLD 11	-224	-609	7279	39.61	-0.36	0.96
671	SLD 12	-226	-643	7278	40.36	-0.29	1.55
671	SLD 13	-563	191	6578	-26.03	-4.24	0.99
671	SLD 14	-565	138	6576	-24.87	-4.14	1.91
671	SLD 15	-575	-192	6799	0	-3.63	0.43
671	SLD 16	-577	-245	6797	1.16	-3.53	1.35
671	SLV 1	779	484	7312	-2.52	4.85	4.64
671	SLV 2	776	401	7309	-0.69	5	6.08
671	SLV 3	759	-168	7689	41.92	5.88	3.69
671	SLV 4	756	-252	7686	43.75	6.03	5.13
671	SLV 5	231	1171	6526	-68.16	-0.31	4.4
671	SLV 6	229	1115	6524	-66.93	-0.2	5.37
671	SLV 7	164	-1005	7782	79.96	3.13	1.23
671	SLV 8	162	-1061	7780	81.19	3.23	2.2
671	SLV 9	-259	1118	6229	-80.25	-3.72	3.04
671	SLV 10	-261	1062	6228	-79.02	-3.61	4.01
671	SLV 11	-326	-1057	7485	67.87	-0.28	-0.13
671	SLV 12	-328	-1113	7484	69.1	-0.18	0.85
671	SLV 13	-854	309	6323	-42.8	-6.52	0.11
671	SLV 14	-857	226	6321	-40.98	-6.36	1.55
671	SLV 15	-874	-343	6700	1.63	-5.49	-0.84
671	SLV 16	-877	-427	6697	3.46	-5.33	0.6
671	SLV FO 1	862	530	7343	-2.82	5.36	4.84
671	SLV FO 2	859	438	7340	-0.81	5.53	6.43
671	SLV FO 3	840	-188	7757	46.06	6.49	3.8
671	SLV FO 4	837	-280	7754	48.07	6.66	5.38
671	SLV FO 5	259	1285	6478	-75.03	-0.31	4.58
671	SLV FO 6	256	1223	6476	-73.67	-0.2	5.65
671	SLV FO 7	185	-1108	7860	87.91	3.46	1.09
671	SLV FO 8	183	-1170	7858	89.26	3.58	2.16
671	SLV FO 9	-280	1227	6152	-88.32	-4.06	3.08
671	SLV FO 10	-283	1166	6150	-86.97	-3.95	4.15
671	SLV FO 11	-354	-1166	7533	74.61	-0.29	-0.4
671	SLV FO 12	-356	-1228	7532	75.97	-0.17	0.67
671	SLV FO 13	-934	337	6255	-47.13	-7.15	-0.14
671	SLV FO 14	-938	246	6252	-45.12	-6.98	1.45
671	SLV FO 15	-956	-381	6670	1.75	-6.01	-1.18
671	SLV FO 16	-960	-472	6667	3.76	-5.84	0.4
671	CRTFP Ux+	0	0	0	0	0	0
671	CRTFP Ux-	0	0	0	0	0	0
671	CRTFP Uy+	0	0	0	0	0	0
671	CRTFP Uy-	0	0	0	0	0	0
672	SLU 1	-46	40	6433	-4.07	1.08	2.07
672	SLU 2	-46	71	6417	-5.42	1.02	2.15
672	SLU 3	-47	40	6592	-3.76	1.11	2.11
672	SLU 4	-46	59	6582	-4.57	1.07	2.16
672	SLU 5	-46	71	6521	-5.18	1.04	2.17
672	SLU 6	-47	40	6696	-3.53	1.13	2.12
672	SLU 7	-47	59	6686	-4.33	1.09	2.17
672	SLU 8	-47	40	6642	-3.6	1.12	2.1
672	SLU 9	-46	59	6632	-4.41	1.08	2.15
672	SLU 10	-46	74	7307	-6.66	1.11	2.28
672	SLU 11	-47	43	7482	-5	1.2	2.24
672	SLU 12	-46	62	7472	-5.81	1.16	2.29
672	SLU 13	-46	74	7412	-6.42	1.12	2.3
672	SLU 14	-47	43	7587	-4.76	1.21	2.25
672	SLU 15	-47	62	7577	-5.57	1.18	2.3
672	SLU 16	-46	43	7533	-4.84	1.2	2.23
672	SLU 17	-46	62	7523	-5.65	1.16	2.28
672	SLU 18	-46	44	7705	-5.84	1.21	2.26
672	SLU 19	-46	63	7695	-6.65	1.17	2.31
672	SLU 20	-46	44	7810	-5.61	1.22	2.27
672	SLU 21	-46	63	7800	-6.41	1.18	2.32
672	SLU 22	-49	45	7494	-2.5	1.28	2.35
672	SLU 23	-49	76	7478	-3.84	1.22	2.43
672	SLU 24	-50	45	7653	-2.19	1.31	2.39
672	SLU 25	-50	64	7643	-2.99	1.27	2.44
672	SLU 26	-49	76	7582	-3.61	1.23	2.45
672	SLU 27	-50	46	7757	-1.95	1.32	2.4
672	SLU 28	-50	64	7747	-2.76	1.29	2.45
672	SLU 29	-50	45	7703	-2.03	1.31	2.38
672	SLU 30	-50	64	7693	-2.84	1.27	2.43
672	SLU 31	-49	80	8368	-5.08	1.3	2.56
672	SLU 32	-50	49	8543	-3.43	1.39	2.52
672	SLU 33	-50	68	8533	-4.23	1.36	2.57
672	SLU 34	-49	80	8473	-4.85	1.32	2.58
672	SLU 35	-50	49	8648	-3.19	1.41	2.53
672	SLU 36	-50	68	8638	-4	1.37	2.58
672	SLU 37	-50	48	8594	-3.27	1.4	2.51
672	SLU 38	-49	67	8584	-4.07	1.36	2.56
672	SLU 39	-49	50	8766	-4.27	1.4	2.54
672	SLU 40	-49	68	8756	-5.07	1.36	2.59
672	SLU 41	-49	50	8871	-4.03	1.42	2.55
672	SLU 42	-49	68	8861	-4.84	1.38	2.6
672	SLU 43	-59	50	7999	-5.83	1.34	2.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
672	SLU 44	-58	81	7983	-7.18	1.28	2.68
672	SLU 45	-59	50	8158	-5.52	1.37	2.63
672	SLU 46	-59	69	8148	-6.33	1.33	2.68
672	SLU 47	-59	81	8088	-6.94	1.29	2.69
672	SLU 48	-60	50	8262	-5.29	1.39	2.65
672	SLU 49	-59	69	8253	-6.09	1.35	2.69
672	SLU 50	-59	50	8209	-5.36	1.37	2.62
672	SLU 51	-59	69	8199	-6.17	1.34	2.67
672	SLU 52	-58	84	8873	-8.42	1.36	2.81
672	SLU 53	-59	53	9048	-6.76	1.45	2.76
672	SLU 54	-59	72	9038	-7.57	1.42	2.81
672	SLU 55	-58	84	8978	-8.18	1.38	2.82
672	SLU 56	-60	54	9153	-6.52	1.47	2.78
672	SLU 57	-59	72	9143	-7.33	1.43	2.83
672	SLU 58	-59	53	9099	-6.6	1.46	2.75
672	SLU 59	-59	72	9089	-7.41	1.42	2.8
672	SLU 60	-59	54	9271	-7.6	1.46	2.78
672	SLU 61	-58	73	9261	-8.41	1.43	2.83
672	SLU 62	-59	54	9376	-7.37	1.48	2.8
672	SLU 63	-59	73	9366	-8.17	1.44	2.85
672	SLU 64	-62	55	9060	-4.26	1.54	2.88
672	SLU 65	-62	86	9044	-5.6	1.47	2.96
672	SLU 66	-63	56	9219	-3.95	1.56	2.91
672	SLU 67	-62	74	9209	-4.75	1.53	2.96
672	SLU 68	-62	87	9149	-5.37	1.49	2.97
672	SLU 69	-63	56	9323	-3.71	1.58	2.93
672	SLU 70	-63	74	9313	-4.52	1.54	2.97
672	SLU 71	-62	55	9269	-3.79	1.57	2.9
672	SLU 72	-62	74	9260	-4.6	1.53	2.95
672	SLU 73	-61	90	9934	-6.84	1.56	3.09
672	SLU 74	-63	59	10109	-5.19	1.65	3.04
672	SLU 75	-62	78	10099	-5.99	1.61	3.09
672	SLU 76	-62	90	10039	-6.61	1.58	3.1
672	SLU 77	-63	59	10214	-4.95	1.67	3.06
672	SLU 78	-63	78	10204	-5.76	1.63	3.11
672	SLU 79	-62	58	10160	-5.03	1.66	3.03
672	SLU 80	-62	77	10150	-5.83	1.62	3.08
672	SLU 81	-62	60	10332	-6.03	1.66	3.06
672	SLU 82	-62	78	10322	-6.83	1.62	3.11
672	SLU 83	-62	60	10437	-5.79	1.68	3.08
672	SLU 84	-62	79	10427	-6.6	1.64	3.13
672	SLE RA 1	-47	41	6736	-3.62	1.14	2.15
672	SLE RA 2	-47	62	6725	-4.52	1.1	2.21
672	SLE RA 3	-47	42	6842	-3.41	1.16	2.18
672	SLE RA 4	-47	54	6835	-3.95	1.13	2.21
672	SLE RA 5	-47	62	6795	-4.36	1.11	2.21
672	SLE RA 6	-48	42	6912	-3.26	1.17	2.18
672	SLE RA 7	-47	54	6905	-3.8	1.14	2.22
672	SLE RA 8	-47	41	6876	-3.31	1.16	2.17
672	SLE RA 9	-47	54	6869	-3.85	1.14	2.2
672	SLE RA 10	-47	64	7319	-5.34	1.15	2.29
672	SLE RA 11	-47	44	7435	-4.24	1.22	2.26
672	SLE RA 12	-47	56	7429	-4.78	1.19	2.3
672	SLE RA 13	-47	64	7389	-5.19	1.17	2.3
672	SLE RA 14	-47	44	7505	-4.08	1.23	2.27
672	SLE RA 15	-47	56	7499	-4.62	1.2	2.3
672	SLE RA 16	-47	43	7469	-4.13	1.22	2.26
672	SLE RA 17	-47	56	7463	-4.67	1.19	2.29
672	SLE RA 18	-47	44	7584	-4.8	1.22	2.28
672	SLE RA 19	-47	57	7578	-5.34	1.2	2.31
672	SLE RA 20	-47	44	7654	-4.64	1.23	2.29
672	SLE RA 21	-47	57	7647	-5.18	1.21	2.32
672	SLE FR 1	-47	41	6736	-3.62	1.14	2.15
672	SLE FR 2	-47	45	6734	-3.8	1.13	2.16
672	SLE FR 3	-47	41	6764	-3.56	1.14	2.15
672	SLE FR 4	-47	46	6988	-4.15	1.15	2.2
672	SLE FR 5	-47	42	7019	-3.91	1.17	2.19
672	SLE FR 6	-47	43	7160	-4.21	1.18	2.21
672	SLE QP 1	-47	41	6736	-3.62	1.14	2.15
672	SLE QP 2	-47	42	6991	-3.97	1.16	2.19
672	SLD 1	482	309	7095	-1.83	4.37	3.51
672	SLD 2	480	261	7090	-0.88	4.47	4.38
672	SLD 3	470	-77	7295	20.26	5.08	2.72
672	SLD 4	468	-125	7290	21.21	5.18	3.59
672	SLD 5	131	716	6720	-37.01	1.02	3.63
672	SLD 6	130	685	6716	-36.4	1.09	4.19
672	SLD 7	90	-571	7386	36.65	3.41	1.01
672	SLD 8	88	-602	7383	37.26	3.47	1.56
672	SLD 9	-182	686	6598	-45.21	-1.15	2.81
672	SLD 10	-183	655	6595	-44.6	-1.08	3.37
672	SLD 11	-223	-601	7265	28.45	1.24	0.19
672	SLD 12	-225	-632	7262	29.06	1.3	0.75
672	SLD 13	-561	209	6691	-29.16	-2.86	0.79
672	SLD 14	-563	161	6686	-28.21	-2.76	1.65
672	SLD 15	-574	-177	6891	-7.07	-2.14	0
672	SLD 16	-576	-225	6886	-6.12	-2.04	0.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
672	SLV 1	782	488	7139	-2.26	6.11	4.3
672	SLV 2	779	412	7132	-0.76	6.27	5.66
672	SLV 3	761	-170	7480	35.46	7.33	2.96
672	SLV 4	758	-247	7473	36.96	7.49	4.32
672	SLV 5	234	1189	6519	-60.95	0.77	4.6
672	SLV 6	232	1138	6514	-59.94	0.88	5.52
672	SLV 7	165	-1006	7656	64.79	4.83	0.13
672	SLV 8	163	-1058	7651	65.8	4.94	1.05
672	SLV 9	-257	1142	6330	-73.75	-2.61	3.33
672	SLV 10	-259	1090	6325	-72.74	-2.5	4.24
672	SLV 11	-325	-1054	7467	51.99	1.45	-1.14
672	SLV 12	-327	-1105	7462	53	1.56	-0.22
672	SLV 13	-852	331	6509	-44.91	-5.16	0.05
672	SLV 14	-855	255	6501	-43.41	-5	1.42
672	SLV 15	-873	-328	6850	-7.19	-3.94	-1.29
672	SLV 16	-876	-404	6842	-5.69	-3.78	0.08
672	SLV FO 1	865	533	7154	-2.09	6.6	4.51
672	SLV FO 2	861	449	7146	-0.44	6.78	6.01
672	SLV FO 3	842	-192	7529	39.41	7.94	3.04
672	SLV FO 4	839	-275	7521	41.06	8.12	4.54
672	SLV FO 5	262	1304	6472	-66.65	0.73	4.84
672	SLV FO 6	259	1247	6467	-65.54	0.85	5.85
672	SLV FO 7	186	-1111	7723	71.67	5.2	-0.07
672	SLV FO 8	184	-1168	7717	72.78	5.31	0.94
672	SLV FO 9	-278	1252	6264	-80.73	-2.99	3.44
672	SLV FO 10	-280	1195	6259	-79.62	-2.87	4.45
672	SLV FO 11	-353	-1163	7515	57.59	1.48	-1.47
672	SLV FO 12	-356	-1219	7509	58.7	1.6	-0.46
672	SLV FO 13	-933	360	6460	-49.01	-5.79	-0.16
672	SLV FO 14	-936	276	6452	-47.36	-5.62	1.34
672	SLV FO 15	-955	-365	6836	-7.51	-4.45	-1.63
672	SLV FO 16	-959	-449	6827	-5.86	-4.28	-0.13
672	CRTFP Ux+	0	0	0	0	0	0
672	CRTFP Ux-	0	0	0	0	0	0
672	CRTFP Uy+	0	0	0	0	0	0
672	CRTFP Uy-	0	0	0	0	0	0
673	SLU 1	-44	49	6377	-8.06	2.45	1.22
673	SLU 2	-44	81	6363	-9.11	2.4	1.32
673	SLU 3	-45	50	6534	-7.95	2.52	1.24
673	SLU 4	-45	69	6525	-8.59	2.49	1.3
673	SLU 5	-44	81	6466	-9.02	2.44	1.32
673	SLU 6	-45	50	6638	-7.86	2.56	1.25
673	SLU 7	-45	69	6629	-8.5	2.53	1.3
673	SLU 8	-45	49	6584	-7.88	2.54	1.23
673	SLU 9	-45	68	6576	-8.51	2.5	1.29
673	SLU 10	-44	85	7247	-11.1	2.71	1.39
673	SLU 11	-45	53	7418	-9.94	2.83	1.31
673	SLU 12	-45	73	7409	-10.58	2.8	1.37
673	SLU 13	-44	85	7350	-11.01	2.75	1.39
673	SLU 14	-45	54	7522	-9.85	2.87	1.31
673	SLU 15	-45	73	7513	-10.49	2.84	1.37
673	SLU 16	-45	53	7468	-9.87	2.85	1.3
673	SLU 17	-45	72	7460	-10.5	2.81	1.36
673	SLU 18	-44	54	7640	-10.9	2.89	1.32
673	SLU 19	-44	74	7631	-11.53	2.86	1.38
673	SLU 20	-45	55	7744	-10.81	2.94	1.32
673	SLU 21	-44	74	7735	-11.45	2.9	1.38
673	SLU 22	-47	56	7428	-7.37	2.91	1.41
673	SLU 23	-47	88	7413	-8.43	2.86	1.5
673	SLU 24	-48	56	7584	-7.27	2.98	1.43
673	SLU 25	-48	75	7576	-7.9	2.95	1.49
673	SLU 26	-47	88	7517	-8.34	2.9	1.51
673	SLU 27	-48	56	7688	-7.18	3.02	1.43
673	SLU 28	-48	76	7679	-7.82	2.99	1.49
673	SLU 29	-48	56	7635	-7.2	3	1.41
673	SLU 30	-48	75	7626	-7.83	2.97	1.47
673	SLU 31	-47	91	8297	-10.42	3.17	1.57
673	SLU 32	-48	60	8469	-9.26	3.29	1.5
673	SLU 33	-48	79	8460	-9.89	3.26	1.55
673	SLU 34	-47	91	8401	-10.33	3.21	1.58
673	SLU 35	-48	60	8572	-9.17	3.33	1.5
673	SLU 36	-48	79	8563	-9.81	3.3	1.56
673	SLU 37	-48	60	8519	-9.19	3.31	1.48
673	SLU 38	-48	79	8510	-9.82	3.28	1.54
673	SLU 39	-48	61	8691	-10.22	3.35	1.5
673	SLU 40	-47	80	8682	-10.85	3.32	1.56
673	SLU 41	-48	61	8794	-10.13	3.4	1.51
673	SLU 42	-47	80	8785	-10.76	3.36	1.57
673	SLU 43	-57	61	7930	-10.71	3.03	1.53
673	SLU 44	-56	93	7915	-11.76	2.97	1.62
673	SLU 45	-57	62	8087	-10.6	3.1	1.55
673	SLU 46	-57	81	8078	-11.24	3.06	1.61
673	SLU 47	-56	94	8019	-11.68	3.02	1.63
673	SLU 48	-57	62	8191	-10.52	3.14	1.55
673	SLU 49	-57	81	8182	-11.15	3.11	1.61
673	SLU 50	-57	62	8137	-10.53	3.11	1.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
673	SLU 51	-57	81	8129	-11.17	3.08	1.59
673	SLU 52	-56	97	8800	-13.75	3.28	1.69
673	SLU 53	-57	66	8971	-12.59	3.41	1.62
673	SLU 54	-57	85	8962	-13.23	3.37	1.67
673	SLU 55	-56	97	8903	-13.67	3.33	1.7
673	SLU 56	-57	66	9075	-12.51	3.45	1.62
673	SLU 57	-57	85	9066	-13.14	3.42	1.68
673	SLU 58	-57	66	9021	-12.52	3.42	1.6
673	SLU 59	-57	85	9013	-13.16	3.39	1.66
673	SLU 60	-57	67	9193	-13.55	3.47	1.62
673	SLU 61	-56	86	9184	-14.18	3.44	1.68
673	SLU 62	-57	67	9297	-13.46	3.51	1.63
673	SLU 63	-57	86	9288	-14.1	3.48	1.69
673	SLU 64	-60	68	8981	-10.03	3.49	1.71
673	SLU 65	-59	100	8966	-11.08	3.44	1.81
673	SLU 66	-60	69	9137	-9.92	3.56	1.73
673	SLU 67	-60	88	9129	-10.55	3.53	1.79
673	SLU 68	-60	100	9070	-10.99	3.48	1.81
673	SLU 69	-61	69	9241	-9.83	3.6	1.74
673	SLU 70	-60	88	9232	-10.47	3.57	1.79
673	SLU 71	-60	68	9188	-9.85	3.58	1.72
673	SLU 72	-60	87	9179	-10.48	3.54	1.78
673	SLU 73	-59	104	9850	-13.07	3.74	1.88
673	SLU 74	-60	73	10021	-11.91	3.87	1.8
673	SLU 75	-60	92	10013	-12.54	3.83	1.86
673	SLU 76	-60	104	9954	-12.98	3.79	1.88
673	SLU 77	-61	73	10125	-11.82	3.91	1.8
673	SLU 78	-60	92	10116	-12.46	3.88	1.86
673	SLU 79	-60	72	10072	-11.84	3.89	1.79
673	SLU 80	-60	91	10063	-12.47	3.85	1.84
673	SLU 81	-60	73	10243	-12.87	3.93	1.81
673	SLU 82	-59	93	10235	-13.5	3.9	1.87
673	SLU 83	-60	74	10347	-12.78	3.97	1.81
673	SLU 84	-60	93	10338	-13.41	3.94	1.87
673	SLE RA 1	-45	51	6677	-7.86	2.58	1.28
673	SLE RA 2	-45	72	6668	-8.57	2.55	1.34
673	SLE RA 3	-46	51	6782	-7.79	2.63	1.29
673	SLE RA 4	-45	64	6776	-8.21	2.61	1.33
673	SLE RA 5	-45	72	6737	-8.51	2.58	1.34
673	SLE RA 6	-46	51	6851	-7.73	2.66	1.29
673	SLE RA 7	-46	64	6845	-8.16	2.64	1.33
673	SLE RA 8	-46	51	6815	-7.74	2.64	1.28
673	SLE RA 9	-45	64	6810	-8.17	2.62	1.32
673	SLE RA 10	-45	75	7257	-9.89	2.75	1.39
673	SLE RA 11	-46	54	7371	-9.12	2.83	1.33
673	SLE RA 12	-45	67	7365	-9.54	2.81	1.37
673	SLE RA 13	-45	75	7326	-9.83	2.78	1.39
673	SLE RA 14	-46	54	7440	-9.06	2.86	1.34
673	SLE RA 15	-46	67	7434	-9.48	2.84	1.38
673	SLE RA 16	-46	54	7405	-9.07	2.85	1.33
673	SLE RA 17	-45	66	7399	-9.49	2.82	1.36
673	SLE RA 18	-45	55	7519	-9.76	2.88	1.34
673	SLE RA 19	-45	67	7513	-10.18	2.86	1.38
673	SLE RA 20	-45	55	7588	-9.7	2.91	1.34
673	SLE RA 21	-45	67	7582	-10.12	2.88	1.38
673	SLE FR 1	-45	51	6677	-7.86	2.58	1.28
673	SLE FR 2	-45	55	6675	-8	2.58	1.29
673	SLE FR 3	-45	51	6705	-7.84	2.59	1.28
673	SLE FR 4	-45	56	6928	-8.57	2.66	1.31
673	SLE FR 5	-45	52	6957	-8.41	2.68	1.3
673	SLE FR 6	-45	53	7098	-8.81	2.73	1.31
673	SLE QP 1	-45	51	6677	-7.86	2.58	1.28
673	SLE QP 2	-45	52	6930	-8.43	2.67	1.3
673	SLD 1	484	314	6937	-3.45	5.69	2.58
673	SLD 2	482	270	6929	-2.71	5.79	3.43
673	SLD 3	471	-76	7115	14.74	6.33	1.62
673	SLD 4	469	-120	7107	15.49	6.42	2.47
673	SLD 5	133	731	6663	-34.67	2.6	2.98
673	SLD 6	132	703	6658	-34.19	2.66	3.53
673	SLD 7	91	-572	7257	26	4.72	-0.2
673	SLD 8	90	-600	7252	26.47	4.78	0.35
673	SLD 9	-180	704	6608	-43.34	0.57	2.24
673	SLD 10	-181	676	6602	-42.86	0.63	2.79
673	SLD 11	-222	-599	7202	17.33	2.69	-0.94
673	SLD 12	-223	-627	7197	17.81	2.75	-0.39
673	SLD 13	-560	224	6752	-32.35	-1.08	0.12
673	SLD 14	-562	180	6744	-31.61	-0.98	0.97
673	SLD 15	-572	-166	6931	-14.15	-0.44	-0.84
673	SLD 16	-574	-210	6923	-13.41	-0.35	0.01
673	SLV 1	784	491	6929	-2.01	7.34	3.36
673	SLV 2	781	422	6916	-0.84	7.49	4.7
673	SLV 3	763	-176	7233	29.07	8.42	1.73
673	SLV 4	760	-245	7220	30.24	8.57	3.07
673	SLV 5	236	1207	6471	-53.85	2.4	4.13
673	SLV 6	234	1161	6462	-53.07	2.5	5.04
673	SLV 7	166	-1014	7484	49.73	6.01	-1.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
673	SLV 8	164	-1061	7476	50.52	6.11	-0.39
673	SLV 9	-254	1165	6384	-67.38	-0.77	2.98
673	SLV 10	-256	1118	6375	-66.59	-0.67	3.88
673	SLV 11	-325	-1057	7397	36.2	2.84	-2.44
673	SLV 12	-327	-1103	7389	36.99	2.94	-1.54
673	SLV 13	-850	349	6639	-47.1	-3.22	-0.48
673	SLV 14	-853	280	6627	-45.93	-3.08	0.86
673	SLV 15	-871	-318	6943	-16.02	-2.14	-2.11
673	SLV 16	-874	-387	6931	-14.85	-1.99	-0.76
673	SLV FO 1	867	535	6929	-1.37	7.8	3.56
673	SLV FO 2	863	458	6915	-0.08	7.97	5.04
673	SLV FO 3	843	-198	7263	32.82	8.99	1.77
673	SLV FO 4	840	-275	7249	34.11	9.16	3.25
673	SLV FO 5	264	1323	6425	-58.4	2.38	4.42
673	SLV FO 6	262	1271	6415	-57.53	2.48	5.41
673	SLV FO 7	187	-1121	7540	55.55	6.34	-1.55
673	SLV FO 8	184	-1172	7530	56.42	6.45	-0.56
673	SLV FO 9	-275	1276	6329	-73.28	-1.11	3.15
673	SLV FO 10	-277	1225	6320	-72.41	-1	4.14
673	SLV FO 11	-353	-1168	7444	40.67	2.86	-2.82
673	SLV FO 12	-355	-1219	7435	41.54	2.97	-1.82
673	SLV FO 13	-931	379	6610	-50.97	-3.81	-0.66
673	SLV FO 14	-934	302	6596	-49.68	-3.65	0.82
673	SLV FO 15	-954	-355	6945	-16.78	-2.62	-2.45
673	SLV FO 16	-957	-431	6931	-15.49	-2.46	-0.97
673	CRTFP Ux+	0	0	0	0	0	0
673	CRTFP Ux-	0	0	0	0	0	0
673	CRTFP Uy+	0	0	0	0	0	0
673	CRTFP Uy-	0	0	0	0	0	0
674	SLU 1	-44	54	6451	37.7	-30.77	0.49
674	SLU 2	-43	88	6437	36.82	-30.71	0.77
674	SLU 3	-44	55	6609	38.84	-31.51	0.49
674	SLU 4	-44	75	6601	38.31	-31.48	0.66
674	SLU 5	-43	88	6542	37.58	-31.21	0.76
674	SLU 6	-45	55	6714	39.6	-32.01	0.48
674	SLU 7	-44	75	6706	39.07	-31.98	0.65
674	SLU 8	-44	55	6660	39.22	-31.76	0.47
674	SLU 9	-44	75	6652	38.69	-31.73	0.64
674	SLU 10	-43	92	7332	41.03	-34.98	0.76
674	SLU 11	-44	59	7504	43.05	-35.78	0.49
674	SLU 12	-44	79	7496	42.52	-35.75	0.65
674	SLU 13	-44	92	7437	41.79	-35.48	0.75
674	SLU 14	-45	59	7609	43.81	-36.28	0.48
674	SLU 15	-44	79	7600	43.28	-36.25	0.64
674	SLU 16	-44	59	7555	43.43	-36.03	0.46
674	SLU 17	-44	79	7547	42.9	-36	0.63
674	SLU 18	-44	60	7729	43.72	-36.86	0.48
674	SLU 19	-44	80	7721	43.19	-36.83	0.65
674	SLU 20	-44	60	7834	44.48	-37.36	0.47
674	SLU 21	-44	80	7826	43.95	-37.33	0.64
674	SLU 22	-47	62	7511	45.81	-35.73	0.59
674	SLU 23	-46	95	7497	44.93	-35.68	0.87
674	SLU 24	-47	63	7669	46.94	-36.48	0.59
674	SLU 25	-47	83	7661	46.41	-36.45	0.76
674	SLU 26	-47	95	7602	45.68	-36.18	0.86
674	SLU 27	-48	63	7774	47.7	-36.98	0.58
674	SLU 28	-47	83	7766	47.17	-36.95	0.75
674	SLU 29	-47	62	7720	47.33	-36.73	0.57
674	SLU 30	-47	82	7712	46.8	-36.7	0.73
674	SLU 31	-46	99	8392	49.14	-39.95	0.86
674	SLU 32	-47	67	8564	51.16	-40.75	0.58
674	SLU 33	-47	87	8556	50.63	-40.72	0.75
674	SLU 34	-47	99	8497	49.9	-40.44	0.85
674	SLU 35	-48	67	8669	51.91	-41.24	0.57
674	SLU 36	-47	87	8661	51.39	-41.21	0.74
674	SLU 37	-47	66	8615	51.54	-40.99	0.56
674	SLU 38	-47	86	8607	51.01	-40.96	0.73
674	SLU 39	-47	68	8789	51.82	-41.83	0.58
674	SLU 40	-47	88	8781	51.3	-41.79	0.74
674	SLU 41	-47	68	8894	52.58	-42.32	0.57
674	SLU 42	-47	88	8886	52.06	-42.29	0.73
674	SLU 43	-56	68	8022	46.23	-38.29	0.61
674	SLU 44	-55	101	8009	45.35	-38.24	0.89
674	SLU 45	-56	69	8181	47.37	-39.04	0.61
674	SLU 46	-56	89	8173	46.84	-39.01	0.78
674	SLU 47	-56	102	8113	46.11	-38.74	0.88
674	SLU 48	-57	69	8285	48.13	-39.54	0.6
674	SLU 49	-56	89	8277	47.6	-39.51	0.77
674	SLU 50	-56	68	8232	47.75	-39.29	0.59
674	SLU 51	-56	88	8224	47.22	-39.26	0.75
674	SLU 52	-55	105	8904	49.56	-42.51	0.88
674	SLU 53	-56	73	9076	51.58	-43.31	0.6
674	SLU 54	-56	93	9067	51.05	-43.28	0.77
674	SLU 55	-56	106	9008	50.32	-43	0.87
674	SLU 56	-57	73	9180	52.34	-43.81	0.59
674	SLU 57	-56	93	9172	51.81	-43.77	0.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
674	SLU 58	-56	72	9127	51.96	-43.55	0.58
674	SLU 59	-56	92	9118	51.43	-43.52	0.75
674	SLU 60	-56	74	9301	52.25	-44.39	0.6
674	SLU 61	-56	94	9292	51.72	-44.36	0.76
674	SLU 62	-56	74	9405	53.01	-44.89	0.59
674	SLU 63	-56	94	9397	52.48	-44.85	0.75
674	SLU 64	-59	76	9083	54.34	-43.26	0.7
674	SLU 65	-58	109	9069	53.46	-43.21	0.98
674	SLU 66	-59	76	9241	55.47	-44.01	0.7
674	SLU 67	-59	96	9233	54.95	-43.98	0.87
674	SLU 68	-59	109	9174	54.22	-43.7	0.97
674	SLU 69	-60	76	9346	56.23	-44.51	0.69
674	SLU 70	-59	96	9338	55.7	-44.47	0.86
674	SLU 71	-59	76	9292	55.86	-44.25	0.68
674	SLU 72	-59	96	9284	55.33	-44.22	0.85
674	SLU 73	-58	113	9964	57.67	-47.47	0.97
674	SLU 74	-59	80	10136	59.69	-48.27	0.7
674	SLU 75	-59	100	10128	59.16	-48.24	0.86
674	SLU 76	-59	113	10068	58.43	-47.97	0.96
674	SLU 77	-60	80	10241	60.45	-48.77	0.69
674	SLU 78	-59	100	10232	59.92	-48.74	0.85
674	SLU 79	-59	80	10187	60.07	-48.52	0.67
674	SLU 80	-59	100	10179	59.54	-48.49	0.84
674	SLU 81	-59	81	10361	60.36	-49.35	0.69
674	SLU 82	-59	101	10353	59.83	-49.32	0.86
674	SLU 83	-59	81	10466	61.12	-49.85	0.68
674	SLU 84	-59	101	10457	60.59	-49.82	0.85
674	SLE RA 1	-45	56	6754	40.02	-32.18	0.52
674	SLE RA 2	-44	79	6745	39.43	-32.15	0.71
674	SLE RA 3	-45	57	6859	40.77	-32.68	0.52
674	SLE RA 4	-45	70	6854	40.42	-32.66	0.63
674	SLE RA 5	-44	79	6814	39.94	-32.48	0.7
674	SLE RA 6	-45	57	6929	41.28	-33.02	0.51
674	SLE RA 7	-45	70	6924	40.93	-32.99	0.63
674	SLE RA 8	-45	57	6893	41.03	-32.85	0.51
674	SLE RA 9	-45	70	6888	40.68	-32.83	0.62
674	SLE RA 10	-44	81	7341	42.24	-34.99	0.7
674	SLE RA 11	-45	60	7456	43.58	-35.53	0.51
674	SLE RA 12	-45	73	7450	43.23	-35.51	0.63
674	SLE RA 13	-44	81	7411	42.74	-35.33	0.69
674	SLE RA 14	-45	60	7526	44.09	-35.86	0.51
674	SLE RA 15	-45	73	7520	43.74	-35.84	0.62
674	SLE RA 16	-45	59	7490	43.84	-35.69	0.5
674	SLE RA 17	-45	73	7484	43.49	-35.67	0.61
674	SLE RA 18	-45	60	7606	44.03	-36.25	0.51
674	SLE RA 19	-44	74	7600	43.68	-36.23	0.62
674	SLE RA 20	-45	60	7676	44.54	-36.58	0.5
674	SLE RA 21	-45	74	7670	44.18	-36.56	0.62
674	SLE FR 1	-45	56	6754	40.02	-32.18	0.52
674	SLE FR 2	-45	61	6752	39.9	-32.18	0.56
674	SLE FR 3	-45	56	6781	40.22	-32.32	0.52
674	SLE FR 4	-45	62	7007	41.1	-33.4	0.55
674	SLE FR 5	-45	58	7037	41.42	-33.54	0.51
674	SLE FR 6	-45	58	7180	42.02	-34.22	0.52
674	SLE QP 1	-45	56	6754	40.02	-32.18	0.52
674	SLE QP 2	-45	58	7009	41.22	-33.4	0.52
674	SLD 1	499	323	6905	47.45	-29.95	-1.17
674	SLD 2	497	282	6894	47.9	-29.82	-0.46
674	SLD 3	485	-84	7073	63.32	-30.7	-4.34
674	SLD 4	483	-125	7062	63.77	-30.57	-3.63
674	SLD 5	139	761	6724	18.95	-31.25	4.69
674	SLD 6	137	735	6717	19.24	-31.17	5.15
674	SLD 7	95	-595	7286	71.84	-33.75	-5.87
674	SLD 8	93	-621	7279	72.13	-33.67	-5.41
674	SLD 9	-183	736	6740	10.31	-33.14	6.44
674	SLD 10	-184	710	6733	10.6	-33.05	6.9
674	SLD 11	-227	-620	7301	63.2	-35.64	-4.12
674	SLD 12	-228	-646	7294	63.49	-35.55	-3.66
674	SLD 13	-573	240	6956	18.67	-36.24	4.66
674	SLD 14	-575	199	6945	19.12	-36.1	5.37
674	SLD 15	-586	-167	7125	34.54	-36.99	1.49
674	SLD 16	-588	-208	7114	34.99	-36.86	2.2
674	SLV 1	807	502	6830	49.78	-27.96	-1.91
674	SLV 2	804	438	6813	50.48	-27.75	-0.79
674	SLV 3	785	-192	7118	76.88	-29.25	-7.3
674	SLV 4	782	-256	7100	77.58	-29.03	-6.19
674	SLV 5	245	1256	6523	2.55	-29.87	7.77
674	SLV 6	243	1213	6511	3.03	-29.72	8.52
674	SLV 7	171	-1058	7481	92.89	-34.14	-10.23
674	SLV 8	169	-1101	7469	93.36	-34	-9.48
674	SLV 9	-258	1216	6549	-10.92	-32.81	10.51
674	SLV 10	-260	1173	6537	-10.45	-32.67	11.26
674	SLV 11	-332	-1097	7507	79.41	-37.08	-7.49
674	SLV 12	-334	-1140	7496	79.89	-36.94	-6.74
674	SLV 13	-871	371	6918	4.86	-37.77	7.22
674	SLV 14	-874	307	6901	5.56	-37.56	8.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
674	SLV 15	-893	-323	7205	31.96	-39.06	1.82
674	SLV 16	-896	-387	7188	32.66	-38.84	2.94
674	SLV FO 1	892	547	6812	50.63	-27.42	-2.15
674	SLV FO 2	889	477	6793	51.41	-27.18	-0.92
674	SLV FO 3	868	-217	7128	80.44	-28.83	-8.09
674	SLV FO 4	864	-287	7110	81.22	-28.6	-6.86
674	SLV FO 5	274	1375	6474	-1.31	-29.51	8.5
674	SLV FO 6	272	1328	6461	-0.79	-29.36	9.32
674	SLV FO 7	193	-1169	7528	98.05	-34.21	-11.3
674	SLV FO 8	191	-1217	7515	98.58	-34.06	-10.48
674	SLV FO 9	-280	1332	6503	-16.14	-32.75	11.51
674	SLV FO 10	-282	1285	6490	-15.61	-32.59	12.34
674	SLV FO 11	-361	-1213	7557	83.23	-37.45	-8.29
674	SLV FO 12	-363	-1260	7544	83.75	-37.29	-7.46
674	SLV FO 13	-953	402	6909	1.22	-38.21	7.89
674	SLV FO 14	-957	332	6890	2	-37.98	9.12
674	SLV FO 15	-978	-361	7225	31.03	-39.62	1.95
674	SLV FO 16	-981	-432	7206	31.81	-39.39	3.18
674	CRTFP Ux+	0	0	0	0	0	0
674	CRTFP Ux-	0	0	0	0	0	0
674	CRTFP Uy+	0	0	0	0	0	0
674	CRTFP Uy-	0	0	0	0	0	0
675	SLU 1	-23	24	3100	-729.59	1.52	-5.99
675	SLU 2	-23	41	3093	-728.31	1.55	-5.89
675	SLU 3	-24	24	3176	-747.32	1.55	-6.08
675	SLU 4	-24	34	3172	-746.56	1.57	-6.01
675	SLU 5	-23	41	3144	-740.04	1.57	-5.93
675	SLU 6	-24	24	3226	-759.06	1.56	-6.12
675	SLU 7	-24	34	3222	-758.29	1.58	-6.05
675	SLU 8	-24	24	3200	-753.05	1.55	-6.07
675	SLU 9	-24	34	3197	-752.29	1.57	-6.01
675	SLU 10	-23	42	3524	-829.55	1.74	-5.99
675	SLU 11	-24	26	3607	-848.57	1.74	-6.18
675	SLU 12	-24	36	3603	-847.8	1.76	-6.11
675	SLU 13	-24	42	3575	-841.29	1.76	-6.03
675	SLU 14	-24	26	3658	-860.3	1.76	-6.22
675	SLU 15	-24	36	3654	-859.54	1.78	-6.15
675	SLU 16	-24	26	3632	-854.3	1.74	-6.17
675	SLU 17	-24	36	3628	-853.53	1.76	-6.11
675	SLU 18	-24	27	3716	-874.22	1.79	-6.13
675	SLU 19	-24	36	3712	-873.46	1.81	-6.07
675	SLU 20	-24	27	3766	-885.96	1.81	-6.18
675	SLU 21	-24	36	3762	-885.19	1.83	-6.11
675	SLU 22	-25	28	3607	-847.49	1.8	-6.43
675	SLU 23	-25	44	3600	-846.21	1.84	-6.32
675	SLU 24	-25	28	3683	-865.22	1.83	-6.51
675	SLU 25	-25	38	3679	-864.46	1.85	-6.45
675	SLU 26	-25	44	3650	-857.94	1.85	-6.36
675	SLU 27	-26	28	3733	-876.96	1.85	-6.55
675	SLU 28	-25	38	3729	-876.19	1.87	-6.49
675	SLU 29	-25	28	3707	-870.95	1.84	-6.51
675	SLU 30	-25	38	3703	-870.18	1.86	-6.44
675	SLU 31	-25	46	4031	-947.45	2.03	-6.42
675	SLU 32	-26	30	4114	-966.47	2.02	-6.61
675	SLU 33	-26	40	4110	-965.7	2.04	-6.55
675	SLU 34	-25	46	4082	-959.19	2.05	-6.46
675	SLU 35	-26	30	4164	-978.2	2.04	-6.65
675	SLU 36	-26	40	4160	-977.44	2.06	-6.59
675	SLU 37	-26	29	4139	-972.2	2.03	-6.61
675	SLU 38	-26	39	4135	-971.43	2.05	-6.54
675	SLU 39	-26	30	4223	-992.12	2.08	-6.57
675	SLU 40	-25	40	4219	-991.36	2.1	-6.5
675	SLU 41	-26	30	4273	-1003.86	2.09	-6.61
675	SLU 42	-26	40	4269	-1003.09	2.11	-6.54
675	SLU 43	-30	30	3856	-908.04	1.88	-7.64
675	SLU 44	-30	47	3849	-906.76	1.91	-7.53
675	SLU 45	-30	31	3932	-925.78	1.91	-7.73
675	SLU 46	-30	40	3928	-925.01	1.93	-7.66
675	SLU 47	-30	47	3900	-918.49	1.93	-7.58
675	SLU 48	-30	31	3982	-937.51	1.92	-7.77
675	SLU 49	-30	40	3978	-936.74	1.94	-7.7
675	SLU 50	-30	30	3957	-931.51	1.91	-7.72
675	SLU 51	-30	40	3953	-930.74	1.93	-7.66
675	SLU 52	-30	48	4281	-1008.01	2.1	-7.63
675	SLU 53	-31	32	4363	-1027.02	2.1	-7.83
675	SLU 54	-30	42	4359	-1026.26	2.12	-7.76
675	SLU 55	-30	48	4331	-1019.74	2.12	-7.68
675	SLU 56	-31	32	4414	-1038.76	2.11	-7.87
675	SLU 57	-31	42	4410	-1037.99	2.13	-7.8
675	SLU 58	-31	32	4388	-1032.75	2.1	-7.82
675	SLU 59	-30	42	4384	-1031.99	2.12	-7.76
675	SLU 60	-30	33	4472	-1052.68	2.15	-7.78
675	SLU 61	-30	43	4468	-1051.91	2.17	-7.72
675	SLU 62	-31	33	4522	-1064.41	2.17	-7.82
675	SLU 63	-30	43	4518	-1063.64	2.19	-7.76
675	SLU 64	-32	34	4363	-1025.94	2.16	-8.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
675	SLU 65	-31	50	4356	-1024.66	2.2	-7.97
675	SLU 66	-32	34	4439	-1043.68	2.19	-8.16
675	SLU 67	-32	44	4435	-1042.91	2.21	-8.1
675	SLU 68	-31	50	4407	-1036.39	2.21	-8.01
675	SLU 69	-32	34	4489	-1055.41	2.21	-8.2
675	SLU 70	-32	44	4485	-1054.64	2.23	-8.14
675	SLU 71	-32	34	4463	-1049.4	2.2	-8.16
675	SLU 72	-32	44	4460	-1048.64	2.22	-8.09
675	SLU 73	-32	52	4787	-1125.91	2.39	-8.07
675	SLU 74	-32	36	4870	-1144.92	2.38	-8.26
675	SLU 75	-32	46	4866	-1144.16	2.4	-8.2
675	SLU 76	-32	52	4838	-1137.64	2.4	-8.11
675	SLU 77	-32	36	4921	-1156.65	2.4	-8.3
675	SLU 78	-32	46	4917	-1155.89	2.42	-8.24
675	SLU 79	-32	35	4895	-1150.65	2.39	-8.26
675	SLU 80	-32	45	4891	-1149.88	2.41	-8.19
675	SLU 81	-32	36	4979	-1170.58	2.44	-8.22
675	SLU 82	-32	46	4975	-1169.81	2.46	-8.15
675	SLU 83	-32	36	5029	-1182.31	2.45	-8.26
675	SLU 84	-32	46	5025	-1181.54	2.47	-8.19
675	SLE RA 1	-24	25	3244	-763.27	1.6	-6.12
675	SLE RA 2	-24	36	3240	-762.42	1.62	-6.04
675	SLE RA 3	-24	25	3295	-775.1	1.62	-6.17
675	SLE RA 4	-24	32	3293	-774.59	1.63	-6.13
675	SLE RA 5	-24	36	3274	-770.24	1.63	-6.07
675	SLE RA 6	-24	25	3329	-782.92	1.63	-6.2
675	SLE RA 7	-24	32	3326	-782.41	1.64	-6.16
675	SLE RA 8	-24	25	3312	-778.92	1.62	-6.17
675	SLE RA 9	-24	32	3309	-778.4	1.64	-6.13
675	SLE RA 10	-24	37	3528	-829.92	1.75	-6.11
675	SLE RA 11	-24	26	3583	-842.59	1.75	-6.24
675	SLE RA 12	-24	33	3580	-842.08	1.76	-6.2
675	SLE RA 13	-24	37	3561	-837.74	1.76	-6.14
675	SLE RA 14	-24	26	3616	-850.42	1.76	-6.27
675	SLE RA 15	-24	33	3614	-849.9	1.77	-6.22
675	SLE RA 16	-24	26	3599	-846.41	1.75	-6.24
675	SLE RA 17	-24	33	3597	-845.9	1.76	-6.19
675	SLE RA 18	-24	27	3655	-859.7	1.78	-6.21
675	SLE RA 19	-24	33	3653	-859.19	1.8	-6.17
675	SLE RA 20	-24	27	3689	-867.52	1.79	-6.24
675	SLE RA 21	-24	33	3686	-867.01	1.81	-6.2
675	SLE FR 1	-24	25	3244	-763.27	1.6	-6.12
675	SLE FR 2	-24	27	3244	-763.1	1.61	-6.1
675	SLE FR 3	-24	25	3258	-766.4	1.61	-6.13
675	SLE FR 4	-24	28	3367	-792.03	1.66	-6.13
675	SLE FR 5	-24	26	3381	-795.33	1.66	-6.16
675	SLE FR 6	-24	26	3450	-811.48	1.69	-6.16
675	SLE QP 1	-24	25	3244	-763.27	1.6	-6.12
675	SLE QP 2	-24	26	3368	-792.2	1.66	-6.14
675	SLD 1	241	153	3267	-772.74	3.26	60.09
675	SLD 2	242	135	3261	-771.05	3.27	60.35
675	SLD 3	233	-48	3346	-786.57	2.79	58.07
675	SLD 4	234	-65	3339	-784.88	2.8	58.33
675	SLD 5	67	371	3220	-765.67	2.85	16.74
675	SLD 6	68	360	3215	-764.58	2.86	16.91
675	SLD 7	41	-298	3481	-811.78	1.28	10.01
675	SLD 8	42	-309	3477	-810.7	1.28	10.18
675	SLD 9	-90	360	3258	-773.7	2.03	-22.47
675	SLD 10	-89	349	3254	-772.61	2.03	-22.3
675	SLD 11	-116	-309	3520	-819.82	0.46	-29.2
675	SLD 12	-115	-320	3516	-818.73	0.46	-29.03
675	SLD 13	-282	117	3396	-799.51	0.51	-70.62
675	SLD 14	-281	99	3390	-797.82	0.52	-70.36
675	SLD 15	-290	-84	3475	-813.35	0.04	-72.64
675	SLD 16	-289	-102	3468	-811.66	0.05	-72.38
675	SLV 1	391	239	3205	-760.78	4.19	97.7
675	SLV 2	392	212	3195	-758.11	4.21	98.11
675	SLV 3	378	-103	3339	-784.38	3.39	94.29
675	SLV 4	379	-130	3329	-781.71	3.4	94.7
675	SLV 5	120	614	3117	-747.48	3.64	30.11
675	SLV 6	121	596	3111	-745.69	3.64	30.38
675	SLV 7	76	-527	3564	-826.14	0.95	18.74
675	SLV 8	77	-545	3557	-824.35	0.96	19.01
675	SLV 9	-125	597	3178	-760.05	2.35	-31.3
675	SLV 10	-124	578	3171	-758.26	2.36	-31.03
675	SLV 11	-169	-544	3625	-838.71	-0.33	-42.67
675	SLV 12	-168	-563	3618	-836.92	-0.33	-42.39
675	SLV 13	-427	182	3407	-802.69	-0.09	-106.99
675	SLV 14	-426	154	3397	-800.02	-0.08	-106.58
675	SLV 15	-440	-161	3541	-826.28	-0.89	-110.4
675	SLV 16	-439	-188	3531	-823.62	-0.88	-109.99
675	SLV FO 1	433	261	3188	-757.64	4.45	108.09
675	SLV FO 2	434	231	3177	-754.7	4.46	108.54
675	SLV FO 3	418	-116	3336	-783.59	3.56	104.34
675	SLV FO 4	420	-146	3325	-780.66	3.57	104.79
675	SLV FO 5	135	673	3092	-743.01	3.83	33.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
675	SLV FO 6	136	653	3085	-741.03	3.84	34.04
675	SLV FO 7	86	-582	3584	-829.53	0.88	21.23
675	SLV FO 8	87	-603	3576	-827.56	0.89	21.53
675	SLV FO 9	-135	654	3159	-756.84	2.42	-33.82
675	SLV FO 10	-135	633	3152	-754.86	2.43	-33.51
675	SLV FO 11	-184	-601	3650	-843.36	-0.53	-46.32
675	SLV FO 12	-183	-622	3643	-841.39	-0.52	-46.02
675	SLV FO 13	-468	197	3411	-803.74	-0.26	-117.08
675	SLV FO 14	-466	167	3400	-800.8	-0.25	-116.62
675	SLV FO 15	-482	-179	3558	-829.69	-1.15	-120.83
675	SLV FO 16	-481	-209	3547	-826.76	-1.14	-120.38
675	CRTFP Ux+	0	0	0	0	0	0
675	CRTFP Ux-	0	0	0	0	0	0
675	CRTFP Uy+	0	0	0	0	0	0
675	CRTFP Uy-	0	0	0	0	0	0
677	SLU 1	-119	109	18122	1662.56	-197.14	-4.46
677	SLU 2	-117	210	18077	1658.79	-194.83	-2.41
677	SLU 3	-120	110	18567	1703.02	-202.03	-4.66
677	SLU 4	-119	171	18540	1700.76	-200.65	-3.43
677	SLU 5	-118	209	18372	1685.51	-198.19	-2.64
677	SLU 6	-121	110	18862	1729.74	-205.39	-4.89
677	SLU 7	-120	170	18834	1727.48	-204.01	-3.65
677	SLU 8	-120	108	18711	1716	-203.86	-4.91
677	SLU 9	-119	168	18684	1713.74	-202.48	-3.68
677	SLU 10	-118	217	20589	1885.76	-222.96	-3.81
677	SLU 11	-121	117	21079	1930	-230.15	-6.06
677	SLU 12	-120	177	21052	1927.73	-228.77	-4.83
677	SLU 13	-119	216	20883	1912.48	-226.32	-4.04
677	SLU 14	-121	117	21373	1956.72	-233.51	-6.29
677	SLU 15	-121	177	21346	1954.45	-232.13	-5.06
677	SLU 16	-120	115	21223	1942.98	-231.98	-6.31
677	SLU 17	-120	175	21196	1940.71	-230.6	-5.08
677	SLU 18	-120	119	21710	1986.81	-237.31	-6.46
677	SLU 19	-119	179	21683	1984.54	-235.93	-5.23
677	SLU 20	-120	118	22005	2013.53	-240.68	-6.69
677	SLU 21	-119	179	21978	2011.27	-239.29	-5.46
677	SLU 22	-127	127	21079	1936.68	-224.22	-5.15
677	SLU 23	-126	227	21034	1932.9	-221.92	-3.1
677	SLU 24	-128	128	21524	1977.14	-229.11	-5.35
677	SLU 25	-128	188	21497	1974.88	-227.73	-4.12
677	SLU 26	-126	226	21328	1959.62	-225.28	-3.32
677	SLU 27	-129	127	21819	2003.86	-232.48	-5.57
677	SLU 28	-128	187	21791	2001.6	-231.09	-4.34
677	SLU 29	-128	125	21668	1990.12	-230.94	-5.6
677	SLU 30	-127	186	21641	1987.85	-229.56	-4.37
677	SLU 31	-126	234	23546	2159.88	-250.04	-4.5
677	SLU 32	-129	135	24036	2204.11	-257.24	-6.75
677	SLU 33	-128	195	24008	2201.85	-255.86	-5.52
677	SLU 34	-127	233	23840	2186.6	-253.41	-4.72
677	SLU 35	-129	134	24330	2230.84	-260.6	-6.97
677	SLU 36	-129	194	24303	2228.57	-259.22	-5.74
677	SLU 37	-129	132	24180	2217.09	-259.07	-7
677	SLU 38	-128	193	24153	2214.83	-257.69	-5.77
677	SLU 39	-128	136	24667	2260.93	-264.4	-7.15
677	SLU 40	-127	197	24640	2258.66	-263.02	-5.92
677	SLU 41	-128	136	24962	2287.65	-267.76	-7.37
677	SLU 42	-128	196	24935	2285.38	-266.38	-6.14
677	SLU 43	-151	136	22545	2067.34	-246.99	-5.57
677	SLU 44	-150	236	22500	2063.57	-244.69	-3.52
677	SLU 45	-153	137	22990	2107.81	-251.88	-5.77
677	SLU 46	-152	197	22963	2105.54	-250.5	-4.54
677	SLU 47	-151	236	22794	2090.29	-248.05	-3.74
677	SLU 48	-153	136	23284	2134.53	-255.24	-5.99
677	SLU 49	-153	197	23257	2132.26	-253.86	-4.76
677	SLU 50	-153	135	23134	2120.78	-253.71	-6.01
677	SLU 51	-152	195	23107	2118.52	-252.33	-4.78
677	SLU 52	-151	243	25011	2290.55	-272.81	-4.92
677	SLU 53	-154	144	25502	2334.78	-280.01	-7.17
677	SLU 54	-153	204	25474	2332.52	-278.63	-5.94
677	SLU 55	-151	243	25306	2317.27	-276.17	-5.14
677	SLU 56	-154	143	25796	2361.5	-283.37	-7.39
677	SLU 57	-153	204	25769	2359.24	-281.99	-6.16
677	SLU 58	-153	142	25646	2347.76	-281.84	-7.41
677	SLU 59	-152	202	25619	2345.5	-280.46	-6.18
677	SLU 60	-152	146	26133	2391.59	-287.17	-7.57
677	SLU 61	-152	206	26106	2389.33	-285.79	-6.34
677	SLU 62	-153	145	26428	2418.31	-290.53	-7.79
677	SLU 63	-152	205	26401	2416.05	-289.15	-6.56
677	SLU 64	-160	153	25502	2341.46	-274.08	-6.25
677	SLU 65	-158	254	25457	2337.69	-271.77	-4.2
677	SLU 66	-161	154	25947	2381.92	-278.97	-6.45
677	SLU 67	-160	215	25920	2379.66	-277.59	-5.22
677	SLU 68	-159	253	25751	2364.41	-275.13	-4.43
677	SLU 69	-162	154	26241	2408.65	-282.33	-6.68
677	SLU 70	-161	214	26214	2406.38	-280.95	-5.45
677	SLU 71	-161	152	26091	2394.9	-280.8	-6.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
677	SLU 72	-160	212	26064	2392.64	-279.42	-5.47
677	SLU 73	-159	261	27968	2564.66	-299.9	-5.6
677	SLU 74	-162	161	28459	2608.9	-307.09	-7.85
677	SLU 75	-161	222	28431	2606.64	-305.71	-6.62
677	SLU 76	-160	260	28263	2591.38	-303.26	-5.83
677	SLU 77	-162	161	28753	2635.62	-310.45	-8.08
677	SLU 78	-162	221	28726	2633.36	-309.07	-6.85
677	SLU 79	-161	159	28603	2621.88	-308.92	-8.1
677	SLU 80	-161	219	28576	2619.61	-307.54	-6.87
677	SLU 81	-161	163	29090	2665.71	-314.25	-8.25
677	SLU 82	-160	223	29063	2663.45	-312.87	-7.02
677	SLU 83	-161	163	29385	2692.43	-317.62	-8.48
677	SLU 84	-160	223	29358	2690.17	-316.23	-7.25
677	SLE RA 1	-121	114	18967	1740.88	-204.87	-4.66
677	SLE RA 2	-120	181	18937	1738.36	-203.34	-3.29
677	SLE RA 3	-122	115	19264	1767.85	-208.14	-4.79
677	SLE RA 4	-122	155	19245	1766.34	-207.22	-3.97
677	SLE RA 5	-121	181	19133	1756.18	-205.58	-3.44
677	SLE RA 6	-122	114	19460	1785.67	-210.38	-4.94
677	SLE RA 7	-122	155	19442	1784.16	-209.46	-4.12
677	SLE RA 8	-122	113	19360	1776.51	-209.36	-4.96
677	SLE RA 9	-121	154	19342	1775	-208.43	-4.14
677	SLE RA 10	-121	186	20611	1889.68	-222.09	-4.23
677	SLE RA 11	-122	119	20938	1919.17	-226.89	-5.73
677	SLE RA 12	-122	160	20920	1917.66	-225.97	-4.91
677	SLE RA 13	-121	185	20808	1907.49	-224.33	-4.38
677	SLE RA 14	-123	119	21134	1936.98	-229.13	-5.87
677	SLE RA 15	-122	159	21116	1935.48	-228.21	-5.05
677	SLE RA 16	-122	118	21034	1927.82	-228.11	-5.89
677	SLE RA 17	-122	158	21016	1926.31	-227.19	-5.07
677	SLE RA 18	-122	121	21359	1957.04	-231.66	-5.99
677	SLE RA 19	-121	161	21341	1955.54	-230.74	-5.17
677	SLE RA 20	-122	120	21556	1974.86	-233.9	-6.14
677	SLE RA 21	-121	160	21537	1973.35	-232.98	-5.32
677	SLE FR 1	-121	114	18967	1740.88	-204.87	-4.66
677	SLE FR 2	-121	128	18961	1740.38	-204.57	-4.39
677	SLE FR 3	-121	114	19046	1748	-205.77	-4.72
677	SLE FR 4	-121	129	19679	1805.23	-212.6	-4.79
677	SLE FR 5	-121	116	19763	1812.85	-213.81	-5.12
677	SLE FR 6	-121	117	20163	1848.96	-218.27	-5.33
677	SLE QP 1	-121	114	18967	1740.88	-204.87	-4.66
677	SLE QP 2	-121	116	19685	1805.73	-212.91	-5.06
677	SLD 1	1461	866	18954	1797.6	-118	-138.49
677	SLD 2	1453	778	18913	1793.57	-116.04	-132.71
677	SLD 3	1424	-354	19532	1852.84	-146.5	-161.49
677	SLD 4	1415	-443	19491	1848.81	-144.55	-155.72
677	SLD 5	412	2207	18595	1720.19	-141.54	-11.19
677	SLD 6	407	2150	18569	1717.59	-140.28	-7.47
677	SLD 7	287	-1861	20523	1904.35	-236.56	-87.88
677	SLD 8	281	-1918	20497	1901.75	-235.3	-84.16
677	SLD 9	-524	2150	18873	1709.7	-190.52	74.04
677	SLD 10	-529	2093	18846	1707.11	-189.26	77.76
677	SLD 11	-649	-1918	20801	1893.86	-285.54	-2.65
677	SLD 12	-654	-1975	20774	1891.27	-284.28	1.07
677	SLD 13	-1658	675	19878	1762.64	-281.27	145.6
677	SLD 14	-1666	586	19837	1758.61	-279.32	151.37
677	SLD 15	-1695	-546	20457	1817.89	-309.78	122.59
677	SLD 16	-1703	-634	20416	1813.86	-307.83	128.37
677	SLV 1	2359	1380	18501	1789.18	-62.69	-212.4
677	SLV 2	2345	1240	18436	1782.83	-59.61	-203.3
677	SLV 3	2296	-702	19488	1883.5	-111.36	-251.52
677	SLV 4	2283	-841	19423	1877.15	-108.28	-242.41
677	SLV 5	720	3678	17844	1658.9	-94.6	-9.63
677	SLV 6	712	3584	17801	1654.63	-92.53	-3.5
677	SLV 7	511	-3260	21135	1973.29	-256.84	-140.02
677	SLV 8	502	-3354	21091	1969.02	-254.77	-133.9
677	SLV 9	-745	3586	18278	1642.44	-171.05	123.78
677	SLV 10	-753	3492	18235	1638.16	-168.98	129.9
677	SLV 11	-954	-3352	21569	1956.83	-333.3	-6.62
677	SLV 12	-963	-3446	21525	1952.55	-331.22	-0.49
677	SLV 13	-2525	1074	19947	1734.31	-317.54	232.29
677	SLV 14	-2538	934	19882	1727.96	-314.46	241.4
677	SLV 15	-2588	-1008	20934	1828.62	-366.21	193.18
677	SLV 16	-2601	-1147	20869	1822.27	-363.13	202.28
677	SLV FO 1	2607	1506	18382	1787.53	-47.67	-233.13
677	SLV FO 2	2592	1352	18311	1780.54	-44.28	-223.12
677	SLV FO 3	2538	-784	19468	1891.28	-101.21	-276.16
677	SLV FO 4	2523	-937	19397	1884.29	-97.82	-266.15
677	SLV FO 5	805	4034	17660	1644.22	-82.77	-10.09
677	SLV FO 6	795	3931	17612	1639.52	-80.49	-3.35
677	SLV FO 7	574	-3598	21280	1990.05	-261.23	-153.52
677	SLV FO 8	565	-3701	21232	1985.35	-258.95	-146.78
677	SLV FO 9	-807	3933	18138	1626.11	-166.87	136.66
677	SLV FO 10	-817	3830	18090	1621.41	-164.59	143.4
677	SLV FO 11	-1037	-3699	21757	1971.94	-345.33	-6.77
677	SLV FO 12	-1047	-3802	21709	1967.24	-343.05	-0.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
677	SLV FO 13	-2765	1169	19973	1727.17	-328	256.03
677	SLV FO 14	-2780	1016	19901	1720.18	-324.61	266.04
677	SLV FO 15	-2834	-1120	21059	1830.91	-381.54	213
677	SLV FO 16	-2849	-1274	20987	1823.93	-378.16	223.01
677	CRTFP Ux+	0	0	0	0	0	0
677	CRTFP Ux-	0	0	0	0	0	0
677	CRTFP Uy+	0	0	0	0	0	0
677	CRTFP Uy-	0	0	0	0	0	0
680	SLU 1	-140	-26	15739	-2674.05	299.85	-45.5
680	SLU 2	-139	69	15682	-2664.97	300.75	-46.9
680	SLU 3	-142	-27	16126	-2739.14	306.94	-46.26
680	SLU 4	-141	30	16092	-2733.7	307.48	-47.1
680	SLU 5	-140	66	15939	-2708.21	305.38	-47.31
680	SLU 6	-143	-29	16383	-2782.38	311.57	-46.67
680	SLU 7	-142	27	16349	-2776.93	312.11	-47.51
680	SLU 8	-142	-30	16253	-2760.51	309.12	-46.33
680	SLU 9	-141	27	16219	-2755.07	309.66	-47.17
680	SLU 10	-143	63	17864	-3034.71	341.76	-49.65
680	SLU 11	-147	-33	18308	-3108.88	347.94	-49.01
680	SLU 12	-146	24	18274	-3103.43	348.48	-49.85
680	SLU 13	-144	61	18121	-3077.94	346.39	-50.06
680	SLU 14	-148	-35	18565	-3152.11	352.58	-49.42
680	SLU 15	-147	22	18531	-3146.67	353.12	-50.26
680	SLU 16	-147	-36	18435	-3130.25	350.12	-49.08
680	SLU 17	-146	21	18401	-3124.8	350.66	-49.92
680	SLU 18	-147	-34	18856	-3202.24	358.43	-49.43
680	SLU 19	-146	23	18822	-3196.8	358.97	-50.27
680	SLU 20	-147	-36	19113	-3245.47	363.06	-49.84
680	SLU 21	-147	21	19079	-3240.03	363.6	-50.68
680	SLU 22	-151	-23	18271	-3097.15	349.98	-50.12
680	SLU 23	-150	71	18214	-3088.08	350.88	-51.52
680	SLU 24	-153	-24	18658	-3162.25	357.07	-50.88
680	SLU 25	-153	32	18624	-3156.8	357.61	-51.72
680	SLU 26	-151	69	18471	-3131.31	355.51	-51.93
680	SLU 27	-154	-26	18915	-3205.48	361.7	-51.29
680	SLU 28	-153	30	18881	-3200.04	362.24	-52.13
680	SLU 29	-153	-27	18785	-3183.62	359.24	-50.95
680	SLU 30	-152	29	18751	-3178.17	359.78	-51.78
680	SLU 31	-154	66	20396	-3457.81	391.89	-54.27
680	SLU 32	-158	-30	20839	-3531.98	398.07	-53.63
680	SLU 33	-157	27	20805	-3526.54	398.61	-54.47
680	SLU 34	-155	64	20653	-3501.05	396.52	-54.68
680	SLU 35	-159	-32	21097	-3575.22	402.7	-54.04
680	SLU 36	-158	24	21063	-3569.77	403.24	-54.88
680	SLU 37	-158	-33	20967	-3553.35	400.25	-53.7
680	SLU 38	-157	24	20933	-3547.91	400.79	-54.53
680	SLU 39	-158	-31	21388	-3625.35	408.56	-54.05
680	SLU 40	-157	26	21354	-3619.9	409.1	-54.89
680	SLU 41	-159	-33	21645	-3668.58	413.19	-54.46
680	SLU 42	-158	23	21611	-3663.13	413.73	-55.3
680	SLU 43	-178	-34	19592	-3331.2	372.62	-57.57
680	SLU 44	-177	60	19535	-3322.12	373.52	-58.97
680	SLU 45	-180	-36	19979	-3396.29	379.71	-58.33
680	SLU 46	-180	21	19945	-3390.85	380.25	-59.17
680	SLU 47	-178	58	19793	-3365.36	378.15	-59.38
680	SLU 48	-181	-38	20236	-3439.53	384.34	-58.74
680	SLU 49	-180	19	20202	-3434.08	384.88	-59.58
680	SLU 50	-180	-39	20106	-3417.66	381.89	-58.39
680	SLU 51	-179	18	20072	-3412.22	382.43	-59.23
680	SLU 52	-181	54	21717	-3691.86	414.53	-61.72
680	SLU 53	-185	-41	22161	-3766.03	420.71	-61.08
680	SLU 54	-184	15	22127	-3760.58	421.25	-61.92
680	SLU 55	-182	52	21974	-3735.09	419.16	-62.13
680	SLU 56	-186	-43	22418	-3809.26	425.35	-61.49
680	SLU 57	-185	13	22384	-3803.82	425.89	-62.33
680	SLU 58	-185	-44	22288	-3787.4	422.89	-61.14
680	SLU 59	-184	12	22254	-3781.95	423.43	-61.98
680	SLU 60	-185	-42	22709	-3859.39	431.2	-61.5
680	SLU 61	-184	14	22675	-3853.95	431.74	-62.34
680	SLU 62	-186	-44	22966	-3902.62	435.83	-61.91
680	SLU 63	-185	12	22932	-3897.18	436.37	-62.75
680	SLU 64	-190	-32	22124	-3754.3	422.75	-62.19
680	SLU 65	-188	63	22067	-3745.23	423.65	-63.59
680	SLU 66	-192	-33	22511	-3819.4	429.84	-62.95
680	SLU 67	-191	24	22477	-3813.95	430.38	-63.79
680	SLU 68	-189	61	22324	-3788.46	428.28	-64
680	SLU 69	-193	-35	22768	-3862.63	434.47	-63.36
680	SLU 70	-192	21	22734	-3857.19	435.01	-64.2
680	SLU 71	-192	-36	22638	-3840.77	432.01	-63.01
680	SLU 72	-191	21	22604	-3835.32	432.55	-63.85
680	SLU 73	-193	57	24249	-4114.96	464.66	-66.34
680	SLU 74	-196	-39	24693	-4189.13	470.84	-65.7
680	SLU 75	-195	18	24659	-4183.69	471.38	-66.54
680	SLU 76	-194	55	24506	-4158.2	469.29	-66.75
680	SLU 77	-197	-41	24950	-4232.37	475.47	-66.11
680	SLU 78	-196	16	24916	-4226.92	476.01	-66.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
680	SLU 79	-196	-42	24820	-4210.5	473.02	-65.76
680	SLU 80	-195	15	24786	-4205.06	473.56	-66.6
680	SLU 81	-196	-40	25241	-4282.5	481.33	-66.12
680	SLU 82	-195	17	25207	-4277.05	481.87	-66.96
680	SLU 83	-197	-42	25498	-4325.73	485.96	-66.53
680	SLU 84	-196	15	25464	-4320.28	486.5	-67.37
680	SLE RA 1	-143	-25	16462	-2794.94	314.18	-46.82
680	SLE RA 2	-142	38	16424	-2788.89	314.78	-47.76
680	SLE RA 3	-145	-26	16720	-2838.33	318.9	-47.33
680	SLE RA 4	-144	12	16697	-2834.7	319.26	-47.89
680	SLE RA 5	-143	37	16596	-2817.71	317.86	-48.03
680	SLE RA 6	-145	-27	16891	-2867.15	321.99	-47.6
680	SLE RA 7	-145	10	16869	-2863.52	322.35	-48.16
680	SLE RA 8	-145	-28	16805	-2852.58	320.35	-47.37
680	SLE RA 9	-144	10	16782	-2848.95	320.71	-47.93
680	SLE RA 10	-145	34	17879	-3035.38	342.11	-49.59
680	SLE RA 11	-148	-30	18175	-3084.82	346.24	-49.16
680	SLE RA 12	-147	8	18152	-3081.19	346.6	-49.72
680	SLE RA 13	-146	33	18050	-3064.2	345.2	-49.86
680	SLE RA 14	-148	-31	18346	-3113.64	349.32	-49.44
680	SLE RA 15	-148	7	18323	-3110.01	349.68	-50
680	SLE RA 16	-148	-32	18259	-3099.07	347.69	-49.2
680	SLE RA 17	-147	6	18237	-3095.44	348.05	-49.76
680	SLE RA 18	-148	-30	18540	-3147.06	353.23	-49.44
680	SLE RA 19	-147	7	18517	-3143.43	353.59	-50
680	SLE RA 20	-148	-32	18711	-3175.89	356.32	-49.72
680	SLE RA 21	-148	6	18689	-3172.26	356.68	-50.28
680	SLE FR 1	-143	-25	16462	-2794.94	314.18	-46.82
680	SLE FR 2	-143	-12	16454	-2793.73	314.3	-47.01
680	SLE FR 3	-144	-25	16531	-2806.46	315.41	-46.93
680	SLE FR 4	-144	-14	17078	-2899.36	326.01	-47.8
680	SLE FR 5	-145	-27	17154	-2912.1	327.13	-47.72
680	SLE FR 6	-146	-28	17501	-2971	333.7	-48.13
680	SLE QP 1	-143	-25	16462	-2794.94	314.18	-46.82
680	SLE QP 2	-145	-26	17085	-2900.57	325.89	-47.61
680	SLD 1	1290	636	16006	-2688.51	336.78	203.86
680	SLD 2	1296	586	15968	-2682.56	335.82	210.65
680	SLD 3	1252	-507	16718	-2795.73	325.51	219.31
680	SLD 4	1258	-557	16680	-2789.78	324.55	226.1
680	SLD 5	343	1913	15688	-2675.37	346.42	3.24
680	SLD 6	346	1881	15663	-2671.53	345.8	7.61
680	SLD 7	216	-1894	18062	-3032.76	308.85	54.72
680	SLD 8	219	-1927	18037	-3028.92	308.23	59.09
680	SLD 9	-509	1874	16133	-2772.22	343.55	-154.31
680	SLD 10	-505	1842	16109	-2768.39	342.94	-149.94
680	SLD 11	-635	-1934	18508	-3129.61	305.98	-102.83
680	SLD 12	-632	-1966	18483	-3125.78	305.36	-98.46
680	SLD 13	-1547	504	17491	-3011.37	327.23	-321.32
680	SLD 14	-1542	454	17453	-3005.42	326.27	-314.52
680	SLD 15	-1585	-639	18203	-3118.59	315.96	-305.87
680	SLD 16	-1580	-689	18165	-3112.63	315	-299.08
680	SLV 1	2105	1094	15348	-2561.77	344.07	345.22
680	SLV 2	2113	1015	15288	-2552.39	342.56	355.92
680	SLV 3	2041	-854	16564	-2744.73	324.83	371.27
680	SLV 4	2049	-933	16503	-2735.34	323.32	381.97
680	SLV 5	626	3279	14732	-2523.2	360.81	28.73
680	SLV 6	631	3226	14692	-2516.88	359.79	35.94
680	SLV 7	413	-3215	18784	-3133.06	296.67	115.57
680	SLV 8	418	-3268	18743	-3126.74	295.66	122.77
680	SLV 9	-707	3215	15428	-2674.41	356.13	-217.99
680	SLV 10	-702	3162	15387	-2668.09	355.11	-210.78
680	SLV 11	-920	-3279	19479	-3284.27	291.99	-131.16
680	SLV 12	-915	-3332	19439	-3277.95	290.97	-123.95
680	SLV 13	-2339	880	17667	-3065.8	328.46	-477.19
680	SLV 14	-2330	801	17607	-3056.42	326.95	-466.49
680	SLV 15	-2402	-1068	18883	-3248.76	309.22	-451.14
680	SLV 16	-2394	-1147	18822	-3239.38	307.71	-440.44
680	SLV FO 1	2330	1206	15175	-2527.89	345.89	384.5
680	SLV FO 2	2339	1120	15108	-2517.57	344.23	396.28
680	SLV FO 3	2259	-937	16512	-2729.14	324.73	413.16
680	SLV FO 4	2269	-1023	16445	-2718.82	323.07	424.93
680	SLV FO 5	703	3610	14497	-2485.46	364.3	36.37
680	SLV FO 6	709	3551	14452	-2478.51	363.18	44.29
680	SLV FO 7	468	-3534	18953	-3156.3	293.75	131.88
680	SLV FO 8	474	-3592	18909	-3149.36	292.63	139.81
680	SLV FO 9	-764	3539	15262	-2651.79	359.15	-235.03
680	SLV FO 10	-758	3481	15217	-2644.84	358.03	-227.1
680	SLV FO 11	-998	-3604	19719	-3322.64	288.6	-139.51
680	SLV FO 12	-992	-3663	19674	-3315.69	287.48	-131.59
680	SLV FO 13	-2558	970	17726	-3082.33	328.72	-520.15
680	SLV FO 14	-2549	884	17659	-3072.01	327.05	-508.37
680	SLV FO 15	-2628	-1173	19063	-3283.58	307.55	-491.49
680	SLV FO 16	-2619	-1259	18996	-3273.26	305.89	-479.72
680	CRTFP Ux+	0	0	0	0	0	0
680	CRTFP Ux-	0	0	0	0	0	0
680	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
680	CRTFP Uy-	0	0	0	0	0	0
681	SLU 1	-6	-9	1792	382.49	-55.67	1.06
681	SLU 2	-6	1	1784	380.87	-55.41	1.35
681	SLU 3	-6	-9	1836	391.72	-57.05	1.06
681	SLU 4	-6	-3	1832	390.74	-56.9	1.23
681	SLU 5	-6	1	1814	386.99	-56.33	1.34
681	SLU 6	-6	-10	1866	397.84	-57.97	1.04
681	SLU 7	-6	-3	1861	396.87	-57.82	1.22
681	SLU 8	-6	-10	1851	394.74	-57.51	1.03
681	SLU 9	-6	-3	1846	393.77	-57.36	1.2
681	SLU 10	-5	0	2033	432.7	-63.15	1.2
681	SLU 11	-5	-10	2086	443.55	-64.79	0.91
681	SLU 12	-5	-4	2081	442.57	-64.64	1.08
681	SLU 13	-5	0	2063	438.82	-64.07	1.19
681	SLU 14	-5	-11	2115	449.67	-65.71	0.89
681	SLU 15	-5	-5	2110	448.7	-65.56	1.07
681	SLU 16	-5	-11	2100	446.57	-65.25	0.88
681	SLU 17	-5	-5	2096	445.6	-65.1	1.06
681	SLU 18	-5	-11	2148	456.54	-66.73	0.85
681	SLU 19	-5	-5	2143	455.56	-66.57	1.02
681	SLU 20	-5	-11	2177	462.66	-67.65	0.83
681	SLU 21	-5	-5	2173	461.69	-67.49	1.01
681	SLU 22	-6	-9	2082	443.32	-64.66	1.05
681	SLU 23	-6	1	2074	441.7	-64.41	1.33
681	SLU 24	-6	-10	2126	452.55	-66.05	1.04
681	SLU 25	-6	-4	2122	451.57	-65.89	1.22
681	SLU 26	-6	0	2104	447.82	-65.33	1.32
681	SLU 27	-6	-10	2156	458.67	-66.97	1.03
681	SLU 28	-6	-4	2151	457.7	-66.82	1.2
681	SLU 29	-6	-10	2141	455.57	-66.51	1.01
681	SLU 30	-6	-4	2136	454.6	-66.35	1.19
681	SLU 31	-5	-1	2323	493.53	-72.15	1.19
681	SLU 32	-5	-11	2375	504.38	-73.79	0.89
681	SLU 33	-5	-5	2371	503.4	-73.63	1.07
681	SLU 34	-5	-1	2353	499.65	-73.07	1.17
681	SLU 35	-5	-11	2405	510.5	-74.71	0.88
681	SLU 36	-5	-5	2400	509.53	-74.56	1.05
681	SLU 37	-5	-11	2390	507.4	-74.25	0.86
681	SLU 38	-5	-5	2385	506.43	-74.09	1.04
681	SLU 39	-5	-11	2438	517.37	-75.72	0.83
681	SLU 40	-5	-5	2433	516.39	-75.57	1.01
681	SLU 41	-5	-12	2467	523.49	-76.64	0.82
681	SLU 42	-5	-5	2463	522.52	-76.49	0.99
681	SLU 43	-7	-11	2230	476.38	-69.28	1.39
681	SLU 44	-7	-1	2222	474.76	-69.03	1.68
681	SLU 45	-7	-12	2275	485.61	-70.67	1.38
681	SLU 46	-7	-6	2270	484.63	-70.51	1.56
681	SLU 47	-7	-2	2252	480.88	-69.95	1.66
681	SLU 48	-7	-12	2304	491.73	-71.59	1.37
681	SLU 49	-7	-6	2299	490.76	-71.44	1.54
681	SLU 50	-7	-12	2289	488.63	-71.13	1.36
681	SLU 51	-7	-6	2285	487.66	-70.97	1.53
681	SLU 52	-7	-3	2471	526.59	-76.77	1.53
681	SLU 53	-7	-13	2524	537.44	-78.41	1.24
681	SLU 54	-7	-7	2519	536.46	-78.25	1.41
681	SLU 55	-7	-3	2501	532.71	-77.69	1.51
681	SLU 56	-7	-13	2553	543.56	-79.33	1.22
681	SLU 57	-7	-7	2549	542.59	-79.18	1.39
681	SLU 58	-7	-13	2538	540.46	-78.87	1.21
681	SLU 59	-7	-7	2534	539.49	-78.71	1.38
681	SLU 60	-7	-13	2586	550.43	-80.34	1.18
681	SLU 61	-7	-7	2581	549.45	-80.19	1.35
681	SLU 62	-7	-14	2616	556.55	-81.26	1.16
681	SLU 63	-7	-7	2611	555.58	-81.11	1.33
681	SLU 64	-7	-12	2520	537.22	-78.28	1.37
681	SLU 65	-7	-2	2512	535.59	-78.02	1.66
681	SLU 66	-7	-12	2564	546.44	-79.66	1.37
681	SLU 67	-7	-6	2560	545.47	-79.51	1.54
681	SLU 68	-7	-2	2542	541.71	-78.94	1.64
681	SLU 69	-7	-13	2594	552.56	-80.58	1.35
681	SLU 70	-7	-6	2589	551.59	-80.43	1.52
681	SLU 71	-7	-13	2579	549.46	-80.12	1.34
681	SLU 72	-7	-6	2575	548.49	-79.97	1.51
681	SLU 73	-7	-3	2761	587.42	-85.76	1.51
681	SLU 74	-7	-13	2814	598.27	-87.4	1.22
681	SLU 75	-7	-7	2809	597.3	-87.25	1.39
681	SLU 76	-7	-3	2791	593.54	-86.69	1.49
681	SLU 77	-7	-14	2843	604.4	-88.33	1.2
681	SLU 78	-7	-8	2839	603.42	-88.17	1.38
681	SLU 79	-7	-14	2828	601.29	-87.86	1.19
681	SLU 80	-7	-8	2824	600.32	-87.71	1.36
681	SLU 81	-7	-14	2876	611.26	-89.34	1.16
681	SLU 82	-7	-8	2871	610.28	-89.18	1.33
681	SLU 83	-7	-14	2905	617.38	-90.26	1.14
681	SLU 84	-7	-8	2901	616.41	-90.11	1.32
681	SLE RA 1	-6	-9	1875	399.87	-58.24	1.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
681	SLE RA 2	-6	-2	1870	398.79	-58.07	1.25
681	SLE RA 3	-6	-9	1904	406.02	-59.16	1.06
681	SLE RA 4	-6	-5	1901	405.37	-59.06	1.17
681	SLE RA 5	-6	-3	1889	402.87	-58.68	1.24
681	SLE RA 6	-6	-9	1924	410.11	-59.77	1.04
681	SLE RA 7	-6	-5	1921	409.46	-59.67	1.16
681	SLE RA 8	-6	-10	1914	408.04	-59.47	1.04
681	SLE RA 9	-6	-5	1911	407.39	-59.36	1.15
681	SLE RA 10	-5	-3	2036	433.34	-63.23	1.15
681	SLE RA 11	-5	-10	2070	440.58	-64.32	0.96
681	SLE RA 12	-5	-6	2067	439.93	-64.22	1.07
681	SLE RA 13	-5	-3	2055	437.43	-63.84	1.14
681	SLE RA 14	-5	-10	2090	444.66	-64.94	0.95
681	SLE RA 15	-5	-6	2087	444.01	-64.83	1.06
681	SLE RA 16	-5	-10	2080	442.59	-64.63	0.94
681	SLE RA 17	-5	-6	2077	441.94	-64.52	1.05
681	SLE RA 18	-5	-10	2112	449.24	-65.61	0.92
681	SLE RA 19	-5	-6	2109	448.59	-65.51	1.03
681	SLE RA 20	-5	-11	2132	453.32	-66.22	0.91
681	SLE RA 21	-5	-6	2129	452.67	-66.12	1.02
681	SLE FR 1	-6	-9	1875	399.87	-58.24	1.06
681	SLE FR 2	-6	-8	1874	399.66	-58.2	1.1
681	SLE FR 3	-6	-9	1883	401.51	-58.48	1.05
681	SLE FR 4	-6	-8	1945	414.47	-60.42	1.05
681	SLE FR 5	-6	-10	1954	416.32	-60.7	1.01
681	SLE FR 6	-6	-10	1993	424.55	-61.92	0.99
681	SLE QP 1	-6	-9	1875	399.87	-58.24	1.06
681	SLE QP 2	-6	-9	1946	414.68	-60.45	1.02
681	SLD 1	150	61	1817	398.21	-56.3	-35.91
681	SLD 2	149	57	1813	397.24	-56.16	-35.69
681	SLD 3	147	-63	1918	419.11	-59.6	-39.13
681	SLD 4	145	-67	1913	418.13	-59.47	-38.9
681	SLD 5	47	200	1755	378.22	-54.22	-5.22
681	SLD 6	46	197	1752	377.59	-54.13	-5.08
681	SLD 7	35	-212	2091	447.87	-65.23	-15.95
681	SLD 8	34	-215	2088	447.24	-65.14	-15.8
681	SLD 9	-45	196	1804	382.13	-55.76	17.83
681	SLD 10	-46	193	1801	381.5	-55.67	17.98
681	SLD 11	-57	-216	2139	451.77	-66.77	7.11
681	SLD 12	-58	-219	2137	451.14	-66.68	7.25
681	SLD 13	-156	48	1978	411.23	-61.43	40.93
681	SLD 14	-158	44	1974	410.26	-61.29	41.16
681	SLD 15	-160	-76	2079	432.13	-64.74	37.72
681	SLD 16	-162	-80	2075	431.15	-64.6	37.94
681	SLV 1	239	110	1738	387.39	-53.73	-56.59
681	SLV 2	237	103	1730	385.85	-53.51	-56.24
681	SLV 3	233	-101	1909	423.04	-59.37	-62.04
681	SLV 4	230	-107	1902	421.5	-59.15	-61.69
681	SLV 5	78	347	1624	352.72	-49.92	-8.07
681	SLV 6	76	343	1619	351.68	-49.78	-7.83
681	SLV 7	57	-355	2197	471.54	-68.72	-26.24
681	SLV 8	55	-360	2192	470.5	-68.57	-26
681	SLV 9	-67	341	1700	358.86	-52.33	28.03
681	SLV 10	-68	336	1695	357.82	-52.18	28.27
681	SLV 11	-87	-361	2273	477.68	-71.12	9.86
681	SLV 12	-89	-366	2268	476.65	-70.98	10.1
681	SLV 13	-242	88	1989	407.86	-61.75	63.72
681	SLV 14	-244	82	1982	406.33	-61.53	64.08
681	SLV 15	-248	-122	2161	443.51	-67.38	58.27
681	SLV 16	-250	-129	2154	441.97	-67.17	58.62
681	SLV FO 1	263	122	1717	384.66	-53.06	-62.35
681	SLV FO 2	261	115	1709	382.97	-52.82	-61.96
681	SLV FO 3	256	-110	1906	423.87	-59.26	-68.35
681	SLV FO 4	254	-117	1898	422.18	-59.02	-67.96
681	SLV FO 5	86	383	1592	346.52	-48.87	-8.98
681	SLV FO 6	84	378	1587	345.38	-48.71	-8.71
681	SLV FO 7	63	-390	2222	477.23	-69.54	-28.96
681	SLV FO 8	61	-395	2217	476.09	-69.38	-28.7
681	SLV FO 9	-73	376	1675	353.28	-51.52	30.73
681	SLV FO 10	-74	371	1670	352.14	-51.36	30.99
681	SLV FO 11	-95	-397	2305	483.98	-72.19	10.74
681	SLV FO 12	-97	-402	2300	482.84	-72.03	11.01
681	SLV FO 13	-265	98	1994	407.18	-61.88	69.99
681	SLV FO 14	-268	91	1986	405.49	-61.64	70.38
681	SLV FO 15	-272	-133	2183	446.39	-68.08	63.99
681	SLV FO 16	-274	-141	2175	444.7	-67.84	64.39
681	CRTFP Ux+	0	0	0	0	0	0
681	CRTFP Ux-	0	0	0	0	0	0
681	CRTFP Uy+	0	0	0	0	0	0
681	CRTFP Uy-	0	0	0	0	0	0
683	SLU 1	-12	-43	4658	935.81	-697.43	-4.86
683	SLU 2	-11	-17	4635	931.06	-693.79	-0.91
683	SLU 3	-12	-45	4774	958.28	-714.76	-5.04
683	SLU 4	-11	-28	4760	955.43	-712.57	-2.67
683	SLU 5	-11	-18	4712	946.01	-705.35	-1.1
683	SLU 6	-12	-46	4851	973.23	-726.32	-5.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
683	SLU 7	-11	-29	4837	970.37	-724.13	-2.86
683	SLU 8	-12	-46	4813	965.71	-720.55	-5.24
683	SLU 9	-11	-29	4799	962.86	-718.36	-2.87
683	SLU 10	-10	-22	5282	1056.73	-790.46	-2.12
683	SLU 11	-11	-50	5421	1083.95	-811.44	-6.25
683	SLU 12	-10	-34	5407	1081.1	-809.25	-3.88
683	SLU 13	-10	-23	5359	1071.68	-802.02	-2.31
683	SLU 14	-11	-51	5498	1098.89	-823	-6.44
683	SLU 15	-10	-35	5484	1096.04	-820.81	-4.07
683	SLU 16	-11	-51	5459	1091.38	-817.23	-6.45
683	SLU 17	-10	-35	5445	1088.52	-815.04	-4.08
683	SLU 18	-10	-51	5582	1115.34	-835.54	-6.58
683	SLU 19	-10	-35	5568	1112.49	-833.36	-4.21
683	SLU 20	-10	-52	5659	1130.29	-847.1	-6.77
683	SLU 21	-10	-36	5645	1127.44	-844.92	-4.4
683	SLU 22	-11	-47	5408	1082.66	-809.49	-5.69
683	SLU 23	-11	-20	5385	1077.91	-805.84	-1.74
683	SLU 24	-11	-48	5524	1105.12	-826.81	-5.87
683	SLU 25	-11	-32	5510	1102.27	-824.63	-3.5
683	SLU 26	-11	-21	5462	1092.85	-817.4	-1.92
683	SLU 27	-11	-49	5601	1120.07	-838.37	-6.06
683	SLU 28	-11	-33	5587	1117.22	-836.19	-3.69
683	SLU 29	-11	-49	5563	1112.55	-832.61	-6.07
683	SLU 30	-11	-33	5549	1109.7	-830.42	-3.69
683	SLU 31	-10	-26	6032	1203.57	-902.52	-2.94
683	SLU 32	-10	-54	6171	1230.79	-923.49	-7.07
683	SLU 33	-10	-38	6157	1227.94	-921.31	-4.7
683	SLU 34	-10	-27	6109	1218.52	-914.08	-3.13
683	SLU 35	-10	-55	6248	1245.74	-935.05	-7.26
683	SLU 36	-10	-39	6234	1242.89	-932.87	-4.89
683	SLU 37	-10	-55	6209	1238.22	-929.28	-7.27
683	SLU 38	-10	-39	6195	1235.37	-927.1	-4.9
683	SLU 39	-10	-55	6332	1262.18	-947.6	-7.41
683	SLU 40	-10	-39	6318	1259.33	-945.41	-5.04
683	SLU 41	-10	-56	6409	1277.13	-959.16	-7.6
683	SLU 42	-10	-40	6395	1274.28	-956.97	-5.23
683	SLU 43	-15	-55	5798	1166.21	-868.24	-6.04
683	SLU 44	-15	-28	5775	1161.46	-864.6	-2.09
683	SLU 45	-15	-56	5914	1188.68	-885.57	-6.22
683	SLU 46	-15	-40	5900	1185.83	-883.38	-3.85
683	SLU 47	-15	-29	5852	1176.41	-876.16	-2.28
683	SLU 48	-15	-57	5991	1203.62	-897.13	-6.41
683	SLU 49	-15	-41	5977	1200.77	-894.94	-4.04
683	SLU 50	-15	-57	5953	1196.11	-891.36	-6.42
683	SLU 51	-15	-41	5939	1193.25	-889.17	-4.05
683	SLU 52	-14	-34	6422	1287.13	-961.27	-3.29
683	SLU 53	-14	-62	6561	1314.35	-982.25	-7.43
683	SLU 54	-14	-46	6547	1311.49	-980.06	-5.05
683	SLU 55	-14	-35	6499	1302.07	-972.83	-3.48
683	SLU 56	-14	-63	6638	1329.29	-993.81	-7.61
683	SLU 57	-14	-47	6624	1326.44	-991.62	-5.24
683	SLU 58	-14	-63	6599	1321.77	-988.04	-7.62
683	SLU 59	-14	-47	6585	1318.92	-985.85	-5.25
683	SLU 60	-14	-63	6722	1345.74	-1006.35	-7.76
683	SLU 61	-14	-47	6708	1342.89	-1004.17	-5.39
683	SLU 62	-14	-64	6799	1360.69	-1017.91	-7.95
683	SLU 63	-14	-48	6785	1357.83	-1015.73	-5.58
683	SLU 64	-15	-59	6549	1313.06	-980.3	-6.86
683	SLU 65	-15	-32	6525	1308.3	-976.65	-2.91
683	SLU 66	-15	-60	6664	1335.52	-997.62	-7.04
683	SLU 67	-15	-44	6650	1332.67	-995.44	-4.67
683	SLU 68	-15	-33	6603	1323.25	-988.21	-3.1
683	SLU 69	-15	-61	6742	1350.47	-1009.18	-7.23
683	SLU 70	-15	-45	6728	1347.62	-1007	-4.86
683	SLU 71	-15	-61	6703	1342.95	-1003.42	-7.24
683	SLU 72	-15	-45	6689	1340.1	-1001.23	-4.87
683	SLU 73	-14	-38	7172	1433.97	-1073.33	-4.12
683	SLU 74	-14	-65	7311	1461.19	-1094.3	-8.25
683	SLU 75	-14	-49	7297	1458.34	-1092.12	-5.88
683	SLU 76	-13	-39	7249	1448.92	-1084.89	-4.31
683	SLU 77	-14	-66	7388	1476.14	-1105.86	-8.44
683	SLU 78	-14	-50	7374	1473.28	-1103.68	-6.07
683	SLU 79	-14	-66	7350	1468.62	-1100.09	-8.45
683	SLU 80	-14	-50	7336	1465.77	-1097.91	-6.08
683	SLU 81	-13	-67	7472	1492.58	-1118.41	-8.59
683	SLU 82	-13	-51	7458	1489.73	-1116.22	-6.21
683	SLU 83	-13	-68	7550	1507.53	-1129.97	-8.77
683	SLU 84	-13	-52	7536	1504.68	-1127.78	-6.4
683	SLE RA 1	-12	-45	4873	977.77	-729.45	-5.1
683	SLE RA 2	-11	-27	4857	974.6	-727.02	-2.46
683	SLE RA 3	-12	-45	4950	992.75	-741	-5.22
683	SLE RA 4	-11	-35	4940	990.85	-739.54	-3.64
683	SLE RA 5	-11	-27	4909	984.57	-734.72	-2.59
683	SLE RA 6	-12	-46	5001	1002.71	-748.7	-5.35
683	SLE RA 7	-11	-35	4992	1000.81	-747.25	-3.76
683	SLE RA 8	-12	-46	4975	997.7	-744.86	-5.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
683	SLE RA 9	-11	-35	4966	995.8	-743.4	-3.77
683	SLE RA 10	-11	-30	5288	1058.38	-791.47	-3.27
683	SLE RA 11	-11	-49	5381	1076.53	-805.45	-6.02
683	SLE RA 12	-11	-38	5371	1074.62	-803.99	-4.44
683	SLE RA 13	-11	-31	5340	1068.34	-799.18	-3.39
683	SLE RA 14	-11	-50	5432	1086.49	-813.16	-6.15
683	SLE RA 15	-11	-39	5423	1084.59	-811.7	-4.57
683	SLE RA 16	-11	-50	5406	1081.48	-809.31	-6.15
683	SLE RA 17	-11	-39	5397	1079.58	-807.85	-4.57
683	SLE RA 18	-11	-50	5488	1097.45	-821.52	-6.25
683	SLE RA 19	-10	-39	5479	1095.55	-820.06	-4.67
683	SLE RA 20	-11	-50	5540	1107.42	-829.23	-6.37
683	SLE RA 21	-10	-40	5531	1105.52	-827.77	-4.79
683	SLE FR 1	-12	-45	4873	977.77	-729.45	-5.1
683	SLE FR 2	-12	-41	4869	977.14	-728.96	-4.57
683	SLE FR 3	-12	-45	4893	981.76	-732.53	-5.15
683	SLE FR 4	-11	-43	5054	1013.04	-756.58	-4.92
683	SLE FR 5	-11	-46	5078	1017.66	-760.15	-5.49
683	SLE FR 6	-11	-47	5180	1037.61	-775.48	-5.67
683	SLE QP 1	-12	-45	4873	977.77	-729.45	-5.1
683	SLE QP 2	-11	-46	5057	1013.68	-757.07	-5.44
683	SLD 1	396	137	4705	978.44	-704.09	-83.39
683	SLD 2	393	129	4694	976.59	-702.46	-83.53
683	SLD 3	386	-188	5003	1038.33	-750.84	-130.42
683	SLD 4	382	-196	4992	1036.49	-749.2	-130.56
683	SLD 5	128	504	4502	912.58	-670.56	42.54
683	SLD 6	126	499	4494	911.39	-669.51	42.45
683	SLD 7	92	-581	5495	1112.23	-826.37	-114.25
683	SLD 8	90	-586	5488	1111.04	-825.32	-114.34
683	SLD 9	-113	494	4627	916.31	-688.82	103.45
683	SLD 10	-115	489	4620	915.12	-687.76	103.36
683	SLD 11	-148	-591	5620	1115.96	-844.63	-53.33
683	SLD 12	-150	-596	5613	1114.77	-843.57	-53.42
683	SLD 13	-405	104	5123	990.86	-764.93	119.68
683	SLD 14	-408	96	5111	989.02	-763.3	119.54
683	SLD 15	-416	-221	5421	1050.76	-811.68	72.64
683	SLD 16	-419	-229	5410	1048.91	-810.04	72.5
683	SLV 1	628	265	4485	953.45	-670.91	-124.15
683	SLV 2	622	252	4468	950.54	-668.34	-124.37
683	SLV 3	610	-290	4994	1055.62	-750.67	-204.3
683	SLV 4	604	-302	4976	1052.71	-748.1	-204.52
683	SLV 5	209	891	4118	841.2	-610.74	80.55
683	SLV 6	205	883	4106	839.24	-609	80.4
683	SLV 7	149	-959	5813	1181.75	-876.59	-186.62
683	SLV 8	145	-967	5801	1179.79	-874.86	-186.77
683	SLV 9	-168	875	4314	847.56	-639.28	175.88
683	SLV 10	-171	866	4302	845.6	-637.54	175.73
683	SLV 11	-228	-975	6009	1188.11	-905.13	-91.29
683	SLV 12	-231	-983	5997	1186.15	-903.4	-91.43
683	SLV 13	-627	210	5138	974.64	-766.04	193.63
683	SLV 14	-632	198	5121	971.73	-763.47	193.41
683	SLV 15	-645	-345	5647	1076.81	-845.8	113.48
683	SLV 16	-650	-357	5629	1073.9	-843.23	113.26
683	SLV FO 1	691	296	4428	947.43	-662.3	-136.02
683	SLV FO 2	686	282	4409	944.23	-659.47	-136.26
683	SLV FO 3	672	-315	4988	1059.81	-750.03	-224.18
683	SLV FO 4	666	-328	4968	1056.61	-747.2	-224.42
683	SLV FO 5	231	985	4024	823.95	-596.1	89.15
683	SLV FO 6	227	976	4011	821.8	-594.2	88.99
683	SLV FO 7	165	-1050	5888	1198.56	-888.55	-204.74
683	SLV FO 8	161	-1059	5875	1196.41	-886.64	-204.9
683	SLV FO 9	-183	967	4239	830.94	-627.5	194.02
683	SLV FO 10	-187	958	4226	828.79	-625.59	193.85
683	SLV FO 11	-249	-1068	6104	1205.55	-919.94	-99.87
683	SLV FO 12	-253	-1077	6091	1203.4	-918.03	-100.03
683	SLV FO 13	-688	236	5146	970.74	-766.94	213.54
683	SLV FO 14	-694	222	5127	967.54	-764.11	213.3
683	SLV FO 15	-708	-374	5706	1083.12	-854.67	125.37
683	SLV FO 16	-714	-388	5686	1079.92	-851.84	125.13
683	CRTFP Ux+	0	0	0	0	0	0
683	CRTFP Ux-	0	0	0	0	0	0
683	CRTFP Uy+	0	0	0	0	0	0
683	CRTFP Uy-	0	0	0	0	0	0
684	SLU 1	-8	-81	5821	1049.93	863.23	12.87
684	SLU 2	-7	-46	5789	1044.97	858.55	7.64
684	SLU 3	-8	-83	5965	1074.92	884.65	13.08
684	SLU 4	-7	-62	5945	1071.95	881.84	9.94
684	SLU 5	-7	-48	5885	1061.65	872.85	7.81
684	SLU 6	-7	-84	6061	1091.6	898.95	13.25
684	SLU 7	-7	-64	6041	1088.62	896.14	10.12
684	SLU 8	-7	-84	6013	1083.29	891.83	13.22
684	SLU 9	-7	-63	5994	1080.31	889.02	10.08
684	SLU 10	-6	-56	6590	1183.75	977.98	8.56
684	SLU 11	-6	-92	6766	1213.71	1004.07	14
684	SLU 12	-6	-71	6747	1210.73	1001.27	10.86
684	SLU 13	-5	-57	6686	1200.43	992.28	8.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
684	SLU 14	-6	-94	6862	1230.39	1018.38	14.18
684	SLU 15	-6	-73	6843	1227.41	1015.57	11.04
684	SLU 16	-6	-93	6815	1222.07	1011.25	14.14
684	SLU 17	-6	-73	6795	1219.09	1008.45	11.01
684	SLU 18	-6	-94	6966	1248.2	1033.84	14.19
684	SLU 19	-5	-74	6947	1245.22	1031.03	11.05
684	SLU 20	-5	-96	7062	1264.87	1048.14	14.36
684	SLU 21	-5	-75	7043	1261.9	1045.33	11.23
684	SLU 22	-6	-89	6750	1212.97	1001.57	13.58
684	SLU 23	-6	-55	6718	1208.01	996.9	8.35
684	SLU 24	-6	-91	6894	1237.96	1022.99	13.79
684	SLU 25	-6	-70	6874	1234.98	1020.19	10.65
684	SLU 26	-5	-56	6814	1224.68	1011.2	8.52
684	SLU 27	-6	-93	6990	1254.64	1037.29	13.96
684	SLU 28	-6	-72	6970	1251.66	1034.49	10.83
684	SLU 29	-6	-92	6942	1246.32	1030.17	13.93
684	SLU 30	-6	-72	6923	1243.34	1027.37	10.79
684	SLU 31	-4	-64	7519	1346.79	1116.32	9.27
684	SLU 32	-5	-100	7695	1376.75	1142.42	14.71
684	SLU 33	-4	-80	7676	1373.77	1139.62	11.57
684	SLU 34	-4	-66	7615	1363.47	1130.62	9.45
684	SLU 35	-5	-102	7791	1393.42	1156.72	14.89
684	SLU 36	-4	-81	7772	1390.45	1153.92	11.75
684	SLU 37	-5	-102	7743	1385.11	1149.6	14.85
684	SLU 38	-4	-81	7724	1382.13	1146.79	11.72
684	SLU 39	-4	-103	7895	1411.23	1172.18	14.9
684	SLU 40	-4	-82	7875	1408.25	1169.38	11.76
684	SLU 41	-4	-104	7991	1427.91	1186.48	15.07
684	SLU 42	-4	-84	7972	1424.93	1183.68	11.94
684	SLU 43	-11	-102	7249	1309.01	1074.76	16.48
684	SLU 44	-10	-68	7216	1304.05	1070.09	11.25
684	SLU 45	-10	-104	7392	1334.01	1096.18	16.69
684	SLU 46	-10	-83	7373	1331.03	1093.38	13.55
684	SLU 47	-10	-69	7312	1320.73	1084.39	11.43
684	SLU 48	-10	-106	7488	1350.68	1110.48	16.87
684	SLU 49	-10	-85	7469	1347.7	1107.68	13.73
684	SLU 50	-10	-105	7441	1342.37	1103.36	16.84
684	SLU 51	-10	-85	7421	1339.39	1100.56	13.7
684	SLU 52	-8	-77	8018	1442.83	1189.51	12.18
684	SLU 53	-9	-114	8194	1472.79	1215.61	17.62
684	SLU 54	-9	-93	8175	1469.81	1212.81	14.48
684	SLU 55	-8	-79	8114	1459.51	1203.82	12.35
684	SLU 56	-9	-115	8290	1489.47	1229.91	17.79
684	SLU 57	-8	-94	8271	1486.49	1227.11	14.66
684	SLU 58	-9	-115	8242	1481.15	1222.79	17.76
684	SLU 59	-8	-94	8223	1478.17	1219.99	14.62
684	SLU 60	-8	-116	8394	1507.28	1245.37	17.8
684	SLU 61	-8	-95	8374	1504.3	1242.57	14.66
684	SLU 62	-8	-117	8490	1523.95	1259.67	17.98
684	SLU 63	-8	-97	8470	1520.98	1256.87	14.84
684	SLU 64	-9	-111	8177	1472.05	1213.1	17.19
684	SLU 65	-8	-76	8145	1467.09	1208.43	11.96
684	SLU 66	-9	-112	8321	1497.04	1234.53	17.4
684	SLU 67	-9	-92	8302	1494.06	1231.72	14.27
684	SLU 68	-8	-78	8241	1483.76	1222.73	12.14
684	SLU 69	-9	-114	8417	1513.72	1248.83	17.58
684	SLU 70	-8	-93	8398	1510.74	1246.02	14.44
684	SLU 71	-9	-114	8370	1505.4	1241.71	17.55
684	SLU 72	-8	-93	8350	1502.43	1238.9	14.41
684	SLU 73	-7	-86	8947	1605.87	1327.86	12.89
684	SLU 74	-8	-122	9123	1635.83	1353.95	18.33
684	SLU 75	-7	-101	9104	1632.85	1351.15	15.19
684	SLU 76	-7	-87	9043	1622.55	1342.16	13.06
684	SLU 77	-7	-123	9219	1652.5	1368.26	18.5
684	SLU 78	-7	-103	9200	1649.53	1365.45	15.37
684	SLU 79	-7	-123	9171	1644.19	1361.13	18.47
684	SLU 80	-7	-103	9152	1641.21	1358.33	15.33
684	SLU 81	-7	-124	9323	1670.31	1383.72	18.51
684	SLU 82	-7	-103	9303	1667.34	1380.91	15.37
684	SLU 83	-7	-126	9419	1686.99	1398.02	18.69
684	SLU 84	-6	-105	9399	1684.01	1395.21	15.55
684	SLE RA 1	-7	-83	6086	1096.51	902.75	13.07
684	SLE RA 2	-7	-60	6065	1093.2	899.64	9.58
684	SLE RA 3	-7	-85	6182	1113.18	917.03	13.21
684	SLE RA 4	-7	-71	6169	1111.19	915.16	11.12
684	SLE RA 5	-7	-61	6129	1104.32	909.17	9.7
684	SLE RA 6	-7	-86	6246	1124.29	926.57	13.33
684	SLE RA 7	-7	-72	6233	1122.31	924.7	11.24
684	SLE RA 8	-7	-85	6214	1118.75	921.82	13.3
684	SLE RA 9	-7	-72	6201	1116.76	919.95	11.21
684	SLE RA 10	-6	-67	6599	1185.73	979.26	10.2
684	SLE RA 11	-6	-91	6716	1205.7	996.65	13.82
684	SLE RA 12	-6	-77	6704	1203.71	994.78	11.73
684	SLE RA 13	-6	-68	6663	1196.85	988.79	10.32
684	SLE RA 14	-6	-92	6781	1216.82	1006.19	13.94
684	SLE RA 15	-6	-78	6768	1214.83	1004.32	11.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
684	SLE RA 16	-6	-92	6749	1211.27	1001.44	13.92
684	SLE RA 17	-6	-78	6736	1209.29	999.57	11.83
684	SLE RA 18	-6	-92	6850	1228.69	1016.49	13.95
684	SLE RA 19	-6	-79	6837	1226.7	1014.62	11.86
684	SLE RA 20	-6	-93	6914	1239.81	1026.03	14.07
684	SLE RA 21	-6	-80	6901	1237.82	1024.16	11.98
684	SLE FR 1	-7	-83	6086	1096.51	902.75	13.07
684	SLE FR 2	-7	-79	6082	1095.85	902.13	12.37
684	SLE FR 3	-7	-84	6112	1100.96	906.57	13.12
684	SLE FR 4	-7	-81	6311	1135.5	936.25	12.63
684	SLE FR 5	-7	-86	6341	1140.61	940.69	13.38
684	SLE FR 6	-7	-88	6468	1162.6	959.62	13.51
684	SLE QP 1	-7	-83	6086	1096.51	902.75	13.07
684	SLE QP 2	-7	-86	6315	1136.17	936.87	13.33
684	SLD 1	511	104	5917	1157.32	872.36	-145.13
684	SLD 2	507	99	5905	1157.66	870.38	-143.1
684	SLD 3	495	-316	6326	1216.38	932.18	-80.33
684	SLD 4	491	-321	6314	1216.72	930.2	-78.31
684	SLD 5	173	609	5577	1052.87	827.13	-132.83
684	SLD 6	170	605	5569	1053.09	825.86	-131.52
684	SLD 7	121	-791	6942	1249.75	1026.54	83.16
684	SLD 8	118	-795	6934	1249.97	1025.26	84.46
684	SLD 9	-132	623	5696	1022.36	848.48	-57.8
684	SLD 10	-134	619	5689	1022.58	847.21	-56.49
684	SLD 11	-184	-777	7062	1219.24	1047.89	158.19
684	SLD 12	-187	-781	7054	1219.46	1046.62	159.49
684	SLD 13	-505	149	6316	1055.61	943.54	104.97
684	SLD 14	-509	144	6304	1055.95	941.57	107
684	SLD 15	-521	-271	6726	1114.68	1003.37	169.77
684	SLD 16	-524	-276	6714	1115.02	1001.39	171.79
684	SLV 1	804	239	5663	1164.98	831.71	-239.44
684	SLV 2	798	231	5643	1165.51	828.6	-236.25
684	SLV 3	778	-477	6361	1265.67	933.78	-128.87
684	SLV 4	772	-485	6342	1266.21	930.67	-125.67
684	SLV 5	278	1099	5063	991.98	751.1	-230.81
684	SLV 6	274	1094	5050	992.34	749	-228.65
684	SLV 7	189	-1288	7393	1327.65	1091.33	137.79
684	SLV 8	185	-1294	7379	1328.01	1089.24	139.94
684	SLV 9	-199	1122	5251	944.33	784.51	-113.27
684	SLV 10	-203	1116	5238	944.69	782.41	-111.12
684	SLV 11	-287	-1266	7580	1279.99	1124.75	255.32
684	SLV 12	-292	-1271	7567	1280.35	1122.65	257.47
684	SLV 13	-785	313	6289	1006.12	943.08	152.34
684	SLV 14	-792	305	6269	1006.66	939.97	155.53
684	SLV 15	-812	-403	6987	1106.82	1045.15	262.91
684	SLV 16	-818	-411	6968	1107.36	1042.04	266.11
684	SLV FO 1	885	272	5597	1167.86	821.19	-264.72
684	SLV FO 2	879	263	5576	1168.44	817.77	-261.21
684	SLV FO 3	856	-516	6366	1278.63	933.47	-143.09
684	SLV FO 4	849	-525	6345	1279.21	930.05	-139.57
684	SLV FO 5	306	1218	4938	977.56	732.52	-255.22
684	SLV FO 6	302	1212	4924	977.96	730.22	-252.85
684	SLV FO 7	209	-1408	7500	1346.8	1106.78	150.23
684	SLV FO 8	205	-1415	7486	1347.19	1104.47	152.6
684	SLV FO 9	-218	1243	5145	925.14	769.27	-125.93
684	SLV FO 10	-223	1236	5130	925.54	766.97	-123.57
684	SLV FO 11	-315	-1384	7707	1294.37	1143.53	279.52
684	SLV FO 12	-320	-1390	7692	1294.77	1141.23	281.88
684	SLV FO 13	-863	353	6286	993.12	943.7	166.24
684	SLV FO 14	-870	344	6265	993.71	940.28	169.75
684	SLV FO 15	-892	-435	7054	1103.89	1055.98	287.87
684	SLV FO 16	-899	-444	7033	1104.48	1052.56	291.39
684	CRTFP Ux+	0	0	0	0	0	0
684	CRTFP Ux-	0	0	0	0	0	0
684	CRTFP Uy+	0	0	0	0	0	0
684	CRTFP Uy-	0	0	0	0	0	0
686	SLU 1	-1	-84	5645	1080.09	-1193.43	-16.99
686	SLU 2	0	-50	5615	1074.68	-1187.09	-10.06
686	SLU 3	-1	-86	5783	1105.44	-1222.4	-17.45
686	SLU 4	0	-65	5765	1102.19	-1218.59	-13.3
686	SLU 5	0	-51	5707	1091.63	-1206.46	-10.44
686	SLU 6	0	-87	5875	1122.38	-1241.77	-17.83
686	SLU 7	0	-67	5857	1119.14	-1237.96	-13.68
686	SLU 8	0	-87	5830	1113.98	-1232.17	-17.75
686	SLU 9	0	-67	5811	1110.73	-1228.37	-13.6
686	SLU 10	2	-59	6383	1216.04	-1348.91	-12.42
686	SLU 11	1	-95	6551	1246.8	-1384.22	-19.81
686	SLU 12	1	-75	6533	1243.55	-1380.41	-15.65
686	SLU 13	2	-61	6475	1232.98	-1368.28	-12.8
686	SLU 14	1	-97	6643	1263.74	-1403.59	-20.19
686	SLU 15	2	-76	6625	1260.5	-1399.78	-16.03
686	SLU 16	1	-96	6598	1255.34	-1394	-20.1
686	SLU 17	2	-76	6579	1252.09	-1390.19	-15.95
686	SLU 18	1	-97	6743	1282.04	-1424.61	-20.35
686	SLU 19	2	-77	6724	1278.79	-1420.8	-16.2
686	SLU 20	2	-99	6835	1298.98	-1443.98	-20.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
686	SLU 21	2	-79	6816	1295.73	-1440.17	-16.58
686	SLU 22	1	-93	6538	1246.48	-1381.73	-19.6
686	SLU 23	2	-59	6507	1241.07	-1375.39	-12.67
686	SLU 24	2	-95	6676	1271.83	-1410.69	-20.06
686	SLU 25	2	-75	6657	1268.58	-1406.89	-15.91
686	SLU 26	3	-61	6599	1258.02	-1394.76	-13.05
686	SLU 27	2	-97	6768	1288.77	-1430.06	-20.44
686	SLU 28	2	-76	6749	1285.53	-1426.26	-16.29
686	SLU 29	2	-96	6722	1280.37	-1420.47	-20.36
686	SLU 30	2	-76	6704	1277.12	-1416.66	-16.21
686	SLU 31	4	-69	7275	1382.43	-1537.21	-15.03
686	SLU 32	3	-105	7444	1413.19	-1572.51	-22.42
686	SLU 33	4	-84	7425	1409.94	-1568.71	-18.26
686	SLU 34	4	-71	7367	1399.38	-1556.58	-15.41
686	SLU 35	4	-106	7536	1430.13	-1591.88	-22.8
686	SLU 36	4	-86	7517	1426.89	-1588.08	-18.64
686	SLU 37	4	-106	7490	1421.73	-1582.29	-22.71
686	SLU 38	4	-86	7472	1418.48	-1578.48	-18.56
686	SLU 39	4	-107	7635	1448.43	-1612.9	-22.96
686	SLU 40	4	-87	7617	1445.18	-1609.1	-18.8
686	SLU 41	4	-108	7727	1465.37	-1632.27	-23.34
686	SLU 42	4	-88	7709	1462.12	-1628.47	-19.19
686	SLU 43	-2	-106	7033	1347.07	-1486.9	-21.19
686	SLU 44	-1	-72	7002	1341.66	-1480.56	-14.26
686	SLU 45	-2	-108	7171	1372.42	-1515.87	-21.65
686	SLU 46	-1	-87	7152	1369.17	-1512.06	-17.5
686	SLU 47	-1	-73	7094	1358.61	-1499.93	-14.65
686	SLU 48	-1	-109	7263	1389.36	-1535.24	-22.04
686	SLU 49	-1	-89	7244	1386.12	-1531.43	-17.88
686	SLU 50	-1	-109	7217	1380.96	-1525.64	-21.95
686	SLU 51	-1	-88	7199	1377.71	-1521.84	-17.8
686	SLU 52	0	-81	7770	1483.02	-1642.38	-16.62
686	SLU 53	0	-117	7939	1513.78	-1677.69	-24.01
686	SLU 54	0	-97	7920	1510.53	-1673.88	-19.85
686	SLU 55	1	-83	7862	1499.96	-1661.75	-17
686	SLU 56	0	-119	8031	1530.72	-1697.06	-24.39
686	SLU 57	1	-98	8012	1527.48	-1693.25	-20.23
686	SLU 58	0	-118	7985	1522.32	-1687.47	-24.31
686	SLU 59	1	-98	7967	1519.07	-1683.66	-20.15
686	SLU 60	0	-119	8130	1549.02	-1718.08	-24.55
686	SLU 61	1	-99	8112	1545.77	-1714.27	-20.4
686	SLU 62	1	-121	8222	1565.96	-1737.45	-24.93
686	SLU 63	1	-101	8204	1562.71	-1733.64	-20.78
686	SLU 64	0	-115	7926	1513.47	-1675.2	-23.8
686	SLU 65	1	-81	7895	1508.05	-1668.86	-16.87
686	SLU 66	1	-117	8063	1538.81	-1704.16	-24.26
686	SLU 67	1	-97	8045	1535.56	-1700.36	-20.11
686	SLU 68	1	-83	7987	1525	-1688.23	-17.26
686	SLU 69	1	-119	8155	1555.75	-1723.53	-24.64
686	SLU 70	1	-98	8137	1552.51	-1719.73	-20.49
686	SLU 71	1	-118	8110	1547.35	-1713.94	-24.56
686	SLU 72	1	-98	8091	1544.1	-1710.13	-20.41
686	SLU 73	3	-91	8663	1649.41	-1830.68	-19.23
686	SLU 74	2	-127	8831	1680.17	-1865.99	-26.62
686	SLU 75	3	-106	8813	1676.92	-1862.18	-22.46
686	SLU 76	3	-92	8755	1666.36	-1850.05	-19.61
686	SLU 77	2	-128	8923	1697.11	-1885.36	-27
686	SLU 78	3	-108	8905	1693.87	-1881.55	-22.84
686	SLU 79	2	-128	8878	1688.71	-1875.76	-26.92
686	SLU 80	3	-107	8859	1685.46	-1871.96	-22.76
686	SLU 81	3	-129	9023	1715.41	-1906.37	-27.16
686	SLU 82	3	-109	9004	1712.16	-1902.57	-23.01
686	SLU 83	3	-130	9115	1732.35	-1925.74	-27.54
686	SLU 84	3	-110	9097	1729.1	-1921.94	-23.39
686	SLE RA 1	0	-87	5900	1127.63	-1247.23	-17.73
686	SLE RA 2	0	-64	5880	1124.03	-1243	-13.12
686	SLE RA 3	0	-88	5992	1144.53	-1266.54	-18.04
686	SLE RA 4	0	-74	5980	1142.37	-1264	-15.27
686	SLE RA 5	1	-65	5941	1135.32	-1255.92	-13.37
686	SLE RA 6	0	-89	6054	1155.83	-1279.45	-18.3
686	SLE RA 7	0	-75	6041	1153.66	-1276.92	-15.53
686	SLE RA 8	0	-89	6023	1150.22	-1273.06	-18.24
686	SLE RA 9	0	-75	6011	1148.06	-1270.52	-15.47
686	SLE RA 10	1	-70	6392	1218.27	-1350.88	-14.69
686	SLE RA 11	1	-94	6504	1238.77	-1374.42	-19.61
686	SLE RA 12	1	-81	6492	1236.61	-1371.88	-16.84
686	SLE RA 13	2	-71	6453	1229.56	-1363.8	-14.94
686	SLE RA 14	1	-95	6566	1250.07	-1387.34	-19.87
686	SLE RA 15	2	-82	6553	1247.9	-1384.8	-17.1
686	SLE RA 16	1	-95	6535	1244.46	-1380.94	-19.81
686	SLE RA 17	1	-81	6523	1242.3	-1378.4	-17.04
686	SLE RA 18	1	-96	6632	1262.26	-1401.35	-19.97
686	SLE RA 19	2	-82	6620	1260.1	-1398.81	-17.2
686	SLE RA 20	1	-97	6693	1273.56	-1414.26	-20.23
686	SLE RA 21	2	-83	6681	1271.39	-1411.72	-17.46
686	SLE FR 1	0	-87	5900	1127.63	-1247.23	-17.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
686	SLE FR 2	0	-82	5896	1126.91	-1246.39	-16.81
686	SLE FR 3	0	-87	5925	1132.15	-1252.4	-17.83
686	SLE FR 4	0	-85	6116	1167.3	-1292.62	-17.48
686	SLE FR 5	0	-90	6144	1172.54	-1298.63	-18.51
686	SLE FR 6	1	-91	6266	1194.95	-1324.29	-18.85
686	SLE QP 1	0	-87	5900	1127.63	-1247.23	-17.73
686	SLE QP 2	0	-89	6120	1168.02	-1293.47	-18.41
686	SLD 1	506	92	5838	1217.74	-1240.31	-105.21
686	SLD 2	502	92	5829	1218.73	-1238.7	-104.05
686	SLD 3	488	-322	6223	1281.03	-1319.17	-188.84
686	SLD 4	485	-322	6214	1282.02	-1317.56	-187.68
686	SLD 5	179	593	5453	1086.77	-1158.2	82.2
686	SLD 6	177	593	5448	1087.41	-1157.16	82.95
686	SLD 7	121	-787	6736	1297.75	-1421.05	-196.58
686	SLD 8	119	-787	6730	1298.39	-1420.02	-195.84
686	SLD 9	-118	609	5510	1037.66	-1166.92	159.02
686	SLD 10	-120	609	5504	1038.3	-1165.88	159.77
686	SLD 11	-176	-772	6792	1248.64	-1429.77	-119.76
686	SLD 12	-178	-772	6787	1249.27	-1428.74	-119.01
686	SLD 13	-484	143	6026	1054.02	-1269.38	150.87
686	SLD 14	-488	143	6017	1055.01	-1267.77	152.03
686	SLD 15	-502	-271	6411	1117.32	-1348.23	67.24
686	SLD 16	-505	-271	6402	1118.31	-1346.62	68.4
686	SLV 1	793	223	5649	1241.14	-1203.91	-148.33
686	SLV 2	787	223	5635	1242.71	-1201.38	-146.5
686	SLV 3	763	-483	6305	1349.02	-1338.42	-290.9
686	SLV 4	758	-484	6291	1350.59	-1335.88	-289.07
686	SLV 5	284	1076	4986	1026.05	-1063.08	158.5
686	SLV 6	280	1076	4976	1027.1	-1061.37	159.73
686	SLV 7	185	-1279	7174	1385.65	-1511.43	-316.72
686	SLV 8	182	-1279	7164	1386.7	-1509.72	-315.48
686	SLV 9	-181	1100	5076	949.35	-1077.22	278.67
686	SLV 10	-185	1100	5066	950.4	-1075.51	279.9
686	SLV 11	-280	-1254	7264	1308.94	-1525.57	-196.54
686	SLV 12	-283	-1254	7254	1310	-1523.86	-195.31
686	SLV 13	-757	305	5949	985.46	-1251.05	252.25
686	SLV 14	-763	305	5935	987.02	-1248.51	254.09
686	SLV 15	-787	-401	6605	1093.34	-1385.56	109.69
686	SLV 16	-792	-402	6591	1094.9	-1383.02	111.52
686	SLV FO 1	872	254	5602	1248.45	-1194.96	-161.33
686	SLV FO 2	866	254	5586	1250.18	-1192.17	-159.31
686	SLV FO 3	839	-523	6324	1367.12	-1342.92	-318.15
686	SLV FO 4	833	-523	6308	1368.84	-1340.12	-316.13
686	SLV FO 5	312	1192	4872	1011.85	-1040.04	176.19
686	SLV FO 6	308	1192	4862	1013.01	-1038.16	177.54
686	SLV FO 7	204	-1398	7279	1407.41	-1533.22	-346.55
686	SLV FO 8	200	-1398	7269	1408.57	-1531.34	-345.19
686	SLV FO 9	-199	1219	4971	927.48	-1055.59	308.38
686	SLV FO 10	-203	1219	4961	928.64	-1053.71	309.74
686	SLV FO 11	-308	-1371	7378	1323.03	-1548.78	-214.35
686	SLV FO 12	-312	-1371	7368	1324.19	-1546.9	-213
686	SLV FO 13	-833	345	5931	967.2	-1246.81	279.32
686	SLV FO 14	-839	344	5916	968.92	-1244.02	281.34
686	SLV FO 15	-865	-432	6653	1085.87	-1394.77	122.5
686	SLV FO 16	-871	-433	6638	1087.59	-1391.97	124.52
686	CRTFP Ux+	0	0	0	0	0	0
686	CRTFP Ux-	0	0	0	0	0	0
686	CRTFP Uy+	0	0	0	0	0	0
686	CRTFP Uy-	0	0	0	0	0	0
689	SLU 1	22	-91	9084	1378.29	2232.35	26.64
689	SLU 2	24	-38	9046	1370.35	2221.85	13.25
689	SLU 3	23	-93	9300	1412.11	2285.73	27.23
689	SLU 4	24	-62	9277	1407.34	2279.43	19.2
689	SLU 5	24	-40	9190	1393.02	2257.5	13.75
689	SLU 6	24	-95	9444	1434.78	2321.38	27.73
689	SLU 7	24	-64	9421	1430.01	2315.08	19.7
689	SLU 8	23	-95	9372	1423.63	2303.65	27.63
689	SLU 9	24	-63	9349	1418.87	2297.35	19.6
689	SLU 10	27	-49	10266	1555.44	2522.82	16.05
689	SLU 11	27	-104	10520	1597.19	2586.7	30.03
689	SLU 12	28	-73	10497	1592.43	2580.4	22
689	SLU 13	28	-51	10410	1578.11	2558.47	16.55
689	SLU 14	27	-106	10664	1619.86	2622.35	30.53
689	SLU 15	28	-75	10641	1615.1	2616.05	22.5
689	SLU 16	27	-106	10592	1608.72	2604.62	30.43
689	SLU 17	28	-74	10569	1603.95	2598.32	22.4
689	SLU 18	27	-106	10827	1642.7	2662.31	30.64
689	SLU 19	28	-75	10804	1637.94	2656.01	22.61
689	SLU 20	28	-108	10971	1665.37	2697.96	31.14
689	SLU 21	29	-77	10948	1660.61	2691.66	23.11
689	SLU 22	29	-103	10506	1598.79	2581.57	29.28
689	SLU 23	30	-50	10468	1590.85	2571.06	15.9
689	SLU 24	30	-105	10722	1632.6	2634.95	29.88
689	SLU 25	31	-74	10700	1627.84	2628.64	21.85
689	SLU 26	31	-52	10612	1613.52	2606.71	16.4
689	SLU 27	30	-107	10866	1655.27	2670.6	30.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
689	SLU 28	31	-76	10844	1650.51	2664.3	22.34
689	SLU 29	30	-107	10795	1644.13	2652.87	30.28
689	SLU 30	31	-75	10772	1639.36	2646.57	22.25
689	SLU 31	34	-61	11688	1775.93	2872.04	18.7
689	SLU 32	34	-116	11942	1817.69	2935.92	32.68
689	SLU 33	34	-85	11919	1812.92	2929.62	24.65
689	SLU 34	35	-63	11832	1798.6	2907.69	19.2
689	SLU 35	34	-118	12086	1840.36	2971.57	33.18
689	SLU 36	35	-87	12063	1835.59	2965.27	25.15
689	SLU 37	34	-118	12014	1829.22	2953.84	33.08
689	SLU 38	35	-86	11991	1824.45	2947.54	25.05
689	SLU 39	34	-118	12249	1863.2	3011.53	33.29
689	SLU 40	35	-87	12226	1858.43	3005.23	25.25
689	SLU 41	35	-120	12393	1885.87	3047.18	33.78
689	SLU 42	36	-89	12370	1881.1	3040.88	25.75
689	SLU 43	27	-114	11322	1716.18	2782.33	33.72
689	SLU 44	28	-61	11284	1708.24	2771.82	20.34
689	SLU 45	27	-116	11538	1750	2835.71	34.31
689	SLU 46	28	-85	11515	1745.23	2829.4	26.28
689	SLU 47	29	-64	11428	1730.91	2807.47	20.83
689	SLU 48	28	-118	11682	1772.67	2871.36	34.81
689	SLU 49	29	-87	11659	1767.9	2865.05	26.78
689	SLU 50	28	-118	11610	1761.52	2853.63	34.72
689	SLU 51	29	-87	11587	1756.76	2847.32	26.68
689	SLU 52	32	-72	12504	1893.33	3072.79	23.14
689	SLU 53	31	-127	12758	1935.08	3136.68	37.11
689	SLU 54	32	-96	12735	1930.32	3130.37	29.08
689	SLU 55	32	-74	12648	1916	3108.44	23.63
689	SLU 56	32	-129	12902	1957.75	3172.33	37.61
689	SLU 57	33	-98	12879	1952.99	3166.02	29.58
689	SLU 58	31	-129	12830	1946.61	3154.6	37.52
689	SLU 59	32	-98	12807	1941.84	3148.3	29.49
689	SLU 60	32	-129	13064	1980.59	3212.29	37.72
689	SLU 61	33	-98	13041	1975.83	3205.98	29.69
689	SLU 62	32	-132	13208	2003.26	3247.94	38.22
689	SLU 63	33	-100	13186	1998.5	3241.63	30.19
689	SLU 64	33	-126	12744	1936.68	3131.54	36.37
689	SLU 65	35	-73	12706	1928.74	3121.04	22.98
689	SLU 66	34	-128	12960	1970.49	3184.92	36.96
689	SLU 67	35	-97	12937	1965.73	3178.62	28.93
689	SLU 68	35	-75	12850	1951.41	3156.69	23.48
689	SLU 69	35	-130	13104	1993.16	3220.57	37.46
689	SLU 70	36	-99	13081	1988.4	3214.27	29.43
689	SLU 71	35	-130	13032	1982.02	3202.84	37.36
689	SLU 72	35	-98	13009	1977.25	3196.54	29.33
689	SLU 73	38	-84	13926	2113.82	3422.01	25.78
689	SLU 74	38	-139	14180	2155.58	3485.89	39.76
689	SLU 75	39	-108	14157	2150.81	3479.59	31.73
689	SLU 76	39	-86	14070	2136.49	3457.66	26.28
689	SLU 77	38	-141	14324	2178.25	3521.54	40.26
689	SLU 78	39	-110	14301	2173.48	3515.24	32.23
689	SLU 79	38	-141	14252	2167.11	3503.82	40.16
689	SLU 80	39	-109	14229	2162.34	3497.51	32.13
689	SLU 81	39	-141	14486	2201.09	3561.5	40.37
689	SLU 82	39	-110	14464	2196.32	3555.2	32.34
689	SLU 83	39	-143	14631	2223.76	3597.15	40.87
689	SLU 84	40	-112	14608	2218.99	3590.85	32.84
689	SLE RA 1	24	-94	9491	1441.29	2332.13	27.39
689	SLE RA 2	25	-59	9465	1436	2325.12	18.47
689	SLE RA 3	25	-96	9635	1463.83	2367.71	27.79
689	SLE RA 4	25	-75	9619	1460.66	2363.51	22.43
689	SLE RA 5	25	-61	9561	1451.11	2348.89	18.8
689	SLE RA 6	25	-97	9731	1478.95	2391.48	28.12
689	SLE RA 7	26	-76	9715	1475.77	2387.28	22.77
689	SLE RA 8	25	-97	9683	1471.52	2379.66	28.06
689	SLE RA 9	25	-76	9667	1468.34	2375.46	22.7
689	SLE RA 10	28	-66	10278	1559.39	2525.77	20.34
689	SLE RA 11	27	-103	10448	1587.23	2568.36	29.66
689	SLE RA 12	28	-82	10432	1584.05	2564.16	24.3
689	SLE RA 13	28	-68	10374	1574.5	2549.54	20.67
689	SLE RA 14	28	-104	10544	1602.34	2592.13	29.99
689	SLE RA 15	28	-83	10529	1599.16	2587.93	24.63
689	SLE RA 16	27	-104	10496	1594.91	2580.31	29.92
689	SLE RA 17	28	-83	10481	1591.73	2576.11	24.57
689	SLE RA 18	28	-104	10652	1617.57	2618.77	30.06
689	SLE RA 19	28	-84	10637	1614.39	2614.57	24.71
689	SLE RA 20	28	-106	10748	1632.68	2642.54	30.39
689	SLE RA 21	29	-85	10733	1629.5	2638.33	25.04
689	SLE FR 1	24	-94	9491	1441.29	2332.13	27.39
689	SLE FR 2	24	-87	9485	1440.23	2330.73	25.61
689	SLE FR 3	24	-95	9529	1447.34	2341.64	27.53
689	SLE FR 4	25	-90	9834	1493.12	2416.72	26.41
689	SLE FR 5	25	-98	9877	1500.22	2427.63	28.33
689	SLE FR 6	26	-99	10071	1529.43	2475.45	28.73
689	SLE QP 1	24	-94	9491	1441.29	2332.13	27.39
689	SLE QP 2	25	-97	9839	1494.17	2418.12	28.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
689	SLD 1	826	171	9542	1459.56	2339.81	-173.42
689	SLD 2	823	184	9536	1459.34	2337.33	-174.33
689	SLD 3	798	-472	9998	1559.4	2467.37	-7.75
689	SLD 4	795	-459	9992	1559.18	2464.89	-8.65
689	SLD 5	308	955	9058	1332.4	2201.58	-283.41
689	SLD 6	307	963	9054	1332.25	2199.98	-283.99
689	SLD 7	215	-1186	10580	1665.21	2626.8	268.84
689	SLD 8	213	-1177	10576	1665.07	2625.2	268.26
689	SLD 9	-163	983	9102	1323.28	2211.04	-211.87
689	SLD 10	-164	991	9098	1323.14	2209.44	-212.45
689	SLD 11	-256	-1157	10624	1656.09	2636.26	340.38
689	SLD 12	-258	-1149	10620	1655.95	2634.66	339.8
689	SLD 13	-745	264	9686	1429.17	2371.35	65.04
689	SLD 14	-747	277	9680	1428.95	2368.87	64.14
689	SLD 15	-773	-378	10142	1529.01	2498.91	230.72
689	SLD 16	-775	-365	10136	1528.79	2496.43	229.81
689	SLV 1	1280	366	9334	1433.89	2284	-299.39
689	SLV 2	1276	386	9325	1433.54	2280.09	-300.82
689	SLV 3	1233	-729	10113	1604.16	2501.55	-16.75
689	SLV 4	1229	-709	10103	1603.81	2497.64	-18.17
689	SLV 5	475	1699	8508	1217.9	2048.65	-498.49
689	SLV 6	472	1713	8502	1217.66	2046.02	-499.45
689	SLV 7	316	-1952	11104	1785.49	2773.84	443.65
689	SLV 8	313	-1938	11097	1785.26	2771.21	442.69
689	SLV 9	-263	1744	8581	1203.09	2065.03	-386.3
689	SLV 10	-266	1757	8574	1202.86	2062.4	-387.26
689	SLV 11	-422	-1907	11176	1770.69	2790.22	555.84
689	SLV 12	-424	-1893	11170	1770.45	2787.59	554.88
689	SLV 13	-1178	515	9575	1384.54	2338.6	74.56
689	SLV 14	-1182	535	9565	1384.19	2334.69	73.14
689	SLV 15	-1226	-580	10353	1554.81	2556.15	357.2
689	SLV 16	-1230	-560	10344	1554.46	2552.24	355.78
689	SLV FO 1	1406	412	9284	1427.86	2270.58	-332.15
689	SLV FO 2	1401	434	9273	1427.47	2266.28	-333.72
689	SLV FO 3	1353	-793	10140	1615.16	2509.89	-21.24
689	SLV FO 4	1349	-770	10130	1614.78	2505.59	-22.81
689	SLV FO 5	519	1878	8375	1190.27	2011.71	-551.16
689	SLV FO 6	517	1894	8368	1190.01	2008.81	-552.21
689	SLV FO 7	345	-2137	11230	1814.62	2809.41	485.2
689	SLV FO 8	342	-2122	11223	1814.36	2806.51	484.14
689	SLV FO 9	-292	1928	8455	1173.99	2029.73	-427.75
689	SLV FO 10	-295	1943	8448	1173.73	2026.83	-428.81
689	SLV FO 11	-466	-2088	11310	1798.34	2827.43	608.6
689	SLV FO 12	-469	-2073	11303	1798.08	2824.53	607.54
689	SLV FO 13	-1299	576	9548	1373.57	2330.65	79.2
689	SLV FO 14	-1303	598	9538	1373.19	2326.35	77.63
689	SLV FO 15	-1351	-629	10405	1560.88	2569.96	390.1
689	SLV FO 16	-1355	-606	10394	1560.49	2565.66	388.54
689	CRTFP Ux+	0	0	0	0	0	0
689	CRTFP Ux-	0	0	0	0	0	0
689	CRTFP Uy+	0	0	0	0	0	0
689	CRTFP Uy-	0	0	0	0	0	0
693	SLU 1	22	49	5256	1315.42	103.74	-5.79
693	SLU 2	23	76	5249	1313.8	102.59	-6.57
693	SLU 3	23	49	5376	1345.64	106.42	-5.98
693	SLU 4	24	65	5372	1344.67	105.72	-6.45
693	SLU 5	24	75	5329	1333.77	104.42	-6.69
693	SLU 6	23	49	5456	1365.62	108.24	-6.09
693	SLU 7	24	65	5452	1364.65	107.55	-6.56
693	SLU 8	23	48	5415	1355.37	107.4	-6.02
693	SLU 9	24	64	5411	1354.4	106.7	-6.49
693	SLU 10	26	79	5944	1488.2	116.95	-7.22
693	SLU 11	26	52	6072	1520.05	120.78	-6.62
693	SLU 12	26	68	6068	1519.08	120.09	-7.09
693	SLU 13	26	78	6024	1508.18	118.78	-7.33
693	SLU 14	26	52	6151	1540.03	122.61	-6.74
693	SLU 15	27	68	6147	1539.06	121.91	-7.21
693	SLU 16	26	51	6110	1529.78	121.76	-6.67
693	SLU 17	26	67	6106	1528.81	121.07	-7.13
693	SLU 18	26	53	6249	1564.57	124.26	-6.71
693	SLU 19	27	69	6245	1563.6	123.57	-7.18
693	SLU 20	26	53	6329	1584.55	126.09	-6.83
693	SLU 21	27	69	6325	1583.58	125.4	-7.3
693	SLU 22	27	53	6079	1522.46	120.25	-7.12
693	SLU 23	28	80	6072	1520.84	119.09	-7.9
693	SLU 24	28	53	6199	1552.69	122.92	-7.3
693	SLU 25	29	70	6195	1551.72	122.23	-7.77
693	SLU 26	29	80	6152	1540.82	120.92	-8.01
693	SLU 27	29	53	6279	1572.67	124.75	-7.42
693	SLU 28	29	69	6275	1571.69	124.05	-7.89
693	SLU 29	28	52	6238	1562.42	123.9	-7.35
693	SLU 30	29	69	6234	1561.44	123.21	-7.81
693	SLU 31	31	83	6767	1695.25	133.46	-8.54
693	SLU 32	31	56	6894	1727.1	137.28	-7.95
693	SLU 33	31	72	6890	1726.13	136.59	-8.41
693	SLU 34	32	83	6847	1715.23	135.28	-8.65

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
693	SLU 35	31	56	6974	1747.08	139.11	-8.06
693	SLU 36	32	72	6970	1746.1	138.42	-8.53
693	SLU 37	31	55	6933	1736.83	138.26	-7.99
693	SLU 38	32	72	6929	1735.85	137.57	-8.46
693	SLU 39	31	57	7072	1771.62	140.77	-8.04
693	SLU 40	32	73	7068	1770.64	140.07	-8.51
693	SLU 41	32	57	7151	1791.59	142.59	-8.15
693	SLU 42	32	73	7147	1790.62	141.9	-8.62
693	SLU 43	27	62	6550	1639.05	129.21	-7.08
693	SLU 44	28	89	6544	1637.43	128.05	-7.86
693	SLU 45	28	62	6671	1669.28	131.88	-7.26
693	SLU 46	28	78	6667	1668.31	131.19	-7.73
693	SLU 47	29	89	6623	1657.41	129.88	-7.97
693	SLU 48	28	62	6751	1689.26	133.71	-7.38
693	SLU 49	29	78	6747	1688.29	133.02	-7.85
693	SLU 50	28	61	6710	1679.01	132.86	-7.31
693	SLU 51	29	78	6706	1678.04	132.17	-7.77
693	SLU 52	31	92	7239	1811.84	142.42	-8.5
693	SLU 53	30	65	7366	1843.69	146.25	-7.91
693	SLU 54	31	81	7362	1842.72	145.55	-8.38
693	SLU 55	31	92	7319	1831.82	144.24	-8.61
693	SLU 56	31	65	7446	1863.67	148.07	-8.02
693	SLU 57	32	81	7442	1862.7	147.38	-8.49
693	SLU 58	31	64	7405	1853.42	147.22	-7.95
693	SLU 59	31	80	7401	1852.45	146.53	-8.42
693	SLU 60	31	66	7544	1888.21	149.73	-8
693	SLU 61	31	82	7540	1887.24	149.04	-8.47
693	SLU 62	31	66	7623	1908.19	151.55	-8.11
693	SLU 63	32	82	7619	1907.22	150.86	-8.58
693	SLU 64	32	66	7373	1846.1	145.71	-8.4
693	SLU 65	33	93	7367	1844.48	144.56	-9.18
693	SLU 66	33	66	7494	1876.33	148.39	-8.59
693	SLU 67	34	83	7490	1875.35	147.69	-9.05
693	SLU 68	34	93	7446	1864.46	146.38	-9.29
693	SLU 69	34	66	7573	1896.31	150.21	-8.7
693	SLU 70	34	82	7570	1895.33	149.52	-9.17
693	SLU 71	33	66	7532	1886.06	149.36	-8.63
693	SLU 72	34	82	7529	1885.08	148.67	-9.1
693	SLU 73	36	96	8062	2018.89	158.92	-9.82
693	SLU 74	36	69	8189	2050.74	162.75	-9.23
693	SLU 75	36	86	8185	2049.76	162.06	-9.7
693	SLU 76	36	96	8142	2038.87	160.75	-9.94
693	SLU 77	36	69	8269	2070.71	164.58	-9.35
693	SLU 78	37	85	8265	2069.74	163.88	-9.81
693	SLU 79	36	69	8228	2060.46	163.73	-9.28
693	SLU 80	37	85	8224	2059.49	163.04	-9.74
693	SLU 81	36	70	8366	2095.25	166.23	-9.32
693	SLU 82	37	87	8362	2094.28	165.54	-9.79
693	SLU 83	37	70	8446	2115.23	168.06	-9.44
693	SLU 84	37	86	8442	2114.26	167.37	-9.9
693	SLE RA 1	24	50	5491	1374.57	108.46	-6.17
693	SLE RA 2	24	68	5486	1373.49	107.69	-6.69
693	SLE RA 3	24	50	5571	1394.72	110.24	-6.3
693	SLE RA 4	25	61	5569	1394.08	109.78	-6.61
693	SLE RA 5	25	68	5540	1386.81	108.91	-6.77
693	SLE RA 6	25	50	5624	1408.04	111.46	-6.37
693	SLE RA 7	25	61	5622	1407.39	111	-6.68
693	SLE RA 8	24	50	5597	1401.21	110.89	-6.33
693	SLE RA 9	25	60	5594	1400.56	110.43	-6.64
693	SLE RA 10	26	70	5950	1489.76	117.27	-7.12
693	SLE RA 11	26	52	6035	1511	119.82	-6.73
693	SLE RA 12	26	63	6032	1510.35	119.36	-7.04
693	SLE RA 13	26	70	6003	1503.08	118.48	-7.2
693	SLE RA 14	26	52	6088	1524.32	121.03	-6.8
693	SLE RA 15	27	63	6085	1523.67	120.57	-7.11
693	SLE RA 16	26	52	6061	1517.48	120.47	-6.76
693	SLE RA 17	27	62	6058	1516.83	120.01	-7.07
693	SLE RA 18	26	53	6153	1540.67	122.14	-6.79
693	SLE RA 19	27	64	6150	1540.03	121.68	-7.1
693	SLE RA 20	27	53	6206	1553.99	123.36	-6.86
693	SLE RA 21	27	63	6203	1553.35	122.89	-7.17
693	SLE FR 1	24	50	5491	1374.57	108.46	-6.17
693	SLE FR 2	24	53	5490	1374.36	108.31	-6.28
693	SLE FR 3	24	50	5512	1379.9	108.95	-6.2
693	SLE FR 4	25	54	5689	1424.19	112.41	-6.46
693	SLE FR 5	25	51	5711	1429.73	113.05	-6.39
693	SLE FR 6	25	51	5822	1457.62	115.3	-6.48
693	SLE QP 1	24	50	5491	1374.57	108.46	-6.17
693	SLE QP 2	24	51	5689	1424.4	112.56	-6.36
693	SLD 1	503	173	5452	1362.63	117.47	-131.93
693	SLD 2	501	197	5458	1364.54	117.05	-131.47
693	SLD 3	484	-157	5518	1380.06	131.81	-120.91
693	SLD 4	482	-132	5524	1381.98	131.39	-120.44
693	SLD 5	197	584	5517	1379.1	92.36	-60.83
693	SLD 6	196	599	5520	1380.34	92.09	-60.53
693	SLD 7	134	-516	5737	1437.21	140.16	-24.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
693	SLD 8	133	-500	5741	1438.44	139.89	-23.78
693	SLD 9	-84	602	5638	1410.36	85.24	11.06
693	SLD 10	-85	617	5641	1411.6	84.97	11.37
693	SLD 11	-147	-498	5858	1468.47	133.04	47.82
693	SLD 12	-148	-482	5862	1469.7	132.77	48.12
693	SLD 13	-433	234	5855	1466.83	93.74	107.73
693	SLD 14	-436	258	5861	1468.75	93.32	108.19
693	SLD 15	-452	-96	5921	1484.26	108.08	118.75
693	SLD 16	-454	-72	5927	1486.18	107.66	119.22
693	SLV 1	775	265	5314	1326.75	119.23	-203.71
693	SLV 2	771	303	5323	1329.77	118.57	-202.97
693	SLV 3	743	-297	5427	1356.45	143.68	-184.88
693	SLV 4	739	-259	5436	1359.48	143.02	-184.14
693	SLV 5	299	961	5404	1349.48	77.6	-94.26
693	SLV 6	297	987	5410	1351.52	77.16	-93.77
693	SLV 7	192	-914	5780	1448.51	159.11	-31.49
693	SLV 8	189	-888	5786	1450.55	158.66	-30.99
693	SLV 9	-140	990	5593	1398.26	66.47	18.28
693	SLV 10	-143	1015	5599	1400.29	66.02	18.77
693	SLV 11	-248	-885	5969	1497.28	147.97	81.05
693	SLV 12	-250	-860	5975	1499.32	147.52	81.55
693	SLV 13	-690	361	5943	1489.33	82.1	171.43
693	SLV 14	-694	399	5952	1492.35	81.44	172.16
693	SLV 15	-722	-202	6056	1519.03	106.55	190.26
693	SLV 16	-726	-164	6065	1522.06	105.9	190.99
693	SLV FO 1	851	287	5276	1316.98	119.9	-223.44
693	SLV FO 2	846	329	5286	1320.31	119.17	-222.63
693	SLV FO 3	815	-332	5400	1349.66	146.79	-202.73
693	SLV FO 4	811	-290	5410	1352.99	146.07	-201.92
693	SLV FO 5	327	1052	5375	1341.99	74.11	-103.05
693	SLV FO 6	324	1080	5382	1344.23	73.62	-102.51
693	SLV FO 7	209	-1010	5789	1450.92	163.76	-34
693	SLV FO 8	206	-982	5796	1453.16	163.27	-33.45
693	SLV FO 9	-157	1084	5583	1395.64	61.86	20.74
693	SLV FO 10	-160	1112	5590	1397.88	61.37	21.29
693	SLV FO 11	-275	-979	5997	1504.57	151.51	89.79
693	SLV FO 12	-278	-951	6004	1506.81	151.02	90.34
693	SLV FO 13	-762	392	5969	1495.82	79.06	189.2
693	SLV FO 14	-766	433	5979	1499.15	78.33	190.01
693	SLV FO 15	-797	-227	6093	1528.5	105.95	209.92
693	SLV FO 16	-802	-185	6103	1531.82	105.23	210.73
693	CRTFP Ux+	0	0	0	0	0	0
693	CRTFP Ux-	0	0	0	0	0	0
693	CRTFP Uy+	0	0	0	0	0	0
693	CRTFP Uy-	0	0	0	0	0	0
694	SLU 1	62	82	7296	925.84	-510.22	-1.42
694	SLU 2	62	118	7290	925.07	-509.76	0.76
694	SLU 3	63	83	7464	947.33	-522.15	-1.6
694	SLU 4	64	104	7460	946.87	-521.88	-0.29
694	SLU 5	63	117	7400	939.32	-517.65	0.6
694	SLU 6	64	82	7574	961.58	-530.04	-1.76
694	SLU 7	65	103	7571	961.11	-529.77	-0.45
694	SLU 8	64	81	7517	954.33	-525.99	-1.74
694	SLU 9	64	103	7513	953.87	-525.72	-0.43
694	SLU 10	68	123	8250	1048.24	-577.26	0.47
694	SLU 11	69	88	8424	1070.5	-589.65	-1.89
694	SLU 12	69	109	8421	1070.04	-589.38	-0.58
694	SLU 13	69	122	8361	1062.49	-585.15	0.31
694	SLU 14	70	87	8535	1084.75	-597.54	-2.05
694	SLU 15	70	108	8531	1084.28	-597.27	-0.74
694	SLU 16	69	86	8477	1077.5	-593.49	-2.03
694	SLU 17	70	108	8474	1077.04	-593.22	-0.72
694	SLU 18	70	90	8668	1101.8	-606.65	-1.84
694	SLU 19	70	111	8664	1101.34	-606.38	-0.52
694	SLU 20	71	89	8779	1116.05	-614.54	-2
694	SLU 21	71	110	8775	1115.58	-614.26	-0.68
694	SLU 22	72	90	8437	1073.59	-591.05	-2.22
694	SLU 23	73	125	8431	1072.82	-590.6	-0.04
694	SLU 24	74	90	8605	1095.08	-602.99	-2.4
694	SLU 25	74	111	8601	1094.62	-602.71	-1.09
694	SLU 26	74	124	8542	1087.07	-598.48	-0.2
694	SLU 27	75	90	8716	1109.32	-610.87	-2.56
694	SLU 28	75	111	8712	1108.86	-610.6	-1.25
694	SLU 29	74	89	8658	1102.08	-606.83	-2.54
694	SLU 30	75	110	8655	1101.62	-606.55	-1.23
694	SLU 31	78	130	9392	1195.99	-658.1	-0.33
694	SLU 32	80	95	9565	1218.25	-670.49	-2.69
694	SLU 33	80	116	9562	1217.79	-670.22	-1.38
694	SLU 34	79	130	9502	1210.24	-665.99	-0.49
694	SLU 35	81	95	9676	1232.49	-678.38	-2.85
694	SLU 36	81	116	9672	1232.03	-678.1	-1.54
694	SLU 37	80	94	9619	1225.25	-674.33	-2.83
694	SLU 38	80	115	9615	1224.79	-674.06	-1.52
694	SLU 39	80	97	9809	1249.55	-687.49	-2.63
694	SLU 40	81	118	9806	1249.09	-687.21	-1.32
694	SLU 41	81	96	9920	1263.79	-695.37	-2.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
694	SLU 42	82	118	9916	1263.33	-695.1	-1.48
694	SLU 43	76	104	9094	1152.94	-635.57	-1.57
694	SLU 44	77	140	9088	1152.17	-635.11	0.61
694	SLU 45	78	105	9261	1174.43	-647.5	-1.76
694	SLU 46	78	126	9258	1173.97	-647.23	-0.44
694	SLU 47	78	139	9198	1166.41	-643	0.45
694	SLU 48	79	104	9372	1188.67	-655.39	-1.92
694	SLU 49	80	126	9368	1188.21	-655.11	-0.6
694	SLU 50	79	104	9315	1181.43	-651.34	-1.89
694	SLU 51	79	125	9311	1180.97	-651.07	-0.58
694	SLU 52	82	145	10048	1275.34	-702.61	0.32
694	SLU 53	84	110	10222	1297.6	-715	-2.05
694	SLU 54	84	131	10218	1297.14	-714.73	-0.74
694	SLU 55	84	144	10158	1289.58	-710.5	0.16
694	SLU 56	85	109	10332	1311.84	-722.89	-2.21
694	SLU 57	85	131	10329	1311.38	-722.62	-0.9
694	SLU 58	84	109	10275	1304.6	-718.84	-2.18
694	SLU 59	84	130	10271	1304.14	-718.57	-0.87
694	SLU 60	84	112	10466	1328.9	-732	-1.99
694	SLU 61	85	133	10462	1328.44	-731.73	-0.68
694	SLU 62	85	111	10576	1343.14	-739.89	-2.15
694	SLU 63	86	132	10572	1342.68	-739.61	-0.84
694	SLU 64	87	112	10235	1300.69	-716.4	-2.37
694	SLU 65	88	147	10229	1299.92	-715.95	-0.19
694	SLU 66	89	112	10403	1322.18	-728.34	-2.55
694	SLU 67	89	133	10399	1321.71	-728.06	-1.24
694	SLU 68	89	147	10339	1314.16	-723.83	-0.35
694	SLU 69	90	112	10513	1336.42	-736.22	-2.72
694	SLU 70	90	133	10509	1335.96	-735.95	-1.4
694	SLU 71	89	111	10456	1329.18	-732.18	-2.69
694	SLU 72	90	132	10452	1328.71	-731.9	-1.38
694	SLU 73	93	152	11189	1423.09	-783.45	-0.48
694	SLU 74	94	117	11363	1445.35	-795.84	-2.85
694	SLU 75	95	138	11359	1444.88	-795.57	-1.53
694	SLU 76	94	152	11300	1437.33	-791.34	-0.64
694	SLU 77	95	117	11473	1459.59	-803.73	-3.01
694	SLU 78	96	138	11470	1459.13	-803.45	-1.69
694	SLU 79	95	116	11416	1452.35	-799.68	-2.98
694	SLU 80	95	137	11413	1451.88	-799.41	-1.67
694	SLU 81	95	119	11607	1476.65	-812.83	-2.79
694	SLU 82	95	140	11603	1476.18	-812.56	-1.48
694	SLU 83	96	119	11717	1490.89	-820.72	-2.95
694	SLU 84	96	140	11714	1490.43	-820.45	-1.64
694	SLE RA 1	65	84	7622	968.06	-533.31	-1.65
694	SLE RA 2	65	108	7618	967.54	-533.01	-0.19
694	SLE RA 3	66	85	7734	982.38	-541.27	-1.77
694	SLE RA 4	66	99	7732	982.07	-541.09	-0.9
694	SLE RA 5	66	108	7692	977.04	-538.27	-0.3
694	SLE RA 6	67	84	7808	991.88	-546.53	-1.88
694	SLE RA 7	67	98	7805	991.57	-546.34	-1
694	SLE RA 8	66	84	7770	987.05	-543.83	-1.86
694	SLE RA 9	66	98	7767	986.74	-543.65	-0.99
694	SLE RA 10	69	111	8258	1049.66	-578.01	-0.39
694	SLE RA 11	70	88	8374	1064.5	-586.27	-1.96
694	SLE RA 12	70	102	8372	1064.19	-586.09	-1.09
694	SLE RA 13	69	111	8332	1059.15	-583.27	-0.49
694	SLE RA 14	70	88	8448	1073.99	-591.53	-2.07
694	SLE RA 15	70	102	8445	1073.68	-591.35	-1.2
694	SLE RA 16	70	87	8410	1069.16	-588.83	-2.06
694	SLE RA 17	70	101	8407	1068.86	-588.65	-1.18
694	SLE RA 18	70	89	8537	1085.36	-597.6	-1.93
694	SLE RA 19	70	103	8534	1085.05	-597.42	-1.05
694	SLE RA 20	71	89	8610	1094.86	-602.86	-2.03
694	SLE RA 21	71	103	8608	1094.55	-602.68	-1.16
694	SLE FR 1	65	84	7622	968.06	-533.31	-1.65
694	SLE FR 2	65	89	7621	967.96	-533.25	-1.36
694	SLE FR 3	65	84	7652	971.86	-535.42	-1.69
694	SLE FR 4	66	91	7896	1003.15	-552.54	-1.44
694	SLE FR 5	67	86	7926	1007.05	-554.7	-1.77
694	SLE FR 6	67	87	8079	1026.71	-565.46	-1.79
694	SLE QP 1	65	84	7622	968.06	-533.31	-1.65
694	SLE QP 2	66	86	7897	1003.25	-552.6	-1.73
694	SLD 1	709	234	7450	938.85	-506.51	-82.27
694	SLD 2	707	277	7458	941.36	-507.03	-78.25
694	SLD 3	692	-196	7502	949.47	-510.38	-107.92
694	SLD 4	690	-153	7510	951.98	-510.9	-103.89
694	SLD 5	285	775	7682	967.39	-532.81	12.31
694	SLD 6	284	803	7688	969.01	-533.15	14.9
694	SLD 7	228	-658	7856	1002.79	-545.72	-73.17
694	SLD 8	227	-630	7861	1004.41	-546.05	-70.58
694	SLD 9	-95	802	7932	1002.09	-559.15	67.12
694	SLD 10	-96	830	7937	1003.71	-559.48	69.71
694	SLD 11	-152	-631	8105	1037.49	-572.05	-18.36
694	SLD 12	-153	-603	8111	1039.11	-572.38	-15.77
694	SLD 13	-557	324	8283	1054.52	-594.3	100.43
694	SLD 14	-559	367	8291	1057.03	-594.81	104.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
694	SLD 15	-574	-106	8335	1065.14	-598.17	74.79
694	SLD 16	-576	-63	8343	1067.65	-598.68	78.81
694	SLV 1	1073	348	7196	901.99	-480.39	-126.02
694	SLV 2	1070	416	7209	905.95	-481.21	-119.68
694	SLV 3	1044	-385	7284	920.11	-486.99	-169.69
694	SLV 4	1041	-317	7298	924.07	-487.81	-163.35
694	SLV 5	412	1264	7549	944.64	-520.78	26.03
694	SLV 6	410	1310	7558	947.31	-521.33	30.3
694	SLV 7	317	-1180	7845	1005.06	-542.77	-119.53
694	SLV 8	315	-1135	7854	1007.72	-543.32	-115.26
694	SLV 9	-182	1306	7939	998.78	-561.88	111.8
694	SLV 10	-184	1352	7948	1001.44	-562.43	116.07
694	SLV 11	-278	-1138	8235	1059.19	-583.87	-33.76
694	SLV 12	-280	-1092	8244	1061.85	-584.42	-29.49
694	SLV 13	-909	489	8495	1082.42	-617.39	159.88
694	SLV 14	-912	557	8509	1086.39	-618.21	166.22
694	SLV 15	-938	-244	8584	1100.55	-623.99	116.22
694	SLV 16	-940	-176	8597	1104.51	-624.8	122.56
694	SLV FO 1	1174	374	7126	891.86	-473.17	-138.45
694	SLV FO 2	1170	449	7141	896.22	-474.07	-131.47
694	SLV FO 3	1142	-432	7223	911.8	-480.43	-186.48
694	SLV FO 4	1139	-358	7238	916.16	-481.33	-179.51
694	SLV FO 5	447	1382	7515	938.78	-517.6	28.8
694	SLV FO 6	445	1432	7525	941.72	-518.2	33.5
694	SLV FO 7	342	-1307	7840	1005.24	-541.79	-131.31
694	SLV FO 8	340	-1257	7850	1008.17	-542.39	-126.62
694	SLV FO 9	-207	1428	7943	998.33	-562.81	123.15
694	SLV FO 10	-209	1479	7953	1001.26	-563.41	127.85
694	SLV FO 11	-312	-1261	8268	1064.78	-587	-36.96
694	SLV FO 12	-314	-1210	8278	1067.71	-587.6	-32.27
694	SLV FO 13	-1006	529	8555	1090.34	-623.87	176.04
694	SLV FO 14	-1010	604	8570	1094.7	-624.77	183.02
694	SLV FO 15	-1038	-277	8653	1110.28	-631.13	128.01
694	SLV FO 16	-1041	-203	8667	1114.64	-632.02	134.99
694	CRTFP Ux+	0	0	0	0	0	0
694	CRTFP Ux-	0	0	0	0	0	0
694	CRTFP Uy+	0	0	0	0	0	0
694	CRTFP Uy-	0	0	0	0	0	0
696	SLU 1	48	62	5315	-174.95	-87.73	2.04
696	SLU 2	48	86	5310	-174.82	-87.64	2.32
696	SLU 3	50	62	5437	-178.7	-89.78	2.08
696	SLU 4	50	77	5435	-178.62	-89.73	2.25
696	SLU 5	49	86	5391	-177.19	-89	2.34
696	SLU 6	50	62	5518	-181.07	-91.14	2.1
696	SLU 7	50	77	5516	-180.99	-91.09	2.27
696	SLU 8	50	62	5477	-179.68	-90.44	2.08
696	SLU 9	50	76	5474	-179.6	-90.39	2.25
696	SLU 10	53	90	6010	-196.29	-99.27	2.5
696	SLU 11	54	66	6138	-200.17	-101.41	2.26
696	SLU 12	54	81	6135	-200.09	-101.36	2.43
696	SLU 13	53	90	6091	-198.66	-100.63	2.52
696	SLU 14	55	66	6219	-202.54	-102.76	2.28
696	SLU 15	55	81	6216	-202.46	-102.71	2.45
696	SLU 16	54	65	6177	-201.15	-102.07	2.27
696	SLU 17	54	80	6174	-201.07	-102.02	2.43
696	SLU 18	54	68	6315	-205.62	-104.33	2.3
696	SLU 19	54	82	6312	-205.54	-104.28	2.46
696	SLU 20	55	67	6396	-207.98	-105.69	2.32
696	SLU 21	55	82	6393	-207.91	-105.64	2.49
696	SLU 22	56	68	6148	-198.81	-101.66	2.3
696	SLU 23	56	92	6143	-198.69	-101.57	2.58
696	SLU 24	58	68	6271	-202.57	-103.71	2.34
696	SLU 25	58	83	6268	-202.49	-103.66	2.51
696	SLU 26	57	92	6224	-201.05	-102.93	2.6
696	SLU 27	59	68	6352	-204.93	-105.07	2.36
696	SLU 28	59	82	6349	-204.86	-105.02	2.53
696	SLU 29	58	67	6310	-203.54	-104.37	2.35
696	SLU 30	58	82	6307	-203.47	-104.32	2.51
696	SLU 31	61	96	6844	-220.16	-113.2	2.76
696	SLU 32	62	72	6971	-224.04	-115.34	2.52
696	SLU 33	62	87	6968	-223.96	-115.29	2.69
696	SLU 34	62	96	6925	-222.52	-114.56	2.78
696	SLU 35	63	72	7052	-226.4	-116.69	2.54
696	SLU 36	63	86	7049	-226.33	-116.64	2.71
696	SLU 37	62	71	7010	-225.01	-116	2.53
696	SLU 38	62	86	7007	-224.94	-115.95	2.69
696	SLU 39	63	73	7148	-229.48	-118.26	2.56
696	SLU 40	63	88	7146	-229.41	-118.21	2.73
696	SLU 41	63	73	7229	-231.85	-119.62	2.58
696	SLU 42	63	88	7227	-231.77	-119.57	2.75
696	SLU 43	60	79	6623	-219.25	-109.27	2.56
696	SLU 44	60	103	6618	-219.12	-109.19	2.84
696	SLU 45	61	79	6746	-223	-111.32	2.6
696	SLU 46	61	94	6743	-222.92	-111.27	2.77
696	SLU 47	61	103	6699	-221.49	-110.55	2.86
696	SLU 48	62	79	6827	-225.37	-112.68	2.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
696	SLU 49	62	93	6824	-225.29	-112.63	2.79
696	SLU 50	62	78	6785	-223.98	-111.99	2.61
696	SLU 51	62	93	6782	-223.9	-111.94	2.77
696	SLU 52	64	107	7319	-240.59	-120.81	3.02
696	SLU 53	66	83	7446	-244.47	-122.95	2.78
696	SLU 54	66	98	7443	-244.39	-122.9	2.95
696	SLU 55	65	107	7400	-242.96	-122.17	3.04
696	SLU 56	66	83	7527	-246.84	-124.31	2.8
696	SLU 57	66	97	7524	-246.76	-124.26	2.97
696	SLU 58	66	82	7485	-245.45	-123.61	2.79
696	SLU 59	66	97	7483	-245.37	-123.56	2.95
696	SLU 60	66	84	7623	-249.92	-125.88	2.82
696	SLU 61	66	99	7621	-249.84	-125.83	2.99
696	SLU 62	67	84	7704	-252.28	-127.23	2.84
696	SLU 63	67	99	7702	-252.21	-127.18	3.01
696	SLU 64	68	84	7457	-243.11	-123.2	2.83
696	SLU 65	68	109	7452	-242.99	-123.12	3.1
696	SLU 66	69	85	7580	-246.87	-125.25	2.87
696	SLU 67	69	99	7577	-246.79	-125.2	3.03
696	SLU 68	69	108	7533	-245.35	-124.47	3.12
696	SLU 69	70	84	7661	-249.23	-126.61	2.89
696	SLU 70	70	99	7658	-249.16	-126.56	3.05
696	SLU 71	70	84	7619	-247.85	-125.92	2.87
696	SLU 72	70	98	7616	-247.77	-125.87	3.04
696	SLU 73	72	113	8152	-264.46	-134.74	3.28
696	SLU 74	74	89	8280	-268.34	-136.88	3.05
696	SLU 75	74	103	8277	-268.26	-136.83	3.21
696	SLU 76	73	112	8233	-266.82	-136.1	3.3
696	SLU 77	75	88	8361	-270.7	-138.24	3.07
696	SLU 78	75	103	8358	-270.63	-138.19	3.23
696	SLU 79	74	88	8319	-269.32	-137.54	3.05
696	SLU 80	74	102	8316	-269.24	-137.49	3.22
696	SLU 81	74	90	8457	-273.78	-139.81	3.08
696	SLU 82	74	105	8454	-273.71	-139.76	3.25
696	SLU 83	75	90	8538	-276.15	-141.16	3.11
696	SLU 84	75	104	8535	-276.08	-141.11	3.27
696	SLE RA 1	51	64	5553	-181.76	-91.71	2.12
696	SLE RA 2	51	80	5550	-181.68	-91.65	2.3
696	SLE RA 3	51	64	5635	-184.27	-93.08	2.14
696	SLE RA 4	51	74	5633	-184.22	-93.04	2.25
696	SLE RA 5	51	80	5604	-183.26	-92.56	2.32
696	SLE RA 6	52	64	5689	-185.84	-93.98	2.16
696	SLE RA 7	52	73	5687	-185.79	-93.95	2.27
696	SLE RA 8	52	63	5661	-184.92	-93.52	2.15
696	SLE RA 9	52	73	5659	-184.87	-93.48	2.26
696	SLE RA 10	53	83	6016	-195.99	-99.4	2.42
696	SLE RA 11	54	67	6101	-198.58	-100.83	2.26
696	SLE RA 12	54	76	6100	-198.53	-100.79	2.37
696	SLE RA 13	54	82	6070	-197.57	-100.31	2.44
696	SLE RA 14	55	66	6155	-200.16	-101.73	2.28
696	SLE RA 15	55	76	6154	-200.11	-101.7	2.39
696	SLE RA 16	55	66	6128	-199.23	-101.27	2.27
696	SLE RA 17	55	76	6126	-199.18	-101.23	2.38
696	SLE RA 18	55	67	6220	-202.21	-102.78	2.29
696	SLE RA 19	55	77	6218	-202.16	-102.75	2.4
696	SLE RA 20	55	67	6274	-203.79	-103.68	2.3
696	SLE RA 21	55	77	6272	-203.74	-103.65	2.41
696	SLE FR 1	51	64	5553	-181.76	-91.71	2.12
696	SLE FR 2	51	67	5552	-181.75	-91.7	2.15
696	SLE FR 3	51	64	5574	-182.4	-92.07	2.12
696	SLE FR 4	52	68	5752	-187.88	-95.02	2.21
696	SLE FR 5	52	65	5774	-188.53	-95.39	2.17
696	SLE FR 6	53	66	5886	-191.99	-97.24	2.2
696	SLE QP 1	51	64	5553	-181.76	-91.71	2.12
696	SLE QP 2	52	65	5753	-187.9	-95.03	2.17
696	SLD 1	507	165	5373	-185.06	-86.91	7.16
696	SLD 2	507	198	5377	-183.65	-86.99	8.3
696	SLD 3	498	-133	5410	-180.35	-87.61	3.74
696	SLD 4	498	-100	5414	-178.93	-87.69	4.88
696	SLD 5	203	540	5582	-194.44	-91.52	8.65
696	SLD 6	203	561	5585	-193.53	-91.57	9.39
696	SLD 7	171	-451	5705	-178.73	-93.85	-2.74
696	SLD 8	171	-430	5708	-177.82	-93.9	-2.01
696	SLD 9	-68	559	5798	-197.98	-96.16	6.34
696	SLD 10	-68	581	5801	-197.07	-96.21	7.08
696	SLD 11	-99	-432	5920	-182.27	-98.49	-5.05
696	SLD 12	-99	-410	5923	-181.36	-98.54	-4.32
696	SLD 13	-394	229	6092	-196.86	-102.37	-0.54
696	SLD 14	-394	262	6096	-195.45	-102.44	0.6
696	SLD 15	-404	-68	6128	-192.15	-103.07	-3.96
696	SLD 16	-403	-35	6133	-190.74	-103.14	-2.82
696	SLV 1	765	242	5157	-183.36	-82.31	10.21
696	SLV 2	765	294	5164	-181.13	-82.43	12.01
696	SLV 3	749	-265	5220	-175.25	-83.5	4.38
696	SLV 4	749	-213	5227	-173.03	-83.62	6.18
696	SLV 5	289	877	5478	-199.24	-89.38	13.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
696	SLV 6	289	912	5482	-197.74	-89.46	14.31
696	SLV 7	237	-813	5687	-172.23	-93.36	-6.35
696	SLV 8	238	-778	5691	-170.73	-93.44	-5.14
696	SLV 9	-134	907	5814	-205.06	-96.62	9.48
696	SLV 10	-134	942	5819	-203.57	-96.7	10.69
696	SLV 11	-186	-783	6023	-178.05	-100.59	-9.97
696	SLV 12	-186	-748	6028	-176.56	-100.67	-8.76
696	SLV 13	-646	343	6279	-202.77	-106.43	-1.84
696	SLV 14	-646	395	6286	-200.54	-106.55	-0.04
696	SLV 15	-661	-164	6341	-194.67	-107.63	-7.68
696	SLV 16	-661	-112	6349	-192.44	-107.75	-5.87
696	SLV FO 1	836	259	5097	-182.9	-81.04	11.01
696	SLV FO 2	836	317	5105	-180.45	-81.17	13
696	SLV FO 3	819	-298	5166	-173.99	-82.35	4.6
696	SLV FO 4	819	-241	5174	-171.54	-82.48	6.58
696	SLV FO 5	313	958	5450	-200.37	-88.82	14.18
696	SLV FO 6	313	997	5455	-198.73	-88.91	15.52
696	SLV FO 7	256	-901	5680	-170.66	-93.19	-7.2
696	SLV FO 8	256	-862	5685	-169.02	-93.28	-5.87
696	SLV FO 9	-153	992	5820	-206.78	-96.78	10.21
696	SLV FO 10	-152	1030	5826	-205.13	-96.87	11.54
696	SLV FO 11	-210	-867	6050	-177.07	-101.15	-11.18
696	SLV FO 12	-209	-829	6055	-175.42	-101.24	-9.85
696	SLV FO 13	-716	371	6331	-204.26	-107.57	-2.24
696	SLV FO 14	-715	428	6339	-201.81	-107.71	-0.26
696	SLV FO 15	-733	-187	6400	-195.34	-108.89	-8.66
696	SLV FO 16	-732	-130	6408	-192.9	-109.02	-6.68
696	CRTFP Ux+	0	0	0	0	0	0
696	CRTFP Ux-	0	0	0	0	0	0
696	CRTFP Uy+	0	0	0	0	0	0
696	CRTFP Uy-	0	0	0	0	0	0
697	SLU 1	55	71	5872	-152.37	-0.03	0.21
697	SLU 2	55	97	5867	-152.26	-0.02	0.08
697	SLU 3	56	71	6009	-155.58	-0.05	0.23
697	SLU 4	56	87	6005	-155.51	-0.05	0.15
697	SLU 5	56	97	5957	-154.26	-0.04	0.1
697	SLU 6	57	71	6099	-157.57	-0.08	0.25
697	SLU 7	57	87	6096	-157.51	-0.07	0.17
697	SLU 8	57	70	6053	-156.36	-0.07	0.25
697	SLU 9	57	86	6049	-156.3	-0.06	0.17
697	SLU 10	59	102	6642	-170.63	-0.07	0.13
697	SLU 11	61	76	6785	-173.95	-0.11	0.29
697	SLU 12	61	92	6781	-173.88	-0.1	0.21
697	SLU 13	60	102	6733	-172.63	-0.09	0.15
697	SLU 14	62	76	6875	-175.94	-0.13	0.31
697	SLU 15	62	92	6872	-175.88	-0.13	0.23
697	SLU 16	61	75	6828	-174.73	-0.13	0.31
697	SLU 17	61	91	6825	-174.67	-0.12	0.23
697	SLU 18	62	77	6980	-178.61	-0.11	0.29
697	SLU 19	62	93	6977	-178.54	-0.1	0.21
697	SLU 20	62	77	7071	-180.61	-0.13	0.31
697	SLU 21	62	93	7067	-180.54	-0.12	0.23
697	SLU 22	64	77	6799	-172.4	-0.2	0.28
697	SLU 23	64	104	6794	-172.29	-0.19	0.15
697	SLU 24	65	78	6936	-175.6	-0.22	0.3
697	SLU 25	65	94	6933	-175.54	-0.22	0.22
697	SLU 26	65	104	6884	-174.28	-0.21	0.17
697	SLU 27	66	78	7026	-177.6	-0.25	0.32
697	SLU 28	66	94	7023	-177.54	-0.24	0.24
697	SLU 29	66	77	6980	-176.39	-0.24	0.32
697	SLU 30	66	93	6976	-176.33	-0.23	0.24
697	SLU 31	69	108	7569	-190.66	-0.24	0.2
697	SLU 32	70	83	7712	-193.97	-0.28	0.35
697	SLU 33	70	98	7708	-193.91	-0.27	0.27
697	SLU 34	70	108	7660	-192.65	-0.26	0.22
697	SLU 35	71	83	7802	-195.97	-0.3	0.37
697	SLU 36	71	98	7799	-195.9	-0.3	0.29
697	SLU 37	71	82	7755	-194.76	-0.3	0.38
697	SLU 38	71	98	7752	-194.69	-0.29	0.29
697	SLU 39	71	84	7907	-198.64	-0.28	0.36
697	SLU 40	71	100	7904	-198.57	-0.27	0.28
697	SLU 41	72	84	7998	-200.63	-0.3	0.38
697	SLU 42	72	100	7994	-200.57	-0.29	0.3
697	SLU 43	68	90	7316	-191.21	0.03	0.25
697	SLU 44	68	116	7310	-191.1	0.04	0.12
697	SLU 45	69	90	7452	-194.42	0	0.27
697	SLU 46	69	106	7449	-194.36	0	0.19
697	SLU 47	69	116	7401	-193.1	0.01	0.14
697	SLU 48	70	90	7543	-196.42	-0.02	0.29
697	SLU 49	70	106	7539	-196.35	-0.02	0.21
697	SLU 50	70	89	7496	-195.21	-0.02	0.29
697	SLU 51	70	105	7493	-195.14	-0.01	0.21
697	SLU 52	73	121	8086	-209.47	-0.02	0.18
697	SLU 53	74	95	8228	-212.79	-0.06	0.33
697	SLU 54	74	111	8225	-212.72	-0.05	0.25
697	SLU 55	74	120	8176	-211.47	-0.04	0.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
697	SLU 56	75	95	8319	-214.79	-0.08	0.35
697	SLU 57	75	110	8315	-214.72	-0.08	0.27
697	SLU 58	75	94	8272	-213.58	-0.08	0.35
697	SLU 59	75	110	8269	-213.51	-0.07	0.27
697	SLU 60	75	96	8424	-217.45	-0.05	0.33
697	SLU 61	75	112	8421	-217.39	-0.05	0.25
697	SLU 62	76	96	8514	-219.45	-0.08	0.35
697	SLU 63	76	112	8511	-219.39	-0.07	0.27
697	SLU 64	77	96	8243	-211.24	-0.14	0.32
697	SLU 65	77	123	8237	-211.13	-0.14	0.19
697	SLU 66	79	97	8380	-214.45	-0.17	0.34
697	SLU 67	79	113	8376	-214.38	-0.17	0.26
697	SLU 68	78	122	8328	-213.13	-0.16	0.21
697	SLU 69	80	97	8470	-216.45	-0.19	0.36
697	SLU 70	80	112	8467	-216.38	-0.19	0.28
697	SLU 71	79	96	8423	-215.23	-0.19	0.36
697	SLU 72	79	112	8420	-215.17	-0.18	0.28
697	SLU 73	82	127	9013	-229.5	-0.19	0.24
697	SLU 74	83	102	9155	-232.82	-0.23	0.4
697	SLU 75	83	117	9152	-232.75	-0.22	0.32
697	SLU 76	83	127	9103	-231.5	-0.21	0.26
697	SLU 77	84	101	9246	-234.81	-0.25	0.42
697	SLU 78	84	117	9242	-234.75	-0.25	0.34
697	SLU 79	84	101	9199	-233.6	-0.25	0.42
697	SLU 80	84	117	9196	-233.54	-0.24	0.34
697	SLU 81	84	103	9351	-237.48	-0.22	0.4
697	SLU 82	84	119	9348	-237.42	-0.22	0.32
697	SLU 83	85	103	9441	-239.48	-0.25	0.42
697	SLU 84	85	119	9438	-239.41	-0.24	0.34
697	SLE RA 1	57	73	6137	-158.09	-0.07	0.23
697	SLE RA 2	57	90	6133	-158.02	-0.07	0.14
697	SLE RA 3	58	73	6228	-160.23	-0.09	0.25
697	SLE RA 4	58	83	6226	-160.19	-0.09	0.19
697	SLE RA 5	58	90	6193	-159.35	-0.08	0.16
697	SLE RA 6	59	73	6288	-161.56	-0.11	0.26
697	SLE RA 7	59	83	6286	-161.52	-0.1	0.21
697	SLE RA 8	59	72	6257	-160.75	-0.1	0.26
697	SLE RA 9	59	83	6255	-160.71	-0.1	0.21
697	SLE RA 10	60	93	6650	-170.26	-0.11	0.18
697	SLE RA 11	61	76	6745	-172.48	-0.13	0.28
697	SLE RA 12	61	87	6743	-172.43	-0.13	0.23
697	SLE RA 13	61	93	6711	-171.6	-0.12	0.19
697	SLE RA 14	62	76	6805	-173.81	-0.14	0.3
697	SLE RA 15	62	87	6803	-173.76	-0.14	0.24
697	SLE RA 16	62	76	6774	-173	-0.14	0.3
697	SLE RA 17	62	86	6772	-172.96	-0.14	0.24
697	SLE RA 18	62	77	6876	-175.58	-0.13	0.28
697	SLE RA 19	62	88	6874	-175.54	-0.12	0.23
697	SLE RA 20	62	77	6936	-176.92	-0.14	0.3
697	SLE RA 21	62	88	6934	-176.87	-0.14	0.24
697	SLE FR 1	57	73	6137	-158.09	-0.07	0.23
697	SLE FR 2	57	76	6136	-158.08	-0.07	0.21
697	SLE FR 3	58	73	6161	-158.62	-0.08	0.24
697	SLE FR 4	59	77	6358	-163.32	-0.09	0.23
697	SLE FR 5	59	74	6383	-163.87	-0.1	0.25
697	SLE FR 6	60	75	6506	-166.84	-0.1	0.26
697	SLE QP 1	57	73	6137	-158.09	-0.07	0.23
697	SLE QP 2	59	74	6358	-163.34	-0.09	0.25
697	SLD 1	561	177	5862	-161.52	2.17	0.17
697	SLD 2	561	217	5866	-159.93	2.19	0.81
697	SLD 3	551	-143	5906	-156.23	2.05	1.78
697	SLD 4	551	-103	5911	-154.64	2.06	2.42
697	SLD 5	225	584	6142	-171.1	0.77	-2.32
697	SLD 6	225	610	6145	-170.08	0.78	-1.91
697	SLD 7	191	-484	6289	-153.45	0.36	3.04
697	SLD 8	191	-458	6292	-152.42	0.37	3.45
697	SLD 9	-74	606	6425	-174.26	-0.55	-2.95
697	SLD 10	-73	632	6428	-173.23	-0.54	-2.54
697	SLD 11	-108	-462	6572	-156.6	-0.96	2.41
697	SLD 12	-108	-436	6575	-155.58	-0.95	2.82
697	SLD 13	-434	251	6806	-172.04	-2.24	-1.93
697	SLD 14	-434	291	6811	-170.45	-2.23	-1.29
697	SLD 15	-444	-69	6851	-166.74	-2.37	-0.32
697	SLD 16	-444	-29	6855	-165.15	-2.35	0.32
697	SLV 1	845	258	5580	-160.32	3.45	0.01
697	SLV 2	846	320	5587	-157.82	3.47	1.02
697	SLV 3	829	-288	5655	-151.22	3.24	2.75
697	SLV 4	829	-226	5663	-148.71	3.26	3.76
697	SLV 5	320	946	6010	-176.71	1.28	-4.17
697	SLV 6	320	988	6015	-175.02	1.3	-3.49
697	SLV 7	264	-875	6260	-146.37	0.59	4.97
697	SLV 8	264	-833	6265	-144.68	0.61	5.65
697	SLV 9	-147	981	6452	-182	-0.78	-5.15
697	SLV 10	-147	1023	6457	-180.31	-0.77	-4.48
697	SLV 11	-203	-840	6702	-151.66	-1.48	3.99
697	SLV 12	-203	-798	6707	-149.97	-1.46	4.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
697	SLV 13	-711	374	7054	-177.96	-3.44	-3.26
697	SLV 14	-711	436	7062	-175.46	-3.42	-2.26
697	SLV 15	-728	-173	7130	-168.86	-3.65	-0.52
697	SLV 16	-728	-110	7137	-166.35	-3.63	0.48
697	SLV FO 1	924	277	5502	-160.02	3.8	-0.01
697	SLV FO 2	924	345	5510	-157.26	3.83	1.09
697	SLV FO 3	906	-324	5585	-150.01	3.57	3.01
697	SLV FO 4	906	-256	5593	-147.25	3.6	4.11
697	SLV FO 5	346	1034	5975	-178.04	1.42	-4.61
697	SLV FO 6	346	1080	5980	-176.19	1.44	-3.87
697	SLV FO 7	285	-970	6250	-144.67	0.66	5.44
697	SLV FO 8	285	-924	6256	-142.81	0.67	6.19
697	SLV FO 9	-167	1072	6461	-183.87	-0.85	-5.69
697	SLV FO 10	-167	1118	6467	-182.01	-0.84	-4.95
697	SLV FO 11	-229	-932	6737	-150.49	-1.62	4.36
697	SLV FO 12	-229	-886	6742	-148.63	-1.6	5.11
697	SLV FO 13	-788	404	7124	-179.43	-3.78	-3.62
697	SLV FO 14	-788	472	7132	-176.67	-3.75	-2.51
697	SLV FO 15	-807	-197	7207	-169.42	-4.01	-0.6
697	SLV FO 16	-807	-129	7215	-166.66	-3.98	0.51
697	CRTFP Ux+	0	0	0	0	0	0
697	CRTFP Ux-	0	0	0	0	0	0
697	CRTFP Uy+	0	0	0	0	0	0
697	CRTFP Uy-	0	0	0	0	0	0
698	SLU 1	56	70	5864	-151.86	0.48	-0.34
698	SLU 2	56	96	5858	-151.74	0.5	-0.46
698	SLU 3	58	71	6002	-155.05	0.47	-0.33
698	SLU 4	58	86	5998	-154.99	0.48	-0.4
698	SLU 5	57	96	5949	-153.73	0.49	-0.44
698	SLU 6	59	71	6093	-157.05	0.46	-0.32
698	SLU 7	59	86	6089	-156.98	0.47	-0.38
698	SLU 8	58	70	6046	-155.84	0.46	-0.31
698	SLU 9	58	86	6042	-155.77	0.47	-0.38
698	SLU 10	61	101	6635	-170.07	0.54	-0.44
698	SLU 11	63	76	6778	-173.38	0.51	-0.32
698	SLU 12	63	91	6774	-173.31	0.52	-0.39
698	SLU 13	62	101	6725	-172.06	0.53	-0.43
698	SLU 14	64	76	6869	-175.37	0.5	-0.3
698	SLU 15	64	91	6865	-175.3	0.51	-0.37
698	SLU 16	63	75	6822	-174.16	0.5	-0.3
698	SLU 17	63	90	6819	-174.1	0.51	-0.36
698	SLU 18	63	77	6973	-178.04	0.54	-0.32
698	SLU 19	63	93	6970	-177.97	0.55	-0.39
698	SLU 20	64	77	7064	-180.03	0.53	-0.31
698	SLU 21	64	93	7060	-179.96	0.54	-0.37
698	SLU 22	66	77	6795	-171.85	0.43	-0.34
698	SLU 23	66	103	6789	-171.73	0.45	-0.45
698	SLU 24	67	78	6933	-175.04	0.42	-0.33
698	SLU 25	67	93	6929	-174.98	0.43	-0.39
698	SLU 26	67	103	6880	-173.72	0.43	-0.43
698	SLU 27	68	78	7023	-177.04	0.41	-0.31
698	SLU 28	68	93	7020	-176.97	0.42	-0.38
698	SLU 29	68	77	6977	-175.83	0.41	-0.3
698	SLU 30	68	92	6973	-175.76	0.42	-0.37
698	SLU 31	71	108	7565	-190.06	0.49	-0.44
698	SLU 32	72	83	7709	-193.37	0.46	-0.31
698	SLU 33	72	98	7705	-193.3	0.47	-0.38
698	SLU 34	72	108	7656	-192.05	0.48	-0.42
698	SLU 35	73	83	7800	-195.36	0.45	-0.29
698	SLU 36	73	98	7796	-195.29	0.46	-0.36
698	SLU 37	72	82	7753	-194.15	0.45	-0.29
698	SLU 38	72	97	7750	-194.09	0.46	-0.36
698	SLU 39	73	84	7904	-198.03	0.49	-0.32
698	SLU 40	73	100	7900	-197.96	0.5	-0.38
698	SLU 41	74	84	7995	-200.02	0.48	-0.3
698	SLU 42	74	100	7991	-199.95	0.49	-0.37
698	SLU 43	70	89	7304	-190.56	0.64	-0.45
698	SLU 44	70	115	7299	-190.44	0.66	-0.56
698	SLU 45	72	90	7442	-193.76	0.63	-0.44
698	SLU 46	72	105	7438	-193.69	0.64	-0.51
698	SLU 47	71	115	7389	-192.44	0.65	-0.55
698	SLU 48	73	90	7533	-195.75	0.62	-0.42
698	SLU 49	73	105	7529	-195.68	0.63	-0.49
698	SLU 50	72	89	7486	-194.54	0.62	-0.42
698	SLU 51	72	104	7483	-194.47	0.63	-0.48
698	SLU 52	75	120	8075	-208.77	0.7	-0.55
698	SLU 53	76	95	8218	-212.08	0.68	-0.42
698	SLU 54	76	110	8214	-212.01	0.68	-0.49
698	SLU 55	76	120	8166	-210.76	0.69	-0.53
698	SLU 56	77	94	8309	-214.07	0.67	-0.41
698	SLU 57	77	110	8305	-214.01	0.67	-0.47
698	SLU 58	77	94	8262	-212.87	0.67	-0.4
698	SLU 59	77	109	8259	-212.8	0.67	-0.47
698	SLU 60	77	96	8413	-216.74	0.7	-0.43
698	SLU 61	77	111	8410	-216.67	0.71	-0.5
698	SLU 62	78	96	8504	-218.73	0.69	-0.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
698	SLU 63	78	111	8500	-218.66	0.7	-0.48
698	SLU 64	79	96	8235	-210.55	0.59	-0.44
698	SLU 65	79	122	8229	-210.43	0.61	-0.56
698	SLU 66	81	97	8373	-213.75	0.58	-0.43
698	SLU 67	81	112	8369	-213.68	0.59	-0.5
698	SLU 68	80	122	8320	-212.43	0.6	-0.54
698	SLU 69	82	96	8464	-215.74	0.57	-0.41
698	SLU 70	82	112	8460	-215.67	0.58	-0.48
698	SLU 71	81	96	8417	-214.53	0.57	-0.41
698	SLU 72	81	111	8414	-214.46	0.58	-0.48
698	SLU 73	84	127	9006	-228.76	0.65	-0.54
698	SLU 74	86	101	9149	-232.07	0.63	-0.42
698	SLU 75	86	117	9145	-232	0.63	-0.48
698	SLU 76	85	126	9096	-230.75	0.64	-0.52
698	SLU 77	87	101	9240	-234.06	0.62	-0.4
698	SLU 78	87	117	9236	-234	0.62	-0.47
698	SLU 79	86	101	9193	-232.86	0.62	-0.39
698	SLU 80	86	116	9190	-232.79	0.62	-0.46
698	SLU 81	86	103	9344	-236.73	0.65	-0.42
698	SLU 82	86	118	9341	-236.66	0.66	-0.49
698	SLU 83	87	103	9435	-238.72	0.64	-0.41
698	SLU 84	87	118	9431	-238.65	0.65	-0.47
698	SLE RA 1	59	72	6130	-157.57	0.47	-0.34
698	SLE RA 2	59	89	6126	-157.49	0.48	-0.42
698	SLE RA 3	60	73	6222	-159.7	0.46	-0.33
698	SLE RA 4	60	83	6220	-159.65	0.47	-0.38
698	SLE RA 5	60	89	6187	-158.82	0.47	-0.41
698	SLE RA 6	61	73	6282	-161.03	0.45	-0.32
698	SLE RA 7	61	83	6280	-160.98	0.46	-0.37
698	SLE RA 8	60	72	6251	-160.22	0.45	-0.32
698	SLE RA 9	60	82	6249	-160.18	0.46	-0.37
698	SLE RA 10	62	93	6644	-169.71	0.5	-0.41
698	SLE RA 11	63	76	6739	-171.92	0.49	-0.33
698	SLE RA 12	63	86	6737	-171.87	0.49	-0.37
698	SLE RA 13	63	93	6704	-171.04	0.5	-0.4
698	SLE RA 14	64	76	6800	-173.24	0.48	-0.31
698	SLE RA 15	64	86	6798	-173.2	0.49	-0.36
698	SLE RA 16	64	75	6769	-172.44	0.48	-0.31
698	SLE RA 17	64	86	6766	-172.39	0.49	-0.36
698	SLE RA 18	64	77	6869	-175.02	0.51	-0.33
698	SLE RA 19	64	87	6867	-174.97	0.51	-0.37
698	SLE RA 20	64	77	6930	-176.35	0.5	-0.32
698	SLE RA 21	64	87	6928	-176.3	0.51	-0.36
698	SLE FR 1	59	72	6130	-157.57	0.47	-0.34
698	SLE FR 2	59	76	6129	-157.55	0.47	-0.36
698	SLE FR 3	59	72	6154	-158.1	0.46	-0.34
698	SLE FR 4	60	77	6351	-162.79	0.48	-0.35
698	SLE FR 5	61	74	6376	-163.33	0.48	-0.33
698	SLE FR 6	61	75	6500	-166.29	0.49	-0.34
698	SLE QP 1	59	72	6130	-157.57	0.47	-0.34
698	SLE QP 2	60	74	6352	-162.8	0.48	-0.34
698	SLD 1	552	170	5783	-160.93	2.41	-0.3
698	SLD 2	552	213	5787	-159.33	2.43	0.33
698	SLD 3	562	-143	5832	-155.69	2.22	1.05
698	SLD 4	562	-100	5836	-154.09	2.24	1.67
698	SLD 5	193	570	6106	-170.46	1.34	-2.47
698	SLD 6	193	598	6109	-169.43	1.35	-2.07
698	SLD 7	226	-473	6270	-153	0.71	2
698	SLD 8	226	-446	6273	-151.97	0.72	2.41
698	SLD 9	-105	593	6431	-173.63	0.24	-3.08
698	SLD 10	-105	621	6434	-172.61	0.25	-2.68
698	SLD 11	-72	-450	6595	-156.18	-0.4	1.39
698	SLD 12	-72	-423	6598	-155.15	-0.38	1.79
698	SLD 13	-441	248	6868	-171.51	-1.28	-2.35
698	SLD 14	-441	290	6872	-169.92	-1.26	-1.72
698	SLD 15	-431	-65	6917	-166.27	-1.47	-1.01
698	SLD 16	-431	-23	6921	-164.68	-1.45	-0.38
698	SLV 1	830	246	5460	-159.7	3.5	-0.37
698	SLV 2	830	313	5466	-157.18	3.53	0.61
698	SLV 3	846	-288	5544	-150.7	3.18	1.91
698	SLV 4	846	-221	5550	-148.18	3.21	2.9
698	SLV 5	266	923	5956	-175.99	1.87	-4
698	SLV 6	266	968	5960	-174.3	1.89	-3.34
698	SLV 7	321	-857	6236	-145.99	0.79	3.62
698	SLV 8	321	-812	6240	-144.3	0.81	4.28
698	SLV 9	-200	959	6464	-181.31	0.14	-4.96
698	SLV 10	-200	1004	6468	-179.62	0.17	-4.3
698	SLV 11	-146	-821	6744	-151.31	-0.93	2.66
698	SLV 12	-146	-775	6748	-149.61	-0.91	3.32
698	SLV 13	-725	368	7154	-177.42	-2.25	-3.58
698	SLV 14	-725	435	7160	-174.91	-2.22	-2.59
698	SLV 15	-709	-166	7238	-168.42	-2.57	-1.29
698	SLV 16	-709	-99	7244	-165.91	-2.54	-0.3
698	SLV FO 1	907	263	5371	-159.39	3.8	-0.38
698	SLV FO 2	907	337	5378	-156.62	3.84	0.71
698	SLV FO 3	924	-324	5463	-149.48	3.45	2.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
698	SLV FO 4	924	-250	5470	-146.72	3.48	3.22
698	SLV FO 5	287	1008	5916	-177.31	2.01	-4.37
698	SLV FO 6	287	1057	5921	-175.45	2.03	-3.64
698	SLV FO 7	347	-950	6224	-144.31	0.82	4.02
698	SLV FO 8	347	-900	6229	-142.45	0.85	4.75
698	SLV FO 9	-226	1048	6475	-183.16	0.11	-5.42
698	SLV FO 10	-226	1098	6480	-181.3	0.13	-4.69
698	SLV FO 11	-166	-910	6783	-150.16	-1.07	2.96
698	SLV FO 12	-166	-860	6788	-148.3	-1.05	3.69
698	SLV FO 13	-804	398	7234	-178.89	-2.52	-3.9
698	SLV FO 14	-804	471	7241	-176.12	-2.49	-2.82
698	SLV FO 15	-786	-190	7326	-168.99	-2.88	-1.38
698	SLV FO 16	-786	-116	7333	-166.22	-2.85	-0.3
698	CRTFP Ux+	0	0	0	0	0	0
698	CRTFP Ux-	0	0	0	0	0	0
698	CRTFP Uy+	0	0	0	0	0	0
698	CRTFP Uy-	0	0	0	0	0	0
699	SLU 1	58	67	5838	-151.49	1.04	-0.87
699	SLU 2	58	92	5832	-151.37	1.06	-0.96
699	SLU 3	60	68	5976	-154.69	1.04	-0.87
699	SLU 4	60	83	5972	-154.61	1.06	-0.92
699	SLU 5	59	92	5923	-153.36	1.06	-0.95
699	SLU 6	61	68	6067	-156.67	1.04	-0.86
699	SLU 7	61	83	6063	-156.6	1.06	-0.91
699	SLU 8	60	67	6020	-155.47	1.04	-0.85
699	SLU 9	60	82	6016	-155.4	1.05	-0.9
699	SLU 10	63	97	6604	-169.67	1.21	-0.98
699	SLU 11	65	73	6748	-172.99	1.2	-0.89
699	SLU 12	65	88	6744	-172.91	1.21	-0.94
699	SLU 13	64	97	6695	-171.66	1.21	-0.97
699	SLU 14	66	73	6839	-174.97	1.2	-0.88
699	SLU 15	66	88	6835	-174.9	1.21	-0.93
699	SLU 16	65	72	6793	-173.77	1.19	-0.87
699	SLU 17	65	87	6789	-173.7	1.21	-0.92
699	SLU 18	65	74	6942	-177.64	1.25	-0.91
699	SLU 19	65	89	6938	-177.57	1.27	-0.96
699	SLU 20	66	74	7033	-179.63	1.26	-0.89
699	SLU 21	66	89	7029	-179.55	1.27	-0.94
699	SLU 22	68	74	6769	-171.47	1.11	-0.92
699	SLU 23	68	99	6762	-171.35	1.13	-1.01
699	SLU 24	69	75	6906	-174.66	1.12	-0.92
699	SLU 25	69	90	6902	-174.59	1.13	-0.97
699	SLU 26	69	99	6853	-173.33	1.14	-1
699	SLU 27	70	75	6997	-176.65	1.12	-0.9
699	SLU 28	70	90	6993	-176.57	1.13	-0.96
699	SLU 29	70	74	6951	-175.44	1.12	-0.9
699	SLU 30	70	89	6947	-175.37	1.13	-0.95
699	SLU 31	73	104	7535	-189.65	1.29	-1.03
699	SLU 32	74	80	7679	-192.96	1.27	-0.94
699	SLU 33	74	95	7675	-192.89	1.29	-0.99
699	SLU 34	74	104	7626	-191.63	1.29	-1.02
699	SLU 35	75	80	7770	-194.95	1.27	-0.93
699	SLU 36	75	95	7766	-194.88	1.29	-0.98
699	SLU 37	75	79	7723	-193.74	1.27	-0.92
699	SLU 38	75	94	7719	-193.67	1.28	-0.97
699	SLU 39	75	81	7872	-197.61	1.33	-0.96
699	SLU 40	75	96	7869	-197.54	1.34	-1.01
699	SLU 41	76	81	7963	-199.6	1.33	-0.94
699	SLU 42	76	96	7960	-199.53	1.35	-0.99
699	SLU 43	73	85	7271	-190.09	1.32	-1.12
699	SLU 44	73	110	7264	-189.97	1.34	-1.2
699	SLU 45	74	86	7408	-193.28	1.33	-1.11
699	SLU 46	74	101	7404	-193.21	1.34	-1.17
699	SLU 47	74	110	7355	-191.96	1.34	-1.19
699	SLU 48	75	86	7499	-195.27	1.33	-1.1
699	SLU 49	75	101	7495	-195.2	1.34	-1.15
699	SLU 50	75	85	7453	-194.07	1.32	-1.09
699	SLU 51	75	100	7449	-194	1.34	-1.14
699	SLU 52	78	115	8037	-208.27	1.49	-1.23
699	SLU 53	79	91	8181	-211.59	1.48	-1.14
699	SLU 54	79	106	8177	-211.51	1.49	-1.19
699	SLU 55	79	115	8128	-210.26	1.5	-1.21
699	SLU 56	80	91	8272	-213.57	1.48	-1.12
699	SLU 57	80	106	8268	-213.5	1.5	-1.18
699	SLU 58	80	90	8225	-212.37	1.48	-1.11
699	SLU 59	80	105	8221	-212.3	1.49	-1.17
699	SLU 60	80	92	8374	-216.24	1.54	-1.15
699	SLU 61	80	107	8371	-216.17	1.55	-1.2
699	SLU 62	81	92	8465	-218.23	1.54	-1.14
699	SLU 63	81	107	8462	-218.15	1.55	-1.19
699	SLU 64	82	92	8201	-210.07	1.4	-1.17
699	SLU 65	82	117	8195	-209.95	1.42	-1.25
699	SLU 66	84	93	8338	-213.26	1.4	-1.16
699	SLU 67	84	108	8335	-213.19	1.42	-1.21
699	SLU 68	83	117	8286	-211.93	1.42	-1.24
699	SLU 69	85	93	8429	-215.25	1.41	-1.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
699	SLU 70	85	108	8426	-215.17	1.42	-1.2
699	SLU 71	84	92	8383	-214.04	1.4	-1.14
699	SLU 72	84	107	8379	-213.97	1.41	-1.19
699	SLU 73	87	122	8967	-228.25	1.57	-1.28
699	SLU 74	89	97	9111	-231.56	1.56	-1.19
699	SLU 75	89	113	9107	-231.49	1.57	-1.24
699	SLU 76	88	122	9058	-230.23	1.57	-1.26
699	SLU 77	90	97	9202	-233.55	1.56	-1.17
699	SLU 78	90	113	9198	-233.48	1.57	-1.23
699	SLU 79	89	97	9156	-232.34	1.55	-1.16
699	SLU 80	89	112	9152	-232.27	1.57	-1.22
699	SLU 81	89	99	9305	-236.21	1.61	-1.2
699	SLU 82	89	114	9301	-236.14	1.63	-1.25
699	SLU 83	90	99	9396	-238.2	1.62	-1.19
699	SLU 84	90	114	9392	-238.13	1.63	-1.24
699	SLE RA 1	61	69	6104	-157.2	1.06	-0.89
699	SLE RA 2	61	86	6100	-157.12	1.07	-0.94
699	SLE RA 3	62	70	6196	-159.33	1.06	-0.88
699	SLE RA 4	62	80	6193	-159.28	1.07	-0.92
699	SLE RA 5	62	86	6160	-158.44	1.07	-0.94
699	SLE RA 6	63	70	6256	-160.65	1.06	-0.88
699	SLE RA 7	63	80	6254	-160.6	1.07	-0.91
699	SLE RA 8	62	69	6225	-159.85	1.06	-0.87
699	SLE RA 9	62	79	6223	-159.8	1.07	-0.9
699	SLE RA 10	64	89	6615	-169.32	1.17	-0.96
699	SLE RA 11	65	73	6711	-171.53	1.16	-0.9
699	SLE RA 12	65	83	6708	-171.48	1.17	-0.93
699	SLE RA 13	65	89	6675	-170.65	1.17	-0.95
699	SLE RA 14	66	73	6771	-172.85	1.17	-0.89
699	SLE RA 15	66	83	6769	-172.81	1.17	-0.93
699	SLE RA 16	66	72	6740	-172.05	1.16	-0.88
699	SLE RA 17	66	83	6738	-172	1.17	-0.92
699	SLE RA 18	66	74	6840	-174.63	1.2	-0.91
699	SLE RA 19	66	84	6837	-174.58	1.21	-0.94
699	SLE RA 20	66	74	6901	-175.95	1.2	-0.9
699	SLE RA 21	66	84	6898	-175.91	1.21	-0.93
699	SLE FR 1	61	69	6104	-157.2	1.06	-0.89
699	SLE FR 2	61	73	6103	-157.18	1.06	-0.9
699	SLE FR 3	61	69	6128	-157.73	1.06	-0.88
699	SLE FR 4	62	74	6324	-162.41	1.1	-0.9
699	SLE FR 5	63	71	6349	-162.96	1.1	-0.89
699	SLE FR 6	63	72	6472	-165.91	1.13	-0.9
699	SLE QP 1	61	69	6104	-157.2	1.06	-0.89
699	SLE QP 2	62	71	6325	-162.43	1.1	-0.89
699	SLD 1	553	160	5699	-160.48	2.45	-0.66
699	SLD 2	553	206	5702	-158.88	2.47	-0.03
699	SLD 3	563	-147	5756	-155.3	2.15	0.35
699	SLD 4	563	-102	5759	-153.7	2.17	0.98
699	SLD 5	195	556	6049	-169.98	1.96	-2.47
699	SLD 6	195	585	6052	-168.95	1.97	-2.07
699	SLD 7	227	-469	6241	-152.71	0.96	0.91
699	SLD 8	227	-439	6243	-151.68	0.97	1.32
699	SLD 9	-102	581	6407	-173.18	1.23	-3.1
699	SLD 10	-102	610	6409	-172.15	1.24	-2.7
699	SLD 11	-70	-444	6598	-155.91	0.23	0.28
699	SLD 12	-70	-414	6600	-154.88	0.25	0.69
699	SLD 13	-438	243	6890	-171.16	0.03	-2.77
699	SLD 14	-438	289	6893	-169.56	0.05	-2.14
699	SLD 15	-428	-64	6948	-165.98	-0.27	-1.75
699	SLD 16	-428	-19	6951	-164.37	-0.25	-1.12
699	SLV 1	830	232	5344	-159.22	3.23	-0.61
699	SLV 2	830	304	5349	-156.69	3.27	0.38
699	SLV 3	846	-292	5441	-150.31	2.72	1.12
699	SLV 4	846	-220	5446	-147.79	2.75	2.11
699	SLV 5	269	900	5881	-175.44	2.51	-3.62
699	SLV 6	269	949	5885	-173.74	2.53	-2.95
699	SLV 7	322	-847	6207	-145.76	0.8	2.15
699	SLV 8	321	-798	6210	-144.06	0.83	2.82
699	SLV 9	-197	939	6439	-180.79	1.37	-4.6
699	SLV 10	-197	988	6442	-179.1	1.4	-3.93
699	SLV 11	-144	-808	6765	-151.11	-0.33	1.16
699	SLV 12	-144	-759	6768	-149.42	-0.31	1.83
699	SLV 13	-721	362	7203	-177.07	-0.55	-3.9
699	SLV 14	-721	434	7208	-174.54	-0.51	-2.9
699	SLV 15	-705	-162	7301	-168.16	-1.07	-2.17
699	SLV 16	-705	-91	7306	-165.64	-1.03	-1.17
699	SLV FO 1	907	248	5245	-158.9	3.44	-0.58
699	SLV FO 2	907	327	5251	-156.12	3.48	0.51
699	SLV FO 3	924	-329	5353	-149.1	2.88	1.32
699	SLV FO 4	924	-250	5359	-146.33	2.92	2.41
699	SLV FO 5	290	983	5837	-176.74	2.65	-3.89
699	SLV FO 6	289	1037	5841	-174.87	2.68	-3.15
699	SLV FO 7	347	-938	6195	-144.09	0.77	2.45
699	SLV FO 8	347	-885	6199	-142.22	0.8	3.19
699	SLV FO 9	-222	1026	6450	-182.63	1.4	-4.97
699	SLV FO 10	-222	1080	6454	-180.76	1.43	-4.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
699	SLV FO 11	-165	-895	6809	-149.98	-0.48	1.37
699	SLV FO 12	-165	-842	6813	-148.11	-0.45	2.1
699	SLV FO 13	-799	391	7291	-178.53	-0.72	-4.2
699	SLV FO 14	-800	470	7297	-175.76	-0.68	-3.11
699	SLV FO 15	-782	-186	7398	-168.74	-1.28	-2.3
699	SLV FO 16	-782	-107	7404	-165.96	-1.24	-1.2
699	CRTFP Ux+	0	0	0	0	0	0
699	CRTFP Ux-	0	0	0	0	0	0
699	CRTFP Uy+	0	0	0	0	0	0
699	CRTFP Uy-	0	0	0	0	0	0
700	SLU 1	61	62	5794	-151.28	1.5	-1.38
700	SLU 2	61	87	5787	-151.15	1.53	-1.43
700	SLU 3	62	62	5931	-154.47	1.52	-1.38
700	SLU 4	62	77	5926	-154.39	1.54	-1.42
700	SLU 5	62	87	5877	-153.14	1.54	-1.43
700	SLU 6	64	62	6022	-156.46	1.53	-1.37
700	SLU 7	63	77	6017	-156.38	1.55	-1.41
700	SLU 8	63	62	5975	-155.25	1.52	-1.36
700	SLU 9	63	77	5971	-155.18	1.54	-1.39
700	SLU 10	66	91	6552	-169.45	1.78	-1.49
700	SLU 11	68	67	6697	-172.76	1.77	-1.44
700	SLU 12	68	82	6692	-172.69	1.79	-1.48
700	SLU 13	67	91	6643	-171.43	1.8	-1.49
700	SLU 14	69	67	6787	-174.75	1.78	-1.43
700	SLU 15	69	82	6783	-174.68	1.8	-1.47
700	SLU 16	68	67	6741	-173.55	1.78	-1.42
700	SLU 17	68	81	6737	-173.47	1.79	-1.45
700	SLU 18	68	68	6888	-177.42	1.86	-1.46
700	SLU 19	68	83	6883	-177.34	1.88	-1.5
700	SLU 20	69	69	6979	-179.4	1.87	-1.45
700	SLU 21	69	83	6974	-179.33	1.89	-1.49
700	SLU 22	70	68	6720	-171.25	1.68	-1.48
700	SLU 23	70	93	6712	-171.13	1.71	-1.54
700	SLU 24	72	69	6857	-174.45	1.7	-1.48
700	SLU 25	72	84	6852	-174.37	1.72	-1.52
700	SLU 26	71	93	6803	-173.11	1.73	-1.53
700	SLU 27	73	69	6948	-176.43	1.72	-1.48
700	SLU 28	73	84	6943	-176.36	1.73	-1.51
700	SLU 29	73	68	6901	-175.23	1.71	-1.46
700	SLU 30	73	83	6897	-175.15	1.72	-1.5
700	SLU 31	75	98	7478	-189.42	1.97	-1.6
700	SLU 32	77	73	7623	-192.74	1.96	-1.54
700	SLU 33	77	88	7618	-192.66	1.97	-1.58
700	SLU 34	77	98	7569	-191.41	1.98	-1.59
700	SLU 35	78	74	7713	-194.73	1.97	-1.54
700	SLU 36	78	88	7709	-194.65	1.99	-1.57
700	SLU 37	78	73	7667	-193.52	1.96	-1.52
700	SLU 38	78	88	7663	-193.45	1.98	-1.56
700	SLU 39	78	75	7814	-197.39	2.04	-1.57
700	SLU 40	78	90	7809	-197.32	2.06	-1.6
700	SLU 41	79	75	7904	-199.38	2.05	-1.56
700	SLU 42	79	90	7900	-199.3	2.07	-1.59
700	SLU 43	76	78	7215	-189.81	1.89	-1.75
700	SLU 44	76	103	7207	-189.69	1.92	-1.81
700	SLU 45	77	79	7352	-193	1.91	-1.76
700	SLU 46	77	94	7347	-192.93	1.93	-1.79
700	SLU 47	77	103	7298	-191.67	1.93	-1.8
700	SLU 48	78	79	7442	-194.99	1.92	-1.75
700	SLU 49	78	94	7438	-194.91	1.94	-1.79
700	SLU 50	78	78	7396	-193.79	1.91	-1.74
700	SLU 51	78	93	7392	-193.71	1.93	-1.77
700	SLU 52	81	108	7973	-207.98	2.17	-1.87
700	SLU 53	82	83	8117	-211.3	2.16	-1.82
700	SLU 54	82	98	8113	-211.22	2.18	-1.86
700	SLU 55	82	108	8064	-209.97	2.18	-1.86
700	SLU 56	84	83	8208	-213.29	2.17	-1.81
700	SLU 57	84	98	8204	-213.21	2.19	-1.85
700	SLU 58	83	83	8162	-212.08	2.16	-1.8
700	SLU 59	83	98	8157	-212.01	2.18	-1.83
700	SLU 60	83	85	8309	-215.95	2.25	-1.84
700	SLU 61	83	100	8304	-215.87	2.27	-1.88
700	SLU 62	84	85	8399	-217.94	2.26	-1.83
700	SLU 63	84	100	8395	-217.86	2.28	-1.87
700	SLU 64	85	85	8141	-209.79	2.07	-1.86
700	SLU 65	85	109	8133	-209.66	2.1	-1.91
700	SLU 66	87	85	8278	-212.98	2.09	-1.86
700	SLU 67	87	100	8273	-212.9	2.11	-1.9
700	SLU 68	86	109	8224	-211.65	2.11	-1.91
700	SLU 69	88	85	8368	-214.97	2.1	-1.85
700	SLU 70	88	100	8364	-214.89	2.12	-1.89
700	SLU 71	87	85	8322	-213.76	2.09	-1.84
700	SLU 72	87	100	8318	-213.69	2.11	-1.87
700	SLU 73	90	114	8899	-227.96	2.35	-1.97
700	SLU 74	92	90	9043	-231.28	2.34	-1.92
700	SLU 75	92	105	9039	-231.2	2.36	-1.96
700	SLU 76	91	114	8990	-229.95	2.37	-1.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
700	SLU 77	93	90	9134	-233.26	2.35	-1.91
700	SLU 78	93	105	9130	-233.19	2.37	-1.95
700	SLU 79	93	89	9088	-232.06	2.34	-1.9
700	SLU 80	93	104	9083	-231.98	2.36	-1.94
700	SLU 81	93	91	9234	-235.93	2.43	-1.94
700	SLU 82	93	106	9230	-235.85	2.45	-1.98
700	SLU 83	94	91	9325	-237.91	2.44	-1.94
700	SLU 84	94	106	9321	-237.84	2.46	-1.97
700	SLE RA 1	64	64	6058	-156.99	1.55	-1.41
700	SLE RA 2	64	80	6054	-156.9	1.57	-1.44
700	SLE RA 3	65	64	6150	-159.11	1.57	-1.41
700	SLE RA 4	65	74	6147	-159.06	1.58	-1.43
700	SLE RA 5	64	80	6114	-158.23	1.58	-1.44
700	SLE RA 6	65	64	6210	-160.44	1.57	-1.4
700	SLE RA 7	65	74	6207	-160.39	1.59	-1.43
700	SLE RA 8	65	64	6179	-159.63	1.57	-1.39
700	SLE RA 9	65	74	6177	-159.58	1.58	-1.42
700	SLE RA 10	67	83	6564	-169.1	1.74	-1.48
700	SLE RA 11	68	67	6660	-171.31	1.73	-1.45
700	SLE RA 12	68	77	6657	-171.26	1.75	-1.47
700	SLE RA 13	68	83	6625	-170.42	1.75	-1.48
700	SLE RA 14	69	67	6721	-172.63	1.74	-1.44
700	SLE RA 15	69	77	6718	-172.58	1.75	-1.47
700	SLE RA 16	68	67	6690	-171.83	1.74	-1.44
700	SLE RA 17	68	77	6687	-171.78	1.75	-1.46
700	SLE RA 18	68	68	6788	-174.41	1.79	-1.46
700	SLE RA 19	68	78	6785	-174.36	1.8	-1.49
700	SLE RA 20	69	68	6848	-175.73	1.8	-1.46
700	SLE RA 21	69	78	6845	-175.68	1.81	-1.48
700	SLE FR 1	64	64	6058	-156.99	1.55	-1.41
700	SLE FR 2	64	67	6057	-156.97	1.56	-1.41
700	SLE FR 3	64	64	6083	-157.52	1.56	-1.4
700	SLE FR 4	65	68	6276	-162.2	1.63	-1.43
700	SLE FR 5	65	65	6301	-162.74	1.63	-1.42
700	SLE FR 6	66	66	6423	-165.7	1.67	-1.43
700	SLE QP 1	64	64	6058	-156.99	1.55	-1.41
700	SLE QP 2	65	65	6277	-162.21	1.62	-1.42
700	SLD 1	554	148	5619	-160.19	2.13	-0.95
700	SLD 2	554	196	5622	-158.58	2.16	-0.3
700	SLD 3	564	-156	5689	-155.06	1.69	-0.29
700	SLD 4	564	-107	5691	-153.45	1.72	0.36
700	SLD 5	198	541	5974	-169.66	2.44	-2.4
700	SLD 6	198	573	5975	-168.62	2.46	-1.97
700	SLD 7	229	-470	6206	-152.57	0.97	-0.2
700	SLD 8	229	-438	6208	-151.53	0.99	0.23
700	SLD 9	-99	568	6347	-172.9	2.26	-3.07
700	SLD 10	-99	599	6348	-171.86	2.28	-2.65
700	SLD 11	-68	-443	6579	-155.8	0.79	-0.87
700	SLD 12	-68	-411	6581	-154.77	0.81	-0.45
700	SLD 13	-434	237	6863	-170.98	1.52	-3.21
700	SLD 14	-434	285	6865	-169.37	1.55	-2.55
700	SLD 15	-424	-67	6933	-165.85	1.08	-2.55
700	SLD 16	-424	-18	6935	-164.24	1.11	-1.89
700	SLV 1	831	215	5245	-158.88	2.46	-0.74
700	SLV 2	831	292	5249	-156.35	2.5	0.29
700	SLV 3	846	-302	5364	-150.07	1.7	0.38
700	SLV 4	846	-225	5368	-147.54	1.75	1.42
700	SLV 5	272	880	5787	-175.06	3	-3.12
700	SLV 6	271	932	5789	-173.35	3.04	-2.42
700	SLV 7	323	-844	6183	-145.67	0.5	0.63
700	SLV 8	323	-792	6186	-143.97	0.53	1.33
700	SLV 9	-193	922	6369	-180.46	2.72	-4.17
700	SLV 10	-193	974	6371	-178.75	2.75	-3.48
700	SLV 11	-141	-802	6766	-151.08	0.21	-0.42
700	SLV 12	-141	-750	6768	-149.37	0.24	0.27
700	SLV 13	-716	355	7187	-176.89	1.5	-4.26
700	SLV 14	-716	432	7190	-174.36	1.54	-3.23
700	SLV 15	-701	-162	7306	-168.08	0.75	-3.14
700	SLV 16	-701	-86	7309	-165.54	0.79	-2.11
700	SLV FO 1	907	230	5142	-158.55	2.54	-0.67
700	SLV FO 2	907	315	5146	-155.76	2.59	0.46
700	SLV FO 3	924	-339	5273	-148.86	1.71	0.57
700	SLV FO 4	924	-254	5277	-146.07	1.76	1.7
700	SLV FO 5	292	962	5737	-176.34	3.14	-3.29
700	SLV FO 6	292	1019	5740	-174.46	3.18	-2.52
700	SLV FO 7	348	-935	6174	-144.02	0.39	0.84
700	SLV FO 8	348	-878	6176	-142.14	0.42	1.6
700	SLV FO 9	-218	1008	6378	-182.28	2.83	-4.45
700	SLV FO 10	-218	1065	6381	-180.41	2.86	-3.69
700	SLV FO 11	-162	-889	6814	-149.96	0.07	-0.32
700	SLV FO 12	-162	-832	6817	-148.09	0.11	0.44
700	SLV FO 13	-794	384	7278	-178.36	1.48	-4.55
700	SLV FO 14	-794	468	7282	-175.57	1.53	-3.41
700	SLV FO 15	-777	-185	7409	-168.66	0.66	-3.31
700	SLV FO 16	-777	-101	7412	-165.88	0.71	-2.17
700	CRTFP Ux+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
700	CRTFP Ux-	0	0	0	0	0	0
700	CRTFP Uy+	0	0	0	0	0	0
700	CRTFP Uy-	0	0	0	0	0	0
701	SLU 1	115	88	10137	-260.02	-1374.04	7.46
701	SLU 2	115	132	10121	-259.76	-1371.57	13.36
701	SLU 3	118	89	10378	-265.54	-1406.73	7.55
701	SLU 4	118	116	10368	-265.38	-1405.25	11.09
701	SLU 5	117	132	10281	-263.21	-1393.27	13.38
701	SLU 6	120	90	10538	-268.99	-1428.43	7.57
701	SLU 7	120	116	10528	-268.83	-1426.95	11.11
701	SLU 8	119	89	10457	-266.92	-1417.44	7.5
701	SLU 9	119	115	10447	-266.76	-1415.96	11.04
701	SLU 10	125	139	11454	-291.41	-1551.78	14.1
701	SLU 11	128	97	11711	-297.19	-1586.94	8.29
701	SLU 12	128	123	11701	-297.03	-1585.46	11.83
701	SLU 13	127	139	11614	-294.86	-1573.48	14.12
701	SLU 14	130	97	11871	-300.64	-1608.64	8.32
701	SLU 15	130	123	11861	-300.48	-1607.16	11.86
701	SLU 16	129	96	11790	-298.57	-1597.65	8.25
701	SLU 17	129	122	11780	-298.41	-1596.17	11.79
701	SLU 18	129	99	12042	-305.24	-1631.48	8.52
701	SLU 19	129	125	12032	-305.08	-1629.99	12.06
701	SLU 20	131	99	12202	-308.68	-1653.18	8.54
701	SLU 21	131	125	12192	-308.53	-1651.7	12.08
701	SLU 22	133	98	11761	-294.8	-1594.28	8.4
701	SLU 23	133	142	11744	-294.54	-1591.81	14.3
701	SLU 24	136	99	12002	-300.32	-1626.97	8.49
701	SLU 25	136	125	11992	-300.17	-1625.49	12.03
701	SLU 26	135	142	11904	-297.99	-1613.51	14.32
701	SLU 27	138	99	12161	-303.77	-1648.67	8.51
701	SLU 28	138	125	12151	-303.61	-1647.19	12.05
701	SLU 29	137	98	12080	-301.7	-1637.68	8.45
701	SLU 30	137	125	12070	-301.54	-1636.2	11.99
701	SLU 31	143	149	13078	-326.19	-1772.02	15.04
701	SLU 32	146	106	13335	-331.97	-1807.18	9.24
701	SLU 33	146	133	13325	-331.81	-1805.7	12.77
701	SLU 34	145	149	13237	-329.64	-1793.72	15.07
701	SLU 35	148	107	13494	-335.42	-1828.88	9.26
701	SLU 36	148	133	13485	-335.26	-1827.4	12.8
701	SLU 37	147	106	13413	-333.35	-1817.89	9.19
701	SLU 38	147	132	13404	-333.19	-1816.41	12.73
701	SLU 39	147	109	13665	-340.02	-1851.72	9.46
701	SLU 40	147	135	13656	-339.86	-1850.24	13
701	SLU 41	149	109	13825	-343.46	-1873.42	9.49
701	SLU 42	149	135	13815	-343.31	-1871.94	13.03
701	SLU 43	144	112	12622	-326.11	-1710.74	9.37
701	SLU 44	144	155	12605	-325.84	-1708.27	15.27
701	SLU 45	147	113	12862	-331.63	-1743.43	9.46
701	SLU 46	147	139	12853	-331.47	-1741.95	13
701	SLU 47	146	155	12765	-329.29	-1729.97	15.29
701	SLU 48	149	113	13022	-335.07	-1765.13	9.49
701	SLU 49	149	139	13012	-334.91	-1763.65	13.02
701	SLU 50	148	112	12941	-333	-1754.14	9.42
701	SLU 51	148	138	12931	-332.84	-1752.66	12.96
701	SLU 52	153	163	13939	-357.49	-1888.48	16.01
701	SLU 53	157	120	14196	-363.27	-1923.64	10.21
701	SLU 54	156	146	14186	-363.12	-1922.16	13.75
701	SLU 55	155	163	14098	-360.94	-1910.18	16.04
701	SLU 56	159	120	14355	-366.72	-1945.34	10.23
701	SLU 57	158	146	14346	-366.56	-1943.86	13.77
701	SLU 58	157	119	14274	-364.65	-1934.35	10.16
701	SLU 59	157	145	14265	-364.49	-1932.87	13.7
701	SLU 60	157	122	14526	-371.32	-1968.18	10.43
701	SLU 61	157	148	14517	-371.16	-1966.69	13.97
701	SLU 62	159	122	14686	-374.77	-1989.88	10.46
701	SLU 63	159	148	14676	-374.61	-1988.4	14
701	SLU 64	162	121	14245	-360.89	-1930.98	10.31
701	SLU 65	161	165	14229	-360.62	-1928.51	16.21
701	SLU 66	165	122	14486	-366.41	-1963.67	10.4
701	SLU 67	165	148	14476	-366.25	-1962.19	13.94
701	SLU 68	163	165	14389	-364.07	-1950.21	16.24
701	SLU 69	167	122	14646	-369.85	-1985.37	10.43
701	SLU 70	167	149	14636	-369.7	-1983.89	13.97
701	SLU 71	166	122	14565	-367.78	-1974.38	10.36
701	SLU 72	166	148	14555	-367.62	-1972.9	13.9
701	SLU 73	171	172	15562	-392.27	-2108.72	16.96
701	SLU 74	174	130	15819	-398.06	-2143.88	11.15
701	SLU 75	174	156	15809	-397.9	-2142.4	14.69
701	SLU 76	173	172	15722	-395.72	-2130.42	16.98
701	SLU 77	176	130	15979	-401.5	-2165.58	11.17
701	SLU 78	176	156	15969	-401.34	-2164.1	14.71
701	SLU 79	175	129	15898	-399.43	-2154.59	11.11
701	SLU 80	175	155	15888	-399.27	-2153.11	14.65
701	SLU 81	175	132	16150	-406.1	-2188.42	11.38
701	SLU 82	175	158	16140	-405.94	-2186.94	14.92
701	SLU 83	177	132	16310	-409.55	-2210.12	11.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
701	SLU 84	177	158	16300	-409.39	-2208.64	14.94
701	SLE RA 1	120	91	10601	-269.96	-1436.96	7.73
701	SLE RA 2	120	120	10590	-269.78	-1435.32	11.66
701	SLE RA 3	123	92	10762	-273.64	-1458.76	7.79
701	SLE RA 4	122	109	10755	-273.53	-1457.77	10.15
701	SLE RA 5	122	120	10697	-272.08	-1449.79	11.68
701	SLE RA 6	124	92	10868	-275.94	-1473.23	7.8
701	SLE RA 7	124	109	10861	-275.83	-1472.24	10.16
701	SLE RA 8	123	91	10814	-274.56	-1465.9	7.76
701	SLE RA 9	123	109	10807	-274.45	-1464.91	10.12
701	SLE RA 10	127	125	11479	-290.88	-1555.46	12.16
701	SLE RA 11	129	97	11650	-294.74	-1578.9	8.28
701	SLE RA 12	129	114	11644	-294.63	-1577.91	10.64
701	SLE RA 13	128	125	11586	-293.18	-1569.92	12.17
701	SLE RA 14	130	97	11757	-297.04	-1593.37	8.3
701	SLE RA 15	130	114	11750	-296.93	-1592.38	10.66
701	SLE RA 16	129	96	11703	-295.66	-1586.04	8.25
701	SLE RA 17	129	114	11696	-295.55	-1585.05	10.61
701	SLE RA 18	130	98	11871	-300.1	-1608.59	8.44
701	SLE RA 19	129	116	11864	-300	-1607.6	10.79
701	SLE RA 20	131	98	11977	-302.4	-1623.06	8.45
701	SLE RA 21	131	116	11971	-302.3	-1622.07	10.81
701	SLE FR 1	120	91	10601	-269.96	-1436.96	7.73
701	SLE FR 2	120	97	10599	-269.93	-1436.63	8.51
701	SLE FR 3	121	91	10644	-270.88	-1442.75	7.73
701	SLE FR 4	123	99	10980	-278.97	-1488.12	8.73
701	SLE FR 5	124	93	11025	-279.92	-1494.24	7.95
701	SLE FR 6	125	95	11236	-285.03	-1522.78	8.08
701	SLE QP 1	120	91	10601	-269.96	-1436.96	7.73
701	SLE QP 2	123	93	10982	-279	-1488.45	7.94
701	SLD 1	986	224	9836	-274.53	-1336.67	51.48
701	SLD 2	986	319	9838	-271.81	-1336.69	65.98
701	SLD 3	1002	-309	10004	-266.44	-1362.71	-20.92
701	SLD 4	1002	-214	10005	-263.73	-1362.73	-6.43
701	SLD 5	358	925	10384	-290.39	-1403.42	128.32
701	SLD 6	357	986	10385	-288.65	-1403.44	137.65
701	SLD 7	411	-852	10942	-263.43	-1490.22	-113.02
701	SLD 8	411	-792	10943	-261.69	-1490.23	-103.69
701	SLD 9	-165	978	11021	-296.32	-1486.67	119.56
701	SLD 10	-165	1039	11022	-294.57	-1486.69	128.9
701	SLD 11	-111	-799	11579	-269.36	-1573.47	-121.77
701	SLD 12	-111	-739	11580	-267.61	-1573.48	-112.44
701	SLD 13	-756	401	11959	-294.28	-1614.17	22.3
701	SLD 14	-756	496	11960	-291.57	-1614.19	36.8
701	SLD 15	-739	-132	12126	-286.19	-1640.21	-50.1
701	SLD 16	-740	-38	12128	-283.48	-1640.23	-35.6
701	SLV 1	1473	335	9182	-271.79	-1249.68	81.09
701	SLV 2	1473	484	9184	-267.52	-1249.72	103.93
701	SLV 3	1500	-574	9467	-257.88	-1294.11	-42.41
701	SLV 4	1499	-425	9470	-253.6	-1294.14	-19.56
701	SLV 5	488	1518	10008	-298.74	-1349.44	212.92
701	SLV 6	488	1618	10009	-295.86	-1349.46	228.3
701	SLV 7	576	-1514	10961	-252.36	-1497.52	-198.73
701	SLV 8	576	-1414	10962	-249.48	-1497.54	-183.35
701	SLV 9	-330	1601	11002	-308.53	-1479.36	199.23
701	SLV 10	-330	1701	11003	-305.65	-1479.38	214.61
701	SLV 11	-242	-1431	11955	-262.14	-1627.44	-212.43
701	SLV 12	-242	-1331	11956	-259.26	-1627.47	-197.05
701	SLV 13	-1253	612	12494	-304.4	-1682.76	35.44
701	SLV 14	-1253	761	12497	-300.13	-1682.8	58.29
701	SLV 15	-1227	-298	12780	-290.49	-1727.19	-88.06
701	SLV 16	-1227	-149	12783	-286.21	-1727.22	-65.21
701	SLV FO 1	1608	360	9002	-271.07	-1225.8	88.4
701	SLV FO 2	1608	523	9004	-266.37	-1225.84	113.53
701	SLV FO 3	1637	-641	9316	-255.77	-1274.67	-47.44
701	SLV FO 4	1637	-477	9318	-251.06	-1274.71	-22.31
701	SLV FO 5	525	1660	9911	-300.72	-1335.53	233.42
701	SLV FO 6	525	1770	9912	-297.55	-1335.56	250.34
701	SLV FO 7	621	-1675	10959	-249.69	-1498.43	-219.4
701	SLV FO 8	621	-1565	10960	-246.53	-1498.45	-202.48
701	SLV FO 9	-375	1751	11004	-311.48	-1478.45	218.36
701	SLV FO 10	-375	1862	11005	-308.31	-1478.48	235.28
701	SLV FO 11	-278	-1584	12052	-260.46	-1641.34	-234.46
701	SLV FO 12	-279	-1474	12053	-257.29	-1641.37	-217.55
701	SLV FO 13	-1391	664	12646	-306.94	-1702.19	38.19
701	SLV FO 14	-1391	828	12648	-302.24	-1702.23	63.32
701	SLV FO 15	-1362	-337	12960	-291.64	-1751.06	-97.66
701	SLV FO 16	-1362	-173	12963	-286.93	-1751.1	-72.53
701	CRTFP Ux+	0	0	0	0	0	0
701	CRTFP Ux-	0	0	0	0	0	0
701	CRTFP Uy+	0	0	0	0	0	0
701	CRTFP Uy-	0	0	0	0	0	0
702	SLU 1	159	52	11528	844.66	383.9	-27.28
702	SLU 2	159	103	11505	842.56	383.37	-28.57
702	SLU 3	163	53	11804	865.68	392.78	-27.85
702	SLU 4	163	83	11790	864.42	392.46	-28.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
702	SLU 5	161	103	11688	856.81	389.18	-28.87
702	SLU 6	166	53	11988	879.94	398.59	-28.15
702	SLU 7	166	83	11974	878.68	398.27	-28.92
702	SLU 8	164	52	11896	873.17	395.53	-27.88
702	SLU 9	164	83	11881	871.91	395.21	-28.66
702	SLU 10	172	109	13008	954.04	434.49	-30.6
702	SLU 11	176	58	13308	977.17	443.9	-29.88
702	SLU 12	176	89	13293	975.91	443.58	-30.65
702	SLU 13	174	109	13192	968.3	440.3	-30.9
702	SLU 14	179	58	13491	991.43	449.71	-30.18
702	SLU 15	179	89	13477	990.17	449.39	-30.95
702	SLU 16	177	58	13399	984.65	446.64	-29.91
702	SLU 17	177	89	13385	983.39	446.33	-30.69
702	SLU 18	178	60	13676	1003.92	456.93	-30.18
702	SLU 19	177	91	13662	1002.66	456.61	-30.96
702	SLU 20	180	60	13860	1018.18	462.74	-30.48
702	SLU 21	180	91	13845	1016.92	462.42	-31.26
702	SLU 22	182	59	13383	987.18	444.05	-30.64
702	SLU 23	182	110	13359	985.08	443.52	-31.93
702	SLU 24	186	60	13659	1008.21	452.93	-31.21
702	SLU 25	186	90	13644	1006.95	452.61	-31.98
702	SLU 26	184	110	13543	999.34	449.33	-32.23
702	SLU 27	189	60	13842	1022.47	458.74	-31.51
702	SLU 28	189	90	13828	1021.21	458.42	-32.28
702	SLU 29	187	59	13750	1015.69	455.68	-31.24
702	SLU 30	187	90	13736	1014.43	455.36	-32.02
702	SLU 31	195	116	14862	1096.57	494.64	-33.96
702	SLU 32	199	65	15162	1119.7	504.05	-33.24
702	SLU 33	199	96	15148	1118.44	503.73	-34.01
702	SLU 34	197	116	15046	1110.82	500.45	-34.26
702	SLU 35	202	65	15346	1133.95	509.86	-33.54
702	SLU 36	202	96	15331	1132.69	509.54	-34.31
702	SLU 37	200	65	15253	1127.18	506.79	-33.27
702	SLU 38	200	95	15239	1125.92	506.48	-34.05
702	SLU 39	201	67	15531	1146.45	517.08	-33.54
702	SLU 40	200	98	15516	1145.19	516.76	-34.32
702	SLU 41	203	67	15714	1160.7	522.89	-33.84
702	SLU 42	203	98	15700	1159.44	522.57	-34.62
702	SLU 43	199	65	14351	1049.19	478.45	-34.32
702	SLU 44	198	117	14327	1047.09	477.92	-35.61
702	SLU 45	203	66	14627	1070.21	487.33	-34.88
702	SLU 46	203	97	14613	1068.95	487.01	-35.66
702	SLU 47	201	117	14511	1061.34	483.73	-35.91
702	SLU 48	206	66	14811	1084.47	493.14	-35.18
702	SLU 49	205	97	14796	1083.21	492.82	-35.96
702	SLU 50	204	66	14718	1077.7	490.07	-34.92
702	SLU 51	204	96	14704	1076.44	489.76	-35.69
702	SLU 52	211	122	15831	1158.57	529.04	-37.64
702	SLU 53	216	72	16131	1181.7	538.45	-36.91
702	SLU 54	216	102	16116	1180.44	538.13	-37.69
702	SLU 55	214	122	16014	1172.83	534.85	-37.94
702	SLU 56	219	72	16314	1195.96	544.26	-37.21
702	SLU 57	218	102	16300	1194.7	543.94	-37.99
702	SLU 58	217	71	16222	1189.18	541.19	-36.95
702	SLU 59	217	102	16207	1187.92	540.87	-37.72
702	SLU 60	217	73	16499	1208.45	551.47	-37.22
702	SLU 61	217	104	16485	1207.19	551.16	-37.99
702	SLU 62	220	73	16683	1222.71	557.29	-37.52
702	SLU 63	220	104	16668	1221.45	556.97	-38.29
702	SLU 64	222	72	16206	1191.71	538.6	-37.68
702	SLU 65	222	123	16182	1189.61	538.07	-38.97
702	SLU 66	226	73	16481	1212.74	547.48	-38.24
702	SLU 67	226	104	16467	1211.48	547.16	-39.02
702	SLU 68	224	123	16365	1203.87	543.88	-39.27
702	SLU 69	229	73	16665	1227	553.29	-38.54
702	SLU 70	229	104	16651	1225.74	552.97	-39.32
702	SLU 71	227	72	16573	1220.22	550.22	-38.28
702	SLU 72	227	103	16558	1218.96	549.91	-39.05
702	SLU 73	235	129	17685	1301.1	589.19	-41
702	SLU 74	239	78	17985	1324.23	598.6	-40.27
702	SLU 75	239	109	17971	1322.97	598.28	-41.05
702	SLU 76	237	129	17869	1315.35	595	-41.3
702	SLU 77	242	78	18168	1338.48	604.41	-40.57
702	SLU 78	242	109	18154	1337.22	604.09	-41.35
702	SLU 79	240	78	18076	1331.71	601.34	-40.31
702	SLU 80	240	109	18062	1330.45	601.02	-41.08
702	SLU 81	240	80	18353	1350.98	611.63	-40.58
702	SLU 82	240	111	18339	1349.72	611.31	-41.35
702	SLU 83	243	80	18537	1365.23	617.44	-40.88
702	SLU 84	243	111	18523	1363.97	617.12	-41.65
702	SLE RA 1	166	54	12058	885.38	401.09	-28.24
702	SLE RA 2	165	88	12042	883.98	400.73	-29.1
702	SLE RA 3	168	54	12242	899.4	407.01	-28.62
702	SLE RA 4	168	75	12233	898.56	406.79	-29.14
702	SLE RA 5	167	88	12165	893.48	404.61	-29.3
702	SLE RA 6	170	55	12365	908.9	410.88	-28.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
702	SLE RA 7	170	75	12355	908.06	410.67	-29.34
702	SLE RA 8	169	54	12303	904.39	408.84	-28.64
702	SLE RA 9	169	75	12293	903.54	408.63	-29.16
702	SLE RA 10	174	92	13045	958.3	434.81	-30.46
702	SLE RA 11	177	58	13244	973.72	441.09	-29.97
702	SLE RA 12	177	79	13235	972.88	440.87	-30.49
702	SLE RA 13	176	92	13167	967.8	438.69	-30.66
702	SLE RA 14	179	58	13367	983.22	444.96	-30.17
702	SLE RA 15	179	79	13357	982.38	444.75	-30.69
702	SLE RA 16	178	58	13305	978.71	442.92	-30
702	SLE RA 17	178	78	13296	977.87	442.7	-30.51
702	SLE RA 18	178	59	13490	991.55	449.77	-30.18
702	SLE RA 19	178	80	13481	990.71	449.56	-30.69
702	SLE RA 20	180	59	13613	1001.06	453.65	-30.38
702	SLE RA 21	180	80	13603	1000.22	453.43	-30.89
702	SLE FR 1	166	54	12058	885.38	401.09	-28.24
702	SLE FR 2	166	61	12055	885.1	401.02	-28.42
702	SLE FR 3	166	54	12107	889.18	402.64	-28.32
702	SLE FR 4	169	63	12485	916.95	415.62	-29
702	SLE FR 5	170	56	12537	921.03	417.24	-28.9
702	SLE FR 6	172	57	12774	938.47	425.43	-29.21
702	SLE QP 1	166	54	12058	885.38	401.09	-28.24
702	SLE QP 2	169	56	12488	917.23	415.69	-28.82
702	SLD 1	1160	431	11339	818.34	359.27	-127.48
702	SLD 2	1157	556	11340	821.31	358.59	-127.83
702	SLD 3	1177	-197	11610	853.12	362.78	-110.87
702	SLD 4	1174	-71	11611	856.1	362.1	-111.22
702	SLD 5	441	1098	11732	834.3	393.56	-83.55
702	SLD 6	439	1179	11733	836.22	393.13	-83.78
702	SLD 7	499	-993	12635	950.24	405.25	-28.18
702	SLD 8	497	-912	12636	952.15	404.82	-28.41
702	SLD 9	-158	1024	12340	882.31	426.57	-29.24
702	SLD 10	-160	1105	12341	884.22	426.13	-29.46
702	SLD 11	-100	-1068	13242	998.24	438.26	26.13
702	SLD 12	-102	-987	13243	1000.16	437.82	25.9
702	SLD 13	-836	182	13365	978.36	469.28	53.57
702	SLD 14	-839	308	13366	981.34	468.61	53.22
702	SLD 15	-818	-445	13635	1013.15	472.79	70.18
702	SLD 16	-821	-319	13637	1016.12	472.11	69.83
702	SLV 1	1720	686	10675	760.35	327.29	-184.51
702	SLV 2	1715	884	10677	765.05	326.22	-185.06
702	SLV 3	1748	-384	11137	819.77	333.3	-156.15
702	SLV 4	1743	-186	11139	824.47	332.23	-156.7
702	SLV 5	593	1831	11243	779.17	380.25	-118.44
702	SLV 6	590	1964	11245	782.33	379.53	-118.81
702	SLV 7	686	-1736	12783	977.23	400.3	-23.91
702	SLV 8	683	-1603	12784	980.4	399.58	-24.28
702	SLV 9	-345	1714	12192	854.06	431.81	-33.37
702	SLV 10	-347	1848	12193	857.23	431.09	-33.74
702	SLV 11	-251	-1853	13731	1052.13	451.86	61.16
702	SLV 12	-254	-1720	13732	1055.29	451.14	60.79
702	SLV 13	-1405	298	13837	1009.99	499.15	99.06
702	SLV 14	-1409	496	13839	1014.69	498.09	98.51
702	SLV 15	-1377	-773	14298	1069.41	505.17	127.42
702	SLV 16	-1381	-575	14301	1074.11	504.1	126.87
702	SLV FO 1	1875	749	10494	744.67	318.44	-200.08
702	SLV FO 2	1870	967	10496	749.83	317.27	-200.69
702	SLV FO 3	1905	-428	11002	810.03	325.06	-168.89
702	SLV FO 4	1901	-210	11004	815.19	323.89	-169.49
702	SLV FO 5	635	2008	11119	765.37	376.7	-127.4
702	SLV FO 6	632	2155	11120	768.84	375.91	-127.81
702	SLV FO 7	738	-1916	12812	983.23	398.76	-23.42
702	SLV FO 8	735	-1769	12814	986.71	397.97	-23.82
702	SLV FO 9	-396	1880	12162	847.75	433.42	-33.82
702	SLV FO 10	-399	2027	12164	851.23	432.63	-34.23
702	SLV FO 11	-293	-2044	13855	1065.62	455.47	70.16
702	SLV FO 12	-296	-1897	13857	1069.09	454.68	69.75
702	SLV FO 13	-1562	322	13971	1019.27	507.5	111.85
702	SLV FO 14	-1567	540	13974	1024.43	506.32	111.24
702	SLV FO 15	-1531	-856	14480	1084.63	514.12	143.04
702	SLV FO 16	-1536	-638	14482	1089.79	512.94	142.43
702	CRTFP Ux+	0	0	0	0	0	0
702	CRTFP Ux-	0	0	0	0	0	0
702	CRTFP Uy+	0	0	0	0	0	0
702	CRTFP Uy-	0	0	0	0	0	0
706	SLU 1	145	-68	8177	-1525.1	33.11	36.04
706	SLU 2	145	-28	8154	-1523.4	28.74	35.79
706	SLU 3	148	-69	8370	-1560.28	34.08	36.86
706	SLU 4	148	-45	8356	-1559.26	31.46	36.72
706	SLU 5	147	-29	8282	-1546.55	29.37	36.28
706	SLU 6	151	-70	8497	-1583.43	34.71	37.35
706	SLU 7	151	-46	8483	-1582.41	32.09	37.2
706	SLU 8	149	-69	8432	-1571.41	34.37	37.02
706	SLU 9	149	-46	8418	-1570.39	31.75	36.87
706	SLU 10	156	-34	9213	-1720.2	32.81	38.81
706	SLU 11	160	-74	9428	-1757.07	38.15	39.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
706	SLU 12	160	-51	9415	-1756.05	35.53	39.73
706	SLU 13	158	-34	9340	-1743.35	33.44	39.3
706	SLU 14	162	-75	9556	-1780.23	38.78	40.37
706	SLU 15	162	-51	9542	-1779.2	36.16	40.22
706	SLU 16	160	-75	9490	-1768.21	38.44	40.03
706	SLU 17	161	-51	9477	-1767.18	35.82	39.89
706	SLU 18	161	-75	9689	-1806.24	38.93	40.35
706	SLU 19	161	-52	9676	-1805.22	36.3	40.2
706	SLU 20	163	-76	9817	-1829.39	39.55	40.84
706	SLU 21	163	-52	9803	-1828.37	36.93	40.69
706	SLU 22	163	-74	9490	-1767.88	38.57	40.54
706	SLU 23	163	-35	9467	-1766.17	34.2	40.29
706	SLU 24	167	-76	9683	-1803.05	39.54	41.36
706	SLU 25	167	-52	9669	-1802.03	36.92	41.21
706	SLU 26	166	-36	9595	-1789.33	34.83	40.78
706	SLU 27	169	-77	9810	-1826.2	40.17	41.85
706	SLU 28	169	-53	9796	-1825.18	37.55	41.7
706	SLU 29	168	-76	9745	-1814.18	39.83	41.51
706	SLU 30	168	-52	9731	-1813.16	37.21	41.36
706	SLU 31	175	-40	10526	-1962.97	38.27	43.3
706	SLU 32	178	-81	10741	-1999.85	43.61	44.37
706	SLU 33	178	-57	10728	-1998.82	40.99	44.22
706	SLU 34	177	-41	10653	-1986.12	38.9	43.79
706	SLU 35	180	-82	10868	-2023	44.24	44.86
706	SLU 36	180	-58	10855	-2021.98	41.62	44.71
706	SLU 37	179	-81	10803	-2010.98	43.9	44.53
706	SLU 38	179	-58	10790	-2009.96	41.28	44.38
706	SLU 39	179	-82	11002	-2049.01	44.38	44.84
706	SLU 40	179	-58	10989	-2047.99	41.76	44.69
706	SLU 41	182	-83	11130	-2072.17	45.01	45.33
706	SLU 42	182	-59	11116	-2071.14	42.39	45.18
706	SLU 43	182	-86	10180	-1899.4	41.17	45.31
706	SLU 44	182	-46	10157	-1897.7	36.8	45.07
706	SLU 45	185	-87	10373	-1934.57	42.14	46.14
706	SLU 46	185	-63	10359	-1933.55	39.52	45.99
706	SLU 47	184	-47	10285	-1920.85	37.43	45.56
706	SLU 48	188	-88	10500	-1957.73	42.77	46.62
706	SLU 49	188	-64	10486	-1956.7	40.15	46.48
706	SLU 50	186	-87	10435	-1945.71	42.43	46.29
706	SLU 51	186	-64	10421	-1944.68	39.81	46.14
706	SLU 52	193	-52	11216	-2094.49	40.87	48.08
706	SLU 53	197	-92	11431	-2131.37	46.22	49.15
706	SLU 54	197	-69	11418	-2130.35	43.59	49
706	SLU 55	195	-52	11343	-2117.64	41.5	48.57
706	SLU 56	199	-93	11559	-2154.52	46.84	49.64
706	SLU 57	199	-69	11545	-2153.5	44.22	49.49
706	SLU 58	197	-93	11493	-2142.5	46.5	49.31
706	SLU 59	198	-69	11480	-2141.48	43.88	49.16
706	SLU 60	198	-93	11692	-2180.54	46.99	49.62
706	SLU 61	198	-70	11679	-2179.51	44.37	49.47
706	SLU 62	200	-94	11820	-2203.69	47.62	50.11
706	SLU 63	200	-70	11806	-2202.67	44.99	49.96
706	SLU 64	200	-92	11493	-2142.17	46.63	49.81
706	SLU 65	200	-53	11470	-2140.47	42.26	49.56
706	SLU 66	204	-94	11686	-2177.35	47.6	50.63
706	SLU 67	204	-70	11672	-2176.32	44.98	50.48
706	SLU 68	203	-54	11598	-2163.62	42.89	50.05
706	SLU 69	206	-95	11813	-2200.5	48.23	51.12
706	SLU 70	206	-71	11799	-2199.48	45.61	50.97
706	SLU 71	205	-94	11748	-2188.48	47.89	50.78
706	SLU 72	205	-70	11734	-2187.46	45.27	50.64
706	SLU 73	212	-58	12529	-2337.26	46.33	52.57
706	SLU 74	215	-99	12744	-2374.14	51.68	53.64
706	SLU 75	215	-75	12731	-2373.12	49.05	53.49
706	SLU 76	214	-59	12656	-2360.42	46.96	53.06
706	SLU 77	217	-100	12872	-2397.29	52.3	54.13
706	SLU 78	218	-76	12858	-2396.27	49.68	53.98
706	SLU 79	216	-99	12806	-2385.27	51.96	53.8
706	SLU 80	216	-76	12793	-2384.25	49.34	53.65
706	SLU 81	216	-100	13005	-2423.31	52.45	54.11
706	SLU 82	216	-76	12992	-2422.29	49.82	53.96
706	SLU 83	219	-101	13133	-2446.46	53.08	54.6
706	SLU 84	219	-77	13119	-2445.44	50.45	54.45
706	SLE RA 1	150	-70	8552	-1594.47	34.67	37.33
706	SLE RA 2	150	-43	8537	-1593.33	31.76	37.16
706	SLE RA 3	152	-70	8681	-1617.92	35.32	37.87
706	SLE RA 4	152	-55	8672	-1617.24	33.57	37.77
706	SLE RA 5	152	-44	8622	-1608.77	32.18	37.49
706	SLE RA 6	154	-71	8766	-1633.35	35.74	38.2
706	SLE RA 7	154	-55	8756	-1632.67	33.99	38.1
706	SLE RA 8	153	-71	8722	-1625.34	35.51	37.98
706	SLE RA 9	153	-55	8713	-1624.66	33.76	37.88
706	SLE RA 10	158	-47	9243	-1724.53	34.47	39.17
706	SLE RA 11	160	-74	9386	-1749.11	38.03	39.88
706	SLE RA 12	160	-58	9377	-1748.43	36.29	39.78
706	SLE RA 13	159	-47	9328	-1739.96	34.89	39.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
706	SLE RA 14	161	-75	9471	-1764.55	38.45	40.21
706	SLE RA 15	161	-59	9462	-1763.87	36.7	40.11
706	SLE RA 16	160	-74	9428	-1756.54	38.22	39.99
706	SLE RA 17	161	-58	9419	-1755.85	36.48	39.89
706	SLE RA 18	161	-75	9560	-1781.89	38.55	40.2
706	SLE RA 19	161	-59	9551	-1781.21	36.8	40.1
706	SLE RA 20	162	-75	9645	-1797.33	38.97	40.52
706	SLE RA 21	162	-59	9636	-1796.65	37.22	40.42
706	SLE FR 1	150	-70	8552	-1594.47	34.67	37.33
706	SLE FR 2	150	-64	8549	-1594.24	34.09	37.29
706	SLE FR 3	151	-70	8586	-1600.64	34.84	37.46
706	SLE FR 4	153	-66	8852	-1650.47	35.25	38.15
706	SLE FR 5	154	-71	8889	-1656.87	36	38.32
706	SLE FR 6	155	-72	9056	-1688.18	36.61	38.76
706	SLE QP 1	150	-70	8552	-1594.47	34.67	37.33
706	SLE QP 2	153	-71	8855	-1650.7	35.83	38.19
706	SLD 1	828	247	8181	-1543.72	19.56	159.57
706	SLD 2	835	349	8173	-1544.76	14.28	163.18
706	SLD 3	814	-250	8415	-1554.6	71.59	163.23
706	SLD 4	820	-148	8407	-1555.65	66.31	166.84
706	SLD 5	376	760	8299	-1601.91	-47.06	68.42
706	SLD 6	381	826	8294	-1602.58	-50.46	70.75
706	SLD 7	328	-896	9079	-1638.2	126.38	80.63
706	SLD 8	333	-830	9074	-1638.87	122.99	82.96
706	SLD 9	-26	687	8636	-1662.52	-51.32	-6.59
706	SLD 10	-22	753	8631	-1663.19	-54.72	-4.26
706	SLD 11	-74	-968	9416	-1698.81	122.12	5.62
706	SLD 12	-70	-902	9410	-1699.48	118.72	7.95
706	SLD 13	-514	5	9303	-1745.75	5.35	-90.47
706	SLD 14	-507	108	9295	-1746.79	0.08	-86.86
706	SLD 15	-528	-491	9537	-1756.63	57.39	-86.8
706	SLD 16	-522	-389	9528	-1757.67	52.11	-83.19
706	SLV 1	1211	460	7786	-1482.91	7.47	228.1
706	SLV 2	1221	622	7774	-1484.55	-0.85	233.79
706	SLV 3	1187	-387	8185	-1501.51	96.22	234.16
706	SLV 4	1197	-225	8173	-1503.16	87.9	239.85
706	SLV 5	505	1343	7932	-1571.84	-105.73	84.91
706	SLV 6	511	1452	7923	-1572.95	-111.33	88.74
706	SLV 7	425	-1481	9262	-1633.85	190.1	105.1
706	SLV 8	432	-1372	9253	-1634.95	184.5	108.94
706	SLV 9	-126	1230	8457	-1666.44	-112.84	-32.56
706	SLV 10	-119	1339	8448	-1667.54	-118.44	-28.73
706	SLV 11	-205	-1594	9787	-1728.45	182.99	-12.37
706	SLV 12	-198	-1485	9778	-1729.55	177.39	-8.54
706	SLV 13	-891	83	9537	-1798.23	-16.23	-163.48
706	SLV 14	-880	245	9524	-1799.88	-24.55	-157.79
706	SLV 15	-914	-764	9936	-1816.84	72.52	-157.42
706	SLV 16	-904	-603	9923	-1818.48	64.2	-151.73
706	SLV FO 1	1316	514	7680	-1466.13	4.63	247.09
706	SLV FO 2	1328	691	7665	-1467.94	-4.52	253.35
706	SLV FO 3	1290	-418	8118	-1486.6	102.25	253.76
706	SLV FO 4	1301	-241	8104	-1488.4	93.11	260.02
706	SLV FO 5	540	1485	7839	-1563.95	-119.88	89.58
706	SLV FO 6	547	1604	7830	-1565.17	-126.04	93.8
706	SLV FO 7	452	-1622	9302	-1632.16	205.53	111.8
706	SLV FO 8	460	-1502	9293	-1633.38	199.37	116.01
706	SLV FO 9	-154	1360	8417	-1668.01	-127.7	-39.64
706	SLV FO 10	-146	1480	8407	-1669.23	-133.86	-35.42
706	SLV FO 11	-241	-1746	9880	-1736.22	197.71	-17.43
706	SLV FO 12	-233	-1627	9870	-1737.44	191.55	-13.21
706	SLV FO 13	-995	99	9605	-1812.99	-21.44	-183.65
706	SLV FO 14	-984	276	9591	-1814.8	-30.59	-177.38
706	SLV FO 15	-1021	-833	10044	-1833.45	76.18	-176.98
706	SLV FO 16	-1010	-656	10030	-1835.26	67.04	-170.72
706	CRTFP Ux+	0	0	0	0	0	0
706	CRTFP Ux-	0	0	0	0	0	0
706	CRTFP Uy+	0	0	0	0	0	0
706	CRTFP Uy-	0	0	0	0	0	0
707	SLU 1	317	38	17868	2597.92	3232.98	-44.77
707	SLU 2	316	119	17849	2590.45	3225.63	-59.7
707	SLU 3	325	38	18296	2663.13	3310.86	-45.92
707	SLU 4	324	87	18285	2658.65	3306.45	-54.88
707	SLU 5	321	120	18135	2634.65	3277.59	-60.41
707	SLU 6	330	39	18582	2707.32	3362.82	-46.63
707	SLU 7	329	88	18570	2702.84	3358.41	-55.59
707	SLU 8	327	38	18440	2686.31	3336.91	-46.19
707	SLU 9	326	87	18428	2681.83	3332.5	-55.14
707	SLU 10	341	126	20162	2926.26	3644.43	-63.9
707	SLU 11	350	45	20610	2998.93	3729.66	-50.12
707	SLU 12	349	94	20598	2994.46	3725.25	-59.08
707	SLU 13	346	127	20448	2970.46	3696.4	-64.61
707	SLU 14	355	46	20896	3043.13	3781.63	-50.83
707	SLU 15	354	95	20884	3038.65	3777.22	-59.79
707	SLU 16	352	46	20753	3022.12	3755.71	-50.39
707	SLU 17	351	95	20742	3017.64	3751.3	-59.34
707	SLU 18	353	48	21173	3077.64	3831.27	-50.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
707	SLU 19	352	97	21162	3073.16	3826.86	-59.73
707	SLU 20	358	48	21459	3121.84	3883.24	-51.48
707	SLU 21	357	97	21448	3117.36	3878.83	-60.43
707	SLU 22	359	43	20748	3021.29	3755.28	-51.41
707	SLU 23	358	125	20728	3013.83	3747.93	-66.34
707	SLU 24	367	44	21176	3086.5	3833.16	-52.57
707	SLU 25	366	93	21164	3082.02	3828.75	-61.52
707	SLU 26	363	125	21014	3058.03	3799.89	-67.05
707	SLU 27	372	44	21462	3130.7	3885.12	-53.27
707	SLU 28	371	93	21450	3126.22	3880.71	-62.23
707	SLU 29	369	44	21319	3109.69	3859.2	-52.83
707	SLU 30	368	93	21308	3105.21	3854.79	-61.79
707	SLU 31	383	132	23042	3349.64	4166.73	-70.54
707	SLU 32	392	51	23490	3422.31	4251.96	-56.77
707	SLU 33	391	100	23478	3417.83	4247.55	-65.72
707	SLU 34	388	133	23328	3393.84	4218.7	-71.25
707	SLU 35	397	51	23775	3466.51	4303.93	-57.47
707	SLU 36	396	100	23764	3462.03	4299.52	-66.43
707	SLU 37	394	51	23633	3445.5	4278.01	-57.03
707	SLU 38	393	100	23622	3441.02	4273.6	-65.99
707	SLU 39	395	54	24053	3501.02	4353.57	-57.41
707	SLU 40	394	103	24041	3496.54	4349.16	-66.37
707	SLU 41	400	54	24339	3545.22	4405.53	-58.12
707	SLU 42	399	103	24327	3540.74	4401.12	-67.08
707	SLU 43	397	47	22241	3232.13	4023.8	-55.92
707	SLU 44	396	129	22222	3224.67	4016.45	-70.85
707	SLU 45	405	48	22669	3297.34	4101.68	-57.08
707	SLU 46	405	97	22658	3292.86	4097.27	-66.04
707	SLU 47	401	129	22508	3268.87	4068.41	-71.56
707	SLU 48	410	48	22955	3341.54	4153.64	-57.79
707	SLU 49	410	97	22943	3337.06	4149.23	-66.74
707	SLU 50	407	48	22813	3320.53	4127.73	-57.34
707	SLU 51	407	97	22801	3316.05	4123.32	-66.3
707	SLU 52	422	136	24535	3560.48	4435.25	-75.05
707	SLU 53	431	55	24983	3633.15	4520.48	-61.28
707	SLU 54	430	104	24971	3628.67	4516.07	-70.24
707	SLU 55	427	136	24821	3604.68	4487.22	-75.76
707	SLU 56	435	55	25269	3677.35	4572.45	-61.98
707	SLU 57	435	104	25257	3672.87	4568.04	-70.94
707	SLU 58	432	55	25126	3656.34	4546.53	-61.54
707	SLU 59	432	104	25115	3651.86	4542.12	-70.5
707	SLU 60	433	57	25546	3711.86	4622.09	-61.92
707	SLU 61	433	106	25535	3707.38	4617.68	-70.88
707	SLU 62	438	58	25832	3756.06	4674.06	-62.63
707	SLU 63	438	107	25821	3751.58	4669.65	-71.59
707	SLU 64	439	53	25121	3655.51	4546.09	-62.57
707	SLU 65	438	134	25101	3648.05	4538.74	-77.5
707	SLU 66	447	53	25549	3720.72	4623.98	-63.72
707	SLU 67	447	102	25537	3716.24	4619.57	-72.68
707	SLU 68	443	135	25387	3692.25	4590.71	-78.2
707	SLU 69	452	54	25835	3764.92	4675.94	-64.43
707	SLU 70	452	103	25823	3760.44	4671.53	-73.39
707	SLU 71	449	53	25692	3743.91	4650.02	-63.98
707	SLU 72	449	102	25681	3739.43	4645.61	-72.94
707	SLU 73	463	142	27415	3983.86	4957.55	-81.7
707	SLU 74	472	60	27863	4056.53	5042.78	-67.92
707	SLU 75	472	109	27851	4052.05	5038.37	-76.88
707	SLU 76	468	142	27701	4028.05	5009.52	-82.4
707	SLU 77	477	61	28148	4100.73	5094.75	-68.63
707	SLU 78	477	110	28137	4096.25	5090.34	-77.59
707	SLU 79	474	61	28006	4079.72	5068.83	-68.18
707	SLU 80	474	110	27995	4075.24	5064.42	-77.14
707	SLU 81	475	63	28426	4135.24	5144.39	-68.56
707	SLU 82	475	112	28414	4130.76	5139.98	-77.52
707	SLU 83	480	63	28712	4179.44	5196.35	-69.27
707	SLU 84	480	112	28700	4174.96	5191.94	-78.23
707	SLE RA 1	329	39	18691	2718.88	3382.21	-46.67
707	SLE RA 2	328	94	18678	2713.91	3377.31	-56.62
707	SLE RA 3	334	40	18976	2762.35	3434.13	-47.44
707	SLE RA 4	334	72	18968	2759.37	3431.19	-53.41
707	SLE RA 5	331	94	18868	2743.37	3411.95	-57.09
707	SLE RA 6	337	40	19167	2791.82	3468.77	-47.91
707	SLE RA 7	337	73	19159	2788.83	3465.83	-53.88
707	SLE RA 8	335	40	19072	2777.81	3451.49	-47.61
707	SLE RA 9	335	72	19064	2774.83	3448.55	-53.58
707	SLE RA 10	345	98	20220	2937.78	3656.51	-59.42
707	SLE RA 11	351	44	20519	2986.23	3713.33	-50.24
707	SLE RA 12	350	77	20511	2983.24	3710.39	-56.21
707	SLE RA 13	348	99	20411	2967.24	3691.15	-59.89
707	SLE RA 14	354	45	20709	3015.69	3747.97	-50.71
707	SLE RA 15	354	77	20702	3012.71	3745.03	-56.68
707	SLE RA 16	352	45	20614	3001.68	3730.7	-50.41
707	SLE RA 17	352	77	20607	2998.7	3727.76	-56.38
707	SLE RA 18	353	46	20894	3038.7	3781.07	-50.67
707	SLE RA 19	352	79	20887	3035.71	3778.13	-56.64
707	SLE RA 20	356	46	21085	3068.16	3815.71	-51.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
707	SLE RA 21	356	79	21077	3065.18	3812.77	-57.11
707	SLE FR 1	329	39	18691	2718.88	3382.21	-46.67
707	SLE FR 2	329	50	18688	2717.89	3381.23	-48.66
707	SLE FR 3	330	39	18767	2730.67	3396.06	-46.86
707	SLE FR 4	336	52	19349	2813.83	3500.88	-49.86
707	SLE FR 5	337	41	19428	2826.61	3515.72	-48.06
707	SLE FR 6	341	43	19792	2878.79	3581.64	-48.67
707	SLE QP 1	329	39	18691	2718.88	3382.21	-46.67
707	SLE QP 2	336	41	19352	2814.83	3501.86	-47.87
707	SLD 1	1778	663	17925	2544.37	3228.19	-358.58
707	SLD 2	1774	910	17947	2544.26	3230.11	-395.64
707	SLD 3	1802	-340	18135	2656.46	3318.01	-172.48
707	SLD 4	1798	-93	18157	2656.35	3319.93	-209.53
707	SLD 5	733	1706	18601	2563.71	3283.2	-416.97
707	SLD 6	730	1865	18616	2563.64	3284.44	-440.83
707	SLD 7	813	-1637	19301	2937.34	3582.61	203.38
707	SLD 8	810	-1477	19316	2937.27	3583.84	179.52
707	SLD 9	-138	1560	19388	2692.39	3419.89	-275.25
707	SLD 10	-141	1719	19402	2692.32	3421.12	-299.11
707	SLD 11	-58	-1783	20088	3066.02	3719.29	345.09
707	SLD 12	-61	-1623	20102	3065.95	3720.53	321.23
707	SLD 13	-1126	175	20546	2973.31	3683.8	113.8
707	SLD 14	-1131	423	20568	2973.2	3685.72	76.75
707	SLD 15	-1102	-827	20756	3085.4	3773.62	299.9
707	SLD 16	-1107	-580	20778	3085.29	3775.54	262.85
707	SLV 1	2595	1082	17108	2384.23	3068.1	-547.33
707	SLV 2	2587	1472	17143	2384.06	3071.13	-605.74
707	SLV 3	2633	-628	17466	2575.65	3221.38	-229.76
707	SLV 4	2625	-238	17501	2575.47	3224.41	-288.16
707	SLV 5	957	2875	18129	2395.38	3138.7	-668.46
707	SLV 6	952	3138	18152	2395.26	3140.74	-707.78
707	SLV 7	1084	-2827	19323	3033.41	3649.63	390.11
707	SLV 8	1079	-2564	19346	3033.29	3651.66	350.79
707	SLV 9	-407	2647	19357	2596.36	3352.06	-446.53
707	SLV 10	-413	2909	19381	2596.24	3354.1	-485.85
707	SLV 11	-280	-3055	20551	3234.4	3862.99	612.04
707	SLV 12	-285	-2793	20575	3234.28	3865.03	572.72
707	SLV 13	-1953	321	21202	3054.18	3779.32	192.43
707	SLV 14	-1961	711	21237	3054.01	3782.35	134.02
707	SLV 15	-1915	-1390	21560	3245.6	3932.6	510
707	SLV 16	-1923	-1000	21595	3245.42	3935.63	451.6
707	SLV FO 1	2821	1186	16884	2341.17	3024.73	-597.28
707	SLV FO 2	2812	1616	16922	2340.98	3028.06	-661.52
707	SLV FO 3	2863	-695	17278	2551.73	3193.33	-247.95
707	SLV FO 4	2854	-266	17316	2551.54	3196.66	-312.19
707	SLV FO 5	1019	3159	18007	2353.43	3102.38	-730.52
707	SLV FO 6	1013	3448	18032	2353.3	3104.63	-773.77
707	SLV FO 7	1159	-3114	19320	3055.27	3664.4	433.91
707	SLV FO 8	1153	-2825	19346	3055.14	3666.64	390.66
707	SLV FO 9	-482	2907	19358	2574.51	3337.08	-486.4
707	SLV FO 10	-487	3196	19383	2574.39	3339.33	-529.65
707	SLV FO 11	-342	-3365	20671	3276.35	3899.1	678.03
707	SLV FO 12	-347	-3076	20697	3276.23	3901.35	634.78
707	SLV FO 13	-2182	349	21387	3078.12	3807.07	216.46
707	SLV FO 14	-2191	778	21425	3077.93	3810.4	152.21
707	SLV FO 15	-2140	-1533	21781	3288.67	3975.67	565.79
707	SLV FO 16	-2149	-1104	21819	3288.48	3979	501.54
707	CRTFP Ux+	0	0	0	0	0	0
707	CRTFP Ux-	0	0	0	0	0	0
707	CRTFP Uy+	0	0	0	0	0	0
707	CRTFP Uy-	0	0	0	0	0	0
709	SLU 1	104	22	5710	-191.1	-114.66	4.97
709	SLU 2	104	47	5710	-192.81	-114.66	5.49
709	SLU 3	107	22	5846	-194.48	-117.43	5.09
709	SLU 4	107	37	5846	-195.5	-117.43	5.4
709	SLU 5	105	47	5801	-194.79	-116.51	5.56
709	SLU 6	108	22	5936	-196.46	-119.28	5.16
709	SLU 7	108	38	5936	-197.48	-119.28	5.47
709	SLU 8	107	22	5891	-195.06	-118.37	5.12
709	SLU 9	107	37	5891	-196.08	-118.37	5.43
709	SLU 10	112	50	6450	-217.93	-129.5	5.92
709	SLU 11	115	25	6586	-219.61	-132.27	5.52
709	SLU 12	115	40	6586	-220.63	-132.27	5.83
709	SLU 13	114	50	6541	-219.91	-131.35	6
709	SLU 14	117	25	6676	-221.58	-134.12	5.6
709	SLU 15	116	41	6676	-222.61	-134.12	5.91
709	SLU 16	116	25	6631	-220.18	-133.21	5.56
709	SLU 17	115	41	6631	-221.21	-133.21	5.87
709	SLU 18	116	26	6767	-227	-135.87	5.59
709	SLU 19	116	41	6767	-228.02	-135.86	5.9
709	SLU 20	117	26	6858	-228.97	-137.72	5.67
709	SLU 21	117	42	6858	-230	-137.72	5.98
709	SLU 22	117	24	6628	-220.18	-133.14	5.52
709	SLU 23	117	50	6628	-221.89	-133.13	6.04
709	SLU 24	120	24	6764	-223.56	-135.91	5.64
709	SLU 25	120	40	6764	-224.58	-135.9	5.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
709	SLU 26	119	50	6719	-223.87	-134.99	6.12
709	SLU 27	122	25	6854	-225.54	-137.76	5.72
709	SLU 28	122	40	6854	-226.56	-137.75	6.03
709	SLU 29	121	25	6809	-224.14	-136.85	5.68
709	SLU 30	121	40	6809	-225.16	-136.84	5.99
709	SLU 31	126	53	7368	-247.02	-147.98	6.47
709	SLU 32	128	28	7504	-248.69	-150.75	6.07
709	SLU 33	128	43	7504	-249.71	-150.74	6.38
709	SLU 34	127	53	7458	-248.99	-149.83	6.55
709	SLU 35	130	28	7594	-250.66	-152.6	6.15
709	SLU 36	130	43	7594	-251.69	-152.6	6.46
709	SLU 37	129	28	7549	-249.26	-151.69	6.11
709	SLU 38	129	43	7549	-250.29	-151.68	6.42
709	SLU 39	129	29	7685	-256.08	-154.34	6.14
709	SLU 40	129	44	7685	-257.1	-154.34	6.45
709	SLU 41	131	29	7775	-258.05	-156.2	6.22
709	SLU 42	131	44	7775	-259.08	-156.19	6.53
709	SLU 43	131	27	7109	-238.46	-142.73	6.27
709	SLU 44	130	53	7109	-240.17	-142.72	6.79
709	SLU 45	133	28	7244	-241.84	-145.49	6.39
709	SLU 46	133	43	7244	-242.86	-145.49	6.7
709	SLU 47	132	53	7199	-242.15	-144.58	6.87
709	SLU 48	135	28	7335	-243.82	-147.35	6.46
709	SLU 49	135	43	7335	-244.84	-147.34	6.77
709	SLU 50	134	28	7289	-242.42	-146.43	6.43
709	SLU 51	134	43	7289	-243.44	-146.43	6.74
709	SLU 52	139	56	7849	-265.29	-157.57	7.22
709	SLU 53	142	31	7984	-266.96	-160.34	6.82
709	SLU 54	141	46	7984	-267.99	-160.33	7.13
709	SLU 55	140	56	7939	-267.27	-159.42	7.3
709	SLU 56	143	31	8074	-268.94	-162.19	6.9
709	SLU 57	143	46	8075	-269.97	-162.18	7.21
709	SLU 58	142	31	8029	-267.54	-161.28	6.86
709	SLU 59	142	46	8029	-268.57	-161.27	7.17
709	SLU 60	142	32	8166	-274.36	-163.93	6.89
709	SLU 61	142	47	8166	-275.38	-163.93	7.2
709	SLU 62	144	32	8256	-276.33	-165.78	6.97
709	SLU 63	144	47	8256	-277.36	-165.78	7.28
709	SLU 64	144	30	8027	-267.54	-161.21	6.83
709	SLU 65	144	55	8027	-269.25	-161.2	7.34
709	SLU 66	147	30	8162	-270.92	-163.97	6.94
709	SLU 67	147	45	8162	-271.94	-163.97	7.25
709	SLU 68	145	55	8117	-271.23	-163.05	7.42
709	SLU 69	148	30	8252	-272.9	-165.82	7.02
709	SLU 70	148	46	8252	-273.92	-165.82	7.33
709	SLU 71	147	30	8207	-271.5	-164.91	6.98
709	SLU 72	147	46	8207	-272.52	-164.91	7.29
709	SLU 73	152	58	8767	-294.38	-176.04	7.78
709	SLU 74	155	33	8902	-296.05	-178.81	7.37
709	SLU 75	155	49	8902	-297.07	-178.81	7.68
709	SLU 76	154	59	8857	-296.35	-177.89	7.85
709	SLU 77	157	34	8992	-298.02	-180.66	7.45
709	SLU 78	156	49	8992	-299.05	-180.66	7.76
709	SLU 79	156	33	8947	-296.62	-179.75	7.41
709	SLU 80	155	49	8947	-297.65	-179.75	7.72
709	SLU 81	156	34	9084	-303.44	-182.41	7.45
709	SLU 82	156	50	9084	-304.46	-182.4	7.76
709	SLU 83	158	35	9174	-305.41	-184.26	7.52
709	SLU 84	157	50	9174	-306.44	-184.26	7.83
709	SLE RA 1	108	22	5973	-199.41	-119.94	5.13
709	SLE RA 2	108	39	5973	-200.55	-119.94	5.47
709	SLE RA 3	110	23	6063	-201.66	-121.79	5.21
709	SLE RA 4	110	33	6063	-202.34	-121.78	5.41
709	SLE RA 5	109	39	6033	-201.87	-121.17	5.52
709	SLE RA 6	111	23	6123	-202.98	-123.02	5.26
709	SLE RA 7	111	33	6123	-203.66	-123.02	5.46
709	SLE RA 8	110	23	6093	-202.05	-122.41	5.23
709	SLE RA 9	110	33	6093	-202.73	-122.41	5.44
709	SLE RA 10	113	41	6466	-217.3	-129.83	5.76
709	SLE RA 11	115	25	6556	-218.41	-131.68	5.49
709	SLE RA 12	115	35	6556	-219.1	-131.68	5.7
709	SLE RA 13	114	42	6526	-218.62	-131.07	5.81
709	SLE RA 14	116	25	6616	-219.73	-132.92	5.55
709	SLE RA 15	116	35	6616	-220.41	-132.91	5.75
709	SLE RA 16	116	25	6586	-218.8	-132.31	5.52
709	SLE RA 17	115	35	6586	-219.48	-132.31	5.73
709	SLE RA 18	116	25	6677	-223.34	-134.08	5.54
709	SLE RA 19	116	36	6677	-224.02	-134.08	5.75
709	SLE RA 20	117	26	6737	-224.66	-135.31	5.59
709	SLE RA 21	117	36	6737	-225.34	-135.31	5.8
709	SLE FR 1	108	22	5973	-199.41	-119.94	5.13
709	SLE FR 2	108	26	5973	-199.64	-119.94	5.2
709	SLE FR 3	108	22	5997	-199.94	-120.44	5.15
709	SLE FR 4	110	27	6184	-206.82	-124.18	5.32
709	SLE FR 5	111	23	6208	-207.12	-124.68	5.27
709	SLE FR 6	112	24	6325	-211.37	-127.01	5.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
709	SLE QP 1	108	22	5973	-199.41	-119.94	5.13
709	SLE QP 2	110	23	6184	-206.59	-124.18	5.25
709	SLD 1	549	55	5750	-215.11	-113.91	22.23
709	SLD 2	551	140	5761	-216.84	-114.11	24.98
709	SLD 3	557	-256	5726	-183.72	-113.62	15.83
709	SLD 4	558	-171	5737	-185.45	-113.82	18.59
709	SLD 5	230	490	6089	-256.46	-121.51	19.57
709	SLD 6	231	544	6096	-257.57	-121.63	21.35
709	SLD 7	255	-546	6008	-151.82	-120.54	-1.75
709	SLD 8	256	-492	6015	-152.93	-120.67	0.03
709	SLD 9	-36	538	6353	-260.24	-127.7	10.48
709	SLD 10	-35	593	6360	-261.36	-127.83	12.25
709	SLD 11	-11	-498	6272	-155.6	-126.73	-10.84
709	SLD 12	-10	-443	6279	-156.72	-126.86	-9.07
709	SLD 13	-337	217	6631	-227.73	-134.55	-8.08
709	SLD 14	-336	302	6642	-229.46	-134.74	-5.33
709	SLD 15	-330	-93	6607	-196.34	-134.26	-14.48
709	SLD 16	-329	-8	6618	-198.07	-134.46	-11.72
709	SLV 1	798	95	5508	-222.03	-108.15	32.28
709	SLV 2	800	229	5525	-224.76	-108.46	36.62
709	SLV 3	810	-436	5467	-168.4	-107.67	21.36
709	SLV 4	812	-302	5484	-171.14	-107.98	25.71
709	SLV 5	298	824	6041	-292.04	-120.05	29.11
709	SLV 6	299	914	6052	-293.88	-120.26	32.03
709	SLV 7	338	-943	5903	-113.29	-118.43	-7.28
709	SLV 8	339	-853	5914	-115.13	-118.64	-4.36
709	SLV 9	-119	900	6454	-298.04	-129.72	14.87
709	SLV 10	-117	990	6465	-299.88	-129.93	17.79
709	SLV 11	-79	-867	6315	-119.3	-128.11	-21.53
709	SLV 12	-78	-777	6327	-121.14	-128.32	-18.6
709	SLV 13	-591	348	6884	-242.04	-140.39	-15.2
709	SLV 14	-589	482	6901	-244.77	-140.7	-10.86
709	SLV 15	-579	-182	6843	-188.42	-139.91	-26.12
709	SLV 16	-577	-48	6860	-191.15	-140.22	-21.78
709	SLV FO 1	867	102	5440	-223.57	-106.55	34.98
709	SLV FO 2	869	249	5460	-226.58	-106.89	39.76
709	SLV FO 3	880	-481	5395	-164.59	-106.01	22.97
709	SLV FO 4	882	-334	5414	-167.59	-106.36	27.75
709	SLV FO 5	317	904	6026	-300.58	-119.64	31.5
709	SLV FO 6	318	1003	6039	-302.61	-119.87	34.71
709	SLV FO 7	361	-1040	5875	-103.96	-117.86	-8.54
709	SLV FO 8	362	-941	5887	-105.99	-118.09	-5.32
709	SLV FO 9	-141	988	6480	-307.19	-130.28	15.83
709	SLV FO 10	-140	1087	6493	-309.21	-130.51	19.04
709	SLV FO 11	-98	-956	6329	-110.57	-128.5	-24.21
709	SLV FO 12	-96	-857	6342	-112.59	-128.73	-20.99
709	SLV FO 13	-661	381	6954	-245.58	-142.01	-17.24
709	SLV FO 14	-659	528	6973	-248.59	-142.35	-12.47
709	SLV FO 15	-648	-202	6908	-186.6	-141.48	-29.25
709	SLV FO 16	-646	-55	6928	-189.6	-141.82	-24.48
709	CRTFP Ux+	0	0	0	0	0	0
709	CRTFP Ux-	0	0	0	0	0	0
709	CRTFP Uy+	0	0	0	0	0	0
709	CRTFP Uy-	0	0	0	0	0	0
710	SLU 1	120	30	6643	-3.17	-5.44	0.99
710	SLU 2	120	59	6644	-5.23	-5.47	1.02
710	SLU 3	123	31	6801	-1.94	-5.57	1.02
710	SLU 4	123	48	6801	-3.18	-5.59	1.04
710	SLU 5	122	59	6749	-4.11	-5.56	1.05
710	SLU 6	125	31	6906	-0.82	-5.66	1.04
710	SLU 7	125	48	6907	-2.06	-5.68	1.06
710	SLU 8	124	31	6853	-0.93	-5.62	1.05
710	SLU 9	124	48	6854	-2.17	-5.64	1.07
710	SLU 10	130	63	7504	-6.04	-6.15	1.11
710	SLU 11	133	35	7661	-2.75	-6.25	1.1
710	SLU 12	133	52	7662	-3.99	-6.27	1.12
710	SLU 13	131	64	7609	-4.92	-6.24	1.13
710	SLU 14	135	35	7766	-1.63	-6.34	1.13
710	SLU 15	135	52	7767	-2.87	-6.36	1.15
710	SLU 16	134	35	7714	-1.74	-6.3	1.13
710	SLU 17	133	52	7714	-2.98	-6.32	1.15
710	SLU 18	134	36	7871	-4.32	-6.41	1.11
710	SLU 19	134	53	7872	-5.56	-6.43	1.13
710	SLU 20	136	36	7977	-3.2	-6.5	1.14
710	SLU 21	136	54	7977	-4.44	-6.52	1.16
710	SLU 22	136	33	7710	-1.81	-6.28	1.02
710	SLU 23	136	62	7711	-3.87	-6.32	1.05
710	SLU 24	139	34	7868	-0.59	-6.42	1.04
710	SLU 25	139	51	7869	-1.82	-6.44	1.06
710	SLU 26	137	62	7817	-2.75	-6.41	1.08
710	SLU 27	141	34	7973	0.53	-6.51	1.07
710	SLU 28	141	51	7974	-0.71	-6.53	1.09
710	SLU 29	140	34	7921	0.43	-6.46	1.07
710	SLU 30	139	51	7921	-0.81	-6.48	1.09
710	SLU 31	145	66	8571	-4.68	-7	1.13
710	SLU 32	148	38	8728	-1.4	-7.1	1.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
710	SLU 33	148	55	8729	-2.63	-7.12	1.14
710	SLU 34	147	66	8677	-3.56	-7.09	1.16
710	SLU 35	150	38	8834	-0.28	-7.19	1.15
710	SLU 36	150	55	8834	-1.52	-7.21	1.17
710	SLU 37	149	38	8781	-0.38	-7.15	1.16
710	SLU 38	149	55	8782	-1.62	-7.17	1.17
710	SLU 39	149	39	8939	-2.97	-7.26	1.14
710	SLU 40	149	56	8940	-4.2	-7.28	1.15
710	SLU 41	151	39	9044	-1.85	-7.35	1.16
710	SLU 42	151	57	9045	-3.09	-7.37	1.18
710	SLU 43	151	38	8269	-4.58	-6.78	1.28
710	SLU 44	151	67	8271	-6.64	-6.81	1.31
710	SLU 45	154	39	8427	-3.36	-6.91	1.3
710	SLU 46	154	56	8428	-4.59	-6.93	1.32
710	SLU 47	153	67	8376	-5.52	-6.9	1.34
710	SLU 48	156	39	8533	-2.24	-7	1.33
710	SLU 49	156	56	8534	-3.48	-7.02	1.35
710	SLU 50	155	39	8480	-2.34	-6.96	1.33
710	SLU 51	155	56	8481	-3.58	-6.98	1.35
710	SLU 52	160	71	9131	-7.45	-7.49	1.39
710	SLU 53	164	43	9288	-4.17	-7.6	1.39
710	SLU 54	164	60	9288	-5.4	-7.61	1.41
710	SLU 55	162	72	9236	-6.33	-7.58	1.42
710	SLU 56	166	43	9393	-3.05	-7.69	1.41
710	SLU 57	165	60	9394	-4.29	-7.7	1.43
710	SLU 58	164	43	9340	-3.15	-7.64	1.42
710	SLU 59	164	60	9341	-4.39	-7.66	1.44
710	SLU 60	165	44	9498	-5.74	-7.75	1.4
710	SLU 61	165	61	9499	-6.97	-7.77	1.42
710	SLU 62	167	44	9604	-4.62	-7.84	1.42
710	SLU 63	167	62	9604	-5.86	-7.86	1.44
710	SLU 64	167	41	9337	-3.22	-7.63	1.31
710	SLU 65	166	70	9338	-5.29	-7.66	1.34
710	SLU 66	170	42	9495	-2	-7.76	1.33
710	SLU 67	169	59	9496	-3.24	-7.78	1.35
710	SLU 68	168	70	9443	-4.17	-7.75	1.37
710	SLU 69	172	42	9600	-0.88	-7.85	1.36
710	SLU 70	171	59	9601	-2.12	-7.87	1.38
710	SLU 71	170	42	9548	-0.99	-7.81	1.36
710	SLU 72	170	59	9548	-2.22	-7.82	1.38
710	SLU 73	176	74	10198	-6.1	-8.34	1.42
710	SLU 74	179	46	10355	-2.81	-8.44	1.41
710	SLU 75	179	63	10356	-4.05	-8.46	1.43
710	SLU 76	178	75	10304	-4.98	-8.43	1.45
710	SLU 77	181	46	10460	-1.69	-8.53	1.44
710	SLU 78	181	63	10461	-2.93	-8.55	1.46
710	SLU 79	180	46	10408	-1.8	-8.49	1.44
710	SLU 80	180	63	10408	-3.03	-8.51	1.46
710	SLU 81	180	47	10566	-4.38	-8.6	1.42
710	SLU 82	180	64	10566	-5.62	-8.62	1.44
710	SLU 83	182	47	10671	-3.26	-8.69	1.45
710	SLU 84	182	65	10672	-4.5	-8.71	1.47
710	SLE RA 1	125	31	6948	-2.78	-5.68	1
710	SLE RA 2	125	50	6948	-4.15	-5.7	1.02
710	SLE RA 3	127	31	7053	-1.96	-5.77	1.02
710	SLE RA 4	127	43	7053	-2.79	-5.78	1.03
710	SLE RA 5	126	51	7019	-3.41	-5.76	1.04
710	SLE RA 6	128	32	7123	-1.22	-5.83	1.03
710	SLE RA 7	128	43	7124	-2.04	-5.84	1.05
710	SLE RA 8	127	32	7088	-1.29	-5.8	1.04
710	SLE RA 9	127	43	7089	-2.11	-5.81	1.05
710	SLE RA 10	131	53	7522	-4.69	-6.16	1.08
710	SLE RA 11	133	34	7626	-2.5	-6.22	1.07
710	SLE RA 12	133	46	7627	-3.33	-6.24	1.08
710	SLE RA 13	132	53	7592	-3.95	-6.22	1.09
710	SLE RA 14	134	34	7697	-1.76	-6.28	1.09
710	SLE RA 15	134	46	7697	-2.58	-6.3	1.1
710	SLE RA 16	134	34	7662	-1.83	-6.25	1.09
710	SLE RA 17	134	46	7662	-2.65	-6.27	1.1
710	SLE RA 18	134	35	7767	-3.55	-6.33	1.08
710	SLE RA 19	134	46	7767	-4.37	-6.34	1.09
710	SLE RA 20	135	35	7837	-2.8	-6.39	1.1
710	SLE RA 21	135	47	7837	-3.63	-6.4	1.11
710	SLE FR 1	125	31	6948	-2.78	-5.68	1
710	SLE FR 2	125	35	6948	-3.05	-5.68	1
710	SLE FR 3	125	31	6976	-2.48	-5.7	1.01
710	SLE FR 4	127	36	7193	-3.28	-5.88	1.03
710	SLE FR 5	128	32	7221	-2.71	-5.9	1.03
710	SLE FR 6	129	33	7357	-3.16	-6	1.04
710	SLE QP 1	125	31	6948	-2.78	-5.68	1
710	SLE QP 2	127	32	7193	-3.01	-5.87	1.02
710	SLD 1	625	61	6626	-29.36	-2.95	-0.64
710	SLD 2	625	164	6639	-31.11	-2.96	0.59
710	SLD 3	633	-292	6586	6.78	-2.52	-0.98
710	SLD 4	634	-190	6599	5.03	-2.52	0.25
710	SLD 5	264	560	7082	-65.43	-5.66	0.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
710	SLD 6	264	626	7090	-66.55	-5.66	1.61
710	SLD 7	292	-619	6948	55.04	-4.2	-0.3
710	SLD 8	292	-553	6957	53.91	-4.2	0.49
710	SLD 9	-37	618	7430	-59.93	-7.54	1.55
710	SLD 10	-37	683	7438	-61.06	-7.55	2.34
710	SLD 11	-9	-561	7297	60.53	-6.08	0.43
710	SLD 12	-9	-495	7305	59.41	-6.09	1.22
710	SLD 13	-379	254	7787	-11.05	-9.23	1.8
710	SLD 14	-378	357	7800	-12.8	-9.23	3.02
710	SLD 15	-370	-99	7747	25.09	-8.79	1.46
710	SLD 16	-370	3	7760	23.34	-8.79	2.69
710	SLV 1	906	103	6310	-46.91	-1.35	-1.56
710	SLV 2	907	264	6331	-49.67	-1.35	0.37
710	SLV 3	919	-501	6242	14.82	-0.6	-2.13
710	SLV 4	920	-340	6263	12.06	-0.61	-0.2
710	SLV 5	341	938	7028	-109.29	-5.65	0.76
710	SLV 6	341	1047	7041	-111.15	-5.65	2.06
710	SLV 7	385	-1073	6801	96.48	-3.16	-1.16
710	SLV 8	386	-964	6815	94.62	-3.17	0.14
710	SLV 9	-131	1029	7572	-100.64	-8.58	1.9
710	SLV 10	-130	1137	7585	-102.5	-8.59	3.2
710	SLV 11	-87	-982	7345	105.13	-6.1	-0.02
710	SLV 12	-86	-874	7359	103.27	-6.1	1.28
710	SLV 13	-665	404	8124	-18.08	-11.14	2.25
710	SLV 14	-664	565	8144	-20.84	-11.15	4.18
710	SLV 15	-652	-199	8056	43.65	-10.39	1.67
710	SLV 16	-651	-38	8076	40.89	-10.4	3.6
710	SLV FO 1	984	110	6222	-51.3	-0.89	-1.82
710	SLV FO 2	985	287	6244	-54.34	-0.9	0.31
710	SLV FO 3	998	-554	6147	16.6	-0.07	-2.45
710	SLV FO 4	999	-377	6170	13.56	-0.08	-0.32
710	SLV FO 5	362	1029	7011	-119.92	-5.62	0.74
710	SLV FO 6	363	1148	7026	-121.96	-5.63	2.17
710	SLV FO 7	411	-1183	6762	106.43	-2.89	-1.38
710	SLV FO 8	411	-1064	6777	104.38	-2.89	0.05
710	SLV FO 9	-156	1128	7610	-110.4	-8.85	1.99
710	SLV FO 10	-156	1248	7625	-112.45	-8.86	3.42
710	SLV FO 11	-108	-1084	7360	115.94	-6.12	-0.12
710	SLV FO 12	-107	-965	7375	113.9	-6.13	1.31
710	SLV FO 13	-744	441	8217	-19.58	-11.67	2.37
710	SLV FO 14	-743	618	8239	-22.62	-11.67	4.5
710	SLV FO 15	-730	-223	8142	48.32	-10.85	1.74
710	SLV FO 16	-729	-45	8164	45.28	-10.85	3.86
710	CRTFP Ux+	0	0	0	0	0	0
710	CRTFP Ux-	0	0	0	0	0	0
710	CRTFP Uy+	0	0	0	0	0	0
710	CRTFP Uy-	0	0	0	0	0	0
711	SLU 1	123	34	6807	-3.01	-4.76	0.69
711	SLU 2	123	63	6809	-5.18	-4.77	0.73
711	SLU 3	126	35	6969	-1.81	-4.88	0.71
711	SLU 4	126	52	6970	-3.1	-4.89	0.74
711	SLU 5	125	64	6917	-4.08	-4.85	0.76
711	SLU 6	128	36	7077	-0.7	-4.96	0.75
711	SLU 7	128	53	7078	-2	-4.97	0.77
711	SLU 8	127	35	7023	-0.81	-4.92	0.75
711	SLU 9	127	53	7024	-2.11	-4.93	0.78
711	SLU 10	132	68	7689	-5.95	-5.34	0.78
711	SLU 11	136	39	7850	-2.58	-5.45	0.76
711	SLU 12	135	57	7851	-3.88	-5.46	0.79
711	SLU 13	134	68	7797	-4.85	-5.42	0.81
711	SLU 14	138	40	7958	-1.47	-5.53	0.8
711	SLU 15	137	57	7959	-2.77	-5.54	0.82
711	SLU 16	136	40	7904	-1.58	-5.49	0.8
711	SLU 17	136	57	7905	-2.88	-5.5	0.83
711	SLU 18	137	41	8065	-4.12	-5.58	0.76
711	SLU 19	137	58	8066	-5.42	-5.58	0.79
711	SLU 20	139	41	8173	-3.02	-5.66	0.79
711	SLU 21	138	59	8174	-4.31	-5.66	0.82
711	SLU 22	139	37	7900	-1.63	-5.48	0.67
711	SLU 23	138	66	7902	-3.8	-5.49	0.71
711	SLU 24	142	38	8062	-0.42	-5.6	0.7
711	SLU 25	141	55	8063	-1.72	-5.61	0.72
711	SLU 26	140	67	8010	-2.69	-5.57	0.75
711	SLU 27	144	39	8170	0.68	-5.68	0.73
711	SLU 28	143	56	8171	-0.62	-5.68	0.75
711	SLU 29	142	38	8116	0.58	-5.64	0.74
711	SLU 30	142	56	8117	-0.72	-5.64	0.76
711	SLU 31	148	71	8782	-4.57	-6.06	0.76
711	SLU 32	151	42	8942	-1.2	-6.17	0.75
711	SLU 33	151	60	8943	-2.49	-6.17	0.77
711	SLU 34	150	71	8890	-3.47	-6.14	0.8
711	SLU 35	153	43	9050	-0.09	-6.25	0.78
711	SLU 36	153	60	9051	-1.39	-6.25	0.81
711	SLU 37	152	43	8996	-0.2	-6.21	0.79
711	SLU 38	152	60	8997	-1.5	-6.21	0.81
711	SLU 39	152	44	9157	-2.74	-6.29	0.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
711	SLU 40	152	61	9158	-4.04	-6.3	0.77
711	SLU 41	154	44	9266	-1.63	-6.37	0.78
711	SLU 42	154	62	9267	-2.93	-6.38	0.8
711	SLU 43	155	44	8475	-4.39	-5.95	0.9
711	SLU 44	154	73	8476	-6.56	-5.96	0.94
711	SLU 45	158	44	8637	-3.18	-6.07	0.93
711	SLU 46	157	62	8638	-4.48	-6.07	0.95
711	SLU 47	156	73	8584	-5.45	-6.04	0.97
711	SLU 48	160	45	8745	-2.08	-6.15	0.96
711	SLU 49	159	62	8746	-3.38	-6.15	0.98
711	SLU 50	158	45	8691	-2.19	-6.11	0.97
711	SLU 51	158	62	8692	-3.48	-6.11	0.99
711	SLU 52	164	77	9357	-7.33	-6.53	0.99
711	SLU 53	167	49	9517	-3.96	-6.64	0.98
711	SLU 54	167	66	9518	-5.26	-6.64	1
711	SLU 55	166	78	9465	-6.23	-6.6	1.02
711	SLU 56	169	49	9625	-2.85	-6.72	1.01
711	SLU 57	169	67	9626	-4.15	-6.72	1.03
711	SLU 58	168	49	9571	-2.96	-6.68	1.02
711	SLU 59	168	67	9572	-4.26	-6.68	1.04
711	SLU 60	168	50	9732	-5.5	-6.76	0.97
711	SLU 61	168	67	9733	-6.8	-6.77	1
711	SLU 62	170	50	9840	-4.39	-6.84	1.01
711	SLU 63	170	68	9841	-5.69	-6.85	1.03
711	SLU 64	170	47	9567	-3.01	-6.66	0.89
711	SLU 65	170	76	9569	-5.18	-6.67	0.93
711	SLU 66	173	47	9729	-1.8	-6.78	0.91
711	SLU 67	173	65	9730	-3.1	-6.79	0.93
711	SLU 68	172	76	9677	-4.07	-6.75	0.96
711	SLU 69	175	48	9838	-0.7	-6.86	0.94
711	SLU 70	175	65	9839	-2	-6.87	0.97
711	SLU 71	174	48	9783	-0.8	-6.82	0.95
711	SLU 72	174	65	9785	-2.1	-6.83	0.97
711	SLU 73	179	80	10449	-5.95	-7.24	0.98
711	SLU 74	183	52	10610	-2.57	-7.35	0.96
711	SLU 75	183	69	10611	-3.87	-7.36	0.99
711	SLU 76	181	81	10558	-4.84	-7.32	1.01
711	SLU 77	185	52	10718	-1.47	-7.43	0.99
711	SLU 78	185	70	10719	-2.77	-7.44	1.02
711	SLU 79	184	52	10664	-1.58	-7.39	1
711	SLU 80	183	70	10665	-2.87	-7.4	1.03
711	SLU 81	184	53	10825	-4.11	-7.48	0.96
711	SLU 82	184	70	10826	-5.41	-7.48	0.98
711	SLU 83	186	53	10933	-3.01	-7.56	0.99
711	SLU 84	186	71	10934	-4.31	-7.56	1.01
711	SLE RA 1	127	35	7119	-2.62	-4.97	0.68
711	SLE RA 2	127	55	7120	-4.06	-4.97	0.71
711	SLE RA 3	129	36	7227	-1.81	-5.05	0.7
711	SLE RA 4	129	47	7228	-2.68	-5.05	0.72
711	SLE RA 5	128	55	7193	-3.33	-5.03	0.73
711	SLE RA 6	131	36	7299	-1.08	-5.1	0.72
711	SLE RA 7	131	48	7300	-1.94	-5.11	0.74
711	SLE RA 8	130	36	7263	-1.15	-5.07	0.73
711	SLE RA 9	130	48	7264	-2.01	-5.08	0.74
711	SLE RA 10	134	58	7707	-4.58	-5.35	0.75
711	SLE RA 11	136	39	7814	-2.33	-5.43	0.74
711	SLE RA 12	136	50	7815	-3.19	-5.43	0.75
711	SLE RA 13	135	58	7779	-3.84	-5.41	0.77
711	SLE RA 14	137	39	7886	-1.59	-5.48	0.76
711	SLE RA 15	137	51	7887	-2.46	-5.48	0.77
711	SLE RA 16	136	39	7850	-1.66	-5.45	0.76
711	SLE RA 17	136	51	7851	-2.53	-5.46	0.78
711	SLE RA 18	137	39	7958	-3.36	-5.51	0.73
711	SLE RA 19	136	51	7958	-4.22	-5.51	0.75
711	SLE RA 20	138	40	8030	-2.62	-5.56	0.76
711	SLE RA 21	138	51	8031	-3.49	-5.57	0.77
711	SLE FR 1	127	35	7119	-2.62	-4.97	0.68
711	SLE FR 2	127	39	7119	-2.91	-4.97	0.69
711	SLE FR 3	128	35	7148	-2.32	-4.99	0.69
711	SLE FR 4	130	40	7371	-3.13	-5.13	0.7
711	SLE FR 5	131	37	7400	-2.55	-5.15	0.71
711	SLE FR 6	132	37	7538	-2.99	-5.24	0.71
711	SLE QP 1	127	35	7119	-2.62	-4.97	0.68
711	SLE QP 2	130	36	7371	-2.84	-5.13	0.7
711	SLD 1	626	59	6694	-29.23	-1.27	-0.95
711	SLD 2	627	167	6707	-31.18	-1.25	0.3
711	SLD 3	634	-297	6646	7.92	-1.15	-1.39
711	SLD 4	635	-188	6658	5.97	-1.13	-0.14
711	SLD 5	266	563	7239	-66.78	-4.16	0.66
711	SLD 6	267	633	7247	-68.03	-4.15	1.47
711	SLD 7	294	-621	7078	57.08	-3.76	-0.81
711	SLD 8	294	-551	7086	55.82	-3.74	-0.01
711	SLD 9	-34	624	7656	-61.5	-6.52	1.41
711	SLD 10	-33	694	7664	-62.76	-6.51	2.21
711	SLD 11	-6	-560	7494	62.35	-6.12	-0.07
711	SLD 12	-6	-490	7502	61.1	-6.1	0.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
711	SLD 13	-374	261	8083	-11.66	-9.14	1.54
711	SLD 14	-374	370	8096	-13.6	-9.12	2.79
711	SLD 15	-366	-94	8035	25.5	-9.02	1.1
711	SLD 16	-366	14	8047	23.55	-8.99	2.35
711	SLV 1	907	96	6317	-46.88	0.89	-1.85
711	SLV 2	907	267	6337	-49.95	0.92	0.12
711	SLV 3	920	-510	6235	16.58	1.09	-2.61
711	SLV 4	921	-339	6255	13.51	1.13	-0.64
711	SLV 5	343	941	7176	-111.73	-3.64	0.72
711	SLV 6	344	1056	7189	-113.79	-3.61	2.04
711	SLV 7	387	-1078	6902	99.81	-2.97	-1.81
711	SLV 8	387	-963	6915	97.74	-2.94	-0.49
711	SLV 9	-127	1036	7827	-103.42	-7.32	1.88
711	SLV 10	-126	1151	7840	-105.49	-7.3	3.21
711	SLV 11	-83	-983	7552	108.11	-6.65	-0.65
711	SLV 12	-83	-868	7566	106.05	-6.63	0.68
711	SLV 13	-660	412	8487	-19.19	-11.39	2.04
711	SLV 14	-659	583	8506	-22.26	-11.35	4.01
711	SLV 15	-647	-194	8404	44.27	-11.19	1.28
711	SLV 16	-646	-23	8424	41.2	-11.15	3.25
711	SLV FO 1	984	102	6212	-51.28	1.49	-2.1
711	SLV FO 2	985	290	6234	-54.66	1.53	0.06
711	SLV FO 3	999	-565	6122	18.53	1.71	-2.94
711	SLV FO 4	1000	-377	6143	15.15	1.75	-0.77
711	SLV FO 5	365	1032	7156	-122.61	-3.49	0.72
711	SLV FO 6	365	1158	7171	-124.89	-3.46	2.18
711	SLV FO 7	412	-1190	6855	110.07	-2.75	-2.06
711	SLV FO 8	413	-1063	6869	107.8	-2.72	-0.6
711	SLV FO 9	-153	1136	7872	-113.48	-7.54	2
711	SLV FO 10	-152	1263	7887	-115.75	-7.51	3.46
711	SLV FO 11	-105	-1085	7571	119.21	-6.8	-0.78
711	SLV FO 12	-104	-959	7585	116.93	-6.78	0.68
711	SLV FO 13	-739	450	8598	-20.83	-12.02	2.17
711	SLV FO 14	-738	638	8620	-24.21	-11.98	4.34
711	SLV FO 15	-725	-217	8508	48.98	-11.79	1.34
711	SLV FO 16	-724	-29	8530	45.6	-11.76	3.5
711	CRTFP Ux+	0	0	0	0	0	0
711	CRTFP Ux-	0	0	0	0	0	0
711	CRTFP Uy+	0	0	0	0	0	0
711	CRTFP Uy-	0	0	0	0	0	0
712	SLU 1	125	37	6948	-2.87	-3.98	0.43
712	SLU 2	125	66	6949	-5.14	-3.97	0.49
712	SLU 3	128	38	7113	-1.67	-4.08	0.46
712	SLU 4	128	56	7114	-3.03	-4.08	0.49
712	SLU 5	127	67	7060	-4.05	-4.04	0.53
712	SLU 6	130	39	7224	-0.58	-4.15	0.49
712	SLU 7	130	56	7225	-1.94	-4.14	0.53
712	SLU 8	129	39	7169	-0.69	-4.11	0.5
712	SLU 9	129	56	7170	-2.05	-4.11	0.54
712	SLU 10	134	71	7846	-5.88	-4.41	0.52
712	SLU 11	138	43	8010	-2.41	-4.52	0.48
712	SLU 12	138	60	8011	-3.77	-4.52	0.52
712	SLU 13	136	72	7956	-4.79	-4.48	0.55
712	SLU 14	140	43	8120	-1.32	-4.58	0.52
712	SLU 15	139	61	8121	-2.68	-4.58	0.55
712	SLU 16	138	43	8065	-1.42	-4.55	0.53
712	SLU 17	138	61	8066	-2.79	-4.55	0.56
712	SLU 18	139	44	8228	-3.92	-4.61	0.47
712	SLU 19	139	61	8230	-5.28	-4.6	0.5
712	SLU 20	141	44	8339	-2.83	-4.67	0.5
712	SLU 21	140	62	8340	-4.19	-4.67	0.54
712	SLU 22	141	40	8061	-1.46	-4.54	0.38
712	SLU 23	140	69	8063	-3.73	-4.54	0.44
712	SLU 24	144	41	8227	-0.26	-4.64	0.41
712	SLU 25	143	58	8228	-1.62	-4.64	0.44
712	SLU 26	142	70	8173	-2.64	-4.6	0.48
712	SLU 27	146	41	8337	0.83	-4.71	0.44
712	SLU 28	145	59	8338	-0.53	-4.7	0.48
712	SLU 29	144	41	8282	0.72	-4.67	0.45
712	SLU 30	144	59	8283	-0.64	-4.67	0.49
712	SLU 31	150	74	8959	-4.46	-4.97	0.47
712	SLU 32	153	45	9123	-1	-5.08	0.43
712	SLU 33	153	63	9124	-2.36	-5.08	0.47
712	SLU 34	152	75	9070	-3.37	-5.04	0.5
712	SLU 35	155	46	9234	0.09	-5.15	0.47
712	SLU 36	155	64	9235	-1.27	-5.14	0.5
712	SLU 37	154	46	9178	-0.01	-5.11	0.48
712	SLU 38	154	64	9179	-1.38	-5.11	0.51
712	SLU 39	154	47	9342	-2.51	-5.17	0.42
712	SLU 40	154	64	9343	-3.87	-5.16	0.45
712	SLU 41	156	47	9452	-1.42	-5.23	0.45
712	SLU 42	156	65	9453	-2.78	-5.23	0.49
712	SLU 43	157	47	8650	-4.21	-4.98	0.58
712	SLU 44	157	77	8652	-6.48	-4.97	0.64
712	SLU 45	160	48	8816	-3.02	-5.08	0.6
712	SLU 46	160	66	8817	-4.38	-5.08	0.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
712	SLU 47	159	77	8762	-5.39	-5.04	0.67
712	SLU 48	162	49	8926	-1.93	-5.15	0.64
712	SLU 49	162	66	8928	-3.29	-5.14	0.67
712	SLU 50	161	49	8871	-2.03	-5.11	0.65
712	SLU 51	161	66	8872	-3.39	-5.11	0.69
712	SLU 52	166	81	9549	-7.22	-5.41	0.66
712	SLU 53	170	53	9713	-3.75	-5.52	0.63
712	SLU 54	170	70	9714	-5.12	-5.52	0.66
712	SLU 55	168	82	9659	-6.13	-5.48	0.7
712	SLU 56	172	53	9823	-2.66	-5.59	0.66
712	SLU 57	172	71	9824	-4.02	-5.58	0.7
712	SLU 58	171	53	9768	-2.77	-5.55	0.68
712	SLU 59	170	71	9769	-4.13	-5.55	0.71
712	SLU 60	171	54	9931	-5.27	-5.61	0.62
712	SLU 61	171	71	9932	-6.63	-5.6	0.65
712	SLU 62	173	55	10042	-4.18	-5.67	0.65
712	SLU 63	173	72	10043	-5.54	-5.67	0.69
712	SLU 64	173	50	9763	-2.8	-5.54	0.53
712	SLU 65	172	79	9765	-5.07	-5.54	0.59
712	SLU 66	176	51	9929	-1.6	-5.64	0.55
712	SLU 67	176	69	9930	-2.97	-5.64	0.59
712	SLU 68	174	80	9876	-3.98	-5.6	0.62
712	SLU 69	178	52	10040	-0.51	-5.71	0.59
712	SLU 70	178	69	10041	-1.88	-5.71	0.62
712	SLU 71	177	52	9984	-0.62	-5.67	0.6
712	SLU 72	176	69	9985	-1.98	-5.67	0.64
712	SLU 73	182	84	10662	-5.81	-5.97	0.61
712	SLU 74	185	56	10826	-2.34	-6.08	0.58
712	SLU 75	185	73	10827	-3.7	-6.08	0.61
712	SLU 76	184	85	10772	-4.72	-6.04	0.65
712	SLU 77	187	56	10936	-1.25	-6.15	0.61
712	SLU 78	187	74	10937	-2.61	-6.14	0.65
712	SLU 79	186	56	10881	-1.36	-6.11	0.63
712	SLU 80	186	74	10882	-2.72	-6.11	0.66
712	SLU 81	186	57	11044	-3.85	-6.17	0.57
712	SLU 82	186	74	11045	-5.22	-6.17	0.6
712	SLU 83	188	57	11155	-2.76	-6.24	0.6
712	SLU 84	188	75	11156	-4.13	-6.23	0.64
712	SLE RA 1	129	38	7266	-2.46	-4.14	0.42
712	SLE RA 2	129	58	7267	-3.98	-4.14	0.46
712	SLE RA 3	132	38	7376	-1.67	-4.21	0.43
712	SLE RA 4	131	50	7377	-2.57	-4.2	0.46
712	SLE RA 5	130	58	7341	-3.25	-4.18	0.48
712	SLE RA 6	133	39	7450	-0.94	-4.25	0.46
712	SLE RA 7	133	51	7451	-1.85	-4.25	0.48
712	SLE RA 8	132	39	7413	-1.01	-4.23	0.47
712	SLE RA 9	132	51	7414	-1.92	-4.22	0.49
712	SLE RA 10	136	61	7865	-4.47	-4.43	0.47
712	SLE RA 11	138	42	7974	-2.16	-4.5	0.45
712	SLE RA 12	138	53	7975	-3.07	-4.5	0.47
712	SLE RA 13	137	61	7938	-3.74	-4.47	0.5
712	SLE RA 14	139	42	8048	-1.43	-4.54	0.47
712	SLE RA 15	139	54	8048	-2.34	-4.54	0.5
712	SLE RA 16	138	42	8011	-1.5	-4.52	0.48
712	SLE RA 17	138	54	8011	-2.41	-4.52	0.51
712	SLE RA 18	139	42	8120	-3.17	-4.56	0.44
712	SLE RA 19	138	54	8120	-4.07	-4.56	0.47
712	SLE RA 20	140	43	8193	-2.44	-4.6	0.47
712	SLE RA 21	140	55	8194	-3.35	-4.6	0.49
712	SLE FR 1	129	38	7266	-2.46	-4.14	0.42
712	SLE FR 2	129	42	7266	-2.77	-4.14	0.43
712	SLE FR 3	130	38	7295	-2.17	-4.16	0.43
712	SLE FR 4	132	43	7522	-2.98	-4.26	0.43
712	SLE FR 5	133	39	7551	-2.38	-4.28	0.44
712	SLE FR 6	134	40	7693	-2.82	-4.35	0.43
712	SLE QP 1	129	38	7266	-2.46	-4.14	0.42
712	SLE QP 2	132	39	7522	-2.68	-4.27	0.43
712	SLD 1	627	54	6712	-29.15	0.17	-1.2
712	SLD 2	627	169	6723	-31.3	0.21	0.12
712	SLD 3	635	-304	6663	9.07	0.05	-1.87
712	SLD 4	635	-189	6675	6.92	0.09	-0.55
712	SLD 5	268	566	7351	-68.22	-2.76	0.72
712	SLD 6	268	640	7358	-69.6	-2.74	1.57
712	SLD 7	295	-626	7188	59.19	-3.16	-1.5
712	SLD 8	296	-552	7196	57.8	-3.13	-0.65
712	SLD 9	-31	630	7848	-63.15	-5.4	1.5
712	SLD 10	-31	704	7855	-64.54	-5.37	2.35
712	SLD 11	-4	-562	7685	64.25	-5.79	-0.72
712	SLD 12	-4	-488	7693	62.87	-5.77	0.13
712	SLD 13	-371	267	8369	-12.27	-8.62	1.4
712	SLD 14	-370	382	8381	-14.42	-8.58	2.72
712	SLD 15	-363	-90	8320	25.95	-8.74	0.73
712	SLD 16	-362	25	8332	23.8	-8.7	2.06
712	SLV 1	907	87	6260	-46.92	2.66	-2.08
712	SLV 2	907	268	6278	-50.3	2.72	0.01
712	SLV 3	920	-523	6178	18.36	2.46	-3.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
712	SLV 4	920	-342	6196	14.97	2.53	-1.13
712	SLV 5	345	945	7265	-114.32	-1.9	1.02
712	SLV 6	345	1067	7278	-116.6	-1.85	2.42
712	SLV 7	388	-1088	6990	103.27	-2.56	-2.79
712	SLV 8	388	-966	7002	100.99	-2.52	-1.38
712	SLV 9	-124	1045	8042	-106.34	-6.01	2.23
712	SLV 10	-124	1167	8054	-108.62	-5.97	3.64
712	SLV 11	-81	-989	7766	111.25	-6.68	-1.57
712	SLV 12	-80	-867	7778	108.97	-6.63	-0.16
712	SLV 13	-656	420	8848	-20.32	-11.06	1.98
712	SLV 14	-655	602	8866	-23.71	-10.99	4.07
712	SLV 15	-643	-190	8765	44.95	-11.25	0.84
712	SLV 16	-642	-9	8783	41.56	-11.19	2.93
712	SLV FO 1	984	92	6134	-51.34	3.35	-2.33
712	SLV FO 2	985	291	6154	-55.07	3.42	-0.03
712	SLV FO 3	998	-579	6043	20.46	3.13	-3.58
712	SLV FO 4	999	-380	6063	16.74	3.21	-1.29
712	SLV FO 5	366	1036	7240	-125.48	-1.66	1.07
712	SLV FO 6	366	1170	7253	-127.99	-1.61	2.62
712	SLV FO 7	414	-1201	6937	113.86	-2.39	-3.11
712	SLV FO 8	414	-1067	6950	111.35	-2.34	-1.56
712	SLV FO 9	-150	1146	8093	-116.71	-6.19	2.41
712	SLV FO 10	-149	1280	8107	-119.21	-6.14	3.96
712	SLV FO 11	-102	-1091	7791	122.64	-6.92	-1.77
712	SLV FO 12	-102	-957	7804	120.13	-6.87	-0.22
712	SLV FO 13	-735	458	8980	-22.09	-11.74	2.14
712	SLV FO 14	-734	658	9000	-25.81	-11.66	4.44
712	SLV FO 15	-720	-213	8889	49.71	-11.95	0.88
712	SLV FO 16	-720	-13	8909	45.99	-11.88	3.18
712	CRTFP Ux+	0	0	0	0	0	0
712	CRTFP Ux-	0	0	0	0	0	0
712	CRTFP Uy+	0	0	0	0	0	0
712	CRTFP Uy-	0	0	0	0	0	0
713	SLU 1	127	39	7064	-2.73	-3.25	0.22
713	SLU 2	126	68	7065	-5.1	-3.23	0.3
713	SLU 3	130	40	7232	-1.54	-3.33	0.24
713	SLU 4	129	57	7233	-2.97	-3.32	0.29
713	SLU 5	128	69	7177	-4.03	-3.29	0.34
713	SLU 6	132	41	7345	-0.46	-3.38	0.28
713	SLU 7	131	58	7346	-1.89	-3.38	0.33
713	SLU 8	130	41	7288	-0.57	-3.35	0.29
713	SLU 9	130	58	7289	-2	-3.35	0.34
713	SLU 10	136	73	7974	-5.81	-3.55	0.3
713	SLU 11	139	44	8141	-2.24	-3.65	0.24
713	SLU 12	139	62	8142	-3.67	-3.64	0.29
713	SLU 13	138	74	8086	-4.73	-3.61	0.34
713	SLU 14	141	45	8253	-1.16	-3.7	0.28
713	SLU 15	141	63	8254	-2.59	-3.69	0.33
713	SLU 16	140	45	8197	-1.27	-3.67	0.3
713	SLU 17	140	63	8198	-2.7	-3.66	0.35
713	SLU 18	140	45	8362	-3.73	-3.7	0.22
713	SLU 19	140	63	8363	-5.16	-3.69	0.27
713	SLU 20	142	46	8474	-2.65	-3.75	0.26
713	SLU 21	142	64	8475	-4.08	-3.75	0.31
713	SLU 22	142	41	8192	-1.28	-3.67	0.14
713	SLU 23	142	71	8194	-3.66	-3.65	0.22
713	SLU 24	145	42	8361	-0.1	-3.75	0.16
713	SLU 25	145	60	8362	-1.52	-3.74	0.21
713	SLU 26	144	72	8306	-2.58	-3.71	0.26
713	SLU 27	147	43	8474	0.98	-3.8	0.2
713	SLU 28	147	61	8474	-0.45	-3.79	0.25
713	SLU 29	146	43	8417	0.87	-3.77	0.22
713	SLU 30	146	61	8418	-0.56	-3.76	0.27
713	SLU 31	151	76	9103	-4.36	-3.97	0.23
713	SLU 32	155	47	9270	-0.8	-4.07	0.17
713	SLU 33	155	65	9271	-2.23	-4.06	0.22
713	SLU 34	153	76	9215	-3.29	-4.02	0.26
713	SLU 35	157	48	9382	0.28	-4.12	0.2
713	SLU 36	157	65	9383	-1.15	-4.11	0.25
713	SLU 37	156	48	9326	0.17	-4.09	0.22
713	SLU 38	155	66	9327	-1.26	-4.08	0.27
713	SLU 39	156	48	9491	-2.29	-4.12	0.14
713	SLU 40	156	66	9492	-3.71	-4.11	0.19
713	SLU 41	158	49	9603	-1.21	-4.17	0.18
713	SLU 42	158	67	9604	-2.64	-4.16	0.23
713	SLU 43	159	50	8796	-4.04	-4.08	0.31
713	SLU 44	159	79	8797	-6.42	-4.06	0.39
713	SLU 45	162	50	8964	-2.85	-4.16	0.33
713	SLU 46	162	68	8965	-4.28	-4.15	0.38
713	SLU 47	161	80	8909	-5.34	-4.12	0.43
713	SLU 48	164	51	9077	-1.77	-4.22	0.37
713	SLU 49	164	69	9078	-3.2	-4.21	0.42
713	SLU 50	163	51	9020	-1.88	-4.19	0.39
713	SLU 51	163	69	9021	-3.31	-4.18	0.44
713	SLU 52	168	84	9706	-7.12	-4.38	0.4
713	SLU 53	172	55	9873	-3.55	-4.48	0.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
713	SLU 54	172	73	9874	-4.98	-4.47	0.39
713	SLU 55	170	85	9818	-6.04	-4.44	0.44
713	SLU 56	174	56	9985	-2.48	-4.53	0.37
713	SLU 57	174	74	9986	-3.9	-4.52	0.42
713	SLU 58	173	56	9929	-2.58	-4.5	0.39
713	SLU 59	172	74	9930	-4.01	-4.49	0.44
713	SLU 60	173	56	10094	-5.04	-4.53	0.31
713	SLU 61	173	74	10095	-6.47	-4.52	0.36
713	SLU 62	175	57	10206	-3.96	-4.59	0.35
713	SLU 63	175	75	10207	-5.39	-4.58	0.4
713	SLU 64	175	52	9924	-2.6	-4.5	0.23
713	SLU 65	174	82	9926	-4.97	-4.48	0.32
713	SLU 66	178	53	10093	-1.41	-4.58	0.25
713	SLU 67	178	71	10094	-2.84	-4.57	0.3
713	SLU 68	176	83	10038	-3.9	-4.54	0.35
713	SLU 69	180	54	10206	-0.33	-4.63	0.29
713	SLU 70	180	72	10206	-1.76	-4.63	0.34
713	SLU 71	179	54	10149	-0.44	-4.6	0.31
713	SLU 72	178	72	10150	-1.87	-4.6	0.36
713	SLU 73	184	86	10835	-5.68	-4.8	0.32
713	SLU 74	188	58	11002	-2.11	-4.9	0.26
713	SLU 75	187	75	11003	-3.54	-4.89	0.31
713	SLU 76	186	87	10947	-4.6	-4.85	0.36
713	SLU 77	189	58	11114	-1.03	-4.95	0.3
713	SLU 78	189	76	11115	-2.46	-4.94	0.35
713	SLU 79	188	59	11058	-1.14	-4.92	0.31
713	SLU 80	188	76	11059	-2.57	-4.91	0.36
713	SLU 81	188	59	11223	-3.6	-4.95	0.24
713	SLU 82	188	76	11224	-5.03	-4.94	0.29
713	SLU 83	190	60	11335	-2.52	-5	0.27
713	SLU 84	190	77	11336	-3.95	-5	0.32
713	SLE RA 1	131	39	7386	-2.31	-3.37	0.19
713	SLE RA 2	131	59	7387	-3.9	-3.36	0.25
713	SLE RA 3	133	40	7499	-1.52	-3.42	0.21
713	SLE RA 4	133	52	7499	-2.47	-3.42	0.24
713	SLE RA 5	132	60	7462	-3.18	-3.39	0.28
713	SLE RA 6	134	41	7573	-0.8	-3.46	0.24
713	SLE RA 7	134	53	7574	-1.76	-3.45	0.27
713	SLE RA 8	134	41	7536	-0.88	-3.44	0.25
713	SLE RA 9	133	53	7537	-1.83	-3.43	0.28
713	SLE RA 10	137	62	7993	-4.37	-3.57	0.25
713	SLE RA 11	139	43	8104	-1.99	-3.63	0.21
713	SLE RA 12	139	55	8105	-2.94	-3.63	0.25
713	SLE RA 13	138	63	8068	-3.65	-3.61	0.28
713	SLE RA 14	141	44	8179	-1.27	-3.67	0.24
713	SLE RA 15	141	56	8180	-2.22	-3.66	0.27
713	SLE RA 16	140	44	8142	-1.34	-3.65	0.25
713	SLE RA 17	140	56	8142	-2.3	-3.64	0.28
713	SLE RA 18	140	44	8252	-2.98	-3.67	0.2
713	SLE RA 19	140	56	8252	-3.93	-3.66	0.23
713	SLE RA 20	141	45	8326	-2.26	-3.7	0.22
713	SLE RA 21	141	56	8327	-3.22	-3.7	0.26
713	SLE FR 1	131	39	7386	-2.31	-3.37	0.19
713	SLE FR 2	131	43	7386	-2.63	-3.36	0.21
713	SLE FR 3	131	40	7416	-2.03	-3.38	0.21
713	SLE FR 4	134	45	7646	-2.83	-3.46	0.21
713	SLE FR 5	134	41	7676	-2.23	-3.47	0.21
713	SLE FR 6	136	42	7819	-2.65	-3.52	0.2
713	SLE QP 1	131	39	7386	-2.31	-3.37	0.19
713	SLE QP 2	134	41	7646	-2.51	-3.46	0.2
713	SLD 1	627	48	6689	-29.12	1.26	-1.42
713	SLD 2	627	170	6699	-31.47	1.31	0.02
713	SLD 3	635	-314	6645	10.22	1.04	-2.39
713	SLD 4	635	-192	6655	7.87	1.09	-0.95
713	SLD 5	269	570	7425	-69.76	-1.72	0.95
713	SLD 6	269	649	7431	-71.27	-1.69	1.87
713	SLD 7	296	-635	7276	61.38	-2.45	-2.31
713	SLD 8	297	-556	7283	59.86	-2.41	-1.38
713	SLD 9	-29	638	8009	-64.89	-4.5	1.78
713	SLD 10	-29	716	8015	-66.41	-4.47	2.7
713	SLD 11	-2	-567	7860	66.24	-5.23	-1.48
713	SLD 12	-2	-489	7867	64.73	-5.19	-0.55
713	SLD 13	-368	273	8637	-12.9	-8.01	1.35
713	SLD 14	-367	395	8647	-15.25	-7.95	2.79
713	SLD 15	-360	-88	8592	26.44	-8.22	0.37
713	SLD 16	-359	34	8602	24.09	-8.17	1.81
713	SLV 1	906	77	6156	-47.03	3.91	-2.26
713	SLV 2	906	269	6171	-50.73	4	0.01
713	SLV 3	919	-540	6080	20.15	3.54	-3.93
713	SLV 4	919	-347	6096	16.44	3.63	-1.66
713	SLV 5	346	951	7310	-117.07	-0.7	1.57
713	SLV 6	346	1081	7320	-119.56	-0.64	3.1
713	SLV 7	389	-1105	7059	106.87	-1.93	-4
713	SLV 8	389	-975	7070	104.37	-1.88	-2.47
713	SLV 9	-122	1057	8222	-109.4	-5.04	2.86
713	SLV 10	-121	1186	8232	-111.89	-4.98	4.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
713	SLV 11	-79	-999	7971	114.53	-6.27	-2.71
713	SLV 12	-78	-870	7982	112.04	-6.21	-1.18
713	SLV 13	-652	429	9195	-21.47	-10.54	2.05
713	SLV 14	-651	621	9211	-25.18	-10.46	4.32
713	SLV 15	-639	-188	9120	45.71	-10.91	0.38
713	SLV 16	-639	4	9136	42	-10.83	2.65
713	SLV FO 1	983	81	6007	-51.48	4.65	-2.51
713	SLV FO 2	984	292	6024	-55.56	4.74	-0.01
713	SLV FO 3	997	-598	5924	22.42	4.24	-4.34
713	SLV FO 4	998	-386	5941	18.34	4.33	-1.85
713	SLV FO 5	367	1042	7276	-128.52	-0.43	1.71
713	SLV FO 6	367	1185	7288	-131.27	-0.36	3.39
713	SLV FO 7	414	-1219	7000	117.8	-1.78	-4.42
713	SLV FO 8	414	-1077	7012	115.06	-1.72	-2.74
713	SLV FO 9	-147	1158	8279	-120.09	-5.19	3.13
713	SLV FO 10	-147	1301	8291	-122.83	-5.13	4.81
713	SLV FO 11	-100	-1103	8004	126.24	-6.55	-3
713	SLV FO 12	-100	-961	8015	123.49	-6.49	-1.31
713	SLV FO 13	-730	468	9350	-23.37	-11.25	2.24
713	SLV FO 14	-730	679	9368	-27.45	-11.16	4.74
713	SLV FO 15	-716	-211	9268	50.53	-11.66	0.4
713	SLV FO 16	-716	1	9285	46.45	-11.56	2.9
713	CRTFP Ux+	0	0	0	0	0	0
713	CRTFP Ux-	0	0	0	0	0	0
713	CRTFP Uy+	0	0	0	0	0	0
713	CRTFP Uy-	0	0	0	0	0	0
714	SLU 1	128	39	7158	-2.59	-2.62	0.04
714	SLU 2	127	70	7159	-5.08	-2.6	0.15
714	SLU 3	131	40	7329	-1.41	-2.69	0.06
714	SLU 4	131	58	7329	-2.9	-2.68	0.13
714	SLU 5	129	71	7273	-4.01	-2.65	0.19
714	SLU 6	133	41	7443	-0.34	-2.73	0.1
714	SLU 7	133	60	7443	-1.84	-2.72	0.17
714	SLU 8	132	42	7385	-0.45	-2.71	0.12
714	SLU 9	131	60	7386	-1.95	-2.7	0.19
714	SLU 10	137	74	8076	-5.74	-2.82	0.14
714	SLU 11	141	45	8246	-2.08	-2.9	0.05
714	SLU 12	140	63	8247	-3.57	-2.89	0.11
714	SLU 13	139	75	8190	-4.68	-2.86	0.18
714	SLU 14	142	46	8360	-1.01	-2.94	0.09
714	SLU 15	142	64	8360	-2.51	-2.93	0.15
714	SLU 16	141	46	8303	-1.12	-2.92	0.1
714	SLU 17	141	64	8303	-2.62	-2.91	0.17
714	SLU 18	141	46	8468	-3.54	-2.92	0.02
714	SLU 19	141	64	8469	-5.04	-2.91	0.09
714	SLU 20	143	47	8582	-2.48	-2.97	0.06
714	SLU 21	143	65	8582	-3.97	-2.96	0.13
714	SLU 22	143	41	8298	-1.11	-2.91	-0.06
714	SLU 23	143	72	8299	-3.6	-2.9	0.05
714	SLU 24	146	42	8469	0.06	-2.98	-0.04
714	SLU 25	146	60	8470	-1.43	-2.97	0.03
714	SLU 26	145	73	8413	-2.54	-2.94	0.09
714	SLU 27	148	43	8583	1.13	-3.02	0
714	SLU 28	148	62	8584	-0.36	-3.01	0.07
714	SLU 29	147	44	8526	1.02	-3	0.02
714	SLU 30	147	62	8526	-0.47	-2.99	0.09
714	SLU 31	152	76	9216	-4.27	-3.11	0.04
714	SLU 32	156	47	9386	-0.6	-3.19	-0.05
714	SLU 33	156	65	9387	-2.1	-3.18	0.01
714	SLU 34	154	77	9330	-3.2	-3.15	0.08
714	SLU 35	158	48	9500	0.46	-3.23	-0.02
714	SLU 36	158	66	9501	-1.03	-3.23	0.05
714	SLU 37	157	48	9443	0.35	-3.21	0
714	SLU 38	157	66	9444	-1.14	-3.2	0.07
714	SLU 39	157	48	9608	-2.07	-3.21	-0.08
714	SLU 40	157	66	9609	-3.56	-3.2	-0.01
714	SLU 41	159	49	9722	-1	-3.26	-0.04
714	SLU 42	159	67	9723	-2.49	-3.25	0.03
714	SLU 43	161	50	8914	-3.87	-3.31	0.09
714	SLU 44	160	81	8915	-6.36	-3.29	0.2
714	SLU 45	164	51	9085	-2.69	-3.38	0.11
714	SLU 46	164	70	9086	-4.19	-3.37	0.18
714	SLU 47	162	82	9029	-5.29	-3.33	0.24
714	SLU 48	166	53	9199	-1.63	-3.42	0.15
714	SLU 49	166	71	9200	-3.12	-3.41	0.21
714	SLU 50	165	53	9142	-1.74	-3.39	0.16
714	SLU 51	164	71	9142	-3.23	-3.38	0.23
714	SLU 52	170	85	9832	-7.03	-3.5	0.19
714	SLU 53	174	56	10002	-3.36	-3.59	0.09
714	SLU 54	173	74	10003	-4.85	-3.58	0.16
714	SLU 55	172	86	9946	-5.96	-3.55	0.22
714	SLU 56	175	57	10116	-2.29	-3.63	0.13
714	SLU 57	175	75	10117	-3.79	-3.62	0.2
714	SLU 58	174	57	10059	-2.4	-3.6	0.15
714	SLU 59	174	75	10060	-3.9	-3.6	0.22
714	SLU 60	174	57	10224	-4.82	-3.61	0.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
714	SLU 61	174	75	10225	-6.32	-3.6	0.13
714	SLU 62	176	58	10338	-3.76	-3.65	0.1
714	SLU 63	176	76	10339	-5.25	-3.64	0.17
714	SLU 64	176	52	10054	-2.4	-3.6	-0.02
714	SLU 65	176	83	10055	-4.88	-3.58	0.1
714	SLU 66	179	53	10225	-1.22	-3.67	0.01
714	SLU 67	179	72	10226	-2.71	-3.66	0.07
714	SLU 68	178	84	10169	-3.82	-3.63	0.14
714	SLU 69	181	55	10339	-0.15	-3.71	0.05
714	SLU 70	181	73	10340	-1.65	-3.7	0.11
714	SLU 71	180	55	10282	-0.26	-3.68	0.06
714	SLU 72	180	73	10283	-1.76	-3.68	0.13
714	SLU 73	185	87	10972	-5.55	-3.79	0.08
714	SLU 74	189	58	11143	-1.89	-3.88	-0.01
714	SLU 75	189	76	11143	-3.38	-3.87	0.06
714	SLU 76	187	88	11086	-4.49	-3.84	0.12
714	SLU 77	191	59	11257	-0.82	-3.92	0.03
714	SLU 78	191	77	11257	-2.31	-3.91	0.1
714	SLU 79	190	59	11199	-0.93	-3.9	0.05
714	SLU 80	190	77	11200	-2.42	-3.89	0.12
714	SLU 81	190	59	11365	-3.35	-3.9	-0.04
714	SLU 82	190	77	11365	-4.84	-3.89	0.03
714	SLU 83	192	60	11478	-2.28	-3.94	0
714	SLU 84	192	78	11479	-3.78	-3.93	0.07
714	SLE RA 1	132	40	7483	-2.17	-2.7	0.01
714	SLE RA 2	132	60	7484	-3.83	-2.69	0.09
714	SLE RA 3	134	41	7598	-1.38	-2.75	0.02
714	SLE RA 4	134	53	7598	-2.38	-2.74	0.07
714	SLE RA 5	133	61	7560	-3.11	-2.72	0.11
714	SLE RA 6	136	41	7673	-0.67	-2.78	0.05
714	SLE RA 7	135	53	7674	-1.67	-2.77	0.1
714	SLE RA 8	135	41	7635	-0.74	-2.76	0.06
714	SLE RA 9	135	53	7636	-1.74	-2.76	0.11
714	SLE RA 10	138	63	8096	-4.27	-2.83	0.08
714	SLE RA 11	141	44	8209	-1.83	-2.89	0.02
714	SLE RA 12	141	56	8209	-2.82	-2.88	0.06
714	SLE RA 13	140	64	8172	-3.56	-2.86	0.1
714	SLE RA 14	142	44	8285	-1.12	-2.92	0.04
714	SLE RA 15	142	56	8285	-2.11	-2.91	0.09
714	SLE RA 16	141	44	8247	-1.19	-2.9	0.05
714	SLE RA 17	141	57	8247	-2.18	-2.9	0.1
714	SLE RA 18	141	44	8357	-2.8	-2.91	0
714	SLE RA 19	141	56	8357	-3.8	-2.9	0.04
714	SLE RA 20	143	45	8433	-2.09	-2.93	0.02
714	SLE RA 21	142	57	8433	-3.09	-2.93	0.07
714	SLE FR 1	132	40	7483	-2.17	-2.7	0.01
714	SLE FR 2	132	44	7484	-2.5	-2.7	0.03
714	SLE FR 3	133	40	7514	-1.88	-2.72	0.02
714	SLE FR 4	135	45	7746	-2.69	-2.76	0.02
714	SLE FR 5	135	42	7776	-2.07	-2.78	0.02
714	SLE FR 6	137	42	7920	-2.48	-2.8	0
714	SLE QP 1	132	40	7483	-2.17	-2.7	0.01
714	SLE QP 2	135	41	7745	-2.36	-2.76	0.01
714	SLD 1	626	41	6637	-29.13	2.07	-1.6
714	SLD 2	627	170	6645	-31.69	2.14	-0.02
714	SLD 3	635	-327	6598	11.38	1.81	-2.94
714	SLD 4	635	-197	6606	8.82	1.87	-1.36
714	SLD 5	270	576	7470	-71.39	-0.92	1.28
714	SLD 6	270	659	7475	-73.04	-0.88	2.3
714	SLD 7	297	-648	7341	63.65	-1.8	-3.17
714	SLD 8	297	-565	7347	62	-1.77	-2.16
714	SLD 9	-27	647	8144	-66.71	-3.76	2.17
714	SLD 10	-27	731	8150	-68.36	-3.72	3.19
714	SLD 11	0	-577	8016	68.32	-4.65	-2.28
714	SLD 12	0	-493	8021	66.68	-4.61	-1.27
714	SLD 13	-365	279	8885	-13.54	-7.4	1.37
714	SLD 14	-365	409	8893	-16.09	-7.34	2.95
714	SLD 15	-357	-88	8846	26.97	-7.66	0.03
714	SLD 16	-357	42	8854	24.42	-7.6	1.61
714	SLV 1	905	66	6017	-47.22	4.81	-2.41
714	SLV 2	905	270	6030	-51.25	4.9	0.08
714	SLV 3	918	-561	5952	21.95	4.35	-4.69
714	SLV 4	918	-356	5965	17.93	4.45	-2.21
714	SLV 5	346	961	7322	-119.98	0.17	2.28
714	SLV 6	346	1098	7331	-122.69	0.24	3.95
714	SLV 7	389	-1128	7107	110.6	-1.33	-5.33
714	SLV 8	389	-990	7116	107.89	-1.27	-3.65
714	SLV 9	-120	1073	8375	-112.61	-4.26	3.67
714	SLV 10	-119	1210	8384	-115.32	-4.2	5.34
714	SLV 11	-77	-1016	8160	117.98	-5.77	-3.94
714	SLV 12	-77	-878	8169	115.27	-5.7	-2.26
714	SLV 13	-648	439	9526	-22.64	-9.98	2.22
714	SLV 14	-648	643	9539	-26.67	-9.88	4.71
714	SLV 15	-635	-188	9461	46.53	-10.43	-0.06
714	SLV 16	-635	17	9474	42.51	-10.33	2.43
714	SLV FO 1	982	68	5844	-51.71	5.56	-2.65

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
714	SLV FO 2	982	293	5858	-56.14	5.67	0.08
714	SLV FO 3	996	-621	5773	24.39	5.06	-5.16
714	SLV FO 4	996	-396	5787	19.96	5.17	-2.43
714	SLV FO 5	367	1053	7280	-131.74	0.47	2.5
714	SLV FO 6	368	1204	7290	-134.73	0.54	4.35
714	SLV FO 7	415	-1245	7043	121.9	-1.19	-5.86
714	SLV FO 8	415	-1093	7053	118.92	-1.12	-4.02
714	SLV FO 9	-145	1176	8438	-123.63	-4.41	4.03
714	SLV FO 10	-145	1327	8448	-126.61	-4.34	5.88
714	SLV FO 11	-98	-1122	8201	130.01	-6.07	-4.33
714	SLV FO 12	-98	-970	8211	127.03	-6	-2.49
714	SLV FO 13	-726	478	9704	-24.67	-10.7	2.44
714	SLV FO 14	-726	703	9718	-29.1	-10.59	5.18
714	SLV FO 15	-712	-211	9633	51.42	-11.2	-0.07
714	SLV FO 16	-712	14	9647	46.99	-11.09	2.67
714	CRTFP Ux+	0	0	0	0	0	0
714	CRTFP Ux-	0	0	0	0	0	0
714	CRTFP Uy+	0	0	0	0	0	0
714	CRTFP Uy-	0	0	0	0	0	0
715	SLU 1	129	39	7233	-2.45	-2.11	-0.11
715	SLU 2	128	70	7234	-5.06	-2.09	0.04
715	SLU 3	132	40	7407	-1.28	-2.17	-0.09
715	SLU 4	132	59	7407	-2.85	-2.16	0
715	SLU 5	130	71	7349	-4	-2.13	0.08
715	SLU 6	134	42	7522	-0.23	-2.2	-0.05
715	SLU 7	134	60	7522	-1.79	-2.19	0.04
715	SLU 8	133	42	7464	-0.34	-2.18	-0.03
715	SLU 9	132	60	7464	-1.9	-2.17	0.06
715	SLU 10	138	74	8156	-5.69	-2.22	0.01
715	SLU 11	141	45	8329	-1.92	-2.29	-0.12
715	SLU 12	141	63	8329	-3.48	-2.28	-0.03
715	SLU 13	140	76	8272	-4.63	-2.25	0.05
715	SLU 14	143	46	8444	-0.86	-2.32	-0.08
715	SLU 15	143	65	8445	-2.42	-2.31	0.01
715	SLU 16	142	46	8386	-0.97	-2.3	-0.06
715	SLU 17	142	65	8387	-2.54	-2.29	0.03
715	SLU 18	142	46	8551	-3.36	-2.29	-0.15
715	SLU 19	142	64	8552	-4.92	-2.28	-0.06
715	SLU 20	144	47	8666	-2.3	-2.32	-0.11
715	SLU 21	144	65	8667	-3.86	-2.31	-0.02
715	SLU 22	144	41	8381	-0.95	-2.3	-0.22
715	SLU 23	144	71	8382	-3.55	-2.28	-0.08
715	SLU 24	147	42	8554	0.22	-2.35	-0.2
715	SLU 25	147	60	8555	-1.34	-2.34	-0.12
715	SLU 26	146	73	8497	-2.49	-2.31	-0.04
715	SLU 27	149	43	8670	1.28	-2.39	-0.17
715	SLU 28	149	61	8670	-0.28	-2.38	-0.08
715	SLU 29	148	43	8612	1.17	-2.37	-0.15
715	SLU 30	148	62	8612	-0.39	-2.36	-0.06
715	SLU 31	153	76	9304	-4.18	-2.4	-0.11
715	SLU 32	157	46	9477	-0.41	-2.47	-0.23
715	SLU 33	157	65	9477	-1.97	-2.46	-0.15
715	SLU 34	155	77	9420	-3.13	-2.44	-0.07
715	SLU 35	159	47	9592	0.65	-2.51	-0.19
715	SLU 36	159	66	9592	-0.92	-2.5	-0.11
715	SLU 37	158	48	9534	0.53	-2.49	-0.17
715	SLU 38	157	66	9534	-1.03	-2.48	-0.09
715	SLU 39	158	47	9699	-1.85	-2.47	-0.26
715	SLU 40	158	66	9700	-3.41	-2.46	-0.18
715	SLU 41	160	48	9814	-0.8	-2.51	-0.23
715	SLU 42	160	67	9815	-2.36	-2.5	-0.14
715	SLU 43	162	50	9010	-3.71	-2.68	-0.1
715	SLU 44	162	81	9010	-6.31	-2.66	0.05
715	SLU 45	165	51	9183	-2.54	-2.74	-0.08
715	SLU 46	165	70	9183	-4.1	-2.73	0.01
715	SLU 47	164	83	9126	-5.25	-2.7	0.09
715	SLU 48	167	53	9298	-1.48	-2.77	-0.04
715	SLU 49	167	71	9298	-3.04	-2.76	0.05
715	SLU 50	166	53	9240	-1.59	-2.75	-0.02
715	SLU 51	166	71	9241	-3.15	-2.74	0.07
715	SLU 52	171	86	9933	-6.94	-2.79	0.02
715	SLU 53	175	56	10106	-3.17	-2.86	-0.11
715	SLU 54	175	74	10106	-4.73	-2.85	-0.02
715	SLU 55	173	87	10048	-5.89	-2.82	0.06
715	SLU 56	177	57	10221	-2.11	-2.89	-0.07
715	SLU 57	177	76	10221	-3.68	-2.88	0.02
715	SLU 58	176	58	10163	-2.23	-2.87	-0.05
715	SLU 59	175	76	10163	-3.79	-2.86	0.04
715	SLU 60	176	57	10328	-4.61	-2.86	-0.14
715	SLU 61	175	75	10328	-6.17	-2.85	-0.05
715	SLU 62	178	58	10443	-3.56	-2.89	-0.1
715	SLU 63	177	77	10443	-5.12	-2.88	-0.01
715	SLU 64	178	52	10158	-2.2	-2.87	-0.22
715	SLU 65	177	83	10158	-4.8	-2.85	-0.07
715	SLU 66	181	53	10331	-1.03	-2.92	-0.2
715	SLU 67	181	71	10331	-2.59	-2.91	-0.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
715	SLU 68	179	84	10273	-3.74	-2.88	-0.03
715	SLU 69	183	54	10446	0.03	-2.96	-0.16
715	SLU 70	182	73	10446	-1.53	-2.95	-0.07
715	SLU 71	181	54	10388	-0.08	-2.94	-0.14
715	SLU 72	181	73	10388	-1.65	-2.93	-0.05
715	SLU 73	187	87	11081	-5.44	-2.97	-0.1
715	SLU 74	190	57	11253	-1.66	-3.04	-0.23
715	SLU 75	190	76	11254	-3.23	-3.03	-0.14
715	SLU 76	189	88	11196	-4.38	-3.01	-0.06
715	SLU 77	192	59	11369	-0.61	-3.08	-0.19
715	SLU 78	192	77	11369	-2.17	-3.07	-0.1
715	SLU 79	191	59	11311	-0.72	-3.06	-0.17
715	SLU 80	191	77	11311	-2.28	-3.05	-0.08
715	SLU 81	191	58	11476	-3.11	-3.04	-0.26
715	SLU 82	191	77	11476	-4.67	-3.03	-0.17
715	SLU 83	193	60	11591	-2.05	-3.08	-0.22
715	SLU 84	193	78	11591	-3.61	-3.07	-0.13
715	SLE RA 1	133	40	7561	-2.02	-2.16	-0.14
715	SLE RA 2	133	60	7562	-3.76	-2.15	-0.04
715	SLE RA 3	135	40	7677	-1.24	-2.2	-0.13
715	SLE RA 4	135	53	7677	-2.28	-2.19	-0.07
715	SLE RA 5	134	61	7639	-3.05	-2.18	-0.02
715	SLE RA 6	137	41	7754	-0.54	-2.22	-0.1
715	SLE RA 7	136	53	7754	-1.58	-2.22	-0.04
715	SLE RA 8	136	41	7715	-0.61	-2.21	-0.09
715	SLE RA 9	136	54	7715	-1.65	-2.2	-0.03
715	SLE RA 10	139	63	8177	-4.18	-2.23	-0.06
715	SLE RA 11	142	43	8292	-1.67	-2.28	-0.15
715	SLE RA 12	141	56	8292	-2.71	-2.28	-0.09
715	SLE RA 13	141	64	8254	-3.48	-2.26	-0.04
715	SLE RA 14	143	44	8369	-0.96	-2.31	-0.12
715	SLE RA 15	143	56	8369	-2	-2.3	-0.06
715	SLE RA 16	142	44	8330	-1.04	-2.29	-0.11
715	SLE RA 17	142	57	8330	-2.08	-2.29	-0.05
715	SLE RA 18	142	44	8440	-2.63	-2.28	-0.17
715	SLE RA 19	142	56	8440	-3.67	-2.27	-0.11
715	SLE RA 20	144	45	8517	-1.92	-2.3	-0.14
715	SLE RA 21	143	57	8517	-2.96	-2.3	-0.08
715	SLE FR 1	133	40	7561	-2.02	-2.16	-0.14
715	SLE FR 2	133	44	7561	-2.37	-2.16	-0.12
715	SLE FR 3	134	40	7592	-1.74	-2.17	-0.13
715	SLE FR 4	136	45	7825	-2.55	-2.2	-0.13
715	SLE FR 5	136	41	7856	-1.92	-2.21	-0.14
715	SLE FR 6	138	42	8001	-2.32	-2.22	-0.15
715	SLE QP 1	133	40	7561	-2.02	-2.16	-0.14
715	SLE QP 2	136	41	7825	-2.2	-2.2	-0.15
715	SLD 1	626	32	6561	-29.2	2.69	-1.76
715	SLD 2	626	170	6567	-31.96	2.75	-0.03
715	SLD 3	634	-343	6529	12.54	2.41	-3.46
715	SLD 4	634	-205	6535	9.78	2.47	-1.73
715	SLD 5	271	583	7494	-73.13	-0.32	1.65
715	SLD 6	271	672	7498	-74.91	-0.28	2.76
715	SLD 7	298	-667	7386	66	-1.25	-4.02
715	SLD 8	298	-578	7390	64.22	-1.21	-2.91
715	SLD 9	-26	659	8260	-68.63	-3.18	2.61
715	SLD 10	-26	748	8264	-70.41	-3.14	3.72
715	SLD 11	1	-591	8152	70.5	-4.12	-3.06
715	SLD 12	1	-502	8156	68.72	-4.08	-1.95
715	SLD 13	-362	286	9115	-14.19	-6.87	1.44
715	SLD 14	-362	424	9121	-16.95	-6.81	3.17
715	SLD 15	-354	-89	9083	27.55	-7.15	-0.26
715	SLD 16	-354	49	9089	24.79	-7.09	1.46
715	SLV 1	904	54	5854	-47.49	5.45	-2.55
715	SLV 2	904	271	5864	-51.85	5.55	0.17
715	SLV 3	916	-586	5800	23.77	4.97	-5.46
715	SLV 4	916	-368	5810	19.42	5.07	-2.73
715	SLV 5	347	974	7313	-123.06	0.8	3.03
715	SLV 6	347	1121	7320	-126	0.87	4.86
715	SLV 7	390	-1158	7134	114.49	-0.79	-6.66
715	SLV 8	390	-1011	7141	111.56	-0.73	-4.82
715	SLV 9	-118	1093	8509	-115.96	-3.67	4.52
715	SLV 10	-118	1240	8516	-118.9	-3.6	6.36
715	SLV 11	-75	-1039	8330	121.59	-5.27	-5.16
715	SLV 12	-75	-892	8337	118.66	-5.2	-3.32
715	SLV 13	-645	450	9840	-23.83	-9.47	2.44
715	SLV 14	-645	668	9850	-28.18	-9.37	5.16
715	SLV 15	-632	-190	9786	47.44	-9.95	-0.47
715	SLV 16	-632	28	9796	43.08	-9.85	2.26
715	SLV FO 1	980	55	5657	-52.02	6.21	-2.8
715	SLV FO 2	980	294	5668	-56.81	6.32	0.2
715	SLV FO 3	994	-649	5598	26.37	5.69	-5.99
715	SLV FO 4	994	-409	5609	21.58	5.8	-2.99
715	SLV FO 5	368	1067	7262	-135.15	1.1	3.34
715	SLV FO 6	368	1229	7269	-138.38	1.18	5.36
715	SLV FO 7	415	-1278	7065	126.16	-0.65	-7.31
715	SLV FO 8	415	-1117	7073	122.93	-0.58	-5.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
715	SLV FO 9	-143	1198	8577	-127.34	-3.82	4.99
715	SLV FO 10	-143	1360	8585	-130.57	-3.74	7.01
715	SLV FO 11	-96	-1147	8381	133.97	-5.58	-5.66
715	SLV FO 12	-96	-986	8388	130.74	-5.5	-3.64
715	SLV FO 13	-723	491	10041	-25.99	-10.19	2.69
715	SLV FO 14	-723	730	10052	-30.78	-10.08	5.69
715	SLV FO 15	-709	-213	9982	52.4	-10.72	-0.5
715	SLV FO 16	-709	27	9993	47.61	-10.61	2.5
715	CRTFP Ux+	0	0	0	0	0	0
715	CRTFP Ux-	0	0	0	0	0	0
715	CRTFP Uy+	0	0	0	0	0	0
715	CRTFP Uy-	0	0	0	0	0	0
716	SLU 1	130	38	7295	-2.32	-1.75	-0.23
716	SLU 2	129	70	7295	-5.04	-1.73	-0.05
716	SLU 3	133	39	7470	-1.16	-1.79	-0.21
716	SLU 4	133	58	7470	-2.79	-1.78	-0.1
716	SLU 5	131	71	7411	-3.99	-1.76	-0.01
716	SLU 6	135	41	7586	-0.11	-1.82	-0.17
716	SLU 7	135	60	7586	-1.74	-1.81	-0.07
716	SLU 8	134	41	7527	-0.22	-1.8	-0.15
716	SLU 9	133	60	7527	-1.86	-1.79	-0.05
716	SLU 10	139	74	8220	-5.64	-1.78	-0.09
716	SLU 11	142	44	8395	-1.76	-1.85	-0.25
716	SLU 12	142	63	8395	-3.39	-1.84	-0.14
716	SLU 13	141	76	8337	-4.6	-1.81	-0.05
716	SLU 14	144	45	8511	-0.71	-1.87	-0.21
716	SLU 15	144	64	8511	-2.35	-1.86	-0.11
716	SLU 16	143	46	8453	-0.83	-1.86	-0.19
716	SLU 17	143	65	8453	-2.46	-1.85	-0.09
716	SLU 18	143	44	8617	-3.18	-1.82	-0.28
716	SLU 19	143	63	8617	-4.81	-1.81	-0.18
716	SLU 20	145	46	8733	-2.13	-1.85	-0.25
716	SLU 21	145	65	8733	-3.77	-1.84	-0.14
716	SLU 22	145	39	8448	-0.78	-1.85	-0.35
716	SLU 23	145	71	8448	-3.5	-1.83	-0.18
716	SLU 24	148	40	8622	0.38	-1.9	-0.34
716	SLU 25	148	59	8622	-1.25	-1.89	-0.23
716	SLU 26	147	72	8564	-2.45	-1.86	-0.14
716	SLU 27	150	42	8738	1.43	-1.92	-0.3
716	SLU 28	150	61	8738	-0.2	-1.91	-0.2
716	SLU 29	149	42	8680	1.32	-1.91	-0.28
716	SLU 30	149	61	8680	-0.31	-1.9	-0.17
716	SLU 31	154	75	9373	-4.1	-1.89	-0.22
716	SLU 32	158	45	9548	-0.22	-1.95	-0.38
716	SLU 33	157	64	9548	-1.85	-1.94	-0.27
716	SLU 34	156	77	9489	-3.05	-1.92	-0.18
716	SLU 35	160	46	9664	0.83	-1.98	-0.34
716	SLU 36	159	65	9664	-0.8	-1.97	-0.24
716	SLU 37	158	46	9605	0.72	-1.96	-0.32
716	SLU 38	158	65	9605	-0.92	-1.95	-0.22
716	SLU 39	158	45	9769	-1.64	-1.93	-0.41
716	SLU 40	158	64	9769	-3.27	-1.92	-0.31
716	SLU 41	160	47	9886	-0.59	-1.96	-0.37
716	SLU 42	160	66	9886	-2.22	-1.95	-0.27
716	SLU 43	163	49	9088	-3.55	-2.23	-0.25
716	SLU 44	163	81	9088	-6.27	-2.22	-0.07
716	SLU 45	166	51	9263	-2.39	-2.28	-0.23
716	SLU 46	166	70	9263	-4.02	-2.27	-0.13
716	SLU 47	165	83	9205	-5.22	-2.25	-0.04
716	SLU 48	168	52	9379	-1.34	-2.31	-0.2
716	SLU 49	168	71	9379	-2.97	-2.3	-0.09
716	SLU 50	167	52	9321	-1.45	-2.29	-0.18
716	SLU 51	167	71	9321	-3.08	-2.28	-0.07
716	SLU 52	172	85	10014	-6.87	-2.27	-0.12
716	SLU 53	176	55	10188	-2.99	-2.33	-0.27
716	SLU 54	176	74	10188	-4.62	-2.32	-0.17
716	SLU 55	174	87	10130	-5.82	-2.3	-0.08
716	SLU 56	178	56	10305	-1.94	-2.36	-0.24
716	SLU 57	178	75	10305	-3.57	-2.35	-0.13
716	SLU 58	177	57	10246	-2.05	-2.34	-0.22
716	SLU 59	176	76	10246	-3.68	-2.33	-0.11
716	SLU 60	177	56	10410	-4.41	-2.31	-0.31
716	SLU 61	176	75	10410	-6.04	-2.3	-0.2
716	SLU 62	179	57	10526	-3.36	-2.34	-0.27
716	SLU 63	178	76	10526	-4.99	-2.33	-0.17
716	SLU 64	179	50	10241	-2.01	-2.34	-0.38
716	SLU 65	178	82	10241	-4.72	-2.32	-0.2
716	SLU 66	182	51	10416	-0.84	-2.38	-0.36
716	SLU 67	182	70	10416	-2.47	-2.37	-0.26
716	SLU 68	180	83	10357	-3.68	-2.35	-0.17
716	SLU 69	184	53	10532	0.21	-2.41	-0.32
716	SLU 70	184	72	10532	-1.43	-2.4	-0.22
716	SLU 71	183	53	10473	0.09	-2.39	-0.3
716	SLU 72	182	72	10473	-1.54	-2.38	-0.2
716	SLU 73	188	86	11166	-5.33	-2.38	-0.24
716	SLU 74	191	56	11341	-1.45	-2.44	-0.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
716	SLU 75	191	75	11341	-3.08	-2.43	-0.3
716	SLU 76	190	88	11282	-4.28	-2.4	-0.21
716	SLU 77	193	57	11457	-0.4	-2.47	-0.36
716	SLU 78	193	76	11457	-2.03	-2.46	-0.26
716	SLU 79	192	58	11399	-0.51	-2.45	-0.34
716	SLU 80	192	77	11399	-2.14	-2.44	-0.24
716	SLU 81	192	56	11563	-2.87	-2.42	-0.43
716	SLU 82	192	75	11563	-4.5	-2.41	-0.33
716	SLU 83	194	58	11679	-1.82	-2.44	-0.4
716	SLU 84	194	77	11679	-3.45	-2.43	-0.29
716	SLE RA 1	134	38	7624	-1.88	-1.78	-0.26
716	SLE RA 2	134	60	7624	-3.69	-1.76	-0.15
716	SLE RA 3	136	39	7741	-1.11	-1.81	-0.25
716	SLE RA 4	136	52	7741	-2.19	-1.8	-0.18
716	SLE RA 5	135	61	7702	-3	-1.78	-0.12
716	SLE RA 6	138	40	7818	-0.41	-1.82	-0.23
716	SLE RA 7	137	53	7818	-1.5	-1.82	-0.16
716	SLE RA 8	137	40	7779	-0.48	-1.81	-0.21
716	SLE RA 9	137	53	7779	-1.57	-1.81	-0.14
716	SLE RA 10	140	62	8241	-4.1	-1.8	-0.17
716	SLE RA 11	142	42	8358	-1.51	-1.84	-0.28
716	SLE RA 12	142	55	8358	-2.6	-1.84	-0.21
716	SLE RA 13	141	63	8319	-3.4	-1.82	-0.15
716	SLE RA 14	144	43	8435	-0.81	-1.86	-0.25
716	SLE RA 15	144	56	8435	-1.9	-1.85	-0.18
716	SLE RA 16	143	43	8396	-0.88	-1.85	-0.24
716	SLE RA 17	143	56	8396	-1.97	-1.84	-0.17
716	SLE RA 18	143	43	8506	-2.46	-1.83	-0.3
716	SLE RA 19	143	55	8506	-3.54	-1.82	-0.23
716	SLE RA 20	144	44	8583	-1.76	-1.85	-0.28
716	SLE RA 21	144	56	8583	-2.84	-1.84	-0.21
716	SLE FR 1	134	38	7624	-1.88	-1.78	-0.26
716	SLE FR 2	134	43	7624	-2.24	-1.77	-0.24
716	SLE FR 3	135	39	7655	-1.6	-1.78	-0.25
716	SLE FR 4	137	44	7889	-2.42	-1.79	-0.25
716	SLE FR 5	137	40	7920	-1.77	-1.8	-0.26
716	SLE FR 6	139	41	8065	-2.17	-1.8	-0.28
716	SLE QP 1	134	38	7624	-1.88	-1.78	-0.26
716	SLE QP 2	137	40	7889	-2.05	-1.79	-0.27
716	SLD 1	625	23	6470	-29.31	3.13	-1.91
716	SLD 2	625	170	6474	-32.29	3.19	-0.04
716	SLD 3	633	-362	6442	13.71	2.84	-3.94
716	SLD 4	633	-214	6446	10.74	2.91	-2.07
716	SLD 5	271	593	7505	-74.97	0.1	1.99
716	SLD 6	271	687	7507	-76.89	0.14	3.2
716	SLD 7	298	-689	7412	68.44	-0.84	-4.77
716	SLD 8	298	-594	7414	66.52	-0.79	-3.57
716	SLD 9	-25	674	8363	-70.63	-2.79	3.02
716	SLD 10	-25	769	8366	-72.55	-2.74	4.23
716	SLD 11	3	-608	8270	72.78	-3.72	-3.74
716	SLD 12	2	-513	8273	70.86	-3.68	-2.54
716	SLD 13	-360	294	9331	-14.85	-6.49	1.52
716	SLD 14	-360	441	9336	-17.82	-6.43	3.4
716	SLD 15	-352	-91	9304	28.18	-6.77	-0.51
716	SLD 16	-352	57	9308	25.2	-6.71	1.37
716	SLV 1	902	40	5675	-47.84	5.9	-2.7
716	SLV 2	902	273	5682	-52.53	6	0.26
716	SLV 3	915	-616	5630	25.61	5.42	-6.16
716	SLV 4	915	-383	5637	20.92	5.53	-3.21
716	SLV 5	347	991	7292	-126.32	1.22	3.7
716	SLV 6	347	1148	7296	-129.48	1.29	5.69
716	SLV 7	390	-1195	7142	118.52	-0.37	-7.85
716	SLV 8	390	-1039	7146	115.37	-0.3	-5.86
716	SLV 9	-116	1118	8631	-119.48	-3.28	5.31
716	SLV 10	-116	1275	8636	-122.63	-3.21	7.3
716	SLV 11	-73	-1069	8481	125.37	-4.87	-6.24
716	SLV 12	-73	-912	8486	122.21	-4.8	-4.25
716	SLV 13	-641	463	10141	-25.03	-9.11	2.66
716	SLV 14	-642	695	10147	-29.72	-9	5.62
716	SLV 15	-629	-193	10096	48.42	-9.58	-0.8
716	SLV 16	-629	39	10102	43.74	-9.48	2.15
716	SLV FO 1	979	40	5454	-52.42	6.67	-2.94
716	SLV FO 2	979	296	5461	-57.58	6.78	0.31
716	SLV FO 3	993	-681	5404	28.38	6.14	-6.75
716	SLV FO 4	993	-426	5411	23.22	6.26	-3.5
716	SLV FO 5	368	1087	7232	-138.75	1.52	4.1
716	SLV FO 6	368	1259	7237	-142.22	1.6	6.29
716	SLV FO 7	415	-1319	7067	130.58	-0.23	-8.6
716	SLV FO 8	415	-1147	7072	127.11	-0.15	-6.41
716	SLV FO 9	-142	1226	8706	-131.22	-3.43	5.87
716	SLV FO 10	-142	1398	8711	-134.69	-3.35	8.06
716	SLV FO 11	-94	-1179	8541	138.11	-5.18	-6.83
716	SLV FO 12	-94	-1007	8545	134.64	-5.11	-4.64
716	SLV FO 13	-719	505	10366	-27.33	-9.84	2.95
716	SLV FO 14	-719	761	10373	-32.48	-9.72	6.21
716	SLV FO 15	-705	-217	10317	53.47	-10.36	-0.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
716	SLV FO 16	-705	39	10324	48.32	-10.25	2.4
716	CRTFP Ux+	0	0	0	0	0	0
716	CRTFP Ux-	0	0	0	0	0	0
716	CRTFP Uy+	0	0	0	0	0	0
716	CRTFP Uy-	0	0	0	0	0	0
717	SLU 1	130	37	7348	-2.2	-1.62	-0.32
717	SLU 2	130	69	7348	-5.03	-1.6	-0.12
717	SLU 3	134	38	7525	-1.04	-1.66	-0.31
717	SLU 4	133	58	7524	-2.74	-1.65	-0.19
717	SLU 5	132	71	7465	-3.99	-1.63	-0.09
717	SLU 6	136	40	7642	0	-1.69	-0.27
717	SLU 7	135	59	7641	-1.7	-1.68	-0.16
717	SLU 8	134	40	7583	-0.11	-1.67	-0.25
717	SLU 9	134	60	7582	-1.81	-1.66	-0.14
717	SLU 10	139	73	8274	-5.6	-1.62	-0.17
717	SLU 11	143	42	8451	-1.61	-1.68	-0.36
717	SLU 12	143	62	8451	-3.31	-1.67	-0.24
717	SLU 13	141	75	8391	-4.56	-1.65	-0.14
717	SLU 14	145	44	8568	-0.57	-1.71	-0.32
717	SLU 15	145	63	8568	-2.27	-1.7	-0.21
717	SLU 16	144	44	8509	-0.68	-1.69	-0.3
717	SLU 17	144	64	8509	-2.39	-1.68	-0.19
717	SLU 18	144	43	8672	-3.01	-1.65	-0.39
717	SLU 19	144	62	8672	-4.71	-1.64	-0.27
717	SLU 20	146	44	8789	-1.97	-1.67	-0.36
717	SLU 21	146	64	8789	-3.67	-1.67	-0.24
717	SLU 22	146	37	8504	-0.62	-1.68	-0.45
717	SLU 23	145	70	8503	-3.45	-1.67	-0.26
717	SLU 24	149	38	8680	0.54	-1.73	-0.44
717	SLU 25	149	58	8679	-1.16	-1.72	-0.32
717	SLU 26	147	71	8620	-2.41	-1.7	-0.22
717	SLU 27	151	40	8797	1.58	-1.75	-0.41
717	SLU 28	151	59	8796	-0.12	-1.75	-0.29
717	SLU 29	150	40	8738	1.47	-1.74	-0.39
717	SLU 30	150	60	8737	-0.24	-1.73	-0.27
717	SLU 31	155	74	9429	-4.02	-1.69	-0.31
717	SLU 32	158	42	9606	-0.03	-1.75	-0.49
717	SLU 33	158	62	9606	-1.73	-1.74	-0.37
717	SLU 34	157	75	9547	-2.98	-1.72	-0.27
717	SLU 35	160	44	9723	1.01	-1.77	-0.46
717	SLU 36	160	64	9723	-0.69	-1.77	-0.34
717	SLU 37	159	44	9664	0.9	-1.76	-0.44
717	SLU 38	159	64	9664	-0.81	-1.75	-0.32
717	SLU 39	159	43	9827	-1.43	-1.71	-0.52
717	SLU 40	159	62	9827	-3.13	-1.71	-0.41
717	SLU 41	161	44	9944	-0.39	-1.74	-0.49
717	SLU 42	161	64	9944	-2.09	-1.73	-0.37
717	SLU 43	164	48	9157	-3.4	-2.08	-0.37
717	SLU 44	164	80	9156	-6.23	-2.07	-0.17
717	SLU 45	168	49	9333	-2.24	-2.12	-0.36
717	SLU 46	167	69	9333	-3.94	-2.12	-0.24
717	SLU 47	166	82	9273	-5.19	-2.09	-0.14
717	SLU 48	170	51	9450	-1.2	-2.15	-0.33
717	SLU 49	169	70	9450	-2.9	-2.14	-0.21
717	SLU 50	168	51	9391	-1.31	-2.13	-0.3
717	SLU 51	168	71	9391	-3.02	-2.12	-0.19
717	SLU 52	173	84	10083	-6.8	-2.09	-0.22
717	SLU 53	177	53	10260	-2.81	-2.14	-0.41
717	SLU 54	177	73	10259	-4.51	-2.14	-0.29
717	SLU 55	175	86	10200	-5.76	-2.11	-0.19
717	SLU 56	179	55	10377	-1.77	-2.17	-0.37
717	SLU 57	179	74	10376	-3.47	-2.16	-0.26
717	SLU 58	178	55	10317	-1.88	-2.15	-0.35
717	SLU 59	177	75	10317	-3.59	-2.15	-0.24
717	SLU 60	178	54	10480	-4.21	-2.11	-0.44
717	SLU 61	177	73	10480	-5.91	-2.1	-0.32
717	SLU 62	180	55	10597	-3.17	-2.14	-0.41
717	SLU 63	179	75	10597	-4.87	-2.13	-0.29
717	SLU 64	180	48	10312	-1.82	-2.15	-0.5
717	SLU 65	179	81	10312	-4.65	-2.13	-0.31
717	SLU 66	183	49	10488	-0.66	-2.19	-0.49
717	SLU 67	183	69	10488	-2.36	-2.18	-0.37
717	SLU 68	181	82	10429	-3.61	-2.16	-0.27
717	SLU 69	185	51	10605	0.38	-2.22	-0.46
717	SLU 70	185	70	10605	-1.32	-2.21	-0.34
717	SLU 71	184	51	10546	0.27	-2.2	-0.44
717	SLU 72	183	71	10546	-1.44	-2.19	-0.32
717	SLU 73	189	85	11238	-5.22	-2.15	-0.36
717	SLU 74	192	53	11415	-1.23	-2.21	-0.54
717	SLU 75	192	73	11414	-2.93	-2.2	-0.42
717	SLU 76	191	86	11355	-4.18	-2.18	-0.32
717	SLU 77	194	55	11532	-0.19	-2.24	-0.51
717	SLU 78	194	75	11531	-1.89	-2.23	-0.39
717	SLU 79	193	55	11473	-0.3	-2.22	-0.49
717	SLU 80	193	75	11472	-2.01	-2.21	-0.37
717	SLU 81	193	54	11636	-2.63	-2.18	-0.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
717	SLU 82	193	73	11635	-4.33	-2.17	-0.46
717	SLU 83	195	55	11753	-1.59	-2.2	-0.54
717	SLU 84	195	75	11752	-3.29	-2.19	-0.42
717	SLE RA 1	135	37	7679	-1.74	-1.64	-0.36
717	SLE RA 2	135	59	7678	-3.64	-1.63	-0.23
717	SLE RA 3	137	38	7796	-0.97	-1.67	-0.35
717	SLE RA 4	137	51	7796	-2.11	-1.66	-0.27
717	SLE RA 5	136	60	7756	-2.94	-1.65	-0.21
717	SLE RA 6	138	39	7874	-0.28	-1.68	-0.33
717	SLE RA 7	138	52	7874	-1.41	-1.68	-0.25
717	SLE RA 8	137	39	7835	-0.35	-1.67	-0.31
717	SLE RA 9	137	52	7834	-1.49	-1.67	-0.24
717	SLE RA 10	141	61	8296	-4.02	-1.64	-0.26
717	SLE RA 11	143	40	8414	-1.35	-1.68	-0.38
717	SLE RA 12	143	53	8413	-2.49	-1.67	-0.3
717	SLE RA 13	142	62	8374	-3.32	-1.66	-0.24
717	SLE RA 14	145	42	8492	-0.66	-1.7	-0.36
717	SLE RA 15	144	55	8491	-1.79	-1.69	-0.28
717	SLE RA 16	144	42	8452	-0.74	-1.69	-0.35
717	SLE RA 17	144	55	8452	-1.87	-1.68	-0.27
717	SLE RA 18	144	41	8561	-2.29	-1.66	-0.41
717	SLE RA 19	144	54	8561	-3.42	-1.65	-0.33
717	SLE RA 20	145	42	8639	-1.59	-1.67	-0.38
717	SLE RA 21	145	55	8639	-2.73	-1.67	-0.31
717	SLE FR 1	135	37	7679	-1.74	-1.64	-0.36
717	SLE FR 2	135	41	7678	-2.12	-1.64	-0.33
717	SLE FR 3	135	37	7710	-1.47	-1.64	-0.35
717	SLE FR 4	137	42	7943	-2.29	-1.64	-0.35
717	SLE FR 5	138	38	7974	-1.63	-1.65	-0.36
717	SLE FR 6	139	39	8120	-2.02	-1.65	-0.38
717	SLE QP 1	135	37	7679	-1.74	-1.64	-0.36
717	SLE QP 2	137	38	7943	-1.91	-1.64	-0.37
717	SLD 1	625	13	6369	-29.48	3.34	-2.06
717	SLD 2	625	170	6371	-32.67	3.4	-0.07
717	SLD 3	633	-383	6343	14.89	3.06	-4.34
717	SLD 4	633	-226	6345	11.7	3.13	-2.34
717	SLD 5	271	604	7510	-76.92	0.26	2.23
717	SLD 6	271	705	7511	-78.97	0.3	3.51
717	SLD 7	298	-716	7424	70.96	-0.66	-5.36
717	SLD 8	298	-614	7425	68.91	-0.62	-4.07
717	SLD 9	-23	690	8461	-72.73	-2.67	3.33
717	SLD 10	-23	792	8463	-74.78	-2.63	4.61
717	SLD 11	4	-629	8375	75.15	-3.58	-4.26
717	SLD 12	4	-528	8377	73.1	-3.54	-2.97
717	SLD 13	-358	302	9541	-15.51	-6.41	1.6
717	SLD 14	-358	459	9543	-18.7	-6.35	3.59
717	SLD 15	-350	-94	9515	28.85	-6.69	-0.68
717	SLD 16	-350	63	9517	25.66	-6.62	1.32
717	SLV 1	901	26	5487	-48.28	6.15	-2.86
717	SLV 2	900	274	5490	-53.3	6.25	0.29
717	SLV 3	913	-649	5446	27.46	5.68	-6.74
717	SLV 4	913	-401	5449	22.43	5.78	-3.59
717	SLV 5	347	1012	7268	-129.75	1.38	4.18
717	SLV 6	347	1179	7270	-133.13	1.45	6.3
717	SLV 7	390	-1238	7132	122.71	-0.18	-8.76
717	SLV 8	390	-1071	7134	119.33	-0.11	-6.64
717	SLV 9	-115	1147	8753	-123.14	-3.18	5.9
717	SLV 10	-115	1314	8755	-126.52	-3.11	8.02
717	SLV 11	-72	-1103	8617	129.32	-4.74	-7.05
717	SLV 12	-72	-936	8619	125.94	-4.67	-4.93
717	SLV 13	-638	477	10437	-26.25	-9.07	2.85
717	SLV 14	-639	725	10440	-31.27	-8.97	6
717	SLV 15	-625	-198	10396	49.49	-9.54	-1.04
717	SLV 16	-626	50	10400	44.47	-9.43	2.11
717	SLV FO 1	977	25	5241	-52.92	6.92	-3.11
717	SLV FO 2	977	298	5245	-58.44	7.04	0.36
717	SLV FO 3	991	-718	5196	30.39	6.41	-7.38
717	SLV FO 4	991	-445	5200	24.87	6.53	-3.92
717	SLV FO 5	368	1109	7200	-142.53	1.69	4.64
717	SLV FO 6	368	1293	7202	-146.25	1.76	6.97
717	SLV FO 7	415	-1366	7050	135.17	-0.03	-9.6
717	SLV FO 8	415	-1182	7053	131.45	0.05	-7.27
717	SLV FO 9	-140	1258	8834	-135.26	-3.34	6.52
717	SLV FO 10	-140	1442	8836	-138.98	-3.26	8.86
717	SLV FO 11	-93	-1217	8684	142.44	-5.05	-7.72
717	SLV FO 12	-93	-1033	8686	138.72	-4.97	-5.38
717	SLV FO 13	-716	521	10687	-28.68	-9.81	3.17
717	SLV FO 14	-716	794	10690	-34.21	-9.7	6.63
717	SLV FO 15	-702	-222	10642	54.63	-10.33	-1.1
717	SLV FO 16	-702	51	10645	49.1	-10.21	2.36
717	CRTFP Ux+	0	0	0	0	0	0
717	CRTFP Ux-	0	0	0	0	0	0
717	CRTFP Uy+	0	0	0	0	0	0
717	CRTFP Uy-	0	0	0	0	0	0
718	SLU 1	131	35	7405	-2.07	-1.95	-0.4
718	SLU 2	131	69	7404	-5.03	-1.94	-0.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
718	SLU 3	134	36	7582	-0.92	-2	-0.39
718	SLU 4	134	56	7582	-2.69	-1.99	-0.26
718	SLU 5	133	70	7522	-4	-1.97	-0.16
718	SLU 6	136	38	7700	0.12	-2.03	-0.36
718	SLU 7	136	58	7700	-1.66	-2.03	-0.24
718	SLU 8	135	39	7640	0	-2.01	-0.34
718	SLU 9	135	59	7640	-1.78	-2.01	-0.22
718	SLU 10	140	72	8331	-5.57	-1.99	-0.25
718	SLU 11	144	40	8510	-1.46	-2.05	-0.45
718	SLU 12	144	60	8509	-3.23	-2.04	-0.32
718	SLU 13	142	74	8449	-4.54	-2.02	-0.22
718	SLU 14	146	42	8627	-0.42	-2.08	-0.42
718	SLU 15	146	62	8627	-2.2	-2.08	-0.29
718	SLU 16	145	42	8568	-0.54	-2.06	-0.4
718	SLU 17	144	63	8567	-2.32	-2.06	-0.27
718	SLU 18	145	40	8729	-2.84	-2.02	-0.48
718	SLU 19	144	61	8729	-4.62	-2.01	-0.35
718	SLU 20	147	42	8847	-1.81	-2.05	-0.45
718	SLU 21	146	62	8847	-3.58	-2.05	-0.33
718	SLU 22	147	34	8562	-0.45	-2.06	-0.53
718	SLU 23	146	68	8561	-3.41	-2.04	-0.32
718	SLU 24	150	36	8740	0.7	-2.11	-0.52
718	SLU 25	150	56	8739	-1.08	-2.1	-0.4
718	SLU 26	148	70	8679	-2.38	-2.07	-0.29
718	SLU 27	152	38	8858	1.74	-2.14	-0.49
718	SLU 28	152	58	8857	-0.04	-2.13	-0.37
718	SLU 29	151	38	8798	1.62	-2.12	-0.48
718	SLU 30	150	58	8797	-0.16	-2.11	-0.35
718	SLU 31	155	72	9489	-3.95	-2.09	-0.38
718	SLU 32	159	39	9667	0.16	-2.16	-0.58
718	SLU 33	159	60	9667	-1.62	-2.15	-0.45
718	SLU 34	158	74	9607	-2.92	-2.12	-0.35
718	SLU 35	161	41	9785	1.2	-2.19	-0.55
718	SLU 36	161	62	9785	-0.58	-2.18	-0.43
718	SLU 37	160	42	9725	1.08	-2.17	-0.53
718	SLU 38	160	62	9725	-0.7	-2.16	-0.41
718	SLU 39	160	40	9887	-1.22	-2.13	-0.61
718	SLU 40	160	60	9886	-3	-2.12	-0.49
718	SLU 41	162	42	10005	-0.19	-2.16	-0.58
718	SLU 42	162	62	10004	-1.96	-2.15	-0.46
718	SLU 43	165	46	9229	-3.25	-2.5	-0.47
718	SLU 44	165	79	9228	-6.21	-2.49	-0.26
718	SLU 45	169	47	9407	-2.09	-2.55	-0.46
718	SLU 46	168	67	9406	-3.87	-2.54	-0.34
718	SLU 47	167	81	9346	-5.17	-2.52	-0.23
718	SLU 48	171	49	9525	-1.06	-2.58	-0.43
718	SLU 49	170	69	9524	-2.83	-2.57	-0.31
718	SLU 50	169	49	9465	-1.18	-2.56	-0.42
718	SLU 51	169	69	9464	-2.95	-2.55	-0.29
718	SLU 52	174	83	10155	-6.75	-2.54	-0.32
718	SLU 53	178	51	10334	-2.63	-2.6	-0.52
718	SLU 54	178	71	10333	-4.41	-2.59	-0.39
718	SLU 55	176	85	10273	-5.71	-2.57	-0.29
718	SLU 56	180	53	10452	-1.6	-2.63	-0.49
718	SLU 57	180	73	10451	-3.37	-2.62	-0.37
718	SLU 58	179	53	10392	-1.72	-2.61	-0.47
718	SLU 59	178	73	10392	-3.49	-2.6	-0.35
718	SLU 60	179	51	10554	-4.02	-2.57	-0.55
718	SLU 61	178	71	10553	-5.8	-2.56	-0.43
718	SLU 62	181	53	10672	-2.98	-2.6	-0.52
718	SLU 63	180	73	10671	-4.76	-2.59	-0.4
718	SLU 64	181	45	10387	-1.63	-2.61	-0.6
718	SLU 65	180	79	10386	-4.59	-2.59	-0.4
718	SLU 66	184	46	10564	-0.48	-2.66	-0.6
718	SLU 67	184	67	10564	-2.25	-2.65	-0.47
718	SLU 68	182	81	10504	-3.55	-2.62	-0.37
718	SLU 69	186	48	10682	0.56	-2.69	-0.57
718	SLU 70	186	68	10682	-1.22	-2.68	-0.44
718	SLU 71	185	49	10622	0.44	-2.67	-0.55
718	SLU 72	184	69	10622	-1.33	-2.66	-0.42
718	SLU 73	190	83	11313	-5.13	-2.64	-0.45
718	SLU 74	193	50	11492	-1.02	-2.71	-0.65
718	SLU 75	193	70	11491	-2.79	-2.7	-0.53
718	SLU 76	192	84	11431	-4.09	-2.67	-0.42
718	SLU 77	195	52	11610	0.02	-2.74	-0.63
718	SLU 78	195	72	11609	-1.76	-2.73	-0.5
718	SLU 79	194	53	11550	-0.1	-2.72	-0.61
718	SLU 80	194	73	11549	-1.87	-2.71	-0.48
718	SLU 81	194	50	11711	-2.4	-2.68	-0.69
718	SLU 82	194	71	11711	-4.18	-2.67	-0.56
718	SLU 83	196	52	11829	-1.36	-2.71	-0.66
718	SLU 84	196	73	11829	-3.14	-2.7	-0.53
718	SLE RA 1	136	35	7735	-1.61	-1.98	-0.44
718	SLE RA 2	135	57	7735	-3.58	-1.97	-0.3
718	SLE RA 3	138	36	7854	-0.84	-2.01	-0.43
718	SLE RA 4	138	49	7853	-2.02	-2.01	-0.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
718	SLE RA 5	137	58	7813	-2.89	-1.99	-0.28
718	SLE RA 6	139	37	7932	-0.15	-2.04	-0.41
718	SLE RA 7	139	50	7932	-1.33	-2.03	-0.33
718	SLE RA 8	138	37	7893	-0.23	-2.02	-0.4
718	SLE RA 9	138	51	7892	-1.41	-2.02	-0.32
718	SLE RA 10	142	60	8353	-3.94	-2.01	-0.33
718	SLE RA 11	144	38	8472	-1.2	-2.05	-0.47
718	SLE RA 12	144	52	8472	-2.38	-2.04	-0.38
718	SLE RA 13	143	61	8432	-3.25	-2.03	-0.32
718	SLE RA 14	145	39	8551	-0.51	-2.07	-0.45
718	SLE RA 15	145	53	8550	-1.69	-2.06	-0.37
718	SLE RA 16	145	40	8511	-0.59	-2.06	-0.44
718	SLE RA 17	144	53	8510	-1.77	-2.05	-0.35
718	SLE RA 18	145	38	8618	-2.12	-2.03	-0.49
718	SLE RA 19	144	52	8618	-3.31	-2.02	-0.41
718	SLE RA 20	146	40	8697	-1.43	-2.05	-0.47
718	SLE RA 21	146	53	8697	-2.62	-2.04	-0.39
718	SLE FR 1	136	35	7735	-1.61	-1.98	-0.44
718	SLE FR 2	136	39	7735	-2	-1.98	-0.41
718	SLE FR 3	136	35	7767	-1.33	-1.99	-0.43
718	SLE FR 4	138	40	8000	-2.16	-1.99	-0.42
718	SLE FR 5	139	36	8032	-1.49	-2	-0.44
718	SLE FR 6	140	37	8177	-1.87	-2	-0.46
718	SLE QP 1	136	35	7735	-1.61	-1.98	-0.44
718	SLE QP 2	138	36	8000	-1.76	-1.99	-0.45
718	SLD 1	624	2	6268	-29.7	3.16	-2.22
718	SLD 2	624	170	6268	-33.1	3.22	-0.13
718	SLD 3	632	-406	6242	16.06	2.89	-4.61
718	SLD 4	632	-238	6242	12.66	2.96	-2.53
718	SLD 5	272	615	7521	-78.96	-0.05	2.29
718	SLD 6	272	724	7521	-81.16	-0.01	3.64
718	SLD 7	299	-744	7432	73.58	-0.95	-5.69
718	SLD 8	299	-636	7432	71.39	-0.9	-4.35
718	SLD 9	-22	708	8568	-74.91	-3.08	3.45
718	SLD 10	-22	816	8568	-77.1	-3.04	4.79
718	SLD 11	5	-652	8479	77.63	-3.98	-4.54
718	SLD 12	5	-544	8479	75.44	-3.94	-3.2
718	SLD 13	-355	310	9759	-16.19	-6.95	1.63
718	SLD 14	-356	478	9759	-19.59	-6.88	3.71
718	SLD 15	-347	-98	9732	29.58	-7.21	-0.77
718	SLD 16	-347	70	9732	26.17	-7.15	1.31
718	SLV 1	899	11	5298	-48.8	6.07	-3.05
718	SLV 2	899	276	5298	-54.17	6.17	0.24
718	SLV 3	912	-685	5256	29.32	5.61	-7.13
718	SLV 4	912	-420	5256	23.95	5.71	-3.85
718	SLV 5	347	1034	7254	-133.36	1.1	4.36
718	SLV 6	347	1213	7253	-136.97	1.17	6.57
718	SLV 7	390	-1285	7113	127.05	-0.43	-9.27
718	SLV 8	390	-1107	7113	123.43	-0.36	-7.06
718	SLV 9	-113	1179	8888	-126.96	-3.63	6.15
718	SLV 10	-114	1357	8887	-130.57	-3.56	8.36
718	SLV 11	-70	-1141	8747	133.44	-5.16	-7.47
718	SLV 12	-70	-963	8747	129.83	-5.09	-5.26
718	SLV 13	-635	492	10745	-27.48	-9.7	2.95
718	SLV 14	-636	757	10745	-32.85	-9.6	6.23
718	SLV 15	-622	-204	10703	50.64	-10.16	-1.14
718	SLV 16	-623	61	10702	45.28	-10.05	2.14
718	SLV FO 1	975	8	5028	-53.5	6.87	-3.31
718	SLV FO 2	975	300	5028	-59.41	6.99	0.31
718	SLV FO 3	989	-757	4981	32.43	6.37	-7.8
718	SLV FO 4	989	-466	4981	26.53	6.48	-4.19
718	SLV FO 5	368	1134	7179	-146.52	1.41	4.84
718	SLV FO 6	368	1331	7179	-150.49	1.48	7.27
718	SLV FO 7	415	-1418	7024	139.93	-0.27	-10.15
718	SLV FO 8	415	-1221	7024	135.95	-0.19	-7.72
718	SLV FO 9	-139	1293	8976	-139.48	-3.8	6.81
718	SLV FO 10	-139	1489	8976	-143.45	-3.72	9.25
718	SLV FO 11	-91	-1259	8822	146.96	-5.47	-8.17
718	SLV FO 12	-91	-1063	8822	142.99	-5.4	-5.74
718	SLV FO 13	-713	538	11019	-30.05	-10.47	3.29
718	SLV FO 14	-713	829	11019	-35.95	-10.36	6.9
718	SLV FO 15	-698	-228	10973	55.88	-10.97	-1.21
718	SLV FO 16	-699	63	10973	49.98	-10.86	2.4
718	CRTFP Ux+	0	0	0	0	0	0
718	CRTFP Ux-	0	0	0	0	0	0
718	CRTFP Uy+	0	0	0	0	0	0
718	CRTFP Uy-	0	0	0	0	0	0
719	SLU 1	132	33	7484	-1.95	-3.15	-0.46
719	SLU 2	131	67	7483	-5.04	-3.14	-0.25
719	SLU 3	135	34	7664	-0.8	-3.23	-0.46
719	SLU 4	135	55	7663	-2.65	-3.22	-0.33
719	SLU 5	133	69	7602	-4.01	-3.19	-0.23
719	SLU 6	137	36	7783	0.23	-3.28	-0.44
719	SLU 7	137	57	7782	-1.62	-3.28	-0.31
719	SLU 8	136	37	7723	0.11	-3.25	-0.42
719	SLU 9	136	58	7722	-1.74	-3.25	-0.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
719	SLU 10	141	71	8414	-5.55	-3.34	-0.32
719	SLU 11	145	38	8595	-1.31	-3.43	-0.52
719	SLU 12	144	58	8594	-3.16	-3.42	-0.4
719	SLU 13	143	73	8533	-4.52	-3.39	-0.3
719	SLU 14	147	40	8714	-0.28	-3.48	-0.5
719	SLU 15	146	60	8713	-2.13	-3.48	-0.38
719	SLU 16	145	40	8654	-0.4	-3.45	-0.48
719	SLU 17	145	61	8653	-2.25	-3.45	-0.36
719	SLU 18	145	38	8814	-2.68	-3.43	-0.55
719	SLU 19	145	59	8813	-4.53	-3.43	-0.43
719	SLU 20	147	40	8933	-1.65	-3.49	-0.53
719	SLU 21	147	61	8933	-3.5	-3.48	-0.41
719	SLU 22	147	31	8648	-0.29	-3.44	-0.59
719	SLU 23	147	66	8646	-3.38	-3.43	-0.38
719	SLU 24	151	33	8827	0.86	-3.53	-0.58
719	SLU 25	150	54	8827	-0.99	-3.52	-0.46
719	SLU 26	149	68	8766	-2.35	-3.48	-0.36
719	SLU 27	153	35	8947	1.89	-3.58	-0.56
719	SLU 28	152	56	8946	0.04	-3.57	-0.44
719	SLU 29	151	35	8886	1.77	-3.55	-0.55
719	SLU 30	151	56	8885	-0.08	-3.54	-0.42
719	SLU 31	156	70	9577	-3.89	-3.63	-0.44
719	SLU 32	160	36	9759	0.35	-3.73	-0.65
719	SLU 33	160	57	9758	-1.5	-3.72	-0.52
719	SLU 34	158	72	9697	-2.86	-3.68	-0.42
719	SLU 35	162	38	9878	1.38	-3.78	-0.63
719	SLU 36	162	59	9877	-0.47	-3.77	-0.5
719	SLU 37	161	39	9817	1.26	-3.75	-0.61
719	SLU 38	160	60	9816	-0.59	-3.74	-0.49
719	SLU 39	161	36	9978	-1.02	-3.73	-0.68
719	SLU 40	160	57	9977	-2.87	-3.72	-0.55
719	SLU 41	163	38	10097	0.01	-3.78	-0.66
719	SLU 42	162	59	10096	-1.84	-3.77	-0.53
719	SLU 43	166	43	9330	-3.1	-3.99	-0.55
719	SLU 44	166	78	9329	-6.19	-3.98	-0.35
719	SLU 45	169	44	9510	-1.95	-4.08	-0.55
719	SLU 46	169	65	9509	-3.81	-4.07	-0.43
719	SLU 47	168	80	9448	-5.16	-4.03	-0.33
719	SLU 48	172	46	9629	-0.92	-4.13	-0.53
719	SLU 49	171	67	9628	-2.77	-4.12	-0.41
719	SLU 50	170	47	9569	-1.04	-4.1	-0.51
719	SLU 51	170	68	9568	-2.89	-4.09	-0.39
719	SLU 52	175	81	10260	-6.7	-4.18	-0.41
719	SLU 53	179	48	10441	-2.46	-4.27	-0.61
719	SLU 54	179	69	10440	-4.32	-4.27	-0.49
719	SLU 55	177	83	10379	-5.67	-4.23	-0.39
719	SLU 56	181	50	10560	-1.43	-4.33	-0.59
719	SLU 57	181	71	10559	-3.28	-4.32	-0.47
719	SLU 58	180	50	10500	-1.55	-4.3	-0.58
719	SLU 59	179	71	10499	-3.4	-4.29	-0.45
719	SLU 60	180	48	10660	-3.83	-4.28	-0.64
719	SLU 61	179	69	10660	-5.69	-4.27	-0.52
719	SLU 62	182	50	10780	-2.8	-4.33	-0.62
719	SLU 63	181	71	10779	-4.65	-4.32	-0.5
719	SLU 64	182	42	10494	-1.44	-4.29	-0.68
719	SLU 65	181	76	10493	-4.53	-4.28	-0.47
719	SLU 66	185	43	10674	-0.29	-4.37	-0.68
719	SLU 67	185	64	10673	-2.15	-4.36	-0.55
719	SLU 68	183	78	10612	-3.5	-4.33	-0.45
719	SLU 69	187	45	10793	0.74	-4.42	-0.66
719	SLU 70	187	66	10792	-1.12	-4.42	-0.53
719	SLU 71	186	46	10732	0.62	-4.39	-0.64
719	SLU 72	185	67	10732	-1.24	-4.38	-0.52
719	SLU 73	191	80	11424	-5.04	-4.48	-0.54
719	SLU 74	194	47	11605	-0.8	-4.57	-0.74
719	SLU 75	194	67	11604	-2.66	-4.56	-0.62
719	SLU 76	193	82	11543	-4.01	-4.53	-0.52
719	SLU 77	196	49	11724	0.23	-4.62	-0.72
719	SLU 78	196	69	11723	-1.63	-4.61	-0.6
719	SLU 79	195	49	11663	0.11	-4.59	-0.7
719	SLU 80	195	70	11663	-1.75	-4.58	-0.58
719	SLU 81	195	47	11824	-2.17	-4.57	-0.77
719	SLU 82	195	68	11823	-4.03	-4.57	-0.65
719	SLU 83	197	49	11943	-1.14	-4.62	-0.75
719	SLU 84	197	70	11942	-2.99	-4.62	-0.63
719	SLE RA 1	136	32	7817	-1.48	-3.23	-0.5
719	SLE RA 2	136	56	7816	-3.53	-3.23	-0.36
719	SLE RA 3	138	33	7936	-0.71	-3.29	-0.49
719	SLE RA 4	138	47	7936	-1.94	-3.28	-0.41
719	SLE RA 5	137	57	7895	-2.85	-3.26	-0.34
719	SLE RA 6	140	35	8016	-0.02	-3.32	-0.48
719	SLE RA 7	140	48	8015	-1.26	-3.32	-0.4
719	SLE RA 8	139	35	7976	-0.1	-3.3	-0.47
719	SLE RA 9	139	49	7975	-1.34	-3.3	-0.39
719	SLE RA 10	142	58	8436	-3.87	-3.36	-0.4
719	SLE RA 11	145	36	8557	-1.05	-3.42	-0.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
719	SLE RA 12	145	49	8557	-2.28	-3.42	-0.45
719	SLE RA 13	144	59	8516	-3.19	-3.39	-0.39
719	SLE RA 14	146	37	8637	-0.36	-3.46	-0.52
719	SLE RA 15	146	51	8636	-1.6	-3.45	-0.44
719	SLE RA 16	145	37	8596	-0.44	-3.44	-0.51
719	SLE RA 17	145	51	8596	-1.68	-3.43	-0.43
719	SLE RA 18	145	36	8703	-1.96	-3.42	-0.56
719	SLE RA 19	145	50	8703	-3.2	-3.42	-0.47
719	SLE RA 20	147	37	8783	-1.27	-3.46	-0.54
719	SLE RA 21	146	51	8782	-2.51	-3.45	-0.46
719	SLE FR 1	136	32	7817	-1.48	-3.23	-0.5
719	SLE FR 2	136	37	7816	-1.89	-3.23	-0.47
719	SLE FR 3	137	33	7848	-1.2	-3.25	-0.49
719	SLE FR 4	139	38	8082	-2.03	-3.29	-0.49
719	SLE FR 5	140	34	8114	-1.35	-3.3	-0.51
719	SLE FR 6	141	34	8260	-1.72	-3.33	-0.53
719	SLE QP 1	136	32	7817	-1.48	-3.23	-0.5
719	SLE QP 2	139	33	8083	-1.62	-3.29	-0.51
719	SLD 1	623	-10	6186	-29.97	2.26	-2.38
719	SLD 2	623	169	6183	-33.6	2.33	-0.27
719	SLD 3	631	-431	6155	17.25	2	-4.72
719	SLD 4	631	-252	6153	13.62	2.06	-2.61
719	SLD 5	272	627	7560	-81.12	-1.23	2.11
719	SLD 6	272	743	7559	-83.45	-1.19	3.47
719	SLD 7	299	-774	7459	76.28	-2.12	-5.69
719	SLD 8	299	-659	7457	73.94	-2.08	-4.33
719	SLD 9	-21	726	8708	-77.19	-4.5	3.3
719	SLD 10	-21	841	8707	-79.52	-4.46	4.66
719	SLD 11	6	-676	8607	80.21	-5.39	-4.5
719	SLD 12	6	-561	8605	77.87	-5.35	-3.14
719	SLD 13	-353	318	10012	-16.87	-8.64	1.58
719	SLD 14	-354	497	10010	-20.49	-8.58	3.69
719	SLD 15	-345	-102	9982	30.35	-8.91	-0.76
719	SLD 16	-345	77	9980	26.73	-8.85	1.35
719	SLV 1	898	-5	5123	-49.41	5.4	-3.27
719	SLV 2	897	277	5119	-55.12	5.5	0.06
719	SLV 3	911	-723	5074	31.19	4.94	-7.26
719	SLV 4	910	-440	5071	25.48	5.04	-3.94
719	SLV 5	347	1057	7269	-137.14	-0.01	4.09
719	SLV 6	347	1247	7266	-140.98	0.05	6.33
719	SLV 7	390	-1334	7107	131.53	-1.53	-9.22
719	SLV 8	390	-1144	7105	127.69	-1.46	-6.98
719	SLV 9	-112	1211	9060	-130.93	-5.12	5.95
719	SLV 10	-112	1401	9058	-134.78	-5.05	8.19
719	SLV 11	-69	-1180	8899	137.74	-6.64	-7.36
719	SLV 12	-69	-990	8896	133.89	-6.57	-5.12
719	SLV 13	-632	507	11094	-28.72	-11.63	2.91
719	SLV 14	-633	789	11091	-34.44	-11.52	6.23
719	SLV 15	-619	-210	11046	51.88	-12.08	-1.09
719	SLV 16	-620	72	11042	46.17	-11.98	2.24
719	SLV FO 1	974	-9	4827	-54.19	6.26	-3.55
719	SLV FO 2	973	301	4823	-60.47	6.38	0.11
719	SLV FO 3	988	-798	4774	34.47	5.76	-7.94
719	SLV FO 4	987	-488	4770	28.19	5.88	-4.28
719	SLV FO 5	368	1159	7187	-150.69	0.31	4.56
719	SLV FO 6	368	1368	7185	-154.92	0.39	7.02
719	SLV FO 7	415	-1471	7010	144.85	-1.35	-10.09
719	SLV FO 8	415	-1262	7007	140.62	-1.28	-7.62
719	SLV FO 9	-137	1329	9158	-143.86	-5.3	6.59
719	SLV FO 10	-137	1537	9155	-148.09	-5.23	9.06
719	SLV FO 11	-90	-1302	8980	151.68	-6.97	-8.05
719	SLV FO 12	-90	-1093	8978	147.45	-6.9	-5.58
719	SLV FO 13	-710	555	11395	-31.43	-12.46	3.25
719	SLV FO 14	-710	865	11391	-37.72	-12.35	6.91
719	SLV FO 15	-695	-235	11342	57.23	-12.96	-1.14
719	SLV FO 16	-696	76	11338	50.94	-12.85	2.52
719	CRTFP Ux+	0	0	0	0	0	0
719	CRTFP Ux-	0	0	0	0	0	0
719	CRTFP Uy+	0	0	0	0	0	0
719	CRTFP Uy-	0	0	0	0	0	0
720	SLU 1	113	26	6489	-1.58	177.67	-1.14
720	SLU 2	112	56	6488	-4.33	177.64	-1.83
720	SLU 3	116	27	6645	-0.59	181.93	-1.17
720	SLU 4	115	45	6645	-2.24	181.91	-1.59
720	SLU 5	114	58	6591	-3.45	180.47	-1.87
720	SLU 6	117	29	6749	0.29	184.76	-1.21
720	SLU 7	117	47	6748	-1.36	184.74	-1.63
720	SLU 8	116	29	6696	0.18	183.33	-1.22
720	SLU 9	116	48	6695	-1.47	183.31	-1.64
720	SLU 10	121	59	7290	-4.74	199.72	-1.96
720	SLU 11	124	30	7448	-1.01	204.01	-1.3
720	SLU 12	123	48	7447	-2.66	203.99	-1.72
720	SLU 13	122	61	7394	-3.86	202.54	-2
720	SLU 14	125	32	7551	-0.13	206.84	-1.34
720	SLU 15	125	50	7551	-1.78	206.82	-1.76
720	SLU 16	124	32	7499	-0.23	205.41	-1.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
720	SLU 17	124	50	7498	-1.88	205.39	-1.77
720	SLU 18	124	30	7636	-2.17	209.21	-1.32
720	SLU 19	124	48	7635	-3.82	209.19	-1.74
720	SLU 20	126	32	7739	-1.29	212.04	-1.36
720	SLU 21	126	50	7738	-2.94	212.02	-1.78
720	SLU 22	126	24	7494	-0.13	205.27	-1.19
720	SLU 23	126	55	7492	-2.87	205.24	-1.89
720	SLU 24	129	25	7650	0.86	209.54	-1.22
720	SLU 25	129	44	7649	-0.79	209.52	-1.64
720	SLU 26	127	57	7596	-1.99	208.07	-1.93
720	SLU 27	131	27	7753	1.74	212.36	-1.27
720	SLU 28	130	46	7752	0.09	212.34	-1.68
720	SLU 29	129	28	7701	1.64	210.93	-1.27
720	SLU 30	129	46	7700	-0.01	210.91	-1.69
720	SLU 31	134	58	8295	-3.29	227.32	-2.02
720	SLU 32	137	28	8452	0.45	231.61	-1.36
720	SLU 33	137	46	8451	-1.2	231.59	-1.77
720	SLU 34	135	59	8398	-2.41	230.15	-2.06
720	SLU 35	139	30	8556	1.33	234.44	-1.4
720	SLU 36	138	48	8555	-0.32	234.42	-1.81
720	SLU 37	137	31	8503	1.22	233.01	-1.4
720	SLU 38	137	49	8502	-0.43	232.99	-1.82
720	SLU 39	137	28	8640	-0.72	236.81	-1.38
720	SLU 40	137	47	8639	-2.37	236.79	-1.79
720	SLU 41	139	30	8744	0.16	239.64	-1.42
720	SLU 42	139	48	8743	-1.48	239.62	-1.83
720	SLU 43	142	34	8092	-2.55	221.51	-1.46
720	SLU 44	142	65	8090	-5.3	221.47	-2.16
720	SLU 45	145	35	8248	-1.57	225.77	-1.5
720	SLU 46	145	54	8247	-3.22	225.75	-1.91
720	SLU 47	144	66	8194	-4.42	224.3	-2.2
720	SLU 48	147	37	8351	-0.69	228.6	-1.54
720	SLU 49	147	55	8350	-2.33	228.58	-1.95
720	SLU 50	146	38	8299	-0.79	227.17	-1.54
720	SLU 51	145	56	8298	-2.44	227.15	-1.96
720	SLU 52	150	67	8893	-5.71	243.55	-2.29
720	SLU 53	153	38	9050	-1.98	247.85	-1.63
720	SLU 54	153	56	9050	-3.63	247.83	-2.04
720	SLU 55	152	69	8996	-4.83	246.38	-2.33
720	SLU 56	155	40	9154	-1.1	250.68	-1.67
720	SLU 57	155	58	9153	-2.75	250.66	-2.08
720	SLU 58	154	40	9101	-1.21	249.24	-1.67
720	SLU 59	153	59	9100	-2.85	249.22	-2.09
720	SLU 60	154	38	9238	-3.15	253.05	-1.65
720	SLU 61	153	56	9237	-4.79	253.03	-2.07
720	SLU 62	155	40	9342	-2.26	255.88	-1.69
720	SLU 63	155	58	9341	-3.91	255.86	-2.11
720	SLU 64	155	33	9096	-1.1	249.11	-1.51
720	SLU 65	155	63	9095	-3.85	249.07	-2.21
720	SLU 66	158	34	9252	-0.11	253.37	-1.55
720	SLU 67	158	52	9251	-1.76	253.35	-1.97
720	SLU 68	157	65	9198	-2.96	251.9	-2.25
720	SLU 69	160	36	9356	0.77	256.2	-1.59
720	SLU 70	160	54	9355	-0.88	256.18	-2.01
720	SLU 71	159	36	9303	0.66	254.77	-1.59
720	SLU 72	159	54	9302	-0.98	254.75	-2.01
720	SLU 73	163	66	9897	-4.26	271.15	-2.34
720	SLU 74	166	37	10055	-0.53	275.45	-1.68
720	SLU 75	166	55	10054	-2.18	275.43	-2.1
720	SLU 76	165	68	10001	-3.38	273.98	-2.38
720	SLU 77	168	38	10158	0.35	278.28	-1.72
720	SLU 78	168	57	10157	-1.29	278.26	-2.14
720	SLU 79	167	39	10106	0.25	276.85	-1.72
720	SLU 80	167	57	10105	-1.4	276.83	-2.14
720	SLU 81	167	37	10243	-1.69	280.65	-1.7
720	SLU 82	167	55	10242	-3.34	280.63	-2.12
720	SLU 83	169	38	10346	-0.81	283.48	-1.74
720	SLU 84	168	57	10345	-2.46	283.46	-2.16
720	SLE RA 1	117	25	6776	-1.16	185.55	-1.15
720	SLE RA 2	116	46	6775	-3	185.53	-1.62
720	SLE RA 3	118	26	6880	-0.51	188.4	-1.18
720	SLE RA 4	118	38	6880	-1.61	188.39	-1.45
720	SLE RA 5	118	47	6844	-2.41	187.42	-1.64
720	SLE RA 6	120	27	6949	0.08	190.28	-1.2
720	SLE RA 7	119	40	6949	-1.02	190.27	-1.48
720	SLE RA 8	119	28	6914	0.01	189.33	-1.21
720	SLE RA 9	119	40	6914	-1.09	189.31	-1.48
720	SLE RA 10	122	48	7310	-3.27	200.25	-1.7
720	SLE RA 11	124	28	7415	-0.78	203.12	-1.26
720	SLE RA 12	124	40	7415	-1.88	203.1	-1.54
720	SLE RA 13	123	49	7379	-2.68	202.14	-1.73
720	SLE RA 14	125	29	7484	-0.2	205	-1.29
720	SLE RA 15	125	41	7484	-1.29	204.99	-1.57
720	SLE RA 16	124	30	7449	-0.27	204.05	-1.29
720	SLE RA 17	124	42	7449	-1.36	204.03	-1.57
720	SLE RA 18	124	28	7541	-1.56	206.58	-1.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
720	SLE RA 19	124	40	7540	-2.66	206.57	-1.56
720	SLE RA 20	125	29	7610	-0.97	208.47	-1.3
720	SLE RA 21	125	41	7609	-2.07	208.46	-1.58
720	SLE FR 1	117	25	6776	-1.16	185.55	-1.15
720	SLE FR 2	117	30	6776	-1.53	185.55	-1.24
720	SLE FR 3	117	26	6804	-0.93	186.31	-1.16
720	SLE FR 4	119	30	7005	-1.65	191.86	-1.28
720	SLE FR 5	119	27	7033	-1.05	192.62	-1.2
720	SLE FR 6	120	27	7158	-1.36	196.07	-1.21
720	SLE QP 1	117	25	6776	-1.16	185.55	-1.15
720	SLE QP 2	119	26	7006	-1.28	191.86	-1.19
720	SLD 1	531	-18	5244	-25.94	146.45	-1.46
720	SLD 2	531	143	5241	-29.22	146.39	-4.28
720	SLD 3	538	-386	5214	15.7	145.71	7.1
720	SLD 4	538	-225	5210	12.42	145.65	4.28
720	SLD 5	232	543	6524	-71.28	179.36	-13.77
720	SLD 6	232	647	6522	-73.39	179.32	-15.59
720	SLD 7	255	-683	6423	67.54	176.91	14.77
720	SLD 8	255	-579	6420	65.42	176.88	12.95
720	SLD 9	-17	632	7591	-67.99	206.85	-15.33
720	SLD 10	-17	736	7589	-70.1	206.81	-17.14
720	SLD 11	6	-594	7490	70.82	204.4	13.21
720	SLD 12	6	-491	7487	68.71	204.36	11.39
720	SLD 13	-300	278	8801	-14.99	238.07	-6.66
720	SLD 14	-300	439	8797	-18.27	238.01	-9.48
720	SLD 15	-293	-90	8771	26.66	237.34	1.9
720	SLD 16	-293	71	8767	23.38	237.28	-0.91
720	SLV 1	764	-18	4258	-42.89	121.01	-2.22
720	SLV 2	764	236	4252	-48.06	120.92	-6.65
720	SLV 3	775	-646	4209	28.19	119.84	12.39
720	SLV 4	775	-391	4203	23.02	119.75	7.95
720	SLV 5	296	917	6257	-120.61	172.4	-22.82
720	SLV 6	296	1089	6253	-124.09	172.34	-25.81
720	SLV 7	333	-1175	6094	116.33	168.5	25.87
720	SLV 8	332	-1004	6090	112.85	168.44	22.88
720	SLV 9	-95	1056	7922	-115.42	215.29	-25.26
720	SLV 10	-95	1227	7918	-118.9	215.23	-28.24
720	SLV 11	-58	-1036	7758	121.52	211.39	23.43
720	SLV 12	-58	-865	7755	118.04	211.33	20.45
720	SLV 13	-537	444	9808	-25.59	263.98	-10.33
720	SLV 14	-538	698	9802	-30.76	263.88	-14.77
720	SLV 15	-526	-184	9759	45.49	262.81	4.27
720	SLV 16	-527	70	9753	40.32	262.72	-0.16
720	SLV FO 1	829	-22	3983	-47.05	113.93	-2.32
720	SLV FO 2	829	257	3977	-52.74	113.82	-7.2
720	SLV FO 3	841	-713	3929	31.14	112.64	13.75
720	SLV FO 4	841	-433	3923	25.45	112.54	8.87
720	SLV FO 5	314	1007	6182	-132.54	170.45	-24.99
720	SLV FO 6	313	1195	6178	-136.37	170.38	-28.27
720	SLV FO 7	354	-1295	6002	128.1	166.16	28.57
720	SLV FO 8	354	-1107	5998	124.27	166.09	25.29
720	SLV FO 9	-116	1159	8013	-126.83	217.63	-27.67
720	SLV FO 10	-116	1347	8009	-130.66	217.56	-30.95
720	SLV FO 11	-76	-1142	7834	133.81	213.34	25.89
720	SLV FO 12	-76	-954	7830	129.98	213.27	22.61
720	SLV FO 13	-603	486	10088	-28.02	271.19	-11.25
720	SLV FO 14	-603	765	10082	-33.71	271.09	-16.13
720	SLV FO 15	-591	-205	10034	50.17	269.9	4.82
720	SLV FO 16	-591	75	10028	44.48	269.8	-0.06
720	CRTFP Ux+	0	0	0	0	0	0
720	CRTFP Ux-	0	0	0	0	0	0
720	CRTFP Uy+	0	0	0	0	0	0
720	CRTFP Uy-	0	0	0	0	0	0
722	SLU 1	192	43	11155	15.43	2650.69	-11.46
722	SLU 2	191	95	11152	12.9	2650.17	-24.37
722	SLU 3	197	44	11423	16.72	2714.25	-11.97
722	SLU 4	196	76	11421	15.2	2713.94	-19.71
722	SLU 5	194	98	11330	13.96	2692.32	-25.13
722	SLU 6	200	48	11601	17.78	2756.41	-12.72
722	SLU 7	199	79	11599	16.27	2756.1	-20.47
722	SLU 8	198	49	11510	17.55	2735	-12.98
722	SLU 9	198	80	11509	16.03	2734.69	-20.72
722	SLU 10	205	99	12528	14.61	2978.55	-25.57
722	SLU 11	210	49	12799	18.43	3042.64	-13.17
722	SLU 12	210	80	12797	16.92	3042.32	-20.91
722	SLU 13	208	103	12706	15.68	3020.71	-26.32
722	SLU 14	213	52	12977	19.49	3084.79	-13.92
722	SLU 15	213	83	12975	17.98	3084.48	-21.67
722	SLU 16	212	53	12886	19.26	3063.38	-14.17
722	SLU 17	211	85	12885	17.75	3063.07	-21.92
722	SLU 18	212	49	13120	17.87	3119.81	-13.17
722	SLU 19	211	80	13119	16.36	3119.5	-20.92
722	SLU 20	214	52	13298	18.93	3161.96	-13.93
722	SLU 21	214	83	13297	17.42	3161.65	-21.68
722	SLU 22	214	39	12878	19.35	3061.32	-10.85
722	SLU 23	214	92	12875	16.83	3060.8	-23.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
722	SLU 24	219	41	13146	20.64	3124.88	-11.36
722	SLU 25	219	73	13144	19.13	3124.57	-19.1
722	SLU 26	217	95	13053	17.89	3102.95	-24.52
722	SLU 27	222	44	13324	21.71	3167.04	-12.11
722	SLU 28	222	76	13322	20.19	3166.72	-19.86
722	SLU 29	220	46	13233	21.47	3145.63	-12.36
722	SLU 30	220	77	13232	19.96	3145.32	-20.11
722	SLU 31	227	96	14251	18.54	3389.18	-24.96
722	SLU 32	233	46	14522	22.36	3453.27	-12.55
722	SLU 33	232	77	14520	20.84	3452.95	-20.3
722	SLU 34	230	99	14429	19.6	3431.34	-25.71
722	SLU 35	236	49	14700	23.42	3495.42	-13.31
722	SLU 36	235	80	14698	21.9	3495.11	-21.06
722	SLU 37	234	50	14609	23.19	3474.01	-13.56
722	SLU 38	234	81	14608	21.67	3473.7	-21.31
722	SLU 39	234	46	14843	21.8	3530.44	-12.56
722	SLU 40	233	77	14842	20.28	3530.12	-20.31
722	SLU 41	237	49	15021	22.86	3572.59	-13.32
722	SLU 42	236	80	15020	21.34	3572.28	-21.06
722	SLU 43	242	56	13910	18.71	3305.11	-15.11
722	SLU 44	241	109	13908	16.18	3304.59	-28.02
722	SLU 45	247	58	14179	20	3368.68	-15.61
722	SLU 46	246	90	14177	18.49	3368.36	-23.36
722	SLU 47	244	112	14085	17.25	3346.75	-28.77
722	SLU 48	250	61	14357	21.06	3410.83	-16.37
722	SLU 49	249	93	14355	19.55	3410.52	-24.12
722	SLU 50	248	62	14266	20.83	3389.42	-16.62
722	SLU 51	248	94	14264	19.32	3389.11	-24.37
722	SLU 52	255	113	15284	17.9	3632.97	-29.21
722	SLU 53	260	63	15555	21.71	3697.06	-16.81
722	SLU 54	260	94	15553	20.2	3696.74	-24.56
722	SLU 55	258	116	15461	18.96	3675.13	-29.97
722	SLU 56	263	66	15733	22.78	3739.21	-17.57
722	SLU 57	263	97	15731	21.26	3738.9	-25.32
722	SLU 58	262	67	15642	22.54	3717.8	-17.82
722	SLU 59	261	98	15640	21.03	3717.49	-25.57
722	SLU 60	262	63	15876	21.15	3774.23	-16.82
722	SLU 61	261	94	15874	19.64	3773.92	-24.57
722	SLU 62	264	66	16054	22.22	3816.39	-17.58
722	SLU 63	264	97	16052	20.7	3816.07	-25.32
722	SLU 64	264	53	15633	22.63	3715.74	-14.5
722	SLU 65	264	106	15630	20.11	3715.22	-27.41
722	SLU 66	269	55	15902	23.93	3779.3	-15
722	SLU 67	269	87	15900	22.41	3778.99	-22.75
722	SLU 68	267	109	15808	21.17	3757.37	-28.16
722	SLU 69	272	58	16080	24.99	3821.46	-15.76
722	SLU 70	272	90	16078	23.47	3821.15	-23.51
722	SLU 71	270	59	15989	24.76	3800.05	-16.01
722	SLU 72	270	91	15987	23.24	3799.74	-23.76
722	SLU 73	277	110	17006	21.82	4043.6	-28.6
722	SLU 74	283	60	17278	25.64	4107.69	-16.2
722	SLU 75	282	91	17276	24.12	4107.37	-23.95
722	SLU 76	280	113	17184	22.88	4085.76	-29.36
722	SLU 77	286	63	17456	26.7	4149.84	-16.96
722	SLU 78	285	94	17454	25.19	4149.53	-24.7
722	SLU 79	284	64	17365	26.47	4128.43	-17.21
722	SLU 80	283	95	17363	24.95	4128.12	-24.96
722	SLU 81	284	60	17599	25.08	4184.86	-16.21
722	SLU 82	283	91	17597	23.56	4184.55	-23.95
722	SLU 83	287	63	17777	26.14	4227.01	-16.97
722	SLU 84	286	94	17775	24.63	4226.7	-24.71
722	SLE RA 1	198	42	11647	16.55	2768.02	-11.29
722	SLE RA 2	198	77	11645	14.87	2767.67	-19.89
722	SLE RA 3	202	43	11826	17.41	2810.39	-11.62
722	SLE RA 4	201	64	11825	16.4	2810.18	-16.79
722	SLE RA 5	200	79	11764	15.57	2795.77	-20.4
722	SLE RA 6	204	45	11944	18.12	2838.49	-12.13
722	SLE RA 7	203	66	11943	17.11	2838.28	-17.29
722	SLE RA 8	202	46	11884	17.96	2824.22	-12.3
722	SLE RA 9	202	67	11883	16.95	2824.01	-17.46
722	SLE RA 10	207	80	12562	16.01	2986.59	-20.69
722	SLE RA 11	211	46	12743	18.55	3029.31	-12.42
722	SLE RA 12	210	67	12742	17.54	3029.1	-17.59
722	SLE RA 13	209	82	12681	16.71	3014.69	-21.2
722	SLE RA 14	213	48	12862	19.26	3057.41	-12.93
722	SLE RA 15	212	69	12861	18.25	3057.21	-18.09
722	SLE RA 16	211	49	12801	19.1	3043.14	-13.09
722	SLE RA 17	211	70	12800	18.09	3042.93	-18.26
722	SLE RA 18	211	46	12957	18.18	3080.76	-12.43
722	SLE RA 19	211	67	12956	17.17	3080.55	-17.59
722	SLE RA 20	213	48	13076	18.89	3108.86	-12.93
722	SLE RA 21	213	69	13075	17.88	3108.65	-18.1
722	SLE FR 1	198	42	11647	16.55	2768.02	-11.29
722	SLE FR 2	198	49	11646	16.21	2767.95	-13.01
722	SLE FR 3	199	42	11694	16.83	2779.26	-11.49
722	SLE FR 4	202	50	12040	16.7	2861.77	-13.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
722	SLE FR 5	203	44	12087	17.32	2873.08	-11.83
722	SLE FR 6	205	44	12302	17.36	2924.39	-11.86
722	SLE QP 1	198	42	11647	16.55	2768.02	-11.29
722	SLE QP 2	202	43	12040	17.04	2861.84	-11.63
722	SLD 1	903	-39	8924	-9.62	2171.5	6.82
722	SLD 2	903	242	8916	-12.67	2170.44	-61.06
722	SLD 3	915	-673	8867	28.47	2160.18	162.68
722	SLD 4	914	-391	8860	25.43	2159.12	94.8
722	SLD 5	395	931	11191	-48.22	2672.09	-230.8
722	SLD 6	394	1112	11187	-50.18	2671.41	-274.51
722	SLD 7	434	-1181	11004	78.77	2634.35	288.72
722	SLD 8	434	-1000	11000	76.81	2633.67	245.01
722	SLD 9	-29	1086	13080	-42.74	3090.01	-268.27
722	SLD 10	-29	1267	13076	-44.7	3089.33	-311.98
722	SLD 11	10	-1026	12893	84.25	3052.27	251.26
722	SLD 12	10	-845	12889	82.29	3051.59	207.55
722	SLD 13	-510	477	15220	8.64	3564.56	-118.06
722	SLD 14	-510	758	15213	5.6	3563.5	-185.93
722	SLD 15	-498	-156	15164	46.74	3553.23	37.8
722	SLD 16	-498	125	15156	43.7	3552.18	-30.08
722	SLV 1	1300	-41	7179	-27.39	1784.85	6.37
722	SLV 2	1299	402	7167	-32.19	1783.18	-100.62
722	SLV 3	1319	-1122	7088	37.63	1766.77	272.25
722	SLV 4	1318	-679	7076	32.84	1765.11	165.26
722	SLV 5	503	1574	10722	-94.02	2566.47	-389.52
722	SLV 6	503	1873	10714	-97.25	2565.35	-461.55
722	SLV 7	566	-2029	10419	122.74	2506.21	496.76
722	SLV 8	565	-1730	10411	119.51	2505.09	424.73
722	SLV 9	-161	1816	13669	-85.43	3218.59	-447.99
722	SLV 10	-161	2114	13661	-88.66	3217.47	-520.02
722	SLV 11	-98	-1787	13366	131.32	3158.33	438.3
722	SLV 12	-99	-1488	13358	128.09	3157.21	366.27
722	SLV 13	-913	765	17004	1.24	3958.57	-188.52
722	SLV 14	-914	1208	16992	-3.56	3956.91	-295.51
722	SLV 15	-895	-316	16913	66.26	3940.49	77.37
722	SLV 16	-895	127	16901	61.47	3938.83	-29.62
722	SLV FO 1	1410	-50	6693	-31.84	1677.15	8.17
722	SLV FO 2	1409	438	6680	-37.11	1675.32	-109.52
722	SLV FO 3	1430	-1238	6593	39.69	1657.26	300.64
722	SLV FO 4	1430	-751	6580	34.42	1655.43	182.95
722	SLV FO 5	533	1727	10590	-105.13	2536.93	-427.31
722	SLV FO 6	533	2056	10581	-108.68	2535.7	-506.54
722	SLV FO 7	602	-2236	10257	133.31	2470.65	547.6
722	SLV FO 8	602	-1907	10248	129.75	2469.42	468.37
722	SLV FO 9	-197	1993	13832	-95.68	3254.26	-491.63
722	SLV FO 10	-197	2321	13823	-99.23	3253.03	-570.86
722	SLV FO 11	-128	-1970	13499	142.75	3187.98	483.29
722	SLV FO 12	-129	-1642	13490	139.2	3186.75	404.06
722	SLV FO 13	-1025	837	17500	-0.34	4068.24	-206.21
722	SLV FO 14	-1026	1324	17487	-5.62	4066.41	-323.9
722	SLV FO 15	-1004	-352	17400	71.19	4048.36	86.27
722	SLV FO 16	-1005	135	17387	65.91	4046.53	-31.42
722	CRTFP Ux+	0	0	0	0	0.01	0
722	CRTFP Ux-	0	0	0	0	-0.01	0
722	CRTFP Uy+	0	0	0	0	0	0
722	CRTFP Uy-	0	0	0	0	0	0
781	SLU 1	73	17	4148	113.04	1277.09	-7.91
781	SLU 2	72	37	4142	112.74	1277.42	-14.85
781	SLU 3	75	18	4250	115.85	1307.52	-8.22
781	SLU 4	74	30	4246	115.67	1307.72	-12.39
781	SLU 5	73	38	4210	114.62	1297.64	-15.28
781	SLU 6	76	19	4317	117.73	1327.74	-8.65
781	SLU 7	75	31	4314	117.55	1327.94	-12.82
781	SLU 8	75	19	4284	116.8	1317.52	-8.78
781	SLU 9	75	31	4280	116.62	1317.72	-12.94
781	SLU 10	78	39	4653	126.63	1435.13	-15.61
781	SLU 11	80	19	4761	129.74	1465.24	-8.98
781	SLU 12	80	31	4757	129.56	1465.44	-13.15
781	SLU 13	79	40	4721	128.51	1455.35	-16.04
781	SLU 14	81	21	4829	131.62	1485.45	-9.41
781	SLU 15	81	33	4825	131.44	1485.65	-13.58
781	SLU 16	80	21	4795	130.7	1475.23	-9.53
781	SLU 17	80	33	4791	130.51	1475.43	-13.7
781	SLU 18	80	19	4879	132.89	1502.39	-9
781	SLU 19	80	31	4875	132.71	1502.59	-13.16
781	SLU 20	82	21	4946	134.77	1522.61	-9.43
781	SLU 21	81	33	4943	134.59	1522.81	-13.59
781	SLU 22	82	16	4792	130.62	1474.19	-7.77
781	SLU 23	81	36	4786	130.32	1474.52	-14.71
781	SLU 24	83	17	4893	133.42	1504.62	-8.08
781	SLU 25	83	29	4890	133.24	1504.82	-12.24
781	SLU 26	82	37	4853	132.2	1494.74	-15.14
781	SLU 27	84	18	4961	135.3	1524.84	-8.51
781	SLU 28	84	30	4957	135.12	1525.04	-12.68
781	SLU 29	84	18	4927	134.38	1514.62	-8.63
781	SLU 30	83	30	4923	134.2	1514.82	-12.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
781	SLU 31	86	38	5297	144.21	1632.23	-15.47
781	SLU 32	89	18	5405	147.32	1662.33	-8.84
781	SLU 33	88	30	5401	147.13	1662.53	-13
781	SLU 34	87	39	5365	146.09	1652.45	-15.9
781	SLU 35	90	20	5472	149.2	1682.55	-9.27
781	SLU 36	89	32	5469	149.01	1682.75	-13.44
781	SLU 37	89	20	5439	148.27	1672.33	-9.39
781	SLU 38	89	32	5435	148.09	1672.53	-13.56
781	SLU 39	89	18	5522	150.47	1699.49	-8.85
781	SLU 40	89	30	5519	150.28	1699.69	-13.02
781	SLU 41	90	20	5590	152.35	1719.71	-9.29
781	SLU 42	90	32	5586	152.16	1719.91	-13.45
781	SLU 43	92	22	5172	140.93	1592.64	-10.33
781	SLU 44	91	42	5166	140.63	1592.97	-17.27
781	SLU 45	94	23	5273	143.74	1623.07	-10.65
781	SLU 46	93	35	5270	143.55	1623.27	-14.81
781	SLU 47	92	43	5233	142.51	1613.19	-17.71
781	SLU 48	95	24	5341	145.62	1643.29	-11.08
781	SLU 49	94	36	5337	145.43	1643.49	-15.24
781	SLU 50	94	25	5307	144.69	1633.07	-11.2
781	SLU 51	94	37	5304	144.51	1633.27	-15.36
781	SLU 52	96	44	5677	154.52	1750.68	-18.03
781	SLU 53	99	25	5785	157.63	1780.78	-11.4
781	SLU 54	99	37	5781	157.45	1780.99	-15.57
781	SLU 55	98	45	5745	156.4	1770.9	-18.46
781	SLU 56	100	26	5852	159.51	1801	-11.84
781	SLU 57	100	38	5849	159.33	1801.2	-16
781	SLU 58	99	26	5819	158.58	1790.78	-11.96
781	SLU 59	99	38	5815	158.4	1790.98	-16.12
781	SLU 60	99	25	5903	160.78	1817.94	-11.42
781	SLU 61	99	37	5899	160.6	1818.14	-15.58
781	SLU 62	101	26	5970	162.66	1838.16	-11.85
781	SLU 63	100	38	5966	162.48	1838.36	-16.01
781	SLU 64	100	21	5816	158.51	1789.73	-10.19
781	SLU 65	100	41	5809	158.2	1790.07	-17.13
781	SLU 66	102	22	5917	161.31	1820.17	-10.5
781	SLU 67	102	34	5913	161.13	1820.37	-14.67
781	SLU 68	101	42	5877	160.08	1810.29	-17.56
781	SLU 69	103	23	5985	163.19	1840.39	-10.93
781	SLU 70	103	35	5981	163.01	1840.59	-15.1
781	SLU 71	103	24	5951	162.26	1830.17	-11.06
781	SLU 72	102	36	5947	162.08	1830.37	-15.22
781	SLU 73	105	43	6321	172.1	1947.78	-17.89
781	SLU 74	108	24	6428	175.2	1977.88	-11.26
781	SLU 75	107	36	6425	175.02	1978.08	-15.43
781	SLU 76	106	44	6388	173.98	1968	-18.32
781	SLU 77	109	25	6496	177.08	1998.1	-11.69
781	SLU 78	108	37	6492	176.9	1998.3	-15.86
781	SLU 79	108	25	6462	176.16	1987.88	-11.81
781	SLU 80	107	37	6459	175.98	1988.08	-15.98
781	SLU 81	108	24	6546	178.35	2015.04	-11.28
781	SLU 82	108	36	6542	178.17	2015.24	-15.44
781	SLU 83	109	25	6614	180.23	2035.26	-11.71
781	SLU 84	109	37	6610	180.05	2035.46	-15.87
781	SLE RA 1	75	17	4332	118.07	1333.4	-7.87
781	SLE RA 2	75	30	4328	117.86	1333.62	-12.5
781	SLE RA 3	77	17	4400	119.94	1353.69	-8.08
781	SLE RA 4	76	25	4397	119.81	1353.82	-10.85
781	SLE RA 5	76	31	4373	119.12	1347.1	-12.79
781	SLE RA 6	77	18	4445	121.19	1367.17	-8.37
781	SLE RA 7	77	26	4442	121.07	1367.3	-11.14
781	SLE RA 8	77	18	4422	120.57	1360.36	-8.45
781	SLE RA 9	77	26	4420	120.45	1360.49	-11.22
781	SLE RA 10	78	31	4669	127.13	1438.77	-13
781	SLE RA 11	80	18	4741	129.2	1458.83	-8.58
781	SLE RA 12	80	26	4738	129.08	1458.97	-11.36
781	SLE RA 13	79	32	4714	128.38	1452.24	-13.29
781	SLE RA 14	81	19	4786	130.45	1472.31	-8.87
781	SLE RA 15	81	27	4783	130.33	1472.44	-11.65
781	SLE RA 16	80	19	4763	129.83	1465.5	-8.95
781	SLE RA 17	80	27	4761	129.71	1465.63	-11.73
781	SLE RA 18	80	18	4819	131.3	1483.6	-8.59
781	SLE RA 19	80	26	4817	131.18	1483.74	-11.37
781	SLE RA 20	81	19	4864	132.55	1497.08	-8.88
781	SLE RA 21	81	27	4862	132.43	1497.22	-11.66
781	SLE FR 1	75	17	4332	118.07	1333.4	-7.87
781	SLE FR 2	75	19	4331	118.03	1333.45	-8.8
781	SLE FR 3	76	17	4350	118.57	1338.79	-7.99
781	SLE FR 4	77	20	4477	121.99	1378.51	-9.01
781	SLE FR 5	77	17	4496	122.54	1383.85	-8.2
781	SLE FR 6	78	17	4576	124.68	1408.5	-8.23
781	SLE QP 1	75	17	4332	118.07	1333.4	-7.87
781	SLE QP 2	77	17	4478	122.04	1378.46	-8.09
781	SLD 1	342	-13	3280	88.29	1055.09	3.82
781	SLD 2	335	93	3271	87.88	1055.77	-32.82
781	SLD 3	349	-253	3369	92.7	1047.71	87.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
781	SLD 4	343	-147	3361	92.29	1048.4	50.87
781	SLD 5	146	354	3985	105.31	1292.52	-125.14
781	SLD 6	142	422	3979	105.04	1292.96	-148.73
781	SLD 7	171	-446	4282	119.98	1267.93	153.82
781	SLD 8	167	-378	4277	119.72	1268.37	130.22
781	SLD 9	-13	412	4680	124.35	1488.55	-146.4
781	SLD 10	-17	480	4674	124.09	1488.99	-169.99
781	SLD 11	12	-388	4977	139.03	1463.96	132.56
781	SLD 12	8	-320	4971	138.76	1464.4	108.96
781	SLD 13	-189	181	5596	151.79	1708.53	-67.04
781	SLD 14	-196	287	5587	151.37	1709.21	-103.68
781	SLD 15	-182	-59	5685	156.19	1701.15	16.64
781	SLD 16	-188	47	5676	155.78	1701.84	-20
781	SLV 1	492	-13	2602	69.06	874.12	4.73
781	SLV 2	482	154	2588	68.41	875.2	-53.03
781	SLV 3	504	-422	2755	76.58	862.08	147.5
781	SLV 4	494	-255	2741	75.93	863.16	89.74
781	SLV 5	185	598	3687	94.86	1245.22	-210
781	SLV 6	178	710	3678	94.42	1245.95	-248.88
781	SLV 7	226	-766	4195	119.93	1205.08	265.9
781	SLV 8	219	-654	4185	119.49	1205.81	227.02
781	SLV 9	-65	689	4771	124.58	1551.11	-243.19
781	SLV 10	-72	801	4762	124.15	1551.84	-282.08
781	SLV 11	-24	-676	5279	149.65	1510.97	232.71
781	SLV 12	-31	-563	5269	149.21	1511.7	193.83
781	SLV 13	-340	290	6216	168.14	1893.76	-105.92
781	SLV 14	-350	456	6202	167.49	1894.84	-163.67
781	SLV 15	-328	-119	6368	175.66	1881.72	36.85
781	SLV 16	-338	47	6354	175.01	1882.8	-20.9
781	SLV FO 1	533	-16	2415	63.76	823.69	6.01
781	SLV FO 2	522	167	2399	63.05	824.88	-57.52
781	SLV FO 3	547	-466	2582	72.04	810.44	163.06
781	SLV FO 4	536	-283	2567	71.32	811.63	99.52
781	SLV FO 5	195	656	3608	92.14	1231.9	-230.19
781	SLV FO 6	188	779	3598	91.66	1232.7	-272.96
781	SLV FO 7	241	-845	4166	119.71	1187.74	293.3
781	SLV FO 8	233	-721	4156	119.23	1188.54	250.53
781	SLV FO 9	-79	756	4800	124.84	1568.38	-266.7
781	SLV FO 10	-87	879	4790	124.36	1569.18	-309.48
781	SLV FO 11	-34	-745	5359	152.41	1524.22	256.79
781	SLV FO 12	-42	-622	5348	151.93	1525.02	214.02
781	SLV FO 13	-382	317	6390	172.75	1945.29	-115.7
781	SLV FO 14	-393	500	6374	172.03	1946.48	-179.23
781	SLV FO 15	-368	-133	6557	181.02	1932.05	41.35
781	SLV FO 16	-380	50	6542	180.31	1933.23	-22.18
781	CRTFP Ux+	0	0	0	0	0	0
781	CRTFP Ux-	0	0	0	0	0	0
781	CRTFP Uy+	0	0	0	0	0	0
781	CRTFP Uy-	0	0	0	0	0	0
782	SLU 1	-78	3	5408	634.84	-1192.84	10.01
782	SLU 2	-77	29	5401	633.62	-1193.88	16.49
782	SLU 3	-79	3	5538	650.18	-1220.76	10.13
782	SLU 4	-79	19	5534	649.45	-1221.38	14.02
782	SLU 5	-78	30	5485	643.49	-1211.75	16.64
782	SLU 6	-80	3	5621	660.05	-1238.63	10.28
782	SLU 7	-79	19	5617	659.32	-1239.25	14.17
782	SLU 8	-79	3	5574	654.57	-1228.58	10.31
782	SLU 9	-79	19	5570	653.84	-1229.2	14.2
782	SLU 10	-80	32	6086	713.79	-1345.05	17.4
782	SLU 11	-82	5	6222	730.35	-1371.93	11.04
782	SLU 12	-81	21	6218	729.62	-1372.56	14.93
782	SLU 13	-80	32	6169	723.65	-1362.92	17.55
782	SLU 14	-83	5	6305	740.21	-1389.81	11.19
782	SLU 15	-82	21	6301	739.48	-1390.43	15.08
782	SLU 16	-82	6	6259	734.73	-1379.75	11.22
782	SLU 17	-81	21	6255	734	-1380.38	15.1
782	SLU 18	-82	6	6386	749.36	-1408.8	11.3
782	SLU 19	-81	22	6382	748.63	-1409.42	15.19
782	SLU 20	-82	6	6469	759.22	-1426.67	11.45
782	SLU 21	-82	22	6465	758.49	-1427.29	15.34
782	SLU 22	-85	1	6274	736.59	-1382.31	10.48
782	SLU 23	-84	28	6267	735.37	-1383.34	16.97
782	SLU 24	-87	1	6404	751.93	-1410.23	10.61
782	SLU 25	-86	17	6400	751.2	-1410.85	14.5
782	SLU 26	-85	28	6350	745.23	-1401.22	17.12
782	SLU 27	-87	1	6487	761.79	-1428.1	10.76
782	SLU 28	-87	17	6483	761.06	-1428.72	14.65
782	SLU 29	-87	2	6440	756.31	-1418.05	10.78
782	SLU 30	-86	17	6436	755.58	-1418.67	14.67
782	SLU 31	-87	30	6952	815.53	-1534.52	17.87
782	SLU 32	-89	3	7088	832.09	-1561.4	11.51
782	SLU 33	-89	19	7084	831.36	-1562.03	15.4
782	SLU 34	-88	30	7035	825.4	-1552.39	18.02
782	SLU 35	-90	3	7171	841.96	-1579.27	11.66
782	SLU 36	-90	19	7167	841.23	-1579.9	15.55
782	SLU 37	-89	4	7125	836.48	-1569.22	11.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
782	SLU 38	-89	20	7121	835.75	-1569.84	15.58
782	SLU 39	-89	4	7252	851.11	-1598.27	11.78
782	SLU 40	-89	20	7248	850.38	-1598.89	15.66
782	SLU 41	-90	5	7335	860.97	-1616.14	11.92
782	SLU 42	-89	20	7331	860.24	-1616.76	15.81
782	SLU 43	-98	4	6733	790.41	-1485.73	12.85
782	SLU 44	-97	31	6727	789.19	-1486.77	19.34
782	SLU 45	-100	4	6863	805.75	-1513.65	12.98
782	SLU 46	-99	20	6859	805.02	-1514.27	16.87
782	SLU 47	-98	31	6810	799.06	-1504.64	19.49
782	SLU 48	-101	4	6946	815.62	-1531.52	13.13
782	SLU 49	-100	20	6942	814.89	-1532.15	17.02
782	SLU 50	-100	5	6900	810.14	-1521.47	13.15
782	SLU 51	-99	21	6896	809.4	-1522.09	17.04
782	SLU 52	-100	33	7411	869.36	-1637.94	20.24
782	SLU 53	-103	6	7548	885.92	-1664.83	13.88
782	SLU 54	-102	22	7544	885.19	-1665.45	17.77
782	SLU 55	-101	33	7495	879.22	-1655.81	20.39
782	SLU 56	-104	7	7631	895.78	-1682.7	14.03
782	SLU 57	-103	22	7627	895.05	-1683.32	17.92
782	SLU 58	-103	7	7584	890.3	-1672.64	14.06
782	SLU 59	-102	23	7580	889.57	-1673.27	17.95
782	SLU 60	-102	7	7711	904.93	-1701.69	14.14
782	SLU 61	-102	23	7707	904.2	-1702.31	18.03
782	SLU 62	-103	8	7795	914.79	-1719.56	14.29
782	SLU 63	-103	24	7791	914.06	-1720.19	18.18
782	SLU 64	-106	3	7599	892.16	-1675.2	13.33
782	SLU 65	-105	29	7593	890.94	-1676.24	19.81
782	SLU 66	-107	2	7729	907.5	-1703.12	13.45
782	SLU 67	-107	18	7725	906.77	-1703.74	17.34
782	SLU 68	-106	29	7676	900.8	-1694.11	19.96
782	SLU 69	-108	3	7812	917.36	-1720.99	13.6
782	SLU 70	-108	18	7808	916.63	-1721.61	17.49
782	SLU 71	-107	3	7766	911.88	-1710.94	13.62
782	SLU 72	-107	19	7762	911.15	-1711.56	17.51
782	SLU 73	-108	31	8277	971.1	-1827.41	20.71
782	SLU 74	-110	5	8414	987.66	-1854.29	14.35
782	SLU 75	-110	20	8410	986.93	-1854.92	18.24
782	SLU 76	-109	31	8360	980.96	-1845.28	20.86
782	SLU 77	-111	5	8497	997.53	-1872.16	14.5
782	SLU 78	-110	21	8493	996.79	-1872.79	18.39
782	SLU 79	-110	5	8450	992.05	-1862.11	14.53
782	SLU 80	-110	21	8446	991.31	-1862.74	18.42
782	SLU 81	-110	6	8577	1006.68	-1891.16	14.62
782	SLU 82	-109	22	8573	1005.95	-1891.78	18.51
782	SLU 83	-111	6	8660	1016.54	-1909.03	14.77
782	SLU 84	-110	22	8656	1015.81	-1909.65	18.66
782	SLE RA 1	-80	2	5655	663.91	-1246.97	10.15
782	SLE RA 2	-79	20	5651	663.1	-1247.66	14.47
782	SLE RA 3	-81	2	5742	674.14	-1265.59	10.23
782	SLE RA 4	-80	13	5739	673.65	-1266	12.82
782	SLE RA 5	-80	20	5706	669.68	-1259.58	14.57
782	SLE RA 6	-81	2	5797	680.72	-1277.5	10.33
782	SLE RA 7	-81	13	5795	680.23	-1277.92	12.92
782	SLE RA 8	-81	3	5766	677.06	-1270.8	10.35
782	SLE RA 9	-80	13	5764	676.57	-1271.22	12.94
782	SLE RA 10	-81	21	6107	716.54	-1348.45	15.07
782	SLE RA 11	-83	4	6198	727.58	-1366.37	10.83
782	SLE RA 12	-82	14	6196	727.1	-1366.78	13.42
782	SLE RA 13	-82	22	6163	723.12	-1360.36	15.17
782	SLE RA 14	-83	4	6254	734.16	-1378.28	10.93
782	SLE RA 15	-83	14	6251	733.67	-1378.7	13.52
782	SLE RA 16	-83	4	6223	730.51	-1371.58	10.95
782	SLE RA 17	-82	15	6220	730.02	-1372	13.54
782	SLE RA 18	-82	4	6307	740.26	-1390.95	11.01
782	SLE RA 19	-82	15	6305	739.77	-1391.36	13.6
782	SLE RA 20	-83	5	6363	746.83	-1402.86	11.11
782	SLE RA 21	-83	15	6360	746.35	-1403.28	13.7
782	SLE FR 1	-80	2	5655	663.91	-1246.97	10.15
782	SLE FR 2	-80	6	5654	663.75	-1247.11	11.01
782	SLE FR 3	-80	2	5677	666.54	-1251.74	10.19
782	SLE FR 4	-80	7	5850	686.65	-1290.3	11.27
782	SLE FR 5	-81	3	5873	689.45	-1294.93	10.44
782	SLE FR 6	-81	3	5981	702.09	-1318.96	10.58
782	SLE QP 1	-80	2	5655	663.91	-1246.97	10.15
782	SLE QP 2	-81	3	5851	686.82	-1290.17	10.4
782	SLD 1	286	92	7609	889.89	-1673.79	0.86
782	SLD 2	272	-50	7629	892.63	-1674.08	-32.86
782	SLD 3	271	-236	7655	901.37	-1646.69	-79.36
782	SLD 4	257	-379	7676	904.11	-1646.98	-113.08
782	SLD 5	54	553	6304	729.86	-1446.31	135
782	SLD 6	46	461	6317	731.63	-1446.5	113.29
782	SLD 7	4	-543	6460	768.11	-1355.96	-132.39
782	SLD 8	-4	-635	6473	769.88	-1356.15	-154.1
782	SLD 9	-157	641	5229	603.75	-1224.18	174.91
782	SLD 10	-166	549	5242	605.52	-1224.37	153.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
782	SLD 11	-207	-455	5385	642	-1133.83	-92.48
782	SLD 12	-215	-547	5398	643.77	-1134.02	-114.19
782	SLD 13	-419	385	4026	469.52	-933.35	133.89
782	SLD 14	-432	242	4046	472.27	-933.64	100.17
782	SLD 15	-434	56	4073	481	-906.25	53.67
782	SLD 16	-447	-86	4093	483.74	-906.54	19.95
782	SLV 1	494	167	8592	1002.92	-1890.72	1.49
782	SLV 2	474	-58	8624	1007.24	-1891.18	-51.65
782	SLV 3	469	-393	8668	1022.24	-1844.48	-135.33
782	SLV 4	448	-618	8700	1026.56	-1844.93	-188.47
782	SLV 5	134	945	6552	751.55	-1540.38	225.16
782	SLV 6	120	793	6573	754.46	-1540.69	189.38
782	SLV 7	50	-924	6805	815.93	-1386.24	-230.91
782	SLV 8	36	-1076	6827	818.84	-1386.55	-266.69
782	SLV 9	-197	1082	4875	554.79	-1193.79	287.5
782	SLV 10	-211	930	4896	557.7	-1194.09	251.72
782	SLV 11	-281	-787	5128	619.18	-1039.64	-168.57
782	SLV 12	-295	-939	5150	622.08	-1039.95	-204.35
782	SLV 13	-609	624	3002	347.07	-735.4	209.28
782	SLV 14	-630	399	3034	351.4	-735.86	156.14
782	SLV 15	-635	64	3078	366.39	-689.15	72.46
782	SLV 16	-655	-161	3110	370.71	-689.61	19.32
782	SLV FO 1	552	184	8866	1034.53	-1950.77	0.6
782	SLV FO 2	529	-64	8901	1039.29	-1951.28	-57.86
782	SLV FO 3	524	-433	8949	1055.78	-1899.91	-149.9
782	SLV FO 4	501	-680	8985	1060.53	-1900.41	-208.36
782	SLV FO 5	156	1039	6622	758.02	-1565.4	246.63
782	SLV FO 6	140	872	6646	761.22	-1565.74	207.28
782	SLV FO 7	63	-1017	6901	828.84	-1395.84	-255.04
782	SLV FO 8	47	-1184	6924	832.04	-1396.18	-294.39
782	SLV FO 9	-208	1190	4777	541.59	-1184.15	315.2
782	SLV FO 10	-224	1023	4801	544.79	-1184.49	275.85
782	SLV FO 11	-302	-866	5056	612.41	-1014.59	-186.47
782	SLV FO 12	-317	-1033	5080	615.61	-1014.93	-225.82
782	SLV FO 13	-662	687	2717	313.1	-679.92	229.17
782	SLV FO 14	-685	439	2752	317.85	-680.42	170.71
782	SLV FO 15	-690	70	2801	334.35	-629.05	78.67
782	SLV FO 16	-713	-178	2836	339.1	-629.56	20.21
782	CRTFP Ux+	0	0	0	0	0	0
782	CRTFP Ux-	0	0	0	0	0	0
782	CRTFP Uy+	0	0	0	0	0	0
782	CRTFP Uy-	0	0	0	0	0	0
785	SLU 1	81	19	4642	-6.85	1319.2	-6.61
785	SLU 2	80	42	4629	-7.07	1319.93	-14.68
785	SLU 3	83	20	4758	-6.96	1350.36	-6.9
785	SLU 4	82	34	4750	-7.09	1350.8	-11.74
785	SLU 5	81	44	4707	-7.13	1340.65	-15.14
785	SLU 6	84	21	4835	-7.02	1371.08	-7.35
785	SLU 7	83	35	4827	-7.15	1371.52	-12.2
785	SLU 8	83	22	4797	-6.97	1360.64	-7.52
785	SLU 9	83	36	4789	-7.1	1361.08	-12.37
785	SLU 10	85	44	5199	-8.02	1481.54	-15.36
785	SLU 11	89	22	5328	-7.9	1511.98	-7.58
785	SLU 12	88	36	5320	-8.04	1512.41	-12.42
785	SLU 13	87	46	5277	-8.07	1502.26	-15.82
785	SLU 14	90	23	5405	-7.96	1532.7	-8.04
785	SLU 15	89	37	5397	-8.09	1533.13	-12.88
785	SLU 16	89	24	5367	-7.91	1522.26	-8.2
785	SLU 17	88	38	5359	-8.04	1522.69	-13.05
785	SLU 18	89	22	5457	-8.2	1550.08	-7.58
785	SLU 19	88	36	5449	-8.33	1550.51	-12.43
785	SLU 20	90	23	5534	-8.25	1570.8	-8.04
785	SLU 21	90	37	5526	-8.39	1571.24	-12.88
785	SLU 22	90	18	5364	-7.89	1521.13	-6.12
785	SLU 23	89	41	5351	-8.11	1521.86	-14.19
785	SLU 24	92	19	5479	-8	1552.29	-6.41
785	SLU 25	92	33	5471	-8.13	1552.73	-11.25
785	SLU 26	90	42	5428	-8.17	1542.58	-14.65
785	SLU 27	93	20	5556	-8.06	1573.02	-6.87
785	SLU 28	93	34	5548	-8.19	1573.45	-11.71
785	SLU 29	93	21	5518	-8.01	1562.57	-7.03
785	SLU 30	92	34	5510	-8.14	1563.01	-11.88
785	SLU 31	95	43	5921	-9.06	1683.47	-14.87
785	SLU 32	98	21	6049	-8.94	1713.91	-7.09
785	SLU 33	97	35	6041	-9.08	1714.35	-11.94
785	SLU 34	96	44	5998	-9.12	1704.19	-15.33
785	SLU 35	99	22	6126	-9	1734.63	-7.55
785	SLU 36	99	36	6118	-9.14	1735.07	-12.39
785	SLU 37	98	23	6088	-8.95	1724.19	-7.72
785	SLU 38	98	36	6080	-9.09	1724.62	-12.56
785	SLU 39	98	21	6178	-9.24	1752.01	-7.09
785	SLU 40	98	35	6170	-9.37	1752.45	-11.94
785	SLU 41	100	22	6255	-9.3	1772.73	-7.55
785	SLU 42	99	36	6247	-9.43	1773.17	-12.4
785	SLU 43	102	26	5788	-8.54	1645.72	-8.75
785	SLU 44	101	49	5775	-8.77	1646.45	-16.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
785	SLU 45	104	26	5903	-8.65	1676.89	-9.04
785	SLU 46	103	40	5895	-8.79	1677.32	-13.89
785	SLU 47	102	50	5852	-8.83	1667.17	-17.29
785	SLU 48	105	28	5980	-8.71	1697.61	-9.5
785	SLU 49	104	42	5972	-8.85	1698.04	-14.35
785	SLU 50	104	28	5942	-8.66	1687.17	-9.67
785	SLU 51	104	42	5934	-8.8	1687.6	-14.51
785	SLU 52	106	51	6345	-9.71	1808.07	-17.51
785	SLU 53	110	28	6473	-9.6	1838.5	-9.73
785	SLU 54	109	42	6465	-9.73	1838.94	-14.57
785	SLU 55	108	52	6422	-9.77	1828.79	-17.97
785	SLU 56	111	30	6550	-9.66	1859.22	-10.19
785	SLU 57	110	44	6542	-9.79	1859.66	-15.03
785	SLU 58	110	30	6512	-9.61	1848.78	-10.35
785	SLU 59	109	44	6504	-9.74	1849.22	-15.2
785	SLU 60	110	28	6602	-9.89	1876.6	-9.73
785	SLU 61	109	42	6594	-10.03	1877.04	-14.57
785	SLU 62	111	30	6679	-9.95	1897.32	-10.19
785	SLU 63	111	44	6672	-10.09	1897.76	-15.03
785	SLU 64	111	24	6509	-9.59	1847.66	-8.27
785	SLU 65	110	47	6496	-9.81	1848.38	-16.34
785	SLU 66	113	25	6624	-9.7	1878.82	-8.56
785	SLU 67	113	39	6617	-9.83	1879.26	-13.4
785	SLU 68	111	49	6573	-9.87	1869.1	-16.8
785	SLU 69	114	26	6702	-9.76	1899.54	-9.02
785	SLU 70	114	40	6694	-9.89	1899.98	-13.86
785	SLU 71	114	27	6664	-9.7	1889.1	-9.18
785	SLU 72	113	41	6656	-9.84	1889.53	-14.03
785	SLU 73	116	49	7066	-10.75	2010	-17.02
785	SLU 74	119	27	7194	-10.64	2040.44	-9.24
785	SLU 75	118	41	7187	-10.77	2040.87	-14.08
785	SLU 76	117	51	7143	-10.81	2030.72	-17.48
785	SLU 77	120	28	7272	-10.7	2061.16	-9.7
785	SLU 78	119	42	7264	-10.83	2061.59	-14.54
785	SLU 79	119	29	7234	-10.65	2050.71	-9.87
785	SLU 80	119	43	7226	-10.78	2051.15	-14.71
785	SLU 81	119	27	7323	-10.93	2078.54	-9.24
785	SLU 82	119	41	7316	-11.07	2078.97	-14.09
785	SLU 83	121	28	7401	-10.99	2099.26	-9.7
785	SLU 84	120	42	7393	-11.13	2099.69	-14.54
785	SLE RA 1	83	19	4849	-7.15	1376.89	-6.47
785	SLE RA 2	83	34	4840	-7.29	1377.38	-11.85
785	SLE RA 3	85	20	4925	-7.22	1397.67	-6.66
785	SLE RA 4	84	29	4920	-7.31	1397.96	-9.89
785	SLE RA 5	83	35	4891	-7.33	1391.19	-12.15
785	SLE RA 6	86	20	4977	-7.26	1411.48	-6.97
785	SLE RA 7	85	30	4972	-7.35	1411.77	-10.19
785	SLE RA 8	85	21	4952	-7.22	1404.52	-7.08
785	SLE RA 9	85	30	4946	-7.31	1404.81	-10.31
785	SLE RA 10	87	36	5220	-7.92	1485.12	-12.3
785	SLE RA 11	89	21	5305	-7.85	1505.41	-7.12
785	SLE RA 12	88	30	5300	-7.94	1505.7	-10.34
785	SLE RA 13	87	37	5271	-7.96	1498.94	-12.61
785	SLE RA 14	89	22	5357	-7.89	1519.23	-7.42
785	SLE RA 15	89	31	5352	-7.98	1519.52	-10.65
785	SLE RA 16	89	22	5331	-7.85	1512.26	-7.53
785	SLE RA 17	88	31	5326	-7.94	1512.56	-10.76
785	SLE RA 18	89	21	5391	-8.04	1530.81	-7.12
785	SLE RA 19	88	30	5386	-8.13	1531.1	-10.35
785	SLE RA 20	90	22	5443	-8.08	1544.63	-7.42
785	SLE RA 21	89	31	5438	-8.17	1544.92	-10.65
785	SLE FR 1	83	19	4849	-7.15	1376.89	-6.47
785	SLE FR 2	83	22	4847	-7.18	1376.99	-7.54
785	SLE FR 3	84	19	4869	-7.16	1382.42	-6.59
785	SLE FR 4	85	23	5010	-7.44	1423.17	-7.74
785	SLE FR 5	85	20	5032	-7.43	1428.59	-6.78
785	SLE FR 6	86	20	5120	-7.59	1453.85	-6.79
785	SLE QP 1	83	19	4849	-7.15	1376.89	-6.47
785	SLE QP 2	85	20	5011	-7.41	1423.07	-6.66
785	SLD 1	391	-15	3622	-7.27	1091.04	5.2
785	SLD 2	377	107	3604	-7.56	1092.49	-37.43
785	SLD 3	402	-293	3811	-3.98	1079.81	102.34
785	SLD 4	389	-171	3793	-4.27	1081.26	59.71
785	SLD 5	161	410	4310	-12.31	1340.25	-143.11
785	SLD 6	153	488	4299	-12.5	1341.18	-170.56
785	SLD 7	200	-517	4942	-1.34	1302.8	180.71
785	SLD 8	192	-438	4930	-1.53	1303.74	153.26
785	SLD 9	-21	477	5093	-13.3	1542.4	-166.58
785	SLD 10	-30	556	5081	-13.49	1543.34	-194.03
785	SLD 11	18	-449	5724	-2.33	1504.95	157.24
785	SLD 12	9	-370	5713	-2.52	1505.89	129.79
785	SLD 13	-219	210	6230	-10.56	1764.88	-73.03
785	SLD 14	-232	332	6212	-10.85	1766.33	-115.66
785	SLD 15	-207	-68	6419	-7.27	1753.65	24.11
785	SLD 16	-220	54	6401	-7.56	1755.1	-18.52
785	SLV 1	563	-15	2829	-7.43	905.56	5.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
785	SLV 2	542	178	2801	-7.88	907.85	-62.08
785	SLV 3	583	-489	3153	-1.81	886.82	170.84
785	SLV 4	561	-296	3124	-2.27	889.11	103.64
785	SLV 5	203	692	3871	-15.85	1295.81	-241.94
785	SLV 6	188	822	3852	-16.16	1297.35	-287.17
785	SLV 7	268	-888	4950	2.87	1233.34	310.48
785	SLV 8	254	-758	4931	2.56	1234.88	265.24
785	SLV 9	-84	797	5092	-17.39	1611.25	-278.56
785	SLV 10	-98	927	5073	-17.7	1612.8	-323.8
785	SLV 11	-18	-783	6170	1.33	1548.78	273.85
785	SLV 12	-33	-653	6152	1.02	1550.32	228.62
785	SLV 13	-391	335	6898	-12.56	1957.03	-116.97
785	SLV 14	-413	528	6870	-13.02	1959.32	-184.16
785	SLV 15	-372	-139	7222	-6.95	1938.29	48.76
785	SLV 16	-393	54	7194	-7.4	1940.58	-18.44
785	SLV FO 1	611	-19	2611	-7.43	853.81	6.29
785	SLV FO 2	587	194	2580	-7.93	856.33	-67.62
785	SLV FO 3	633	-540	2967	-1.25	833.19	188.59
785	SLV FO 4	609	-328	2936	-1.75	835.71	114.68
785	SLV FO 5	215	759	3757	-16.69	1283.09	-265.47
785	SLV FO 6	199	902	3736	-17.03	1284.78	-315.22
785	SLV FO 7	286	-979	4943	3.89	1214.37	342.19
785	SLV FO 8	271	-836	4923	3.56	1216.07	292.43
785	SLV FO 9	-100	875	5100	-18.39	1630.07	-305.75
785	SLV FO 10	-116	1018	5079	-18.72	1631.77	-355.51
785	SLV FO 11	-29	-863	6286	2.2	1561.36	301.9
785	SLV FO 12	-44	-720	6266	1.86	1563.05	252.14
785	SLV FO 13	-439	367	7087	-13.08	2010.43	-128
785	SLV FO 14	-462	579	7056	-13.58	2012.94	-201.91
785	SLV FO 15	-417	-154	7443	-6.9	1989.81	54.3
785	SLV FO 16	-441	58	7412	-7.4	1992.33	-19.61
785	CRTFP Ux+	0	0	0	0	0	0
785	CRTFP Ux-	0	0	0	0	0	0
785	CRTFP Uy+	0	0	0	0	0	0
785	CRTFP Uy-	0	0	0	0	0	0
787	SLU 1	-110	6	9448	-836.83	161.33	-9.34
787	SLU 2	-109	51	9424	-835.59	163.86	-10.07
787	SLU 3	-112	5	9680	-857.16	164.64	-9.47
787	SLU 4	-112	32	9666	-856.42	166.16	-9.91
787	SLU 5	-110	51	9576	-848.85	165.92	-10.13
787	SLU 6	-113	5	9832	-870.41	166.7	-9.54
787	SLU 7	-113	32	9818	-869.67	168.22	-9.97
787	SLU 8	-112	5	9752	-863.33	165.46	-9.46
787	SLU 9	-112	32	9737	-862.59	166.97	-9.9
787	SLU 10	-113	52	10686	-947.57	183.85	-10.22
787	SLU 11	-116	6	10943	-969.13	184.64	-9.62
787	SLU 12	-115	33	10928	-968.39	186.15	-10.06
787	SLU 13	-114	52	10838	-960.82	185.92	-10.28
787	SLU 14	-117	6	11095	-982.38	186.7	-9.68
787	SLU 15	-117	33	11080	-981.64	188.22	-10.12
787	SLU 16	-116	6	11014	-975.31	185.45	-9.61
787	SLU 17	-115	33	11000	-974.56	186.97	-10.05
787	SLU 18	-115	7	11251	-996.79	189.9	-9.55
787	SLU 19	-115	34	11237	-996.05	191.41	-9.99
787	SLU 20	-116	6	11403	-1010.04	191.96	-9.61
787	SLU 21	-116	34	11389	-1009.3	193.48	-10.05
787	SLU 22	-121	4	11013	-974.83	185.82	-10.08
787	SLU 23	-121	50	10989	-973.59	188.35	-10.81
787	SLU 24	-124	4	11246	-995.16	189.13	-10.21
787	SLU 25	-123	31	11231	-994.42	190.65	-10.65
787	SLU 26	-122	49	11141	-986.84	190.42	-10.87
787	SLU 27	-125	3	11398	-1008.41	191.2	-10.28
787	SLU 28	-124	31	11383	-1007.67	192.71	-10.72
787	SLU 29	-124	4	11317	-1001.33	189.95	-10.2
787	SLU 30	-123	31	11303	-1000.59	191.47	-10.64
787	SLU 31	-124	50	12251	-1085.56	208.35	-10.96
787	SLU 32	-127	5	12508	-1107.13	209.13	-10.36
787	SLU 33	-127	32	12494	-1106.39	210.65	-10.8
787	SLU 34	-126	50	12403	-1098.82	210.41	-11.02
787	SLU 35	-129	4	12660	-1120.38	211.19	-10.42
787	SLU 36	-128	32	12646	-1119.64	212.71	-10.86
787	SLU 37	-128	4	12579	-1113.3	209.95	-10.35
787	SLU 38	-127	32	12565	-1112.56	211.46	-10.79
787	SLU 39	-127	5	12817	-1134.79	214.39	-10.29
787	SLU 40	-126	33	12802	-1134.04	215.91	-10.73
787	SLU 41	-128	5	12968	-1148.04	216.45	-10.35
787	SLU 42	-127	32	12954	-1147.3	217.97	-10.79
787	SLU 43	-139	8	11746	-1040.56	201.33	-11.88
787	SLU 44	-138	53	11721	-1039.33	203.86	-12.61
787	SLU 45	-141	7	11978	-1060.9	204.64	-12.02
787	SLU 46	-141	35	11964	-1060.15	206.16	-12.46
787	SLU 47	-139	53	11873	-1052.58	205.92	-12.68
787	SLU 48	-142	7	12130	-1074.15	206.71	-12.08
787	SLU 49	-142	34	12116	-1073.41	208.22	-12.52
787	SLU 50	-141	7	12050	-1067.07	205.46	-12.01
787	SLU 51	-141	35	12035	-1066.33	206.98	-12.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
787	SLU 52	-142	54	12984	-1151.3	223.86	-12.76
787	SLU 53	-145	8	13240	-1172.87	224.64	-12.17
787	SLU 54	-144	35	13226	-1172.13	226.15	-12.61
787	SLU 55	-143	54	13136	-1164.55	225.92	-12.82
787	SLU 56	-146	8	13392	-1186.12	226.7	-12.23
787	SLU 57	-145	35	13378	-1185.38	228.22	-12.67
787	SLU 58	-145	8	13312	-1179.04	225.45	-12.15
787	SLU 59	-144	35	13297	-1178.3	226.97	-12.59
787	SLU 60	-144	9	13549	-1200.52	229.9	-12.09
787	SLU 61	-144	36	13534	-1199.78	231.42	-12.53
787	SLU 62	-145	9	13701	-1213.78	231.96	-12.16
787	SLU 63	-145	36	13686	-1213.04	233.48	-12.59
787	SLU 64	-150	6	13311	-1178.56	225.83	-12.62
787	SLU 65	-150	52	13287	-1177.33	228.35	-13.35
787	SLU 66	-153	6	13544	-1198.89	229.14	-12.76
787	SLU 67	-152	33	13529	-1198.15	230.65	-13.2
787	SLU 68	-151	52	13439	-1190.58	230.42	-13.42
787	SLU 69	-154	6	13695	-1212.14	231.2	-12.82
787	SLU 70	-153	33	13681	-1211.4	232.72	-13.26
787	SLU 71	-153	6	13615	-1205.07	229.95	-12.75
787	SLU 72	-152	33	13600	-1204.32	231.47	-13.18
787	SLU 73	-153	53	14549	-1289.3	248.35	-13.5
787	SLU 74	-156	7	14806	-1310.86	249.13	-12.91
787	SLU 75	-156	34	14791	-1310.12	250.65	-13.35
787	SLU 76	-155	52	14701	-1302.55	250.41	-13.56
787	SLU 77	-158	6	14958	-1324.12	251.19	-12.97
787	SLU 78	-157	34	14943	-1323.38	252.71	-13.41
787	SLU 79	-156	7	14877	-1317.04	249.95	-12.89
787	SLU 80	-156	34	14863	-1316.3	251.46	-13.33
787	SLU 81	-156	7	15114	-1338.52	254.39	-12.83
787	SLU 82	-155	35	15100	-1337.78	255.91	-13.27
787	SLU 83	-157	7	15266	-1351.77	256.45	-12.9
787	SLU 84	-156	34	15252	-1351.03	257.97	-13.33
787	SLE RA 1	-113	5	9895	-876.26	168.33	-9.55
787	SLE RA 2	-113	36	9879	-875.43	170.01	-10.03
787	SLE RA 3	-115	5	10050	-889.81	170.54	-9.64
787	SLE RA 4	-114	23	10041	-889.32	171.55	-9.93
787	SLE RA 5	-113	35	9980	-884.27	171.39	-10.08
787	SLE RA 6	-115	5	10152	-898.65	171.91	-9.68
787	SLE RA 7	-115	23	10142	-898.15	172.92	-9.97
787	SLE RA 8	-115	5	10098	-893.93	171.08	-9.63
787	SLE RA 9	-114	23	10088	-893.43	172.09	-9.92
787	SLE RA 10	-115	36	10721	-950.08	183.35	-10.13
787	SLE RA 11	-117	5	10892	-964.46	183.87	-9.74
787	SLE RA 12	-117	24	10882	-963.96	184.88	-10.03
787	SLE RA 13	-116	36	10822	-958.92	184.72	-10.17
787	SLE RA 14	-118	5	10993	-973.29	185.24	-9.78
787	SLE RA 15	-118	23	10983	-972.8	186.25	-10.07
787	SLE RA 16	-117	5	10939	-968.57	184.41	-9.73
787	SLE RA 17	-117	24	10930	-968.08	185.42	-10.02
787	SLE RA 18	-117	6	11097	-982.9	187.37	-9.69
787	SLE RA 19	-116	24	11088	-982.4	188.38	-9.98
787	SLE RA 20	-117	6	11199	-991.73	188.75	-9.73
787	SLE RA 21	-117	24	11189	-991.24	189.76	-10.02
787	SLE FR 1	-113	5	9895	-876.26	168.33	-9.55
787	SLE FR 2	-113	11	9892	-876.09	168.67	-9.64
787	SLE FR 3	-113	5	9936	-879.79	168.88	-9.56
787	SLE FR 4	-114	12	10253	-908.08	174.38	-9.69
787	SLE FR 5	-114	5	10296	-911.78	174.59	-9.61
787	SLE FR 6	-115	6	10496	-929.58	177.85	-9.62
787	SLE QP 1	-113	5	9895	-876.26	168.33	-9.55
787	SLE QP 2	-114	5	10256	-908.25	174.04	-9.59
787	SLD 1	651	500	11274	-1005.81	217.11	52.82
787	SLD 2	625	361	11270	-1004.82	215.21	55.37
787	SLD 3	633	-62	11605	-1021.2	182.96	61.63
787	SLD 4	606	-200	11601	-1020.21	181.06	64.19
787	SLD 5	148	1029	10061	-914.34	239.09	-4.67
787	SLD 6	131	940	10058	-913.7	237.87	-3.02
787	SLD 7	87	-842	11163	-965.65	125.24	24.7
787	SLD 8	70	-931	11160	-965.01	124.02	26.35
787	SLD 9	-298	942	9352	-851.49	224.07	-45.52
787	SLD 10	-315	853	9349	-850.85	222.84	-43.88
787	SLD 11	-359	-929	10454	-902.79	110.22	-16.15
787	SLD 12	-376	-1018	10451	-902.16	108.99	-14.51
787	SLD 13	-835	211	8911	-796.29	167.03	-83.36
787	SLD 14	-861	73	8907	-795.3	165.13	-80.81
787	SLD 15	-853	-350	9242	-811.68	132.87	-74.55
787	SLD 16	-879	-489	9238	-810.69	130.97	-72
787	SLV 1	1086	819	11821	-1059.4	243.99	87.56
787	SLV 2	1045	600	11814	-1057.84	241	91.58
787	SLV 3	1055	-139	12384	-1085.59	185.7	102.53
787	SLV 4	1014	-357	12378	-1084.03	182.71	106.56
787	SLV 5	300	1742	9872	-914.16	284	-3.91
787	SLV 6	272	1595	9867	-913.11	281.99	-1.2
787	SLV 7	198	-1449	11750	-1001.47	89.68	46
787	SLV 8	170	-1596	11746	-1000.41	87.67	48.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
787	SLV 9	-398	1607	8766	-816.08	260.42	-67.89
787	SLV 10	-426	1460	8761	-815.03	258.4	-65.18
787	SLV 11	-501	-1584	10644	-903.39	66.1	-17.98
787	SLV 12	-528	-1731	10640	-902.33	64.08	-15.27
787	SLV 13	-1242	368	8134	-732.47	165.38	-125.73
787	SLV 14	-1283	149	8127	-730.9	162.39	-121.71
787	SLV 15	-1273	-590	8697	-758.66	107.08	-110.76
787	SLV 16	-1314	-808	8691	-757.1	104.09	-106.73
787	SLV FO 1	1206	900	11977	-1074.52	250.99	97.27
787	SLV FO 2	1160	660	11970	-1072.8	247.7	101.7
787	SLV FO 3	1172	-153	12597	-1103.33	186.86	113.74
787	SLV FO 4	1127	-393	12590	-1101.61	183.57	118.17
787	SLV FO 5	341	1916	9833	-914.75	295	-3.34
787	SLV FO 6	311	1754	9829	-913.6	292.78	-0.36
787	SLV FO 7	229	-1594	11900	-1010.79	81.25	51.56
787	SLV FO 8	198	-1756	11895	-1009.63	79.03	54.54
787	SLV FO 9	-427	1767	8617	-806.87	269.05	-73.72
787	SLV FO 10	-457	1605	8612	-805.71	266.84	-70.74
787	SLV FO 11	-539	-1743	10683	-902.9	55.3	-18.82
787	SLV FO 12	-570	-1905	10678	-901.74	53.09	-15.84
787	SLV FO 13	-1355	404	7922	-714.89	164.51	-137.35
787	SLV FO 14	-1400	164	7915	-713.17	161.22	-132.92
787	SLV FO 15	-1389	-649	8542	-743.7	100.39	-120.88
787	SLV FO 16	-1434	-889	8534	-741.98	97.1	-116.45
787	CRTFP Ux+	0	0	0	0	0	0
787	CRTFP Ux-	0	0	0	0	0	0
787	CRTFP Uy+	0	0	0	0	0	0
787	CRTFP Uy-	0	0	0	0	0	0
790	SLU 1	-27	95	11950	127.92	-583.99	-1.61
790	SLU 2	-27	164	11925	127.51	-581.89	2.58
790	SLU 3	-27	96	12237	130.42	-597.62	-1.75
790	SLU 4	-27	138	12222	130.17	-596.36	0.76
790	SLU 5	-26	164	12115	129.1	-590.93	2.41
790	SLU 6	-26	95	12427	132.01	-606.65	-1.91
790	SLU 7	-26	137	12412	131.77	-605.39	0.6
790	SLU 8	-26	94	12329	131.11	-602.07	-1.93
790	SLU 9	-26	136	12314	130.86	-600.8	0.58
790	SLU 10	-24	171	13549	141.51	-660.22	2.46
790	SLU 11	-23	102	13862	144.42	-675.95	-1.86
790	SLU 12	-23	144	13847	144.17	-674.69	0.65
790	SLU 13	-23	171	13739	143.11	-669.26	2.3
790	SLU 14	-23	102	14051	146.01	-684.99	-2.03
790	SLU 15	-23	144	14036	145.77	-683.73	0.48
790	SLU 16	-22	101	13954	145.11	-680.4	-2.05
790	SLU 17	-22	143	13939	144.87	-679.14	0.46
790	SLU 18	-22	104	14270	147.92	-695.9	-1.78
790	SLU 19	-22	146	14255	147.67	-694.64	0.73
790	SLU 20	-22	104	14460	149.52	-704.94	-1.94
790	SLU 21	-22	146	14445	149.27	-703.67	0.57
790	SLU 22	-27	108	13898	147.58	-675.76	-1.57
790	SLU 23	-27	178	13873	147.17	-673.66	2.62
790	SLU 24	-27	110	14186	150.08	-689.39	-1.71
790	SLU 25	-27	151	14171	149.83	-688.12	0.8
790	SLU 26	-27	178	14063	148.77	-682.69	2.45
790	SLU 27	-26	109	14376	151.68	-698.42	-1.87
790	SLU 28	-26	151	14361	151.43	-697.16	0.64
790	SLU 29	-26	108	14278	150.77	-693.83	-1.89
790	SLU 30	-26	150	14263	150.53	-692.57	0.62
790	SLU 31	-24	185	15498	161.17	-751.99	2.5
790	SLU 32	-23	116	15810	164.08	-767.72	-1.82
790	SLU 33	-24	158	15795	163.83	-766.46	0.69
790	SLU 34	-23	185	15687	162.77	-761.03	2.34
790	SLU 35	-23	116	16000	165.68	-776.76	-1.99
790	SLU 36	-23	158	15985	165.43	-775.49	0.52
790	SLU 37	-23	115	15902	164.77	-772.17	-2.01
790	SLU 38	-23	156	15887	164.53	-770.9	0.5
790	SLU 39	-22	118	16219	167.58	-787.67	-1.74
790	SLU 40	-22	160	16204	167.34	-786.4	0.78
790	SLU 41	-22	118	16408	169.18	-796.7	-1.9
790	SLU 42	-22	159	16393	168.93	-795.44	0.61
790	SLU 43	-35	118	14867	159.55	-727.73	-2.1
790	SLU 44	-35	188	14842	159.14	-725.63	2.08
790	SLU 45	-35	119	15154	162.05	-741.35	-2.24
790	SLU 46	-35	161	15139	161.8	-740.09	0.27
790	SLU 47	-34	188	15032	160.74	-734.66	1.92
790	SLU 48	-34	119	15344	163.65	-750.39	-2.41
790	SLU 49	-34	161	15329	163.4	-749.13	0.1
790	SLU 50	-34	118	15246	162.74	-745.8	-2.43
790	SLU 51	-34	160	15231	162.5	-744.54	0.08
790	SLU 52	-32	195	16466	173.14	-803.96	1.96
790	SLU 53	-31	126	16779	176.05	-819.69	-2.36
790	SLU 54	-31	168	16764	175.81	-818.42	0.15
790	SLU 55	-31	194	16656	174.74	-812.99	1.8
790	SLU 56	-31	126	16968	177.65	-828.72	-2.52
790	SLU 57	-31	167	16953	177.4	-827.46	-0.01
790	SLU 58	-30	124	16871	176.75	-824.14	-2.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
790	SLU 59	-30	166	16856	176.5	-822.87	-0.04
790	SLU 60	-30	127	17187	179.55	-839.63	-2.27
790	SLU 61	-30	169	17172	179.31	-838.37	0.24
790	SLU 62	-30	127	17377	181.15	-848.67	-2.43
790	SLU 63	-30	169	17362	180.9	-847.41	0.08
790	SLU 64	-35	132	16815	179.21	-819.5	-2.06
790	SLU 65	-35	202	16790	178.8	-817.39	2.12
790	SLU 66	-35	133	17103	181.71	-833.12	-2.2
790	SLU 67	-35	175	17088	181.47	-831.86	0.31
790	SLU 68	-35	202	16980	180.4	-826.43	1.96
790	SLU 69	-34	133	17293	183.31	-842.16	-2.36
790	SLU 70	-34	175	17278	183.06	-840.89	0.15
790	SLU 71	-34	132	17195	182.41	-837.57	-2.39
790	SLU 72	-34	174	17180	182.16	-836.31	0.12
790	SLU 73	-32	208	18414	192.8	-895.73	2
790	SLU 74	-31	140	18727	195.71	-911.45	-2.32
790	SLU 75	-32	182	18712	195.47	-910.19	0.19
790	SLU 76	-31	208	18604	194.4	-904.76	1.84
790	SLU 77	-31	139	18917	197.31	-920.49	-2.48
790	SLU 78	-31	181	18902	197.07	-919.23	0.03
790	SLU 79	-31	138	18819	196.41	-915.9	-2.5
790	SLU 80	-31	180	18804	196.16	-914.64	0.01
790	SLU 81	-30	141	19136	199.21	-931.4	-2.23
790	SLU 82	-30	183	19121	198.97	-930.14	0.28
790	SLU 83	-30	141	19325	200.81	-940.44	-2.39
790	SLU 84	-30	183	19310	200.57	-939.18	0.12
790	SLE RA 1	-27	99	12507	133.54	-610.21	-1.6
790	SLE RA 2	-27	145	12490	133.26	-608.81	1.19
790	SLE RA 3	-27	99	12698	135.2	-619.3	-1.69
790	SLE RA 4	-27	127	12688	135.04	-618.45	-0.02
790	SLE RA 5	-27	145	12616	134.33	-614.83	1.08
790	SLE RA 6	-26	99	12825	136.27	-625.32	-1.8
790	SLE RA 7	-26	127	12815	136.1	-624.48	-0.12
790	SLE RA 8	-26	98	12760	135.66	-622.26	-1.81
790	SLE RA 9	-26	126	12750	135.5	-621.42	-0.14
790	SLE RA 10	-25	149	13573	142.6	-661.03	1.11
790	SLE RA 11	-25	104	13781	144.54	-671.52	-1.77
790	SLE RA 12	-25	132	13771	144.37	-670.68	-0.09
790	SLE RA 13	-24	149	13699	143.66	-667.06	1.01
790	SLE RA 14	-24	103	13908	145.6	-677.54	-1.88
790	SLE RA 15	-24	131	13898	145.44	-676.7	-0.2
790	SLE RA 16	-24	103	13842	145	-674.48	-1.89
790	SLE RA 17	-24	131	13832	144.83	-673.64	-0.22
790	SLE RA 18	-24	105	14053	146.87	-684.82	-1.71
790	SLE RA 19	-24	133	14043	146.71	-683.98	-0.03
790	SLE RA 20	-23	105	14180	147.93	-690.84	-1.82
790	SLE RA 21	-23	133	14170	147.77	-690	-0.14
790	SLE FR 1	-27	99	12507	133.54	-610.21	-1.6
790	SLE FR 2	-27	108	12503	133.48	-609.93	-1.04
790	SLE FR 3	-27	98	12557	133.96	-612.62	-1.64
790	SLE FR 4	-26	110	12967	137.48	-632.31	-1.07
790	SLE FR 5	-26	100	13021	137.96	-635	-1.67
790	SLE FR 6	-25	102	13280	140.2	-647.52	-1.65
790	SLE QP 1	-27	99	12507	133.54	-610.21	-1.6
790	SLE QP 2	-26	100	12971	137.54	-632.59	-1.63
790	SLD 1	1060	625	12851	151.21	-583.08	1.98
790	SLD 2	1027	561	12818	150.19	-580.01	3.27
790	SLD 3	1081	-225	13204	160.05	-612.66	-48.34
790	SLD 4	1048	-288	13171	159.03	-609.59	-47.05
790	SLD 5	274	1556	12405	128.4	-573.41	75.56
790	SLD 6	252	1516	12383	127.75	-571.43	76.39
790	SLD 7	343	-1274	13582	157.88	-672	-92.19
790	SLD 8	322	-1315	13561	157.22	-670.02	-91.36
790	SLD 9	-374	1516	12381	117.85	-595.17	88.1
790	SLD 10	-395	1475	12359	117.19	-593.19	88.93
790	SLD 11	-304	-1315	13558	147.32	-693.75	-79.65
790	SLD 12	-326	-1356	13537	146.67	-691.78	-78.82
790	SLD 13	-1100	489	12770	116.04	-655.6	43.79
790	SLD 14	-1133	425	12737	115.02	-652.53	45.08
790	SLD 15	-1079	-361	13124	124.88	-685.18	-6.53
790	SLD 16	-1112	-424	13090	123.86	-682.11	-5.24
790	SLV 1	1674	983	12762	158.24	-553.13	7.6
790	SLV 2	1621	883	12710	156.63	-548.29	9.63
790	SLV 3	1708	-465	13365	173.35	-603.61	-78.22
790	SLV 4	1656	-565	13312	171.74	-598.77	-76.18
790	SLV 5	442	2580	12003	121.14	-533.09	130.91
790	SLV 6	407	2513	11968	120.05	-529.83	132.28
790	SLV 7	556	-2247	14013	171.49	-701.38	-155.13
790	SLV 8	520	-2314	13978	170.41	-698.12	-153.77
790	SLV 9	-572	2515	11963	104.66	-567.07	150.51
790	SLV 10	-608	2448	11928	103.58	-563.81	151.87
790	SLV 11	-459	-2312	13973	155.02	-735.36	-135.54
790	SLV 12	-494	-2380	13938	153.94	-732.1	-134.17
790	SLV 13	-1708	766	12629	103.33	-666.42	72.92
790	SLV 14	-1760	666	12576	101.73	-661.57	74.96
790	SLV 15	-1673	-683	13232	118.44	-716.9	-12.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
790	SLV 16	-1726	-782	13179	116.83	-712.06	-10.86
790	SLV FO 1	1844	1071	12741	160.31	-545.18	8.52
790	SLV FO 2	1786	962	12683	158.54	-539.86	10.75
790	SLV FO 3	1881	-522	13405	176.93	-600.72	-85.88
790	SLV FO 4	1824	-632	13347	175.16	-595.39	-83.64
790	SLV FO 5	489	2828	11907	119.5	-523.13	144.16
790	SLV FO 6	450	2754	11868	118.31	-519.55	145.67
790	SLV FO 7	614	-2482	14118	174.88	-708.25	-170.48
790	SLV FO 8	575	-2556	14079	173.7	-704.67	-168.98
790	SLV FO 9	-627	2757	11863	101.38	-560.52	165.72
790	SLV FO 10	-666	2683	11824	100.19	-556.94	167.22
790	SLV FO 11	-502	-2554	14073	156.76	-745.64	-148.93
790	SLV FO 12	-541	-2628	14035	155.58	-742.05	-147.42
790	SLV FO 13	-1876	832	12595	99.91	-669.8	80.38
790	SLV FO 14	-1933	722	12537	98.14	-664.47	82.62
790	SLV FO 15	-1838	-761	13258	116.53	-725.33	-14.01
790	SLV FO 16	-1896	-871	13200	114.76	-720.01	-11.78
790	CRTFP Ux+	0	0	0	0	0	0
790	CRTFP Ux-	0	0	0	0	0	0
790	CRTFP Uy+	0	0	0	0	0	0
790	CRTFP Uy-	0	0	0	0	0	0
793	SLU 1	39	108	8602	-911.6	-45.41	5.65
793	SLU 2	41	156	8595	-910.84	-45.85	5.85
793	SLU 3	40	108	8799	-932.54	-46.91	5.79
793	SLU 4	42	137	8795	-932.08	-47.17	5.9
793	SLU 5	42	156	8725	-924.67	-46.84	5.92
793	SLU 6	41	108	8929	-946.37	-47.9	5.86
793	SLU 7	43	137	8925	-945.91	-48.16	5.98
793	SLU 8	41	107	8862	-939.27	-47.39	5.8
793	SLU 9	42	136	8858	-938.81	-47.66	5.91
793	SLU 10	45	163	9738	-1031.66	-50.64	6.36
793	SLU 11	44	115	9942	-1053.35	-51.7	6.3
793	SLU 12	46	144	9938	-1052.9	-51.97	6.42
793	SLU 13	46	163	9869	-1045.49	-51.63	6.43
793	SLU 14	45	115	10073	-1067.19	-52.69	6.37
793	SLU 15	47	144	10068	-1066.73	-52.96	6.49
793	SLU 16	45	114	10006	-1060.08	-52.19	6.31
793	SLU 17	46	143	10002	-1059.63	-52.45	6.43
793	SLU 18	44	118	10235	-1084.2	-52.26	6.39
793	SLU 19	46	147	10231	-1083.74	-52.52	6.51
793	SLU 20	46	117	10366	-1098.03	-53.25	6.46
793	SLU 21	47	146	10361	-1097.57	-53.51	6.58
793	SLU 22	47	118	9971	-1055.53	-52.51	6.77
793	SLU 23	50	166	9963	-1054.77	-52.95	6.97
793	SLU 24	49	118	10168	-1076.47	-54.01	6.91
793	SLU 25	50	147	10163	-1076.01	-54.27	7.02
793	SLU 26	51	166	10094	-1068.6	-53.94	7.04
793	SLU 27	50	118	10298	-1090.3	-55	6.98
793	SLU 28	52	147	10294	-1089.84	-55.26	7.09
793	SLU 29	50	117	10231	-1083.2	-54.49	6.92
793	SLU 30	51	146	10227	-1082.74	-54.75	7.03
793	SLU 31	54	173	11107	-1175.58	-57.74	7.48
793	SLU 32	53	125	11311	-1197.28	-58.8	7.42
793	SLU 33	55	154	11307	-1196.82	-59.06	7.54
793	SLU 34	55	173	11237	-1189.42	-58.73	7.55
793	SLU 35	54	125	11441	-1211.11	-59.79	7.49
793	SLU 36	56	154	11437	-1210.66	-60.05	7.61
793	SLU 37	54	124	11375	-1204.01	-59.28	7.43
793	SLU 38	55	153	11370	-1203.55	-59.54	7.55
793	SLU 39	53	128	11604	-1228.12	-59.36	7.51
793	SLU 40	55	157	11600	-1227.67	-59.62	7.62
793	SLU 41	54	127	11734	-1241.95	-60.35	7.58
793	SLU 42	56	156	11730	-1241.5	-60.61	7.7
793	SLU 43	47	136	10713	-1135.74	-56.6	6.96
793	SLU 44	50	185	10706	-1134.98	-57.04	7.16
793	SLU 45	49	137	10910	-1156.67	-58.1	7.1
793	SLU 46	50	166	10906	-1156.22	-58.36	7.22
793	SLU 47	51	185	10836	-1148.81	-58.03	7.23
793	SLU 48	50	137	11040	-1170.51	-59.09	7.17
793	SLU 49	51	166	11036	-1170.05	-59.35	7.29
793	SLU 50	49	136	10974	-1163.4	-58.58	7.11
793	SLU 51	51	165	10969	-1162.95	-58.85	7.23
793	SLU 52	54	192	11850	-1255.79	-61.83	7.67
793	SLU 53	53	144	12054	-1277.49	-62.89	7.61
793	SLU 54	54	173	12049	-1277.03	-63.16	7.73
793	SLU 55	55	192	11980	-1269.62	-62.82	7.75
793	SLU 56	54	144	12184	-1291.32	-63.88	7.69
793	SLU 57	56	173	12180	-1290.86	-64.15	7.8
793	SLU 58	53	143	12117	-1284.22	-63.38	7.62
793	SLU 59	55	172	12113	-1283.76	-63.64	7.74
793	SLU 60	53	147	12347	-1308.33	-63.45	7.7
793	SLU 61	55	176	12342	-1307.87	-63.71	7.82
793	SLU 62	54	146	12477	-1322.16	-64.44	7.77
793	SLU 63	56	175	12473	-1321.71	-64.7	7.89
793	SLU 64	56	146	12082	-1279.67	-63.7	8.08
793	SLU 65	58	195	12075	-1278.9	-64.14	8.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
793	SLU 66	57	147	12279	-1300.6	-65.2	8.22
793	SLU 67	59	176	12275	-1300.14	-65.46	8.33
793	SLU 68	60	194	12205	-1292.74	-65.13	8.35
793	SLU 69	59	147	12409	-1314.43	-66.19	8.29
793	SLU 70	60	176	12405	-1313.98	-66.45	8.41
793	SLU 71	58	146	12342	-1307.33	-65.68	8.23
793	SLU 72	60	175	12338	-1306.87	-65.94	8.34
793	SLU 73	63	202	13218	-1399.72	-68.93	8.79
793	SLU 74	62	154	13422	-1421.42	-69.99	8.73
793	SLU 75	63	183	13418	-1420.96	-70.25	8.85
793	SLU 76	64	202	13349	-1413.55	-69.92	8.87
793	SLU 77	63	154	13553	-1435.25	-70.98	8.81
793	SLU 78	64	183	13548	-1434.79	-71.24	8.92
793	SLU 79	62	153	13486	-1428.14	-70.47	8.74
793	SLU 80	64	182	13482	-1427.69	-70.74	8.86
793	SLU 81	62	156	13715	-1452.26	-70.55	8.82
793	SLU 82	63	186	13711	-1451.8	-70.81	8.94
793	SLU 83	63	156	13846	-1466.09	-71.54	8.89
793	SLU 84	64	185	13841	-1465.63	-71.8	9.01
793	SLE RA 1	41	110	8993	-952.73	-47.44	5.97
793	SLE RA 2	43	143	8988	-952.22	-47.73	6.1
793	SLE RA 3	42	111	9124	-966.68	-48.44	6.06
793	SLE RA 4	43	130	9121	-966.38	-48.61	6.14
793	SLE RA 5	43	142	9075	-961.44	-48.39	6.15
793	SLE RA 6	43	111	9211	-975.9	-49.1	6.11
793	SLE RA 7	44	130	9208	-975.6	-49.27	6.19
793	SLE RA 8	43	110	9167	-971.17	-48.76	6.07
793	SLE RA 9	44	129	9164	-970.86	-48.94	6.15
793	SLE RA 10	46	147	9751	-1032.76	-50.93	6.45
793	SLE RA 11	45	116	9887	-1047.23	-51.63	6.41
793	SLE RA 12	46	135	9884	-1046.92	-51.81	6.48
793	SLE RA 13	46	147	9837	-1041.98	-51.59	6.49
793	SLE RA 14	46	115	9973	-1056.45	-52.29	6.45
793	SLE RA 15	47	135	9971	-1056.14	-52.47	6.53
793	SLE RA 16	45	115	9929	-1051.71	-51.96	6.41
793	SLE RA 17	46	134	9926	-1051.41	-52.13	6.49
793	SLE RA 18	45	117	10082	-1067.79	-52.01	6.46
793	SLE RA 19	46	137	10079	-1067.48	-52.18	6.54
793	SLE RA 20	46	117	10169	-1077.01	-52.67	6.51
793	SLE RA 21	47	136	10166	-1076.7	-52.84	6.59
793	SLE FR 1	41	110	8993	-952.73	-47.44	5.97
793	SLE FR 2	41	117	8992	-952.62	-47.5	6
793	SLE FR 3	41	110	9028	-956.41	-47.71	5.99
793	SLE FR 4	43	119	9319	-987.14	-48.87	6.14
793	SLE FR 5	43	112	9354	-990.93	-49.07	6.14
793	SLE FR 6	43	114	9537	-1010.26	-49.72	6.22
793	SLE QP 1	41	110	8993	-952.73	-47.44	5.97
793	SLE QP 2	42	112	9320	-987.24	-48.81	6.12
793	SLD 1	911	324	8768	-935.51	-3.13	92.54
793	SLD 2	892	375	8790	-937.29	-3.69	93.37
793	SLD 3	868	-266	8865	-943.82	1.3	88.92
793	SLD 4	848	-215	8887	-945.6	0.74	89.74
793	SLD 5	372	1062	9002	-958.82	-41.74	37.41
793	SLD 6	360	1095	9017	-959.96	-42.1	37.94
793	SLD 7	227	-905	9327	-986.51	-26.95	25.31
793	SLD 8	215	-872	9342	-987.66	-27.31	25.85
793	SLD 9	-130	1097	9298	-986.83	-70.31	-13.61
793	SLD 10	-143	1130	9312	-987.97	-70.67	-13.08
793	SLD 11	-275	-870	9623	-1014.53	-55.52	-25.7
793	SLD 12	-288	-838	9637	-1015.67	-55.88	-25.17
793	SLD 13	-764	440	9752	-1028.89	-98.36	-77.51
793	SLD 14	-783	491	9774	-1030.67	-98.93	-76.68
793	SLD 15	-807	-150	9849	-1037.2	-93.93	-81.13
793	SLD 16	-827	-99	9872	-1038.98	-94.49	-80.31
793	SLV 1	1405	485	8451	-905.93	22.18	141.63
793	SLV 2	1375	565	8486	-908.73	21.3	142.93
793	SLV 3	1331	-522	8618	-920.09	29.69	135.46
793	SLV 4	1301	-441	8653	-922.89	28.81	136.77
793	SLV 5	569	1736	8800	-940.85	-38.74	55.88
793	SLV 6	549	1790	8824	-942.73	-39.34	56.76
793	SLV 7	322	-1620	9355	-988.05	-13.7	35.33
793	SLV 8	302	-1566	9378	-989.94	-14.3	36.2
793	SLV 9	-218	1790	9261	-984.55	-83.32	-23.97
793	SLV 10	-238	1845	9284	-986.43	-83.92	-23.09
793	SLV 11	-464	-1565	9815	-1031.76	-58.28	-44.52
793	SLV 12	-485	-1511	9839	-1033.64	-58.88	-43.64
793	SLV 13	-1217	666	9987	-1051.6	-126.43	-124.53
793	SLV 14	-1247	747	10022	-1054.4	-127.32	-123.23
793	SLV 15	-1291	-340	10153	-1065.76	-118.92	-130.7
793	SLV 16	-1321	-260	10188	-1068.56	-119.8	-129.39
793	SLV FO 1	1542	522	8364	-897.8	29.28	155.18
793	SLV FO 2	1508	611	8403	-900.87	28.31	156.62
793	SLV FO 3	1460	-586	8547	-913.38	37.54	148.4
793	SLV FO 4	1427	-497	8586	-916.45	36.57	149.83
793	SLV FO 5	622	1898	8748	-936.21	-37.73	60.86
793	SLV FO 6	599	1958	8774	-938.28	-38.39	61.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
793	SLV FO 7	350	-1793	9358	-988.14	-10.19	38.25
793	SLV FO 8	328	-1733	9384	-990.21	-10.85	39.21
793	SLV FO 9	-244	1958	9255	-984.28	-86.78	-26.98
793	SLV FO 10	-266	2018	9281	-986.35	-87.43	-26.01
793	SLV FO 11	-515	-1733	9865	-1036.21	-59.23	-49.59
793	SLV FO 12	-537	-1673	9891	-1038.28	-59.89	-48.62
793	SLV FO 13	-1342	722	10053	-1058.04	-134.19	-137.6
793	SLV FO 14	-1376	811	10092	-1061.11	-135.17	-136.16
793	SLV FO 15	-1424	-386	10236	-1073.62	-125.93	-144.38
793	SLV FO 16	-1457	-297	10275	-1076.69	-126.9	-142.94
793	CRTFP Ux+	0	0	0	0	0	0
793	CRTFP Ux-	0	0	0	0	0	0
793	CRTFP Uy+	0	0	0	0	0	0
793	CRTFP Uy-	0	0	0	0	0	0
796	SLU 1	144	29	8814	-708.05	-297.28	13.39
796	SLU 2	142	69	8792	-707.03	-298.54	14.6
796	SLU 3	148	29	9034	-725.36	-304.35	13.69
796	SLU 4	147	53	9021	-724.75	-305.11	14.42
796	SLU 5	145	69	8941	-718.68	-303.38	14.78
796	SLU 6	150	29	9183	-737.02	-309.19	13.87
796	SLU 7	149	54	9170	-736.41	-309.94	14.6
796	SLU 8	149	29	9112	-731.36	-306.95	13.75
796	SLU 9	148	53	9099	-730.75	-307.71	14.47
796	SLU 10	153	74	9930	-798.54	-336.49	15.74
796	SLU 11	159	34	10172	-816.87	-342.31	14.84
796	SLU 12	158	58	10159	-816.26	-343.06	15.56
796	SLU 13	156	74	10079	-810.19	-341.33	15.92
796	SLU 14	161	34	10321	-828.53	-347.14	15.02
796	SLU 15	160	58	10307	-827.92	-347.9	15.74
796	SLU 16	160	34	10250	-822.87	-344.91	14.89
796	SLU 17	159	58	10236	-822.26	-345.66	15.62
796	SLU 18	160	35	10440	-838.78	-351.5	15.02
796	SLU 19	159	60	10426	-838.16	-352.26	15.75
796	SLU 20	162	36	10589	-850.43	-356.34	15.2
796	SLU 21	161	60	10575	-849.82	-357.09	15.93
796	SLU 22	164	33	10246	-822.54	-344.15	15.15
796	SLU 23	162	73	10224	-821.52	-345.41	16.36
796	SLU 24	168	33	10466	-839.85	-351.22	15.46
796	SLU 25	167	57	10453	-839.24	-351.98	16.19
796	SLU 26	165	73	10373	-833.17	-350.24	16.54
796	SLU 27	170	33	10615	-851.51	-356.06	15.64
796	SLU 28	169	57	10602	-850.9	-356.81	16.37
796	SLU 29	169	33	10544	-845.85	-353.82	15.51
796	SLU 30	168	57	10531	-845.23	-354.58	16.24
796	SLU 31	173	77	11362	-913.03	-383.36	17.51
796	SLU 32	179	38	11604	-931.36	-389.18	16.6
796	SLU 33	178	62	11591	-930.75	-389.93	17.33
796	SLU 34	176	78	11511	-924.68	-388.2	17.69
796	SLU 35	181	38	11753	-943.02	-394.01	16.78
796	SLU 36	180	62	11740	-942.41	-394.77	17.51
796	SLU 37	180	38	11682	-937.36	-391.78	16.65
796	SLU 38	179	62	11669	-936.75	-392.53	17.38
796	SLU 39	179	39	11872	-953.26	-398.37	16.78
796	SLU 40	179	63	11859	-952.65	-399.13	17.51
796	SLU 41	182	39	12021	-964.92	-403.21	16.96
796	SLU 42	181	64	12007	-964.31	-403.96	17.69
796	SLU 43	180	36	10967	-881.21	-370.4	16.8
796	SLU 44	178	76	10945	-880.19	-371.66	18.01
796	SLU 45	184	36	11187	-898.52	-377.47	17.11
796	SLU 46	183	61	11174	-897.91	-378.22	17.83
796	SLU 47	181	77	11094	-891.84	-376.49	18.19
796	SLU 48	186	37	11336	-910.18	-382.31	17.29
796	SLU 49	185	61	11323	-909.57	-383.06	18.01
796	SLU 50	185	37	11265	-904.52	-380.07	17.16
796	SLU 51	184	61	11252	-903.91	-380.83	17.89
796	SLU 52	190	81	12083	-971.7	-409.61	19.15
796	SLU 53	195	41	12325	-990.03	-415.42	18.25
796	SLU 54	194	65	12312	-989.42	-416.18	18.98
796	SLU 55	192	81	12232	-983.35	-414.45	19.33
796	SLU 56	198	41	12474	-1001.69	-420.26	18.43
796	SLU 57	197	66	12461	-1001.08	-421.01	19.16
796	SLU 58	196	41	12403	-996.03	-418.02	18.3
796	SLU 59	195	65	12390	-995.42	-418.78	19.03
796	SLU 60	196	43	12593	-1011.94	-424.62	18.43
796	SLU 61	195	67	12580	-1011.32	-425.37	19.16
796	SLU 62	198	43	12742	-1023.59	-429.45	18.61
796	SLU 63	197	67	12729	-1022.98	-430.21	19.34
796	SLU 64	200	40	12400	-995.7	-417.27	18.56
796	SLU 65	198	80	12377	-994.68	-418.53	19.78
796	SLU 66	204	40	12619	-1013.01	-424.34	18.87
796	SLU 67	203	64	12606	-1012.4	-425.09	19.6
796	SLU 68	201	80	12526	-1006.33	-423.36	19.96
796	SLU 69	206	41	12768	-1024.67	-429.17	19.05
796	SLU 70	205	65	12755	-1024.06	-429.93	19.78
796	SLU 71	205	40	12697	-1019.01	-426.94	18.92
796	SLU 72	204	65	12684	-1018.39	-427.69	19.65

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
796	SLU 73	209	85	13515	-1086.19	-456.48	20.92
796	SLU 74	215	45	13757	-1104.52	-462.29	20.01
796	SLU 75	214	69	13744	-1103.91	-463.05	20.74
796	SLU 76	212	85	13664	-1097.84	-461.31	21.1
796	SLU 77	217	45	13906	-1116.18	-467.13	20.19
796	SLU 78	217	69	13893	-1115.57	-467.88	20.92
796	SLU 79	216	45	13835	-1110.52	-464.89	20.06
796	SLU 80	215	69	13822	-1109.91	-465.65	20.79
796	SLU 81	216	46	14025	-1126.42	-471.49	20.19
796	SLU 82	215	71	14012	-1125.81	-472.24	20.92
796	SLU 83	218	47	14174	-1138.08	-476.32	20.37
796	SLU 84	217	71	14161	-1137.47	-477.08	21.1
796	SLE RA 1	149	30	9223	-740.76	-310.67	13.89
796	SLE RA 2	148	57	9209	-740.08	-311.51	14.7
796	SLE RA 3	152	30	9370	-752.3	-315.39	14.1
796	SLE RA 4	151	46	9361	-751.89	-315.89	14.58
796	SLE RA 5	150	57	9308	-747.85	-314.74	14.82
796	SLE RA 6	154	30	9469	-760.07	-318.61	14.22
796	SLE RA 7	153	46	9460	-759.66	-319.11	14.7
796	SLE RA 8	153	30	9422	-756.3	-317.12	14.13
796	SLE RA 9	152	46	9413	-755.89	-317.63	14.62
796	SLE RA 10	156	60	9967	-801.08	-336.81	15.46
796	SLE RA 11	159	33	10129	-813.31	-340.69	14.86
796	SLE RA 12	159	49	10120	-812.9	-341.19	15.34
796	SLE RA 13	157	60	10066	-808.86	-340.04	15.58
796	SLE RA 14	161	33	10228	-821.08	-343.91	14.98
796	SLE RA 15	160	50	10219	-820.67	-344.42	15.46
796	SLE RA 16	160	33	10180	-817.3	-342.42	14.89
796	SLE RA 17	160	49	10172	-816.9	-342.93	15.38
796	SLE RA 18	160	34	10307	-827.91	-346.82	14.98
796	SLE RA 19	159	50	10298	-827.5	-347.32	15.46
796	SLE RA 20	162	34	10406	-835.68	-350.04	15.1
796	SLE RA 21	161	51	10397	-835.27	-350.55	15.58
796	SLE FR 1	149	30	9223	-740.76	-310.67	13.89
796	SLE FR 2	149	35	9220	-740.62	-310.84	14.05
796	SLE FR 3	150	30	9263	-743.87	-311.96	13.94
796	SLE FR 4	152	37	9546	-766.77	-321.69	14.38
796	SLE FR 5	153	31	9588	-770.01	-322.81	14.26
796	SLE FR 6	155	32	9765	-784.33	-328.75	14.43
796	SLE QP 1	149	30	9223	-740.76	-310.67	13.89
796	SLE QP 2	153	31	9548	-766.9	-321.52	14.22
796	SLD 1	864	336	8655	-703.53	-299.05	78.35
796	SLD 2	841	461	8654	-704.09	-298.84	82.94
796	SLD 3	880	-157	8988	-717.98	-282.88	62.82
796	SLD 4	857	-33	8987	-718.55	-282.67	67.42
796	SLD 5	345	850	8777	-725.87	-339.34	56.2
796	SLD 6	331	930	8776	-726.24	-339.21	59.17
796	SLD 7	399	-795	9884	-774.05	-285.43	4.47
796	SLD 8	384	-715	9884	-774.41	-285.3	7.43
796	SLD 9	-79	777	9213	-759.39	-357.74	21
796	SLD 10	-94	858	9213	-759.76	-357.61	23.97
796	SLD 11	-26	-868	10321	-807.57	-303.83	-30.73
796	SLD 12	-40	-787	10320	-807.93	-303.69	-27.77
796	SLD 13	-552	95	10110	-815.26	-360.37	-38.99
796	SLD 14	-575	220	10109	-815.83	-360.16	-34.39
796	SLD 15	-536	-399	10442	-829.71	-344.19	-54.51
796	SLD 16	-559	-274	10441	-830.28	-343.99	-49.91
796	SLV 1	1266	542	8129	-666.85	-287.44	115.71
796	SLV 2	1230	739	8128	-667.74	-287.11	122.96
796	SLV 3	1292	-300	8697	-691.53	-259.82	89.21
796	SLV 4	1257	-103	8695	-692.42	-259.5	96.46
796	SLV 5	453	1425	8262	-699.29	-353.24	83.51
796	SLV 6	430	1557	8261	-699.89	-353.01	88.39
796	SLV 7	541	-1382	10154	-781.55	-261.19	-4.83
796	SLV 8	517	-1249	10153	-782.15	-260.97	0.05
796	SLV 9	-212	1311	8944	-751.65	-382.07	28.39
796	SLV 10	-236	1444	8943	-752.25	-381.85	33.26
796	SLV 11	-125	-1495	10836	-833.92	-290.02	-59.95
796	SLV 12	-148	-1362	10834	-834.52	-289.8	-55.07
796	SLV 13	-952	165	10402	-841.39	-383.54	-68.03
796	SLV 14	-987	362	10400	-842.28	-383.21	-60.78
796	SLV 15	-925	-677	10969	-866.07	-355.93	-94.53
796	SLV 16	-961	-480	10968	-866.96	-355.6	-87.28
796	SLV FO 1	1377	593	7987	-656.84	-284.03	125.86
796	SLV FO 2	1338	810	7986	-657.82	-283.67	133.84
796	SLV FO 3	1406	-333	8612	-683.99	-253.65	96.71
796	SLV FO 4	1367	-116	8610	-684.97	-253.29	104.68
796	SLV FO 5	484	1564	8134	-692.53	-356.41	90.44
796	SLV FO 6	457	1710	8133	-693.19	-356.16	95.8
796	SLV FO 7	579	-1523	10214	-783.02	-255.16	-6.74
796	SLV FO 8	553	-1377	10213	-783.68	-254.92	-1.37
796	SLV FO 9	-248	1439	8884	-750.13	-388.12	29.8
796	SLV FO 10	-274	1585	8883	-750.79	-387.88	35.17
796	SLV FO 11	-152	-1647	10964	-840.62	-286.87	-67.37
796	SLV FO 12	-179	-1502	10963	-841.28	-286.63	-62
796	SLV FO 13	-1062	179	10487	-848.84	-389.74	-76.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
796	SLV FO 14	-1101	395	10485	-849.82	-389.38	-68.28
796	SLV FO 15	-1033	-747	11111	-875.98	-359.37	-105.4
796	SLV FO 16	-1072	-531	11109	-876.96	-359.01	-97.43
796	CRTFP Ux+	0	0	0	0	0	0
796	CRTFP Ux-	0	0	0	0	0	0
796	CRTFP Uy+	0	0	0	0	0	0
796	CRTFP Uy-	0	0	0	0	0	0
798	SLU 1	-82	2	5453	-571.74	-889.29	-7.84
798	SLU 2	-81	31	5435	-570.48	-888.96	-0.67
798	SLU 3	-84	2	5587	-585.59	-909.16	-8.08
798	SLU 4	-83	19	5576	-584.84	-908.97	-3.78
798	SLU 5	-82	31	5521	-579.4	-901.58	-0.71
798	SLU 6	-84	2	5673	-594.51	-921.78	-8.12
798	SLU 7	-84	19	5662	-593.75	-921.59	-3.82
798	SLU 8	-84	3	5626	-589.56	-914.53	-7.92
798	SLU 9	-83	20	5615	-588.81	-914.33	-3.61
798	SLU 10	-84	33	6120	-642.58	-1002	-0.45
798	SLU 11	-87	4	6271	-657.69	-1022.2	-7.86
798	SLU 12	-87	21	6260	-656.94	-1022.01	-3.56
798	SLU 13	-85	33	6206	-651.49	-1014.62	-0.49
798	SLU 14	-88	4	6357	-666.6	-1034.82	-7.9
798	SLU 15	-87	21	6347	-665.85	-1034.63	-3.6
798	SLU 16	-87	5	6310	-661.66	-1027.56	-7.7
798	SLU 17	-87	22	6299	-660.91	-1027.37	-3.39
798	SLU 18	-87	6	6431	-674.73	-1050.77	-7.53
798	SLU 19	-87	22	6420	-673.98	-1050.58	-3.22
798	SLU 20	-88	6	6517	-683.64	-1063.39	-7.56
798	SLU 21	-87	23	6506	-682.89	-1063.19	-3.26
798	SLU 22	-90	0	6328	-663.37	-1029.33	-9.18
798	SLU 23	-89	29	6310	-662.12	-1029.01	-2.01
798	SLU 24	-92	0	6461	-677.23	-1049.21	-9.42
798	SLU 25	-91	17	6451	-676.48	-1049.01	-5.12
798	SLU 26	-90	29	6396	-671.03	-1041.63	-2.05
798	SLU 27	-93	0	6548	-686.14	-1061.83	-9.46
798	SLU 28	-92	17	6537	-685.39	-1061.63	-5.15
798	SLU 29	-92	1	6500	-681.2	-1054.57	-9.25
798	SLU 30	-91	18	6489	-680.45	-1054.38	-4.95
798	SLU 31	-93	31	6994	-734.21	-1142.05	-1.79
798	SLU 32	-96	2	7146	-749.32	-1162.25	-9.2
798	SLU 33	-95	19	7135	-748.57	-1162.05	-4.9
798	SLU 34	-94	31	7080	-743.13	-1154.67	-1.83
798	SLU 35	-96	2	7232	-758.24	-1174.87	-9.24
798	SLU 36	-96	19	7221	-757.48	-1174.67	-4.93
798	SLU 37	-96	3	7185	-753.29	-1167.61	-9.03
798	SLU 38	-95	20	7174	-752.54	-1167.41	-4.73
798	SLU 39	-96	4	7306	-766.36	-1190.82	-8.86
798	SLU 40	-95	20	7295	-765.61	-1190.62	-4.56
798	SLU 41	-96	4	7392	-775.28	-1203.44	-8.9
798	SLU 42	-96	21	7381	-774.53	-1203.24	-4.6
798	SLU 43	-104	4	6790	-711.84	-1108.06	-9.73
798	SLU 44	-102	32	6771	-710.59	-1107.73	-2.56
798	SLU 45	-105	3	6923	-725.7	-1127.93	-9.98
798	SLU 46	-105	20	6912	-724.94	-1127.74	-5.67
798	SLU 47	-103	32	6858	-719.5	-1120.35	-2.6
798	SLU 48	-106	4	7009	-734.61	-1140.55	-10.01
798	SLU 49	-105	21	6998	-733.86	-1140.36	-5.71
798	SLU 50	-105	4	6962	-729.67	-1133.3	-9.81
798	SLU 51	-105	21	6951	-728.92	-1133.1	-5.51
798	SLU 52	-106	34	7456	-782.68	-1220.77	-2.34
798	SLU 53	-109	6	7607	-797.79	-1240.97	-9.76
798	SLU 54	-108	23	7597	-797.04	-1240.78	-5.45
798	SLU 55	-107	34	7542	-791.6	-1233.39	-2.38
798	SLU 56	-110	6	7694	-806.7	-1253.59	-9.79
798	SLU 57	-109	23	7683	-805.95	-1253.4	-5.49
798	SLU 58	-109	6	7646	-801.76	-1246.33	-9.59
798	SLU 59	-108	23	7635	-801.01	-1246.14	-5.29
798	SLU 60	-109	7	7767	-814.83	-1269.54	-9.42
798	SLU 61	-108	24	7756	-814.08	-1269.35	-5.12
798	SLU 62	-110	7	7853	-823.75	-1282.16	-9.46
798	SLU 63	-109	24	7843	-823	-1281.97	-5.16
798	SLU 64	-112	2	7664	-803.47	-1248.1	-11.07
798	SLU 65	-111	30	7646	-802.22	-1247.78	-3.9
798	SLU 66	-114	1	7798	-817.33	-1267.98	-11.31
798	SLU 67	-113	18	7787	-816.58	-1267.78	-7.01
798	SLU 68	-112	30	7732	-811.14	-1260.4	-3.94
798	SLU 69	-115	2	7884	-826.24	-1280.6	-11.35
798	SLU 70	-114	19	7873	-825.49	-1280.4	-7.05
798	SLU 71	-114	2	7836	-821.3	-1273.34	-11.15
798	SLU 72	-113	19	7826	-820.55	-1273.15	-6.84
798	SLU 73	-115	32	8330	-874.32	-1360.82	-3.68
798	SLU 74	-117	4	8482	-889.43	-1381.02	-11.09
798	SLU 75	-117	21	8471	-888.67	-1380.82	-6.79
798	SLU 76	-115	32	8417	-883.23	-1373.44	-3.72
798	SLU 77	-118	4	8568	-898.34	-1393.64	-11.13
798	SLU 78	-117	21	8557	-897.59	-1393.44	-6.83
798	SLU 79	-117	4	8521	-893.4	-1386.38	-10.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
798	SLU 80	-117	21	8510	-892.65	-1386.18	-6.62
798	SLU 81	-117	5	8642	-906.47	-1409.59	-10.76
798	SLU 82	-117	22	8631	-905.72	-1409.39	-6.46
798	SLU 83	-118	5	8728	-915.38	-1422.21	-10.79
798	SLU 84	-117	22	8717	-914.63	-1422.01	-6.49
798	SLE RA 1	-84	2	5703	-597.92	-929.3	-8.22
798	SLE RA 2	-84	21	5691	-597.08	-929.08	-3.44
798	SLE RA 3	-85	2	5792	-607.16	-942.55	-8.38
798	SLE RA 4	-85	13	5785	-606.65	-942.42	-5.52
798	SLE RA 5	-84	21	5749	-603.03	-937.5	-3.47
798	SLE RA 6	-86	2	5850	-613.1	-950.96	-8.41
798	SLE RA 7	-86	13	5842	-612.6	-950.83	-5.54
798	SLE RA 8	-86	2	5818	-609.8	-946.13	-8.27
798	SLE RA 9	-85	13	5811	-609.3	-946	-5.4
798	SLE RA 10	-86	22	6147	-645.15	-1004.44	-3.3
798	SLE RA 11	-88	3	6249	-655.22	-1017.91	-8.24
798	SLE RA 12	-87	14	6241	-654.72	-1017.78	-5.37
798	SLE RA 13	-87	22	6205	-651.09	-1012.86	-3.32
798	SLE RA 14	-88	3	6306	-661.16	-1026.32	-8.26
798	SLE RA 15	-88	14	6299	-660.66	-1026.19	-5.39
798	SLE RA 16	-88	4	6274	-657.87	-1021.48	-8.13
798	SLE RA 17	-87	15	6267	-657.37	-1021.35	-5.26
798	SLE RA 18	-88	4	6355	-666.58	-1036.96	-8.01
798	SLE RA 19	-87	15	6348	-666.08	-1036.83	-5.15
798	SLE RA 20	-88	4	6412	-672.52	-1045.37	-8.04
798	SLE RA 21	-88	15	6405	-672.02	-1045.24	-5.17
798	SLE FR 1	-84	2	5703	-597.92	-929.3	-8.22
798	SLE FR 2	-84	6	5701	-597.75	-929.26	-7.27
798	SLE FR 3	-85	2	5726	-600.3	-932.67	-8.23
798	SLE FR 4	-85	6	5896	-618.35	-961.55	-7.2
798	SLE FR 5	-86	2	5922	-620.89	-964.96	-8.17
798	SLE FR 6	-86	3	6029	-632.25	-983.13	-8.12
798	SLE QP 1	-84	2	5703	-597.92	-929.3	-8.22
798	SLE QP 2	-85	2	5899	-618.52	-961.6	-8.16
798	SLD 1	298	98	7580	-800.05	-1261.16	96.5
798	SLD 2	275	-54	7609	-802.62	-1270.2	56.61
798	SLD 3	278	-252	7794	-812.75	-1239.5	7.34
798	SLD 4	255	-404	7823	-815.32	-1248.54	-32.55
798	SLD 5	64	587	6074	-653.27	-1082.77	165.32
798	SLD 6	49	489	6093	-654.93	-1088.59	139.64
798	SLD 7	-3	-577	6786	-695.61	-1010.56	-131.88
798	SLD 8	-18	-675	6805	-697.26	-1016.38	-157.56
798	SLD 9	-153	680	4992	-539.77	-906.81	141.24
798	SLD 10	-168	582	5011	-541.43	-912.64	115.55
798	SLD 11	-220	-484	5705	-582.11	-834.61	-155.96
798	SLD 12	-235	-582	5724	-583.76	-840.43	-181.64
798	SLD 13	-426	408	3974	-421.71	-674.65	16.23
798	SLD 14	-449	257	4004	-424.28	-683.7	-23.66
798	SLD 15	-446	59	4188	-434.41	-652.99	-72.93
798	SLD 16	-469	-93	4218	-436.98	-662.03	-112.82
798	SLV 1	517	177	8506	-900.9	-1430.49	162.36
798	SLV 2	481	-62	8553	-904.95	-1444.74	99.49
798	SLV 3	483	-418	8870	-922.36	-1393.53	10.23
798	SLV 4	447	-658	8916	-926.41	-1407.79	-52.64
798	SLV 5	154	1003	6121	-669.93	-1155.65	285.45
798	SLV 6	130	842	6153	-672.66	-1165.24	243.13
798	SLV 7	40	-983	7332	-741.46	-1032.48	-221.64
798	SLV 8	15	-1144	7364	-744.18	-1042.07	-263.96
798	SLV 9	-186	1149	4434	-492.85	-881.12	247.64
798	SLV 10	-211	988	4465	-495.58	-890.72	205.31
798	SLV 11	-301	-837	5645	-564.38	-757.95	-259.45
798	SLV 12	-325	-998	5676	-567.1	-767.55	-301.77
798	SLV 13	-617	663	2881	-310.63	-515.41	36.32
798	SLV 14	-654	423	2928	-314.68	-529.66	-26.55
798	SLV 15	-652	67	3245	-332.09	-478.46	-115.81
798	SLV 16	-688	-173	3291	-336.13	-492.71	-178.68
798	SLV FO 1	577	195	8767	-929.14	-1477.37	179.41
798	SLV FO 2	538	-68	8818	-933.59	-1493.05	110.25
798	SLV FO 3	540	-460	9167	-952.74	-1436.73	12.07
798	SLV FO 4	500	-724	9218	-957.19	-1452.4	-57.09
798	SLV FO 5	178	1103	6144	-675.07	-1175.05	314.81
798	SLV FO 6	151	926	6178	-678.07	-1185.61	268.25
798	SLV FO 7	52	-1081	7476	-753.75	-1039.56	-242.98
798	SLV FO 8	25	-1259	7510	-756.75	-1050.12	-289.54
798	SLV FO 9	-196	1263	4287	-480.28	-873.08	273.22
798	SLV FO 10	-223	1086	4322	-483.28	-883.63	226.66
798	SLV FO 11	-322	-921	5619	-558.96	-737.59	-284.58
798	SLV FO 12	-349	-1098	5654	-561.96	-748.14	-331.13
798	SLV FO 13	-671	729	2580	-279.84	-470.79	40.77
798	SLV FO 14	-710	465	2631	-284.29	-486.47	-28.39
798	SLV FO 15	-708	73	2979	-303.44	-430.14	-126.57
798	SLV FO 16	-748	-190	3030	-307.89	-445.82	-195.73
798	CRTFP Ux+	0	0	0	0	0	0
798	CRTFP Ux-	0	0	0	0	0	0
798	CRTFP Uy+	0	0	0	0	0	0
798	CRTFP Uy-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
801	SLU 1	76	19	4426	-7.48	1135.3	-6.35
801	SLU 2	74	42	4406	-7.73	1135.81	-14.44
801	SLU 3	78	19	4537	-7.6	1161.82	-6.62
801	SLU 4	77	33	4525	-7.75	1162.13	-11.48
801	SLU 5	75	43	4481	-7.8	1153.48	-14.89
801	SLU 6	79	21	4613	-7.67	1179.49	-7.07
801	SLU 7	78	35	4601	-7.82	1179.8	-11.93
801	SLU 8	78	21	4576	-7.62	1170.64	-7.24
801	SLU 9	77	35	4564	-7.77	1170.94	-12.1
801	SLU 10	80	44	4946	-8.76	1272.99	-15.09
801	SLU 11	83	21	5078	-8.64	1299.01	-7.27
801	SLU 12	82	35	5066	-8.79	1299.31	-12.13
801	SLU 13	81	45	5021	-8.83	1290.66	-15.54
801	SLU 14	84	23	5153	-8.7	1316.67	-7.72
801	SLU 15	83	36	5141	-8.85	1316.98	-12.58
801	SLU 16	83	23	5116	-8.65	1307.82	-7.89
801	SLU 17	83	37	5104	-8.8	1308.13	-12.75
801	SLU 18	83	21	5197	-8.95	1331.27	-7.27
801	SLU 19	82	35	5185	-9.1	1331.58	-12.13
801	SLU 20	85	23	5273	-9.02	1348.94	-7.72
801	SLU 21	84	36	5261	-9.17	1349.25	-12.58
801	SLU 22	84	17	5114	-8.62	1306.85	-5.8
801	SLU 23	83	40	5094	-8.87	1307.37	-13.89
801	SLU 24	86	18	5226	-8.75	1333.38	-6.08
801	SLU 25	86	32	5214	-8.9	1333.69	-10.93
801	SLU 26	84	42	5169	-8.94	1325.04	-14.34
801	SLU 27	88	19	5301	-8.82	1351.05	-6.53
801	SLU 28	87	33	5289	-8.97	1351.36	-11.38
801	SLU 29	87	20	5264	-8.76	1342.19	-6.7
801	SLU 30	86	34	5252	-8.91	1342.5	-11.56
801	SLU 31	88	42	5634	-9.9	1444.55	-14.54
801	SLU 32	92	20	5766	-9.78	1470.56	-6.73
801	SLU 33	91	34	5754	-9.93	1470.87	-11.58
801	SLU 34	90	43	5709	-9.97	1462.22	-14.99
801	SLU 35	93	21	5841	-9.85	1488.23	-7.18
801	SLU 36	92	35	5829	-10	1488.54	-12.03
801	SLU 37	92	22	5805	-9.79	1479.38	-7.35
801	SLU 38	91	35	5793	-9.94	1479.68	-12.2
801	SLU 39	92	20	5886	-10.1	1502.83	-6.73
801	SLU 40	91	34	5874	-10.25	1503.14	-11.58
801	SLU 41	93	21	5961	-10.17	1520.5	-7.18
801	SLU 42	92	35	5949	-10.32	1520.81	-12.03
801	SLU 43	95	25	5518	-9.33	1417.07	-8.44
801	SLU 44	94	48	5498	-9.58	1417.58	-16.53
801	SLU 45	97	26	5629	-9.46	1443.59	-8.71
801	SLU 46	96	39	5617	-9.61	1443.9	-13.57
801	SLU 47	95	49	5573	-9.65	1435.25	-16.98
801	SLU 48	98	27	5705	-9.52	1461.26	-9.16
801	SLU 49	98	41	5692	-9.67	1461.57	-14.02
801	SLU 50	98	27	5668	-9.47	1452.41	-9.33
801	SLU 51	97	41	5656	-9.62	1452.71	-14.19
801	SLU 52	99	50	6038	-10.61	1554.76	-17.18
801	SLU 53	103	27	6169	-10.49	1580.77	-9.36
801	SLU 54	102	41	6157	-10.64	1581.08	-14.22
801	SLU 55	101	51	6113	-10.68	1572.43	-17.63
801	SLU 56	104	29	6245	-10.56	1598.44	-9.81
801	SLU 57	103	43	6233	-10.71	1598.75	-14.67
801	SLU 58	103	29	6208	-10.5	1589.59	-9.98
801	SLU 59	102	43	6196	-10.65	1589.9	-14.84
801	SLU 60	103	27	6289	-10.8	1613.04	-9.36
801	SLU 61	102	41	6277	-10.95	1613.35	-14.22
801	SLU 62	104	29	6364	-10.87	1630.71	-9.81
801	SLU 63	103	43	6352	-11.02	1631.02	-14.67
801	SLU 64	104	23	6206	-10.48	1588.62	-7.89
801	SLU 65	103	46	6186	-10.73	1589.14	-15.98
801	SLU 66	106	24	6317	-10.6	1615.15	-8.17
801	SLU 67	105	38	6305	-10.75	1615.46	-13.02
801	SLU 68	104	48	6261	-10.79	1606.81	-16.43
801	SLU 69	107	25	6393	-10.67	1632.82	-8.62
801	SLU 70	106	39	6381	-10.82	1633.13	-13.47
801	SLU 71	107	26	6356	-10.61	1623.96	-8.79
801	SLU 72	106	40	6344	-10.76	1624.27	-13.65
801	SLU 73	108	48	6726	-11.76	1726.32	-16.63
801	SLU 74	111	26	6858	-11.63	1752.33	-8.82
801	SLU 75	111	40	6845	-11.78	1752.64	-13.67
801	SLU 76	109	50	6801	-11.83	1743.99	-17.08
801	SLU 77	113	27	6933	-11.7	1770	-9.27
801	SLU 78	112	41	6921	-11.85	1770.31	-14.12
801	SLU 79	112	28	6896	-11.64	1761.15	-9.44
801	SLU 80	111	42	6884	-11.79	1761.45	-14.29
801	SLU 81	112	26	6977	-11.95	1784.6	-8.82
801	SLU 82	111	40	6965	-12.1	1784.91	-13.67
801	SLU 83	113	27	7053	-12.02	1802.27	-9.27
801	SLU 84	112	41	7041	-12.17	1802.58	-14.12
801	SLE RA 1	78	18	4622	-7.81	1184.31	-6.19
801	SLE RA 2	77	34	4609	-7.97	1184.66	-11.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
801	SLE RA 3	79	19	4697	-7.89	1202	-6.37
801	SLE RA 4	79	28	4689	-7.99	1202.2	-9.61
801	SLE RA 5	78	34	4659	-8.02	1196.44	-11.88
801	SLE RA 6	80	20	4747	-7.94	1213.78	-6.67
801	SLE RA 7	80	29	4739	-8.04	1213.98	-9.91
801	SLE RA 8	80	20	4723	-7.9	1207.87	-6.79
801	SLE RA 9	79	29	4715	-8	1208.08	-10.03
801	SLE RA 10	81	35	4969	-8.66	1276.11	-12.02
801	SLE RA 11	83	20	5057	-8.58	1293.45	-6.81
801	SLE RA 12	82	29	5049	-8.68	1293.66	-10.04
801	SLE RA 13	82	36	5019	-8.71	1287.89	-12.32
801	SLE RA 14	84	21	5107	-8.62	1305.23	-7.11
801	SLE RA 15	83	30	5099	-8.72	1305.44	-10.34
801	SLE RA 16	83	21	5083	-8.59	1299.33	-7.22
801	SLE RA 17	83	30	5075	-8.69	1299.53	-10.46
801	SLE RA 18	83	20	5137	-8.79	1314.96	-6.81
801	SLE RA 19	83	29	5129	-8.89	1315.17	-10.05
801	SLE RA 20	84	21	5187	-8.83	1326.74	-7.11
801	SLE RA 21	84	30	5179	-8.93	1326.95	-10.34
801	SLE FR 1	78	18	4622	-7.81	1184.31	-6.19
801	SLE FR 2	78	21	4620	-7.84	1184.38	-7.27
801	SLE FR 3	78	19	4643	-7.83	1189.03	-6.31
801	SLE FR 4	80	22	4774	-8.13	1223.58	-7.45
801	SLE FR 5	80	19	4797	-8.12	1228.22	-6.5
801	SLE FR 6	81	19	4880	-8.3	1249.64	-6.5
801	SLE QP 1	78	18	4622	-7.81	1184.31	-6.19
801	SLE QP 2	80	19	4777	-8.1	1223.51	-6.38
801	SLD 1	385	-16	3392	-7.94	938.37	5.51
801	SLD 2	365	107	3365	-8.26	939.64	-37.17
801	SLD 3	399	-294	3684	-4.3	930.54	102.75
801	SLD 4	379	-171	3657	-4.63	931.81	60.07
801	SLD 5	153	409	3924	-13.5	1149.62	-142.95
801	SLD 6	140	488	3906	-13.72	1150.44	-170.43
801	SLD 7	201	-518	4896	-1.4	1123.53	181.18
801	SLD 8	188	-439	4878	-1.61	1124.34	153.7
801	SLD 9	-28	476	4675	-14.6	1322.68	-166.45
801	SLD 10	-41	555	4658	-14.81	1323.49	-193.93
801	SLD 11	19	-450	5647	-2.49	1296.58	157.68
801	SLD 12	6	-371	5630	-2.7	1297.4	130.2
801	SLD 13	-220	209	5897	-11.57	1515.21	-72.82
801	SLD 14	-240	331	5870	-11.9	1516.48	-115.5
801	SLD 15	-206	-69	6188	-7.94	1507.38	24.41
801	SLD 16	-226	53	6161	-8.27	1508.65	-18.26
801	SLV 1	558	-16	2595	-8.11	778.93	5.44
801	SLV 2	526	177	2552	-8.62	780.92	-61.83
801	SLV 3	581	-490	3093	-1.91	765.97	171.33
801	SLV 4	550	-297	3050	-2.42	767.97	104.06
801	SLV 5	193	692	3375	-17.41	1109.41	-241.87
801	SLV 6	171	822	3346	-17.75	1110.75	-287.16
801	SLV 7	272	-889	5035	3.25	1066.23	311.08
801	SLV 8	251	-759	5006	2.9	1067.58	265.79
801	SLV 9	-92	797	4547	-19.11	1379.44	-278.54
801	SLV 10	-113	927	4519	-19.46	1380.79	-323.83
801	SLV 11	-12	-784	6207	1.55	1336.27	274.41
801	SLV 12	-33	-654	6179	1.2	1337.61	229.12
801	SLV 13	-391	335	6503	-13.78	1679.05	-116.81
801	SLV 14	-422	528	6461	-14.3	1681.04	-184.08
801	SLV 15	-367	-140	7001	-7.58	1666.1	49.08
801	SLV 16	-398	54	6959	-8.1	1668.09	-18.19
801	SLV FO 1	605	-20	2377	-8.11	734.47	6.62
801	SLV FO 2	571	193	2330	-8.67	736.66	-67.38
801	SLV FO 3	632	-541	2925	-1.29	720.22	189.1
801	SLV FO 4	597	-329	2878	-1.86	722.42	115.1
801	SLV FO 5	204	759	3235	-18.34	1098	-265.42
801	SLV FO 6	181	902	3203	-18.72	1099.47	-315.24
801	SLV FO 7	292	-980	5061	4.39	1050.5	342.83
801	SLV FO 8	268	-837	5029	4.01	1051.98	293.01
801	SLV FO 9	-109	875	4524	-20.21	1395.04	-305.76
801	SLV FO 10	-132	1018	4493	-20.59	1396.52	-355.58
801	SLV FO 11	-21	-864	6350	2.52	1347.54	302.48
801	SLV FO 12	-44	-721	6319	2.13	1349.02	252.67
801	SLV FO 13	-438	366	6676	-14.35	1724.6	-127.85
801	SLV FO 14	-472	579	6629	-14.91	1726.8	-201.85
801	SLV FO 15	-411	-155	7224	-7.53	1710.35	54.62
801	SLV FO 16	-446	57	7177	-8.1	1712.55	-19.37
801	CRTFP Ux+	0	0	0	0	0	0
801	CRTFP Ux-	0	0	0	0	0	0
801	CRTFP Uy+	0	0	0	0	0	0
801	CRTFP Uy-	0	0	0	0	0	0
803	SLU 1	100	23	6320	1.49	-19.93	0.09
803	SLU 2	98	52	6293	1.15	-21.21	0.21
803	SLU 3	103	24	6482	1.65	-20.21	0.05
803	SLU 4	102	41	6466	1.45	-20.97	0.13
803	SLU 5	100	52	6404	1.28	-21.45	0.17
803	SLU 6	105	24	6593	1.78	-20.45	0.01
803	SLU 7	104	41	6577	1.57	-21.22	0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
803	SLU 8	104	24	6541	1.75	-20.42	0.01
803	SLU 9	103	41	6525	1.54	-21.19	0.09
803	SLU 10	106	56	7107	1.31	-23.33	0.24
803	SLU 11	111	27	7297	1.81	-22.33	0.07
803	SLU 12	110	44	7280	1.61	-23.1	0.15
803	SLU 13	108	56	7218	1.44	-23.58	0.2
803	SLU 14	113	27	7407	1.94	-22.58	0.04
803	SLU 15	112	45	7391	1.74	-23.34	0.11
803	SLU 16	112	27	7356	1.91	-22.55	0.03
803	SLU 17	111	45	7339	1.7	-23.31	0.11
803	SLU 18	111	28	7483	1.72	-22.96	0.12
803	SLU 19	110	46	7467	1.51	-23.73	0.2
803	SLU 20	113	29	7594	1.85	-23.21	0.08
803	SLU 21	112	46	7578	1.64	-23.98	0.16
803	SLU 22	114	26	7354	1.95	-22.01	0.08
803	SLU 23	113	55	7327	1.61	-23.29	0.2
803	SLU 24	117	27	7516	2.11	-22.29	0.04
803	SLU 25	116	44	7500	1.91	-23.06	0.12
803	SLU 26	115	55	7438	1.74	-23.54	0.17
803	SLU 27	119	27	7627	2.24	-22.54	0
803	SLU 28	118	44	7611	2.03	-23.3	0.08
803	SLU 29	118	27	7575	2.21	-22.51	0
803	SLU 30	117	44	7559	2	-23.27	0.08
803	SLU 31	120	59	8142	1.77	-25.41	0.23
803	SLU 32	125	30	8331	2.27	-24.41	0.07
803	SLU 33	124	48	8315	2.07	-25.18	0.14
803	SLU 34	122	59	8252	1.9	-25.66	0.19
803	SLU 35	127	31	8442	2.4	-24.66	0.03
803	SLU 36	126	48	8425	2.2	-25.43	0.1
803	SLU 37	126	30	8390	2.37	-24.63	0.03
803	SLU 38	125	48	8374	2.16	-25.4	0.1
803	SLU 39	125	31	8518	2.18	-25.05	0.11
803	SLU 40	124	49	8502	1.97	-25.81	0.19
803	SLU 41	127	32	8628	2.31	-25.29	0.07
803	SLU 42	126	49	8612	2.1	-26.06	0.15
803	SLU 43	125	29	7861	1.78	-25.19	0.12
803	SLU 44	124	58	7834	1.44	-26.47	0.24
803	SLU 45	128	30	8023	1.94	-25.47	0.08
803	SLU 46	127	47	8007	1.73	-26.24	0.16
803	SLU 47	126	58	7945	1.57	-26.72	0.2
803	SLU 48	130	30	8134	2.07	-25.72	0.04
803	SLU 49	129	47	8118	1.86	-26.48	0.12
803	SLU 50	129	30	8082	2.04	-25.69	0.04
803	SLU 51	128	47	8066	1.83	-26.45	0.12
803	SLU 52	131	61	8649	1.6	-28.59	0.26
803	SLU 53	136	33	8838	2.1	-27.59	0.1
803	SLU 54	135	50	8822	1.89	-28.36	0.18
803	SLU 55	133	62	8759	1.73	-28.84	0.23
803	SLU 56	138	33	8948	2.23	-27.84	0.07
803	SLU 57	137	51	8932	2.02	-28.61	0.14
803	SLU 58	137	33	8897	2.2	-27.81	0.06
803	SLU 59	136	51	8881	1.99	-28.58	0.14
803	SLU 60	136	34	9025	2.01	-28.23	0.15
803	SLU 61	135	52	9008	1.8	-28.99	0.22
803	SLU 62	138	35	9135	2.14	-28.47	0.11
803	SLU 63	137	52	9119	1.93	-29.24	0.19
803	SLU 64	140	32	8895	2.24	-27.28	0.11
803	SLU 65	138	61	8869	1.9	-28.55	0.23
803	SLU 66	143	33	9058	2.4	-27.55	0.07
803	SLU 67	142	50	9042	2.19	-28.32	0.15
803	SLU 68	140	61	8979	2.03	-28.8	0.2
803	SLU 69	145	33	9168	2.53	-27.8	0.03
803	SLU 70	144	50	9152	2.32	-28.57	0.11
803	SLU 71	144	33	9117	2.5	-27.77	0.03
803	SLU 72	142	50	9101	2.29	-28.54	0.11
803	SLU 73	146	65	9683	2.06	-30.68	0.26
803	SLU 74	150	36	9872	2.56	-29.68	0.09
803	SLU 75	149	53	9856	2.35	-30.44	0.17
803	SLU 76	147	65	9794	2.19	-30.93	0.22
803	SLU 77	152	36	9983	2.69	-29.93	0.06
803	SLU 78	151	54	9967	2.48	-30.69	0.13
803	SLU 79	151	36	9931	2.66	-29.9	0.05
803	SLU 80	150	54	9915	2.45	-30.66	0.13
803	SLU 81	151	37	10059	2.47	-30.31	0.14
803	SLU 82	150	55	10043	2.26	-31.08	0.22
803	SLU 83	153	38	10170	2.6	-30.56	0.1
803	SLU 84	151	55	10154	2.39	-31.33	0.18
803	SLE RA 1	104	24	6615	1.62	-20.52	0.09
803	SLE RA 2	103	43	6597	1.39	-21.38	0.17
803	SLE RA 3	106	24	6723	1.73	-20.71	0.06
803	SLE RA 4	106	36	6713	1.59	-21.22	0.11
803	SLE RA 5	104	43	6671	1.48	-21.54	0.14
803	SLE RA 6	108	25	6797	1.81	-20.87	0.04
803	SLE RA 7	107	36	6786	1.68	-21.38	0.09
803	SLE RA 8	107	24	6763	1.79	-20.85	0.03
803	SLE RA 9	106	36	6752	1.66	-21.37	0.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
803	SLE RA 10	108	46	7140	1.5	-22.79	0.18
803	SLE RA 11	111	27	7266	1.83	-22.12	0.08
803	SLE RA 12	111	38	7256	1.7	-22.64	0.13
803	SLE RA 13	110	46	7214	1.59	-22.96	0.16
803	SLE RA 14	113	27	7340	1.92	-22.29	0.05
803	SLE RA 15	112	38	7330	1.78	-22.8	0.1
803	SLE RA 16	112	27	7306	1.9	-22.27	0.05
803	SLE RA 17	111	38	7295	1.76	-22.78	0.1
803	SLE RA 18	112	28	7391	1.77	-22.55	0.11
803	SLE RA 19	111	39	7380	1.64	-23.06	0.16
803	SLE RA 20	113	28	7465	1.86	-22.71	0.08
803	SLE RA 21	112	39	7454	1.72	-23.22	0.13
803	SLE FR 1	104	24	6615	1.62	-20.52	0.09
803	SLE FR 2	104	28	6612	1.57	-20.69	0.1
803	SLE FR 3	105	24	6645	1.65	-20.59	0.08
803	SLE FR 4	106	29	6844	1.62	-21.3	0.11
803	SLE FR 5	107	25	6877	1.7	-21.2	0.08
803	SLE FR 6	108	26	7003	1.7	-21.54	0.1
803	SLE QP 1	104	24	6615	1.62	-20.52	0.09
803	SLE QP 2	106	25	6848	1.66	-21.13	0.09
803	SLD 1	613	242	6091	-1.81	-23.34	-1.71
803	SLD 2	585	330	6079	-2.17	-22.75	0.21
803	SLD 3	632	-110	6501	3.34	-6.43	-3.34
803	SLD 4	604	-22	6490	2.99	-5.85	-1.42
803	SLD 5	234	608	6001	-7.13	-47.53	1.7
803	SLD 6	217	665	5993	-7.36	-47.15	2.93
803	SLD 7	298	-564	7368	10.04	8.81	-3.74
803	SLD 8	280	-507	7360	9.82	9.19	-2.51
803	SLD 9	-67	557	6335	-6.49	-51.45	2.69
803	SLD 10	-85	614	6328	-6.71	-51.07	3.93
803	SLD 11	-4	-615	7703	10.69	4.89	-2.75
803	SLD 12	-21	-558	7695	10.46	5.27	-1.51
803	SLD 13	-391	72	7206	0.34	-36.41	1.6
803	SLD 14	-419	160	7195	-0.01	-35.83	3.53
803	SLD 15	-372	-280	7616	5.5	-19.51	-0.03
803	SLD 16	-400	-191	7605	5.14	-18.93	1.89
803	SLV 1	898	388	5636	-4.15	-25.57	-2.62
803	SLV 2	855	527	5618	-4.71	-24.65	0.41
803	SLV 3	930	-212	6336	4.65	3.29	-5.4
803	SLV 4	887	-73	6318	4.09	4.21	-2.37
803	SLV 5	304	1018	5426	-13.31	-66.4	2.94
803	SLV 6	275	1112	5413	-13.69	-65.78	4.97
803	SLV 7	410	-982	7760	16	29.79	-6.34
803	SLV 8	381	-888	7748	15.63	30.41	-4.3
803	SLV 9	-168	938	5948	-12.3	-72.67	4.49
803	SLV 10	-197	1032	5936	-12.67	-72.05	6.53
803	SLV 11	-62	-1061	8282	17.02	23.52	-4.79
803	SLV 12	-91	-967	8270	16.64	24.14	-2.75
803	SLV 13	-674	123	7378	-0.76	-46.47	2.55
803	SLV 14	-717	262	7360	-1.32	-45.55	5.58
803	SLV 15	-642	-477	8078	8.04	-17.61	-0.23
803	SLV 16	-685	-338	8060	7.48	-16.69	2.8
803	SLV FO 1	977	424	5515	-4.73	-26.01	-2.89
803	SLV FO 2	930	577	5495	-5.34	-25	0.44
803	SLV FO 3	1012	-236	6285	4.94	5.73	-5.95
803	SLV FO 4	965	-82	6265	4.33	6.74	-2.62
803	SLV FO 5	323	1117	5283	-14.81	-70.93	3.22
803	SLV FO 6	292	1220	5270	-15.22	-70.25	5.46
803	SLV FO 7	440	-1082	7851	17.44	34.88	-6.99
803	SLV FO 8	408	-979	7838	17.02	35.57	-4.74
803	SLV FO 9	-195	1030	5858	-13.69	-77.83	4.93
803	SLV FO 10	-227	1133	5845	-14.11	-77.15	7.17
803	SLV FO 11	-79	-1170	8426	18.55	27.99	-5.28
803	SLV FO 12	-111	-1067	8412	18.14	28.67	-3.04
803	SLV FO 13	-752	133	7431	-1	-49	2.8
803	SLV FO 14	-799	286	7411	-1.61	-47.99	6.13
803	SLV FO 15	-717	-527	8201	8.67	-17.26	-0.26
803	SLV FO 16	-764	-374	8181	8.06	-16.25	3.07
803	CRTFP Ux+	0	0	0	0	0	0
803	CRTFP Ux-	0	0	0	0	0	0
803	CRTFP Uy+	0	0	0	0	0	0
803	CRTFP Uy-	0	0	0	0	0	0
806	SLU 1	-80	6	6525	-0.52	5.78	0.91
806	SLU 2	-79	37	6496	-0.89	7.77	0.8
806	SLU 3	-82	6	6689	-0.43	5.45	0.96
806	SLU 4	-81	24	6672	-0.66	6.65	0.9
806	SLU 5	-80	37	6604	-0.82	7.5	0.84
806	SLU 6	-83	5	6797	-0.37	5.18	1
806	SLU 7	-82	24	6779	-0.59	6.38	0.93
806	SLU 8	-82	5	6740	-0.39	5.23	0.98
806	SLU 9	-81	24	6723	-0.61	6.43	0.92
806	SLU 10	-82	38	7365	-1.03	7.32	0.99
806	SLU 11	-85	6	7558	-0.58	5	1.15
806	SLU 12	-85	25	7541	-0.8	6.2	1.08
806	SLU 13	-83	38	7473	-0.96	7.04	1.03
806	SLU 14	-86	6	7666	-0.51	4.73	1.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
806	SLU 15	-86	25	7648	-0.73	5.92	1.12
806	SLU 16	-85	6	7609	-0.53	4.78	1.17
806	SLU 17	-85	25	7592	-0.75	5.97	1.1
806	SLU 18	-85	7	7767	-0.72	5.13	1.18
806	SLU 19	-84	26	7749	-0.94	6.33	1.11
806	SLU 20	-86	6	7874	-0.66	4.86	1.21
806	SLU 21	-85	25	7857	-0.88	6.05	1.15
806	SLU 22	-89	5	7614	-0.38	4.97	1.15
806	SLU 23	-88	36	7585	-0.75	6.96	1.05
806	SLU 24	-91	5	7778	-0.3	4.64	1.21
806	SLU 25	-90	24	7761	-0.52	5.84	1.14
806	SLU 26	-89	36	7693	-0.69	6.69	1.08
806	SLU 27	-92	4	7885	-0.24	4.37	1.24
806	SLU 28	-91	23	7868	-0.46	5.56	1.18
806	SLU 29	-91	5	7829	-0.26	4.42	1.22
806	SLU 30	-91	23	7812	-0.48	5.61	1.16
806	SLU 31	-92	37	8454	-0.89	6.51	1.24
806	SLU 32	-95	5	8647	-0.44	4.19	1.39
806	SLU 33	-94	24	8630	-0.67	5.39	1.33
806	SLU 34	-93	37	8562	-0.83	6.23	1.27
806	SLU 35	-96	5	8755	-0.38	3.92	1.43
806	SLU 36	-95	24	8737	-0.6	5.11	1.37
806	SLU 37	-95	5	8698	-0.4	3.97	1.41
806	SLU 38	-94	24	8681	-0.62	5.16	1.35
806	SLU 39	-94	6	8856	-0.59	4.32	1.42
806	SLU 40	-94	25	8838	-0.81	5.52	1.36
806	SLU 41	-95	6	8963	-0.52	4.05	1.46
806	SLU 42	-95	25	8946	-0.74	5.24	1.39
806	SLU 43	-101	8	8109	-0.72	7.79	1.1
806	SLU 44	-99	39	8080	-1.09	9.78	0.99
806	SLU 45	-102	8	8273	-0.64	7.47	1.15
806	SLU 46	-102	26	8256	-0.86	8.66	1.09
806	SLU 47	-100	39	8188	-1.02	9.51	1.03
806	SLU 48	-103	7	8381	-0.57	7.19	1.18
806	SLU 49	-103	26	8363	-0.79	8.39	1.12
806	SLU 50	-103	7	8324	-0.59	7.24	1.17
806	SLU 51	-102	26	8307	-0.81	8.44	1.11
806	SLU 52	-103	40	8950	-1.23	9.33	1.18
806	SLU 53	-106	8	9142	-0.78	7.01	1.34
806	SLU 54	-105	27	9125	-1	8.21	1.27
806	SLU 55	-104	40	9057	-1.16	9.06	1.22
806	SLU 56	-107	8	9250	-0.71	6.74	1.37
806	SLU 57	-106	27	9233	-0.93	7.93	1.31
806	SLU 58	-106	8	9193	-0.73	6.79	1.36
806	SLU 59	-105	27	9176	-0.95	7.98	1.29
806	SLU 60	-106	9	9351	-0.92	7.14	1.36
806	SLU 61	-105	28	9334	-1.14	8.34	1.3
806	SLU 62	-107	9	9458	-0.86	6.87	1.4
806	SLU 63	-106	27	9441	-1.08	8.07	1.34
806	SLU 64	-110	7	9198	-0.58	6.98	1.34
806	SLU 65	-109	39	9169	-0.95	8.97	1.24
806	SLU 66	-112	7	9362	-0.5	6.66	1.39
806	SLU 67	-111	26	9345	-0.72	7.85	1.33
806	SLU 68	-110	38	9277	-0.89	8.7	1.27
806	SLU 69	-113	6	9470	-0.44	6.38	1.43
806	SLU 70	-112	25	9452	-0.66	7.58	1.37
806	SLU 71	-112	7	9413	-0.46	6.43	1.41
806	SLU 72	-111	26	9396	-0.68	7.63	1.35
806	SLU 73	-112	39	10038	-1.09	8.52	1.43
806	SLU 74	-115	7	10231	-0.64	6.2	1.58
806	SLU 75	-115	26	10214	-0.87	7.4	1.52
806	SLU 76	-113	39	10146	-1.03	8.24	1.46
806	SLU 77	-116	7	10339	-0.58	5.93	1.62
806	SLU 78	-116	26	10321	-0.8	7.12	1.55
806	SLU 79	-115	7	10282	-0.6	5.98	1.6
806	SLU 80	-115	26	10265	-0.82	7.17	1.54
806	SLU 81	-115	8	10440	-0.79	6.33	1.61
806	SLU 82	-114	27	10423	-1.01	7.53	1.55
806	SLU 83	-116	8	10547	-0.72	6.06	1.65
806	SLU 84	-115	27	10530	-0.94	7.25	1.58
806	SLE RA 1	-82	6	6836	-0.48	5.55	0.98
806	SLE RA 2	-82	27	6817	-0.72	6.88	0.91
806	SLE RA 3	-84	5	6945	-0.42	5.33	1.01
806	SLE RA 4	-83	18	6934	-0.57	6.13	0.97
806	SLE RA 5	-82	26	6889	-0.68	6.69	0.93
806	SLE RA 6	-84	5	7017	-0.38	5.15	1.04
806	SLE RA 7	-84	18	7006	-0.53	5.94	0.99
806	SLE RA 8	-84	5	6980	-0.39	5.18	1.03
806	SLE RA 9	-83	18	6968	-0.54	5.98	0.98
806	SLE RA 10	-84	27	7396	-0.82	6.57	1.03
806	SLE RA 11	-86	6	7525	-0.52	5.03	1.14
806	SLE RA 12	-86	18	7513	-0.67	5.83	1.1
806	SLE RA 13	-85	27	7468	-0.78	6.39	1.06
806	SLE RA 14	-87	6	7597	-0.48	4.85	1.16
806	SLE RA 15	-86	18	7585	-0.62	5.64	1.12
806	SLE RA 16	-86	6	7559	-0.49	4.88	1.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
806	SLE RA 17	-86	18	7547	-0.64	5.68	1.11
806	SLE RA 18	-86	6	7664	-0.61	5.12	1.16
806	SLE RA 19	-85	19	7652	-0.76	5.91	1.12
806	SLE RA 20	-87	6	7736	-0.57	4.93	1.18
806	SLE RA 21	-86	19	7724	-0.72	5.73	1.14
806	SLE FR 1	-82	6	6836	-0.48	5.55	0.98
806	SLE FR 2	-82	10	6832	-0.53	5.81	0.96
806	SLE FR 3	-83	5	6865	-0.46	5.47	0.99
806	SLE FR 4	-83	10	7081	-0.57	5.68	1.02
806	SLE FR 5	-84	6	7113	-0.5	5.34	1.04
806	SLE FR 6	-84	6	7250	-0.55	5.33	1.07
806	SLE QP 1	-82	6	6836	-0.48	5.55	0.98
806	SLE QP 2	-83	6	7085	-0.52	5.42	1.03
806	SLD 1	450	347	7692	-3.75	23.66	-2.36
806	SLD 2	421	251	7699	-3.41	22.44	-0.45
806	SLD 3	431	-42	8104	1.72	-2.89	-0.92
806	SLD 4	401	-138	8111	2.05	-4.1	0.99
806	SLD 5	111	715	6641	-9.83	51.36	-2.5
806	SLD 6	92	653	6645	-9.62	50.58	-1.27
806	SLD 7	47	-582	8014	8.38	-37.13	2.3
806	SLD 8	28	-644	8018	8.59	-37.91	3.53
806	SLD 9	-195	655	6151	-9.63	48.75	-1.47
806	SLD 10	-214	594	6155	-9.42	47.96	-0.24
806	SLD 11	-259	-642	7524	8.58	-39.74	3.33
806	SLD 12	-278	-703	7528	8.79	-40.52	4.56
806	SLD 13	-568	149	6058	-3.09	14.94	1.07
806	SLD 14	-598	54	6065	-2.75	13.72	2.98
806	SLD 15	-588	-240	6470	2.38	-11.61	2.51
806	SLD 16	-617	-336	6477	2.71	-12.82	4.42
806	SLV 1	754	568	8003	-5.98	36.25	-4.37
806	SLV 2	707	417	8013	-5.45	34.34	-1.37
806	SLV 3	722	-96	8705	3.34	-9.04	-1.92
806	SLV 4	675	-247	8716	3.87	-10.96	1.09
806	SLV 5	226	1209	6293	-16.39	83.73	-4.88
806	SLV 6	195	1108	6300	-16.04	82.44	-2.85
806	SLV 7	117	-1004	8634	14.68	-67.26	3.31
806	SLV 8	86	-1105	8641	15.03	-68.55	5.34
806	SLV 9	-253	1116	5528	-16.07	79.39	-3.27
806	SLV 10	-284	1015	5535	-15.72	78.1	-1.25
806	SLV 11	-362	-1096	7869	15	-71.6	4.92
806	SLV 12	-393	-1198	7876	15.35	-72.89	6.94
806	SLV 13	-842	258	5453	-4.9	21.8	0.97
806	SLV 14	-889	108	5464	-4.38	19.88	3.98
806	SLV 15	-874	-406	6156	4.42	-23.5	3.43
806	SLV 16	-921	-556	6166	4.94	-25.42	6.44
806	SLV FO 1	838	624	8094	-6.52	39.34	-4.92
806	SLV FO 2	787	458	8106	-5.95	37.23	-1.61
806	SLV FO 3	802	-106	8867	3.73	-10.49	-2.21
806	SLV FO 4	751	-272	8879	4.31	-12.6	1.1
806	SLV FO 5	257	1330	6213	-17.98	91.56	-5.47
806	SLV FO 6	222	1218	6221	-17.59	90.14	-3.24
806	SLV FO 7	137	-1104	8789	16.2	-74.53	3.54
806	SLV FO 8	103	-1216	8797	16.59	-75.95	5.77
806	SLV FO 9	-270	1228	5372	-17.63	86.79	-3.7
806	SLV FO 10	-304	1116	5380	-17.24	85.37	-1.48
806	SLV FO 11	-389	-1207	7948	16.55	-79.3	5.3
806	SLV FO 12	-424	-1318	7956	16.94	-80.72	7.53
806	SLV FO 13	-918	284	5290	-5.34	23.44	0.97
806	SLV FO 14	-969	118	5302	-4.77	21.33	4.28
806	SLV FO 15	-954	-447	6063	4.91	-26.39	3.67
806	SLV FO 16	-1005	-612	6075	5.49	-28.5	6.98
806	CRTFP Ux+	0	0	0	0	0	0
806	CRTFP Ux-	0	0	0	0	0	0
806	CRTFP Uy+	0	0	0	0	0	0
806	CRTFP Uy-	0	0	0	0	0	0
809	SLU 1	0	31	3044	-2.4	731.85	-8.02
809	SLU 2	0	49	3037	-2.47	729.37	-12.51
809	SLU 3	0	32	3117	-2.46	749.73	-8.13
809	SLU 4	0	42	3113	-2.51	748.24	-10.83
809	SLU 5	0	49	3085	-2.51	741.17	-12.53
809	SLU 6	0	32	3165	-2.51	761.53	-8.15
809	SLU 7	0	42	3161	-2.55	760.04	-10.84
809	SLU 8	0	31	3140	-2.49	755.45	-8.05
809	SLU 9	0	42	3136	-2.53	753.96	-10.75
809	SLU 10	1	51	3446	-2.95	827.73	-13.05
809	SLU 11	1	34	3526	-2.95	848.09	-8.68
809	SLU 12	1	45	3522	-2.99	846.6	-11.37
809	SLU 13	1	51	3494	-3	839.53	-13.07
809	SLU 14	2	34	3574	-2.99	859.89	-8.69
809	SLU 15	2	45	3570	-3.03	858.4	-11.39
809	SLU 16	2	33	3549	-2.97	853.81	-8.6
809	SLU 17	2	44	3545	-3.01	852.32	-11.29
809	SLU 18	2	34	3628	-3.09	872.36	-8.79
809	SLU 19	2	45	3624	-3.13	870.87	-11.49
809	SLU 20	2	34	3676	-3.14	884.16	-8.81
809	SLU 21	2	45	3672	-3.18	882.67	-11.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
809	SLU 22	1	35	3542	-2.78	851.79	-9.11
809	SLU 23	1	53	3536	-2.85	849.31	-13.6
809	SLU 24	1	36	3615	-2.85	869.67	-9.22
809	SLU 25	1	47	3611	-2.89	868.18	-11.92
809	SLU 26	1	53	3583	-2.89	861.11	-13.62
809	SLU 27	1	36	3663	-2.89	881.47	-9.24
809	SLU 28	1	47	3659	-2.93	879.98	-11.93
809	SLU 29	1	36	3638	-2.87	875.39	-9.14
809	SLU 30	1	46	3634	-2.91	873.9	-11.84
809	SLU 31	2	56	3945	-3.33	947.67	-14.14
809	SLU 32	2	38	4024	-3.33	968.03	-9.77
809	SLU 33	2	49	4020	-3.37	966.54	-12.46
809	SLU 34	2	56	3993	-3.38	959.47	-14.16
809	SLU 35	2	38	4072	-3.37	979.83	-9.78
809	SLU 36	2	49	4068	-3.41	978.34	-12.48
809	SLU 37	2	38	4047	-3.35	973.75	-9.69
809	SLU 38	2	48	4043	-3.39	972.27	-12.38
809	SLU 39	2	38	4127	-3.47	992.31	-9.88
809	SLU 40	2	49	4123	-3.52	990.82	-12.58
809	SLU 41	3	39	4175	-3.52	1004.11	-9.9
809	SLU 42	3	49	4171	-3.56	1002.62	-12.6
809	SLU 43	0	39	3786	-2.99	910.28	-10.05
809	SLU 44	0	57	3780	-3.06	907.8	-14.54
809	SLU 45	0	39	3859	-3.05	928.16	-10.16
809	SLU 46	0	50	3855	-3.1	926.67	-12.86
809	SLU 47	0	57	3828	-3.1	919.6	-14.56
809	SLU 48	0	40	3907	-3.1	939.96	-10.18
809	SLU 49	0	50	3903	-3.14	938.47	-12.88
809	SLU 50	0	39	3882	-3.08	933.88	-10.08
809	SLU 51	0	50	3878	-3.12	932.39	-12.78
809	SLU 52	1	59	4189	-3.54	1006.16	-15.08
809	SLU 53	1	42	4268	-3.54	1026.52	-10.71
809	SLU 54	1	52	4264	-3.58	1025.03	-13.4
809	SLU 55	1	59	4237	-3.59	1017.96	-15.1
809	SLU 56	1	42	4316	-3.58	1038.32	-10.73
809	SLU 57	1	52	4312	-3.62	1036.83	-13.42
809	SLU 58	1	41	4291	-3.56	1032.24	-10.63
809	SLU 59	1	52	4287	-3.6	1030.75	-13.32
809	SLU 60	1	42	4371	-3.68	1050.79	-10.83
809	SLU 61	1	53	4367	-3.72	1049.3	-13.52
809	SLU 62	2	42	4419	-3.73	1062.59	-10.84
809	SLU 63	2	53	4415	-3.77	1061.11	-13.54
809	SLU 64	0	43	4285	-3.37	1030.22	-11.14
809	SLU 65	0	61	4278	-3.44	1027.74	-15.63
809	SLU 66	1	44	4357	-3.44	1048.1	-11.25
809	SLU 67	1	55	4353	-3.48	1046.61	-13.95
809	SLU 68	1	61	4326	-3.48	1039.54	-15.65
809	SLU 69	1	44	4405	-3.48	1059.9	-11.27
809	SLU 70	1	55	4401	-3.52	1058.41	-13.97
809	SLU 71	1	43	4381	-3.46	1053.82	-11.17
809	SLU 72	1	54	4377	-3.5	1052.33	-13.87
809	SLU 73	1	63	4687	-3.92	1126.1	-16.17
809	SLU 74	2	46	4767	-3.92	1146.46	-11.8
809	SLU 75	2	57	4763	-3.96	1144.97	-14.49
809	SLU 76	2	63	4735	-3.97	1137.9	-16.19
809	SLU 77	2	46	4815	-3.96	1158.26	-11.82
809	SLU 78	2	57	4811	-4	1156.77	-14.51
809	SLU 79	2	46	4790	-3.94	1152.19	-11.72
809	SLU 80	2	56	4786	-3.98	1150.7	-14.41
809	SLU 81	2	46	4869	-4.06	1170.74	-11.92
809	SLU 82	2	57	4865	-4.1	1169.25	-14.61
809	SLU 83	2	46	4917	-4.11	1182.54	-11.93
809	SLU 84	2	57	4913	-4.15	1181.05	-14.63
809	SLE RA 1	0	32	3186	-2.51	766.12	-8.33
809	SLE RA 2	0	44	3182	-2.56	764.46	-11.32
809	SLE RA 3	0	33	3235	-2.55	778.04	-8.4
809	SLE RA 4	0	40	3232	-2.58	777.04	-10.2
809	SLE RA 5	0	44	3214	-2.58	772.33	-11.33
809	SLE RA 6	0	33	3267	-2.58	785.9	-8.42
809	SLE RA 7	0	40	3264	-2.61	784.91	-10.21
809	SLE RA 8	1	32	3250	-2.57	781.85	-8.35
809	SLE RA 9	0	40	3248	-2.6	780.86	-10.15
809	SLE RA 10	1	46	3455	-2.88	830.04	-11.69
809	SLE RA 11	1	34	3508	-2.88	843.61	-8.77
809	SLE RA 12	1	41	3505	-2.9	842.62	-10.56
809	SLE RA 13	1	46	3487	-2.91	837.9	-11.7
809	SLE RA 14	1	34	3540	-2.9	851.48	-8.78
809	SLE RA 15	1	41	3537	-2.93	850.49	-10.58
809	SLE RA 16	1	34	3523	-2.89	847.43	-8.72
809	SLE RA 17	1	41	3520	-2.92	846.43	-10.51
809	SLE RA 18	1	34	3576	-2.97	859.8	-8.85
809	SLE RA 19	1	42	3573	-3	858.8	-10.64
809	SLE RA 20	1	34	3608	-3	867.66	-8.86
809	SLE RA 21	1	42	3605	-3.03	866.67	-10.66
809	SLE FR 1	0	32	3186	-2.51	766.12	-8.33
809	SLE FR 2	0	35	3185	-2.52	765.79	-8.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
809	SLE FR 3	0	32	3199	-2.52	769.26	-8.33
809	SLE FR 4	0	35	3302	-2.66	793.89	-9.08
809	SLE FR 5	1	33	3316	-2.66	797.37	-8.49
809	SLE FR 6	1	33	3381	-2.74	812.96	-8.59
809	SLE QP 1	0	32	3186	-2.51	766.12	-8.33
809	SLE QP 2	0	33	3303	-2.65	794.22	-8.48
809	SLD 1	280	172	3321	-2.08	790.48	-43.34
809	SLD 2	267	152	3312	-2.07	789.33	-38.4
809	SLD 3	285	-47	3420	-1.01	825.93	11.27
809	SLD 4	273	-66	3412	-0.99	824.78	16.21
809	SLD 5	78	409	3159	-4.11	739.53	-102.61
809	SLD 6	70	397	3154	-4.1	738.79	-99.43
809	SLD 7	96	-319	3490	-0.53	857.7	79.41
809	SLD 8	88	-331	3485	-0.52	856.96	82.59
809	SLD 9	-87	397	3121	-4.78	731.48	-99.56
809	SLD 10	-95	385	3116	-4.77	730.74	-96.38
809	SLD 11	-69	-331	3452	-1.19	849.65	82.46
809	SLD 12	-77	-343	3447	-1.18	848.91	85.64
809	SLD 13	-272	132	3195	-4.3	763.66	-33.17
809	SLD 14	-284	113	3187	-4.29	762.51	-28.23
809	SLD 15	-267	-86	3294	-3.23	799.11	21.43
809	SLD 16	-279	-106	3286	-3.21	797.96	26.37
809	SLV 1	438	266	3323	-1.85	785.86	-67.02
809	SLV 2	418	236	3310	-1.83	784.05	-59.24
809	SLV 3	447	-107	3493	-0.01	846.36	26.11
809	SLV 4	427	-137	3480	0.01	844.55	33.89
809	SLV 5	122	673	3055	-5.2	700.29	-168.75
809	SLV 6	109	653	3046	-5.18	699.07	-163.5
809	SLV 7	151	-568	3620	0.92	901.96	141.69
809	SLV 8	138	-588	3611	0.94	900.74	146.93
809	SLV 9	-137	654	2996	-6.24	687.7	-163.9
809	SLV 10	-150	634	2987	-6.22	686.48	-158.65
809	SLV 11	-108	-587	3561	-0.11	889.37	146.54
809	SLV 12	-121	-607	3552	-0.1	888.15	151.78
809	SLV 13	-426	203	3127	-5.31	743.89	-50.86
809	SLV 14	-446	173	3114	-5.29	742.08	-43.07
809	SLV 15	-417	-170	3296	-3.47	804.39	42.27
809	SLV 16	-437	-200	3283	-3.45	802.58	50.06
809	SLV FO 1	482	289	3325	-1.77	785.03	-72.88
809	SLV FO 2	460	256	3311	-1.74	783.04	-64.32
809	SLV FO 3	491	-121	3512	0.25	851.58	29.56
809	SLV FO 4	470	-154	3497	0.28	849.59	38.13
809	SLV FO 5	134	737	3030	-5.45	690.9	-184.77
809	SLV FO 6	120	715	3020	-5.44	689.56	-179.01
809	SLV FO 7	166	-628	3651	1.28	912.73	156.7
809	SLV FO 8	152	-651	3642	1.3	911.39	162.47
809	SLV FO 9	-151	717	2965	-6.59	677.05	-179.44
809	SLV FO 10	-166	694	2955	-6.58	675.71	-173.67
809	SLV FO 11	-119	-649	3586	0.14	898.88	162.04
809	SLV FO 12	-133	-671	3577	0.16	897.54	167.81
809	SLV FO 13	-469	220	3109	-5.57	738.85	-55.09
809	SLV FO 14	-491	187	3095	-5.55	736.86	-46.53
809	SLV FO 15	-459	-190	3295	-3.55	805.4	47.35
809	SLV FO 16	-481	-223	3281	-3.53	803.41	55.91
809	CRTFP Ux+	0	0	0	0	0	0
809	CRTFP Ux-	0	0	0	0	0	0
809	CRTFP Uy+	0	0	0	0	0	0
809	CRTFP Uy-	0	0	0	0	0	0
811	SLU 1	22	77	5271	-11.83	-37.7	0.34
811	SLU 2	24	109	5264	-11.96	-37.81	0.38
811	SLU 3	23	77	5391	-12.09	-38.97	0.32
811	SLU 4	24	97	5387	-12.17	-39.03	0.34
811	SLU 5	25	109	5344	-12.13	-38.66	0.35
811	SLU 6	24	77	5471	-12.27	-39.82	0.3
811	SLU 7	25	97	5467	-12.34	-39.88	0.32
811	SLU 8	24	76	5430	-12.17	-39.4	0.29
811	SLU 9	25	96	5426	-12.25	-39.46	0.31
811	SLU 10	26	114	5968	-13.49	-41.89	0.39
811	SLU 11	26	83	6095	-13.62	-43.05	0.33
811	SLU 12	27	102	6091	-13.7	-43.11	0.35
811	SLU 13	27	114	6047	-13.66	-42.74	0.36
811	SLU 14	27	82	6174	-13.8	-43.9	0.31
811	SLU 15	28	102	6170	-13.87	-43.96	0.33
811	SLU 16	26	82	6134	-13.7	-43.48	0.3
811	SLU 17	27	101	6130	-13.78	-43.54	0.32
811	SLU 18	26	84	6276	-14.01	-43.53	0.36
811	SLU 19	27	104	6272	-14.09	-43.6	0.38
811	SLU 20	27	84	6355	-14.19	-44.38	0.33
811	SLU 21	28	103	6352	-14.26	-44.44	0.35
811	SLU 22	27	84	6121	-13.42	-43.44	0.43
811	SLU 23	29	117	6114	-13.55	-43.55	0.46
811	SLU 24	28	85	6241	-13.69	-44.71	0.41
811	SLU 25	29	104	6237	-13.77	-44.77	0.43
811	SLU 26	30	116	6194	-13.73	-44.4	0.44
811	SLU 27	29	84	6321	-13.86	-45.55	0.38
811	SLU 28	30	104	6317	-13.94	-45.62	0.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
811	SLU 29	29	84	6280	-13.77	-45.13	0.38
811	SLU 30	30	103	6276	-13.85	-45.2	0.4
811	SLU 31	32	122	6818	-15.08	-47.63	0.47
811	SLU 32	31	90	6945	-15.22	-48.79	0.42
811	SLU 33	32	109	6941	-15.3	-48.85	0.44
811	SLU 34	32	122	6898	-15.26	-48.48	0.45
811	SLU 35	32	90	7024	-15.39	-49.63	0.39
811	SLU 36	33	109	7021	-15.47	-49.7	0.41
811	SLU 37	32	89	6984	-15.3	-49.21	0.39
811	SLU 38	33	108	6980	-15.38	-49.28	0.41
811	SLU 39	31	91	7126	-15.61	-49.27	0.44
811	SLU 40	32	111	7122	-15.69	-49.33	0.46
811	SLU 41	32	91	7206	-15.78	-50.12	0.42
811	SLU 42	33	111	7202	-15.86	-50.18	0.44
811	SLU 43	27	97	6560	-14.83	-47.05	0.41
811	SLU 44	29	130	6554	-14.96	-47.16	0.45
811	SLU 45	28	98	6681	-15.09	-48.31	0.39
811	SLU 46	29	117	6677	-15.17	-48.38	0.41
811	SLU 47	29	130	6633	-15.13	-48	0.42
811	SLU 48	29	98	6760	-15.27	-49.16	0.37
811	SLU 49	30	117	6756	-15.35	-49.22	0.39
811	SLU 50	29	97	6720	-15.18	-48.74	0.37
811	SLU 51	30	116	6716	-15.25	-48.81	0.39
811	SLU 52	31	135	7257	-16.49	-51.24	0.46
811	SLU 53	31	103	7384	-16.62	-52.39	0.4
811	SLU 54	32	123	7380	-16.7	-52.46	0.42
811	SLU 55	32	135	7337	-16.66	-52.08	0.43
811	SLU 56	32	103	7464	-16.8	-53.24	0.38
811	SLU 57	33	122	7460	-16.87	-53.3	0.4
811	SLU 58	31	102	7423	-16.7	-52.82	0.38
811	SLU 59	32	122	7419	-16.78	-52.89	0.4
811	SLU 60	31	105	7565	-17.01	-52.88	0.43
811	SLU 61	32	124	7562	-17.09	-52.94	0.45
811	SLU 62	31	104	7645	-17.19	-53.72	0.4
811	SLU 63	32	124	7641	-17.26	-53.79	0.43
811	SLU 64	32	104	7410	-16.43	-52.78	0.5
811	SLU 65	34	137	7404	-16.56	-52.89	0.54
811	SLU 66	33	105	7531	-16.69	-54.05	0.48
811	SLU 67	34	125	7527	-16.77	-54.12	0.5
811	SLU 68	35	137	7484	-16.73	-53.74	0.51
811	SLU 69	34	105	7610	-16.86	-54.9	0.45
811	SLU 70	35	124	7607	-16.94	-54.96	0.48
811	SLU 71	34	104	7570	-16.77	-54.48	0.45
811	SLU 72	35	124	7566	-16.85	-54.54	0.47
811	SLU 73	36	142	8108	-18.08	-56.97	0.55
811	SLU 74	36	110	8234	-18.22	-58.13	0.49
811	SLU 75	37	130	8231	-18.3	-58.2	0.51
811	SLU 76	37	142	8187	-18.26	-57.82	0.52
811	SLU 77	37	110	8314	-18.39	-58.98	0.46
811	SLU 78	38	130	8310	-18.47	-59.04	0.49
811	SLU 79	36	109	8273	-18.3	-58.56	0.46
811	SLU 80	37	129	8270	-18.38	-58.62	0.48
811	SLU 81	36	112	8416	-18.61	-58.61	0.52
811	SLU 82	37	131	8412	-18.69	-58.68	0.54
811	SLU 83	37	112	8495	-18.78	-59.46	0.49
811	SLU 84	38	131	8491	-18.86	-59.53	0.51
811	SLE RA 1	23	79	5513	-12.28	-39.34	0.37
811	SLE RA 2	25	100	5509	-12.37	-39.42	0.39
811	SLE RA 3	24	79	5594	-12.46	-40.19	0.35
811	SLE RA 4	25	92	5591	-12.51	-40.23	0.37
811	SLE RA 5	25	100	5562	-12.49	-39.98	0.37
811	SLE RA 6	25	79	5647	-12.58	-40.75	0.34
811	SLE RA 7	26	92	5644	-12.63	-40.79	0.35
811	SLE RA 8	25	79	5620	-12.52	-40.47	0.33
811	SLE RA 9	25	92	5617	-12.57	-40.52	0.35
811	SLE RA 10	26	104	5978	-13.39	-42.14	0.4
811	SLE RA 11	26	83	6063	-13.48	-42.91	0.36
811	SLE RA 12	27	96	6060	-13.53	-42.95	0.37
811	SLE RA 13	27	104	6031	-13.51	-42.7	0.38
811	SLE RA 14	27	83	6116	-13.6	-43.47	0.34
811	SLE RA 15	27	96	6113	-13.65	-43.51	0.36
811	SLE RA 16	26	82	6089	-13.53	-43.19	0.34
811	SLE RA 17	27	95	6086	-13.59	-43.24	0.35
811	SLE RA 18	26	84	6184	-13.74	-43.23	0.38
811	SLE RA 19	27	97	6181	-13.79	-43.27	0.39
811	SLE RA 20	27	84	6237	-13.86	-43.79	0.36
811	SLE RA 21	27	97	6234	-13.91	-43.84	0.37
811	SLE FR 1	23	79	5513	-12.28	-39.34	0.37
811	SLE FR 2	24	83	5513	-12.3	-39.36	0.37
811	SLE FR 3	24	79	5535	-12.33	-39.57	0.36
811	SLE FR 4	24	85	5714	-12.74	-40.52	0.37
811	SLE FR 5	24	80	5736	-12.77	-40.73	0.36
811	SLE FR 6	25	81	5849	-13.01	-41.28	0.37
811	SLE QP 1	23	79	5513	-12.28	-39.34	0.37
811	SLE QP 2	24	80	5714	-12.72	-40.51	0.37
811	SLD 1	610	222	5286	-14.85	-8.75	-1.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
811	SLD 2	587	257	5305	-14.81	-9.09	-0.01
811	SLD 3	581	-174	5399	-12.54	-7.8	-2.14
811	SLD 4	557	-140	5417	-12.5	-8.14	-0.46
811	SLD 5	248	718	5413	-16.88	-32.36	0.15
811	SLD 6	233	741	5425	-16.85	-32.58	1.23
811	SLD 7	151	-604	5787	-9.16	-29.19	-1.35
811	SLD 8	136	-581	5798	-9.14	-29.42	-0.27
811	SLD 9	-88	742	5631	-16.31	-51.6	1.01
811	SLD 10	-103	764	5642	-16.28	-51.82	2.09
811	SLD 11	-184	-580	6004	-8.59	-48.43	-0.49
811	SLD 12	-200	-558	6016	-8.56	-48.65	0.59
811	SLD 13	-509	300	6012	-12.95	-72.88	1.2
811	SLD 14	-533	335	6030	-12.91	-73.22	2.87
811	SLD 15	-538	-96	6124	-10.63	-71.92	0.75
811	SLD 16	-562	-62	6143	-10.59	-72.27	2.43
811	SLV 1	943	330	5038	-16.23	9.01	-2.82
811	SLV 2	906	384	5067	-16.17	8.47	-0.18
811	SLV 3	894	-347	5230	-12.28	10.58	-3.59
811	SLV 4	857	-292	5259	-12.22	10.03	-0.94
811	SLV 5	382	1171	5216	-19.78	-27.92	0.08
811	SLV 6	357	1207	5235	-19.74	-28.29	1.86
811	SLV 7	217	-1084	5854	-6.61	-22.71	-2.47
811	SLV 8	192	-1047	5874	-6.56	-23.08	-0.69
811	SLV 9	-144	1208	5555	-18.88	-57.94	1.43
811	SLV 10	-169	1244	5575	-18.84	-58.3	3.21
811	SLV 11	-309	-1047	6194	-5.7	-52.73	-1.12
811	SLV 12	-334	-1010	6213	-5.66	-53.09	0.66
811	SLV 13	-808	453	6170	-13.23	-91.05	1.68
811	SLV 14	-845	507	6199	-13.16	-91.59	4.33
811	SLV 15	-858	-224	6362	-9.27	-89.49	0.92
811	SLV 16	-895	-169	6391	-9.21	-90.03	3.56
811	SLV FO 1	1035	355	4970	-16.58	13.96	-3.14
811	SLV FO 2	994	415	5002	-16.51	13.37	-0.23
811	SLV FO 3	981	-389	5181	-12.23	15.68	-3.98
811	SLV FO 4	940	-329	5213	-12.17	15.09	-1.08
811	SLV FO 5	418	1280	5166	-20.49	-26.66	0.05
811	SLV FO 6	390	1320	5187	-20.44	-27.06	2.01
811	SLV FO 7	236	-1200	5868	-5.99	-20.93	-2.76
811	SLV FO 8	209	-1160	5890	-5.95	-21.33	-0.8
811	SLV FO 9	-160	1320	5539	-19.5	-59.68	1.54
811	SLV FO 10	-188	1361	5561	-19.45	-60.08	3.49
811	SLV FO 11	-342	-1160	6242	-5	-53.95	-1.27
811	SLV FO 12	-369	-1119	6263	-4.96	-54.35	0.69
811	SLV FO 13	-892	490	6216	-13.28	-96.1	1.81
811	SLV FO 14	-932	550	6248	-13.21	-96.7	4.72
811	SLV FO 15	-946	-254	6427	-8.93	-94.38	0.97
811	SLV FO 16	-987	-194	6459	-8.86	-94.98	3.88
811	CRTFP Ux+	0	0	0	0	0	0
811	CRTFP Ux-	0	0	0	0	0	0
811	CRTFP Uy+	0	0	0	0	0	0
811	CRTFP Uy-	0	0	0	0	0	0
813	SLU 1	-53	1	3399	-3.91	-430.55	0.24
813	SLU 2	-52	20	3380	-4.1	-430.22	4.87
813	SLU 3	-54	1	3484	-3.96	-439.77	0.18
813	SLU 4	-53	12	3473	-4.07	-439.57	2.96
813	SLU 5	-52	20	3435	-4.13	-436.06	4.9
813	SLU 6	-54	1	3539	-3.98	-445.6	0.21
813	SLU 7	-54	12	3528	-4.1	-445.41	2.98
813	SLU 8	-54	1	3509	-3.96	-442.22	0.29
813	SLU 9	-53	12	3498	-4.07	-442.03	3.07
813	SLU 10	-55	21	3803	-4.67	-483.86	5.23
813	SLU 11	-57	2	3907	-4.53	-493.4	0.54
813	SLU 12	-56	13	3896	-4.65	-493.2	3.32
813	SLU 13	-55	21	3858	-4.7	-489.69	5.26
813	SLU 14	-57	2	3962	-4.56	-499.24	0.57
813	SLU 15	-57	13	3951	-4.67	-499.04	3.35
813	SLU 16	-57	3	3932	-4.53	-495.86	0.66
813	SLU 17	-56	14	3921	-4.65	-495.66	3.43
813	SLU 18	-57	3	4003	-4.73	-507.17	0.76
813	SLU 19	-56	14	3992	-4.84	-506.97	3.54
813	SLU 20	-57	3	4058	-4.75	-513.01	0.79
813	SLU 21	-57	14	4047	-4.87	-512.81	3.56
813	SLU 22	-58	0	3945	-4.5	-496.66	-0.11
813	SLU 23	-58	18	3926	-4.69	-496.33	4.51
813	SLU 24	-59	-1	4030	-4.55	-505.88	-0.17
813	SLU 25	-59	10	4019	-4.66	-505.68	2.6
813	SLU 26	-58	18	3981	-4.72	-502.17	4.54
813	SLU 27	-60	-1	4085	-4.57	-511.71	-0.15
813	SLU 28	-60	11	4074	-4.69	-511.52	2.63
813	SLU 29	-60	0	4055	-4.55	-508.33	-0.06
813	SLU 30	-59	11	4044	-4.66	-508.14	2.71
813	SLU 31	-61	20	4349	-5.26	-549.97	4.88
813	SLU 32	-62	1	4453	-5.12	-559.51	0.19
813	SLU 33	-62	12	4442	-5.24	-559.31	2.96
813	SLU 34	-61	20	4404	-5.29	-555.8	4.9
813	SLU 35	-63	1	4508	-5.15	-565.35	0.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
813	SLU 36	-62	12	4497	-5.26	-565.15	2.99
813	SLU 37	-63	1	4478	-5.12	-561.97	0.3
813	SLU 38	-62	12	4467	-5.24	-561.77	3.08
813	SLU 39	-63	2	4549	-5.32	-573.28	0.4
813	SLU 40	-62	13	4538	-5.43	-573.08	3.18
813	SLU 41	-63	2	4605	-5.34	-579.12	0.43
813	SLU 42	-63	13	4593	-5.46	-578.92	3.21
813	SLU 43	-66	2	4232	-4.87	-537.05	0.44
813	SLU 44	-66	20	4213	-5.07	-536.72	5.07
813	SLU 45	-68	2	4317	-4.93	-546.27	0.38
813	SLU 46	-67	13	4305	-5.04	-546.07	3.15
813	SLU 47	-66	21	4268	-5.09	-542.56	5.09
813	SLU 48	-68	2	4372	-4.95	-552.1	0.4
813	SLU 49	-68	13	4360	-5.07	-551.91	3.18
813	SLU 50	-68	2	4342	-4.93	-548.72	0.49
813	SLU 51	-67	13	4330	-5.04	-548.53	3.27
813	SLU 52	-69	22	4636	-5.64	-590.36	5.43
813	SLU 53	-70	3	4740	-5.5	-599.9	0.74
813	SLU 54	-70	14	4728	-5.62	-599.7	3.52
813	SLU 55	-69	22	4691	-5.67	-596.19	5.45
813	SLU 56	-71	3	4795	-5.52	-605.74	0.77
813	SLU 57	-71	14	4783	-5.64	-605.54	3.54
813	SLU 58	-71	3	4765	-5.5	-602.36	0.85
813	SLU 59	-70	15	4753	-5.62	-602.16	3.63
813	SLU 60	-71	4	4836	-5.69	-613.67	0.96
813	SLU 61	-70	15	4825	-5.81	-613.47	3.73
813	SLU 62	-71	4	4891	-5.72	-619.51	0.98
813	SLU 63	-71	15	4880	-5.84	-619.31	3.76
813	SLU 64	-72	0	4778	-5.46	-603.16	0.08
813	SLU 65	-71	19	4759	-5.66	-602.83	4.71
813	SLU 66	-73	0	4863	-5.52	-612.38	0.02
813	SLU 67	-73	11	4851	-5.63	-612.18	2.8
813	SLU 68	-72	19	4814	-5.68	-608.67	4.73
813	SLU 69	-74	0	4918	-5.54	-618.21	0.05
813	SLU 70	-73	11	4906	-5.66	-618.02	2.82
813	SLU 71	-73	1	4888	-5.52	-614.83	0.13
813	SLU 72	-73	12	4877	-5.63	-614.64	2.91
813	SLU 73	-74	20	5182	-6.23	-656.47	5.07
813	SLU 74	-76	2	5286	-6.09	-666.01	0.38
813	SLU 75	-76	13	5274	-6.21	-665.81	3.16
813	SLU 76	-75	20	5237	-6.26	-662.3	5.1
813	SLU 77	-77	2	5341	-6.12	-671.85	0.41
813	SLU 78	-76	13	5329	-6.23	-671.65	3.18
813	SLU 79	-76	2	5311	-6.09	-668.47	0.49
813	SLU 80	-76	13	5300	-6.21	-668.27	3.27
813	SLU 81	-76	2	5382	-6.28	-679.78	0.6
813	SLU 82	-76	14	5371	-6.4	-679.58	3.37
813	SLU 83	-77	3	5437	-6.31	-685.62	0.62
813	SLU 84	-77	14	5426	-6.43	-685.42	3.4
813	SLE RA 1	-54	1	3555	-4.07	-449.44	0.14
813	SLE RA 2	-54	13	3543	-4.2	-449.22	3.23
813	SLE RA 3	-55	0	3612	-4.11	-455.59	0.1
813	SLE RA 4	-55	8	3604	-4.19	-455.45	1.95
813	SLE RA 5	-54	13	3579	-4.22	-453.11	3.24
813	SLE RA 6	-55	1	3649	-4.13	-459.48	0.12
813	SLE RA 7	-55	8	3641	-4.2	-459.34	1.97
813	SLE RA 8	-55	1	3629	-4.11	-457.22	0.18
813	SLE RA 9	-55	8	3621	-4.19	-457.09	2.03
813	SLE RA 10	-56	14	3825	-4.59	-484.98	3.47
813	SLE RA 11	-57	1	3894	-4.49	-491.34	0.34
813	SLE RA 12	-57	9	3886	-4.57	-491.21	2.19
813	SLE RA 13	-56	14	3861	-4.6	-488.87	3.48
813	SLE RA 14	-57	1	3931	-4.51	-495.23	0.36
813	SLE RA 15	-57	9	3923	-4.59	-495.1	2.21
813	SLE RA 16	-57	2	3911	-4.49	-492.98	0.42
813	SLE RA 17	-57	9	3903	-4.57	-492.85	2.27
813	SLE RA 18	-57	2	3958	-4.62	-500.52	0.49
813	SLE RA 19	-57	9	3950	-4.7	-500.39	2.34
813	SLE RA 20	-57	2	3995	-4.64	-504.41	0.5
813	SLE RA 21	-57	9	3987	-4.72	-504.28	2.35
813	SLE FR 1	-54	1	3555	-4.07	-449.44	0.14
813	SLE FR 2	-54	3	3553	-4.1	-449.4	0.76
813	SLE FR 3	-54	1	3570	-4.08	-451	0.15
813	SLE FR 4	-55	4	3674	-4.26	-464.72	0.86
813	SLE FR 5	-55	1	3691	-4.24	-466.32	0.25
813	SLE FR 6	-56	1	3757	-4.35	-474.98	0.31
813	SLE QP 1	-54	1	3555	-4.07	-449.44	0.14
813	SLE QP 2	-55	1	3676	-4.24	-464.77	0.24
813	SLD 1	195	63	4662	-7.07	-610.19	15.89
813	SLD 2	175	-36	4687	-6.88	-615.79	-8.87
813	SLD 3	181	-165	4911	-4.12	-599.7	-41.3
813	SLD 4	161	-265	4937	-3.93	-605.3	-66.06
813	SLD 5	44	384	3589	-9.6	-523.34	95.93
813	SLD 6	32	320	3606	-9.48	-526.95	79.98
813	SLD 7	-2	-379	4420	0.24	-488.37	-94.69
813	SLD 8	-15	-443	4437	0.36	-491.98	-110.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
813	SLD 9	-96	445	2915	-8.84	-437.55	111.13
813	SLD 10	-108	381	2932	-8.72	-441.16	95.18
813	SLD 11	-142	-318	3746	1	-402.58	-79.5
813	SLD 12	-155	-382	3763	1.12	-406.19	-95.44
813	SLD 13	-272	267	2415	-4.54	-324.23	66.55
813	SLD 14	-291	167	2441	-4.36	-329.83	41.79
813	SLD 15	-285	38	2665	-1.59	-313.74	9.36
813	SLD 16	-305	-61	2690	-1.41	-319.34	-15.4
813	SLV 1	338	116	5196	-8.88	-692.39	29.01
813	SLV 2	307	-41	5236	-8.58	-701.21	-10.02
813	SLV 3	314	-274	5621	-3.84	-674.49	-68.55
813	SLV 4	283	-431	5661	-3.55	-683.31	-107.58
813	SLV 5	104	657	3480	-13.33	-558.55	164.12
813	SLV 6	83	551	3507	-13.13	-564.49	137.84
813	SLV 7	26	-644	4896	3.47	-498.89	-161.07
813	SLV 8	5	-750	4923	3.67	-504.83	-187.35
813	SLV 9	-115	752	2429	-12.14	-424.7	187.84
813	SLV 10	-136	646	2456	-11.94	-430.64	161.56
813	SLV 11	-194	-549	3845	4.65	-365.04	-137.35
813	SLV 12	-215	-655	3872	4.85	-370.98	-163.63
813	SLV 13	-393	434	1691	-4.93	-246.22	108.07
813	SLV 14	-425	277	1731	-4.64	-255.05	69.04
813	SLV 15	-417	43	2116	0.11	-228.32	10.51
813	SLV 16	-448	-114	2156	0.4	-237.15	-28.52
813	SLV FO 1	377	127	5348	-9.34	-715.15	31.89
813	SLV FO 2	343	-45	5392	-9.02	-724.86	-11.05
813	SLV FO 3	351	-302	5815	-3.8	-695.46	-75.43
813	SLV FO 4	317	-475	5859	-3.48	-705.17	-118.36
813	SLV FO 5	120	722	3461	-14.24	-567.93	180.51
813	SLV FO 6	97	606	3491	-14.02	-574.47	151.6
813	SLV FO 7	34	-709	5018	4.24	-502.3	-177.2
813	SLV FO 8	11	-825	5048	4.46	-508.84	-206.11
813	SLV FO 9	-121	827	2304	-12.93	-420.69	206.6
813	SLV FO 10	-144	711	2334	-12.72	-427.23	177.69
813	SLV FO 11	-208	-604	3861	5.54	-355.07	-151.11
813	SLV FO 12	-231	-720	3891	5.76	-361.6	-180.02
813	SLV FO 13	-427	477	1493	-5	-224.36	118.85
813	SLV FO 14	-461	304	1537	-4.68	-234.07	75.91
813	SLV FO 15	-453	47	1960	0.54	-204.68	11.54
813	SLV FO 16	-488	-125	2004	0.87	-214.39	-31.4
813	CRTFP Ux+	0	0	0	0	0	0
813	CRTFP Ux-	0	0	0	0	0	0
813	CRTFP Uy+	0	0	0	0	0	0
813	CRTFP Uy-	0	0	0	0	0	0
816	SLU 1	71	18	4215	-6.57	964.5	-6.06
816	SLU 2	69	41	4187	-6.85	964.2	-14.17
816	SLU 3	73	18	4323	-6.66	986.82	-6.32
816	SLU 4	72	32	4306	-6.83	986.64	-11.19
816	SLU 5	71	42	4260	-6.9	979.12	-14.61
816	SLU 6	74	20	4396	-6.71	1001.74	-6.76
816	SLU 7	73	34	4380	-6.88	1001.56	-11.63
816	SLU 8	73	20	4361	-6.66	994.34	-6.94
816	SLU 9	72	34	4345	-6.83	994.16	-11.8
816	SLU 10	74	43	4698	-7.76	1078.55	-14.78
816	SLU 11	78	20	4834	-7.57	1101.16	-6.94
816	SLU 12	77	34	4817	-7.74	1100.98	-11.8
816	SLU 13	76	44	4771	-7.81	1093.47	-15.22
816	SLU 14	79	22	4907	-7.62	1116.08	-7.38
816	SLU 15	78	35	4890	-7.79	1115.9	-12.24
816	SLU 16	78	22	4872	-7.57	1108.69	-7.56
816	SLU 17	77	36	4856	-7.74	1108.51	-12.42
816	SLU 18	78	20	4944	-7.87	1127.85	-6.94
816	SLU 19	77	34	4928	-8.03	1127.67	-11.8
816	SLU 20	79	22	5018	-7.92	1142.77	-7.38
816	SLU 21	78	35	5001	-8.08	1142.59	-12.24
816	SLU 22	79	16	4871	-7.55	1107.93	-5.46
816	SLU 23	77	39	4843	-7.83	1107.63	-13.57
816	SLU 24	81	17	4979	-7.64	1130.24	-5.72
816	SLU 25	80	31	4962	-7.81	1130.06	-10.59
816	SLU 26	79	41	4916	-7.88	1122.55	-14.01
816	SLU 27	82	18	5052	-7.69	1145.16	-6.16
816	SLU 28	81	32	5036	-7.86	1144.98	-11.03
816	SLU 29	82	19	5018	-7.65	1137.77	-6.34
816	SLU 30	81	32	5001	-7.81	1137.59	-11.2
816	SLU 31	82	41	5354	-8.74	1221.97	-14.18
816	SLU 32	86	19	5490	-8.55	1244.59	-6.34
816	SLU 33	85	33	5473	-8.72	1244.41	-11.2
816	SLU 34	84	42	5427	-8.79	1236.89	-14.62
816	SLU 35	87	20	5563	-8.6	1259.51	-6.78
816	SLU 36	86	34	5547	-8.77	1259.33	-11.64
816	SLU 37	87	20	5529	-8.56	1252.11	-6.96
816	SLU 38	86	34	5512	-8.72	1251.93	-11.82
816	SLU 39	86	19	5601	-8.85	1271.28	-6.34
816	SLU 40	85	33	5584	-9.02	1271.1	-11.2
816	SLU 41	87	20	5674	-8.9	1286.2	-6.78
816	SLU 42	86	34	5657	-9.06	1286.02	-11.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
816	SLU 43	89	24	5254	-8.2	1204.68	-8.08
816	SLU 44	88	47	5226	-8.48	1204.38	-16.19
816	SLU 45	91	24	5362	-8.3	1227	-8.35
816	SLU 46	90	38	5345	-8.46	1226.82	-13.21
816	SLU 47	89	48	5299	-8.53	1219.3	-16.63
816	SLU 48	92	26	5436	-8.35	1241.92	-8.79
816	SLU 49	91	40	5419	-8.51	1241.74	-13.65
816	SLU 50	92	26	5401	-8.3	1234.52	-8.96
816	SLU 51	91	40	5384	-8.47	1234.34	-13.83
816	SLU 52	93	49	5737	-9.39	1318.73	-16.81
816	SLU 53	96	26	5873	-9.21	1341.34	-8.96
816	SLU 54	95	40	5856	-9.37	1341.16	-13.83
816	SLU 55	94	50	5810	-9.44	1333.65	-17.25
816	SLU 56	97	27	5947	-9.26	1356.26	-9.4
816	SLU 57	96	41	5930	-9.42	1356.08	-14.27
816	SLU 58	97	28	5912	-9.21	1348.86	-9.58
816	SLU 59	96	42	5895	-9.38	1348.68	-14.44
816	SLU 60	96	26	5984	-9.5	1368.03	-8.96
816	SLU 61	96	40	5967	-9.67	1367.85	-13.83
816	SLU 62	98	27	6057	-9.55	1382.95	-9.4
816	SLU 63	97	41	6041	-9.72	1382.77	-14.27
816	SLU 64	98	22	5910	-9.18	1348.1	-7.49
816	SLU 65	96	45	5882	-9.46	1347.8	-15.59
816	SLU 66	99	23	6018	-9.28	1370.42	-7.75
816	SLU 67	98	37	6002	-9.45	1370.24	-12.61
816	SLU 68	97	46	5956	-9.51	1362.72	-16.03
816	SLU 69	101	24	6092	-9.33	1385.34	-8.19
816	SLU 70	100	38	6075	-9.49	1385.16	-13.05
816	SLU 71	100	24	6057	-9.28	1377.94	-8.36
816	SLU 72	99	38	6040	-9.45	1377.76	-13.23
816	SLU 73	101	47	6393	-10.37	1462.15	-16.21
816	SLU 74	104	25	6529	-10.19	1484.76	-8.36
816	SLU 75	103	38	6513	-10.36	1484.58	-13.23
816	SLU 76	102	48	6467	-10.42	1477.07	-16.65
816	SLU 77	106	26	6603	-10.24	1499.68	-8.8
816	SLU 78	105	40	6586	-10.4	1499.5	-13.67
816	SLU 79	105	26	6568	-10.19	1492.29	-8.98
816	SLU 80	104	40	6551	-10.36	1492.11	-13.84
816	SLU 81	105	25	6640	-10.48	1511.45	-8.36
816	SLU 82	104	38	6623	-10.65	1511.27	-13.23
816	SLU 83	106	26	6713	-10.53	1526.37	-8.8
816	SLU 84	105	40	6697	-10.7	1526.19	-13.67
816	SLE RA 1	73	17	4402	-6.85	1005.48	-5.89
816	SLE RA 2	72	33	4383	-7.03	1005.28	-11.29
816	SLE RA 3	74	18	4474	-6.91	1020.36	-6.06
816	SLE RA 4	74	27	4463	-7.02	1020.24	-9.31
816	SLE RA 5	73	34	4432	-7.07	1015.23	-11.59
816	SLE RA 6	75	19	4523	-6.94	1030.3	-6.36
816	SLE RA 7	75	28	4512	-7.06	1030.18	-9.6
816	SLE RA 8	75	19	4500	-6.91	1025.37	-6.48
816	SLE RA 9	74	28	4489	-7.02	1025.25	-9.72
816	SLE RA 10	75	34	4724	-7.64	1081.51	-11.7
816	SLE RA 11	78	19	4815	-7.52	1096.59	-6.47
816	SLE RA 12	77	28	4804	-7.63	1096.47	-9.72
816	SLE RA 13	76	35	4773	-7.67	1091.46	-12
816	SLE RA 14	79	20	4864	-7.55	1106.53	-6.77
816	SLE RA 15	78	29	4853	-7.66	1106.41	-10.01
816	SLE RA 16	78	20	4841	-7.52	1101.6	-6.89
816	SLE RA 17	78	29	4829	-7.63	1101.48	-10.13
816	SLE RA 18	78	19	4889	-7.71	1114.38	-6.48
816	SLE RA 19	77	28	4877	-7.83	1114.26	-9.72
816	SLE RA 20	79	20	4938	-7.75	1124.33	-6.77
816	SLE RA 21	78	29	4926	-7.86	1124.21	-10.01
816	SLE FR 1	73	17	4402	-6.85	1005.48	-5.89
816	SLE FR 2	73	20	4398	-6.88	1005.44	-6.97
816	SLE FR 3	74	18	4422	-6.86	1009.46	-6.01
816	SLE FR 4	74	21	4544	-7.14	1038.11	-7.15
816	SLE FR 5	75	18	4568	-7.12	1042.13	-6.18
816	SLE FR 6	76	18	4645	-7.28	1059.93	-6.18
816	SLE QP 1	73	17	4402	-6.85	1005.48	-5.89
816	SLE QP 2	75	18	4548	-7.11	1038.15	-6.07
816	SLD 1	382	-17	3162	-7.4	790.87	5.85
816	SLD 2	356	106	3124	-7.76	791.08	-36.86
816	SLD 3	398	-295	3567	-3.36	798.19	103.15
816	SLD 4	372	-173	3529	-3.73	798.4	60.44
816	SLD 5	147	408	3524	-13.25	952.83	-142.72
816	SLD 6	130	487	3500	-13.49	952.97	-170.22
816	SLD 7	201	-519	4874	0.2	977.23	181.62
816	SLD 8	184	-440	4850	-0.03	977.37	154.11
816	SLD 9	-35	476	4246	-14.18	1098.94	-166.24
816	SLD 10	-52	555	4222	-14.42	1099.07	-193.75
816	SLD 11	20	-452	5596	-0.72	1123.34	158.09
816	SLD 12	3	-373	5572	-0.96	1123.47	130.59
816	SLD 13	-223	208	5567	-10.49	1277.9	-72.57
816	SLD 14	-249	331	5529	-10.86	1278.11	-115.28
816	SLD 15	-206	-70	5972	-6.45	1285.22	24.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
816	SLD 16	-233	53	5934	-6.82	1285.43	-17.98
816	SLV 1	555	-17	2355	-7.85	651.83	5.79
816	SLV 2	514	176	2296	-8.43	652.17	-61.53
816	SLV 3	583	-492	3047	-0.96	664.15	171.77
816	SLV 4	541	-298	2988	-1.54	664.49	104.45
816	SLV 5	185	691	2852	-17.67	903.51	-241.7
816	SLV 6	157	821	2812	-18.06	903.73	-287.02
816	SLV 7	276	-891	5158	5.29	944.57	311.6
816	SLV 8	249	-761	5118	4.9	944.8	266.28
816	SLV 9	-99	796	3978	-19.12	1131.5	-278.41
816	SLV 10	-127	926	3938	-19.51	1131.73	-323.73
816	SLV 11	-8	-786	6284	3.85	1172.57	274.89
816	SLV 12	-36	-655	6244	3.45	1172.8	229.57
816	SLV 13	-392	334	6108	-12.67	1411.81	-116.59
816	SLV 14	-434	527	6049	-13.25	1412.15	-183.91
816	SLV 15	-365	-141	6800	-5.78	1424.13	49.4
816	SLV 16	-406	53	6741	-6.37	1424.47	-17.92
816	SLV FO 1	604	-21	2136	-7.92	613.2	6.97
816	SLV FO 2	558	192	2071	-8.56	613.57	-67.08
816	SLV FO 3	634	-543	2896	-0.35	626.75	189.56
816	SLV FO 4	588	-330	2832	-0.99	627.12	115.51
816	SLV FO 5	196	758	2683	-18.72	890.04	-265.26
816	SLV FO 6	165	901	2639	-19.16	890.29	-315.11
816	SLV FO 7	297	-982	5219	6.53	935.21	343.36
816	SLV FO 8	266	-839	5175	6.1	935.46	293.51
816	SLV FO 9	-117	874	3921	-20.32	1140.84	-305.64
816	SLV FO 10	-147	1017	3878	-20.75	1141.09	-355.5
816	SLV FO 11	-16	-866	6457	4.94	1186.01	302.98
816	SLV FO 12	-47	-723	6414	4.51	1186.26	253.13
816	SLV FO 13	-439	366	6264	-13.23	1449.18	-127.64
816	SLV FO 14	-484	578	6200	-13.87	1449.55	-201.69
816	SLV FO 15	-409	-156	7025	-5.65	1462.73	54.95
816	SLV FO 16	-454	56	6960	-6.29	1463.11	-19.1
816	CRTFP Ux+	0	0	0	0	0	0
816	CRTFP Ux-	0	0	0	0	0	0
816	CRTFP Uy+	0	0	0	0	0	0
816	CRTFP Uy-	0	0	0	0	0	0
818	SLU 1	101	25	6372	1.75	-13.55	-0.27
818	SLU 2	98	54	6333	1.32	-14.83	-0.14
818	SLU 3	104	26	6540	1.92	-13.64	-0.32
818	SLU 4	103	43	6516	1.66	-14.41	-0.24
818	SLU 5	101	54	6448	1.46	-14.96	-0.19
818	SLU 6	106	26	6655	2.05	-13.77	-0.37
818	SLU 7	105	43	6631	1.8	-14.54	-0.29
818	SLU 8	105	26	6602	2.02	-13.8	-0.37
818	SLU 9	104	43	6578	1.76	-14.57	-0.29
818	SLU 10	106	58	7153	1.52	-16.08	-0.15
818	SLU 11	112	30	7360	2.12	-14.88	-0.33
818	SLU 12	110	47	7337	1.86	-15.66	-0.25
818	SLU 13	108	58	7268	1.66	-16.21	-0.2
818	SLU 14	114	30	7475	2.25	-15.01	-0.38
818	SLU 15	113	47	7452	2	-15.78	-0.3
818	SLU 16	113	30	7422	2.21	-15.05	-0.38
818	SLU 17	112	47	7399	1.96	-15.82	-0.3
818	SLU 18	112	31	7544	2.03	-15.32	-0.29
818	SLU 19	110	48	7521	1.77	-16.1	-0.2
818	SLU 20	114	31	7659	2.16	-15.45	-0.34
818	SLU 21	113	48	7635	1.91	-16.22	-0.25
818	SLU 22	115	29	7422	2.28	-14.48	-0.31
818	SLU 23	113	57	7383	1.85	-15.77	-0.17
818	SLU 24	118	29	7590	2.45	-14.57	-0.36
818	SLU 25	117	46	7567	2.19	-15.34	-0.28
818	SLU 26	115	58	7498	1.99	-15.89	-0.22
818	SLU 27	121	29	7705	2.58	-14.7	-0.41
818	SLU 28	119	47	7682	2.33	-15.47	-0.33
818	SLU 29	120	29	7652	2.55	-14.73	-0.41
818	SLU 30	118	47	7629	2.29	-15.5	-0.33
818	SLU 31	120	61	8204	2.05	-17.01	-0.18
818	SLU 32	126	33	8410	2.65	-15.82	-0.37
818	SLU 33	125	50	8387	2.39	-16.59	-0.29
818	SLU 34	123	62	8319	2.19	-17.14	-0.23
818	SLU 35	128	33	8525	2.78	-15.94	-0.42
818	SLU 36	127	50	8502	2.53	-16.72	-0.33
818	SLU 37	127	33	8473	2.74	-15.98	-0.42
818	SLU 38	126	50	8449	2.49	-16.75	-0.34
818	SLU 39	126	34	8594	2.56	-16.26	-0.32
818	SLU 40	125	51	8571	2.3	-17.03	-0.24
818	SLU 41	128	34	8709	2.69	-16.38	-0.37
818	SLU 42	127	52	8686	2.44	-17.16	-0.29
818	SLU 43	126	32	7924	2.09	-17.29	-0.34
818	SLU 44	124	61	7884	1.66	-18.58	-0.21
818	SLU 45	130	32	8091	2.26	-17.38	-0.39
818	SLU 46	128	50	8068	2.01	-18.16	-0.31
818	SLU 47	126	61	7999	1.8	-18.71	-0.26
818	SLU 48	132	33	8206	2.39	-17.51	-0.44
818	SLU 49	130	50	8183	2.14	-18.28	-0.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
818	SLU 50	131	33	8153	2.36	-17.54	-0.44
818	SLU 51	129	50	8130	2.1	-18.32	-0.36
818	SLU 52	132	64	8705	1.86	-19.82	-0.22
818	SLU 53	137	36	8912	2.46	-18.63	-0.4
818	SLU 54	136	53	8888	2.2	-19.4	-0.32
818	SLU 55	134	65	8820	2	-19.95	-0.27
818	SLU 56	139	36	9026	2.59	-18.76	-0.45
818	SLU 57	138	54	9003	2.34	-19.53	-0.37
818	SLU 58	138	36	8974	2.56	-18.79	-0.45
818	SLU 59	137	54	8950	2.3	-19.56	-0.37
818	SLU 60	137	37	9095	2.37	-19.07	-0.36
818	SLU 61	136	55	9072	2.12	-19.84	-0.27
818	SLU 62	140	38	9210	2.51	-19.2	-0.41
818	SLU 63	138	55	9187	2.25	-19.97	-0.32
818	SLU 64	141	35	8974	2.62	-18.22	-0.38
818	SLU 65	138	64	8935	2.19	-19.51	-0.24
818	SLU 66	144	36	9142	2.79	-18.31	-0.43
818	SLU 67	142	53	9118	2.54	-19.09	-0.35
818	SLU 68	140	64	9050	2.33	-19.64	-0.29
818	SLU 69	146	36	9257	2.92	-18.44	-0.48
818	SLU 70	145	53	9233	2.67	-19.21	-0.4
818	SLU 71	145	36	9204	2.89	-18.48	-0.48
818	SLU 72	144	53	9180	2.63	-19.25	-0.4
818	SLU 73	146	68	9755	2.39	-20.75	-0.25
818	SLU 74	152	39	9962	2.99	-19.56	-0.44
818	SLU 75	150	57	9938	2.73	-20.33	-0.36
818	SLU 76	148	68	9870	2.53	-20.88	-0.3
818	SLU 77	154	40	10077	3.12	-19.69	-0.49
818	SLU 78	152	57	10053	2.87	-20.46	-0.4
818	SLU 79	153	40	10024	3.09	-19.72	-0.49
818	SLU 80	151	57	10001	2.83	-20.49	-0.41
818	SLU 81	152	41	10146	2.9	-20	-0.39
818	SLU 82	150	58	10122	2.65	-20.77	-0.31
818	SLU 83	154	41	10261	3.04	-20.13	-0.44
818	SLU 84	152	58	10237	2.78	-20.9	-0.36
818	SLE RA 1	105	26	6672	1.9	-13.81	-0.28
818	SLE RA 2	103	46	6646	1.61	-14.67	-0.19
818	SLE RA 3	107	27	6784	2.01	-13.87	-0.32
818	SLE RA 4	106	38	6768	1.84	-14.39	-0.26
818	SLE RA 5	105	46	6723	1.7	-14.76	-0.23
818	SLE RA 6	109	27	6861	2.1	-13.96	-0.35
818	SLE RA 7	108	38	6845	1.93	-14.47	-0.3
818	SLE RA 8	108	27	6825	2.08	-13.98	-0.35
818	SLE RA 9	107	38	6810	1.91	-14.5	-0.3
818	SLE RA 10	109	48	7193	1.75	-15.5	-0.2
818	SLE RA 11	112	29	7331	2.14	-14.7	-0.32
818	SLE RA 12	111	41	7315	1.97	-15.22	-0.27
818	SLE RA 13	110	48	7270	1.84	-15.59	-0.23
818	SLE RA 14	114	29	7407	2.23	-14.79	-0.36
818	SLE RA 15	113	41	7392	2.06	-15.3	-0.3
818	SLE RA 16	113	29	7372	2.21	-14.81	-0.36
818	SLE RA 17	112	41	7357	2.04	-15.33	-0.3
818	SLE RA 18	112	30	7453	2.09	-15	-0.29
818	SLE RA 19	111	41	7438	1.92	-15.51	-0.24
818	SLE RA 20	114	30	7530	2.18	-15.08	-0.32
818	SLE RA 21	113	42	7514	2.01	-15.6	-0.27
818	SLE FR 1	105	26	6672	1.9	-13.81	-0.28
818	SLE FR 2	105	30	6667	1.84	-13.98	-0.27
818	SLE FR 3	106	26	6703	1.93	-13.85	-0.3
818	SLE FR 4	107	31	6901	1.9	-14.34	-0.27
818	SLE FR 5	108	28	6937	1.99	-14.2	-0.3
818	SLE FR 6	109	28	7063	1.99	-14.4	-0.29
818	SLE QP 1	105	26	6672	1.9	-13.81	-0.28
818	SLE QP 2	107	27	6907	1.95	-14.17	-0.29
818	SLD 1	612	75	6034	-1.94	-17.45	-2.16
818	SLD 2	575	163	6009	-2.4	-16.68	-0.08
818	SLD 3	640	-277	6625	4.25	-0.31	-3.95
818	SLD 4	602	-188	6601	3.79	0.46	-1.88
818	SLD 5	224	560	5751	-8.53	-41.28	1.52
818	SLD 6	199	616	5735	-8.83	-40.78	2.86
818	SLD 7	315	-612	7724	12.12	15.85	-4.47
818	SLD 8	291	-555	7708	11.82	16.35	-3.13
818	SLD 9	-76	610	6105	-7.91	-44.68	2.56
818	SLD 10	-101	667	6089	-8.21	-44.19	3.89
818	SLD 11	15	-562	8078	12.73	12.45	-3.43
818	SLD 12	-9	-505	8062	12.44	12.94	-2.09
818	SLD 13	-388	243	7212	0.12	-28.8	1.3
818	SLD 14	-425	332	7188	-0.35	-28.03	3.38
818	SLD 15	-360	-108	7804	6.31	-11.66	-0.49
818	SLD 16	-398	-20	7780	5.85	-10.89	1.58
818	SLV 1	897	126	5500	-4.58	-20.28	-3.09
818	SLV 2	838	265	5461	-5.31	-19.07	0.18
818	SLV 3	943	-474	6510	5.99	8.99	-6.16
818	SLV 4	884	-334	6472	5.26	10.2	-2.88
818	SLV 5	285	940	4959	-15.9	-60.62	2.91
818	SLV 6	245	1034	4933	-16.39	-59.8	5.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
818	SLV 7	439	-1058	8327	19.33	36.94	-7.3
818	SLV 8	399	-965	8301	18.84	37.76	-5.1
818	SLV 9	-185	1019	5512	-14.93	-66.09	4.53
818	SLV 10	-225	1113	5486	-15.42	-65.28	6.73
818	SLV 11	-31	-979	8880	20.3	31.47	-5.68
818	SLV 12	-70	-886	8854	19.81	32.28	-3.48
818	SLV 13	-670	389	7341	-1.35	-38.53	2.31
818	SLV 14	-729	529	7303	-2.08	-37.32	5.58
818	SLV 15	-623	-210	8352	9.22	-9.26	-0.75
818	SLV 16	-682	-71	8313	8.49	-8.06	2.52
818	SLV FO 1	976	136	5359	-5.24	-20.89	-3.37
818	SLV FO 2	911	289	5317	-6.04	-19.56	0.23
818	SLV FO 3	1027	-524	6471	6.39	11.3	-6.74
818	SLV FO 4	962	-371	6428	5.59	12.63	-3.14
818	SLV FO 5	303	1032	4765	-17.69	-65.26	3.23
818	SLV FO 6	259	1135	4736	-18.23	-64.37	5.65
818	SLV FO 7	473	-1167	8470	21.07	42.05	-8.01
818	SLV FO 8	429	-1064	8441	20.53	42.95	-5.58
818	SLV FO 9	-214	1119	5372	-16.62	-71.28	5.01
818	SLV FO 10	-258	1222	5344	-17.16	-70.39	7.43
818	SLV FO 11	-44	-1080	9077	22.13	36.03	-6.22
818	SLV FO 12	-88	-977	9049	21.59	36.93	-3.8
818	SLV FO 13	-747	426	7385	-1.68	-40.97	2.57
818	SLV FO 14	-812	579	7342	-2.48	-39.64	6.17
818	SLV FO 15	-696	-234	8496	9.94	-8.77	-0.8
818	SLV FO 16	-761	-81	8454	9.14	-7.45	2.8
818	CRTFP Ux+	0	0	0	0	0	0
818	CRTFP Ux-	0	0	0	0	0	0
818	CRTFP Uy+	0	0	0	0	0	0
818	CRTFP Uy-	0	0	0	0	0	0
821	SLU 1	-86	7	6508	-0.63	3.18	1.25
821	SLU 2	-84	38	6466	-1.07	5.16	1.13
821	SLU 3	-88	7	6674	-0.54	2.79	1.31
821	SLU 4	-87	26	6649	-0.81	3.98	1.24
821	SLU 5	-85	38	6576	-1	4.84	1.17
821	SLU 6	-89	6	6784	-0.47	2.48	1.36
821	SLU 7	-88	25	6759	-0.74	3.66	1.28
821	SLU 8	-88	7	6727	-0.49	2.55	1.34
821	SLU 9	-87	25	6702	-0.76	3.74	1.26
821	SLU 10	-89	39	7331	-1.23	4.35	1.36
821	SLU 11	-93	7	7539	-0.7	1.98	1.54
821	SLU 12	-92	26	7514	-0.97	3.17	1.47
821	SLU 13	-90	39	7440	-1.16	4.04	1.4
821	SLU 14	-94	7	7648	-0.63	1.67	1.59
821	SLU 15	-93	26	7623	-0.9	2.85	1.51
821	SLU 16	-93	7	7591	-0.65	1.74	1.57
821	SLU 17	-92	26	7566	-0.92	2.93	1.49
821	SLU 18	-92	8	7743	-0.85	2.03	1.58
821	SLU 19	-91	27	7718	-1.12	3.22	1.51
821	SLU 20	-94	8	7852	-0.79	1.71	1.62
821	SLU 21	-93	27	7827	-1.05	2.9	1.55
821	SLU 22	-97	6	7601	-0.5	1.91	1.55
821	SLU 23	-95	38	7559	-0.95	3.89	1.42
821	SLU 24	-99	6	7767	-0.42	1.52	1.61
821	SLU 25	-98	25	7742	-0.68	2.71	1.53
821	SLU 26	-96	37	7669	-0.88	3.57	1.46
821	SLU 27	-100	6	7877	-0.35	1.2	1.65
821	SLU 28	-99	25	7852	-0.61	2.39	1.57
821	SLU 29	-99	6	7820	-0.37	1.28	1.63
821	SLU 30	-98	25	7795	-0.63	2.47	1.55
821	SLU 31	-100	38	8424	-1.1	3.08	1.65
821	SLU 32	-103	6	8632	-0.57	0.71	1.84
821	SLU 33	-102	25	8607	-0.84	1.9	1.76
821	SLU 34	-101	38	8533	-1.04	2.77	1.69
821	SLU 35	-105	6	8741	-0.51	0.4	1.88
821	SLU 36	-104	25	8717	-0.77	1.58	1.8
821	SLU 37	-104	6	8684	-0.53	0.47	1.86
821	SLU 38	-103	25	8660	-0.79	1.66	1.78
821	SLU 39	-103	7	8836	-0.73	0.76	1.87
821	SLU 40	-102	26	8811	-0.99	1.94	1.8
821	SLU 41	-104	7	8945	-0.66	0.44	1.92
821	SLU 42	-103	26	8920	-0.93	1.63	1.84
821	SLU 43	-108	9	8085	-0.86	4.57	1.53
821	SLU 44	-106	41	8044	-1.3	6.55	1.41
821	SLU 45	-110	9	8252	-0.77	4.18	1.59
821	SLU 46	-109	28	8227	-1.04	5.37	1.52
821	SLU 47	-107	41	8153	-1.24	6.23	1.45
821	SLU 48	-111	9	8361	-0.71	3.87	1.63
821	SLU 49	-110	28	8336	-0.97	5.05	1.56
821	SLU 50	-110	9	8304	-0.73	3.94	1.61
821	SLU 51	-109	28	8279	-0.99	5.13	1.54
821	SLU 52	-111	41	8908	-1.46	5.74	1.64
821	SLU 53	-115	10	9116	-0.93	3.37	1.82
821	SLU 54	-114	29	9091	-1.2	4.56	1.75
821	SLU 55	-112	41	9018	-1.39	5.43	1.68
821	SLU 56	-116	9	9226	-0.86	3.06	1.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
821	SLU 57	-115	28	9201	-1.13	4.24	1.79
821	SLU 58	-115	10	9169	-0.88	3.13	1.84
821	SLU 59	-114	28	9144	-1.15	4.32	1.77
821	SLU 60	-114	10	9320	-1.09	3.42	1.86
821	SLU 61	-113	29	9295	-1.35	4.61	1.79
821	SLU 62	-116	10	9430	-1.02	3.1	1.9
821	SLU 63	-115	29	9405	-1.28	4.29	1.83
821	SLU 64	-119	8	9178	-0.73	3.3	1.82
821	SLU 65	-117	40	9137	-1.18	5.28	1.7
821	SLU 66	-121	8	9345	-0.65	2.91	1.88
821	SLU 67	-120	27	9320	-0.91	4.1	1.81
821	SLU 68	-118	40	9246	-1.11	4.96	1.74
821	SLU 69	-122	8	9454	-0.58	2.59	1.92
821	SLU 70	-121	27	9429	-0.85	3.78	1.85
821	SLU 71	-121	8	9397	-0.6	2.67	1.9
821	SLU 72	-120	27	9372	-0.87	3.86	1.83
821	SLU 73	-122	41	10001	-1.34	4.47	1.93
821	SLU 74	-125	9	10209	-0.81	2.1	2.11
821	SLU 75	-124	28	10184	-1.07	3.29	2.04
821	SLU 76	-123	40	10111	-1.27	4.16	1.97
821	SLU 77	-127	9	10319	-0.74	1.79	2.15
821	SLU 78	-126	28	10294	-1	2.97	2.08
821	SLU 79	-126	9	10262	-0.76	1.86	2.13
821	SLU 80	-125	28	10237	-1.02	3.05	2.06
821	SLU 81	-125	9	10413	-0.96	2.15	2.15
821	SLU 82	-124	28	10388	-1.23	3.33	2.08
821	SLU 83	-126	9	10523	-0.89	1.83	2.19
821	SLU 84	-125	28	10498	-1.16	3.02	2.12
821	SLE RA 1	-89	7	6820	-0.59	2.82	1.34
821	SLE RA 2	-88	28	6792	-0.89	4.14	1.26
821	SLE RA 3	-90	6	6931	-0.54	2.56	1.38
821	SLE RA 4	-90	19	6914	-0.71	3.35	1.33
821	SLE RA 5	-89	28	6865	-0.84	3.93	1.28
821	SLE RA 6	-91	6	7004	-0.49	2.35	1.4
821	SLE RA 7	-90	19	6987	-0.67	3.14	1.36
821	SLE RA 8	-90	6	6966	-0.5	2.4	1.39
821	SLE RA 9	-90	19	6949	-0.68	3.19	1.34
821	SLE RA 10	-91	28	7369	-0.99	3.6	1.41
821	SLE RA 11	-93	7	7507	-0.64	2.02	1.53
821	SLE RA 12	-93	20	7491	-0.82	2.81	1.48
821	SLE RA 13	-92	28	7442	-0.95	3.39	1.44
821	SLE RA 14	-94	7	7580	-0.6	1.81	1.56
821	SLE RA 15	-94	19	7564	-0.77	2.6	1.51
821	SLE RA 16	-94	7	7542	-0.61	1.86	1.55
821	SLE RA 17	-93	19	7526	-0.79	2.65	1.5
821	SLE RA 18	-93	7	7643	-0.74	2.05	1.56
821	SLE RA 19	-93	20	7627	-0.92	2.84	1.51
821	SLE RA 20	-94	7	7716	-0.7	1.84	1.58
821	SLE RA 21	-93	20	7700	-0.88	2.63	1.53
821	SLE FR 1	-89	7	6820	-0.59	2.82	1.34
821	SLE FR 2	-89	11	6814	-0.65	3.08	1.32
821	SLE FR 3	-89	7	6849	-0.57	2.73	1.35
821	SLE FR 4	-90	11	7061	-0.7	2.85	1.39
821	SLE FR 5	-91	7	7096	-0.62	2.5	1.41
821	SLE FR 6	-91	7	7232	-0.67	2.43	1.45
821	SLE QP 1	-89	7	6820	-0.59	2.82	1.34
821	SLE QP 2	-90	7	7067	-0.64	2.59	1.4
821	SLD 1	450	348	7581	-4.53	20.91	-2.25
821	SLD 2	410	252	7600	-4.09	19.72	-0.15
821	SLD 3	423	-42	8177	1.85	-5.45	-0.53
821	SLD 4	383	-137	8196	2.29	-6.65	1.57
821	SLD 5	120	716	6315	-11.55	48.28	-2.66
821	SLD 6	94	654	6327	-11.27	47.51	-1.31
821	SLD 7	29	-582	8299	9.7	-39.61	3.07
821	SLD 8	4	-643	8312	9.99	-40.37	4.42
821	SLD 9	-184	657	5822	-11.26	45.55	-1.61
821	SLD 10	-210	595	5835	-10.98	44.78	-0.26
821	SLD 11	-275	-641	7807	9.99	-42.33	4.11
821	SLD 12	-300	-702	7819	10.28	-43.1	5.46
821	SLD 13	-563	151	5938	-3.57	11.82	1.23
821	SLD 14	-603	55	5957	-3.12	10.63	3.33
821	SLD 15	-590	-238	6534	2.81	-14.54	2.95
821	SLD 16	-631	-334	6553	3.25	-15.73	5.05
821	SLV 1	759	568	7826	-7.2	33.49	-4.43
821	SLV 2	695	417	7856	-6.5	31.61	-1.12
821	SLV 3	712	-96	8841	3.68	-11.49	-1.5
821	SLV 4	649	-247	8871	4.38	-13.38	1.81
821	SLV 5	246	1210	5749	-19.24	80.44	-5.41
821	SLV 6	204	1109	5769	-18.77	79.18	-3.18
821	SLV 7	92	-1003	9134	17.03	-69.52	4.36
821	SLV 8	50	-1104	9154	17.5	-70.79	6.59
821	SLV 9	-230	1118	4980	-18.78	75.96	-3.78
821	SLV 10	-273	1016	5000	-18.31	74.69	-1.55
821	SLV 11	-384	-1095	8365	17.49	-74	5.99
821	SLV 12	-427	-1196	8385	17.96	-75.27	8.22
821	SLV 13	-829	260	5263	-5.66	18.55	1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
821	SLV 14	-893	110	5293	-4.96	16.67	4.31
821	SLV 15	-876	-404	6278	5.22	-26.44	3.93
821	SLV 16	-939	-554	6308	5.92	-28.32	7.24
821	SLV FO 1	843	624	7902	-7.85	36.58	-5.02
821	SLV FO 2	774	458	7935	-7.09	34.51	-1.37
821	SLV FO 3	793	-106	9019	4.12	-12.9	-1.79
821	SLV FO 4	723	-272	9051	4.88	-14.97	1.85
821	SLV FO 5	280	1330	5617	-21.1	88.23	-6.09
821	SLV FO 6	233	1219	5639	-20.58	86.84	-3.64
821	SLV FO 7	110	-1104	9340	18.8	-76.73	4.65
821	SLV FO 8	64	-1215	9363	19.31	-78.12	7.11
821	SLV FO 9	-244	1229	4771	-20.59	83.3	-4.3
821	SLV FO 10	-291	1117	4793	-20.07	81.9	-1.85
821	SLV FO 11	-414	-1205	8495	19.31	-81.66	6.45
821	SLV FO 12	-461	-1317	8517	19.82	-83.05	8.9
821	SLV FO 13	-903	286	5082	-6.16	20.15	0.96
821	SLV FO 14	-973	120	5115	-5.39	18.08	4.6
821	SLV FO 15	-954	-445	6199	5.81	-29.34	4.18
821	SLV FO 16	-1024	-610	6232	6.58	-31.41	7.82
821	CRTFP Ux+	0	0	0	0	0	0
821	CRTFP Ux-	0	0	0	0	0	0
821	CRTFP Uy+	0	0	0	0	0	0
821	CRTFP Uy-	0	0	0	0	0	0
824	SLU 1	6	31	2812	-35.98	680.83	-7.84
824	SLU 2	6	48	2803	-35.98	678.11	-12.08
824	SLU 3	6	31	2879	-36.83	697.47	-7.95
824	SLU 4	6	42	2874	-36.83	695.84	-10.49
824	SLU 5	6	48	2847	-36.54	689.08	-12.09
824	SLU 6	6	32	2923	-37.39	708.44	-7.97
824	SLU 7	6	42	2918	-37.39	706.81	-10.51
824	SLU 8	6	31	2900	-37.1	702.77	-7.88
824	SLU 9	6	41	2895	-37.1	701.14	-10.42
824	SLU 10	7	50	3177	-40.88	768.3	-12.62
824	SLU 11	7	34	3253	-41.73	787.66	-8.49
824	SLU 12	7	44	3248	-41.73	786.03	-11.03
824	SLU 13	7	50	3221	-41.44	779.27	-12.63
824	SLU 14	8	34	3297	-42.29	798.63	-8.51
824	SLU 15	8	44	3292	-42.29	797	-11.05
824	SLU 16	8	33	3274	-42	792.95	-8.42
824	SLU 17	8	44	3269	-42	791.32	-10.96
824	SLU 18	7	34	3346	-42.98	809.67	-8.61
824	SLU 19	7	44	3340	-42.98	808.04	-11.15
824	SLU 20	8	34	3390	-43.54	820.64	-8.63
824	SLU 21	8	44	3385	-43.54	819.01	-11.17
824	SLU 22	7	35	3273	-41.84	792.21	-8.9
824	SLU 23	7	52	3264	-41.84	789.49	-13.13
824	SLU 24	7	36	3340	-42.69	808.85	-9.01
824	SLU 25	7	46	3335	-42.69	807.22	-11.55
824	SLU 26	7	52	3308	-42.4	800.46	-13.15
824	SLU 27	8	36	3384	-43.25	819.82	-9.03
824	SLU 28	8	46	3379	-43.25	818.19	-11.57
824	SLU 29	8	35	3361	-42.96	814.15	-8.93
824	SLU 30	8	46	3356	-42.96	812.52	-11.47
824	SLU 31	8	54	3637	-46.74	879.68	-13.67
824	SLU 32	9	38	3714	-47.59	899.04	-9.55
824	SLU 33	9	48	3709	-47.59	897.41	-12.09
824	SLU 34	9	54	3682	-47.3	890.65	-13.69
824	SLU 35	9	38	3758	-48.16	910.01	-9.56
824	SLU 36	9	48	3753	-48.15	908.38	-12.1
824	SLU 37	9	38	3735	-47.86	904.33	-9.47
824	SLU 38	9	48	3730	-47.86	902.7	-12.01
824	SLU 39	9	38	3807	-48.84	921.05	-9.67
824	SLU 40	9	49	3801	-48.84	919.42	-12.21
824	SLU 41	9	38	3851	-49.4	932.02	-9.69
824	SLU 42	9	49	3846	-49.4	930.39	-12.23
824	SLU 43	7	39	3497	-44.76	846.89	-9.84
824	SLU 44	7	56	3488	-44.76	844.17	-14.07
824	SLU 45	7	39	3565	-45.61	863.54	-9.95
824	SLU 46	7	49	3559	-45.61	861.91	-12.49
824	SLU 47	7	56	3532	-45.32	855.14	-14.09
824	SLU 48	8	39	3609	-46.18	874.5	-9.96
824	SLU 49	8	50	3604	-46.17	872.87	-12.5
824	SLU 50	8	39	3586	-45.88	868.83	-9.87
824	SLU 51	8	49	3580	-45.88	867.2	-12.41
824	SLU 52	8	58	3862	-49.66	934.36	-14.61
824	SLU 53	9	42	3938	-50.52	953.72	-10.49
824	SLU 54	9	52	3933	-50.51	952.09	-13.03
824	SLU 55	9	58	3906	-50.22	945.33	-14.63
824	SLU 56	9	42	3983	-51.08	964.69	-10.5
824	SLU 57	9	52	3977	-51.07	963.06	-13.04
824	SLU 58	9	41	3960	-50.79	959.02	-10.41
824	SLU 59	9	51	3954	-50.78	957.39	-12.95
824	SLU 60	9	42	4031	-51.76	975.73	-10.61
824	SLU 61	9	52	4026	-51.76	974.1	-13.15
824	SLU 62	9	42	4076	-52.33	986.7	-10.62
824	SLU 63	9	52	4070	-52.32	985.07	-13.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
824	SLU 64	8	43	3958	-50.63	958.27	-10.89
824	SLU 65	8	60	3949	-50.62	955.55	-15.12
824	SLU 66	9	44	4025	-51.48	974.92	-11
824	SLU 67	9	54	4020	-51.48	973.29	-13.54
824	SLU 68	9	60	3993	-51.18	966.52	-15.14
824	SLU 69	9	44	4070	-52.04	985.88	-11.02
824	SLU 70	9	54	4064	-52.04	984.25	-13.56
824	SLU 71	9	43	4047	-51.75	980.21	-10.92
824	SLU 72	9	53	4041	-51.75	978.58	-13.46
824	SLU 73	9	62	4323	-55.52	1045.74	-15.66
824	SLU 74	10	46	4399	-56.38	1065.1	-11.54
824	SLU 75	10	56	4394	-56.38	1063.47	-14.08
824	SLU 76	10	62	4367	-56.09	1056.71	-15.68
824	SLU 77	10	46	4444	-56.94	1076.07	-11.56
824	SLU 78	10	56	4438	-56.94	1074.44	-14.1
824	SLU 79	10	45	4421	-56.65	1070.4	-11.46
824	SLU 80	10	56	4415	-56.65	1068.77	-14
824	SLU 81	10	46	4492	-57.63	1087.11	-11.66
824	SLU 82	10	56	4487	-57.63	1085.48	-14.2
824	SLU 83	10	46	4536	-58.19	1098.08	-11.68
824	SLU 84	10	56	4531	-58.19	1096.45	-14.22
824	SLE RA 1	6	32	2943	-37.65	712.65	-8.14
824	SLE RA 2	6	44	2937	-37.65	710.84	-10.97
824	SLE RA 3	6	33	2988	-38.22	723.75	-8.22
824	SLE RA 4	6	39	2985	-38.22	722.66	-9.91
824	SLE RA 5	6	44	2967	-38.03	718.15	-10.98
824	SLE RA 6	7	33	3018	-38.6	731.06	-8.23
824	SLE RA 7	7	39	3014	-38.59	729.97	-9.92
824	SLE RA 8	7	32	3002	-38.4	727.28	-8.17
824	SLE RA 9	7	39	2999	-38.4	726.19	-9.86
824	SLE RA 10	7	45	3187	-40.92	770.97	-11.33
824	SLE RA 11	7	34	3238	-41.49	783.87	-8.58
824	SLE RA 12	7	41	3234	-41.49	782.79	-10.27
824	SLE RA 13	7	45	3216	-41.29	778.28	-11.34
824	SLE RA 14	7	34	3267	-41.86	791.18	-8.59
824	SLE RA 15	7	41	3264	-41.86	790.1	-10.28
824	SLE RA 16	7	34	3252	-41.67	787.4	-8.53
824	SLE RA 17	7	41	3248	-41.67	786.32	-10.22
824	SLE RA 18	7	34	3299	-42.32	798.54	-8.66
824	SLE RA 19	7	41	3296	-42.32	797.46	-10.35
824	SLE RA 20	7	34	3329	-42.7	805.86	-8.67
824	SLE RA 21	7	41	3325	-42.69	804.77	-10.36
824	SLE FR 1	6	32	2943	-37.65	712.65	-8.14
824	SLE FR 2	6	34	2942	-37.65	712.29	-8.71
824	SLE FR 3	6	32	2955	-37.8	715.58	-8.15
824	SLE FR 4	6	35	3049	-39.05	738.06	-8.86
824	SLE FR 5	6	33	3062	-39.2	741.35	-8.3
824	SLE FR 6	7	33	3121	-39.99	755.6	-8.4
824	SLE QP 1	6	32	2943	-37.65	712.65	-8.14
824	SLE QP 2	6	33	3050	-39.05	738.42	-8.3
824	SLD 1	272	163	3072	-39.4	735.26	-41.78
824	SLD 2	255	145	3065	-39.28	734.04	-37.32
824	SLD 3	277	-42	3206	-39.55	774.96	9.61
824	SLD 4	261	-60	3199	-39.42	773.74	14.07
824	SLD 5	80	387	2855	-38.96	677.47	-97.06
824	SLD 6	70	375	2850	-38.88	676.68	-94.18
824	SLD 7	99	-298	3301	-39.45	809.81	74.25
824	SLD 8	88	-310	3297	-39.37	809.02	77.12
824	SLD 9	-76	376	2803	-38.74	667.82	-93.72
824	SLD 10	-86	364	2799	-38.66	667.03	-90.85
824	SLD 11	-57	-310	3250	-39.23	800.16	77.59
824	SLD 12	-68	-321	3246	-39.15	799.37	80.46
824	SLD 13	-248	126	2901	-38.69	703.1	-30.67
824	SLD 14	-264	108	2894	-38.56	701.88	-26.21
824	SLD 15	-243	-80	3035	-38.83	742.8	20.72
824	SLD 16	-259	-98	3028	-38.71	741.58	25.18
824	SLV 1	421	252	3075	-39.58	730.64	-64.41
824	SLV 2	396	224	3064	-39.39	728.71	-57.38
824	SLV 3	431	-98	3304	-39.84	798.39	23.24
824	SLV 4	405	-127	3293	-39.65	796.47	30.27
824	SLV 5	122	636	2713	-38.86	633.68	-159.38
824	SLV 6	105	616	2705	-38.73	632.38	-154.64
824	SLV 7	152	-533	3475	-39.71	859.54	132.78
824	SLV 8	135	-552	3468	-39.58	858.24	137.51
824	SLV 9	-122	618	2633	-38.53	618.6	-154.11
824	SLV 10	-140	599	2625	-38.4	617.3	-149.38
824	SLV 11	-92	-551	3395	-39.38	844.46	138.04
824	SLV 12	-109	-570	3388	-39.25	843.16	142.78
824	SLV 13	-392	193	2808	-38.46	680.37	-46.86
824	SLV 14	-418	164	2797	-38.27	678.44	-39.83
824	SLV 15	-383	-158	3036	-38.72	748.13	40.78
824	SLV 16	-409	-186	3025	-38.53	746.2	47.81
824	SLV FO 1	463	274	3077	-39.64	729.86	-70.02
824	SLV FO 2	435	243	3065	-39.43	727.74	-62.29
824	SLV FO 3	473	-111	3329	-39.92	804.39	26.39
824	SLV FO 4	445	-143	3317	-39.71	802.27	34.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
824	SLV FO 5	133	696	2679	-38.84	623.21	-174.48
824	SLV FO 6	114	675	2671	-38.7	621.78	-169.28
824	SLV FO 7	167	-589	3518	-39.78	871.65	146.89
824	SLV FO 8	148	-611	3510	-39.64	870.22	152.1
824	SLV FO 9	-135	676	2591	-38.47	606.62	-168.69
824	SLV FO 10	-154	655	2583	-38.33	605.19	-163.49
824	SLV FO 11	-102	-609	3429	-39.41	855.06	152.68
824	SLV FO 12	-121	-630	3421	-39.27	853.63	157.89
824	SLV FO 13	-432	209	2783	-38.4	674.57	-50.72
824	SLV FO 14	-460	177	2771	-38.19	672.45	-42.99
824	SLV FO 15	-422	-177	3035	-38.68	749.1	45.69
824	SLV FO 16	-450	-208	3023	-38.47	746.98	53.43
824	CRTFP Ux+	0	0	0	0	0	0
824	CRTFP Ux-	0	0	0	0	0	0
824	CRTFP Uy+	0	0	0	0	0	0
824	CRTFP Uy-	0	0	0	0	0	0
826	SLU 1	20	76	4687	-64.64	-36.6	0.42
826	SLU 2	21	106	4676	-64.72	-36.65	0.5
826	SLU 3	21	76	4795	-66.09	-37.84	0.42
826	SLU 4	22	94	4788	-66.14	-37.87	0.47
826	SLU 5	22	106	4747	-65.67	-37.48	0.5
826	SLU 6	22	76	4866	-67.05	-38.67	0.41
826	SLU 7	23	94	4860	-67.1	-38.7	0.46
826	SLU 8	22	75	4830	-66.56	-38.26	0.4
826	SLU 9	23	94	4823	-66.61	-38.29	0.45
826	SLU 10	24	111	5302	-73.36	-40.64	0.55
826	SLU 11	24	82	5421	-74.74	-41.82	0.46
826	SLU 12	24	100	5415	-74.79	-41.85	0.51
826	SLU 13	25	111	5374	-74.32	-41.47	0.54
826	SLU 14	25	81	5493	-75.7	-42.66	0.45
826	SLU 15	25	100	5486	-75.75	-42.69	0.5
826	SLU 16	24	81	5456	-75.21	-42.25	0.45
826	SLU 17	25	99	5450	-75.25	-42.28	0.5
826	SLU 18	23	83	5582	-77	-42.29	0.48
826	SLU 19	24	101	5575	-77.04	-42.32	0.53
826	SLU 20	24	83	5653	-77.96	-43.13	0.47
826	SLU 21	25	101	5647	-78	-43.16	0.52
826	SLU 22	24	83	5451	-74.95	-42.17	0.55
826	SLU 23	26	113	5440	-75.02	-42.22	0.63
826	SLU 24	26	84	5559	-76.4	-43.41	0.55
826	SLU 25	27	102	5552	-76.44	-43.44	0.6
826	SLU 26	27	113	5511	-75.98	-43.05	0.63
826	SLU 27	27	83	5630	-77.36	-44.24	0.54
826	SLU 28	28	102	5623	-77.4	-44.27	0.59
826	SLU 29	26	83	5594	-76.87	-43.83	0.54
826	SLU 30	27	101	5587	-76.91	-43.86	0.59
826	SLU 31	28	119	6066	-83.67	-46.2	0.68
826	SLU 32	28	89	6185	-85.05	-47.39	0.59
826	SLU 33	29	107	6178	-85.09	-47.42	0.64
826	SLU 34	29	119	6138	-84.63	-47.03	0.67
826	SLU 35	29	89	6257	-86.01	-48.22	0.58
826	SLU 36	30	107	6250	-86.05	-48.25	0.64
826	SLU 37	29	88	6220	-85.52	-47.82	0.58
826	SLU 38	30	106	6213	-85.56	-47.85	0.63
826	SLU 39	28	90	6346	-87.3	-47.86	0.61
826	SLU 40	29	109	6339	-87.35	-47.89	0.66
826	SLU 41	29	90	6417	-88.26	-48.69	0.6
826	SLU 42	30	109	6411	-88.31	-48.72	0.65
826	SLU 43	24	96	5832	-80.5	-45.67	0.5
826	SLU 44	26	126	5820	-80.57	-45.72	0.58
826	SLU 45	26	96	5939	-81.95	-46.91	0.5
826	SLU 46	26	115	5933	-82	-46.94	0.55
826	SLU 47	27	126	5892	-81.53	-46.55	0.58
826	SLU 48	27	96	6011	-82.91	-47.74	0.49
826	SLU 49	27	114	6004	-82.96	-47.77	0.54
826	SLU 50	26	95	5974	-82.42	-47.34	0.48
826	SLU 51	27	114	5968	-82.46	-47.37	0.53
826	SLU 52	28	131	6447	-89.22	-49.71	0.63
826	SLU 53	28	102	6566	-90.6	-50.9	0.54
826	SLU 54	29	120	6559	-90.65	-50.93	0.59
826	SLU 55	29	131	6518	-90.18	-50.54	0.62
826	SLU 56	29	102	6637	-91.56	-51.73	0.53
826	SLU 57	30	120	6630	-91.61	-51.76	0.58
826	SLU 58	29	101	6601	-91.07	-51.32	0.53
826	SLU 59	30	119	6594	-91.11	-51.35	0.58
826	SLU 60	28	103	6726	-92.86	-51.37	0.56
826	SLU 61	29	122	6720	-92.9	-51.4	0.61
826	SLU 62	29	103	6798	-93.82	-52.2	0.55
826	SLU 63	30	121	6791	-93.86	-52.23	0.6
826	SLU 64	29	103	6596	-90.81	-51.24	0.63
826	SLU 65	30	134	6584	-90.88	-51.29	0.71
826	SLU 66	30	104	6703	-92.26	-52.48	0.63
826	SLU 67	31	122	6696	-92.3	-52.51	0.68
826	SLU 68	31	133	6656	-91.84	-52.12	0.71
826	SLU 69	31	104	6775	-93.22	-53.31	0.62
826	SLU 70	32	122	6768	-93.26	-53.34	0.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
826	SLU 71	31	103	6738	-92.73	-52.9	0.62
826	SLU 72	32	121	6731	-92.77	-52.93	0.67
826	SLU 73	33	139	7211	-99.53	-55.27	0.76
826	SLU 74	33	109	7330	-100.91	-56.46	0.67
826	SLU 75	33	127	7323	-100.95	-56.49	0.72
826	SLU 76	34	139	7282	-100.49	-56.11	0.75
826	SLU 77	34	109	7401	-101.87	-57.29	0.66
826	SLU 78	34	127	7394	-101.91	-57.32	0.72
826	SLU 79	33	108	7365	-101.37	-56.89	0.66
826	SLU 80	34	126	7358	-101.42	-56.92	0.71
826	SLU 81	32	111	7490	-103.16	-56.93	0.69
826	SLU 82	33	129	7484	-103.21	-56.96	0.74
826	SLU 83	33	110	7562	-104.12	-57.76	0.68
826	SLU 84	34	129	7555	-104.17	-57.79	0.73
826	SLE RA 1	21	78	4906	-67.59	-38.19	0.45
826	SLE RA 2	22	98	4898	-67.64	-38.22	0.51
826	SLE RA 3	22	78	4977	-68.55	-39.02	0.45
826	SLE RA 4	23	90	4973	-68.58	-39.04	0.49
826	SLE RA 5	23	98	4946	-68.27	-38.78	0.51
826	SLE RA 6	23	78	5025	-69.19	-39.57	0.45
826	SLE RA 7	23	90	5020	-69.22	-39.59	0.48
826	SLE RA 8	23	77	5001	-68.87	-39.3	0.45
826	SLE RA 9	23	90	4996	-68.9	-39.32	0.48
826	SLE RA 10	24	102	5316	-73.4	-40.88	0.54
826	SLE RA 11	24	82	5395	-74.32	-41.67	0.48
826	SLE RA 12	24	94	5390	-74.35	-41.69	0.52
826	SLE RA 13	24	101	5363	-74.04	-41.44	0.54
826	SLE RA 14	24	82	5443	-74.96	-42.23	0.48
826	SLE RA 15	25	94	5438	-74.99	-42.25	0.51
826	SLE RA 16	24	81	5418	-74.63	-41.96	0.47
826	SLE RA 17	25	93	5414	-74.66	-41.98	0.51
826	SLE RA 18	24	83	5502	-75.82	-41.99	0.5
826	SLE RA 19	24	95	5498	-75.85	-42.01	0.53
826	SLE RA 20	24	83	5550	-76.46	-42.54	0.49
826	SLE RA 21	25	95	5545	-76.49	-42.56	0.52
826	SLE FR 1	21	78	4906	-67.59	-38.19	0.45
826	SLE FR 2	21	82	4904	-67.6	-38.2	0.47
826	SLE FR 3	21	78	4925	-67.84	-38.41	0.45
826	SLE FR 4	22	83	5083	-70.07	-39.34	0.48
826	SLE FR 5	22	79	5104	-70.31	-39.55	0.47
826	SLE FR 6	22	80	5204	-71.7	-40.09	0.47
826	SLE QP 1	21	78	4906	-67.59	-38.19	0.45
826	SLE QP 2	22	79	5085	-70.06	-39.33	0.47
826	SLD 1	575	212	4617	-66.56	-8.85	6.77
826	SLD 2	544	244	4634	-66.81	-9.16	8.04
826	SLD 3	551	-160	4807	-65.59	-9.79	5.64
826	SLD 4	520	-127	4824	-65.83	-10.1	6.91
826	SLD 5	229	677	4654	-70.44	-28.72	3.86
826	SLD 6	210	698	4665	-70.6	-28.92	4.67
826	SLD 7	150	-562	5286	-67.19	-31.83	0.08
826	SLD 8	130	-541	5297	-67.35	-32.03	0.9
826	SLD 9	-86	699	4872	-72.76	-46.63	0.03
826	SLD 10	-106	720	4883	-72.92	-46.83	0.85
826	SLD 11	-166	-540	5504	-69.51	-49.74	-3.74
826	SLD 12	-186	-519	5515	-69.67	-49.94	-2.92
826	SLD 13	-477	286	5345	-74.28	-68.56	-5.98
826	SLD 14	-507	318	5363	-74.53	-68.87	-4.71
826	SLD 15	-500	-86	5535	-73.3	-69.5	-7.11
826	SLD 16	-531	-54	5552	-73.55	-69.81	-5.84
826	SLV 1	890	313	4341	-64.67	8.28	10.41
826	SLV 2	841	364	4368	-65.06	7.79	12.41
826	SLV 3	849	-321	4664	-63.01	6.72	8.47
826	SLV 4	800	-270	4692	-63.4	6.23	10.47
826	SLV 5	353	1101	4365	-70.89	-22.59	6.01
826	SLV 6	320	1136	4384	-71.15	-22.92	7.35
826	SLV 7	217	-1012	5444	-65.35	-27.79	-0.44
826	SLV 8	185	-977	5463	-65.61	-28.12	0.91
826	SLV 9	-141	1136	4706	-74.5	-50.54	0.02
826	SLV 10	-173	1170	4725	-74.77	-50.87	1.37
826	SLV 11	-276	-977	5786	-68.96	-55.74	-6.42
826	SLV 12	-309	-943	5804	-69.22	-56.07	-5.07
826	SLV 13	-757	428	5477	-76.72	-84.89	-9.54
826	SLV 14	-805	479	5505	-77.11	-85.38	-7.54
826	SLV 15	-797	-206	5801	-75.05	-86.45	-11.47
826	SLV 16	-846	-155	5829	-75.44	-86.94	-9.47
826	SLV FO 1	976	336	4266	-64.13	13.04	11.4
826	SLV FO 2	923	393	4296	-64.56	12.5	13.6
826	SLV FO 3	932	-361	4622	-62.3	11.32	9.28
826	SLV FO 4	878	-305	4652	-62.73	10.78	11.47
826	SLV FO 5	386	1203	4293	-70.97	-20.91	6.56
826	SLV FO 6	350	1241	4314	-71.26	-21.28	8.04
826	SLV FO 7	237	-1121	5480	-64.88	-26.64	-0.53
826	SLV FO 8	201	-1083	5501	-65.17	-27	0.95
826	SLV FO 9	-157	1241	4669	-74.95	-51.66	-0.02
826	SLV FO 10	-193	1279	4689	-75.24	-52.02	1.46
826	SLV FO 11	-306	-1083	5856	-68.85	-57.38	-7.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
826	SLV FO 12	-342	-1045	5876	-69.14	-57.75	-5.63
826	SLV FO 13	-834	463	5517	-77.38	-89.44	-10.54
826	SLV FO 14	-888	519	5547	-77.81	-89.98	-8.34
826	SLV FO 15	-879	-234	5873	-75.55	-91.16	-12.67
826	SLV FO 16	-932	-178	5903	-75.98	-91.7	-10.47
826	CRTFP Ux+	0	0	0	0	0	0
826	CRTFP Ux-	0	0	0	0	0	0
826	CRTFP Uy+	0	0	0	0	0	0
826	CRTFP Uy-	0	0	0	0	0	0
840	SLU 1	-52	1	3292	-2.86	-369.1	0.14
840	SLU 2	-51	19	3266	-3.08	-368.48	4.78
840	SLU 3	-53	0	3375	-2.88	-376.96	0.07
840	SLU 4	-53	11	3360	-3.01	-376.58	2.85
840	SLU 5	-52	19	3321	-3.08	-373.48	4.8
840	SLU 6	-54	0	3430	-2.89	-381.96	0.09
840	SLU 7	-53	12	3415	-3.02	-381.59	2.87
840	SLU 8	-53	1	3401	-2.87	-379.11	0.18
840	SLU 9	-53	12	3385	-3	-378.73	2.96
840	SLU 10	-55	21	3673	-3.5	-412.96	5.12
840	SLU 11	-56	2	3782	-3.3	-421.44	0.42
840	SLU 12	-56	13	3767	-3.44	-421.06	3.2
840	SLU 13	-55	21	3728	-3.51	-417.96	5.15
840	SLU 14	-57	2	3837	-3.31	-426.44	0.44
840	SLU 15	-57	13	3822	-3.44	-426.06	3.22
840	SLU 16	-57	2	3808	-3.3	-423.59	0.53
840	SLU 17	-56	13	3793	-3.43	-423.21	3.31
840	SLU 18	-57	3	3873	-3.46	-432.64	0.64
840	SLU 19	-56	14	3858	-3.6	-432.27	3.42
840	SLU 20	-57	3	3928	-3.47	-437.65	0.66
840	SLU 21	-57	14	3912	-3.6	-437.27	3.44
840	SLU 22	-58	-1	3822	-3.26	-424.39	-0.24
840	SLU 23	-57	18	3796	-3.47	-423.77	4.39
840	SLU 24	-59	-1	3906	-3.28	-432.24	-0.31
840	SLU 25	-59	10	3890	-3.41	-431.87	2.47
840	SLU 26	-58	18	3851	-3.48	-428.77	4.41
840	SLU 27	-60	-1	3960	-3.28	-437.25	-0.29
840	SLU 28	-59	10	3945	-3.42	-436.87	2.49
840	SLU 29	-59	-1	3931	-3.27	-434.39	-0.2
840	SLU 30	-59	10	3916	-3.4	-434.02	2.58
840	SLU 31	-61	19	4204	-3.9	-468.24	4.74
840	SLU 32	-63	0	4313	-3.7	-476.72	0.04
840	SLU 33	-62	11	4298	-3.83	-476.35	2.82
840	SLU 34	-61	19	4258	-3.9	-473.25	4.76
840	SLU 35	-63	0	4367	-3.71	-481.72	0.06
840	SLU 36	-63	11	4352	-3.84	-481.35	2.84
840	SLU 37	-63	1	4338	-3.69	-478.87	0.15
840	SLU 38	-62	12	4323	-3.82	-478.5	2.93
840	SLU 39	-63	1	4403	-3.86	-487.93	0.26
840	SLU 40	-62	12	4388	-3.99	-487.56	3.04
840	SLU 41	-64	1	4458	-3.87	-492.93	0.28
840	SLU 42	-63	12	4443	-4	-492.56	3.06
840	SLU 43	-65	1	4097	-3.58	-460.88	0.31
840	SLU 44	-65	20	4072	-3.8	-460.25	4.95
840	SLU 45	-67	1	4181	-3.6	-468.73	0.24
840	SLU 46	-66	12	4166	-3.73	-468.36	3.02
840	SLU 47	-65	20	4126	-3.8	-465.26	4.97
840	SLU 48	-67	1	4236	-3.61	-473.73	0.26
840	SLU 49	-67	12	4220	-3.74	-473.36	3.05
840	SLU 50	-67	2	4206	-3.59	-470.88	0.35
840	SLU 51	-66	13	4191	-3.72	-470.51	3.13
840	SLU 52	-68	21	4479	-4.22	-504.73	5.3
840	SLU 53	-70	2	4588	-4.03	-513.21	0.59
840	SLU 54	-69	14	4573	-4.16	-512.84	3.37
840	SLU 55	-69	21	4533	-4.23	-509.74	5.32
840	SLU 56	-71	2	4643	-4.03	-518.21	0.61
840	SLU 57	-70	14	4627	-4.16	-517.84	3.39
840	SLU 58	-70	3	4613	-4.02	-515.36	0.7
840	SLU 59	-70	14	4598	-4.15	-514.99	3.48
840	SLU 60	-70	3	4679	-4.19	-524.42	0.81
840	SLU 61	-70	14	4664	-4.32	-524.05	3.59
840	SLU 62	-71	3	4733	-4.19	-529.42	0.83
840	SLU 63	-70	14	4718	-4.32	-529.05	3.61
840	SLU 64	-72	0	4628	-3.98	-516.16	-0.07
840	SLU 65	-71	18	4602	-4.19	-515.54	4.57
840	SLU 66	-73	-1	4711	-4	-524.02	-0.14
840	SLU 67	-72	11	4696	-4.13	-523.64	2.64
840	SLU 68	-71	18	4657	-4.2	-520.54	4.59
840	SLU 69	-73	0	4766	-4.01	-529.02	-0.12
840	SLU 70	-73	11	4751	-4.14	-528.65	2.66
840	SLU 71	-73	0	4737	-3.99	-526.17	-0.03
840	SLU 72	-72	11	4721	-4.12	-525.8	2.75
840	SLU 73	-74	20	5009	-4.62	-560.02	4.92
840	SLU 74	-76	1	5118	-4.42	-568.5	0.21
840	SLU 75	-76	12	5103	-4.55	-568.12	2.99
840	SLU 76	-75	20	5064	-4.63	-565.02	4.94
840	SLU 77	-77	1	5173	-4.43	-573.5	0.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
840	SLU 78	-76	12	5158	-4.56	-573.13	3.01
840	SLU 79	-76	1	5144	-4.42	-570.65	0.32
840	SLU 80	-76	12	5128	-4.55	-570.27	3.1
840	SLU 81	-76	2	5209	-4.58	-579.71	0.43
840	SLU 82	-76	13	5194	-4.71	-579.33	3.21
840	SLU 83	-77	2	5264	-4.59	-584.71	0.45
840	SLU 84	-77	13	5248	-4.72	-584.33	3.23
840	SLE RA 1	-54	0	3443	-2.97	-384.9	0.03
840	SLE RA 2	-53	13	3426	-3.12	-384.48	3.12
840	SLE RA 3	-54	0	3499	-2.99	-390.13	-0.02
840	SLE RA 4	-54	7	3489	-3.07	-389.89	1.84
840	SLE RA 5	-54	13	3463	-3.12	-387.82	3.13
840	SLE RA 6	-55	0	3535	-2.99	-393.47	0
840	SLE RA 7	-54	7	3525	-3.08	-393.22	1.85
840	SLE RA 8	-54	0	3516	-2.98	-391.57	0.06
840	SLE RA 9	-54	8	3506	-3.07	-391.32	1.91
840	SLE RA 10	-55	13	3698	-3.4	-414.14	3.35
840	SLE RA 11	-57	1	3770	-3.27	-419.79	0.22
840	SLE RA 12	-56	8	3760	-3.36	-419.54	2.07
840	SLE RA 13	-56	13	3734	-3.4	-417.47	3.37
840	SLE RA 14	-57	1	3807	-3.27	-423.12	0.23
840	SLE RA 15	-57	8	3797	-3.36	-422.87	2.09
840	SLE RA 16	-57	1	3787	-3.26	-421.22	0.29
840	SLE RA 17	-56	9	3777	-3.35	-420.97	2.14
840	SLE RA 18	-57	1	3831	-3.38	-427.26	0.36
840	SLE RA 19	-57	9	3821	-3.46	-427.01	2.22
840	SLE RA 20	-57	1	3867	-3.38	-430.59	0.38
840	SLE RA 21	-57	9	3857	-3.47	-430.35	2.23
840	SLE FR 1	-54	0	3443	-2.97	-384.9	0.03
840	SLE FR 2	-54	3	3440	-3	-384.82	0.65
840	SLE FR 3	-54	0	3458	-2.97	-386.23	0.04
840	SLE FR 4	-55	3	3556	-3.12	-397.52	0.75
840	SLE FR 5	-55	1	3574	-3.1	-398.94	0.14
840	SLE FR 6	-55	1	3637	-3.17	-406.08	0.2
840	SLE QP 1	-54	0	3443	-2.97	-384.9	0.03
840	SLE QP 2	-55	1	3559	-3.09	-397.61	0.13
840	SLD 1	198	63	4461	-5.67	-516.75	15.74
840	SLD 2	174	-37	4493	-5.43	-520.84	-9.03
840	SLD 3	184	-166	4807	-2.44	-513.11	-41.47
840	SLD 4	160	-266	4839	-2.21	-517.2	-66.25
840	SLD 5	47	384	3299	-8.8	-438.17	95.86
840	SLD 6	32	319	3319	-8.65	-440.81	79.9
840	SLD 7	-1	-379	4454	1.96	-426.03	-94.87
840	SLD 8	-16	-444	4474	2.11	-428.66	-110.83
840	SLD 9	-93	445	2644	-8.29	-366.55	111.08
840	SLD 10	-109	381	2665	-8.14	-369.19	95.13
840	SLD 11	-141	-318	3799	2.46	-354.41	-79.64
840	SLD 12	-156	-383	3820	2.61	-357.04	-95.6
840	SLD 13	-269	267	2280	-3.98	-278.01	66.51
840	SLD 14	-293	167	2312	-3.75	-282.1	41.73
840	SLD 15	-284	38	2626	-0.75	-274.37	9.29
840	SLD 16	-308	-62	2658	-0.52	-278.46	-15.49
840	SLV 1	343	115	4940	-7.35	-583.68	28.85
840	SLV 2	305	-42	4991	-6.98	-590.12	-10.2
840	SLV 3	319	-275	5531	-1.84	-577.59	-68.76
840	SLV 4	281	-432	5581	-1.48	-584.03	-107.81
840	SLV 5	109	657	3068	-12.79	-461.46	164.07
840	SLV 6	83	551	3103	-12.55	-465.8	137.78
840	SLV 7	27	-645	5037	5.57	-441.16	-161.29
840	SLV 8	2	-751	5071	5.81	-445.5	-187.58
840	SLV 9	-111	752	2048	-12	-349.71	187.84
840	SLV 10	-137	646	2082	-11.75	-354.05	161.55
840	SLV 11	-193	-550	4016	6.36	-329.41	-137.52
840	SLV 12	-218	-656	4050	6.61	-333.75	-163.81
840	SLV 13	-390	433	1538	-4.71	-211.18	108.07
840	SLV 14	-428	276	1588	-4.34	-217.63	69.02
840	SLV 15	-415	43	2128	0.8	-205.09	10.46
840	SLV 16	-452	-114	2179	1.16	-211.54	-28.59
840	SLV FO 1	383	127	5078	-7.78	-602.28	31.72
840	SLV FO 2	341	-46	5134	-7.37	-609.38	-11.24
840	SLV FO 3	356	-303	5728	-1.72	-595.58	-75.65
840	SLV FO 4	314	-475	5783	-1.31	-602.68	-118.61
840	SLV FO 5	125	722	3019	-13.76	-467.85	180.47
840	SLV FO 6	97	606	3057	-13.49	-472.62	151.55
840	SLV FO 7	36	-710	5185	6.43	-445.52	-177.43
840	SLV FO 8	8	-826	5222	6.7	-450.29	-206.35
840	SLV FO 9	-117	827	1897	-12.89	-344.92	206.61
840	SLV FO 10	-145	711	1934	-12.62	-349.7	177.69
840	SLV FO 11	-206	-605	4062	7.3	-322.59	-151.29
840	SLV FO 12	-234	-721	4100	7.58	-327.37	-180.21
840	SLV FO 13	-424	477	1335	-4.87	-192.54	118.87
840	SLV FO 14	-465	304	1391	-4.47	-199.63	75.91
840	SLV FO 15	-451	47	1985	1.19	-185.84	11.5
840	SLV FO 16	-492	-126	2041	1.59	-192.93	-31.46
840	CRTFP Ux+	0	0	0	0	0	0
840	CRTFP Ux-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
840	CRTFP Uy+	0	0	0	0	0	0
840	CRTFP Uy-	0	0	0	0	0	0
843	SLU 1	67	17	4047	-4.62	830.63	-5.78
843	SLU 2	65	40	4010	-4.94	828.81	-13.89
843	SLU 3	69	18	4153	-4.66	849.84	-6.03
843	SLU 4	68	31	4131	-4.85	848.74	-10.9
843	SLU 5	67	41	4082	-4.95	841.74	-14.32
843	SLU 6	70	19	4225	-4.67	862.76	-6.46
843	SLU 7	69	33	4203	-4.86	861.67	-11.33
843	SLU 8	70	19	4192	-4.64	856.48	-6.64
843	SLU 9	69	33	4170	-4.83	855.39	-11.51
843	SLU 10	70	42	4497	-5.59	925.12	-14.48
843	SLU 11	74	19	4640	-5.31	946.15	-6.61
843	SLU 12	73	33	4618	-5.5	945.05	-11.48
843	SLU 13	71	43	4570	-5.6	938.05	-14.91
843	SLU 14	75	20	4713	-5.32	959.07	-7.04
843	SLU 15	74	34	4691	-5.51	957.98	-11.91
843	SLU 16	75	21	4679	-5.29	952.79	-7.22
843	SLU 17	73	35	4657	-5.48	951.7	-12.09
843	SLU 18	74	19	4743	-5.55	968.22	-6.61
843	SLU 19	73	33	4721	-5.74	967.13	-11.48
843	SLU 20	75	20	4816	-5.56	981.14	-7.04
843	SLU 21	74	34	4794	-5.75	980.05	-11.91
843	SLU 22	75	15	4678	-5.26	952.27	-5.13
843	SLU 23	73	38	4642	-5.58	950.45	-13.24
843	SLU 24	77	16	4785	-5.3	971.47	-5.38
843	SLU 25	76	30	4763	-5.49	970.38	-10.24
843	SLU 26	74	39	4714	-5.59	963.37	-13.67
843	SLU 27	78	17	4857	-5.31	984.4	-5.81
843	SLU 28	77	31	4835	-5.5	983.31	-10.67
843	SLU 29	77	17	4823	-5.28	978.12	-5.99
843	SLU 30	76	31	4801	-5.47	977.03	-10.86
843	SLU 31	78	40	5129	-6.23	1046.76	-13.83
843	SLU 32	81	17	5272	-5.95	1067.78	-5.96
843	SLU 33	80	31	5250	-6.14	1066.69	-10.83
843	SLU 34	79	41	5202	-6.24	1059.68	-14.26
843	SLU 35	83	19	5345	-5.96	1080.71	-6.39
843	SLU 36	82	33	5323	-6.15	1079.62	-11.26
843	SLU 37	82	19	5311	-5.93	1074.43	-6.57
843	SLU 38	81	33	5289	-6.12	1073.34	-11.44
843	SLU 39	82	17	5375	-6.19	1089.85	-5.96
843	SLU 40	81	31	5353	-6.38	1088.76	-10.83
843	SLU 41	83	19	5447	-6.2	1102.78	-6.39
843	SLU 42	82	33	5425	-6.39	1101.69	-11.26
843	SLU 43	85	22	5044	-5.79	1038.12	-7.73
843	SLU 44	83	46	5007	-6.11	1036.3	-15.85
843	SLU 45	87	23	5150	-5.83	1057.32	-7.98
843	SLU 46	85	37	5128	-6.02	1056.23	-12.85
843	SLU 47	84	47	5080	-6.12	1049.22	-16.28
843	SLU 48	88	24	5223	-5.84	1070.25	-8.41
843	SLU 49	87	38	5201	-6.03	1069.16	-13.28
843	SLU 50	87	25	5189	-5.81	1063.97	-8.59
843	SLU 51	86	39	5167	-6	1062.88	-13.46
843	SLU 52	88	47	5495	-6.75	1132.61	-16.43
843	SLU 53	91	25	5638	-6.48	1153.63	-8.57
843	SLU 54	90	39	5616	-6.67	1152.54	-13.43
843	SLU 55	89	49	5567	-6.76	1145.53	-16.86
843	SLU 56	93	26	5710	-6.49	1166.56	-9
843	SLU 57	92	40	5688	-6.68	1165.47	-13.86
843	SLU 58	92	27	5677	-6.46	1160.28	-9.18
843	SLU 59	91	41	5655	-6.65	1159.19	-14.05
843	SLU 60	91	25	5741	-6.72	1175.7	-8.57
843	SLU 61	90	39	5718	-6.91	1174.61	-13.44
843	SLU 62	93	26	5813	-6.73	1188.63	-9
843	SLU 63	92	40	5791	-6.92	1187.54	-13.87
843	SLU 64	92	21	5676	-6.43	1159.75	-7.08
843	SLU 65	91	44	5639	-6.75	1157.93	-15.2
843	SLU 66	94	21	5782	-6.47	1178.96	-7.33
843	SLU 67	93	35	5760	-6.66	1177.87	-12.2
843	SLU 68	92	45	5712	-6.76	1170.86	-15.63
843	SLU 69	96	23	5855	-6.48	1191.88	-7.76
843	SLU 70	95	36	5832	-6.67	1190.79	-12.63
843	SLU 71	95	23	5821	-6.45	1185.6	-7.94
843	SLU 72	94	37	5799	-6.64	1184.51	-12.81
843	SLU 73	95	46	6127	-7.39	1254.24	-15.78
843	SLU 74	99	23	6270	-7.12	1275.27	-7.92
843	SLU 75	98	37	6247	-7.31	1274.18	-12.78
843	SLU 76	97	47	6199	-7.4	1267.17	-16.21
843	SLU 77	100	24	6342	-7.13	1288.19	-8.35
843	SLU 78	99	38	6320	-7.32	1287.1	-13.21
843	SLU 79	100	25	6308	-7.1	1281.91	-8.53
843	SLU 80	99	39	6286	-7.29	1280.82	-13.4
843	SLU 81	99	23	6372	-7.36	1297.34	-7.92
843	SLU 82	98	37	6350	-7.55	1296.25	-12.79
843	SLU 83	100	24	6445	-7.37	1310.26	-8.35
843	SLU 84	99	38	6423	-7.56	1309.17	-13.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
843	SLE RA 1	69	16	4227	-4.81	865.38	-5.59
843	SLE RA 2	68	32	4203	-5.02	864.17	-11
843	SLE RA 3	71	17	4298	-4.83	878.19	-5.76
843	SLE RA 4	70	26	4283	-4.96	877.46	-9
843	SLE RA 5	69	33	4251	-5.02	872.79	-11.29
843	SLE RA 6	71	18	4346	-4.84	886.8	-6.04
843	SLE RA 7	71	27	4332	-4.96	886.08	-9.29
843	SLE RA 8	71	18	4324	-4.82	882.62	-6.17
843	SLE RA 9	70	27	4309	-4.94	881.89	-9.41
843	SLE RA 10	71	33	4528	-5.45	928.38	-11.39
843	SLE RA 11	74	18	4623	-5.26	942.39	-6.15
843	SLE RA 12	73	27	4608	-5.39	941.67	-9.39
843	SLE RA 13	72	34	4576	-5.46	937	-11.68
843	SLE RA 14	75	19	4671	-5.27	951.01	-6.43
843	SLE RA 15	74	28	4657	-5.4	950.28	-9.68
843	SLE RA 16	74	19	4649	-5.25	946.82	-6.55
843	SLE RA 17	74	28	4634	-5.38	946.1	-9.8
843	SLE RA 18	74	18	4691	-5.42	957.11	-6.15
843	SLE RA 19	73	27	4677	-5.55	956.38	-9.39
843	SLE RA 20	75	19	4740	-5.43	965.72	-6.43
843	SLE RA 21	74	28	4725	-5.56	965	-9.68
843	SLE FR 1	69	16	4227	-4.81	865.38	-5.59
843	SLE FR 2	69	19	4222	-4.85	865.14	-6.67
843	SLE FR 3	70	17	4246	-4.81	868.83	-5.71
843	SLE FR 4	70	20	4362	-5.03	892.66	-6.84
843	SLE FR 5	71	17	4386	-4.99	896.35	-5.87
843	SLE FR 6	72	17	4459	-5.11	911.25	-5.87
843	SLE QP 1	69	16	4227	-4.81	865.38	-5.59
843	SLE QP 2	71	17	4366	-4.99	892.9	-5.76
843	SLD 1	382	-18	2959	-6.06	670.76	6.17
843	SLD 2	350	105	2910	-6.48	668.95	-36.55
843	SLD 3	401	-296	3491	-1.53	698.56	103.5
843	SLD 4	368	-174	3442	-1.94	696.75	60.78
843	SLD 5	142	407	3146	-12.12	784.4	-142.44
843	SLD 6	121	486	3114	-12.39	783.24	-169.96
843	SLD 7	203	-520	4919	3	877.08	181.98
843	SLD 8	182	-441	4887	2.73	875.91	154.47
843	SLD 9	-41	475	3845	-12.71	909.89	-165.98
843	SLD 10	-62	554	3814	-12.98	908.72	-193.5
843	SLD 11	21	-453	5619	2.41	1002.57	158.44
843	SLD 12	-1	-374	5587	2.14	1001.4	130.93
843	SLD 13	-227	207	5291	-8.04	1089.05	-72.29
843	SLD 14	-259	330	5242	-8.46	1087.24	-115.02
843	SLD 15	-208	-71	5823	-3.5	1116.85	25.03
843	SLD 16	-241	52	5774	-3.92	1115.04	-17.69
843	SLV 1	558	-18	2131	-6.99	544.22	6.12
843	SLV 2	506	175	2054	-7.65	541.37	-61.22
843	SLV 3	589	-493	3039	0.75	591.68	172.16
843	SLV 4	537	-300	2962	0.09	588.83	104.81
843	SLV 5	180	690	2333	-17.2	716.86	-241.45
843	SLV 6	145	820	2281	-17.65	714.93	-286.78
843	SLV 7	283	-892	5360	8.59	875.04	312
843	SLV 8	248	-762	5308	8.15	873.12	266.66
843	SLV 9	-107	796	3425	-18.13	912.68	-278.18
843	SLV 10	-141	926	3373	-18.57	910.76	-323.52
843	SLV 11	-3	-787	6452	7.67	1070.87	275.26
843	SLV 12	-38	-657	6400	7.22	1068.95	229.93
843	SLV 13	-396	333	5771	-10.08	1196.97	-116.33
843	SLV 14	-448	527	5694	-10.73	1194.12	-183.67
843	SLV 15	-365	-142	6679	-2.34	1244.43	49.7
843	SLV 16	-417	52	6602	-3	1241.58	-17.64
843	SLV FO 1	607	-22	1907	-7.19	509.36	7.31
843	SLV FO 2	550	191	1822	-7.91	506.22	-66.77
843	SLV FO 3	641	-544	2906	1.33	561.56	189.95
843	SLV FO 4	584	-331	2821	0.6	558.42	115.87
843	SLV FO 5	190	758	2129	-18.43	699.25	-265.01
843	SLV FO 6	152	901	2072	-18.91	697.14	-314.89
843	SLV FO 7	304	-983	5459	9.95	873.26	343.78
843	SLV FO 8	266	-840	5402	9.46	871.14	293.91
843	SLV FO 9	-124	873	3331	-19.45	914.66	-305.42
843	SLV FO 10	-163	1017	3273	-19.93	912.55	-355.29
843	SLV FO 11	-11	-867	6661	8.93	1088.66	303.37
843	SLV FO 12	-49	-724	6604	8.44	1086.55	253.5
843	SLV FO 13	-443	365	5912	-10.58	1227.38	-127.39
843	SLV FO 14	-500	578	5827	-11.31	1224.24	-201.46
843	SLV FO 15	-409	-157	6911	-2.07	1279.58	55.25
843	SLV FO 16	-465	55	6826	-2.8	1276.45	-18.83
843	CRTFP Ux+	0	0	0	0	0	0
843	CRTFP Ux-	0	0	0	0	0	0
843	CRTFP Uy+	0	0	0	0	0	0
843	CRTFP Uy-	0	0	0	0	0	0
845	SLU 1	103	27	6429	1.78	-7.18	-0.51
845	SLU 2	100	56	6375	1.3	-8.48	-0.37
845	SLU 3	107	28	6602	1.96	-7.09	-0.56
845	SLU 4	105	45	6570	1.67	-7.87	-0.48
845	SLU 5	103	56	6494	1.43	-8.49	-0.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
845	SLU 6	109	28	6721	2.09	-7.1	-0.62
845	SLU 7	107	45	6689	1.8	-7.88	-0.53
845	SLU 8	108	28	6667	2.05	-7.19	-0.62
845	SLU 9	106	45	6635	1.76	-7.97	-0.53
845	SLU 10	108	60	7202	1.5	-8.85	-0.4
845	SLU 11	115	32	7429	2.16	-7.46	-0.59
845	SLU 12	113	49	7397	1.87	-8.24	-0.51
845	SLU 13	110	60	7321	1.64	-8.85	-0.45
845	SLU 14	117	32	7548	2.29	-7.46	-0.64
845	SLU 15	115	49	7516	2	-8.24	-0.56
845	SLU 16	116	32	7494	2.25	-7.56	-0.64
845	SLU 17	114	49	7462	1.96	-8.34	-0.56
845	SLU 18	114	33	7610	2.07	-7.71	-0.55
845	SLU 19	112	50	7578	1.78	-8.49	-0.46
845	SLU 20	117	33	7729	2.21	-7.71	-0.6
845	SLU 21	115	51	7697	1.92	-8.49	-0.52
845	SLU 22	118	31	7496	2.33	-6.96	-0.55
845	SLU 23	115	59	7443	1.85	-8.26	-0.42
845	SLU 24	121	31	7670	2.5	-6.87	-0.61
845	SLU 25	119	48	7637	2.21	-7.65	-0.53
845	SLU 26	117	60	7562	1.98	-8.27	-0.47
845	SLU 27	124	32	7789	2.64	-6.88	-0.66
845	SLU 28	122	49	7757	2.35	-7.66	-0.58
845	SLU 29	123	31	7735	2.6	-6.98	-0.67
845	SLU 30	121	49	7703	2.31	-7.75	-0.58
845	SLU 31	122	63	8270	2.05	-8.63	-0.45
845	SLU 32	129	35	8497	2.71	-7.24	-0.64
845	SLU 33	127	52	8464	2.42	-8.02	-0.56
845	SLU 34	125	64	8389	2.18	-8.63	-0.5
845	SLU 35	132	36	8616	2.84	-7.24	-0.69
845	SLU 36	130	53	8584	2.55	-8.02	-0.61
845	SLU 37	131	35	8562	2.8	-7.34	-0.69
845	SLU 38	129	53	8530	2.51	-8.12	-0.61
845	SLU 39	129	36	8678	2.62	-7.49	-0.59
845	SLU 40	127	54	8645	2.33	-8.27	-0.51
845	SLU 41	131	37	8797	2.75	-7.49	-0.65
845	SLU 42	129	54	8765	2.46	-8.27	-0.57
845	SLU 43	129	34	7991	2.13	-9.41	-0.64
845	SLU 44	126	63	7938	1.64	-10.71	-0.5
845	SLU 45	133	35	8165	2.3	-9.32	-0.7
845	SLU 46	131	52	8132	2.01	-10.1	-0.61
845	SLU 47	129	63	8057	1.78	-10.72	-0.56
845	SLU 48	135	35	8284	2.44	-9.33	-0.75
845	SLU 49	133	52	8252	2.15	-10.11	-0.67
845	SLU 50	134	35	8230	2.4	-9.42	-0.75
845	SLU 51	132	52	8198	2.11	-10.2	-0.67
845	SLU 52	134	67	8764	1.85	-11.08	-0.53
845	SLU 53	141	39	8991	2.51	-9.69	-0.72
845	SLU 54	139	56	8959	2.22	-10.47	-0.64
845	SLU 55	136	67	8884	1.98	-11.08	-0.59
845	SLU 56	143	39	9111	2.64	-9.69	-0.78
845	SLU 57	141	56	9078	2.35	-10.47	-0.7
845	SLU 58	142	39	9057	2.6	-9.79	-0.78
845	SLU 59	140	56	9024	2.31	-10.57	-0.7
845	SLU 60	140	40	9173	2.42	-9.94	-0.68
845	SLU 61	138	57	9140	2.13	-10.71	-0.6
845	SLU 62	143	40	9292	2.55	-9.94	-0.74
845	SLU 63	141	58	9260	2.26	-10.72	-0.65
845	SLU 64	144	38	9059	2.68	-9.19	-0.69
845	SLU 65	141	66	9005	2.19	-10.49	-0.55
845	SLU 66	147	38	9232	2.85	-9.1	-0.74
845	SLU 67	145	55	9200	2.56	-9.88	-0.66
845	SLU 68	143	67	9125	2.33	-10.5	-0.61
845	SLU 69	150	39	9352	2.99	-9.11	-0.8
845	SLU 70	148	56	9319	2.7	-9.89	-0.72
845	SLU 71	149	38	9298	2.95	-9.2	-0.8
845	SLU 72	147	56	9265	2.66	-9.98	-0.72
845	SLU 73	148	70	9832	2.4	-10.86	-0.58
845	SLU 74	155	42	10059	3.05	-9.47	-0.77
845	SLU 75	153	59	10027	2.76	-10.25	-0.69
845	SLU 76	151	71	9951	2.53	-10.86	-0.64
845	SLU 77	158	43	10178	3.19	-9.47	-0.83
845	SLU 78	156	60	10146	2.9	-10.25	-0.75
845	SLU 79	157	42	10124	3.15	-9.57	-0.83
845	SLU 80	155	60	10092	2.86	-10.35	-0.75
845	SLU 81	155	43	10240	2.97	-9.72	-0.73
845	SLU 82	153	61	10208	2.68	-10.5	-0.65
845	SLU 83	157	44	10359	3.1	-9.72	-0.78
845	SLU 84	155	61	10327	2.81	-10.5	-0.7
845	SLE RA 1	107	28	6734	1.94	-7.12	-0.52
845	SLE RA 2	105	47	6698	1.62	-7.98	-0.43
845	SLE RA 3	110	29	6849	2.05	-7.06	-0.56
845	SLE RA 4	108	40	6828	1.86	-7.58	-0.5
845	SLE RA 5	107	48	6778	1.71	-7.99	-0.46
845	SLE RA 6	111	29	6929	2.14	-7.06	-0.59
845	SLE RA 7	110	40	6907	1.95	-7.58	-0.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
845	SLE RA 8	111	29	6893	2.12	-7.13	-0.59
845	SLE RA 9	109	40	6871	1.92	-7.65	-0.54
845	SLE RA 10	110	50	7249	1.75	-8.23	-0.45
845	SLE RA 11	115	31	7401	2.19	-7.3	-0.57
845	SLE RA 12	114	43	7379	2	-7.82	-0.52
845	SLE RA 13	112	50	7329	1.84	-8.23	-0.48
845	SLE RA 14	117	31	7480	2.28	-7.31	-0.61
845	SLE RA 15	115	43	7459	2.09	-7.83	-0.56
845	SLE RA 16	116	31	7444	2.25	-7.37	-0.61
845	SLE RA 17	115	43	7423	2.06	-7.89	-0.56
845	SLE RA 18	115	32	7521	2.13	-7.47	-0.55
845	SLE RA 19	114	44	7500	1.94	-7.99	-0.49
845	SLE RA 20	116	32	7601	2.22	-7.47	-0.58
845	SLE RA 21	115	44	7579	2.03	-7.99	-0.53
845	SLE FR 1	107	28	6734	1.94	-7.12	-0.52
845	SLE FR 2	107	32	6727	1.87	-7.29	-0.5
845	SLE FR 3	108	28	6766	1.97	-7.12	-0.53
845	SLE FR 4	109	33	6963	1.93	-7.4	-0.51
845	SLE FR 5	110	29	7002	2.03	-7.23	-0.54
845	SLE FR 6	111	30	7128	2.03	-7.29	-0.53
845	SLE QP 1	107	28	6734	1.94	-7.12	-0.52
845	SLE QP 2	110	29	6970	2	-7.22	-0.53
845	SLD 1	615	77	5971	-2.2	-11.54	-2.51
845	SLD 2	567	165	5930	-2.74	-10.59	-0.31
845	SLD 3	652	-274	6773	4.73	5.86	-4.34
845	SLD 4	603	-186	6732	4.19	6.81	-2.14
845	SLD 5	214	561	5461	-9.68	-35.07	1.28
845	SLD 6	183	618	5434	-10.02	-34.46	2.69
845	SLD 7	336	-609	8134	13.42	22.93	-4.83
845	SLD 8	305	-553	8108	13.07	23.54	-3.41
845	SLD 9	-86	612	5832	-9.08	-37.99	2.36
845	SLD 10	-117	668	5806	-9.43	-37.37	3.77
845	SLD 11	37	-559	8506	14.02	20.01	-3.75
845	SLD 12	5	-502	8480	13.67	20.63	-2.33
845	SLD 13	-384	245	7208	-0.2	-21.25	1.09
845	SLD 14	-433	333	7167	-0.74	-20.3	3.29
845	SLD 15	-348	-107	8010	6.73	-3.85	-0.74
845	SLD 16	-396	-18	7970	6.19	-2.9	1.46
845	SLV 1	900	129	5351	-5.06	-14.95	-3.51
845	SLV 2	823	268	5286	-5.91	-13.45	-0.05
845	SLV 3	962	-471	6720	6.76	14.76	-6.64
845	SLV 4	885	-332	6656	5.91	16.26	-3.17
845	SLV 5	267	942	4420	-17.89	-54.89	2.67
845	SLV 6	215	1035	4376	-18.47	-53.88	5
845	SLV 7	474	-1055	8984	21.51	44.16	-7.75
845	SLV 8	422	-962	8940	20.94	45.17	-5.41
845	SLV 9	-203	1020	5000	-16.95	-59.62	4.36
845	SLV 10	-255	1114	4957	-17.52	-58.61	6.69
845	SLV 11	4	-977	9564	22.46	39.43	-6.06
845	SLV 12	-47	-883	9521	21.89	40.44	-3.72
845	SLV 13	-666	390	7284	-1.92	-30.71	2.12
845	SLV 14	-743	529	7220	-2.77	-29.21	5.58
845	SLV 15	-604	-209	8654	9.9	-0.99	-1.01
845	SLV 16	-681	-70	8590	9.06	0.51	2.46
845	SLV FO 1	979	138	5189	-5.77	-15.73	-3.81
845	SLV FO 2	894	291	5118	-6.7	-14.08	0
845	SLV FO 3	1047	-521	6695	7.23	16.96	-7.25
845	SLV FO 4	963	-368	6624	6.3	18.61	-3.44
845	SLV FO 5	282	1033	4165	-19.88	-59.66	2.99
845	SLV FO 6	226	1136	4117	-20.51	-58.55	5.55
845	SLV FO 7	510	-1164	9185	23.47	49.3	-8.47
845	SLV FO 8	454	-1061	9137	22.84	50.41	-5.9
845	SLV FO 9	-234	1120	4803	-18.84	-64.85	4.85
845	SLV FO 10	-291	1222	4755	-19.47	-63.75	7.41
845	SLV FO 11	-6	-1077	9823	24.5	44.1	-6.61
845	SLV FO 12	-63	-974	9776	23.87	45.21	-4.04
845	SLV FO 13	-744	427	7316	-2.31	-33.06	2.38
845	SLV FO 14	-828	579	7245	-3.24	-31.41	6.19
845	SLV FO 15	-675	-233	8822	10.7	-0.37	-1.05
845	SLV FO 16	-760	-80	8751	9.76	1.28	2.76
845	CRTFP Ux+	0	0	0	0	0	0
845	CRTFP Ux-	0	0	0	0	0	0
845	CRTFP Uy+	0	0	0	0	0	0
845	CRTFP Uy-	0	0	0	0	0	0
848	SLU 1	-93	8	6485	-0.81	0.59	1.46
848	SLU 2	-91	39	6430	-1.29	2.56	1.33
848	SLU 3	-96	7	6655	-0.72	0.13	1.52
848	SLU 4	-94	26	6621	-1.01	1.31	1.45
848	SLU 5	-92	39	6541	-1.23	2.2	1.37
848	SLU 6	-97	7	6766	-0.65	-0.23	1.57
848	SLU 7	-96	26	6733	-0.95	0.95	1.49
848	SLU 8	-96	7	6709	-0.67	-0.13	1.55
848	SLU 9	-95	26	6675	-0.96	1.05	1.47
848	SLU 10	-97	40	7289	-1.48	1.39	1.59
848	SLU 11	-102	8	7514	-0.91	-1.03	1.78
848	SLU 12	-100	27	7480	-1.2	0.15	1.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
848	SLU 13	-98	40	7400	-1.42	1.03	1.63
848	SLU 14	-103	8	7626	-0.84	-1.39	1.83
848	SLU 15	-102	27	7592	-1.13	-0.21	1.75
848	SLU 16	-102	8	7568	-0.86	-1.29	1.81
848	SLU 17	-101	27	7534	-1.15	-0.11	1.73
848	SLU 18	-102	9	7713	-1.07	-1.07	1.83
848	SLU 19	-100	28	7679	-1.37	0.11	1.75
848	SLU 20	-103	8	7825	-1.01	-1.43	1.87
848	SLU 21	-102	27	7791	-1.3	-0.25	1.79
848	SLU 22	-106	7	7582	-0.71	-1.14	1.78
848	SLU 23	-103	38	7526	-1.2	0.82	1.65
848	SLU 24	-108	7	7751	-0.63	-1.6	1.84
848	SLU 25	-107	26	7718	-0.92	-0.42	1.76
848	SLU 26	-105	38	7638	-1.13	0.47	1.69
848	SLU 27	-110	6	7863	-0.56	-1.96	1.89
848	SLU 28	-108	25	7829	-0.85	-0.78	1.81
848	SLU 29	-109	7	7805	-0.58	-1.86	1.87
848	SLU 30	-107	25	7772	-0.87	-0.68	1.79
848	SLU 31	-109	39	8385	-1.39	-0.34	1.91
848	SLU 32	-114	7	8610	-0.82	-2.76	2.1
848	SLU 33	-113	26	8577	-1.11	-1.58	2.02
848	SLU 34	-111	39	8497	-1.32	-0.7	1.95
848	SLU 35	-116	7	8722	-0.75	-3.12	2.14
848	SLU 36	-114	26	8688	-1.04	-1.94	2.06
848	SLU 37	-115	7	8664	-0.77	-3.02	2.12
848	SLU 38	-113	26	8631	-1.06	-1.84	2.05
848	SLU 39	-114	8	8809	-0.98	-2.81	2.15
848	SLU 40	-113	27	8776	-1.27	-1.63	2.07
848	SLU 41	-116	8	8921	-0.91	-3.16	2.19
848	SLU 42	-114	27	8887	-1.21	-1.98	2.11
848	SLU 43	-117	10	8055	-1.08	1.36	1.79
848	SLU 44	-114	42	7999	-1.57	3.33	1.66
848	SLU 45	-119	10	8224	-0.99	0.9	1.85
848	SLU 46	-118	29	8191	-1.29	2.08	1.78
848	SLU 47	-116	42	8111	-1.5	2.97	1.7
848	SLU 48	-121	10	8336	-0.93	0.54	1.9
848	SLU 49	-119	29	8302	-1.22	1.73	1.82
848	SLU 50	-120	10	8278	-0.95	0.64	1.88
848	SLU 51	-118	29	8245	-1.24	1.82	1.8
848	SLU 52	-120	43	8858	-1.76	2.16	1.92
848	SLU 53	-125	11	9084	-1.18	-0.26	2.11
848	SLU 54	-124	30	9050	-1.48	0.92	2.03
848	SLU 55	-122	42	8970	-1.69	1.81	1.96
848	SLU 56	-127	11	9195	-1.12	-0.62	2.16
848	SLU 57	-125	29	9162	-1.41	0.56	2.08
848	SLU 58	-126	11	9138	-1.13	-0.52	2.14
848	SLU 59	-124	30	9104	-1.43	0.66	2.06
848	SLU 60	-125	11	9283	-1.35	-0.3	2.16
848	SLU 61	-124	30	9249	-1.64	0.88	2.08
848	SLU 62	-127	11	9394	-1.28	-0.66	2.2
848	SLU 63	-125	30	9361	-1.57	0.52	2.12
848	SLU 64	-129	10	9152	-0.99	-0.37	2.11
848	SLU 65	-127	41	9096	-1.47	1.59	1.98
848	SLU 66	-132	9	9321	-0.9	-0.83	2.17
848	SLU 67	-130	28	9287	-1.19	0.35	2.09
848	SLU 68	-128	41	9207	-1.41	1.24	2.02
848	SLU 69	-133	9	9433	-0.83	-1.19	2.22
848	SLU 70	-132	28	9399	-1.13	-0.01	2.14
848	SLU 71	-132	9	9375	-0.85	-1.09	2.2
848	SLU 72	-131	28	9341	-1.14	0.09	2.12
848	SLU 73	-133	42	9955	-1.66	0.43	2.23
848	SLU 74	-138	10	10180	-1.09	-1.99	2.43
848	SLU 75	-136	29	10147	-1.38	-0.81	2.35
848	SLU 76	-134	42	10067	-1.6	0.07	2.28
848	SLU 77	-139	10	10292	-1.02	-2.35	2.47
848	SLU 78	-138	29	10258	-1.31	-1.17	2.39
848	SLU 79	-138	10	10234	-1.04	-2.25	2.45
848	SLU 80	-137	29	10201	-1.33	-1.07	2.37
848	SLU 81	-138	10	10379	-1.26	-2.03	2.48
848	SLU 82	-136	29	10346	-1.55	-0.85	2.4
848	SLU 83	-139	10	10491	-1.19	-2.39	2.52
848	SLU 84	-138	29	10457	-1.48	-1.21	2.44
848	SLE RA 1	-97	8	6799	-0.78	0.09	1.55
848	SLE RA 2	-95	29	6761	-1.1	1.41	1.46
848	SLE RA 3	-98	7	6912	-0.72	-0.21	1.59
848	SLE RA 4	-97	20	6889	-0.92	0.58	1.54
848	SLE RA 5	-96	28	6836	-1.06	1.17	1.49
848	SLE RA 6	-99	7	6986	-0.68	-0.45	1.62
848	SLE RA 7	-98	20	6964	-0.87	0.34	1.57
848	SLE RA 8	-99	7	6948	-0.69	-0.38	1.61
848	SLE RA 9	-98	20	6925	-0.88	0.4	1.56
848	SLE RA 10	-99	29	7334	-1.23	0.63	1.64
848	SLE RA 11	-102	8	7484	-0.85	-0.99	1.77
848	SLE RA 12	-101	20	7462	-1.04	-0.2	1.71
848	SLE RA 13	-100	29	7409	-1.19	0.39	1.67
848	SLE RA 14	-103	8	7559	-0.8	-1.23	1.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
848	SLE RA 15	-102	20	7536	-1	-0.44	1.74
848	SLE RA 16	-103	8	7520	-0.82	-1.16	1.78
848	SLE RA 17	-102	20	7498	-1.01	-0.37	1.73
848	SLE RA 18	-102	8	7617	-0.96	-1.01	1.8
848	SLE RA 19	-101	21	7595	-1.15	-0.23	1.74
848	SLE RA 20	-103	8	7691	-0.91	-1.25	1.83
848	SLE RA 21	-102	21	7669	-1.11	-0.47	1.77
848	SLE FR 1	-97	8	6799	-0.78	0.09	1.55
848	SLE FR 2	-96	12	6791	-0.84	0.36	1.53
848	SLE FR 3	-97	7	6829	-0.76	0	1.56
848	SLE FR 4	-98	12	7037	-0.9	0.02	1.61
848	SLE FR 5	-99	8	7074	-0.81	-0.33	1.64
848	SLE FR 6	-100	8	7208	-0.87	-0.46	1.67
848	SLE QP 1	-97	8	6799	-0.78	0.09	1.55
848	SLE QP 2	-98	8	7044	-0.83	-0.24	1.63
848	SLD 1	453	348	7459	-3.91	18.21	-2.3
848	SLD 2	401	252	7492	-3.4	17.04	-0.04
848	SLD 3	416	-41	8260	3.01	-8.01	-0.45
848	SLD 4	364	-137	8294	3.52	-9.19	1.81
848	SLD 5	131	716	5947	-12.35	45.27	-2.75
848	SLD 6	98	655	5969	-12.02	44.51	-1.29
848	SLD 7	9	-581	8619	10.74	-42.14	3.42
848	SLD 8	-24	-642	8640	11.07	-42.89	4.88
848	SLD 9	-173	657	5448	-12.73	42.42	-1.62
848	SLD 10	-206	596	5470	-12.4	41.66	-0.17
848	SLD 11	-295	-639	8120	10.36	-44.99	4.54
848	SLD 12	-328	-701	8141	10.68	-45.74	6
848	SLD 13	-561	152	5795	-5.19	8.71	1.44
848	SLD 14	-613	57	5828	-4.68	7.54	3.7
848	SLD 15	-598	-237	6596	1.74	-17.51	3.29
848	SLD 16	-650	-332	6630	2.25	-18.69	5.55
848	SLV 1	768	567	7632	-6.13	30.81	-4.65
848	SLV 2	687	417	7685	-5.33	28.96	-1.1
848	SLV 3	706	-96	8999	5.69	-13.93	-1.5
848	SLV 4	624	-246	9052	6.49	-15.78	2.06
848	SLV 5	271	1210	5137	-20.5	77.29	-5.71
848	SLV 6	216	1109	5173	-19.96	76.04	-3.32
848	SLV 7	64	-1002	9694	18.9	-71.87	4.81
848	SLV 8	9	-1103	9730	19.44	-73.11	7.21
848	SLV 9	-206	1118	4358	-21.1	72.63	-3.96
848	SLV 10	-261	1017	4394	-20.56	71.39	-1.56
848	SLV 11	-413	-1093	8916	18.29	-76.52	6.57
848	SLV 12	-468	-1195	8952	18.83	-77.76	8.96
848	SLV 13	-821	262	5036	-8.15	15.31	1.19
848	SLV 14	-903	111	5089	-7.35	13.46	4.75
848	SLV 15	-884	-402	6404	3.66	-29.44	4.35
848	SLV 16	-965	-552	6457	4.47	-31.29	7.91
848	SLV FO 1	855	623	7691	-6.66	33.92	-5.28
848	SLV FO 2	765	458	7749	-5.78	31.88	-1.37
848	SLV FO 3	786	-106	9194	6.34	-15.3	-1.81
848	SLV FO 4	697	-272	9253	7.22	-17.34	2.1
848	SLV FO 5	308	1330	4946	-22.46	85.04	-6.44
848	SLV FO 6	248	1219	4986	-21.87	83.67	-3.81
848	SLV FO 7	80	-1103	9959	20.87	-79.03	5.13
848	SLV FO 8	19	-1214	9999	21.47	-80.4	7.77
848	SLV FO 9	-216	1229	4090	-23.13	79.92	-4.51
848	SLV FO 10	-277	1118	4129	-22.54	78.55	-1.88
848	SLV FO 11	-445	-1203	9103	20.2	-84.15	7.06
848	SLV FO 12	-505	-1315	9142	20.8	-85.52	9.69
848	SLV FO 13	-894	287	4836	-8.89	16.86	1.15
848	SLV FO 14	-983	122	4894	-8	14.83	5.06
848	SLV FO 15	-962	-443	6340	4.11	-32.36	4.62
848	SLV FO 16	-1052	-608	6398	5	-34.39	8.53
848	CRTFP Ux+	0	0	0	0	0	0
848	CRTFP Ux-	0	0	0	0	0	0
848	CRTFP Uy+	0	0	0	0	0	0
848	CRTFP Uy-	0	0	0	0	0	0
851	SLU 1	24	88	7314	-1074.67	-454.62	9.42
851	SLU 2	24	134	7284	-1072.45	-453.93	12.98
851	SLU 3	25	89	7488	-1099.46	-463.96	9.71
851	SLU 4	25	117	7470	-1098.12	-463.54	11.85
851	SLU 5	25	135	7398	-1088.73	-460.06	13.17
851	SLU 6	26	90	7602	-1115.74	-470.09	9.9
851	SLU 7	27	117	7584	-1114.41	-469.67	12.04
851	SLU 8	26	89	7542	-1107.24	-466.88	9.8
851	SLU 9	26	116	7524	-1105.91	-466.46	11.94
851	SLU 10	28	141	8253	-1216.36	-515.96	14.12
851	SLU 11	29	96	8456	-1243.37	-525.99	10.85
851	SLU 12	29	124	8438	-1242.03	-525.57	12.99
851	SLU 13	29	141	8366	-1232.64	-522.08	14.31
851	SLU 14	30	97	8570	-1259.65	-532.12	11.04
851	SLU 15	30	124	8552	-1258.32	-531.7	13.18
851	SLU 16	30	96	8510	-1251.15	-528.91	10.94
851	SLU 17	30	123	8492	-1249.82	-528.49	13.08
851	SLU 18	29	98	8698	-1280.25	-543.24	11.04
851	SLU 19	29	126	8680	-1278.92	-542.82	13.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
851	SLU 20	30	98	8812	-1296.54	-549.36	11.23
851	SLU 21	30	126	8793	-1295.21	-548.95	13.37
851	SLU 22	28	100	8515	-1250.29	-528.91	10.97
851	SLU 23	29	146	8485	-1248.07	-528.21	14.53
851	SLU 24	30	101	8688	-1275.08	-538.24	11.26
851	SLU 25	30	129	8670	-1273.75	-537.83	13.4
851	SLU 26	30	147	8599	-1264.36	-534.34	14.72
851	SLU 27	31	102	8802	-1291.37	-544.37	11.45
851	SLU 28	31	129	8784	-1290.04	-543.95	13.59
851	SLU 29	31	101	8743	-1282.87	-541.16	11.35
851	SLU 30	31	128	8725	-1281.53	-540.74	13.49
851	SLU 31	32	153	9453	-1391.99	-590.24	15.67
851	SLU 32	34	108	9657	-1418.99	-600.27	12.4
851	SLU 33	34	136	9639	-1417.66	-599.85	14.54
851	SLU 34	34	153	9567	-1408.27	-596.37	15.86
851	SLU 35	35	109	9771	-1435.28	-606.4	12.59
851	SLU 36	35	136	9753	-1433.95	-605.98	14.73
851	SLU 37	35	108	9711	-1426.78	-603.19	12.49
851	SLU 38	35	135	9693	-1425.44	-602.77	14.63
851	SLU 39	34	110	9898	-1455.88	-617.52	12.6
851	SLU 40	34	138	9880	-1454.55	-617.1	14.74
851	SLU 41	35	110	10012	-1472.17	-623.64	12.79
851	SLU 42	35	138	9994	-1470.84	-623.23	14.93
851	SLU 43	29	110	9097	-1336.85	-565.54	11.71
851	SLU 44	30	157	9067	-1334.63	-564.85	15.28
851	SLU 45	31	112	9270	-1361.64	-574.88	12
851	SLU 46	31	139	9252	-1360.31	-574.46	14.14
851	SLU 47	31	157	9181	-1350.92	-570.98	15.47
851	SLU 48	32	112	9384	-1377.93	-581.01	12.19
851	SLU 49	32	140	9366	-1376.59	-580.59	14.33
851	SLU 50	32	111	9325	-1369.42	-577.8	12.09
851	SLU 51	32	139	9307	-1368.09	-577.38	14.23
851	SLU 52	33	163	10035	-1478.54	-626.88	16.41
851	SLU 53	34	119	10238	-1505.55	-636.91	13.14
851	SLU 54	35	146	10220	-1504.22	-636.49	15.28
851	SLU 55	35	164	10149	-1494.83	-633	16.6
851	SLU 56	36	119	10352	-1521.84	-643.04	13.33
851	SLU 57	36	147	10334	-1520.51	-642.62	15.47
851	SLU 58	35	118	10293	-1513.33	-639.82	13.23
851	SLU 59	36	146	10275	-1512	-639.41	15.37
851	SLU 60	34	120	10480	-1542.44	-654.16	13.34
851	SLU 61	35	148	10462	-1541.11	-653.74	15.48
851	SLU 62	36	121	10594	-1558.72	-660.28	13.53
851	SLU 63	36	148	10576	-1557.39	-659.87	15.67
851	SLU 64	34	123	10298	-1512.48	-639.83	13.26
851	SLU 65	34	169	10268	-1510.26	-639.13	16.83
851	SLU 66	35	124	10471	-1537.27	-649.16	13.56
851	SLU 67	36	151	10453	-1535.94	-648.75	15.7
851	SLU 68	36	169	10382	-1526.54	-645.26	17.02
851	SLU 69	37	124	10585	-1553.55	-655.29	13.75
851	SLU 70	37	152	10567	-1552.22	-654.87	15.89
851	SLU 71	36	123	10526	-1545.05	-652.08	13.64
851	SLU 72	37	151	10508	-1543.72	-651.66	15.78
851	SLU 73	38	176	11236	-1654.17	-701.16	17.97
851	SLU 74	39	131	11439	-1681.18	-711.19	14.7
851	SLU 75	39	158	11421	-1679.85	-710.77	16.84
851	SLU 76	39	176	11350	-1670.46	-707.29	18.16
851	SLU 77	40	131	11553	-1697.46	-717.32	14.89
851	SLU 78	41	159	11535	-1696.13	-716.9	17.03
851	SLU 79	40	130	11494	-1688.96	-714.11	14.78
851	SLU 80	40	158	11476	-1687.63	-713.69	16.92
851	SLU 81	39	132	11681	-1718.07	-728.44	14.89
851	SLU 82	39	160	11663	-1716.73	-728.02	17.03
851	SLU 83	40	133	11795	-1734.35	-734.56	15.08
851	SLU 84	41	160	11777	-1733.02	-734.15	17.22
851	SLE RA 1	25	92	7657	-1124.85	-475.85	9.86
851	SLE RA 2	25	122	7637	-1123.37	-475.39	12.24
851	SLE RA 3	26	92	7773	-1141.37	-482.07	10.06
851	SLE RA 4	26	111	7761	-1140.48	-481.79	11.48
851	SLE RA 5	26	123	7713	-1134.22	-479.47	12.36
851	SLE RA 6	27	93	7849	-1152.23	-486.16	10.18
851	SLE RA 7	27	111	7837	-1151.34	-485.88	11.61
851	SLE RA 8	27	92	7809	-1146.56	-484.02	10.11
851	SLE RA 9	27	110	7797	-1145.67	-483.74	11.54
851	SLE RA 10	28	127	8283	-1219.31	-516.74	13
851	SLE RA 11	28	97	8418	-1237.31	-523.42	10.82
851	SLE RA 12	29	115	8406	-1236.42	-523.15	12.24
851	SLE RA 13	29	127	8359	-1230.16	-520.82	13.12
851	SLE RA 14	29	97	8494	-1248.17	-527.51	10.94
851	SLE RA 15	30	116	8482	-1247.28	-527.23	12.37
851	SLE RA 16	29	97	8455	-1242.5	-525.37	10.87
851	SLE RA 17	29	115	8443	-1241.61	-525.09	12.3
851	SLE RA 18	28	98	8580	-1261.9	-534.92	10.94
851	SLE RA 19	29	117	8568	-1261.02	-534.64	12.37
851	SLE RA 20	29	98	8656	-1272.76	-539.01	11.07
851	SLE RA 21	30	117	8644	-1271.87	-538.73	12.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
851	SLE FR 1	25	92	7657	-1124.85	-475.85	9.86
851	SLE FR 2	25	98	7653	-1124.55	-475.76	10.33
851	SLE FR 3	25	92	7688	-1129.19	-477.48	9.91
851	SLE FR 4	26	100	7930	-1165.67	-493.48	10.66
851	SLE FR 5	26	94	7964	-1170.31	-495.2	10.24
851	SLE FR 6	27	95	8119	-1193.37	-505.39	10.4
851	SLE QP 1	25	92	7657	-1124.85	-475.85	9.86
851	SLE QP 2	26	94	7934	-1165.96	-493.57	10.18
851	SLD 1	769	440	8047	-1198.51	-533.23	145.51
851	SLD 2	715	398	8032	-1195.72	-532.21	136.97
851	SLD 3	787	-120	8492	-1232.18	-543.52	100.97
851	SLD 4	733	-162	8477	-1229.39	-542.51	92.44
851	SLD 5	230	1054	7296	-1125.13	-490.03	119.79
851	SLD 6	196	1027	7286	-1123.33	-489.38	114.29
851	SLD 7	291	-813	8779	-1237.38	-524.34	-28.65
851	SLD 8	257	-840	8770	-1235.59	-523.69	-34.15
851	SLD 9	-205	1027	7099	-1096.34	-463.45	54.52
851	SLD 10	-239	1000	7089	-1094.54	-462.8	49.02
851	SLD 11	-144	-840	8582	-1208.59	-497.76	-93.93
851	SLD 12	-178	-867	8573	-1206.8	-497.11	-99.42
851	SLD 13	-681	349	7391	-1102.53	-444.64	-72.07
851	SLD 14	-735	308	7376	-1099.74	-443.62	-80.6
851	SLD 15	-663	-211	7836	-1136.21	-454.93	-116.6
851	SLD 16	-717	-253	7821	-1133.42	-453.91	-125.14
851	SLV 1	1188	676	8078	-1214.29	-554.8	225.26
851	SLV 2	1104	610	8054	-1209.9	-553.2	211.81
851	SLV 3	1219	-279	8838	-1271.76	-572.34	149.25
851	SLV 4	1134	-345	8814	-1267.37	-570.74	135.8
851	SLV 5	344	1729	6830	-1094.12	-485.64	192.5
851	SLV 6	287	1685	6814	-1091.16	-484.57	183.44
851	SLV 7	446	-1455	9362	-1285.68	-544.09	-60.87
851	SLV 8	389	-1499	9346	-1282.73	-543.02	-69.92
851	SLV 9	-337	1686	6523	-1049.2	-444.12	90.29
851	SLV 10	-394	1642	6507	-1046.24	-443.05	81.24
851	SLV 11	-235	-1498	9054	-1240.76	-502.57	-163.07
851	SLV 12	-292	-1542	9038	-1237.81	-501.5	-172.13
851	SLV 13	-1082	532	7054	-1064.56	-416.4	-115.43
851	SLV 14	-1167	466	7031	-1060.16	-414.81	-128.88
851	SLV 15	-1051	-423	7814	-1122.03	-433.94	-191.44
851	SLV 16	-1136	-489	7790	-1117.63	-432.34	-204.89
851	SLV FO 1	1305	735	8092	-1219.13	-560.92	246.77
851	SLV FO 2	1211	662	8066	-1214.29	-559.17	231.97
851	SLV FO 3	1338	-316	8928	-1282.34	-580.21	163.16
851	SLV FO 4	1245	-389	8902	-1277.51	-578.46	148.36
851	SLV FO 5	376	1893	6719	-1086.94	-484.85	210.73
851	SLV FO 6	313	1844	6702	-1083.68	-483.67	200.77
851	SLV FO 7	488	-1610	9504	-1297.66	-549.14	-67.97
851	SLV FO 8	425	-1658	9487	-1294.4	-547.96	-77.93
851	SLV FO 9	-373	1845	6381	-1037.52	-439.18	98.3
851	SLV FO 10	-436	1797	6364	-1034.27	-438	88.34
851	SLV FO 11	-261	-1657	9166	-1248.25	-503.47	-180.4
851	SLV FO 12	-324	-1706	9149	-1244.99	-502.29	-190.36
851	SLV FO 13	-1193	576	6966	-1054.42	-408.69	-127.99
851	SLV FO 14	-1286	503	6940	-1049.58	-406.93	-142.79
851	SLV FO 15	-1159	-475	7802	-1117.63	-427.97	-211.6
851	SLV FO 16	-1253	-547	7776	-1112.8	-426.22	-226.4
851	CRTFP Ux+	0	0	0	0	0	0
851	CRTFP Ux-	0	0	0	0	0	0
851	CRTFP Uy+	0	0	0	0	0	0
851	CRTFP Uy-	0	0	0	0	0	0
853	SLU 1	15	125	12101	1335.91	1674.3	-18.91
853	SLU 2	18	213	12045	1322.61	1667.3	-31.83
853	SLU 3	17	126	12385	1367.35	1714.26	-19.46
853	SLU 4	19	179	12352	1359.37	1710.06	-27.21
853	SLU 5	20	213	12232	1343.31	1693.58	-32.1
853	SLU 6	19	126	12573	1388.05	1740.54	-19.72
853	SLU 7	21	179	12539	1380.07	1736.34	-27.48
853	SLU 8	19	124	12475	1377.31	1726.87	-19.44
853	SLU 9	21	177	12442	1369.32	1722.67	-27.19
853	SLU 10	22	222	13619	1487.75	1882.34	-33.03
853	SLU 11	21	135	13960	1532.5	1929.3	-20.65
853	SLU 12	23	188	13926	1524.52	1925.1	-28.41
853	SLU 13	24	222	13806	1508.45	1908.62	-33.29
853	SLU 14	23	135	14147	1553.2	1955.58	-20.92
853	SLU 15	25	188	14113	1545.21	1951.38	-28.67
853	SLU 16	23	133	14050	1542.45	1941.91	-20.64
853	SLU 17	25	186	14016	1534.47	1937.71	-28.39
853	SLU 18	21	137	14350	1571.83	1981.5	-20.62
853	SLU 19	23	190	14316	1563.85	1977.3	-28.37
853	SLU 20	23	137	14537	1592.53	2007.78	-20.88
853	SLU 21	24	190	14503	1584.55	2003.58	-28.64
853	SLU 22	21	143	14057	1551.05	1942.3	-22
853	SLU 23	23	231	14001	1537.75	1935.3	-34.92
853	SLU 24	23	144	14342	1582.49	1982.26	-22.55
853	SLU 25	24	197	14308	1574.51	1978.06	-30.3
853	SLU 26	25	231	14188	1558.45	1961.58	-35.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
853	SLU 27	25	144	14529	1603.19	2008.54	-22.81
853	SLU 28	26	197	14495	1595.21	2004.34	-30.57
853	SLU 29	24	142	14432	1592.45	1994.87	-22.53
853	SLU 30	26	195	14398	1584.46	1990.67	-30.28
853	SLU 31	27	240	15575	1702.89	2150.34	-36.12
853	SLU 32	27	153	15916	1747.64	2197.3	-23.74
853	SLU 33	28	206	15882	1739.66	2193.1	-31.5
853	SLU 34	29	240	15762	1723.59	2176.62	-36.38
853	SLU 35	29	153	16103	1768.34	2223.58	-24.01
853	SLU 36	30	206	16070	1760.35	2219.38	-31.76
853	SLU 37	28	151	16006	1757.59	2209.91	-23.73
853	SLU 38	30	204	15972	1749.61	2205.71	-31.48
853	SLU 39	26	155	16306	1786.97	2249.5	-23.71
853	SLU 40	28	208	16272	1778.99	2245.3	-31.46
853	SLU 41	28	155	16493	1807.67	2275.78	-23.97
853	SLU 42	30	208	16460	1799.69	2271.58	-31.72
853	SLU 43	18	156	15060	1662.92	2084.7	-23.52
853	SLU 44	21	244	15004	1649.62	2077.7	-36.44
853	SLU 45	20	157	15345	1694.36	2124.66	-24.07
853	SLU 46	22	210	15311	1686.38	2120.46	-31.82
853	SLU 47	23	244	15191	1670.32	2103.99	-36.71
853	SLU 48	22	157	15532	1715.06	2150.95	-24.34
853	SLU 49	24	210	15499	1707.08	2146.75	-32.09
853	SLU 50	22	156	15435	1704.32	2137.27	-24.05
853	SLU 51	24	209	15401	1696.34	2133.07	-31.81
853	SLU 52	25	253	16578	1814.76	2292.74	-37.64
853	SLU 53	24	166	16919	1859.51	2339.7	-25.27
853	SLU 54	26	219	16885	1851.53	2335.5	-33.02
853	SLU 55	27	253	16766	1835.46	2319.03	-37.9
853	SLU 56	26	166	17106	1880.21	2365.99	-25.53
853	SLU 57	28	219	17073	1872.22	2361.79	-33.28
853	SLU 58	26	164	17009	1869.46	2352.31	-25.25
853	SLU 59	28	218	16975	1861.48	2348.11	-33
853	SLU 60	24	169	17309	1898.84	2391.9	-25.23
853	SLU 61	25	222	17275	1890.86	2387.7	-32.98
853	SLU 62	26	168	17496	1919.54	2418.19	-25.5
853	SLU 63	27	221	17463	1911.56	2413.99	-33.25
853	SLU 64	23	174	17017	1878.06	2352.7	-26.61
853	SLU 65	26	262	16961	1864.76	2345.7	-39.53
853	SLU 66	26	175	17301	1909.5	2392.66	-27.16
853	SLU 67	27	228	17268	1901.52	2388.46	-34.91
853	SLU 68	28	262	17148	1885.46	2371.98	-39.8
853	SLU 69	27	175	17489	1930.2	2418.95	-27.43
853	SLU 70	29	228	17455	1922.22	2414.75	-35.18
853	SLU 71	27	174	17391	1919.46	2405.27	-27.14
853	SLU 72	29	227	17358	1911.48	2401.07	-34.9
853	SLU 73	30	271	18535	2029.9	2560.74	-40.73
853	SLU 74	29	184	18876	2074.65	2607.7	-28.36
853	SLU 75	31	237	18842	2066.67	2603.5	-36.11
853	SLU 76	32	271	18722	2050.6	2587.03	-40.99
853	SLU 77	31	184	19063	2095.35	2633.99	-28.62
853	SLU 78	33	237	19029	2087.36	2629.79	-36.37
853	SLU 79	31	182	18966	2084.6	2620.31	-28.34
853	SLU 80	33	235	18932	2076.62	2616.11	-36.09
853	SLU 81	29	187	19266	2113.98	2659.9	-28.32
853	SLU 82	31	240	19232	2106	2655.7	-36.07
853	SLU 83	31	186	19453	2134.68	2686.19	-28.59
853	SLU 84	33	239	19419	2126.7	2681.99	-36.34
853	SLE RA 1	17	130	12660	1397.38	1750.87	-19.79
853	SLE RA 2	19	189	12622	1388.51	1746.2	-28.41
853	SLE RA 3	18	131	12850	1418.34	1777.51	-20.16
853	SLE RA 4	19	166	12827	1413.02	1774.71	-25.33
853	SLE RA 5	20	189	12747	1402.31	1763.73	-28.58
853	SLE RA 6	20	131	12974	1432.14	1795.03	-20.34
853	SLE RA 7	21	166	12952	1426.82	1792.23	-25.5
853	SLE RA 8	19	130	12910	1424.98	1785.92	-20.15
853	SLE RA 9	21	165	12887	1419.65	1783.12	-25.31
853	SLE RA 10	21	195	13672	1498.61	1889.56	-29.2
853	SLE RA 11	21	137	13899	1528.44	1920.87	-20.96
853	SLE RA 12	22	172	13877	1523.12	1918.07	-26.12
853	SLE RA 13	23	195	13797	1512.41	1907.09	-29.38
853	SLE RA 14	22	137	14024	1542.24	1938.39	-21.13
853	SLE RA 15	23	172	14001	1536.91	1935.59	-26.3
853	SLE RA 16	22	135	13959	1535.07	1929.28	-20.94
853	SLE RA 17	23	171	13937	1529.75	1926.48	-26.11
853	SLE RA 18	20	138	14159	1554.66	1955.67	-20.93
853	SLE RA 19	22	174	14137	1549.34	1952.87	-26.1
853	SLE RA 20	22	138	14284	1568.46	1973.19	-21.11
853	SLE RA 21	23	173	14261	1563.14	1970.39	-26.28
853	SLE FR 1	17	130	12660	1397.38	1750.87	-19.79
853	SLE FR 2	17	142	12652	1395.6	1749.94	-21.52
853	SLE FR 3	17	130	12710	1402.9	1757.88	-19.86
853	SLE FR 4	18	144	13102	1442.79	1811.38	-21.86
853	SLE FR 5	18	132	13160	1450.08	1819.32	-20.21
853	SLE FR 6	19	134	13409	1476.02	1853.27	-20.36
853	SLE QP 1	17	130	12660	1397.38	1750.87	-19.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
853	SLE QP 2	18	132	13110	1444.56	1812.31	-20.13
853	SLD 1	1500	785	13113	1443	1799.58	-317.85
853	SLD 2	1392	713	13083	1441.95	1795.4	-284.66
853	SLD 3	1444	-288	13947	1638.38	1903.95	-158.57
853	SLD 4	1336	-360	13917	1637.33	1899.78	-125.39
853	SLD 5	566	1968	11851	1147.95	1650.91	-356.73
853	SLD 6	497	1922	11832	1147.27	1648.22	-335.36
853	SLD 7	379	-1609	14630	1799.21	1998.82	174.2
853	SLD 8	309	-1656	14611	1798.53	1996.13	195.57
853	SLD 9	-273	1920	11608	1090.59	1628.48	-235.84
853	SLD 10	-343	1874	11589	1089.91	1625.8	-214.47
853	SLD 11	-461	-1657	14387	1741.85	1976.4	295.09
853	SLD 12	-531	-1704	14368	1741.17	1973.71	316.46
853	SLD 13	-1300	625	12303	1251.8	1724.84	85.12
853	SLD 14	-1408	553	12273	1250.75	1720.67	118.3
853	SLD 15	-1356	-448	13137	1447.18	1829.22	244.4
853	SLD 16	-1464	-521	13106	1446.12	1825.04	277.58
853	SLV 1	2343	1233	13054	1427.8	1784.95	-497.75
853	SLV 2	2172	1119	13006	1426.14	1778.37	-445.44
853	SLV 3	2247	-597	14477	1761.19	1963.1	-225.99
853	SLV 4	2076	-712	14429	1759.53	1956.52	-173.69
853	SLV 5	892	3260	10944	934.2	1535.15	-585.34
853	SLV 6	777	3183	10912	933.08	1530.72	-550.12
853	SLV 7	574	-2841	15687	2045.51	2128.96	320.5
853	SLV 8	459	-2918	15655	2044.39	2124.53	355.72
853	SLV 9	-423	3183	10565	844.74	1500.09	-395.99
853	SLV 10	-538	3106	10533	843.62	1495.66	-360.77
853	SLV 11	-741	-2918	15307	1956.04	2093.9	509.85
853	SLV 12	-856	-2995	15276	1954.93	2089.47	545.07
853	SLV 13	-2040	976	11790	1129.6	1668.1	133.42
853	SLV 14	-2211	862	11743	1127.93	1661.52	185.72
853	SLV 15	-2136	-854	13213	1462.99	1846.25	405.17
853	SLV 16	-2307	-968	13165	1461.33	1839.67	457.48
853	SLV FO 1	2575	1343	13048	1426.12	1782.22	-545.51
853	SLV FO 2	2387	1217	12996	1424.29	1774.98	-487.97
853	SLV FO 3	2470	-670	14613	1792.85	1978.17	-246.58
853	SLV FO 4	2282	-796	14561	1791.03	1970.94	-189.04
853	SLV FO 5	979	3573	10727	883.16	1507.43	-641.86
853	SLV FO 6	853	3488	10692	881.93	1502.56	-603.12
853	SLV FO 7	630	-3139	15944	2105.6	2160.62	354.57
853	SLV FO 8	503	-3223	15909	2104.37	2155.75	393.3
853	SLV FO 9	-467	3488	10310	784.75	1468.87	-433.57
853	SLV FO 10	-594	3403	10275	783.52	1464	-394.84
853	SLV FO 11	-817	-3223	15527	2007.19	2122.06	562.85
853	SLV FO 12	-944	-3308	15492	2005.96	2117.19	601.59
853	SLV FO 13	-2246	1061	11658	1098.1	1653.68	148.77
853	SLV FO 14	-2434	935	11606	1096.27	1646.44	206.31
853	SLV FO 15	-2351	-953	13223	1464.83	1849.64	447.7
853	SLV FO 16	-2539	-1079	13171	1463	1842.4	505.24
853	CRTFP Ux+	0	0	0	0	0	0
853	CRTFP Ux-	0	0	0	0	0	0
853	CRTFP Uy+	0	0	0	0	0	0
853	CRTFP Uy-	0	0	0	0	0	0
854	SLU 1	28	109	8612	-86.25	1666.98	-19.06
854	SLU 2	30	171	8573	-91.74	1659.52	-31.23
854	SLU 3	30	110	8804	-87.27	1704.86	-19.29
854	SLU 4	31	148	8781	-90.56	1700.39	-26.6
854	SLU 5	31	171	8700	-92.35	1684.44	-31.23
854	SLU 6	32	111	8931	-87.88	1729.78	-19.29
854	SLU 7	33	148	8908	-91.17	1725.31	-26.6
854	SLU 8	32	109	8865	-87.48	1716.82	-19.06
854	SLU 9	33	146	8842	-90.77	1712.34	-26.36
854	SLU 10	34	180	9723	-106.23	1880.65	-32.77
854	SLU 11	35	120	9954	-101.77	1926	-20.83
854	SLU 12	36	157	9931	-105.06	1921.52	-28.13
854	SLU 13	36	180	9849	-106.84	1905.57	-32.77
854	SLU 14	37	120	10081	-102.38	1950.91	-20.83
854	SLU 15	37	157	10058	-105.67	1946.44	-28.13
854	SLU 16	36	118	10015	-101.97	1937.95	-20.6
854	SLU 17	37	155	9992	-105.26	1933.47	-27.9
854	SLU 18	34	122	10254	-106.96	1982.88	-21.25
854	SLU 19	35	159	10231	-110.25	1978.41	-28.56
854	SLU 20	36	122	10381	-107.57	2007.8	-21.25
854	SLU 21	37	159	10358	-110.86	2003.33	-28.56
854	SLU 22	34	124	10026	-98.6	1939.91	-21.77
854	SLU 23	36	185	9987	-104.08	1932.46	-33.95
854	SLU 24	37	125	10219	-99.62	1977.8	-22.01
854	SLU 25	38	162	10195	-102.91	1973.32	-29.31
854	SLU 26	38	185	10114	-104.69	1957.37	-33.95
854	SLU 27	38	125	10345	-100.23	2002.72	-22.01
854	SLU 28	39	162	10322	-103.52	1998.24	-29.31
854	SLU 29	38	124	10279	-99.82	1989.75	-21.77
854	SLU 30	39	161	10256	-103.11	1985.28	-29.08
854	SLU 31	40	195	11137	-118.58	2153.59	-35.48
854	SLU 32	41	134	11368	-114.11	2198.93	-23.54
854	SLU 33	42	171	11345	-117.4	2194.45	-30.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
854	SLU 34	42	195	11264	-119.19	2178.51	-35.48
854	SLU 35	43	134	11495	-114.72	2223.85	-23.54
854	SLU 36	44	171	11472	-118.01	2219.37	-30.84
854	SLU 37	43	133	11429	-114.31	2210.88	-23.31
854	SLU 38	43	170	11406	-117.6	2206.41	-30.61
854	SLU 39	41	137	11669	-119.3	2255.82	-23.97
854	SLU 40	42	174	11645	-122.59	2251.34	-31.27
854	SLU 41	43	137	11795	-119.91	2280.74	-23.97
854	SLU 42	44	174	11772	-123.2	2276.26	-31.27
854	SLU 43	34	137	10710	-107.9	2073.5	-23.85
854	SLU 44	36	199	10672	-113.38	2066.04	-36.02
854	SLU 45	36	138	10903	-108.92	2111.38	-24.08
854	SLU 46	37	175	10880	-112.21	2106.9	-31.39
854	SLU 47	38	199	10798	-113.99	2090.96	-36.02
854	SLU 48	38	138	11030	-109.53	2136.3	-24.08
854	SLU 49	39	175	11006	-112.82	2131.82	-31.39
854	SLU 50	38	137	10964	-109.12	2123.33	-23.85
854	SLU 51	39	174	10940	-112.41	2118.86	-31.15
854	SLU 52	40	208	11821	-127.88	2287.17	-37.56
854	SLU 53	41	147	12053	-123.41	2332.51	-25.62
854	SLU 54	42	184	12029	-126.7	2328.04	-32.92
854	SLU 55	42	208	11948	-128.49	2312.09	-37.56
854	SLU 56	43	147	12179	-124.02	2357.43	-25.62
854	SLU 57	44	184	12156	-127.31	2352.96	-32.92
854	SLU 58	42	146	12113	-123.61	2344.47	-25.38
854	SLU 59	43	183	12090	-126.9	2339.99	-32.69
854	SLU 60	41	150	12353	-128.6	2389.4	-26.04
854	SLU 61	42	187	12330	-131.89	2384.92	-33.35
854	SLU 62	43	150	12480	-129.21	2414.32	-26.04
854	SLU 63	43	187	12456	-132.5	2409.84	-33.34
854	SLU 64	41	151	12125	-120.24	2346.43	-26.56
854	SLU 65	42	213	12086	-125.73	2338.97	-38.73
854	SLU 66	43	153	12317	-121.26	2384.31	-26.8
854	SLU 67	44	190	12294	-124.55	2379.84	-34.1
854	SLU 68	44	213	12213	-126.34	2363.89	-38.73
854	SLU 69	45	153	12444	-121.87	2409.23	-26.8
854	SLU 70	46	190	12421	-125.16	2404.76	-34.1
854	SLU 71	44	151	12378	-121.46	2396.27	-26.56
854	SLU 72	45	189	12355	-124.76	2391.79	-33.86
854	SLU 73	47	222	13236	-140.22	2560.1	-40.27
854	SLU 74	47	162	13467	-135.76	2605.45	-28.33
854	SLU 75	48	199	13444	-139.05	2600.97	-35.63
854	SLU 76	48	222	13362	-140.83	2585.02	-40.27
854	SLU 77	49	162	13594	-136.37	2630.37	-28.33
854	SLU 78	50	199	13570	-139.66	2625.89	-35.63
854	SLU 79	49	161	13528	-135.96	2617.4	-28.1
854	SLU 80	50	198	13505	-139.25	2612.93	-35.4
854	SLU 81	47	164	13767	-140.95	2662.33	-28.76
854	SLU 82	48	201	13744	-144.24	2657.86	-36.06
854	SLU 83	49	164	13894	-141.56	2687.25	-28.75
854	SLU 84	50	202	13871	-144.85	2682.78	-36.06
854	SLE RA 1	30	113	9016	-89.78	1744.96	-19.84
854	SLE RA 2	31	154	8990	-93.44	1739.99	-27.95
854	SLE RA 3	31	114	9144	-90.46	1770.22	-19.99
854	SLE RA 4	32	139	9129	-92.65	1767.23	-24.86
854	SLE RA 5	32	155	9074	-93.85	1756.6	-27.95
854	SLE RA 6	33	114	9229	-90.87	1786.83	-19.99
854	SLE RA 7	33	139	9213	-93.06	1783.85	-24.86
854	SLE RA 8	32	113	9185	-90.6	1778.19	-19.84
854	SLE RA 9	33	138	9169	-92.79	1775.2	-24.7
854	SLE RA 10	34	161	9757	-103.1	1887.41	-28.97
854	SLE RA 11	34	120	9911	-100.12	1917.64	-21.02
854	SLE RA 12	35	145	9895	-102.32	1914.65	-25.88
854	SLE RA 13	35	161	9841	-103.51	1904.02	-28.97
854	SLE RA 14	36	120	9995	-100.53	1934.25	-21.01
854	SLE RA 15	36	145	9980	-102.72	1931.27	-25.88
854	SLE RA 16	35	119	9951	-100.26	1925.61	-20.86
854	SLE RA 17	36	144	9936	-102.45	1922.62	-25.73
854	SLE RA 18	34	122	10111	-103.58	1955.56	-21.3
854	SLE RA 19	35	147	10095	-105.78	1952.58	-26.17
854	SLE RA 20	35	122	10195	-103.99	1972.18	-21.3
854	SLE RA 21	36	147	10180	-106.19	1969.19	-26.17
854	SLE FR 1	30	113	9016	-89.78	1744.96	-19.84
854	SLE FR 2	30	121	9011	-90.51	1743.97	-21.46
854	SLE FR 3	30	113	9050	-89.94	1751.61	-19.84
854	SLE FR 4	31	124	9339	-94.65	1807.15	-21.9
854	SLE FR 5	32	116	9378	-94.09	1814.79	-20.27
854	SLE FR 6	32	118	9563	-96.68	1850.26	-20.57
854	SLE QP 1	30	113	9016	-89.78	1744.96	-19.84
854	SLE QP 2	31	116	9344	-93.92	1808.14	-20.27
854	SLD 1	1143	553	9650	-147.62	1856.09	-110.83
854	SLD 2	1064	518	9631	-148.69	1852.3	-101.7
854	SLD 3	1108	-198	10221	-67.35	1966.18	37
854	SLD 4	1029	-233	10202	-68.42	1962.39	46.13
854	SLD 5	431	1392	8574	-231.59	1656.21	-273.21
854	SLD 6	380	1369	8562	-232.28	1653.77	-267.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
854	SLD 7	315	-1111	10476	35.98	2023.17	219.54
854	SLD 8	264	-1134	10464	35.29	2020.74	225.42
854	SLD 9	-202	1366	8225	-223.13	1595.55	-265.97
854	SLD 10	-253	1343	8213	-223.82	1593.11	-260.09
854	SLD 11	-317	-1138	10127	44.44	1962.51	226.78
854	SLD 12	-369	-1160	10115	43.75	1960.08	232.66
854	SLD 13	-967	465	8487	-119.43	1653.89	-86.68
854	SLD 14	-1046	429	8468	-120.5	1650.11	-77.55
854	SLD 15	-1001	-286	9057	-39.15	1763.98	61.15
854	SLD 16	-1081	-322	9039	-40.23	1760.2	70.28
854	SLV 1	1774	856	9780	-183.61	1874.96	-172.88
854	SLV 2	1649	800	9751	-185.3	1868.99	-158.49
854	SLV 3	1716	-425	10754	-46.61	2062.8	79.23
854	SLV 4	1590	-480	10724	-48.3	2056.83	93.63
854	SLV 5	666	2291	8004	-328.3	1544.41	-451.12
854	SLV 6	582	2253	7984	-329.43	1540.39	-441.43
854	SLV 7	471	-1979	11250	128.37	2170.54	389.27
854	SLV 8	387	-2016	11230	127.23	2166.52	398.96
854	SLV 9	-324	2248	7459	-315.07	1449.76	-439.51
854	SLV 10	-409	2210	7439	-316.21	1445.74	-429.82
854	SLV 11	-520	-2022	10705	141.59	2075.89	400.88
854	SLV 12	-604	-2059	10685	140.45	2071.87	410.57
854	SLV 13	-1528	712	7964	-139.54	1559.46	-134.18
854	SLV 14	-1653	657	7935	-141.23	1553.49	-119.78
854	SLV 15	-1587	-569	8938	-2.54	1747.29	117.94
854	SLV 16	-1712	-624	8909	-4.23	1741.33	132.33
854	SLV FO 1	1948	930	9824	-192.58	1881.64	-188.14
854	SLV FO 2	1811	869	9791	-194.44	1875.07	-172.31
854	SLV FO 3	1884	-479	10895	-41.88	2088.26	89.18
854	SLV FO 4	1746	-540	10862	-43.74	2081.7	105.02
854	SLV FO 5	730	2508	7870	-351.73	1518.04	-494.21
854	SLV FO 6	637	2467	7848	-352.99	1513.62	-483.55
854	SLV FO 7	515	-2188	11440	150.6	2206.78	430.23
854	SLV FO 8	422	-2229	11418	149.34	2202.36	440.88
854	SLV FO 9	-360	2461	7270	-337.19	1413.92	-481.43
854	SLV FO 10	-453	2420	7249	-338.44	1409.5	-470.78
854	SLV FO 11	-575	-2236	10841	165.14	2102.66	443
854	SLV FO 12	-667	-2276	10819	163.89	2098.24	453.66
854	SLV FO 13	-1684	772	7826	-144.1	1534.59	-145.57
854	SLV FO 14	-1822	711	7794	-145.96	1528.02	-129.73
854	SLV FO 15	-1748	-637	8897	6.6	1741.21	131.76
854	SLV FO 16	-1886	-698	8865	4.73	1734.64	147.6
854	CRTFP Ux+	0	0	0	0	0	0
854	CRTFP Ux-	0	0	0	0	0	0
854	CRTFP Uy+	0	0	0	0	0	0
854	CRTFP Uy-	0	0	0	0	0	0
855	SLU 1	16	60	4190	-68.74	4.71	0.49
855	SLU 2	17	91	4171	-71.98	4.69	0.33
855	SLU 3	17	61	4281	-69.69	4.86	0.5
855	SLU 4	18	79	4269	-71.63	4.85	0.4
855	SLU 5	18	91	4230	-72.57	4.79	0.34
855	SLU 6	18	61	4340	-70.27	4.96	0.51
855	SLU 7	19	79	4329	-72.21	4.95	0.41
855	SLU 8	18	60	4309	-69.91	4.91	0.5
855	SLU 9	18	79	4298	-71.85	4.9	0.41
855	SLU 10	19	96	4738	-82.52	5.19	0.37
855	SLU 11	20	66	4848	-80.22	5.36	0.54
855	SLU 12	20	84	4836	-82.16	5.35	0.44
855	SLU 13	20	96	4797	-83.1	5.29	0.38
855	SLU 14	21	66	4907	-80.8	5.46	0.54
855	SLU 15	21	84	4896	-82.75	5.45	0.45
855	SLU 16	20	65	4876	-80.44	5.4	0.54
855	SLU 17	21	84	4865	-82.38	5.4	0.45
855	SLU 18	19	67	5000	-83.79	5.42	0.55
855	SLU 19	20	86	4988	-85.73	5.41	0.45
855	SLU 20	20	68	5060	-84.37	5.52	0.55
855	SLU 21	21	86	5048	-86.32	5.51	0.46
855	SLU 22	20	68	4883	-78.54	5.4	0.48
855	SLU 23	20	98	4863	-81.78	5.38	0.32
855	SLU 24	21	68	4973	-79.49	5.55	0.49
855	SLU 25	21	87	4962	-81.43	5.54	0.39
855	SLU 26	21	98	4923	-82.37	5.48	0.33
855	SLU 27	22	68	5033	-80.07	5.65	0.49
855	SLU 28	22	87	5021	-82.01	5.64	0.4
855	SLU 29	22	68	5002	-79.71	5.6	0.49
855	SLU 30	22	86	4991	-81.65	5.59	0.4
855	SLU 31	23	103	5430	-92.32	5.88	0.36
855	SLU 32	23	73	5540	-90.02	6.05	0.53
855	SLU 33	24	92	5529	-91.96	6.04	0.43
855	SLU 34	24	103	5490	-92.9	5.98	0.37
855	SLU 35	24	74	5600	-90.6	6.15	0.53
855	SLU 36	25	92	5588	-92.55	6.14	0.44
855	SLU 37	24	73	5569	-90.24	6.09	0.53
855	SLU 38	24	91	5557	-92.18	6.09	0.44
855	SLU 39	23	75	5693	-93.59	6.11	0.54
855	SLU 40	24	93	5681	-95.54	6.1	0.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
855	SLU 41	24	75	5752	-94.17	6.21	0.54
855	SLU 42	25	93	5741	-96.12	6.2	0.45
855	SLU 43	20	76	5210	-86.01	5.88	0.64
855	SLU 44	20	106	5190	-89.25	5.87	0.49
855	SLU 45	21	76	5300	-86.95	6.04	0.65
855	SLU 46	21	95	5289	-88.89	6.03	0.56
855	SLU 47	21	106	5250	-89.83	5.97	0.49
855	SLU 48	22	76	5360	-87.53	6.14	0.66
855	SLU 49	22	95	5348	-89.48	6.13	0.56
855	SLU 50	22	76	5329	-87.17	6.08	0.66
855	SLU 51	22	94	5317	-89.11	6.08	0.56
855	SLU 52	23	111	5757	-99.78	6.36	0.52
855	SLU 53	23	81	5867	-97.48	6.53	0.69
855	SLU 54	24	100	5856	-99.43	6.52	0.59
855	SLU 55	24	111	5817	-100.36	6.46	0.53
855	SLU 56	24	82	5927	-98.06	6.63	0.7
855	SLU 57	25	100	5915	-100.01	6.62	0.6
855	SLU 58	24	81	5896	-97.7	6.58	0.69
855	SLU 59	24	99	5884	-99.65	6.57	0.6
855	SLU 60	23	83	6019	-101.05	6.59	0.7
855	SLU 61	24	101	6008	-103	6.58	0.6
855	SLU 62	24	83	6079	-101.64	6.69	0.7
855	SLU 63	25	101	6068	-103.58	6.68	0.61
855	SLU 64	23	83	5902	-95.81	6.57	0.63
855	SLU 65	24	114	5883	-99.05	6.56	0.48
855	SLU 66	24	84	5993	-96.75	6.73	0.64
855	SLU 67	25	102	5981	-98.69	6.72	0.55
855	SLU 68	25	114	5943	-99.63	6.66	0.48
855	SLU 69	25	84	6053	-97.33	6.83	0.65
855	SLU 70	26	102	6041	-99.28	6.82	0.55
855	SLU 71	25	83	6022	-96.97	6.77	0.64
855	SLU 72	26	102	6010	-98.92	6.77	0.55
855	SLU 73	26	119	6450	-109.58	7.05	0.51
855	SLU 74	27	89	6560	-107.28	7.22	0.68
855	SLU 75	27	107	6548	-109.23	7.21	0.58
855	SLU 76	27	119	6510	-110.16	7.15	0.52
855	SLU 77	28	89	6619	-107.86	7.32	0.68
855	SLU 78	28	107	6608	-109.81	7.32	0.59
855	SLU 79	28	88	6589	-107.5	7.27	0.68
855	SLU 80	28	107	6577	-109.45	7.26	0.59
855	SLU 81	27	90	6712	-110.85	7.28	0.69
855	SLU 82	27	109	6701	-112.8	7.27	0.59
855	SLU 83	28	90	6772	-111.44	7.38	0.69
855	SLU 84	28	109	6760	-113.38	7.37	0.6
855	SLE RA 1	17	62	4388	-71.54	4.9	0.49
855	SLE RA 2	18	83	4375	-73.7	4.9	0.38
855	SLE RA 3	18	63	4448	-72.17	5.01	0.49
855	SLE RA 4	18	75	4441	-73.47	5	0.43
855	SLE RA 5	18	83	4415	-74.09	4.96	0.39
855	SLE RA 6	18	63	4488	-72.56	5.07	0.5
855	SLE RA 7	19	75	4480	-73.86	5.07	0.44
855	SLE RA 8	18	62	4468	-72.32	5.04	0.5
855	SLE RA 9	19	75	4460	-73.62	5.03	0.43
855	SLE RA 10	19	86	4753	-80.73	5.23	0.41
855	SLE RA 11	19	66	4826	-79.19	5.34	0.52
855	SLE RA 12	20	78	4819	-80.49	5.33	0.46
855	SLE RA 13	20	86	4793	-81.11	5.29	0.41
855	SLE RA 14	20	66	4866	-79.58	5.41	0.52
855	SLE RA 15	20	78	4858	-80.88	5.4	0.46
855	SLE RA 16	20	66	4845	-79.34	5.37	0.52
855	SLE RA 17	20	78	4838	-80.64	5.36	0.46
855	SLE RA 18	19	67	4928	-81.58	5.38	0.53
855	SLE RA 19	20	79	4920	-82.87	5.37	0.46
855	SLE RA 20	20	67	4968	-81.96	5.44	0.53
855	SLE RA 21	20	79	4960	-83.26	5.44	0.47
855	SLE FR 1	17	62	4388	-71.54	4.9	0.49
855	SLE FR 2	17	66	4385	-71.98	4.9	0.47
855	SLE FR 3	17	62	4404	-71.7	4.93	0.49
855	SLE FR 4	18	68	4547	-74.99	5.04	0.48
855	SLE FR 5	18	64	4566	-74.71	5.07	0.5
855	SLE FR 6	18	65	4658	-76.56	5.14	0.51
855	SLE QP 1	17	62	4388	-71.54	4.9	0.49
855	SLE QP 2	18	64	4550	-74.55	5.05	0.5
855	SLD 1	597	275	4731	-108.36	5.55	-1.41
855	SLD 2	556	262	4724	-109.13	5.49	-0.79
855	SLD 3	579	-97	5015	-60.95	5.75	0.48
855	SLD 4	538	-110	5008	-61.73	5.68	1.1
855	SLD 5	226	694	4175	-156.47	4.91	-3.04
855	SLD 6	199	685	4170	-156.96	4.87	-2.64
855	SLD 7	166	-547	5121	1.56	5.56	3.25
855	SLD 8	140	-555	5116	1.06	5.52	3.65
855	SLD 9	-104	683	3983	-150.17	4.57	-2.65
855	SLD 10	-131	674	3979	-150.67	4.53	-2.25
855	SLD 11	-164	-558	4930	7.86	5.22	3.64
855	SLD 12	-190	-566	4925	7.36	5.18	4.04
855	SLD 13	-502	238	4092	-87.38	4.41	-0.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
855	SLD 14	-544	225	4085	-88.15	4.35	0.52
855	SLD 15	-520	-135	4376	-39.97	4.6	1.79
855	SLD 16	-561	-148	4369	-40.75	4.54	2.41
855	SLV 1	926	422	4813	-130.79	5.83	-2.63
855	SLV 2	861	401	4801	-132	5.73	-1.65
855	SLV 3	896	-213	5297	-49.87	6.16	0.6
855	SLV 4	830	-233	5285	-51.09	6.06	1.57
855	SLV 5	348	1138	3896	-213.92	4.79	-5.51
855	SLV 6	304	1124	3888	-214.73	4.73	-4.85
855	SLV 7	247	-978	5511	55.8	5.91	5.23
855	SLV 8	204	-992	5503	54.98	5.84	5.89
855	SLV 9	-168	1119	3597	-204.08	4.25	-4.89
855	SLV 10	-212	1106	3589	-204.9	4.19	-4.23
855	SLV 11	-269	-996	5211	65.63	5.37	5.85
855	SLV 12	-313	-1010	5203	64.81	5.3	6.51
855	SLV 13	-795	361	3815	-98.02	4.03	-0.57
855	SLV 14	-860	340	3803	-99.23	3.93	0.4
855	SLV 15	-825	-274	4299	-17.1	4.36	2.65
855	SLV 16	-890	-294	4287	-18.32	4.26	3.63
855	SLV FO 1	1017	458	4839	-136.41	5.91	-2.94
855	SLV FO 2	945	435	4826	-137.75	5.8	-1.86
855	SLV FO 3	983	-241	5372	-47.41	6.27	0.61
855	SLV FO 4	912	-263	5359	-48.75	6.16	1.68
855	SLV FO 5	381	1245	3831	-227.85	4.77	-6.11
855	SLV FO 6	333	1230	3822	-228.75	4.69	-5.38
855	SLV FO 7	270	-1082	5607	68.83	5.99	5.71
855	SLV FO 8	222	-1097	5598	67.93	5.92	6.43
855	SLV FO 9	-187	1225	3502	-217.04	4.18	-5.43
855	SLV FO 10	-235	1210	3493	-217.94	4.1	-4.71
855	SLV FO 11	-297	-1102	5278	79.65	5.4	6.38
855	SLV FO 12	-346	-1118	5269	78.75	5.32	7.11
855	SLV FO 13	-876	390	3741	-100.36	3.93	-0.68
855	SLV FO 14	-948	368	3728	-101.7	3.82	0.39
855	SLV FO 15	-909	-308	4274	-11.36	4.3	2.86
855	SLV FO 16	-981	-330	4261	-12.7	4.19	3.94
855	CRTFP Ux+	0	0	0	0	0	0
855	CRTFP Ux-	0	0	0	0	0	0
855	CRTFP Uy+	0	0	0	0	0	0
855	CRTFP Uy-	0	0	0	0	0	0
856	SLU 1	17	63	4084	-65.74	2.35	0.47
856	SLU 2	18	93	4066	-69.04	2.34	0.35
856	SLU 3	18	63	4172	-66.6	2.42	0.47
856	SLU 4	19	81	4160	-68.58	2.42	0.4
856	SLU 5	19	93	4123	-69.57	2.39	0.35
856	SLU 6	19	64	4229	-67.13	2.47	0.48
856	SLU 7	20	82	4218	-69.11	2.47	0.41
856	SLU 8	19	63	4199	-66.79	2.44	0.48
856	SLU 9	20	81	4188	-68.77	2.44	0.41
856	SLU 10	20	98	4622	-79.11	2.58	0.37
856	SLU 11	21	69	4728	-76.67	2.66	0.5
856	SLU 12	21	87	4716	-78.65	2.65	0.43
856	SLU 13	21	98	4679	-79.64	2.62	0.38
856	SLU 14	22	69	4785	-77.2	2.71	0.5
856	SLU 15	22	87	4774	-79.18	2.7	0.43
856	SLU 16	22	68	4755	-76.86	2.68	0.5
856	SLU 17	22	86	4744	-78.84	2.68	0.43
856	SLU 18	21	70	4879	-80.13	2.69	0.5
856	SLU 19	21	88	4867	-82.11	2.68	0.43
856	SLU 20	22	70	4936	-80.65	2.73	0.5
856	SLU 21	22	88	4925	-82.63	2.73	0.43
856	SLU 22	21	70	4762	-74.94	2.68	0.45
856	SLU 23	22	100	4743	-78.24	2.68	0.33
856	SLU 24	22	71	4849	-75.8	2.76	0.45
856	SLU 25	23	89	4838	-77.78	2.76	0.38
856	SLU 26	23	100	4800	-78.77	2.72	0.33
856	SLU 27	23	71	4906	-76.33	2.81	0.46
856	SLU 28	24	89	4895	-78.31	2.8	0.39
856	SLU 29	23	70	4877	-75.99	2.78	0.46
856	SLU 30	23	88	4865	-77.98	2.78	0.39
856	SLU 31	24	105	5299	-88.31	2.91	0.35
856	SLU 32	25	76	5405	-85.87	3	0.48
856	SLU 33	25	94	5394	-87.85	2.99	0.41
856	SLU 34	25	105	5356	-88.84	2.96	0.36
856	SLU 35	26	76	5462	-86.4	3.04	0.48
856	SLU 36	26	94	5451	-88.38	3.04	0.41
856	SLU 37	25	75	5433	-86.06	3.02	0.48
856	SLU 38	26	93	5421	-88.04	3.01	0.41
856	SLU 39	24	77	5556	-89.33	3.02	0.48
856	SLU 40	25	95	5545	-91.31	3.02	0.41
856	SLU 41	25	78	5614	-89.85	3.07	0.48
856	SLU 42	26	96	5602	-91.83	3.06	0.41
856	SLU 43	21	79	5078	-82.31	2.94	0.61
856	SLU 44	22	109	5059	-85.61	2.93	0.5
856	SLU 45	22	80	5165	-83.17	3.01	0.62
856	SLU 46	23	98	5153	-85.15	3.01	0.55
856	SLU 47	23	109	5116	-86.14	2.98	0.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
856	SLU 48	23	80	5222	-83.69	3.06	0.62
856	SLU 49	24	98	5211	-85.68	3.06	0.55
856	SLU 50	23	79	5192	-83.36	3.03	0.62
856	SLU 51	23	97	5181	-85.34	3.03	0.55
856	SLU 52	24	114	5615	-95.68	3.17	0.52
856	SLU 53	25	85	5721	-93.24	3.25	0.64
856	SLU 54	25	103	5709	-95.22	3.24	0.57
856	SLU 55	25	114	5672	-96.21	3.21	0.52
856	SLU 56	26	85	5778	-93.76	3.3	0.65
856	SLU 57	26	103	5767	-95.74	3.29	0.58
856	SLU 58	25	84	5748	-93.43	3.27	0.65
856	SLU 59	26	102	5737	-95.41	3.26	0.58
856	SLU 60	24	86	5872	-96.69	3.28	0.65
856	SLU 61	25	104	5861	-98.68	3.27	0.58
856	SLU 62	25	87	5929	-97.22	3.32	0.65
856	SLU 63	26	105	5918	-99.2	3.32	0.58
856	SLU 64	25	86	5755	-91.51	3.27	0.59
856	SLU 65	25	116	5736	-94.81	3.27	0.48
856	SLU 66	26	87	5842	-92.37	3.35	0.6
856	SLU 67	26	105	5831	-94.35	3.34	0.53
856	SLU 68	26	116	5793	-95.34	3.31	0.48
856	SLU 69	27	87	5900	-92.89	3.4	0.6
856	SLU 70	27	105	5888	-94.88	3.39	0.53
856	SLU 71	27	87	5870	-92.56	3.37	0.6
856	SLU 72	27	104	5858	-94.54	3.36	0.53
856	SLU 73	28	121	6292	-104.88	3.5	0.5
856	SLU 74	28	92	6398	-102.44	3.58	0.62
856	SLU 75	29	110	6387	-104.42	3.58	0.55
856	SLU 76	29	122	6349	-105.41	3.55	0.5
856	SLU 77	29	92	6456	-102.96	3.63	0.63
856	SLU 78	30	110	6444	-104.95	3.63	0.56
856	SLU 79	29	92	6426	-102.63	3.61	0.63
856	SLU 80	30	110	6414	-104.61	3.6	0.56
856	SLU 81	28	94	6549	-105.89	3.61	0.63
856	SLU 82	29	112	6538	-107.88	3.61	0.56
856	SLU 83	29	94	6607	-106.42	3.66	0.63
856	SLU 84	30	112	6595	-108.4	3.65	0.56
856	SLE RA 1	18	65	4278	-68.37	2.44	0.46
856	SLE RA 2	19	85	4265	-70.57	2.44	0.38
856	SLE RA 3	19	65	4336	-68.94	2.49	0.47
856	SLE RA 4	19	77	4329	-70.26	2.49	0.42
856	SLE RA 5	19	85	4304	-70.92	2.47	0.39
856	SLE RA 6	20	65	4374	-69.29	2.53	0.47
856	SLE RA 7	20	77	4367	-70.61	2.52	0.42
856	SLE RA 8	19	65	4355	-69.07	2.51	0.47
856	SLE RA 9	20	77	4347	-70.39	2.51	0.42
856	SLE RA 10	20	88	4636	-77.28	2.6	0.4
856	SLE RA 11	21	69	4707	-75.65	2.65	0.48
856	SLE RA 12	21	81	4699	-76.98	2.65	0.43
856	SLE RA 13	21	88	4674	-77.64	2.63	0.4
856	SLE RA 14	21	69	4745	-76.01	2.68	0.48
856	SLE RA 15	22	81	4737	-77.33	2.68	0.44
856	SLE RA 16	21	68	4725	-75.78	2.67	0.48
856	SLE RA 17	21	80	4718	-77.11	2.66	0.44
856	SLE RA 18	21	70	4808	-77.96	2.67	0.48
856	SLE RA 19	21	82	4800	-79.28	2.67	0.44
856	SLE RA 20	21	70	4846	-78.31	2.7	0.49
856	SLE RA 21	21	82	4838	-79.63	2.7	0.44
856	SLE FR 1	18	65	4278	-68.37	2.44	0.46
856	SLE FR 2	18	69	4275	-68.81	2.44	0.45
856	SLE FR 3	18	65	4293	-68.51	2.46	0.46
856	SLE FR 4	19	70	4434	-71.69	2.51	0.45
856	SLE FR 5	19	66	4452	-71.39	2.52	0.47
856	SLE FR 6	19	67	4543	-73.16	2.56	0.47
856	SLE QP 1	18	65	4278	-68.37	2.44	0.46
856	SLE QP 2	19	66	4437	-71.25	2.51	0.47
856	SLD 1	599	269	4587	-105.04	4.11	-1.16
856	SLD 2	558	259	4581	-105.84	4.03	-0.56
856	SLD 3	581	-94	4867	-56.72	4.19	0.23
856	SLD 4	540	-104	4862	-57.52	4.11	0.83
856	SLD 5	227	680	4058	-154.54	2.88	-2.24
856	SLD 6	201	673	4055	-155.05	2.83	-1.86
856	SLD 7	168	-531	4992	6.54	3.16	2.41
856	SLD 8	141	-537	4988	6.02	3.1	2.8
856	SLD 9	-103	670	3886	-148.51	1.92	-1.86
856	SLD 10	-130	663	3882	-149.03	1.87	-1.48
856	SLD 11	-163	-541	4819	12.56	2.2	2.79
856	SLD 12	-189	-547	4816	12.04	2.15	3.18
856	SLD 13	-502	236	4012	-84.97	0.91	0.1
856	SLD 14	-543	227	4007	-85.77	0.83	0.7
856	SLD 15	-520	-127	4292	-36.65	1	1.5
856	SLD 16	-561	-137	4287	-37.45	0.92	2.1
856	SLV 1	928	411	4651	-127.53	5	-2.19
856	SLV 2	863	395	4643	-128.79	4.87	-1.25
856	SLV 3	898	-209	5129	-45.06	5.14	0.19
856	SLV 4	833	-224	5121	-46.32	5.01	1.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
856	SLV 5	350	1112	3778	-212.98	3.07	-4.12
856	SLV 6	306	1101	3772	-213.82	2.98	-3.49
856	SLV 7	249	-953	5371	61.93	3.54	3.83
856	SLV 8	205	-963	5365	61.08	3.45	4.46
856	SLV 9	-167	1096	3509	-203.57	1.57	-3.53
856	SLV 10	-211	1085	3503	-204.42	1.49	-2.89
856	SLV 11	-268	-969	5101	71.33	2.04	4.42
856	SLV 12	-312	-979	5096	70.49	1.96	5.06
856	SLV 13	-795	357	3753	-96.17	0.02	-0.2
856	SLV 14	-860	341	3745	-97.43	-0.11	0.74
856	SLV 15	-825	-263	4231	-13.7	0.16	2.18
856	SLV 16	-891	-278	4222	-14.96	0.03	3.13
856	SLV FO 1	1019	445	4673	-133.16	5.25	-2.46
856	SLV FO 2	948	428	4663	-134.54	5.1	-1.42
856	SLV FO 3	986	-236	5198	-42.44	5.4	0.17
856	SLV FO 4	914	-253	5189	-43.82	5.26	1.21
856	SLV FO 5	383	1216	3712	-227.15	3.12	-4.58
856	SLV FO 6	335	1205	3706	-228.08	3.03	-3.88
856	SLV FO 7	272	-1055	5464	75.24	3.64	4.16
856	SLV FO 8	224	-1066	5458	74.31	3.54	4.86
856	SLV FO 9	-186	1198	3416	-216.8	1.48	-3.93
856	SLV FO 10	-234	1187	3410	-217.73	1.39	-3.22
856	SLV FO 11	-297	-1072	5168	85.59	1.99	4.82
856	SLV FO 12	-345	-1084	5161	84.66	1.9	5.52
856	SLV FO 13	-877	386	3685	-98.67	-0.23	-0.27
856	SLV FO 14	-948	369	3675	-100.05	-0.37	0.77
856	SLV FO 15	-910	-296	4210	-7.95	-0.08	2.35
856	SLV FO 16	-982	-313	4201	-9.33	-0.22	3.39
856	CRTFP Ux+	0	0	0	0	0	0
856	CRTFP Ux-	0	0	0	0	0	0
856	CRTFP Uy+	0	0	0	0	0	0
856	CRTFP Uy-	0	0	0	0	0	0
857	SLU 1	18	65	4045	-62.84	0.34	0.47
857	SLU 2	19	95	4026	-66.22	0.34	0.4
857	SLU 3	20	66	4131	-63.62	0.35	0.47
857	SLU 4	20	84	4119	-65.64	0.34	0.43
857	SLU 5	20	95	4083	-66.69	0.34	0.4
857	SLU 6	21	66	4187	-64.09	0.35	0.47
857	SLU 7	21	84	4176	-66.12	0.35	0.43
857	SLU 8	20	65	4158	-63.79	0.34	0.47
857	SLU 9	21	83	4147	-65.81	0.34	0.43
857	SLU 10	22	100	4578	-75.84	0.36	0.41
857	SLU 11	22	71	4683	-73.24	0.36	0.48
857	SLU 12	23	89	4672	-75.27	0.36	0.44
857	SLU 13	23	100	4635	-76.31	0.36	0.41
857	SLU 14	23	71	4740	-73.71	0.37	0.49
857	SLU 15	24	89	4728	-75.74	0.37	0.44
857	SLU 16	23	71	4710	-73.41	0.36	0.48
857	SLU 17	23	88	4699	-75.43	0.36	0.44
857	SLU 18	22	73	4834	-76.59	0.37	0.48
857	SLU 19	22	90	4822	-78.61	0.36	0.44
857	SLU 20	23	73	4890	-77.06	0.37	0.49
857	SLU 21	23	91	4879	-79.08	0.37	0.44
857	SLU 22	22	72	4717	-71.46	0.37	0.44
857	SLU 23	23	102	4698	-74.83	0.37	0.37
857	SLU 24	23	73	4803	-72.24	0.38	0.45
857	SLU 25	24	91	4791	-74.26	0.38	0.41
857	SLU 26	24	102	4755	-75.3	0.38	0.38
857	SLU 27	24	73	4859	-72.71	0.38	0.45
857	SLU 28	25	91	4848	-74.73	0.38	0.41
857	SLU 29	24	73	4830	-72.4	0.38	0.45
857	SLU 30	25	90	4819	-74.43	0.38	0.41
857	SLU 31	25	107	5250	-84.45	0.39	0.39
857	SLU 32	26	78	5355	-81.86	0.4	0.46
857	SLU 33	26	96	5344	-83.88	0.4	0.42
857	SLU 34	27	107	5307	-84.93	0.39	0.39
857	SLU 35	27	79	5412	-82.33	0.4	0.46
857	SLU 36	28	96	5400	-84.35	0.4	0.42
857	SLU 37	27	78	5382	-82.02	0.4	0.46
857	SLU 38	27	96	5371	-84.05	0.4	0.42
857	SLU 39	26	80	5506	-85.21	0.4	0.46
857	SLU 40	26	98	5494	-87.23	0.4	0.42
857	SLU 41	27	80	5562	-85.68	0.4	0.47
857	SLU 42	27	98	5551	-87.7	0.4	0.42
857	SLU 43	22	82	5028	-78.74	0.43	0.61
857	SLU 44	23	112	5009	-82.11	0.43	0.54
857	SLU 45	24	83	5114	-79.52	0.43	0.62
857	SLU 46	24	101	5103	-81.54	0.43	0.57
857	SLU 47	24	112	5066	-82.59	0.43	0.54
857	SLU 48	25	83	5171	-79.99	0.44	0.62
857	SLU 49	25	101	5159	-82.01	0.44	0.58
857	SLU 50	24	82	5141	-79.69	0.43	0.62
857	SLU 51	25	100	5130	-81.71	0.43	0.57
857	SLU 52	26	117	5561	-91.74	0.45	0.56
857	SLU 53	26	88	5666	-89.14	0.45	0.63
857	SLU 54	27	106	5655	-91.17	0.45	0.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
857	SLU 55	27	117	5618	-92.21	0.45	0.56
857	SLU 56	27	88	5723	-89.61	0.46	0.63
857	SLU 57	28	106	5712	-91.64	0.45	0.59
857	SLU 58	27	88	5694	-89.31	0.45	0.63
857	SLU 59	27	105	5682	-91.33	0.45	0.59
857	SLU 60	26	90	5817	-92.49	0.45	0.63
857	SLU 61	26	107	5806	-94.51	0.45	0.59
857	SLU 62	27	90	5874	-92.96	0.46	0.63
857	SLU 63	28	108	5862	-94.98	0.46	0.59
857	SLU 64	26	89	5700	-87.36	0.46	0.59
857	SLU 65	27	119	5681	-90.73	0.46	0.52
857	SLU 66	28	90	5786	-88.13	0.47	0.6
857	SLU 67	28	108	5774	-90.16	0.47	0.55
857	SLU 68	28	119	5738	-91.2	0.47	0.52
857	SLU 69	29	90	5842	-88.61	0.47	0.6
857	SLU 70	29	108	5831	-90.63	0.47	0.56
857	SLU 71	28	90	5813	-88.3	0.47	0.6
857	SLU 72	29	107	5802	-90.32	0.47	0.55
857	SLU 73	30	124	6233	-100.35	0.48	0.53
857	SLU 74	30	96	6338	-97.76	0.49	0.61
857	SLU 75	31	113	6327	-99.78	0.49	0.57
857	SLU 76	31	124	6290	-100.82	0.48	0.54
857	SLU 77	31	96	6395	-98.23	0.49	0.61
857	SLU 78	32	113	6383	-100.25	0.49	0.57
857	SLU 79	31	95	6365	-97.92	0.49	0.61
857	SLU 80	31	113	6354	-99.95	0.49	0.57
857	SLU 81	30	97	6489	-101.1	0.49	0.61
857	SLU 82	30	115	6477	-103.13	0.49	0.57
857	SLU 83	31	97	6545	-101.58	0.49	0.61
857	SLU 84	31	115	6534	-103.6	0.49	0.57
857	SLE RA 1	19	67	4237	-65.3	0.35	0.46
857	SLE RA 2	20	87	4224	-67.55	0.35	0.41
857	SLE RA 3	20	68	4294	-65.82	0.35	0.46
857	SLE RA 4	21	79	4287	-67.17	0.35	0.43
857	SLE RA 5	21	87	4262	-67.87	0.35	0.41
857	SLE RA 6	21	68	4332	-66.14	0.35	0.46
857	SLE RA 7	21	80	4324	-67.49	0.35	0.44
857	SLE RA 8	21	67	4312	-65.93	0.35	0.46
857	SLE RA 9	21	79	4305	-67.28	0.35	0.43
857	SLE RA 10	22	90	4592	-73.97	0.36	0.42
857	SLE RA 11	22	71	4662	-72.24	0.37	0.47
857	SLE RA 12	22	83	4655	-73.59	0.37	0.44
857	SLE RA 13	22	90	4630	-74.28	0.36	0.42
857	SLE RA 14	23	71	4700	-72.55	0.37	0.47
857	SLE RA 15	23	83	4693	-73.9	0.37	0.44
857	SLE RA 16	22	71	4681	-72.35	0.36	0.47
857	SLE RA 17	23	83	4673	-73.7	0.36	0.44
857	SLE RA 18	22	72	4763	-74.47	0.37	0.47
857	SLE RA 19	22	84	4755	-75.82	0.37	0.44
857	SLE RA 20	22	72	4801	-74.78	0.37	0.47
857	SLE RA 21	23	84	4793	-76.13	0.37	0.45
857	SLE FR 1	19	67	4237	-65.3	0.35	0.46
857	SLE FR 2	19	71	4234	-65.75	0.35	0.45
857	SLE FR 3	20	67	4252	-65.43	0.35	0.46
857	SLE FR 4	20	73	4392	-68.5	0.35	0.45
857	SLE FR 5	20	69	4410	-68.18	0.35	0.46
857	SLE FR 6	21	70	4500	-69.89	0.36	0.47
857	SLE QP 1	19	67	4237	-65.3	0.35	0.46
857	SLE QP 2	20	69	4395	-68.05	0.35	0.46
857	SLD 1	601	265	4484	-101.9	2.8	-0.91
857	SLD 2	560	259	4481	-102.72	2.71	-0.29
857	SLD 3	583	-92	4764	-52.59	2.72	-0.08
857	SLD 4	542	-98	4761	-53.41	2.62	0.54
857	SLD 5	229	670	3997	-152.85	1.23	-1.31
857	SLD 6	202	666	3995	-153.38	1.17	-0.91
857	SLD 7	169	-520	4931	11.52	0.95	1.45
857	SLD 8	142	-524	4929	10.99	0.89	1.85
857	SLD 9	-102	662	3860	-147.09	-0.18	-0.92
857	SLD 10	-129	657	3858	-147.62	-0.25	-0.52
857	SLD 11	-162	-529	4794	17.28	-0.46	1.83
857	SLD 12	-189	-533	4792	16.74	-0.52	2.23
857	SLD 13	-502	236	4028	-82.7	-1.91	0.39
857	SLD 14	-543	229	4025	-83.52	-2.01	1.01
857	SLD 15	-520	-121	4308	-33.39	-2	1.21
857	SLD 16	-561	-128	4305	-34.21	-2.09	1.83
857	SLV 1	931	403	4515	-124.48	4.18	-1.74
857	SLV 2	866	392	4510	-125.78	4.03	-0.77
857	SLV 3	901	-206	4992	-40.32	4.04	-0.33
857	SLV 4	835	-217	4988	-41.62	3.89	0.64
857	SLV 5	352	1094	3707	-212.38	1.74	-2.52
857	SLV 6	308	1087	3704	-213.26	1.64	-1.86
857	SLV 7	250	-935	5299	68.15	1.28	2.18
857	SLV 8	206	-942	5296	67.28	1.18	2.84
857	SLV 9	-166	1080	3493	-203.38	-0.47	-1.91
857	SLV 10	-210	1073	3490	-204.26	-0.57	-1.25
857	SLV 11	-267	-950	5085	77.15	-0.93	2.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
857	SLV 12	-311	-957	5082	76.27	-1.03	3.45
857	SLV 13	-795	354	3801	-94.49	-3.18	0.28
857	SLV 14	-860	344	3797	-95.79	-3.33	1.26
857	SLV 15	-825	-255	4279	-10.33	-3.32	1.69
857	SLV 16	-891	-265	4274	-11.63	-3.47	2.67
857	SLV FO 1	1022	436	4527	-130.12	4.56	-1.97
857	SLV FO 2	950	425	4522	-131.55	4.39	-0.89
857	SLV FO 3	989	-234	5052	-37.55	4.4	-0.41
857	SLV FO 4	917	-245	5047	-38.98	4.24	0.66
857	SLV FO 5	385	1197	3638	-226.81	1.88	-2.82
857	SLV FO 6	336	1189	3635	-227.78	1.77	-2.09
857	SLV FO 7	273	-1036	5390	81.77	1.37	2.35
857	SLV FO 8	225	-1044	5387	80.81	1.26	3.07
857	SLV FO 9	-185	1181	3402	-216.92	-0.55	-2.15
857	SLV FO 10	-233	1173	3399	-217.88	-0.66	-1.42
857	SLV FO 11	-296	-1052	5154	91.67	-1.06	3.02
857	SLV FO 12	-345	-1060	5151	90.71	-1.17	3.74
857	SLV FO 13	-877	383	3742	-97.13	-3.53	0.27
857	SLV FO 14	-949	371	3737	-98.56	-3.7	1.34
857	SLV FO 15	-910	-287	4267	-4.55	-3.69	1.82
857	SLV FO 16	-982	-299	4262	-5.98	-3.85	2.89
857	CRTFP Ux+	0	0	0	0	0	0
857	CRTFP Ux-	0	0	0	0	0	0
857	CRTFP Uy+	0	0	0	0	0	0
857	CRTFP Uy-	0	0	0	0	0	0
858	SLU 1	19	68	4060	-60.05	-1.33	0.48
858	SLU 2	20	97	4041	-63.49	-1.32	0.46
858	SLU 3	21	68	4147	-60.74	-1.38	0.48
858	SLU 4	21	86	4136	-62.81	-1.37	0.47
858	SLU 5	21	97	4099	-63.91	-1.36	0.46
858	SLU 6	22	69	4204	-61.16	-1.41	0.48
858	SLU 7	22	86	4193	-63.23	-1.41	0.47
858	SLU 8	21	68	4175	-60.88	-1.4	0.48
858	SLU 9	22	85	4163	-62.95	-1.39	0.47
858	SLU 10	23	102	4596	-72.69	-1.48	0.47
858	SLU 11	23	74	4701	-69.94	-1.54	0.49
858	SLU 12	24	91	4690	-72	-1.54	0.48
858	SLU 13	24	102	4653	-73.1	-1.52	0.47
858	SLU 14	24	74	4759	-70.35	-1.57	0.49
858	SLU 15	25	91	4747	-72.42	-1.57	0.48
858	SLU 16	24	73	4729	-70.07	-1.56	0.49
858	SLU 17	25	91	4718	-72.14	-1.56	0.47
858	SLU 18	23	75	4852	-73.18	-1.56	0.49
858	SLU 19	24	93	4841	-75.25	-1.55	0.48
858	SLU 20	24	75	4910	-73.6	-1.59	0.49
858	SLU 21	25	93	4898	-75.66	-1.59	0.48
858	SLU 22	23	75	4735	-68.09	-1.54	0.46
858	SLU 23	24	104	4716	-71.54	-1.53	0.44
858	SLU 24	25	76	4822	-68.79	-1.59	0.47
858	SLU 25	25	93	4810	-70.86	-1.59	0.45
858	SLU 26	25	104	4773	-71.96	-1.57	0.44
858	SLU 27	26	76	4879	-69.21	-1.63	0.47
858	SLU 28	26	93	4868	-71.27	-1.62	0.45
858	SLU 29	26	75	4849	-68.93	-1.61	0.46
858	SLU 30	26	93	4838	-71	-1.61	0.45
858	SLU 31	27	109	5271	-80.73	-1.7	0.45
858	SLU 32	27	81	5376	-77.98	-1.75	0.47
858	SLU 33	28	98	5365	-80.05	-1.75	0.46
858	SLU 34	28	109	5328	-81.15	-1.73	0.45
858	SLU 35	28	81	5433	-78.4	-1.79	0.47
858	SLU 36	29	99	5422	-80.47	-1.79	0.46
858	SLU 37	28	80	5404	-78.12	-1.77	0.47
858	SLU 38	29	98	5393	-80.19	-1.77	0.46
858	SLU 39	27	82	5527	-81.22	-1.77	0.48
858	SLU 40	28	100	5516	-83.29	-1.77	0.46
858	SLU 41	28	83	5584	-81.64	-1.81	0.48
858	SLU 42	29	100	5573	-83.71	-1.8	0.46
858	SLU 43	24	86	5047	-75.3	-1.65	0.63
858	SLU 44	24	115	5028	-78.75	-1.64	0.61
858	SLU 45	25	86	5134	-76	-1.7	0.63
858	SLU 46	26	104	5122	-78.07	-1.7	0.62
858	SLU 47	26	115	5085	-79.17	-1.68	0.61
858	SLU 48	26	86	5191	-76.42	-1.74	0.63
858	SLU 49	27	104	5180	-78.49	-1.73	0.62
858	SLU 50	26	86	5162	-76.14	-1.72	0.63
858	SLU 51	26	103	5150	-78.21	-1.72	0.61
858	SLU 52	27	120	5583	-87.94	-1.81	0.61
858	SLU 53	28	92	5688	-85.19	-1.86	0.64
858	SLU 54	28	109	5677	-87.26	-1.86	0.63
858	SLU 55	28	120	5640	-88.36	-1.84	0.61
858	SLU 56	29	92	5745	-85.61	-1.9	0.64
858	SLU 57	29	109	5734	-87.68	-1.9	0.63
858	SLU 58	29	91	5716	-85.33	-1.88	0.64
858	SLU 59	29	109	5705	-87.4	-1.88	0.62
858	SLU 60	27	93	5839	-88.43	-1.88	0.64
858	SLU 61	28	111	5828	-90.5	-1.88	0.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
858	SLU 62	29	93	5896	-88.85	-1.92	0.64
858	SLU 63	29	111	5885	-90.92	-1.91	0.63
858	SLU 64	28	93	5722	-83.35	-1.86	0.61
858	SLU 65	29	122	5703	-86.8	-1.86	0.59
858	SLU 66	29	93	5808	-84.04	-1.92	0.61
858	SLU 67	30	111	5797	-86.11	-1.91	0.6
858	SLU 68	30	122	5760	-87.21	-1.89	0.59
858	SLU 69	30	94	5866	-84.46	-1.95	0.61
858	SLU 70	31	111	5854	-86.53	-1.95	0.6
858	SLU 71	30	93	5836	-84.18	-1.94	0.61
858	SLU 72	30	110	5825	-86.25	-1.93	0.6
858	SLU 73	31	127	6257	-95.99	-2.02	0.6
858	SLU 74	32	99	6363	-93.24	-2.08	0.62
858	SLU 75	32	116	6352	-95.3	-2.07	0.61
858	SLU 76	32	127	6315	-96.4	-2.06	0.6
858	SLU 77	33	99	6420	-93.65	-2.11	0.62
858	SLU 78	33	116	6409	-95.72	-2.11	0.61
858	SLU 79	33	98	6391	-93.38	-2.1	0.62
858	SLU 80	33	116	6379	-95.44	-2.09	0.61
858	SLU 81	32	100	6514	-96.48	-2.1	0.62
858	SLU 82	32	118	6503	-98.55	-2.09	0.61
858	SLU 83	33	100	6571	-96.9	-2.13	0.62
858	SLU 84	33	118	6560	-98.96	-2.13	0.61
858	SLE RA 1	20	70	4253	-62.35	-1.39	0.47
858	SLE RA 2	21	89	4240	-64.64	-1.38	0.46
858	SLE RA 3	21	70	4311	-62.81	-1.42	0.48
858	SLE RA 4	22	82	4303	-64.19	-1.42	0.47
858	SLE RA 5	22	89	4279	-64.92	-1.41	0.46
858	SLE RA 6	22	70	4349	-63.09	-1.45	0.48
858	SLE RA 7	22	82	4341	-64.47	-1.44	0.47
858	SLE RA 8	22	70	4329	-62.9	-1.44	0.47
858	SLE RA 9	22	82	4322	-64.28	-1.43	0.47
858	SLE RA 10	23	93	4610	-70.77	-1.49	0.47
858	SLE RA 11	23	74	4680	-68.94	-1.53	0.48
858	SLE RA 12	23	85	4673	-70.32	-1.53	0.47
858	SLE RA 13	23	93	4648	-71.05	-1.51	0.47
858	SLE RA 14	24	74	4719	-69.22	-1.55	0.48
858	SLE RA 15	24	86	4711	-70.59	-1.55	0.47
858	SLE RA 16	24	73	4699	-69.03	-1.54	0.48
858	SLE RA 17	24	85	4691	-70.41	-1.54	0.47
858	SLE RA 18	23	75	4781	-71.1	-1.54	0.48
858	SLE RA 19	23	86	4774	-72.48	-1.54	0.47
858	SLE RA 20	24	75	4819	-71.38	-1.57	0.48
858	SLE RA 21	24	87	4812	-72.76	-1.56	0.47
858	SLE FR 1	20	70	4253	-62.35	-1.39	0.47
858	SLE FR 2	21	74	4250	-62.81	-1.39	0.47
858	SLE FR 3	21	70	4268	-62.46	-1.4	0.47
858	SLE FR 4	21	75	4409	-65.43	-1.43	0.47
858	SLE FR 5	22	71	4427	-65.08	-1.44	0.48
858	SLE FR 6	22	72	4517	-66.72	-1.46	0.48
858	SLE QP 1	20	70	4253	-62.35	-1.39	0.47
858	SLE QP 2	21	71	4411	-64.97	-1.43	0.48
858	SLD 1	603	264	4420	-98.91	1.55	-0.68
858	SLD 2	561	261	4421	-99.77	1.45	0
858	SLD 3	585	-91	4704	-48.53	1.36	-0.45
858	SLD 4	543	-94	4704	-49.39	1.26	0.24
858	SLD 5	230	667	3984	-151.42	-0.24	-0.34
858	SLD 6	203	665	3984	-151.97	-0.3	0.1
858	SLD 7	170	-514	4929	16.51	-0.86	0.43
858	SLD 8	143	-516	4929	15.96	-0.93	0.87
858	SLD 9	-101	659	3893	-145.91	-1.94	0.08
858	SLD 10	-128	657	3894	-146.46	-2	0.52
858	SLD 11	-161	-522	4839	22.02	-2.56	0.85
858	SLD 12	-188	-524	4839	21.47	-2.63	1.29
858	SLD 13	-501	236	4119	-80.56	-4.12	0.72
858	SLD 14	-543	233	4119	-81.41	-4.23	1.4
858	SLD 15	-519	-118	4402	-30.18	-4.31	0.95
858	SLD 16	-561	-121	4402	-31.03	-4.41	1.63
858	SLV 1	933	399	4406	-121.63	3.23	-1.35
858	SLV 2	868	394	4406	-122.98	3.07	-0.28
858	SLV 3	903	-206	4890	-35.65	2.91	-0.95
858	SLV 4	837	-211	4890	-37	2.75	0.12
858	SLV 5	353	1087	3676	-212.13	0.48	-0.87
858	SLV 6	309	1083	3676	-213.03	0.37	-0.15
858	SLV 7	252	-927	5289	74.48	-0.59	0.44
858	SLV 8	208	-931	5289	73.58	-0.69	1.17
858	SLV 9	-165	1073	3534	-203.52	-2.17	-0.22
858	SLV 10	-209	1070	3534	-204.43	-2.28	0.51
858	SLV 11	-267	-941	5147	83.09	-3.24	1.1
858	SLV 12	-311	-944	5147	82.18	-3.35	1.82
858	SLV 13	-795	353	3933	-92.95	-5.62	0.83
858	SLV 14	-860	348	3933	-94.3	-5.78	1.91
858	SLV 15	-825	-251	4417	-6.97	-5.94	1.23
858	SLV 16	-891	-256	4417	-8.31	-6.1	2.3
858	SLV FO 1	1024	431	4405	-127.3	3.7	-1.53
858	SLV FO 2	952	426	4406	-128.78	3.52	-0.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
858	SLV FO 3	991	-233	4938	-32.72	3.35	-1.1
858	SLV FO 4	919	-239	4938	-34.2	3.17	0.08
858	SLV FO 5	386	1188	3602	-226.84	0.67	-1
858	SLV FO 6	338	1185	3603	-227.84	0.55	-0.21
858	SLV FO 7	275	-1027	5377	88.43	-0.5	0.44
858	SLV FO 8	226	-1031	5377	87.43	-0.62	1.24
858	SLV FO 9	-184	1173	3446	-217.38	-2.25	-0.28
858	SLV FO 10	-232	1170	3446	-218.37	-2.37	0.51
858	SLV FO 11	-295	-1042	5220	97.89	-3.42	1.16
858	SLV FO 12	-344	-1046	5221	96.9	-3.54	1.96
858	SLV FO 13	-876	381	3885	-95.75	-6.04	0.87
858	SLV FO 14	-949	376	3885	-97.23	-6.21	2.05
858	SLV FO 15	-910	-283	4417	-1.17	-6.39	1.3
858	SLV FO 16	-982	-289	4417	-2.65	-6.57	2.48
858	CRTFP Ux+	0	0	0	0	0	0
858	CRTFP Ux-	0	0	0	0	0	0
858	CRTFP Uy+	0	0	0	0	0	0
858	CRTFP Uy-	0	0	0	0	0	0
859	SLU 1	20	70	4121	-57.35	-2.66	0.49
859	SLU 2	21	99	4102	-60.88	-2.65	0.52
859	SLU 3	22	71	4210	-57.97	-2.76	0.5
859	SLU 4	22	89	4198	-60.08	-2.75	0.51
859	SLU 5	22	100	4161	-61.24	-2.72	0.52
859	SLU 6	23	71	4269	-58.33	-2.82	0.49
859	SLU 7	23	89	4257	-60.45	-2.82	0.51
859	SLU 8	23	71	4238	-58.08	-2.79	0.49
859	SLU 9	23	88	4227	-60.19	-2.79	0.51
859	SLU 10	24	105	4663	-69.65	-2.96	0.53
859	SLU 11	24	77	4771	-66.74	-3.07	0.5
859	SLU 12	25	94	4760	-68.86	-3.06	0.52
859	SLU 13	25	105	4722	-70.02	-3.02	0.53
859	SLU 14	26	77	4830	-67.11	-3.13	0.5
859	SLU 15	26	94	4819	-69.22	-3.12	0.52
859	SLU 16	25	76	4800	-66.85	-3.1	0.5
859	SLU 17	26	93	4789	-68.97	-3.09	0.51
859	SLU 18	24	78	4923	-69.89	-3.1	0.51
859	SLU 19	25	95	4912	-72	-3.09	0.52
859	SLU 20	25	78	4982	-70.25	-3.17	0.5
859	SLU 21	26	96	4970	-72.37	-3.16	0.52
859	SLU 22	25	77	4805	-64.84	-3.08	0.49
859	SLU 23	25	106	4786	-68.36	-3.06	0.52
859	SLU 24	26	78	4894	-65.45	-3.17	0.49
859	SLU 25	26	96	4883	-67.57	-3.17	0.51
859	SLU 26	26	107	4845	-68.73	-3.13	0.52
859	SLU 27	27	78	4953	-65.82	-3.24	0.49
859	SLU 28	28	96	4941	-67.93	-3.23	0.51
859	SLU 29	27	78	4923	-65.57	-3.21	0.49
859	SLU 30	27	95	4911	-67.68	-3.2	0.5
859	SLU 31	28	112	5348	-77.14	-3.37	0.53
859	SLU 32	29	84	5456	-74.23	-3.48	0.5
859	SLU 33	29	101	5444	-76.34	-3.47	0.52
859	SLU 34	29	112	5406	-77.5	-3.44	0.52
859	SLU 35	30	84	5514	-74.59	-3.55	0.5
859	SLU 36	30	101	5503	-76.71	-3.54	0.52
859	SLU 37	30	83	5484	-74.34	-3.52	0.5
859	SLU 38	30	100	5473	-76.46	-3.51	0.51
859	SLU 39	28	85	5607	-77.37	-3.51	0.5
859	SLU 40	29	103	5596	-79.49	-3.51	0.52
859	SLU 41	30	85	5666	-77.74	-3.58	0.5
859	SLU 42	30	103	5655	-79.85	-3.57	0.52
859	SLU 43	25	89	5123	-71.99	-3.32	0.64
859	SLU 44	26	118	5103	-75.51	-3.3	0.67
859	SLU 45	26	90	5211	-72.6	-3.41	0.65
859	SLU 46	27	107	5200	-74.72	-3.41	0.66
859	SLU 47	27	118	5162	-75.88	-3.37	0.67
859	SLU 48	27	90	5270	-72.97	-3.48	0.64
859	SLU 49	28	107	5259	-75.08	-3.47	0.66
859	SLU 50	27	89	5240	-72.72	-3.45	0.64
859	SLU 51	28	107	5229	-74.83	-3.44	0.66
859	SLU 52	28	124	5665	-84.29	-3.61	0.68
859	SLU 53	29	95	5773	-81.38	-3.72	0.65
859	SLU 54	30	113	5762	-83.49	-3.71	0.67
859	SLU 55	30	124	5724	-84.65	-3.68	0.68
859	SLU 56	30	95	5832	-81.74	-3.79	0.65
859	SLU 57	31	113	5820	-83.86	-3.78	0.67
859	SLU 58	30	95	5802	-81.49	-3.76	0.65
859	SLU 59	30	112	5790	-83.61	-3.75	0.66
859	SLU 60	29	97	5925	-84.52	-3.76	0.65
859	SLU 61	29	114	5913	-86.64	-3.75	0.67
859	SLU 62	30	97	5984	-84.89	-3.82	0.65
859	SLU 63	30	114	5972	-87	-3.81	0.67
859	SLU 64	29	96	5807	-79.47	-3.73	0.64
859	SLU 65	30	125	5788	-83	-3.72	0.67
859	SLU 66	31	97	5896	-80.09	-3.83	0.64
859	SLU 67	31	114	5884	-82.21	-3.82	0.66
859	SLU 68	31	125	5846	-83.37	-3.79	0.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
859	SLU 69	32	97	5954	-80.46	-3.9	0.64
859	SLU 70	32	114	5943	-82.57	-3.89	0.66
859	SLU 71	31	96	5924	-80.2	-3.86	0.64
859	SLU 72	32	114	5913	-82.32	-3.86	0.65
859	SLU 73	33	131	6349	-91.78	-4.03	0.68
859	SLU 74	33	102	6457	-88.87	-4.14	0.65
859	SLU 75	34	120	6446	-90.98	-4.13	0.67
859	SLU 76	34	131	6408	-92.14	-4.09	0.67
859	SLU 77	34	102	6516	-89.23	-4.2	0.65
859	SLU 78	35	120	6505	-91.35	-4.2	0.66
859	SLU 79	34	102	6486	-88.98	-4.17	0.64
859	SLU 80	35	119	6474	-91.09	-4.16	0.66
859	SLU 81	33	104	6609	-92.01	-4.17	0.65
859	SLU 82	34	121	6598	-94.13	-4.16	0.67
859	SLU 83	34	104	6668	-92.37	-4.24	0.65
859	SLU 84	35	121	6656	-94.49	-4.23	0.67
859	SLE RA 1	22	72	4316	-59.49	-2.78	0.49
859	SLE RA 2	22	92	4304	-61.84	-2.77	0.51
859	SLE RA 3	22	73	4376	-59.9	-2.84	0.49
859	SLE RA 4	23	84	4368	-61.31	-2.84	0.51
859	SLE RA 5	23	92	4343	-62.08	-2.82	0.51
859	SLE RA 6	23	73	4415	-60.14	-2.89	0.49
859	SLE RA 7	24	85	4407	-61.55	-2.88	0.5
859	SLE RA 8	23	72	4395	-59.97	-2.87	0.49
859	SLE RA 9	23	84	4387	-61.39	-2.86	0.5
859	SLE RA 10	24	95	4678	-67.69	-2.98	0.52
859	SLE RA 11	24	76	4750	-65.75	-3.05	0.5
859	SLE RA 12	25	88	4742	-67.16	-3.04	0.51
859	SLE RA 13	25	95	4717	-67.93	-3.02	0.52
859	SLE RA 14	25	77	4789	-65.99	-3.09	0.5
859	SLE RA 15	25	88	4782	-67.4	-3.09	0.51
859	SLE RA 16	25	76	4769	-65.82	-3.07	0.5
859	SLE RA 17	25	88	4762	-67.24	-3.07	0.51
859	SLE RA 18	24	77	4851	-67.85	-3.07	0.5
859	SLE RA 19	24	89	4844	-69.26	-3.07	0.51
859	SLE RA 20	25	78	4890	-68.09	-3.12	0.5
859	SLE RA 21	25	89	4883	-69.5	-3.11	0.51
859	SLE FR 1	22	72	4316	-59.49	-2.78	0.49
859	SLE FR 2	22	76	4314	-59.96	-2.78	0.5
859	SLE FR 3	22	72	4332	-59.59	-2.8	0.49
859	SLE FR 4	22	78	4474	-62.47	-2.87	0.5
859	SLE FR 5	23	74	4492	-62.09	-2.89	0.49
859	SLE FR 6	23	75	4584	-63.67	-2.93	0.5
859	SLE QP 1	22	72	4316	-59.49	-2.78	0.49
859	SLE QP 2	22	74	4477	-62	-2.87	0.5
859	SLD 1	605	265	4397	-96.09	0.42	-0.5
859	SLD 2	563	265	4400	-96.98	0.32	0.28
859	SLD 3	587	-90	4687	-44.56	0.14	-0.87
859	SLD 4	545	-89	4690	-45.45	0.03	-0.08
859	SLD 5	232	669	4012	-150.22	-1.43	0.62
859	SLD 6	205	669	4014	-150.79	-1.5	1.12
859	SLD 7	171	-513	4980	21.54	-2.38	-0.6
859	SLD 8	145	-513	4982	20.97	-2.45	-0.1
859	SLD 9	-100	661	3972	-144.96	-3.29	1.09
859	SLD 10	-127	661	3974	-145.53	-3.36	1.59
859	SLD 11	-160	-522	4940	26.8	-4.24	-0.13
859	SLD 12	-187	-521	4942	26.23	-4.3	0.37
859	SLD 13	-500	237	4263	-78.54	-5.77	1.07
859	SLD 14	-542	238	4267	-79.43	-5.88	1.86
859	SLD 15	-518	-118	4554	-27.01	-6.05	0.71
859	SLD 16	-560	-117	4557	-27.9	-6.16	1.49
859	SLV 1	935	399	4333	-118.98	2.29	-1.04
859	SLV 2	870	400	4338	-120.38	2.12	0.2
859	SLV 3	905	-206	4829	-31.04	1.81	-1.66
859	SLV 4	839	-205	4834	-32.43	1.64	-0.43
859	SLV 5	355	1089	3681	-212.21	-0.55	0.75
859	SLV 6	311	1089	3684	-213.15	-0.67	1.58
859	SLV 7	253	-928	5333	80.93	-2.17	-1.33
859	SLV 8	209	-927	5337	79.99	-2.28	-0.5
859	SLV 9	-164	1075	3617	-203.99	-3.45	1.49
859	SLV 10	-208	1076	3621	-204.92	-3.57	2.32
859	SLV 11	-266	-942	5269	89.16	-5.07	-0.59
859	SLV 12	-310	-941	5273	88.22	-5.18	0.24
859	SLV 13	-794	353	4120	-91.56	-7.37	1.42
859	SLV 14	-860	354	4125	-92.95	-7.54	2.65
859	SLV 15	-825	-252	4615	-3.62	-7.86	0.8
859	SLV 16	-891	-251	4621	-5.01	-8.03	2.03
859	SLV FO 1	1027	431	4318	-124.68	2.81	-1.19
859	SLV FO 2	954	432	4324	-126.21	2.62	0.17
859	SLV FO 3	993	-234	4864	-27.94	2.27	-1.88
859	SLV FO 4	921	-233	4870	-29.48	2.09	-0.52
859	SLV FO 5	388	1190	3601	-227.23	-0.32	0.78
859	SLV FO 6	340	1191	3605	-228.27	-0.45	1.69
859	SLV FO 7	276	-1028	5419	95.22	-2.1	-1.51
859	SLV FO 8	227	-1027	5423	94.19	-2.22	-0.6
859	SLV FO 9	-183	1175	3531	-218.19	-3.51	1.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
859	SLV FO 10	-231	1176	3535	-219.22	-3.64	2.5
859	SLV FO 11	-295	-1043	5348	104.27	-5.29	-0.7
859	SLV FO 12	-344	-1042	5352	103.24	-5.41	0.21
859	SLV FO 13	-876	381	4084	-94.52	-7.82	1.51
859	SLV FO 14	-948	382	4090	-96.05	-8.01	2.87
859	SLV FO 15	-910	-285	4629	2.22	-8.36	0.83
859	SLV FO 16	-982	-284	4635	0.69	-8.54	2.18
859	CRTFP Ux+	0	0	0	0	0	0
859	CRTFP Ux-	0	0	0	0	0	0
859	CRTFP Uy+	0	0	0	0	0	0
859	CRTFP Uy-	0	0	0	0	0	0
860	SLU 1	21	73	4217	-54.74	-3.7	0.5
860	SLU 2	22	102	4198	-58.36	-3.69	0.57
860	SLU 3	22	74	4310	-55.28	-3.84	0.51
860	SLU 4	23	91	4298	-57.45	-3.83	0.55
860	SLU 5	23	103	4259	-58.67	-3.78	0.57
860	SLU 6	24	74	4371	-55.59	-3.93	0.5
860	SLU 7	24	92	4359	-57.76	-3.92	0.54
860	SLU 8	23	73	4340	-55.37	-3.88	0.5
860	SLU 9	24	91	4328	-57.54	-3.87	0.54
860	SLU 10	25	108	4770	-66.73	-4.11	0.58
860	SLU 11	25	79	4882	-63.65	-4.26	0.52
860	SLU 12	26	97	4871	-65.82	-4.25	0.56
860	SLU 13	26	108	4831	-67.04	-4.2	0.58
860	SLU 14	26	79	4944	-63.97	-4.35	0.51
860	SLU 15	27	97	4932	-66.13	-4.34	0.55
860	SLU 16	26	79	4912	-63.74	-4.31	0.51
860	SLU 17	27	96	4900	-65.91	-4.3	0.55
860	SLU 18	25	81	5035	-66.71	-4.31	0.52
860	SLU 19	25	98	5024	-68.87	-4.3	0.56
860	SLU 20	26	81	5097	-67.02	-4.4	0.52
860	SLU 21	27	99	5085	-69.18	-4.39	0.56
860	SLU 22	25	80	4916	-61.69	-4.28	0.52
860	SLU 23	26	109	4897	-65.3	-4.26	0.59
860	SLU 24	27	81	5009	-62.22	-4.41	0.52
860	SLU 25	27	99	4997	-64.39	-4.4	0.56
860	SLU 26	27	110	4958	-65.61	-4.35	0.58
860	SLU 27	28	81	5070	-62.53	-4.5	0.51
860	SLU 28	28	99	5058	-64.7	-4.49	0.56
860	SLU 29	28	80	5039	-62.31	-4.46	0.51
860	SLU 30	28	98	5027	-64.48	-4.45	0.55
860	SLU 31	29	115	5470	-73.67	-4.68	0.6
860	SLU 32	30	86	5582	-70.6	-4.83	0.53
860	SLU 33	30	104	5570	-72.76	-4.82	0.57
860	SLU 34	30	115	5531	-73.98	-4.77	0.59
860	SLU 35	31	86	5643	-70.91	-4.92	0.53
860	SLU 36	31	104	5631	-73.07	-4.91	0.57
860	SLU 37	30	86	5611	-70.68	-4.88	0.52
860	SLU 38	31	103	5600	-72.85	-4.87	0.56
860	SLU 39	29	88	5735	-73.65	-4.88	0.53
860	SLU 40	30	105	5723	-75.81	-4.87	0.57
860	SLU 41	30	88	5796	-73.96	-4.97	0.53
860	SLU 42	31	106	5784	-76.13	-4.96	0.57
860	SLU 43	26	92	5243	-68.79	-4.62	0.65
860	SLU 44	27	122	5223	-72.4	-4.6	0.72
860	SLU 45	27	93	5335	-69.33	-4.75	0.65
860	SLU 46	28	111	5323	-71.49	-4.74	0.69
860	SLU 47	28	122	5284	-72.71	-4.69	0.72
860	SLU 48	28	93	5396	-69.64	-4.84	0.65
860	SLU 49	29	111	5385	-71.8	-4.83	0.69
860	SLU 50	28	93	5365	-69.41	-4.8	0.64
860	SLU 51	29	110	5353	-71.58	-4.79	0.69
860	SLU 52	29	127	5796	-80.77	-5.02	0.73
860	SLU 53	30	99	5908	-77.7	-5.17	0.66
860	SLU 54	30	116	5896	-79.87	-5.16	0.7
860	SLU 55	31	127	5857	-81.08	-5.11	0.73
860	SLU 56	31	99	5969	-78.01	-5.26	0.66
860	SLU 57	32	117	5957	-80.18	-5.25	0.7
860	SLU 58	31	98	5938	-77.78	-5.22	0.65
860	SLU 59	31	116	5926	-79.95	-5.21	0.7
860	SLU 60	30	100	6061	-80.75	-5.22	0.67
860	SLU 61	30	118	6049	-82.92	-5.21	0.71
860	SLU 62	31	100	6122	-81.06	-5.31	0.66
860	SLU 63	31	118	6110	-83.23	-5.3	0.71
860	SLU 64	30	99	5942	-75.73	-5.19	0.66
860	SLU 65	31	129	5922	-79.34	-5.18	0.73
860	SLU 66	32	100	6034	-76.27	-5.33	0.66
860	SLU 67	32	118	6023	-78.43	-5.32	0.71
860	SLU 68	32	129	5983	-79.65	-5.27	0.73
860	SLU 69	33	100	6095	-76.58	-5.42	0.66
860	SLU 70	33	118	6084	-78.75	-5.41	0.7
860	SLU 71	32	100	6064	-76.35	-5.37	0.66
860	SLU 72	33	117	6052	-78.52	-5.36	0.7
860	SLU 73	34	134	6495	-87.71	-5.6	0.74
860	SLU 74	34	106	6607	-84.64	-5.75	0.68
860	SLU 75	35	123	6595	-86.81	-5.74	0.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
860	SLU 76	35	135	6556	-88.03	-5.69	0.74
860	SLU 77	36	106	6668	-84.95	-5.84	0.67
860	SLU 78	36	124	6656	-87.12	-5.83	0.71
860	SLU 79	35	105	6637	-84.73	-5.79	0.67
860	SLU 80	36	123	6625	-86.89	-5.78	0.71
860	SLU 81	34	107	6760	-87.69	-5.8	0.68
860	SLU 82	35	125	6748	-89.86	-5.79	0.72
860	SLU 83	35	107	6821	-88	-5.89	0.68
860	SLU 84	36	125	6809	-90.17	-5.88	0.72
860	SLE RA 1	22	75	4417	-56.73	-3.87	0.51
860	SLE RA 2	23	95	4404	-59.14	-3.86	0.55
860	SLE RA 3	23	76	4479	-57.09	-3.96	0.51
860	SLE RA 4	24	87	4471	-58.53	-3.95	0.54
860	SLE RA 5	24	95	4445	-59.34	-3.92	0.55
860	SLE RA 6	24	76	4519	-57.29	-4.02	0.51
860	SLE RA 7	24	87	4512	-58.74	-4.01	0.53
860	SLE RA 8	24	75	4499	-57.14	-3.99	0.5
860	SLE RA 9	24	87	4491	-58.59	-3.98	0.53
860	SLE RA 10	25	98	4786	-64.72	-4.14	0.56
860	SLE RA 11	25	79	4860	-62.67	-4.24	0.52
860	SLE RA 12	25	91	4853	-64.11	-4.23	0.54
860	SLE RA 13	25	98	4827	-64.93	-4.2	0.56
860	SLE RA 14	26	79	4901	-62.88	-4.3	0.51
860	SLE RA 15	26	91	4893	-64.32	-4.29	0.54
860	SLE RA 16	26	79	4880	-62.73	-4.27	0.51
860	SLE RA 17	26	91	4873	-64.17	-4.26	0.54
860	SLE RA 18	25	80	4962	-64.7	-4.27	0.52
860	SLE RA 19	25	92	4955	-66.15	-4.26	0.55
860	SLE RA 20	26	80	5003	-64.91	-4.33	0.52
860	SLE RA 21	26	92	4995	-66.35	-4.32	0.54
860	SLE FR 1	22	75	4417	-56.73	-3.87	0.51
860	SLE FR 2	22	79	4414	-57.21	-3.87	0.52
860	SLE FR 3	23	75	4433	-56.81	-3.89	0.51
860	SLE FR 4	23	80	4578	-59.6	-3.99	0.52
860	SLE FR 5	23	77	4597	-59.2	-4.01	0.51
860	SLE FR 6	24	78	4690	-60.71	-4.07	0.51
860	SLE QP 1	22	75	4417	-56.73	-3.87	0.51
860	SLE QP 2	23	77	4581	-59.12	-3.99	0.51
860	SLD 1	606	238	4377	-93.43	-0.56	-0.43
860	SLD 2	564	243	4384	-94.34	-0.67	0.49
860	SLD 3	588	-121	4677	-40.67	-0.92	-1.3
860	SLD 4	546	-115	4684	-41.58	-1.02	-0.38
860	SLD 5	233	667	4063	-149.27	-2.4	1.39
860	SLD 6	206	671	4068	-149.86	-2.47	1.99
860	SLD 7	172	-527	5063	26.59	-3.59	-1.51
860	SLD 8	145	-523	5068	26	-3.66	-0.92
860	SLD 9	-99	677	4094	-144.24	-4.32	1.94
860	SLD 10	-126	680	4098	-144.83	-4.39	2.54
860	SLD 11	-160	-517	5094	31.62	-5.51	-0.97
860	SLD 12	-187	-514	5098	31.03	-5.58	-0.37
860	SLD 13	-500	269	4478	-76.66	-6.96	1.4
860	SLD 14	-542	274	4484	-77.57	-7.06	2.32
860	SLD 15	-518	-90	4778	-23.9	-7.31	0.53
860	SLD 16	-560	-84	4784	-24.81	-7.42	1.45
860	SLV 1	937	353	4238	-116.53	1.39	-0.9
860	SLV 2	871	361	4248	-117.97	1.22	0.55
860	SLV 3	906	-258	4750	-26.48	0.78	-2.39
860	SLV 4	840	-250	4760	-27.92	0.61	-0.93
860	SLV 5	356	1084	3699	-212.64	-1.42	2.07
860	SLV 6	312	1090	3706	-213.61	-1.53	3.05
860	SLV 7	253	-952	5406	87.51	-3.45	-2.89
860	SLV 8	209	-946	5413	86.54	-3.56	-1.9
860	SLV 9	-163	1100	3748	-204.78	-4.42	2.93
860	SLV 10	-207	1105	3755	-205.75	-4.53	3.91
860	SLV 11	-266	-937	5455	95.37	-6.44	-2.03
860	SLV 12	-310	-931	5462	94.4	-6.56	-1.05
860	SLV 13	-794	403	4401	-90.32	-8.59	1.95
860	SLV 14	-860	411	4412	-91.76	-8.76	3.41
860	SLV 15	-825	-208	4913	-0.27	-9.2	0.47
860	SLV 16	-891	-200	4923	-1.71	-9.37	1.93
860	SLV FO 1	1028	380	4204	-122.27	1.93	-1.05
860	SLV FO 2	956	389	4215	-123.85	1.74	0.56
860	SLV FO 3	994	-292	4767	-23.22	1.26	-2.68
860	SLV FO 4	922	-283	4778	-24.81	1.07	-1.08
860	SLV FO 5	390	1185	3611	-227.99	-1.16	2.22
860	SLV FO 6	341	1191	3619	-229.06	-1.29	3.3
860	SLV FO 7	276	-1055	5488	102.17	-3.4	-3.22
860	SLV FO 8	228	-1049	5496	101.1	-3.52	-2.14
860	SLV FO 9	-182	1202	3665	-219.34	-4.46	3.17
860	SLV FO 10	-230	1208	3673	-220.41	-4.58	4.25
860	SLV FO 11	-295	-1038	5542	110.82	-6.69	-2.28
860	SLV FO 12	-344	-1032	5550	109.75	-6.81	-1.2
860	SLV FO 13	-876	436	4383	-93.43	-9.05	2.1
860	SLV FO 14	-948	445	4395	-95.02	-9.24	3.7
860	SLV FO 15	-910	-236	4946	5.61	-9.72	0.46
860	SLV FO 16	-982	-227	4958	4.03	-9.91	2.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
860	CRTFP Ux+	0	0	0	0	0	0
860	CRTFP Ux-	0	0	0	0	0	0
860	CRTFP Uy+	0	0	0	0	0	0
860	CRTFP Uy-	0	0	0	0	0	0
861	SLU 1	21	76	4340	-52.23	-4.38	0.5
861	SLU 2	22	106	4320	-55.93	-4.36	0.6
861	SLU 3	23	77	4436	-52.69	-4.54	0.5
861	SLU 4	23	94	4424	-54.91	-4.53	0.56
861	SLU 5	23	106	4384	-56.19	-4.47	0.59
861	SLU 6	24	77	4501	-52.95	-4.64	0.49
861	SLU 7	25	95	4488	-55.17	-4.63	0.55
861	SLU 8	24	76	4468	-52.75	-4.59	0.49
861	SLU 9	24	94	4456	-54.97	-4.58	0.55
861	SLU 10	25	111	4906	-63.92	-4.86	0.62
861	SLU 11	26	82	5023	-60.67	-5.04	0.52
861	SLU 12	26	100	5011	-62.89	-5.02	0.58
861	SLU 13	26	111	4970	-64.17	-4.97	0.61
861	SLU 14	27	82	5087	-60.93	-5.14	0.51
861	SLU 15	27	100	5075	-63.15	-5.13	0.57
861	SLU 16	27	81	5055	-60.73	-5.09	0.5
861	SLU 17	27	99	5042	-62.95	-5.08	0.56
861	SLU 18	25	84	5178	-63.63	-5.09	0.52
861	SLU 19	26	102	5166	-65.86	-5.08	0.58
861	SLU 20	27	84	5242	-63.89	-5.2	0.52
861	SLU 21	27	102	5230	-66.12	-5.19	0.58
861	SLU 22	26	83	5058	-58.63	-5.06	0.53
861	SLU 23	27	113	5038	-62.34	-5.04	0.63
861	SLU 24	27	84	5155	-59.09	-5.22	0.53
861	SLU 25	28	102	5143	-61.32	-5.2	0.59
861	SLU 26	28	113	5102	-62.6	-5.15	0.63
861	SLU 27	29	84	5219	-59.35	-5.32	0.52
861	SLU 28	29	102	5207	-61.57	-5.31	0.59
861	SLU 29	28	83	5186	-59.15	-5.27	0.52
861	SLU 30	29	101	5174	-61.37	-5.26	0.58
861	SLU 31	29	118	5624	-70.32	-5.54	0.65
861	SLU 32	30	89	5741	-67.08	-5.71	0.55
861	SLU 33	31	107	5729	-69.3	-5.7	0.61
861	SLU 34	31	118	5688	-70.58	-5.65	0.64
861	SLU 35	31	89	5805	-67.34	-5.82	0.54
861	SLU 36	32	107	5793	-69.56	-5.81	0.6
861	SLU 37	31	89	5773	-67.14	-5.77	0.54
861	SLU 38	31	107	5761	-69.36	-5.76	0.6
861	SLU 39	30	91	5896	-70.04	-5.77	0.55
861	SLU 40	30	109	5884	-72.26	-5.76	0.62
861	SLU 41	31	91	5960	-70.3	-5.88	0.55
861	SLU 42	31	109	5948	-72.52	-5.87	0.61
861	SLU 43	26	96	5395	-65.7	-5.47	0.64
861	SLU 44	27	126	5375	-69.4	-5.45	0.74
861	SLU 45	28	97	5492	-66.16	-5.62	0.64
861	SLU 46	28	115	5480	-68.38	-5.61	0.7
861	SLU 47	28	126	5439	-69.66	-5.55	0.73
861	SLU 48	29	97	5556	-66.42	-5.72	0.63
861	SLU 49	29	115	5544	-68.64	-5.71	0.69
861	SLU 50	29	96	5524	-66.22	-5.67	0.63
861	SLU 51	29	114	5512	-68.44	-5.66	0.69
861	SLU 52	30	131	5962	-77.39	-5.95	0.76
861	SLU 53	31	102	6079	-74.14	-6.12	0.65
861	SLU 54	31	120	6067	-76.37	-6.11	0.71
861	SLU 55	31	131	6026	-77.65	-6.05	0.75
861	SLU 56	32	102	6143	-74.4	-6.22	0.65
861	SLU 57	32	120	6131	-76.62	-6.21	0.71
861	SLU 58	31	102	6110	-74.2	-6.17	0.64
861	SLU 59	32	120	6098	-76.42	-6.16	0.7
861	SLU 60	30	104	6233	-77.11	-6.18	0.66
861	SLU 61	31	122	6221	-79.33	-6.17	0.72
861	SLU 62	31	104	6298	-77.37	-6.28	0.66
861	SLU 63	32	122	6285	-79.59	-6.27	0.72
861	SLU 64	31	103	6114	-72.11	-6.14	0.67
861	SLU 65	32	133	6093	-75.81	-6.13	0.77
861	SLU 66	32	104	6210	-72.57	-6.3	0.67
861	SLU 67	33	122	6198	-74.79	-6.29	0.73
861	SLU 68	33	133	6158	-76.07	-6.23	0.76
861	SLU 69	33	104	6274	-72.82	-6.4	0.66
861	SLU 70	34	122	6262	-75.05	-6.39	0.72
861	SLU 71	33	103	6242	-72.62	-6.35	0.66
861	SLU 72	34	121	6230	-74.85	-6.34	0.72
861	SLU 73	34	139	6680	-83.79	-6.62	0.79
861	SLU 74	35	109	6797	-80.55	-6.8	0.69
861	SLU 75	36	127	6785	-82.77	-6.79	0.75
861	SLU 76	36	139	6744	-84.05	-6.73	0.78
861	SLU 77	36	110	6861	-80.81	-6.9	0.68
861	SLU 78	37	128	6849	-83.03	-6.89	0.74
861	SLU 79	36	109	6828	-80.61	-6.85	0.67
861	SLU 80	36	127	6816	-82.83	-6.84	0.74
861	SLU 81	35	111	6952	-83.51	-6.86	0.69
861	SLU 82	35	129	6939	-85.73	-6.84	0.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
861	SLU 83	36	111	7016	-83.77	-6.96	0.69
861	SLU 84	36	129	7004	-85.99	-6.95	0.75
861	SLE RA 1	23	78	4545	-54.06	-4.58	0.51
861	SLE RA 2	23	98	4531	-56.53	-4.56	0.58
861	SLE RA 3	24	78	4609	-54.36	-4.68	0.51
861	SLE RA 4	24	90	4601	-55.85	-4.67	0.55
861	SLE RA 5	24	98	4574	-56.7	-4.63	0.57
861	SLE RA 6	24	78	4652	-54.54	-4.75	0.5
861	SLE RA 7	25	90	4644	-56.02	-4.74	0.54
861	SLE RA 8	24	78	4630	-54.4	-4.72	0.5
861	SLE RA 9	25	90	4622	-55.89	-4.71	0.54
861	SLE RA 10	25	101	4923	-61.85	-4.9	0.59
861	SLE RA 11	26	82	5000	-59.69	-5.01	0.52
861	SLE RA 12	26	94	4992	-61.17	-5	0.56
861	SLE RA 13	26	101	4965	-62.02	-4.97	0.58
861	SLE RA 14	26	82	5043	-59.86	-5.08	0.51
861	SLE RA 15	27	94	5035	-61.34	-5.07	0.56
861	SLE RA 16	26	82	5021	-59.73	-5.05	0.51
861	SLE RA 17	26	94	5013	-61.21	-5.04	0.55
861	SLE RA 18	25	83	5104	-61.66	-5.05	0.52
861	SLE RA 19	26	95	5096	-63.14	-5.04	0.56
861	SLE RA 20	26	83	5146	-61.84	-5.12	0.52
861	SLE RA 21	26	95	5138	-63.32	-5.11	0.56
861	SLE FR 1	23	78	4545	-54.06	-4.58	0.51
861	SLE FR 2	23	82	4542	-54.55	-4.57	0.52
861	SLE FR 3	23	78	4562	-54.13	-4.6	0.51
861	SLE FR 4	24	83	4710	-56.83	-4.72	0.53
861	SLE FR 5	24	79	4730	-56.41	-4.75	0.51
861	SLE FR 6	24	80	4824	-57.86	-4.81	0.52
861	SLE QP 1	23	78	4545	-54.06	-4.58	0.51
861	SLE QP 2	24	79	4713	-56.34	-4.72	0.51
861	SLD 1	607	237	4414	-90.92	-1.29	-0.5
861	SLD 2	565	248	4424	-91.86	-1.39	0.61
861	SLD 3	588	-127	4725	-36.84	-1.68	-1.75
861	SLD 4	547	-116	4735	-37.79	-1.78	-0.64
861	SLD 5	234	677	4150	-148.56	-3.09	1.92
861	SLD 6	207	684	4156	-149.17	-3.15	2.64
861	SLD 7	172	-537	5186	31.69	-4.37	-2.26
861	SLD 8	145	-530	5193	31.08	-4.44	-1.55
861	SLD 9	-98	689	4232	-143.76	-5	2.57
861	SLD 10	-125	695	4239	-144.37	-5.07	3.29
861	SLD 11	-160	-525	5269	36.5	-6.28	-1.61
861	SLD 12	-187	-519	5275	35.89	-6.35	-0.9
861	SLD 13	-500	275	4690	-74.89	-7.66	1.67
861	SLD 14	-541	286	4700	-75.84	-7.76	2.78
861	SLD 15	-518	-89	5001	-20.81	-8.05	0.41
861	SLD 16	-560	-79	5011	-21.76	-8.15	1.52
861	SLV 1	938	351	4223	-114.26	0.66	-0.98
861	SLV 2	872	368	4239	-115.76	0.5	0.77
861	SLV 3	907	-270	4754	-21.97	0	-3.12
861	SLV 4	841	-253	4769	-23.47	-0.16	-1.37
861	SLV 5	358	1100	3758	-213.41	-2.08	2.99
861	SLV 6	313	1111	3768	-214.42	-2.19	4.16
861	SLV 7	253	-971	5527	94.22	-4.27	-4.15
861	SLV 8	209	-959	5538	93.22	-4.38	-2.97
861	SLV 9	-162	1118	3887	-205.9	-5.06	4
861	SLV 10	-206	1129	3898	-206.9	-5.17	5.18
861	SLV 11	-266	-952	5657	101.74	-7.25	-3.14
861	SLV 12	-311	-941	5667	100.73	-7.36	-1.96
861	SLV 13	-794	412	4656	-89.21	-9.28	2.4
861	SLV 14	-860	428	4671	-90.71	-9.44	4.15
861	SLV 15	-825	-209	5186	3.08	-9.94	0.26
861	SLV 16	-891	-193	5202	1.58	-10.1	2.01
861	SLV FO 1	1030	379	4174	-120.05	1.2	-1.13
861	SLV FO 2	957	397	4191	-121.7	1.02	0.79
861	SLV FO 3	995	-305	4758	-18.53	0.47	-3.49
861	SLV FO 4	923	-286	4775	-20.18	0.3	-1.56
861	SLV FO 5	391	1202	3662	-229.12	-1.82	3.23
861	SLV FO 6	342	1214	3674	-230.22	-1.93	4.53
861	SLV FO 7	276	-1075	5609	109.28	-4.23	-4.62
861	SLV FO 8	228	-1063	5620	108.17	-4.34	-3.32
861	SLV FO 9	-181	1222	3805	-220.85	-5.1	4.35
861	SLV FO 10	-229	1234	3816	-221.96	-5.21	5.64
861	SLV FO 11	-295	-1056	5751	117.55	-7.51	-3.5
861	SLV FO 12	-344	-1043	5763	116.44	-7.62	-2.21
861	SLV FO 13	-876	445	4650	-92.5	-9.74	2.59
861	SLV FO 14	-948	463	4667	-94.14	-9.91	4.51
861	SLV FO 15	-910	-238	5234	9.02	-10.46	0.23
861	SLV FO 16	-983	-220	5251	7.37	-10.63	2.16
861	CRTFP Ux+	0	0	0	0	0	0
861	CRTFP Ux-	0	0	0	0	0	0
861	CRTFP Uy+	0	0	0	0	0	0
861	CRTFP Uy-	0	0	0	0	0	0
862	SLU 1	21	78	4476	-49.8	-4.64	0.47
862	SLU 2	22	109	4456	-53.6	-4.62	0.58
862	SLU 3	23	79	4578	-50.18	-4.8	0.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
862	SLU 4	23	97	4566	-52.46	-4.79	0.54
862	SLU 5	23	109	4523	-53.8	-4.73	0.58
862	SLU 6	24	79	4645	-50.39	-4.91	0.46
862	SLU 7	24	98	4633	-52.67	-4.9	0.53
862	SLU 8	24	78	4611	-50.21	-4.86	0.45
862	SLU 9	24	97	4599	-52.49	-4.85	0.52
862	SLU 10	25	115	5058	-61.2	-5.15	0.61
862	SLU 11	25	85	5180	-57.79	-5.33	0.49
862	SLU 12	26	103	5168	-60.07	-5.32	0.56
862	SLU 13	26	115	5125	-61.41	-5.26	0.6
862	SLU 14	27	85	5248	-57.99	-5.44	0.48
862	SLU 15	27	103	5235	-60.27	-5.43	0.55
862	SLU 16	26	84	5213	-57.82	-5.38	0.47
862	SLU 17	27	102	5201	-60.1	-5.37	0.55
862	SLU 18	25	86	5337	-60.66	-5.39	0.5
862	SLU 19	26	105	5324	-62.94	-5.38	0.57
862	SLU 20	26	86	5404	-60.87	-5.5	0.49
862	SLU 21	27	105	5392	-63.15	-5.49	0.56
862	SLU 22	26	86	5216	-55.68	-5.35	0.52
862	SLU 23	27	116	5195	-59.48	-5.34	0.64
862	SLU 24	27	87	5317	-56.06	-5.52	0.52
862	SLU 25	28	105	5305	-58.34	-5.51	0.59
862	SLU 26	28	116	5262	-59.69	-5.45	0.63
862	SLU 27	28	87	5385	-56.27	-5.63	0.51
862	SLU 28	29	105	5372	-58.55	-5.62	0.58
862	SLU 29	28	86	5350	-56.09	-5.57	0.5
862	SLU 30	29	104	5338	-58.37	-5.56	0.58
862	SLU 31	29	122	5797	-67.09	-5.86	0.66
862	SLU 32	30	92	5919	-63.67	-6.04	0.54
862	SLU 33	30	111	5907	-65.95	-6.03	0.61
862	SLU 34	30	122	5865	-67.29	-5.97	0.66
862	SLU 35	31	92	5987	-63.88	-6.15	0.54
862	SLU 36	32	111	5974	-66.16	-6.14	0.61
862	SLU 37	31	92	5953	-63.7	-6.1	0.53
862	SLU 38	31	110	5940	-65.98	-6.09	0.6
862	SLU 39	30	94	6076	-66.55	-6.11	0.56
862	SLU 40	30	112	6064	-68.83	-6.1	0.63
862	SLU 41	31	94	6143	-66.75	-6.21	0.55
862	SLU 42	31	112	6131	-69.03	-6.2	0.62
862	SLU 43	26	99	5566	-62.72	-5.78	0.59
862	SLU 44	27	130	5545	-66.52	-5.77	0.71
862	SLU 45	28	100	5668	-63.1	-5.95	0.58
862	SLU 46	28	118	5655	-65.38	-5.94	0.66
862	SLU 47	28	130	5613	-66.73	-5.88	0.7
862	SLU 48	29	100	5735	-63.31	-6.06	0.58
862	SLU 49	29	119	5722	-65.59	-6.05	0.65
862	SLU 50	28	99	5701	-63.13	-6	0.57
862	SLU 51	29	118	5688	-65.41	-5.99	0.64
862	SLU 52	30	135	6147	-74.13	-6.29	0.73
862	SLU 53	30	106	6270	-70.71	-6.47	0.61
862	SLU 54	31	124	6257	-72.99	-6.46	0.68
862	SLU 55	31	136	6215	-74.33	-6.4	0.72
862	SLU 56	31	106	6337	-70.92	-6.58	0.6
862	SLU 57	32	124	6325	-73.2	-6.57	0.67
862	SLU 58	31	105	6303	-70.74	-6.53	0.6
862	SLU 59	32	123	6290	-73.02	-6.52	0.67
862	SLU 60	30	107	6426	-73.59	-6.54	0.62
862	SLU 61	31	126	6414	-75.87	-6.53	0.69
862	SLU 62	31	107	6493	-73.79	-6.64	0.61
862	SLU 63	32	126	6481	-76.07	-6.63	0.69
862	SLU 64	31	107	6305	-68.6	-6.5	0.64
862	SLU 65	31	137	6285	-72.4	-6.48	0.76
862	SLU 66	32	108	6407	-68.98	-6.66	0.64
862	SLU 67	33	126	6394	-71.26	-6.65	0.71
862	SLU 68	33	137	6352	-72.61	-6.59	0.75
862	SLU 69	33	108	6474	-69.19	-6.77	0.63
862	SLU 70	34	126	6462	-71.47	-6.76	0.7
862	SLU 71	33	107	6440	-69.01	-6.72	0.63
862	SLU 72	33	125	6428	-71.29	-6.71	0.7
862	SLU 73	34	143	6887	-80.01	-7.01	0.79
862	SLU 74	35	113	7009	-76.59	-7.19	0.66
862	SLU 75	35	132	6997	-78.87	-7.18	0.74
862	SLU 76	35	143	6954	-80.22	-7.12	0.78
862	SLU 77	36	113	7076	-76.8	-7.3	0.66
862	SLU 78	36	132	7064	-79.08	-7.29	0.73
862	SLU 79	36	112	7042	-76.62	-7.24	0.65
862	SLU 80	36	131	7030	-78.9	-7.23	0.72
862	SLU 81	35	115	7165	-79.47	-7.25	0.68
862	SLU 82	35	133	7153	-81.75	-7.24	0.75
862	SLU 83	36	115	7233	-79.68	-7.36	0.67
862	SLU 84	36	133	7220	-81.96	-7.35	0.74
862	SLE RA 1	23	80	4688	-51.48	-4.84	0.48
862	SLE RA 2	23	101	4674	-54.01	-4.83	0.56
862	SLE RA 3	24	81	4755	-51.73	-4.95	0.48
862	SLE RA 4	24	93	4747	-53.25	-4.94	0.53
862	SLE RA 5	24	101	4719	-54.15	-4.9	0.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
862	SLE RA 6	24	81	4800	-51.87	-5.02	0.47
862	SLE RA 7	25	93	4792	-53.39	-5.02	0.52
862	SLE RA 8	24	81	4777	-51.75	-4.99	0.47
862	SLE RA 9	24	93	4769	-53.27	-4.98	0.52
862	SLE RA 10	25	105	5075	-59.08	-5.18	0.58
862	SLE RA 11	25	85	5157	-56.8	-5.3	0.5
862	SLE RA 12	26	97	5149	-58.32	-5.29	0.54
862	SLE RA 13	26	105	5120	-59.22	-5.26	0.57
862	SLE RA 14	26	85	5202	-56.94	-5.37	0.49
862	SLE RA 15	26	97	5193	-58.46	-5.37	0.54
862	SLE RA 16	26	84	5179	-56.83	-5.34	0.49
862	SLE RA 17	26	97	5171	-58.35	-5.33	0.53
862	SLE RA 18	25	86	5261	-58.72	-5.34	0.5
862	SLE RA 19	26	98	5253	-60.24	-5.34	0.55
862	SLE RA 20	26	86	5306	-58.86	-5.42	0.5
862	SLE RA 21	26	98	5298	-60.38	-5.41	0.55
862	SLE FR 1	23	80	4688	-51.48	-4.84	0.48
862	SLE FR 2	23	85	4685	-51.98	-4.84	0.5
862	SLE FR 3	23	80	4706	-51.53	-4.87	0.48
862	SLE FR 4	23	86	4857	-54.16	-4.99	0.5
862	SLE FR 5	24	82	4878	-53.7	-5.02	0.49
862	SLE FR 6	24	83	4974	-55.1	-5.09	0.49
862	SLE QP 1	23	80	4688	-51.48	-4.84	0.48
862	SLE QP 2	23	82	4860	-53.65	-4.99	0.49
862	SLD 1	607	236	4462	-88.55	-1.7	-0.73
862	SLD 2	565	253	4474	-89.54	-1.78	0.6
862	SLD 3	588	-136	4784	-33.07	-2.06	-2.2
862	SLD 4	546	-119	4797	-34.06	-2.14	-0.86
862	SLD 5	234	689	4250	-148.09	-3.44	2.11
862	SLD 6	207	700	4258	-148.73	-3.5	2.97
862	SLD 7	172	-550	5324	36.83	-4.64	-2.77
862	SLD 8	145	-539	5332	36.2	-4.7	-1.91
862	SLD 9	-98	703	4388	-143.5	-5.29	2.89
862	SLD 10	-125	714	4396	-144.13	-5.34	3.74
862	SLD 11	-160	-536	5462	41.43	-6.49	-2
862	SLD 12	-187	-525	5470	40.79	-6.54	-1.14
862	SLD 13	-500	283	4923	-73.24	-7.84	1.84
862	SLD 14	-542	300	4935	-74.22	-7.93	3.17
862	SLD 15	-518	-89	5245	-17.76	-8.2	0.38
862	SLD 16	-560	-72	5258	-18.75	-8.29	1.71
862	SLV 1	939	348	4215	-112.18	0.18	-1.32
862	SLV 2	872	375	4234	-113.73	0.04	0.78
862	SLV 3	907	-286	4765	-17.5	-0.44	-3.82
862	SLV 4	841	-259	4784	-19.05	-0.57	-1.72
862	SLV 5	358	1119	3828	-214.52	-2.48	3.34
862	SLV 6	314	1137	3842	-215.57	-2.58	4.75
862	SLV 7	253	-995	5662	101.09	-4.53	-4.98
862	SLV 8	208	-977	5675	100.05	-4.62	-3.57
862	SLV 9	-161	1141	4045	-207.34	-5.36	4.55
862	SLV 10	-206	1159	4058	-208.39	-5.45	5.96
862	SLV 11	-267	-973	5878	108.27	-7.41	-3.78
862	SLV 12	-312	-955	5891	107.22	-7.5	-2.36
862	SLV 13	-794	423	4935	-88.25	-9.42	2.7
862	SLV 14	-860	450	4955	-89.8	-9.55	4.8
862	SLV 15	-826	-211	5485	6.43	-10.03	0.2
862	SLV 16	-892	-184	5505	4.88	-10.16	2.3
862	SLV FO 1	1030	375	4150	-118.04	0.7	-1.5
862	SLV FO 2	957	404	4172	-119.74	0.55	0.81
862	SLV FO 3	995	-323	4755	-13.88	0.02	-4.25
862	SLV FO 4	922	-293	4777	-15.59	-0.13	-1.94
862	SLV FO 5	392	1222	3725	-230.61	-2.23	3.63
862	SLV FO 6	343	1242	3740	-231.76	-2.33	5.18
862	SLV FO 7	276	-1103	5742	116.56	-4.49	-5.53
862	SLV FO 8	227	-1083	5757	115.41	-4.59	-3.98
862	SLV FO 9	-180	1247	3963	-222.71	-5.4	4.95
862	SLV FO 10	-229	1267	3978	-223.86	-5.5	6.51
862	SLV FO 11	-296	-1078	5980	124.46	-7.65	-4.2
862	SLV FO 12	-345	-1058	5994	123.31	-7.75	-2.65
862	SLV FO 13	-876	457	4943	-91.71	-9.86	2.92
862	SLV FO 14	-949	487	4964	-93.42	-10.01	5.23
862	SLV FO 15	-911	-240	5548	12.44	-10.53	0.17
862	SLV FO 16	-983	-211	5569	10.74	-10.68	2.48
862	CRTFP Ux+	0	0	0	0	0	0
862	CRTFP Ux-	0	0	0	0	0	0
862	CRTFP Uy+	0	0	0	0	0	0
862	CRTFP Uy-	0	0	0	0	0	0
863	SLU 1	20	76	4326	-44.77	50.12	-0.57
863	SLU 2	20	105	4306	-48.44	49.88	-0.83
863	SLU 3	21	76	4425	-45.06	51.23	-0.59
863	SLU 4	21	94	4413	-47.26	51.09	-0.74
863	SLU 5	21	105	4372	-48.59	50.62	-0.84
863	SLU 6	22	77	4491	-45.21	51.97	-0.6
863	SLU 7	22	94	4480	-47.41	51.82	-0.75
863	SLU 8	22	76	4458	-45.07	51.59	-0.59
863	SLU 9	22	93	4446	-47.27	51.45	-0.75
863	SLU 10	23	110	4885	-55.28	56.67	-0.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
863	SLU 11	23	82	5005	-51.9	58.02	-0.62
863	SLU 12	24	100	4993	-54.1	57.87	-0.78
863	SLU 13	24	110	4951	-55.43	57.4	-0.87
863	SLU 14	24	82	5071	-52.05	58.75	-0.63
863	SLU 15	25	100	5059	-54.25	58.61	-0.79
863	SLU 16	24	81	5037	-51.91	58.38	-0.63
863	SLU 17	25	99	5025	-54.11	58.24	-0.78
863	SLU 18	23	83	5153	-54.54	59.81	-0.63
863	SLU 19	24	101	5141	-56.74	59.67	-0.78
863	SLU 20	24	84	5219	-54.69	60.55	-0.64
863	SLU 21	25	101	5207	-56.89	60.41	-0.79
863	SLU 22	24	83	5039	-49.85	58.42	-0.59
863	SLU 23	25	112	5019	-53.52	58.18	-0.85
863	SLU 24	25	84	5138	-50.14	59.53	-0.61
863	SLU 25	26	101	5126	-52.34	59.39	-0.76
863	SLU 26	26	112	5085	-53.67	58.92	-0.86
863	SLU 27	26	84	5204	-50.29	60.27	-0.61
863	SLU 28	27	101	5193	-52.49	60.12	-0.77
863	SLU 29	26	83	5171	-50.14	59.89	-0.61
863	SLU 30	26	101	5159	-52.35	59.75	-0.76
863	SLU 31	27	118	5598	-60.35	64.97	-0.88
863	SLU 32	28	89	5718	-56.97	66.32	-0.64
863	SLU 33	28	107	5706	-59.18	66.17	-0.79
863	SLU 34	28	118	5664	-60.5	65.7	-0.89
863	SLU 35	29	89	5784	-57.12	67.05	-0.65
863	SLU 36	29	107	5772	-59.33	66.91	-0.8
863	SLU 37	28	88	5750	-56.98	66.68	-0.65
863	SLU 38	29	106	5738	-59.18	66.54	-0.8
863	SLU 39	27	91	5866	-59.61	68.11	-0.65
863	SLU 40	28	108	5854	-61.82	67.97	-0.8
863	SLU 41	28	91	5932	-59.76	68.85	-0.65
863	SLU 42	29	108	5920	-61.96	68.71	-0.81
863	SLU 43	24	96	5379	-56.46	62.3	-0.74
863	SLU 44	25	125	5359	-60.13	62.07	-0.99
863	SLU 45	25	97	5479	-56.75	63.42	-0.75
863	SLU 46	26	114	5467	-58.95	63.28	-0.9
863	SLU 47	26	125	5425	-60.28	62.81	-1
863	SLU 48	26	97	5545	-56.9	64.16	-0.76
863	SLU 49	27	114	5533	-59.1	64.01	-0.91
863	SLU 50	26	96	5511	-56.76	63.78	-0.76
863	SLU 51	27	114	5499	-58.96	63.64	-0.91
863	SLU 52	27	131	5938	-66.97	68.85	-1.03
863	SLU 53	28	102	6058	-63.59	70.21	-0.79
863	SLU 54	28	120	6046	-65.79	70.06	-0.94
863	SLU 55	28	131	6004	-67.12	69.59	-1.04
863	SLU 56	29	102	6124	-63.74	70.94	-0.8
863	SLU 57	29	120	6112	-65.94	70.8	-0.95
863	SLU 58	29	101	6090	-63.6	70.57	-0.8
863	SLU 59	29	119	6078	-65.8	70.42	-0.95
863	SLU 60	28	104	6206	-66.23	72	-0.79
863	SLU 61	28	121	6195	-68.43	71.86	-0.94
863	SLU 62	29	104	6272	-66.38	72.74	-0.8
863	SLU 63	29	121	6261	-68.58	72.6	-0.95
863	SLU 64	28	103	6092	-61.54	70.6	-0.76
863	SLU 65	29	132	6072	-65.21	70.37	-1.01
863	SLU 66	30	104	6192	-61.83	71.72	-0.77
863	SLU 67	30	122	6180	-64.03	71.58	-0.92
863	SLU 68	30	133	6138	-65.36	71.11	-1.02
863	SLU 69	31	104	6258	-61.98	72.46	-0.78
863	SLU 70	31	122	6246	-64.18	72.31	-0.93
863	SLU 71	30	103	6224	-61.84	72.08	-0.78
863	SLU 72	31	121	6212	-64.04	71.94	-0.93
863	SLU 73	31	138	6651	-72.04	77.15	-1.05
863	SLU 74	32	109	6771	-68.66	78.51	-0.81
863	SLU 75	32	127	6759	-70.87	78.36	-0.96
863	SLU 76	33	138	6717	-72.19	77.89	-1.06
863	SLU 77	33	109	6837	-68.81	79.24	-0.82
863	SLU 78	34	127	6825	-71.02	79.1	-0.97
863	SLU 79	33	109	6803	-68.67	78.87	-0.81
863	SLU 80	33	126	6791	-70.87	78.72	-0.97
863	SLU 81	32	111	6919	-71.3	80.3	-0.81
863	SLU 82	32	129	6908	-73.51	80.16	-0.96
863	SLU 83	33	111	6985	-71.45	81.04	-0.82
863	SLU 84	33	129	6974	-73.66	80.9	-0.97
863	SLE RA 1	21	78	4529	-46.22	52.49	-0.58
863	SLE RA 2	21	97	4516	-48.67	52.33	-0.75
863	SLE RA 3	22	78	4596	-46.41	53.23	-0.59
863	SLE RA 4	22	90	4588	-47.88	53.13	-0.69
863	SLE RA 5	22	97	4560	-48.77	52.82	-0.75
863	SLE RA 6	22	78	4640	-46.51	53.72	-0.59
863	SLE RA 7	23	90	4632	-47.98	53.63	-0.7
863	SLE RA 8	22	78	4618	-46.42	53.47	-0.59
863	SLE RA 9	23	90	4610	-47.89	53.38	-0.69
863	SLE RA 10	23	101	4902	-53.23	56.85	-0.77
863	SLE RA 11	23	82	4982	-50.97	57.75	-0.61
863	SLE RA 12	24	94	4974	-52.44	57.66	-0.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
863	SLE RA 13	24	101	4946	-53.33	57.35	-0.78
863	SLE RA 14	24	82	5026	-51.07	58.25	-0.62
863	SLE RA 15	24	94	5018	-52.54	58.15	-0.72
863	SLE RA 16	24	81	5004	-50.98	58	-0.62
863	SLE RA 17	24	93	4996	-52.45	57.9	-0.72
863	SLE RA 18	23	83	5081	-52.73	58.95	-0.61
863	SLE RA 19	23	95	5073	-54.2	58.86	-0.72
863	SLE RA 20	24	83	5125	-52.83	59.44	-0.62
863	SLE RA 21	24	95	5117	-54.3	59.35	-0.72
863	SLE FR 1	21	78	4529	-46.22	52.49	-0.58
863	SLE FR 2	21	82	4527	-46.71	52.46	-0.61
863	SLE FR 3	21	78	4547	-46.26	52.68	-0.58
863	SLE FR 4	22	83	4692	-48.66	54.39	-0.62
863	SLE FR 5	22	79	4713	-48.21	54.62	-0.59
863	SLE FR 6	22	80	4805	-49.48	55.72	-0.6
863	SLE QP 1	21	78	4529	-46.22	52.49	-0.58
863	SLE QP 2	21	79	4695	-48.17	54.43	-0.59
863	SLD 1	570	218	4235	-81.38	51.2	-3.81
863	SLD 2	530	241	4249	-82.34	51.32	-2.64
863	SLD 3	552	-139	4546	-27.81	54.84	-0.72
863	SLD 4	512	-116	4560	-28.76	54.96	0.46
863	SLD 5	220	658	4083	-139.22	47.9	-6.45
863	SLD 6	194	673	4092	-139.84	47.98	-5.7
863	SLD 7	160	-531	5119	39.35	60.06	3.87
863	SLD 8	135	-516	5128	38.74	60.14	4.62
863	SLD 9	-92	675	4261	-135.08	48.71	-5.8
863	SLD 10	-117	690	4270	-135.7	48.79	-5.05
863	SLD 11	-152	-514	5298	43.49	60.87	4.52
863	SLD 12	-177	-499	5307	42.88	60.95	5.27
863	SLD 13	-469	274	4830	-67.58	53.89	-1.63
863	SLD 14	-509	297	4844	-68.54	54.01	-0.46
863	SLD 15	-487	-82	5141	-14.01	57.54	1.46
863	SLD 16	-527	-59	5155	-14.97	57.66	2.63
863	SLV 1	881	321	3954	-103.92	49.1	-5.86
863	SLV 2	819	357	3976	-105.43	49.29	-4.01
863	SLV 3	851	-287	4485	-12.49	55.33	-0.58
863	SLV 4	788	-251	4507	-14	55.52	1.27
863	SLV 5	337	1067	3664	-203.29	43.35	-10.52
863	SLV 6	295	1092	3678	-204.3	43.48	-9.28
863	SLV 7	236	-960	5433	101.48	64.11	7.08
863	SLV 8	194	-935	5448	100.47	64.23	8.32
863	SLV 9	-151	1094	3942	-196.82	44.62	-9.5
863	SLV 10	-193	1119	3957	-197.83	44.75	-8.26
863	SLV 11	-252	-933	5712	107.96	65.37	8.1
863	SLV 12	-294	-909	5726	106.94	65.5	9.34
863	SLV 13	-746	410	4883	-82.35	53.33	-2.44
863	SLV 14	-808	446	4905	-83.86	53.52	-0.6
863	SLV 15	-776	-198	5414	9.08	59.56	2.83
863	SLV 16	-838	-162	5436	7.57	59.75	4.68
863	SLV FO 1	967	345	3880	-109.49	48.57	-6.39
863	SLV FO 2	898	385	3904	-111.15	48.78	-4.36
863	SLV FO 3	934	-324	4464	-8.92	55.42	-0.58
863	SLV FO 4	865	-284	4488	-10.58	55.63	1.45
863	SLV FO 5	369	1166	3560	-218.8	42.24	-11.52
863	SLV FO 6	322	1193	3577	-219.92	42.38	-10.15
863	SLV FO 7	257	-1064	5507	116.45	65.07	7.84
863	SLV FO 8	211	-1037	5523	115.33	65.21	9.21
863	SLV FO 9	-168	1196	3867	-211.68	43.64	-10.39
863	SLV FO 10	-214	1222	3883	-212.8	43.78	-9.02
863	SLV FO 11	-279	-1034	5813	123.57	66.47	8.97
863	SLV FO 12	-326	-1008	5829	122.45	66.61	10.34
863	SLV FO 13	-822	443	4902	-85.77	53.22	-2.63
863	SLV FO 14	-891	483	4926	-87.43	53.43	-0.6
863	SLV FO 15	-856	-226	5486	14.81	60.07	3.18
863	SLV FO 16	-924	-186	5510	13.15	60.28	5.21
863	CRTFP Ux+	0	0	0	0	0	0
863	CRTFP Ux-	0	0	0	0	0	0
863	CRTFP Uy+	0	0	0	0	0	0
863	CRTFP Uy-	0	0	0	0	0	0
865	SLU 1	33	137	7824	-77.38	256.76	-4.58
865	SLU 2	35	189	7789	-79.88	255.39	-6.43
865	SLU 3	35	138	8006	-78.63	262.26	-4.62
865	SLU 4	36	170	7985	-80.13	261.44	-5.74
865	SLU 5	36	189	7910	-80.68	259.03	-6.44
865	SLU 6	37	138	8127	-79.43	265.9	-4.63
865	SLU 7	38	170	8106	-80.93	265.07	-5.75
865	SLU 8	37	137	8066	-78.98	264.04	-4.59
865	SLU 9	38	168	8045	-80.48	263.21	-5.71
865	SLU 10	39	199	8832	-90.8	290.72	-6.72
865	SLU 11	40	148	9050	-89.55	297.59	-4.91
865	SLU 12	41	180	9029	-91.05	296.77	-6.03
865	SLU 13	41	199	8953	-91.6	294.36	-6.73
865	SLU 14	41	148	9171	-90.35	301.22	-4.92
865	SLU 15	42	179	9150	-91.85	300.4	-6.03
865	SLU 16	41	146	9109	-89.9	299.36	-4.88
865	SLU 17	42	178	9088	-91.4	298.54	-5.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
865	SLU 18	39	151	9315	-92.98	307.23	-4.99
865	SLU 19	40	182	9294	-94.48	306.41	-6.1
865	SLU 20	41	151	9436	-93.78	310.87	-5
865	SLU 21	42	182	9415	-95.28	310.04	-6.11
865	SLU 22	40	150	9111	-88.4	299.58	-4.89
865	SLU 23	42	203	9076	-90.89	298.21	-6.75
865	SLU 24	43	152	9293	-89.64	305.08	-4.94
865	SLU 25	43	183	9272	-91.14	304.26	-6.05
865	SLU 26	44	203	9197	-91.69	301.85	-6.75
865	SLU 27	44	151	9414	-90.44	308.72	-4.94
865	SLU 28	45	183	9393	-91.94	307.89	-6.06
865	SLU 29	44	150	9353	-89.99	306.85	-4.9
865	SLU 30	45	182	9332	-91.49	306.03	-6.02
865	SLU 31	46	213	10120	-101.81	333.54	-7.03
865	SLU 32	47	161	10337	-100.57	340.41	-5.23
865	SLU 33	48	193	10316	-102.07	339.58	-6.34
865	SLU 34	48	213	10241	-102.61	337.17	-7.04
865	SLU 35	49	161	10458	-101.36	344.04	-5.23
865	SLU 36	49	193	10437	-102.86	343.22	-6.35
865	SLU 37	48	160	10397	-100.91	342.18	-5.19
865	SLU 38	49	192	10376	-102.41	341.36	-6.31
865	SLU 39	46	164	10602	-104	350.05	-5.3
865	SLU 40	47	196	10581	-105.5	349.23	-6.42
865	SLU 41	48	164	10723	-104.8	353.68	-5.31
865	SLU 42	49	196	10702	-106.29	352.86	-6.42
865	SLU 43	41	173	9730	-96.82	319.11	-5.84
865	SLU 44	42	226	9695	-99.32	317.74	-7.7
865	SLU 45	43	174	9912	-98.07	324.61	-5.89
865	SLU 46	44	206	9891	-99.57	323.79	-7
865	SLU 47	44	226	9816	-100.12	321.38	-7.71
865	SLU 48	45	174	10033	-98.87	328.25	-5.9
865	SLU 49	46	206	10012	-100.37	327.42	-7.01
865	SLU 50	44	173	9972	-98.42	326.38	-5.86
865	SLU 51	45	204	9951	-99.92	325.56	-6.97
865	SLU 52	46	236	10738	-110.24	353.07	-7.99
865	SLU 53	47	184	10955	-108.99	359.94	-6.18
865	SLU 54	48	216	10935	-110.49	359.12	-7.29
865	SLU 55	48	236	10859	-111.04	356.7	-7.99
865	SLU 56	49	184	11076	-109.79	363.57	-6.19
865	SLU 57	50	216	11055	-111.29	362.75	-7.3
865	SLU 58	49	183	11015	-109.34	361.71	-6.15
865	SLU 59	49	214	10994	-110.84	360.89	-7.26
865	SLU 60	47	187	11221	-112.42	369.58	-6.25
865	SLU 61	47	219	11200	-113.92	368.76	-7.37
865	SLU 62	48	187	11341	-113.22	373.22	-6.26
865	SLU 63	49	219	11320	-114.72	372.39	-7.38
865	SLU 64	48	187	11017	-107.83	361.93	-6.16
865	SLU 65	49	239	10982	-110.33	360.56	-8.01
865	SLU 66	50	188	11199	-109.08	367.43	-6.2
865	SLU 67	51	219	11178	-110.58	366.61	-7.32
865	SLU 68	51	239	11103	-111.13	364.19	-8.02
865	SLU 69	52	188	11320	-109.88	371.06	-6.21
865	SLU 70	53	219	11299	-111.38	370.24	-7.32
865	SLU 71	51	186	11259	-109.43	369.2	-6.17
865	SLU 72	52	218	11238	-110.93	368.38	-7.28
865	SLU 73	53	249	12026	-121.25	395.89	-8.3
865	SLU 74	54	198	12243	-120.01	402.76	-6.49
865	SLU 75	55	229	12222	-121.5	401.93	-7.6
865	SLU 76	55	249	12147	-122.05	399.52	-8.31
865	SLU 77	56	198	12364	-120.8	406.39	-6.5
865	SLU 78	57	229	12343	-122.3	405.57	-7.61
865	SLU 79	56	196	12302	-120.35	404.53	-6.46
865	SLU 80	57	228	12282	-121.85	403.71	-7.57
865	SLU 81	54	201	12508	-123.44	412.4	-6.57
865	SLU 82	55	232	12487	-124.94	411.57	-7.68
865	SLU 83	56	201	12629	-124.23	416.03	-6.58
865	SLU 84	56	232	12608	-125.73	415.21	-7.69
865	SLE RA 1	35	141	8192	-80.53	269	-4.67
865	SLE RA 2	36	176	8168	-82.19	268.08	-5.9
865	SLE RA 3	37	141	8313	-81.36	272.66	-4.7
865	SLE RA 4	37	162	8299	-82.36	272.11	-5.44
865	SLE RA 5	37	176	8249	-82.73	270.51	-5.91
865	SLE RA 6	38	141	8394	-81.89	275.09	-4.7
865	SLE RA 7	39	162	8380	-82.89	274.54	-5.45
865	SLE RA 8	38	140	8353	-81.59	273.84	-4.68
865	SLE RA 9	38	162	8339	-82.59	273.3	-5.42
865	SLE RA 10	39	182	8864	-89.48	291.63	-6.1
865	SLE RA 11	39	148	9009	-88.64	296.21	-4.89
865	SLE RA 12	40	169	8995	-89.64	295.67	-5.63
865	SLE RA 13	40	182	8945	-90.01	294.06	-6.1
865	SLE RA 14	41	148	9090	-89.18	298.64	-4.9
865	SLE RA 15	41	169	9076	-90.17	298.09	-5.64
865	SLE RA 16	40	147	9049	-88.87	297.4	-4.87
865	SLE RA 17	41	168	9035	-89.87	296.85	-5.61
865	SLE RA 18	39	150	9186	-90.93	302.64	-4.94
865	SLE RA 19	40	171	9172	-91.93	302.09	-5.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
865	SLE RA 20	40	150	9266	-91.46	305.07	-4.95
865	SLE RA 21	41	171	9252	-92.46	304.52	-5.69
865	SLE FR 1	35	141	8192	-80.53	269	-4.67
865	SLE FR 2	35	148	8187	-80.86	268.81	-4.91
865	SLE FR 3	36	141	8224	-80.74	269.97	-4.67
865	SLE FR 4	37	150	8485	-83.98	278.91	-5
865	SLE FR 5	37	143	8522	-83.86	280.06	-4.75
865	SLE FR 6	37	145	8689	-85.73	285.82	-4.8
865	SLE QP 1	35	141	8192	-80.53	269	-4.67
865	SLE QP 2	36	143	8490	-83.65	279.09	-4.75
865	SLD 1	1005	374	7546	-103	279.45	-10.95
865	SLD 2	935	429	7573	-103.86	280.11	-10.35
865	SLD 3	972	-267	8101	-66.8	299.79	11.6
865	SLD 4	903	-212	8128	-67.66	300.44	12.19
865	SLD 5	388	1176	7361	-144.21	248.24	-40.91
865	SLD 6	343	1211	7378	-144.76	248.67	-40.52
865	SLD 7	280	-962	9210	-23.54	316.03	34.25
865	SLD 8	235	-927	9227	-24.1	316.45	34.63
865	SLD 9	-162	1213	7753	-143.2	241.73	-44.13
865	SLD 10	-207	1249	7770	-143.75	242.15	-43.75
865	SLD 11	-270	-925	9602	-22.54	309.52	31.03
865	SLD 12	-315	-889	9619	-23.09	309.94	31.41
865	SLD 13	-830	499	8852	-99.64	257.74	-21.69
865	SLD 14	-900	554	8879	-100.5	258.4	-21.09
865	SLD 15	-862	-142	9407	-63.44	278.07	0.86
865	SLD 16	-932	-88	9434	-64.3	278.73	1.45
865	SLV 1	1555	549	6976	-116.53	278.24	-16.06
865	SLV 2	1445	636	7018	-117.89	279.28	-15.12
865	SLV 3	1500	-545	7923	-54.75	312.94	22.39
865	SLV 4	1390	-458	7965	-56.11	313.97	23.33
865	SLV 5	595	1908	6591	-186.95	226.03	-66.63
865	SLV 6	521	1966	6619	-187.87	226.72	-66
865	SLV 7	413	-1738	9749	18.97	341.67	61.53
865	SLV 8	339	-1680	9777	18.05	342.37	62.17
865	SLV 9	-266	1967	7203	-185.35	215.81	-71.66
865	SLV 10	-340	2025	7231	-186.27	216.51	-71.03
865	SLV 11	-449	-1680	10360	20.57	331.46	56.5
865	SLV 12	-523	-1621	10389	19.65	332.16	57.13
865	SLV 13	-1317	745	9015	-111.19	244.21	-32.83
865	SLV 14	-1427	831	9057	-112.55	245.24	-31.89
865	SLV 15	-1372	-349	9962	-49.41	278.9	5.62
865	SLV 16	-1482	-263	10004	-50.77	279.94	6.56
865	SLV FO 1	1707	590	6825	-119.81	278.16	-17.19
865	SLV FO 2	1585	685	6871	-121.31	279.3	-16.15
865	SLV FO 3	1646	-613	7867	-51.86	316.32	25.1
865	SLV FO 4	1525	-518	7913	-53.36	317.46	26.14
865	SLV FO 5	651	2085	6401	-197.28	220.72	-72.82
865	SLV FO 6	570	2149	6432	-198.29	221.49	-72.12
865	SLV FO 7	451	-1926	9875	29.23	347.93	68.16
865	SLV FO 8	369	-1862	9906	28.22	348.69	68.86
865	SLV FO 9	-296	2149	7074	-195.52	209.49	-78.36
865	SLV FO 10	-378	2213	7105	-196.53	210.25	-77.66
865	SLV FO 11	-497	-1862	10547	30.99	336.69	62.63
865	SLV FO 12	-579	-1798	10578	29.98	337.46	63.32
865	SLV FO 13	-1452	805	9067	-113.94	240.72	-35.64
865	SLV FO 14	-1574	900	9113	-115.44	241.86	-34.6
865	SLV FO 15	-1513	-398	10109	-45.99	278.88	6.66
865	SLV FO 16	-1634	-303	10155	-47.49	280.02	7.69
865	CRTFP Ux+	0	0	0	0	0	0
865	CRTFP Ux-	0	0	0	0	0	0
865	CRTFP Uy+	0	0	0	0	0	0
865	CRTFP Uy-	0	0	0	0	0	0
867	SLU 1	-52	0	3222	-1.49	-331.62	0.03
867	SLU 2	-51	19	3190	-1.73	-330.2	4.67
867	SLU 3	-53	0	3306	-1.47	-338.78	-0.05
867	SLU 4	-52	11	3286	-1.62	-337.93	2.74
867	SLU 5	-51	19	3244	-1.71	-334.81	4.69
867	SLU 6	-53	0	3361	-1.45	-343.39	-0.03
867	SLU 7	-53	11	3341	-1.6	-342.54	2.75
867	SLU 8	-53	0	3332	-1.45	-340.84	0.06
867	SLU 9	-52	11	3312	-1.6	-339.98	2.85
867	SLU 10	-55	20	3586	-1.96	-368.87	5.01
867	SLU 11	-57	1	3703	-1.7	-377.46	0.29
867	SLU 12	-56	12	3683	-1.85	-376.6	3.07
867	SLU 13	-55	20	3641	-1.94	-373.48	5.02
867	SLU 14	-57	1	3757	-1.68	-382.06	0.3
867	SLU 15	-57	12	3738	-1.83	-381.21	3.09
867	SLU 16	-57	2	3729	-1.68	-379.51	0.39
867	SLU 17	-56	13	3709	-1.83	-378.66	3.18
867	SLU 18	-57	2	3789	-1.82	-386.87	0.51
867	SLU 19	-57	13	3770	-1.96	-386.01	3.29
867	SLU 20	-58	2	3844	-1.8	-391.47	0.52
867	SLU 21	-57	13	3824	-1.94	-390.62	3.31
867	SLU 22	-58	-2	3744	-1.63	-380.44	-0.38
867	SLU 23	-57	17	3711	-1.88	-379.02	4.26
867	SLU 24	-59	-2	3828	-1.62	-387.61	-0.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
867	SLU 25	-59	9	3808	-1.76	-386.76	2.33
867	SLU 26	-58	17	3766	-1.86	-383.63	4.28
867	SLU 27	-60	-2	3882	-1.6	-392.22	-0.44
867	SLU 28	-59	9	3863	-1.75	-391.36	2.35
867	SLU 29	-59	-1	3853	-1.6	-389.66	-0.35
867	SLU 30	-59	10	3834	-1.74	-388.81	2.44
867	SLU 31	-61	18	4108	-2.11	-417.69	4.6
867	SLU 32	-63	-1	4224	-1.85	-426.28	-0.12
867	SLU 33	-63	11	4205	-1.99	-425.43	2.67
867	SLU 34	-62	18	4163	-2.09	-422.3	4.62
867	SLU 35	-64	-1	4279	-1.83	-430.89	-0.1
867	SLU 36	-63	11	4259	-1.98	-430.04	2.68
867	SLU 37	-63	0	4250	-1.83	-428.33	-0.01
867	SLU 38	-63	11	4231	-1.97	-427.48	2.77
867	SLU 39	-64	0	4311	-1.96	-435.69	0.1
867	SLU 40	-63	11	4291	-2.11	-434.84	2.89
867	SLU 41	-64	0	4365	-1.95	-440.3	0.12
867	SLU 42	-64	11	4346	-2.09	-439.44	2.9
867	SLU 43	-65	1	4010	-1.88	-414.37	0.18
867	SLU 44	-64	19	3978	-2.12	-412.95	4.82
867	SLU 45	-66	0	4094	-1.87	-421.53	0.1
867	SLU 46	-66	12	4074	-2.01	-420.68	2.89
867	SLU 47	-65	19	4032	-2.11	-417.55	4.83
867	SLU 48	-67	0	4149	-1.85	-426.14	0.12
867	SLU 49	-66	12	4129	-1.99	-425.29	2.9
867	SLU 50	-66	1	4120	-1.85	-423.58	0.21
867	SLU 51	-66	12	4100	-1.99	-422.73	2.99
867	SLU 52	-68	21	4374	-2.35	-451.62	5.15
867	SLU 53	-70	2	4491	-2.1	-460.2	0.44
867	SLU 54	-69	13	4471	-2.24	-459.35	3.22
867	SLU 55	-69	21	4429	-2.34	-456.23	5.17
867	SLU 56	-71	2	4545	-2.08	-464.81	0.45
867	SLU 57	-70	13	4526	-2.22	-463.96	3.24
867	SLU 58	-70	2	4516	-2.08	-462.25	0.54
867	SLU 59	-70	13	4497	-2.22	-461.4	3.33
867	SLU 60	-71	3	4577	-2.21	-469.61	0.65
867	SLU 61	-70	14	4557	-2.36	-468.76	3.44
867	SLU 62	-71	3	4632	-2.19	-474.22	0.67
867	SLU 63	-71	14	4612	-2.34	-473.37	3.46
867	SLU 64	-71	-1	4532	-2.03	-463.19	-0.23
867	SLU 65	-71	18	4499	-2.27	-461.77	4.41
867	SLU 66	-73	-1	4616	-2.01	-470.35	-0.31
867	SLU 67	-72	10	4596	-2.16	-469.5	2.48
867	SLU 68	-71	18	4554	-2.25	-466.38	4.43
867	SLU 69	-73	-1	4670	-2	-474.96	-0.29
867	SLU 70	-73	10	4651	-2.14	-474.11	2.5
867	SLU 71	-73	-1	4641	-1.99	-472.41	-0.2
867	SLU 72	-72	10	4622	-2.14	-471.55	2.59
867	SLU 73	-74	19	4896	-2.5	-500.44	4.75
867	SLU 74	-76	0	5012	-2.24	-509.03	0.03
867	SLU 75	-76	11	4993	-2.39	-508.17	2.81
867	SLU 76	-75	19	4951	-2.48	-505.05	4.76
867	SLU 77	-77	0	5067	-2.23	-513.63	0.04
867	SLU 78	-77	11	5047	-2.37	-512.78	2.83
867	SLU 79	-77	0	5038	-2.22	-511.08	0.14
867	SLU 80	-76	12	5018	-2.37	-510.23	2.92
867	SLU 81	-77	1	5099	-2.36	-518.44	0.25
867	SLU 82	-76	12	5079	-2.5	-517.58	3.03
867	SLU 83	-78	1	5153	-2.34	-523.04	0.26
867	SLU 84	-77	12	5134	-2.49	-522.19	3.05
867	SLE RA 1	-54	0	3371	-1.53	-345.57	-0.09
867	SLE RA 2	-53	12	3350	-1.69	-344.62	3.01
867	SLE RA 3	-54	-1	3427	-1.52	-350.35	-0.14
867	SLE RA 4	-54	7	3414	-1.62	-349.78	1.72
867	SLE RA 5	-53	12	3386	-1.68	-347.69	3.02
867	SLE RA 6	-55	-1	3464	-1.51	-353.42	-0.13
867	SLE RA 7	-54	7	3451	-1.6	-352.85	1.73
867	SLE RA 8	-54	0	3444	-1.51	-351.71	-0.07
867	SLE RA 9	-54	7	3431	-1.6	-351.15	1.79
867	SLE RA 10	-56	13	3614	-1.84	-370.4	3.23
867	SLE RA 11	-57	0	3692	-1.67	-376.13	0.08
867	SLE RA 12	-57	8	3679	-1.77	-375.56	1.94
867	SLE RA 13	-56	13	3651	-1.83	-373.48	3.24
867	SLE RA 14	-57	0	3728	-1.66	-379.2	0.1
867	SLE RA 15	-57	8	3715	-1.76	-378.63	1.95
867	SLE RA 16	-57	1	3709	-1.66	-377.49	0.16
867	SLE RA 17	-57	8	3696	-1.76	-376.93	2.01
867	SLE RA 18	-57	1	3749	-1.75	-382.4	0.23
867	SLE RA 19	-57	8	3736	-1.85	-381.83	2.09
867	SLE RA 20	-58	1	3786	-1.74	-385.47	0.24
867	SLE RA 21	-57	8	3773	-1.83	-384.9	2.1
867	SLE FR 1	-54	0	3371	-1.53	-345.57	-0.09
867	SLE FR 2	-53	2	3367	-1.56	-345.38	0.53
867	SLE FR 3	-54	0	3386	-1.52	-346.8	-0.08
867	SLE FR 4	-55	2	3480	-1.63	-356.43	0.63
867	SLE FR 5	-55	0	3499	-1.59	-357.85	0.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
867	SLE FR 6	-55	0	3560	-1.64	-363.99	0.07
867	SLE QP 1	-54	0	3371	-1.53	-345.57	-0.09
867	SLE QP 2	-55	0	3485	-1.59	-356.62	0.01
867	SLD 1	205	63	4312	-3.86	-452.32	15.58
867	SLD 2	176	-37	4352	-3.59	-456.07	-9.2
867	SLD 3	190	-167	4764	-0.34	-466.74	-41.64
867	SLD 4	161	-266	4804	-0.06	-470.49	-66.42
867	SLD 5	51	383	3039	-7.67	-362.82	95.73
867	SLD 6	33	319	3065	-7.49	-365.23	79.78
867	SLD 7	0	-380	4548	4.08	-410.88	-95.02
867	SLD 8	-18	-444	4574	4.26	-413.29	-110.97
867	SLD 9	-91	444	2395	-7.45	-299.95	110.99
867	SLD 10	-110	380	2421	-7.27	-302.36	95.03
867	SLD 11	-142	-319	3904	4.3	-348	-79.76
867	SLD 12	-161	-383	3930	4.48	-350.42	-95.72
867	SLD 13	-270	266	2165	-3.13	-242.75	66.44
867	SLD 14	-299	167	2205	-2.85	-246.5	41.66
867	SLD 15	-286	37	2618	0.4	-257.17	9.21
867	SLD 16	-314	-63	2658	0.67	-260.92	-15.57
867	SLV 1	354	115	4741	-5.41	-504.88	28.66
867	SLV 2	309	-42	4805	-4.97	-510.79	-10.39
867	SLV 3	328	-276	5513	0.61	-529.43	-68.96
867	SLV 4	282	-433	5577	1.05	-535.34	-108.01
867	SLV 5	116	657	2679	-11.95	-362.75	163.95
867	SLV 6	85	551	2722	-11.65	-366.73	137.66
867	SLV 7	29	-646	5252	8.11	-444.6	-161.45
867	SLV 8	-2	-752	5295	8.41	-448.58	-187.74
867	SLV 9	-108	752	1675	-11.6	-264.66	187.76
867	SLV 10	-138	646	1717	-11.3	-268.63	161.47
867	SLV 11	-195	-551	4248	8.46	-346.51	-137.64
867	SLV 12	-225	-657	4290	8.76	-350.49	-163.93
867	SLV 13	-392	433	1393	-4.24	-177.9	108.03
867	SLV 14	-437	276	1456	-3.8	-183.81	68.97
867	SLV 15	-418	42	2165	1.78	-202.45	10.41
867	SLV 16	-463	-115	2228	2.22	-208.36	-28.65
867	SLV FO 1	394	127	4867	-5.79	-519.7	31.53
867	SLV FO 2	345	-46	4937	-5.31	-526.2	-11.43
867	SLV FO 3	366	-303	5716	0.83	-546.71	-75.85
867	SLV FO 4	316	-476	5786	1.31	-553.21	-118.81
867	SLV FO 5	133	722	2599	-12.98	-363.36	180.34
867	SLV FO 6	100	606	2645	-12.66	-367.74	151.42
867	SLV FO 7	37	-711	5429	9.08	-453.4	-177.6
867	SLV FO 8	4	-827	5476	9.41	-457.78	-206.52
867	SLV FO 9	-113	827	1494	-12.6	-255.46	206.53
867	SLV FO 10	-146	711	1540	-12.27	-259.84	177.61
867	SLV FO 11	-209	-606	4324	9.47	-345.5	-151.41
867	SLV FO 12	-242	-722	4371	9.79	-349.88	-180.33
867	SLV FO 13	-425	476	1184	-4.5	-160.02	118.83
867	SLV FO 14	-475	303	1253	-4.02	-166.52	75.87
867	SLV FO 15	-454	46	2033	2.12	-187.04	11.45
867	SLV FO 16	-504	-127	2103	2.6	-193.54	-31.51
867	CRTFP Ux+	0	0	0	0	0	0
867	CRTFP Ux-	0	0	0	0	0	0
867	CRTFP Uy+	0	0	0	0	0	0
867	CRTFP Uy-	0	0	0	0	0	0
882	SLU 1	106	29	6485	1.72	-0.83	-0.59
882	SLU 2	102	58	6415	1.2	-2.14	-0.47
882	SLU 3	110	29	6664	1.89	-0.55	-0.65
882	SLU 4	108	47	6622	1.58	-1.34	-0.57
882	SLU 5	105	58	6539	1.33	-2.02	-0.52
882	SLU 6	113	30	6787	2.02	-0.44	-0.71
882	SLU 7	111	47	6745	1.71	-1.22	-0.63
882	SLU 8	112	30	6732	1.98	-0.6	-0.71
882	SLU 9	110	47	6690	1.67	-1.39	-0.63
882	SLU 10	110	62	7248	1.39	-1.63	-0.5
882	SLU 11	118	34	7497	2.08	-0.04	-0.69
882	SLU 12	116	51	7455	1.77	-0.83	-0.61
882	SLU 13	113	62	7372	1.52	-1.51	-0.56
882	SLU 14	121	34	7620	2.21	0.07	-0.74
882	SLU 15	119	51	7578	1.9	-0.71	-0.66
882	SLU 16	120	34	7565	2.17	-0.09	-0.74
882	SLU 17	118	51	7523	1.86	-0.88	-0.67
882	SLU 18	118	35	7675	1.99	-0.1	-0.65
882	SLU 19	115	52	7633	1.68	-0.88	-0.57
882	SLU 20	121	35	7799	2.12	0.02	-0.7
882	SLU 21	118	52	7757	1.81	-0.77	-0.62
882	SLU 22	121	32	7570	2.26	0.54	-0.64
882	SLU 23	117	61	7500	1.74	-0.77	-0.51
882	SLU 24	125	33	7749	2.43	0.82	-0.7
882	SLU 25	123	50	7707	2.12	0.03	-0.62
882	SLU 26	120	62	7624	1.87	-0.65	-0.57
882	SLU 27	128	33	7872	2.56	0.93	-0.75
882	SLU 28	125	51	7830	2.25	0.15	-0.68
882	SLU 29	127	33	7817	2.52	0.77	-0.75
882	SLU 30	124	50	7775	2.21	-0.02	-0.68
882	SLU 31	125	65	8333	1.93	-0.26	-0.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
882	SLU 32	133	37	8582	2.62	1.33	-0.73
882	SLU 33	131	54	8540	2.31	0.54	-0.66
882	SLU 34	128	66	8457	2.06	-0.14	-0.6
882	SLU 35	136	37	8705	2.75	1.44	-0.79
882	SLU 36	133	55	8664	2.44	0.66	-0.71
882	SLU 37	135	37	8650	2.71	1.28	-0.79
882	SLU 38	132	55	8608	2.4	0.49	-0.71
882	SLU 39	133	38	8760	2.53	1.27	-0.69
882	SLU 40	130	56	8718	2.22	0.49	-0.62
882	SLU 41	135	39	8884	2.66	1.39	-0.75
882	SLU 42	133	56	8842	2.35	0.6	-0.67
882	SLU 43	133	36	8058	2.05	-1.54	-0.76
882	SLU 44	129	65	7989	1.53	-2.86	-0.63
882	SLU 45	137	37	8237	2.22	-1.27	-0.81
882	SLU 46	135	54	8195	1.91	-2.06	-0.73
882	SLU 47	132	65	8112	1.66	-2.74	-0.68
882	SLU 48	140	37	8361	2.35	-1.15	-0.87
882	SLU 49	137	54	8319	2.04	-1.94	-0.79
882	SLU 50	139	37	8305	2.31	-1.32	-0.87
882	SLU 51	136	54	8263	2	-2.1	-0.79
882	SLU 52	137	69	8822	1.72	-2.35	-0.66
882	SLU 53	145	41	9070	2.41	-0.76	-0.85
882	SLU 54	143	58	9028	2.1	-1.55	-0.77
882	SLU 55	140	69	8945	1.85	-2.23	-0.72
882	SLU 56	148	41	9194	2.54	-0.64	-0.9
882	SLU 57	145	59	9152	2.23	-1.43	-0.83
882	SLU 58	147	41	9138	2.5	-0.81	-0.91
882	SLU 59	144	58	9097	2.19	-1.59	-0.83
882	SLU 60	145	42	9249	2.32	-0.81	-0.81
882	SLU 61	142	59	9207	2.01	-1.6	-0.73
882	SLU 62	147	43	9372	2.45	-0.7	-0.86
882	SLU 63	145	60	9330	2.14	-1.49	-0.79
882	SLU 64	148	40	9143	2.59	-0.17	-0.8
882	SLU 65	144	69	9074	2.07	-1.48	-0.67
882	SLU 66	152	40	9322	2.76	0.1	-0.86
882	SLU 67	149	58	9280	2.45	-0.69	-0.78
882	SLU 68	147	69	9197	2.2	-1.37	-0.73
882	SLU 69	155	41	9446	2.89	0.22	-0.92
882	SLU 70	152	58	9404	2.58	-0.57	-0.84
882	SLU 71	154	41	9390	2.85	0.05	-0.92
882	SLU 72	151	58	9349	2.54	-0.73	-0.84
882	SLU 73	152	73	9907	2.26	-0.97	-0.71
882	SLU 74	160	45	10155	2.95	0.61	-0.9
882	SLU 75	157	62	10113	2.64	-0.18	-0.82
882	SLU 76	155	73	10030	2.39	-0.86	-0.77
882	SLU 77	163	45	10279	3.08	0.73	-0.95
882	SLU 78	160	62	10237	2.77	-0.06	-0.87
882	SLU 79	162	45	10224	3.04	0.56	-0.95
882	SLU 80	159	62	10182	2.73	-0.22	-0.87
882	SLU 81	159	46	10334	2.86	0.56	-0.86
882	SLU 82	157	63	10292	2.55	-0.23	-0.78
882	SLU 83	162	46	10457	2.99	0.67	-0.91
882	SLU 84	160	63	10415	2.68	-0.12	-0.83
882	SLE RA 1	111	30	6795	1.87	-0.43	-0.61
882	SLE RA 2	108	49	6748	1.53	-1.31	-0.52
882	SLE RA 3	113	30	6914	1.99	-0.25	-0.64
882	SLE RA 4	112	42	6886	1.78	-0.78	-0.59
882	SLE RA 5	110	49	6831	1.61	-1.23	-0.56
882	SLE RA 6	115	30	6996	2.07	-0.18	-0.68
882	SLE RA 7	113	42	6968	1.87	-0.7	-0.63
882	SLE RA 8	114	30	6960	2.05	-0.28	-0.68
882	SLE RA 9	113	42	6932	1.84	-0.81	-0.63
882	SLE RA 10	113	52	7304	1.65	-0.97	-0.55
882	SLE RA 11	118	33	7469	2.11	0.09	-0.67
882	SLE RA 12	117	44	7442	1.91	-0.44	-0.62
882	SLE RA 13	115	52	7386	1.74	-0.89	-0.58
882	SLE RA 14	120	33	7552	2.2	0.17	-0.71
882	SLE RA 15	119	45	7524	1.99	-0.36	-0.65
882	SLE RA 16	120	33	7515	2.17	0.06	-0.71
882	SLE RA 17	118	45	7487	1.97	-0.47	-0.66
882	SLE RA 18	118	34	7588	2.05	0.05	-0.64
882	SLE RA 19	117	45	7560	1.85	-0.47	-0.59
882	SLE RA 20	120	34	7671	2.14	0.13	-0.68
882	SLE RA 21	118	46	7643	1.93	-0.4	-0.63
882	SLE FR 1	111	30	6795	1.87	-0.43	-0.61
882	SLE FR 2	110	34	6786	1.8	-0.61	-0.59
882	SLE FR 3	111	30	6828	1.91	-0.4	-0.62
882	SLE FR 4	112	35	7024	1.86	-0.46	-0.6
882	SLE FR 5	114	31	7066	1.96	-0.26	-0.63
882	SLE FR 6	114	32	7192	1.96	-0.19	-0.63
882	SLE QP 1	111	30	6795	1.87	-0.43	-0.61
882	SLE QP 2	113	31	7033	1.93	-0.29	-0.62
882	SLD 1	622	79	5899	-2.48	-5.6	-2.85
882	SLD 2	562	167	5841	-3.06	-4.47	-0.57
882	SLD 3	668	-272	6930	4.88	12.08	-4.58
882	SLD 4	608	-184	6872	4.3	13.22	-2.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
882	SLD 5	206	562	5139	-10.47	-28.9	0.95
882	SLD 6	167	619	5101	-10.84	-28.17	2.42
882	SLD 7	360	-607	8576	14.09	30.05	-4.83
882	SLD 8	321	-550	8538	13.71	30.78	-3.36
882	SLD 9	-95	612	5528	-9.86	-31.35	2.13
882	SLD 10	-134	669	5490	-10.23	-30.62	3.59
882	SLD 11	58	-557	8965	14.7	27.59	-3.66
882	SLD 12	19	-500	8927	14.32	28.32	-2.19
882	SLD 13	-382	246	7194	-0.45	-13.79	1.07
882	SLD 14	-443	334	7136	-1.03	-12.66	3.35
882	SLD 15	-336	-105	8225	6.92	3.89	-0.67
882	SLD 16	-397	-17	8167	6.34	5.02	1.61
882	SLV 1	908	131	5187	-5.5	-9.55	-4
882	SLV 2	813	269	5095	-6.41	-7.76	-0.41
882	SLV 3	986	-468	6947	7.07	20.65	-6.96
882	SLV 4	891	-329	6855	6.15	22.44	-3.37
882	SLV 5	251	943	3827	-19.19	-49.2	2.19
882	SLV 6	187	1036	3765	-19.81	-48	4.6
882	SLV 7	511	-1052	9693	22.7	51.46	-7.68
882	SLV 8	447	-959	9631	22.09	52.67	-5.26
882	SLV 9	-221	1021	4435	-18.23	-53.25	4.03
882	SLV 10	-285	1114	4372	-18.85	-52.04	6.44
882	SLV 11	39	-974	10301	23.66	47.42	-5.84
882	SLV 12	-25	-880	10238	23.05	48.63	-3.42
882	SLV 13	-665	391	7211	-2.3	-23.02	2.13
882	SLV 14	-760	530	7119	-3.21	-21.23	5.72
882	SLV 15	-587	-207	8971	10.27	7.18	-0.83
882	SLV 16	-682	-68	8879	9.35	8.97	2.76
882	SLV FO 1	988	141	5003	-6.24	-10.47	-4.34
882	SLV FO 2	883	293	4901	-7.25	-8.5	-0.39
882	SLV FO 3	1074	-518	6938	7.58	22.75	-7.59
882	SLV FO 4	969	-365	6837	6.58	24.72	-3.64
882	SLV FO 5	265	1034	3507	-21.3	-54.1	2.47
882	SLV FO 6	194	1137	3438	-21.98	-52.77	5.13
882	SLV FO 7	551	-1160	9959	24.78	56.64	-8.39
882	SLV FO 8	480	-1058	9891	24.1	57.97	-5.73
882	SLV FO 9	-255	1120	4175	-20.25	-58.54	4.49
882	SLV FO 10	-325	1223	4106	-20.93	-57.22	7.15
882	SLV FO 11	31	-1074	10627	25.84	52.19	-6.36
882	SLV FO 12	-39	-972	10559	25.16	53.52	-3.7
882	SLV FO 13	-743	427	7229	-2.72	-25.29	2.41
882	SLV FO 14	-848	580	7127	-3.73	-23.32	6.36
882	SLV FO 15	-657	-231	9165	11.1	7.93	-0.85
882	SLV FO 16	-762	-78	9063	10.1	9.9	3.1
882	CRTFP Ux+	0	0	0	0	0	0
882	CRTFP Ux-	0	0	0	0	0	0
882	CRTFP Uy+	0	0	0	0	0	0
882	CRTFP Uy-	0	0	0	0	0	0
885	SLU 1	65	16	3947	-2	750.25	-5.51
885	SLU 2	63	39	3900	-2.36	746.04	-13.63
885	SLU 3	67	17	4053	-1.96	767.93	-5.74
885	SLU 4	66	30	4025	-2.18	765.4	-10.61
885	SLU 5	64	40	3973	-2.32	758.06	-14.04
885	SLU 6	68	18	4126	-1.92	779.95	-6.16
885	SLU 7	67	32	4098	-2.13	777.42	-11.03
885	SLU 8	68	18	4093	-1.91	774.3	-6.34
885	SLU 9	67	32	4065	-2.13	771.77	-11.22
885	SLU 10	68	41	4374	-2.66	831.34	-14.18
885	SLU 11	71	18	4527	-2.26	853.23	-6.29
885	SLU 12	70	32	4499	-2.48	850.7	-11.17
885	SLU 13	69	42	4447	-2.61	843.37	-14.6
885	SLU 14	73	19	4600	-2.22	865.25	-6.71
885	SLU 15	72	33	4572	-2.43	862.73	-11.59
885	SLU 16	72	20	4566	-2.21	859.6	-6.9
885	SLU 17	71	34	4538	-2.43	857.07	-11.77
885	SLU 18	71	18	4623	-2.43	872.11	-6.3
885	SLU 19	70	32	4595	-2.64	869.59	-11.17
885	SLU 20	73	19	4696	-2.38	884.13	-6.72
885	SLU 21	72	33	4668	-2.6	881.61	-11.59
885	SLU 22	72	14	4566	-2.18	859.34	-4.81
885	SLU 23	70	37	4520	-2.54	855.13	-12.93
885	SLU 24	74	15	4673	-2.14	877.02	-5.04
885	SLU 25	73	28	4645	-2.36	874.49	-9.92
885	SLU 26	72	38	4593	-2.5	867.15	-13.35
885	SLU 27	76	16	4746	-2.1	889.04	-5.46
885	SLU 28	75	30	4718	-2.31	886.51	-10.34
885	SLU 29	75	16	4713	-2.09	883.38	-5.65
885	SLU 30	74	30	4684	-2.31	880.86	-10.52
885	SLU 31	75	39	4993	-2.84	940.43	-13.48
885	SLU 32	79	16	5146	-2.44	962.32	-5.6
885	SLU 33	78	30	5118	-2.66	959.79	-10.47
885	SLU 34	76	40	5066	-2.79	952.46	-13.9
885	SLU 35	80	17	5219	-2.4	974.34	-6.02
885	SLU 36	79	31	5191	-2.61	971.82	-10.89
885	SLU 37	80	18	5186	-2.39	968.69	-6.2
885	SLU 38	79	32	5158	-2.61	966.16	-11.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
885	SLU 39	79	16	5243	-2.61	981.2	-5.6
885	SLU 40	78	30	5215	-2.82	978.67	-10.47
885	SLU 41	80	17	5316	-2.56	993.22	-6.02
885	SLU 42	79	31	5288	-2.78	990.7	-10.89
885	SLU 43	82	21	4919	-2.54	937.92	-7.4
885	SLU 44	80	45	4872	-2.9	933.72	-15.52
885	SLU 45	84	22	5025	-2.5	955.6	-7.63
885	SLU 46	83	36	4997	-2.72	953.08	-12.5
885	SLU 47	81	46	4945	-2.86	945.74	-15.94
885	SLU 48	85	23	5098	-2.46	967.62	-8.05
885	SLU 49	84	37	5070	-2.67	965.1	-12.92
885	SLU 50	85	24	5065	-2.45	961.97	-8.24
885	SLU 51	84	38	5037	-2.67	959.44	-13.11
885	SLU 52	84	46	5345	-3.2	1019.02	-16.07
885	SLU 53	88	24	5498	-2.8	1040.9	-8.19
885	SLU 54	87	37	5470	-3.01	1038.38	-13.06
885	SLU 55	86	47	5418	-3.15	1031.04	-16.49
885	SLU 56	90	25	5571	-2.75	1052.93	-8.6
885	SLU 57	89	39	5543	-2.97	1050.4	-13.48
885	SLU 58	89	25	5538	-2.75	1047.27	-8.79
885	SLU 59	88	39	5510	-2.97	1044.75	-13.66
885	SLU 60	88	24	5595	-2.96	1059.79	-8.19
885	SLU 61	87	38	5567	-3.18	1057.26	-13.06
885	SLU 62	90	25	5668	-2.92	1071.81	-8.61
885	SLU 63	89	39	5640	-3.14	1069.28	-13.48
885	SLU 64	89	19	5538	-2.72	1047.01	-6.7
885	SLU 65	87	43	5491	-3.08	1042.8	-14.82
885	SLU 66	91	20	5644	-2.68	1064.69	-6.93
885	SLU 67	90	34	5616	-2.9	1062.16	-11.81
885	SLU 68	89	44	5565	-3.03	1054.83	-15.24
885	SLU 69	93	21	5717	-2.64	1076.71	-7.35
885	SLU 70	92	35	5689	-2.85	1074.19	-12.23
885	SLU 71	92	22	5684	-2.63	1071.06	-7.54
885	SLU 72	91	36	5656	-2.85	1068.53	-12.41
885	SLU 73	92	44	5965	-3.38	1128.11	-15.37
885	SLU 74	96	22	6118	-2.98	1149.99	-7.49
885	SLU 75	95	36	6090	-3.19	1147.47	-12.36
885	SLU 76	93	45	6038	-3.33	1140.13	-15.79
885	SLU 77	97	23	6191	-2.93	1162.01	-7.91
885	SLU 78	96	37	6163	-3.15	1159.49	-12.78
885	SLU 79	97	23	6158	-2.93	1156.36	-8.09
885	SLU 80	96	37	6130	-3.14	1153.83	-12.97
885	SLU 81	96	22	6214	-3.14	1168.87	-7.49
885	SLU 82	95	36	6186	-3.36	1166.35	-12.36
885	SLU 83	97	23	6287	-3.1	1180.9	-7.91
885	SLU 84	96	37	6259	-3.32	1178.37	-12.78
885	SLE RA 1	67	15	4124	-2.05	781.42	-5.31
885	SLE RA 2	66	31	4093	-2.29	778.61	-10.72
885	SLE RA 3	68	16	4195	-2.03	793.2	-5.46
885	SLE RA 4	68	25	4176	-2.17	791.52	-8.71
885	SLE RA 5	67	32	4142	-2.26	786.63	-11
885	SLE RA 6	69	17	4244	-2	801.22	-5.74
885	SLE RA 7	69	26	4225	-2.14	799.53	-8.99
885	SLE RA 8	69	17	4221	-1.99	797.45	-5.87
885	SLE RA 9	68	26	4203	-2.14	795.77	-9.11
885	SLE RA 10	69	32	4408	-2.49	835.48	-11.09
885	SLE RA 11	71	17	4510	-2.22	850.07	-5.83
885	SLE RA 12	71	26	4492	-2.37	848.39	-9.08
885	SLE RA 13	70	33	4457	-2.46	843.5	-11.37
885	SLE RA 14	72	18	4559	-2.2	858.09	-6.11
885	SLE RA 15	72	27	4540	-2.34	856.4	-9.36
885	SLE RA 16	72	18	4537	-2.19	854.32	-6.24
885	SLE RA 17	71	27	4518	-2.34	852.63	-9.48
885	SLE RA 18	71	17	4575	-2.34	862.66	-5.84
885	SLE RA 19	71	26	4556	-2.48	860.98	-9.08
885	SLE RA 20	72	18	4624	-2.31	870.67	-6.11
885	SLE RA 21	72	27	4605	-2.45	868.99	-9.36
885	SLE FR 1	67	15	4124	-2.05	781.42	-5.31
885	SLE FR 2	67	18	4118	-2.1	780.86	-6.39
885	SLE FR 3	67	16	4144	-2.04	784.62	-5.42
885	SLE FR 4	68	19	4253	-2.18	805.23	-6.55
885	SLE FR 5	69	16	4279	-2.13	809	-5.58
885	SLE FR 6	69	16	4349	-2.19	822.04	-5.57
885	SLE QP 1	67	15	4124	-2.05	781.42	-5.31
885	SLE QP 2	68	16	4259	-2.14	805.79	-5.47
885	SLD 1	387	-19	2802	-4.05	587.16	6.48
885	SLD 2	347	104	2739	-4.53	582.16	-36.24
885	SLD 3	408	-297	3477	1.1	648.81	103.8
885	SLD 4	368	-175	3415	0.63	643.81	61.08
885	SLD 5	139	406	2808	-10.45	647.55	-142.14
885	SLD 6	113	485	2768	-10.75	644.34	-169.65
885	SLD 7	209	-521	5060	6.73	853.06	182.27
885	SLD 8	183	-442	5020	6.43	849.84	154.75
885	SLD 9	-47	474	3499	-10.7	761.74	-165.68
885	SLD 10	-72	553	3459	-11.01	758.52	-193.2
885	SLD 11	23	-454	5751	6.48	967.24	158.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
885	SLD 12	-2	-375	5710	6.17	964.03	131.21
885	SLD 13	-231	206	5104	-4.9	967.77	-72.01
885	SLD 14	-271	329	5041	-5.38	962.77	-114.73
885	SLD 15	-210	-72	5779	0.25	1029.42	25.31
885	SLD 16	-250	51	5717	-0.22	1024.43	-17.41
885	SLV 1	566	-19	1935	-5.48	460.11	6.43
885	SLV 2	504	174	1837	-6.24	452.25	-60.91
885	SLV 3	602	-494	3089	3.31	565.34	172.46
885	SLV 4	539	-301	2990	2.56	557.47	105.12
885	SLV 5	175	689	1831	-16.34	543.96	-241.13
885	SLV 6	133	820	1765	-16.85	538.67	-286.47
885	SLV 7	294	-893	5675	12.98	894.72	312.28
885	SLV 8	252	-763	5609	12.47	889.42	266.94
885	SLV 9	-115	795	2909	-16.75	722.16	-277.87
885	SLV 10	-157	925	2843	-17.25	716.86	-323.21
885	SLV 11	3	-788	6753	12.57	1072.92	275.54
885	SLV 12	-39	-658	6687	12.07	1067.62	230.2
885	SLV 13	-402	332	5528	-6.83	1054.11	-116.05
885	SLV 14	-465	526	5430	-7.58	1046.24	-183.39
885	SLV 15	-367	-143	6681	1.96	1159.34	49.98
885	SLV 16	-429	51	6583	1.21	1151.47	-17.37
885	SLV FO 1	616	-23	1703	-5.82	425.55	7.63
885	SLV FO 2	547	190	1595	-6.64	416.89	-66.45
885	SLV FO 3	655	-545	2971	3.86	541.3	190.25
885	SLV FO 4	586	-332	2864	3.03	532.64	116.17
885	SLV FO 5	186	757	1589	-17.76	517.78	-264.7
885	SLV FO 6	140	900	1516	-18.32	511.95	-314.57
885	SLV FO 7	316	-984	5817	14.49	903.61	344.05
885	SLV FO 8	270	-841	5744	13.93	897.78	294.18
885	SLV FO 9	-133	873	2774	-18.21	713.8	-305.12
885	SLV FO 10	-180	1016	2702	-18.76	707.97	-354.99
885	SLV FO 11	-3	-868	7003	14.04	1099.63	303.64
885	SLV FO 12	-49	-725	6930	13.49	1093.8	253.77
885	SLV FO 13	-450	364	5655	-7.3	1078.94	-127.1
885	SLV FO 14	-518	577	5547	-8.13	1070.28	-201.18
885	SLV FO 15	-411	-159	6924	2.37	1194.69	55.52
885	SLV FO 16	-479	54	6816	1.55	1186.03	-18.56
885	CRTFP Ux+	0	0	0	0	0	0
885	CRTFP Ux-	0	0	0	0	0	0
885	CRTFP Uy+	0	0	0	0	0	0
885	CRTFP Uy-	0	0	0	0	0	0
887	SLU 1	-101	8	6459	-0.87	-2	1.52
887	SLU 2	-98	40	6388	-1.37	-0.04	1.39
887	SLU 3	-104	8	6631	-0.79	-2.53	1.58
887	SLU 4	-102	27	6588	-1.09	-1.35	1.5
887	SLU 5	-100	40	6501	-1.31	-0.44	1.43
887	SLU 6	-106	8	6745	-0.72	-2.93	1.62
887	SLU 7	-104	27	6702	-1.02	-1.75	1.55
887	SLU 8	-105	8	6686	-0.74	-2.8	1.6
887	SLU 9	-103	27	6644	-1.04	-1.63	1.53
887	SLU 10	-106	41	7241	-1.59	-1.56	1.66
887	SLU 11	-112	9	7484	-1	-4.05	1.85
887	SLU 12	-110	28	7441	-1.3	-2.87	1.77
887	SLU 13	-107	40	7354	-1.52	-1.97	1.7
887	SLU 14	-113	9	7598	-0.93	-4.45	1.89
887	SLU 15	-111	28	7555	-1.24	-3.27	1.81
887	SLU 16	-112	9	7539	-0.95	-4.33	1.87
887	SLU 17	-110	28	7497	-1.26	-3.15	1.8
887	SLU 18	-112	9	7678	-1.17	-4.18	1.9
887	SLU 19	-110	28	7635	-1.48	-3	1.83
887	SLU 20	-114	9	7791	-1.11	-4.58	1.95
887	SLU 21	-112	28	7749	-1.41	-3.4	1.87
887	SLU 22	-116	8	7558	-0.81	-4.2	1.84
887	SLU 23	-112	39	7487	-1.31	-2.24	1.71
887	SLU 24	-118	7	7730	-0.72	-4.72	1.9
887	SLU 25	-117	26	7687	-1.03	-3.55	1.83
887	SLU 26	-114	39	7600	-1.25	-2.64	1.76
887	SLU 27	-120	7	7843	-0.66	-5.12	1.94
887	SLU 28	-118	26	7801	-0.96	-3.95	1.87
887	SLU 29	-119	7	7785	-0.68	-5	1.93
887	SLU 30	-117	26	7743	-0.98	-3.83	1.85
887	SLU 31	-120	40	8340	-1.53	-3.76	1.98
887	SLU 32	-126	8	8583	-0.94	-6.24	2.17
887	SLU 33	-124	27	8540	-1.24	-5.07	2.09
887	SLU 34	-122	40	8453	-1.46	-4.16	2.02
887	SLU 35	-127	8	8696	-0.87	-6.65	2.21
887	SLU 36	-126	27	8654	-1.18	-5.47	2.14
887	SLU 37	-126	8	8638	-0.89	-6.52	2.2
887	SLU 38	-124	27	8596	-1.19	-5.35	2.12
887	SLU 39	-126	9	8776	-1.11	-6.37	2.23
887	SLU 40	-124	27	8734	-1.41	-5.2	2.15
887	SLU 41	-128	8	8890	-1.05	-6.77	2.27
887	SLU 42	-126	27	8847	-1.35	-5.6	2.19
887	SLU 43	-127	11	8020	-1.15	-1.85	1.86
887	SLU 44	-124	43	7949	-1.66	0.11	1.74
887	SLU 45	-130	11	8192	-1.07	-2.37	1.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
887	SLU 46	-128	30	8149	-1.37	-1.2	1.85
887	SLU 47	-125	43	8062	-1.59	-0.29	1.78
887	SLU 48	-131	11	8306	-1	-2.78	1.97
887	SLU 49	-130	30	8263	-1.31	-1.6	1.89
887	SLU 50	-130	11	8247	-1.02	-2.65	1.95
887	SLU 51	-128	30	8205	-1.32	-1.48	1.87
887	SLU 52	-131	43	8802	-1.87	-1.41	2
887	SLU 53	-137	12	9045	-1.28	-3.9	2.19
887	SLU 54	-135	31	9002	-1.59	-2.72	2.12
887	SLU 55	-133	43	8915	-1.8	-1.81	2.05
887	SLU 56	-139	11	9159	-1.22	-4.3	2.24
887	SLU 57	-137	30	9116	-1.52	-3.12	2.16
887	SLU 58	-138	12	9100	-1.23	-4.17	2.22
887	SLU 59	-136	30	9058	-1.54	-3	2.14
887	SLU 60	-137	12	9239	-1.46	-4.02	2.25
887	SLU 61	-136	31	9196	-1.76	-2.85	2.17
887	SLU 62	-139	12	9352	-1.39	-4.42	2.29
887	SLU 63	-137	31	9310	-1.69	-3.25	2.21
887	SLU 64	-141	10	9119	-1.09	-4.05	2.19
887	SLU 65	-138	42	9048	-1.59	-2.09	2.06
887	SLU 66	-144	10	9291	-1.01	-4.57	2.25
887	SLU 67	-142	29	9248	-1.31	-3.4	2.17
887	SLU 68	-140	42	9161	-1.53	-2.49	2.1
887	SLU 69	-146	10	9404	-0.94	-4.97	2.29
887	SLU 70	-144	29	9362	-1.24	-3.8	2.21
887	SLU 71	-144	10	9346	-0.96	-4.85	2.27
887	SLU 72	-143	29	9304	-1.26	-3.67	2.19
887	SLU 73	-145	43	9901	-1.81	-3.61	2.33
887	SLU 74	-151	11	10144	-1.22	-6.09	2.52
887	SLU 75	-149	30	10101	-1.52	-4.92	2.44
887	SLU 76	-147	42	10014	-1.74	-4.01	2.37
887	SLU 77	-153	11	10257	-1.15	-6.49	2.56
887	SLU 78	-151	30	10215	-1.46	-5.32	2.48
887	SLU 79	-152	11	10199	-1.17	-6.37	2.54
887	SLU 80	-150	30	10157	-1.48	-5.19	2.46
887	SLU 81	-152	11	10337	-1.39	-6.22	2.57
887	SLU 82	-150	30	10295	-1.7	-5.04	2.49
887	SLU 83	-153	11	10451	-1.33	-6.62	2.61
887	SLU 84	-151	30	10408	-1.63	-5.45	2.54
887	SLE RA 1	-105	8	6773	-0.85	-2.63	1.61
887	SLE RA 2	-103	29	6726	-1.19	-1.32	1.52
887	SLE RA 3	-107	8	6888	-0.8	-2.98	1.65
887	SLE RA 4	-106	21	6859	-1	-2.2	1.6
887	SLE RA 5	-104	29	6801	-1.15	-1.59	1.55
887	SLE RA 6	-108	8	6963	-0.75	-3.25	1.68
887	SLE RA 7	-107	21	6935	-0.96	-2.46	1.63
887	SLE RA 8	-108	8	6925	-0.77	-3.16	1.67
887	SLE RA 9	-106	21	6896	-0.97	-2.38	1.62
887	SLE RA 10	-108	30	7294	-1.33	-2.34	1.7
887	SLE RA 11	-112	8	7456	-0.94	-3.99	1.83
887	SLE RA 12	-111	21	7428	-1.14	-3.21	1.78
887	SLE RA 13	-109	30	7370	-1.29	-2.61	1.73
887	SLE RA 14	-113	8	7532	-0.9	-4.26	1.86
887	SLE RA 15	-112	21	7504	-1.1	-3.48	1.81
887	SLE RA 16	-113	8	7493	-0.91	-4.18	1.85
887	SLE RA 17	-111	21	7465	-1.11	-3.4	1.8
887	SLE RA 18	-112	9	7585	-1.06	-4.08	1.87
887	SLE RA 19	-111	21	7557	-1.26	-3.3	1.82
887	SLE RA 20	-114	9	7661	-1.01	-4.35	1.9
887	SLE RA 21	-112	21	7633	-1.21	-3.56	1.84
887	SLE FR 1	-105	8	6773	-0.85	-2.63	1.61
887	SLE FR 2	-105	12	6764	-0.92	-2.37	1.59
887	SLE FR 3	-106	8	6803	-0.83	-2.74	1.62
887	SLE FR 4	-107	13	7007	-0.98	-2.8	1.67
887	SLE FR 5	-108	8	7047	-0.9	-3.17	1.7
887	SLE FR 6	-109	9	7179	-0.95	-3.35	1.74
887	SLE QP 1	-105	8	6773	-0.85	-2.63	1.61
887	SLE QP 2	-108	8	7017	-0.91	-3.06	1.69
887	SLD 1	459	347	7331	-3.94	15.55	-2.62
887	SLD 2	395	252	7381	-3.41	14.4	-0.25
887	SLD 3	413	-41	8350	3.19	-10.57	-0.78
887	SLD 4	349	-136	8400	3.71	-11.72	1.58
887	SLD 5	144	716	5557	-12.71	42.33	-2.79
887	SLD 6	102	655	5589	-12.38	41.59	-1.27
887	SLD 7	-11	-580	8954	11.03	-44.73	3.32
887	SLD 8	-52	-641	8986	11.37	-45.47	4.85
887	SLD 9	-163	658	5048	-13.19	39.34	-1.47
887	SLD 10	-204	596	5080	-12.86	38.6	0.05
887	SLD 11	-317	-638	8445	10.55	-47.72	4.65
887	SLD 12	-359	-699	8477	10.89	-48.46	6.17
887	SLD 13	-564	153	5634	-5.54	5.59	1.79
887	SLD 14	-628	58	5683	-5.01	4.44	4.16
887	SLD 15	-610	-235	6653	1.58	-20.53	3.63
887	SLD 16	-674	-331	6702	2.11	-21.68	5.99
887	SLV 1	784	567	7432	-6.15	28.2	-5.19
887	SLV 2	683	417	7511	-5.32	26.38	-1.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
887	SLV 3	705	-96	9171	6.01	-16.37	-2.06
887	SLV 4	604	-246	9249	6.84	-18.18	1.66
887	SLV 5	299	1209	4490	-21.07	74.25	-5.82
887	SLV 6	231	1108	4543	-20.51	73.03	-3.31
887	SLV 7	35	-1000	10285	19.44	-74.31	4.61
887	SLV 8	-33	-1101	10338	20	-75.54	7.12
887	SLV 9	-182	1118	3696	-21.83	69.41	-3.75
887	SLV 10	-250	1017	3748	-21.27	68.18	-1.24
887	SLV 11	-446	-1091	9491	18.69	-79.16	6.68
887	SLV 12	-514	-1192	9544	19.25	-80.38	9.19
887	SLV 13	-819	263	4784	-8.67	12.06	1.71
887	SLV 14	-920	113	4863	-7.83	10.24	5.44
887	SLV 15	-898	-400	6523	3.49	-32.51	4.84
887	SLV 16	-999	-550	6601	4.32	-34.33	8.57
887	SLV FO 1	873	623	7474	-6.67	31.33	-5.88
887	SLV FO 2	762	457	7560	-5.76	29.33	-1.78
887	SLV FO 3	786	-107	9386	6.7	-17.7	-2.44
887	SLV FO 4	675	-272	9472	7.61	-19.7	1.66
887	SLV FO 5	339	1329	4237	-23.09	81.98	-6.57
887	SLV FO 6	264	1218	4295	-22.47	80.64	-3.81
887	SLV FO 7	49	-1101	10612	21.48	-81.44	4.91
887	SLV FO 8	-25	-1212	10670	22.09	-82.78	7.67
887	SLV FO 9	-190	1229	3363	-23.92	76.65	-4.29
887	SLV FO 10	-265	1118	3422	-23.3	75.31	-1.53
887	SLV FO 11	-480	-1201	9738	20.65	-86.77	7.18
887	SLV FO 12	-554	-1313	9796	21.26	-88.11	9.95
887	SLV FO 13	-890	288	4561	-9.44	13.57	1.71
887	SLV FO 14	-1001	123	4647	-8.53	11.57	5.81
887	SLV FO 15	-977	-441	6474	3.93	-35.46	5.16
887	SLV FO 16	-1088	-606	6560	4.84	-37.46	9.26
887	CRTFP Ux+	0	0	0	0	0	0
887	CRTFP Ux-	0	0	0	0	0	0
887	CRTFP Uy+	0	0	0	0	0	0
887	CRTFP Uy-	0	0	0	0	0	0
890	SLU 1	7	32	2480	29.24	545.47	-7.96
890	SLU 2	7	47	2464	28.93	543.09	-11.82
890	SLU 3	7	32	2541	29.98	558.55	-8.09
890	SLU 4	8	42	2531	29.79	557.12	-10.4
890	SLU 5	8	47	2504	29.41	551.68	-11.85
890	SLU 6	8	33	2581	30.47	567.14	-8.13
890	SLU 7	8	42	2571	30.28	565.72	-10.44
890	SLU 8	8	32	2560	30.22	562.65	-8.03
890	SLU 9	8	41	2550	30.03	561.23	-10.35
890	SLU 10	8	50	2787	32.67	612.99	-12.42
890	SLU 11	8	35	2865	33.72	628.45	-8.69
890	SLU 12	9	44	2855	33.53	627.03	-11.01
890	SLU 13	9	50	2827	33.16	621.59	-12.46
890	SLU 14	9	35	2905	34.21	637.05	-8.73
890	SLU 15	9	44	2895	34.02	635.62	-11.05
890	SLU 16	9	35	2884	33.96	632.56	-8.64
890	SLU 17	9	44	2874	33.77	631.13	-10.95
890	SLU 18	8	35	2943	34.59	645.33	-8.83
890	SLU 19	8	45	2933	34.4	643.9	-11.14
890	SLU 20	8	36	2983	35.08	653.92	-8.86
890	SLU 21	9	45	2973	34.89	652.5	-11.18
890	SLU 22	8	36	2889	34.1	633.42	-9.04
890	SLU 23	9	52	2873	33.78	631.04	-12.89
890	SLU 24	9	37	2950	34.84	646.5	-9.17
890	SLU 25	9	46	2940	34.65	645.07	-11.48
890	SLU 26	9	52	2913	34.27	639.63	-12.93
890	SLU 27	9	37	2990	35.33	655.09	-9.2
890	SLU 28	9	46	2980	35.14	653.67	-11.52
890	SLU 29	9	37	2969	35.08	650.6	-9.11
890	SLU 30	9	46	2960	34.89	649.18	-11.43
890	SLU 31	9	54	3197	37.53	700.94	-13.5
890	SLU 32	9	39	3274	38.58	716.4	-9.77
890	SLU 33	10	48	3264	38.39	714.98	-12.09
890	SLU 34	10	54	3237	38.01	709.54	-13.54
890	SLU 35	10	39	3314	39.07	725	-9.81
890	SLU 36	10	49	3304	38.88	723.57	-12.12
890	SLU 37	10	39	3293	38.82	720.51	-9.72
890	SLU 38	10	48	3283	38.63	719.08	-12.03
890	SLU 39	9	40	3352	39.45	733.28	-9.9
890	SLU 40	10	49	3342	39.26	731.85	-12.22
890	SLU 41	10	40	3392	39.94	741.87	-9.94
890	SLU 42	10	49	3382	39.74	740.45	-12.26
890	SLU 43	9	40	3084	36.35	678.95	-9.98
890	SLU 44	9	55	3068	36.03	676.57	-13.83
890	SLU 45	9	41	3145	37.09	692.03	-10.11
890	SLU 46	9	50	3135	36.9	690.61	-12.42
890	SLU 47	10	56	3108	36.52	685.17	-13.87
890	SLU 48	10	41	3185	37.58	700.63	-10.14
890	SLU 49	10	50	3175	37.39	699.2	-12.46
890	SLU 50	9	40	3164	37.33	696.14	-10.05
890	SLU 51	10	50	3154	37.14	694.71	-12.37
890	SLU 52	10	58	3391	39.78	746.48	-14.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
890	SLU 53	10	43	3468	40.83	761.94	-10.71
890	SLU 54	10	52	3459	40.64	760.51	-13.03
890	SLU 55	10	58	3431	40.26	755.07	-14.48
890	SLU 56	10	43	3508	41.32	770.53	-10.75
890	SLU 57	11	52	3499	41.13	769.11	-13.06
890	SLU 58	10	43	3488	41.07	766.04	-10.66
890	SLU 59	11	52	3478	40.88	764.62	-12.97
890	SLU 60	10	44	3546	41.7	778.81	-10.84
890	SLU 61	10	53	3536	41.51	777.39	-13.16
890	SLU 62	10	44	3586	42.19	787.41	-10.88
890	SLU 63	10	53	3576	41.99	785.98	-13.19
890	SLU 64	10	44	3493	41.21	766.9	-11.06
890	SLU 65	10	60	3477	40.89	764.52	-14.91
890	SLU 66	10	45	3554	41.95	779.98	-11.18
890	SLU 67	11	54	3544	41.76	778.56	-13.5
890	SLU 68	11	60	3517	41.38	773.12	-14.95
890	SLU 69	11	45	3594	42.44	788.58	-11.22
890	SLU 70	11	54	3584	42.24	787.15	-13.54
890	SLU 71	11	45	3573	42.18	784.09	-11.13
890	SLU 72	11	54	3563	41.99	782.66	-13.44
890	SLU 73	11	62	3800	44.63	834.43	-15.52
890	SLU 74	11	47	3878	45.69	849.89	-11.79
890	SLU 75	11	57	3868	45.5	848.46	-14.1
890	SLU 76	12	62	3840	45.12	843.02	-15.56
890	SLU 77	12	47	3918	46.18	858.48	-11.83
890	SLU 78	12	57	3908	45.99	857.06	-14.14
890	SLU 79	11	47	3897	45.93	853.99	-11.74
890	SLU 80	12	56	3887	45.74	852.57	-14.05
890	SLU 81	11	48	3955	46.56	866.77	-11.92
890	SLU 82	11	57	3946	46.36	865.34	-14.24
890	SLU 83	11	48	3996	47.04	875.36	-11.96
890	SLU 84	12	57	3986	46.85	873.93	-14.27
890	SLE RA 1	7	33	2597	30.63	570.59	-8.27
890	SLE RA 2	8	43	2586	30.42	569.01	-10.84
890	SLE RA 3	8	34	2638	31.12	579.32	-8.35
890	SLE RA 4	8	40	2631	31	578.36	-9.9
890	SLE RA 5	8	44	2613	30.74	574.74	-10.86
890	SLE RA 6	8	34	2664	31.45	585.04	-8.38
890	SLE RA 7	8	40	2658	31.32	584.09	-9.92
890	SLE RA 8	8	33	2650	31.28	582.05	-8.32
890	SLE RA 9	8	40	2644	31.15	581.1	-9.86
890	SLE RA 10	8	45	2802	32.91	615.61	-11.24
890	SLE RA 11	8	35	2853	33.62	625.92	-8.76
890	SLE RA 12	8	41	2847	33.49	624.97	-10.3
890	SLE RA 13	8	45	2829	33.24	621.34	-11.27
890	SLE RA 14	8	35	2880	33.94	631.65	-8.78
890	SLE RA 15	9	41	2874	33.82	630.7	-10.32
890	SLE RA 16	8	35	2866	33.78	628.66	-8.72
890	SLE RA 17	9	41	2860	33.65	627.71	-10.26
890	SLE RA 18	8	36	2905	34.2	637.17	-8.85
890	SLE RA 19	8	42	2899	34.07	636.22	-10.39
890	SLE RA 20	8	36	2932	34.52	642.9	-8.87
890	SLE RA 21	9	42	2925	34.39	641.95	-10.41
890	SLE FR 1	7	33	2597	30.63	570.59	-8.27
890	SLE FR 2	7	35	2595	30.59	570.28	-8.78
890	SLE FR 3	7	33	2608	30.76	572.89	-8.28
890	SLE FR 4	8	36	2687	31.66	590.25	-8.96
890	SLE FR 5	8	34	2700	31.83	592.86	-8.45
890	SLE FR 6	8	34	2751	32.41	603.88	-8.56
890	SLE QP 1	7	33	2597	30.63	570.59	-8.27
890	SLE QP 2	8	34	2690	31.7	590.57	-8.44
890	SLD 1	263	153	2682	31.04	592.76	-39.76
890	SLD 2	240	136	2679	31.06	591.54	-35.21
890	SLD 3	253	-34	2921	35.67	628.65	7.08
890	SLD 4	230	-51	2918	35.69	627.43	11.63
890	SLD 5	103	355	2324	24.49	537	-89.66
890	SLD 6	88	345	2322	24.5	536.21	-86.74
890	SLD 7	70	-267	3123	39.9	656.64	66.48
890	SLD 8	55	-277	3121	39.91	655.85	69.41
890	SLD 9	-40	345	2258	23.49	525.28	-86.29
890	SLD 10	-55	335	2256	23.5	524.5	-83.36
890	SLD 11	-73	-277	3057	38.9	644.92	69.85
890	SLD 12	-88	-288	3055	38.91	644.13	72.78
890	SLD 13	-215	118	2461	27.72	553.7	-28.51
890	SLD 14	-238	102	2458	27.74	552.48	-23.96
890	SLD 15	-225	-68	2701	32.34	589.59	18.33
890	SLD 16	-248	-85	2698	32.36	588.37	22.88
890	SLV 1	408	233	2660	30.34	591.38	-60.89
890	SLV 2	372	207	2655	30.37	589.45	-53.72
890	SLV 3	391	-85	3069	38.23	652.64	19
890	SLV 4	355	-111	3064	38.26	650.71	26.17
890	SLV 5	160	581	2061	19.32	498.26	-146.68
890	SLV 6	135	564	2058	19.34	496.97	-141.85
890	SLV 7	104	-480	3425	45.62	702.45	119.62
890	SLV 8	79	-497	3421	45.64	701.15	124.45
890	SLV 9	-64	565	1958	17.77	479.98	-141.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
890	SLV 10	-89	548	1955	17.79	478.68	-136.5
890	SLV 11	-120	-496	3321	44.06	684.17	124.97
890	SLV 12	-145	-514	3318	44.08	682.87	129.8
890	SLV 13	-340	179	2315	25.15	530.43	-43.06
890	SLV 14	-376	153	2310	25.18	528.5	-35.89
890	SLV 15	-357	-139	2724	33.04	591.68	36.83
890	SLV 16	-393	-166	2719	33.06	589.75	44
890	SLV FO 1	448	253	2657	30.2	591.46	-66.13
890	SLV FO 2	408	225	2651	30.23	589.34	-58.24
890	SLV FO 3	429	-97	3107	38.88	658.84	21.75
890	SLV FO 4	389	-126	3101	38.91	656.72	29.64
890	SLV FO 5	175	636	1998	18.08	489.03	-160.5
890	SLV FO 6	148	617	1995	18.11	487.61	-155.19
890	SLV FO 7	114	-531	3498	47.01	713.64	132.43
890	SLV FO 8	87	-551	3495	47.03	712.21	137.74
890	SLV FO 9	-72	618	1885	16.37	468.92	-154.62
890	SLV FO 10	-99	599	1881	16.39	467.49	-149.31
890	SLV FO 11	-133	-549	3384	45.3	693.53	138.31
890	SLV FO 12	-160	-568	3381	45.32	692.1	143.62
890	SLV FO 13	-374	193	2278	24.49	524.41	-46.52
890	SLV FO 14	-414	165	2273	24.52	522.29	-38.63
890	SLV FO 15	-393	-157	2728	33.17	591.79	41.36
890	SLV FO 16	-433	-186	2722	33.2	589.67	49.25
890	CRTFP Ux+	0	0	0	0	0	0
890	CRTFP Ux-	0	0	0	0	0	0
890	CRTFP Uy+	0	0	0	0	0	0
890	CRTFP Uy-	0	0	0	0	0	0
892	SLU 1	16	75	4048	49.78	-32.6	0.16
892	SLU 2	16	102	4020	49.15	-32.6	0.23
892	SLU 3	17	76	4144	51.03	-33.71	0.15
892	SLU 4	17	92	4127	50.65	-33.71	0.19
892	SLU 5	17	103	4084	49.98	-33.35	0.21
892	SLU 6	18	76	4208	51.87	-34.46	0.13
892	SLU 7	18	92	4191	51.49	-34.46	0.17
892	SLU 8	18	75	4176	51.45	-34.1	0.12
892	SLU 9	18	91	4159	51.07	-34.1	0.16
892	SLU 10	18	108	4557	55.68	-36.15	0.28
892	SLU 11	19	81	4681	57.56	-37.25	0.2
892	SLU 12	19	98	4665	57.19	-37.26	0.24
892	SLU 13	19	108	4621	56.52	-36.9	0.26
892	SLU 14	20	81	4746	58.4	-38	0.18
892	SLU 15	20	98	4729	58.02	-38.01	0.22
892	SLU 16	20	80	4713	57.98	-37.64	0.17
892	SLU 17	20	97	4696	57.61	-37.64	0.21
892	SLU 18	18	83	4815	59.11	-37.66	0.23
892	SLU 19	19	99	4798	58.73	-37.67	0.27
892	SLU 20	19	83	4879	59.95	-38.41	0.21
892	SLU 21	20	99	4862	59.57	-38.41	0.25
892	SLU 22	19	82	4719	58.17	-37.53	0.24
892	SLU 23	19	110	4691	57.54	-37.54	0.31
892	SLU 24	20	83	4815	59.42	-38.64	0.23
892	SLU 25	20	100	4799	59.04	-38.65	0.27
892	SLU 26	20	110	4755	58.37	-38.29	0.29
892	SLU 27	21	83	4880	60.26	-39.39	0.21
892	SLU 28	21	100	4863	59.88	-39.39	0.25
892	SLU 29	21	83	4847	59.84	-39.03	0.21
892	SLU 30	21	99	4830	59.46	-39.03	0.25
892	SLU 31	21	116	5228	64.07	-41.08	0.36
892	SLU 32	22	89	5353	65.95	-42.19	0.28
892	SLU 33	22	105	5336	65.58	-42.19	0.32
892	SLU 34	22	116	5292	64.91	-41.83	0.34
892	SLU 35	23	89	5417	66.79	-42.94	0.26
892	SLU 36	23	105	5400	66.41	-42.94	0.3
892	SLU 37	23	88	5384	66.37	-42.58	0.25
892	SLU 38	23	105	5368	66	-42.58	0.3
892	SLU 39	22	90	5486	67.5	-42.6	0.31
892	SLU 40	22	107	5470	67.12	-42.6	0.35
892	SLU 41	23	90	5551	68.34	-43.35	0.29
892	SLU 42	23	107	5534	67.96	-43.35	0.33
892	SLU 43	19	95	5032	61.83	-40.69	0.18
892	SLU 44	20	122	5004	61.2	-40.69	0.25
892	SLU 45	21	96	5128	63.09	-41.8	0.17
892	SLU 46	21	112	5111	62.71	-41.8	0.21
892	SLU 47	21	122	5068	62.04	-41.44	0.23
892	SLU 48	22	96	5192	63.92	-42.55	0.15
892	SLU 49	22	112	5176	63.54	-42.55	0.19
892	SLU 50	21	95	5160	63.51	-42.19	0.14
892	SLU 51	22	111	5143	63.13	-42.19	0.18
892	SLU 52	22	128	5541	67.74	-44.24	0.29
892	SLU 53	22	101	5665	69.62	-45.34	0.21
892	SLU 54	23	118	5649	69.24	-45.34	0.26
892	SLU 55	23	128	5605	68.57	-44.98	0.28
892	SLU 56	23	101	5730	70.46	-46.09	0.2
892	SLU 57	24	118	5713	70.08	-46.09	0.24
892	SLU 58	23	100	5697	70.04	-45.73	0.19
892	SLU 59	23	117	5681	69.66	-45.73	0.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
892	SLU 60	22	103	5799	71.17	-45.75	0.25
892	SLU 61	22	119	5782	70.79	-45.75	0.29
892	SLU 62	23	103	5863	72	-46.5	0.23
892	SLU 63	23	119	5847	71.63	-46.5	0.27
892	SLU 64	22	102	5703	70.22	-45.62	0.26
892	SLU 65	23	130	5675	69.59	-45.62	0.33
892	SLU 66	24	103	5799	71.48	-46.73	0.25
892	SLU 67	24	120	5783	71.1	-46.73	0.29
892	SLU 68	24	130	5739	70.43	-46.37	0.31
892	SLU 69	25	103	5864	72.31	-47.48	0.23
892	SLU 70	25	120	5847	71.94	-47.48	0.27
892	SLU 71	24	102	5831	71.9	-47.12	0.22
892	SLU 72	25	119	5814	71.52	-47.12	0.27
892	SLU 73	25	136	6212	76.13	-49.17	0.38
892	SLU 74	26	109	6337	78.01	-50.28	0.3
892	SLU 75	26	125	6320	77.63	-50.28	0.34
892	SLU 76	26	136	6276	76.96	-49.92	0.36
892	SLU 77	27	109	6401	78.85	-51.03	0.28
892	SLU 78	27	125	6384	78.47	-51.03	0.32
892	SLU 79	26	108	6369	78.43	-50.66	0.27
892	SLU 80	27	125	6352	78.05	-50.67	0.31
892	SLU 81	25	110	6471	79.56	-50.69	0.33
892	SLU 82	25	127	6454	79.18	-50.69	0.37
892	SLU 83	26	110	6535	80.39	-51.44	0.31
892	SLU 84	26	127	6518	80.02	-51.44	0.35
892	SLE RA 1	17	77	4239	52.17	-34.01	0.18
892	SLE RA 2	17	95	4221	51.75	-34.01	0.23
892	SLE RA 3	17	78	4304	53.01	-34.75	0.17
892	SLE RA 4	18	89	4292	52.76	-34.75	0.2
892	SLE RA 5	17	95	4263	52.31	-34.51	0.22
892	SLE RA 6	18	78	4346	53.57	-35.25	0.16
892	SLE RA 7	18	89	4335	53.32	-35.25	0.19
892	SLE RA 8	18	77	4325	53.29	-35.01	0.16
892	SLE RA 9	18	88	4314	53.04	-35.01	0.19
892	SLE RA 10	18	99	4579	56.11	-36.37	0.26
892	SLE RA 11	19	81	4662	57.36	-37.11	0.21
892	SLE RA 12	19	92	4651	57.11	-37.11	0.23
892	SLE RA 13	19	99	4622	56.67	-36.87	0.25
892	SLE RA 14	19	81	4705	57.92	-37.61	0.19
892	SLE RA 15	19	92	4693	57.67	-37.61	0.22
892	SLE RA 16	19	81	4683	57.64	-37.37	0.19
892	SLE RA 17	19	92	4672	57.39	-37.37	0.22
892	SLE RA 18	18	82	4751	58.4	-37.39	0.23
892	SLE RA 19	19	93	4740	58.14	-37.39	0.25
892	SLE RA 20	19	82	4794	58.95	-37.88	0.22
892	SLE RA 21	19	93	4783	58.7	-37.89	0.24
892	SLE FR 1	17	77	4239	52.17	-34.01	0.18
892	SLE FR 2	17	81	4236	52.09	-34.01	0.19
892	SLE FR 3	17	77	4256	52.4	-34.21	0.18
892	SLE FR 4	17	82	4389	53.96	-35.02	0.2
892	SLE FR 5	17	79	4410	54.26	-35.22	0.19
892	SLE FR 6	17	80	4495	55.29	-35.7	0.2
892	SLE QP 1	17	77	4239	52.17	-34.01	0.18
892	SLE QP 2	17	79	4393	54.04	-35.02	0.19
892	SLD 1	520	199	3811	44.65	-7.83	-8.13
892	SLD 2	474	228	3823	44.7	-8.05	-5.77
892	SLD 3	533	-138	4242	54.02	-9.01	-8.89
892	SLD 4	487	-108	4254	54.07	-9.23	-6.54
892	SLD 5	156	619	3563	37	-25.04	-1.54
892	SLD 6	127	638	3570	37.04	-25.17	-0.03
892	SLD 7	199	-501	5000	68.23	-28.98	-4.1
892	SLD 8	170	-482	5007	68.27	-29.11	-2.58
892	SLD 9	-135	639	3779	39.81	-40.93	2.97
892	SLD 10	-165	658	3786	39.85	-41.07	4.49
892	SLD 11	-93	-481	5216	71.04	-44.87	0.42
892	SLD 12	-122	-462	5223	71.08	-45.01	1.93
892	SLD 13	-453	265	4532	54.01	-60.82	6.93
892	SLD 14	-499	295	4543	54.06	-61.03	9.28
892	SLD 15	-440	-71	4963	63.38	-62	6.16
892	SLD 16	-486	-41	4974	63.43	-62.21	8.51
892	SLV 1	804	290	3454	38.7	7.48	-12.8
892	SLV 2	732	336	3471	38.78	7.15	-9.09
892	SLV 3	825	-283	4190	54.69	5.48	-14.1
892	SLV 4	753	-237	4207	54.78	5.14	-10.39
892	SLV 5	234	1003	2992	25.17	-19.17	-2.43
892	SLV 6	185	1034	3003	25.23	-19.39	0.07
892	SLV 7	306	-908	5445	78.47	-25.85	-6.76
892	SLV 8	257	-877	5457	78.53	-26.08	-4.26
892	SLV 9	-223	1034	3329	29.55	-43.97	4.65
892	SLV 10	-271	1065	3341	29.61	-44.19	7.15
892	SLV 11	-151	-877	5782	82.85	-50.65	0.32
892	SLV 12	-200	-846	5794	82.91	-50.88	2.82
892	SLV 13	-719	394	4578	53.31	-75.19	10.78
892	SLV 14	-791	441	4596	53.39	-75.52	14.49
892	SLV 15	-698	-179	5314	69.3	-77.19	9.48
892	SLV 16	-770	-133	5332	69.39	-77.53	13.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
892	SLV FO 1	883	311	3360	37.16	11.73	-14.1
892	SLV FO 2	803	362	3379	37.26	11.36	-10.01
892	SLV FO 3	906	-320	4169	54.75	9.53	-15.53
892	SLV FO 4	827	-268	4189	54.85	9.16	-11.44
892	SLV FO 5	256	1095	2851	22.28	-17.58	-2.69
892	SLV FO 6	202	1130	2865	22.35	-17.83	0.06
892	SLV FO 7	334	-1007	5550	80.91	-24.93	-7.45
892	SLV FO 8	281	-972	5563	80.98	-25.18	-4.7
892	SLV FO 9	-247	1130	3223	27.1	-44.86	5.09
892	SLV FO 10	-300	1164	3236	27.17	-45.11	7.84
892	SLV FO 11	-168	-972	5921	85.74	-52.21	0.33
892	SLV FO 12	-222	-938	5934	85.8	-52.46	3.08
892	SLV FO 13	-793	426	4597	53.23	-79.2	11.83
892	SLV FO 14	-872	477	4617	53.33	-79.57	15.92
892	SLV FO 15	-769	-205	5407	70.82	-81.41	10.4
892	SLV FO 16	-848	-154	5426	70.92	-81.78	14.49
892	CRTFP Ux+	0	0	0	0	0	0
892	CRTFP Ux-	0	0	0	0	0	0
892	CRTFP Uy+	0	0	0	0	0	0
892	CRTFP Uy-	0	0	0	0	0	0
894	SLU 1	-52	0	3201	0.14	-324.09	-0.09
894	SLU 2	-51	18	3160	-0.13	-321.3	4.55
894	SLU 3	-53	-1	3285	0.2	-331.42	-0.18
894	SLU 4	-53	10	3261	0.03	-329.74	2.61
894	SLU 5	-52	18	3216	-0.09	-326.06	4.56
894	SLU 6	-54	-1	3341	0.24	-336.18	-0.16
894	SLU 7	-53	10	3317	0.08	-334.5	2.62
894	SLU 8	-54	0	3312	0.23	-333.63	-0.07
894	SLU 9	-53	11	3288	0.07	-331.95	2.72
894	SLU 10	-55	19	3553	-0.14	-358.32	4.87
894	SLU 11	-58	0	3678	0.19	-368.43	0.14
894	SLU 12	-57	12	3654	0.03	-366.76	2.93
894	SLU 13	-56	19	3609	-0.09	-363.08	4.88
894	SLU 14	-58	0	3734	0.24	-373.2	0.15
894	SLU 15	-58	12	3710	0.08	-371.52	2.94
894	SLU 16	-58	1	3705	0.23	-370.64	0.25
894	SLU 17	-57	12	3681	0.06	-368.97	3.04
894	SLU 18	-58	1	3762	0.13	-376.98	0.36
894	SLU 19	-58	12	3738	-0.03	-375.3	3.15
894	SLU 20	-59	1	3818	0.18	-381.74	0.37
894	SLU 21	-58	12	3793	0.02	-380.07	3.16
894	SLU 22	-59	-2	3722	0.28	-371.89	-0.53
894	SLU 23	-58	16	3681	0.01	-369.09	4.12
894	SLU 24	-60	-3	3807	0.34	-379.21	-0.61
894	SLU 25	-60	9	3783	0.18	-377.53	2.18
894	SLU 26	-59	16	3737	0.06	-373.86	4.13
894	SLU 27	-61	-3	3863	0.39	-383.98	-0.6
894	SLU 28	-60	9	3838	0.23	-382.3	2.19
894	SLU 29	-60	-2	3834	0.38	-381.42	-0.5
894	SLU 30	-60	9	3809	0.22	-379.74	2.28
894	SLU 31	-62	18	4074	0.01	-406.11	4.44
894	SLU 32	-65	-1	4200	0.34	-416.23	-0.29
894	SLU 33	-64	10	4176	0.18	-414.55	2.5
894	SLU 34	-63	18	4130	0.06	-410.88	4.45
894	SLU 35	-65	-1	4256	0.39	-421	-0.28
894	SLU 36	-65	10	4231	0.23	-419.32	2.51
894	SLU 37	-65	-1	4227	0.37	-418.44	-0.18
894	SLU 38	-64	10	4202	0.21	-416.76	2.6
894	SLU 39	-65	-1	4284	0.28	-424.77	-0.07
894	SLU 40	-65	11	4259	0.12	-423.1	2.72
894	SLU 41	-66	-1	4339	0.32	-429.54	-0.06
894	SLU 42	-65	11	4315	0.16	-427.86	2.73
894	SLU 43	-65	0	3982	0.13	-404.94	0.03
894	SLU 44	-64	19	3941	-0.14	-402.14	4.67
894	SLU 45	-67	0	4067	0.19	-412.26	-0.06
894	SLU 46	-66	11	4042	0.03	-410.58	2.73
894	SLU 47	-65	19	3997	-0.1	-406.9	4.68
894	SLU 48	-67	0	4123	0.23	-417.02	-0.04
894	SLU 49	-67	11	4098	0.07	-415.34	2.74
894	SLU 50	-67	0	4093	0.22	-414.47	0.05
894	SLU 51	-66	11	4069	0.06	-412.79	2.84
894	SLU 52	-69	20	4334	-0.15	-439.16	4.99
894	SLU 53	-71	1	4460	0.18	-449.28	0.26
894	SLU 54	-70	12	4435	0.02	-447.6	3.05
894	SLU 55	-69	20	4390	-0.1	-443.92	5
894	SLU 56	-72	1	4516	0.23	-454.04	0.27
894	SLU 57	-71	12	4491	0.07	-452.36	3.06
894	SLU 58	-71	1	4486	0.22	-451.49	0.37
894	SLU 59	-71	12	4462	0.06	-449.81	3.16
894	SLU 60	-72	2	4543	0.12	-457.82	0.48
894	SLU 61	-71	13	4519	-0.04	-456.14	3.27
894	SLU 62	-72	2	4599	0.17	-462.59	0.49
894	SLU 63	-72	13	4575	0.01	-460.91	3.28
894	SLU 64	-72	-2	4504	0.27	-452.73	-0.4
894	SLU 65	-71	17	4463	0	-449.93	4.24
894	SLU 66	-73	-2	4588	0.33	-460.05	-0.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
894	SLU 67	-73	9	4564	0.17	-458.37	2.3
894	SLU 68	-72	17	4519	0.05	-454.7	4.25
894	SLU 69	-74	-2	4644	0.38	-464.82	-0.48
894	SLU 70	-74	9	4620	0.22	-463.14	2.31
894	SLU 71	-74	-2	4615	0.37	-462.26	-0.38
894	SLU 72	-73	9	4591	0.21	-460.58	2.4
894	SLU 73	-76	18	4856	0	-486.95	4.56
894	SLU 74	-78	-1	4981	0.33	-497.07	-0.17
894	SLU 75	-77	10	4957	0.17	-495.39	2.62
894	SLU 76	-76	18	4911	0.05	-491.72	4.57
894	SLU 77	-79	-1	5037	0.38	-501.84	-0.16
894	SLU 78	-78	10	5013	0.22	-500.16	2.63
894	SLU 79	-78	-1	5008	0.36	-499.28	-0.06
894	SLU 80	-77	11	4984	0.2	-497.6	2.72
894	SLU 81	-79	0	5065	0.27	-505.62	0.05
894	SLU 82	-78	11	5040	0.11	-503.94	2.84
894	SLU 83	-79	0	5121	0.32	-510.38	0.06
894	SLU 84	-79	11	5096	0.15	-508.7	2.85
894	SLE RA 1	-54	-1	3350	0.18	-337.75	-0.22
894	SLE RA 2	-53	11	3323	0	-335.88	2.88
894	SLE RA 3	-55	-1	3406	0.22	-342.63	-0.27
894	SLE RA 4	-54	6	3390	0.11	-341.51	1.59
894	SLE RA 5	-54	11	3360	0.03	-339.06	2.89
894	SLE RA 6	-55	-1	3443	0.25	-345.81	-0.26
894	SLE RA 7	-55	6	3427	0.14	-344.69	1.59
894	SLE RA 8	-55	-1	3424	0.24	-344.1	-0.2
894	SLE RA 9	-55	6	3408	0.13	-342.99	1.66
894	SLE RA 10	-56	12	3584	0	-360.56	3.09
894	SLE RA 11	-58	0	3668	0.22	-367.31	-0.06
894	SLE RA 12	-57	7	3652	0.11	-366.19	1.8
894	SLE RA 13	-57	12	3622	0.03	-363.74	3.1
894	SLE RA 14	-58	0	3705	0.25	-370.49	-0.05
894	SLE RA 15	-58	7	3689	0.14	-369.37	1.81
894	SLE RA 16	-58	0	3686	0.24	-368.78	0.01
894	SLE RA 17	-58	7	3670	0.13	-367.66	1.87
894	SLE RA 18	-58	0	3724	0.17	-373.01	0.09
894	SLE RA 19	-58	8	3708	0.07	-371.89	1.95
894	SLE RA 20	-59	0	3761	0.21	-376.18	0.09
894	SLE RA 21	-58	8	3745	0.1	-375.06	1.95
894	SLE FR 1	-54	-1	3350	0.18	-337.75	-0.22
894	SLE FR 2	-54	1	3344	0.14	-337.38	0.4
894	SLE FR 3	-54	-1	3365	0.19	-339.02	-0.21
894	SLE FR 4	-55	2	3456	0.14	-347.95	0.49
894	SLE FR 5	-56	-1	3477	0.19	-349.6	-0.12
894	SLE FR 6	-56	0	3537	0.18	-355.38	-0.06
894	SLE QP 1	-54	-1	3350	0.18	-337.75	-0.22
894	SLE QP 2	-55	-1	3462	0.18	-348.33	-0.13
894	SLD 1	215	62	4227	-1.49	-429.51	15.41
894	SLD 2	181	-38	4276	-1.17	-434.08	-9.36
894	SLD 3	198	-167	4796	2.4	-465.36	-41.8
894	SLD 4	164	-267	4846	2.72	-469.93	-66.57
894	SLD 5	58	383	2819	-6.27	-317.53	95.56
894	SLD 6	36	319	2851	-6.06	-320.48	79.61
894	SLD 7	0	-381	4717	6.68	-437.01	-95.14
894	SLD 8	-22	-445	4749	6.89	-439.96	-111.09
894	SLD 9	-89	444	2175	-6.53	-256.69	110.84
894	SLD 10	-111	380	2207	-6.33	-259.64	94.89
894	SLD 11	-147	-320	4073	6.42	-376.18	-79.86
894	SLD 12	-169	-384	4105	6.62	-379.12	-95.81
894	SLD 13	-274	266	2078	-2.37	-226.73	66.32
894	SLD 14	-308	166	2128	-2.04	-231.3	41.55
894	SLD 15	-292	37	2647	1.52	-262.57	9.11
894	SLD 16	-326	-63	2697	1.84	-267.14	-15.66
894	SLV 1	370	115	4613	-2.7	-472.33	28.46
894	SLV 2	316	-43	4691	-2.19	-479.54	-10.57
894	SLV 3	340	-276	5584	3.93	-533.47	-69.13
894	SLV 4	287	-434	5662	4.44	-540.68	-108.17
894	SLV 5	127	656	2320	-10.83	-291.45	163.76
894	SLV 6	91	550	2373	-10.49	-296.31	137.47
894	SLV 7	28	-647	5557	11.26	-495.26	-161.56
894	SLV 8	-8	-753	5609	11.6	-500.11	-187.84
894	SLV 9	-103	752	1315	-11.25	-196.55	187.59
894	SLV 10	-139	646	1367	-10.91	-201.4	161.31
894	SLV 11	-202	-552	4551	10.85	-400.35	-137.72
894	SLV 12	-238	-657	4604	11.19	-405.2	-164.01
894	SLV 13	-397	432	1262	-4.08	-155.97	107.92
894	SLV 14	-451	275	1340	-3.57	-163.18	68.88
894	SLV 15	-427	41	2233	2.55	-217.11	10.32
894	SLV 16	-480	-116	2311	3.05	-224.32	-28.71
894	SLV FO 1	412	126	4728	-2.99	-484.73	31.32
894	SLV FO 2	353	-47	4814	-2.43	-492.66	-11.62
894	SLV FO 3	380	-304	5796	4.3	-551.99	-76.03
894	SLV FO 4	321	-477	5882	4.86	-559.92	-118.97
894	SLV FO 5	145	722	2206	-11.93	-285.77	180.14
894	SLV FO 6	106	605	2264	-11.56	-291.1	151.23
894	SLV FO 7	37	-712	5766	12.37	-509.95	-177.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
894	SLV FO 8	-3	-828	5824	12.74	-515.29	-206.61
894	SLV FO 9	-108	827	1100	-12.39	-181.37	206.36
894	SLV FO 10	-147	710	1158	-12.01	-186.71	177.45
894	SLV FO 11	-216	-607	4660	11.91	-405.55	-151.48
894	SLV FO 12	-256	-723	4718	12.29	-410.89	-180.39
894	SLV FO 13	-432	476	1041	-4.51	-136.74	118.72
894	SLV FO 14	-490	303	1127	-3.95	-144.67	75.78
894	SLV FO 15	-464	46	2110	2.78	-203.99	11.37
894	SLV FO 16	-523	-127	2196	3.34	-211.92	-31.57
894	CRTFP Ux+	0	0	0	0	0	0
894	CRTFP Ux-	0	0	0	0	0	0
894	CRTFP Uy+	0	0	0	0	0	0
894	CRTFP Uy-	0	0	0	0	0	0
897	SLU 1	110	30	6539	1.64	5.53	-0.53
897	SLU 2	105	59	6452	1.11	4.2	-0.42
897	SLU 3	114	31	6723	1.81	5.99	-0.58
897	SLU 4	111	48	6671	1.49	5.19	-0.51
897	SLU 5	108	59	6580	1.23	4.44	-0.47
897	SLU 6	117	31	6850	1.93	6.22	-0.63
897	SLU 7	114	48	6798	1.61	5.43	-0.56
897	SLU 8	116	31	6794	1.89	6	-0.63
897	SLU 9	113	48	6742	1.57	5.2	-0.56
897	SLU 10	113	63	7291	1.28	5.59	-0.45
897	SLU 11	122	35	7562	1.98	7.38	-0.61
897	SLU 12	119	52	7510	1.66	6.58	-0.54
897	SLU 13	116	64	7418	1.4	5.82	-0.5
897	SLU 14	125	35	7689	2.1	7.61	-0.66
897	SLU 15	122	53	7637	1.78	6.81	-0.59
897	SLU 16	124	35	7633	2.06	7.38	-0.66
897	SLU 17	121	52	7581	1.74	6.59	-0.6
897	SLU 18	121	36	7737	1.89	7.51	-0.57
897	SLU 19	118	54	7685	1.57	6.72	-0.51
897	SLU 20	124	37	7865	2.01	7.75	-0.63
897	SLU 21	122	54	7813	1.69	6.95	-0.56
897	SLU 22	125	34	7640	2.15	8.05	-0.56
897	SLU 23	120	63	7554	1.62	6.73	-0.45
897	SLU 24	129	34	7825	2.32	8.51	-0.61
897	SLU 25	126	52	7773	1.99	7.72	-0.54
897	SLU 26	123	63	7681	1.74	6.96	-0.5
897	SLU 27	132	35	7952	2.44	8.75	-0.66
897	SLU 28	129	52	7900	2.12	7.95	-0.59
897	SLU 29	131	35	7896	2.4	8.52	-0.66
897	SLU 30	128	52	7844	2.08	7.72	-0.59
897	SLU 31	128	67	8393	1.79	8.11	-0.48
897	SLU 32	137	39	8663	2.49	9.9	-0.64
897	SLU 33	134	56	8611	2.16	9.1	-0.57
897	SLU 34	131	67	8520	1.91	8.35	-0.53
897	SLU 35	140	39	8791	2.61	10.13	-0.69
897	SLU 36	137	56	8739	2.29	9.34	-0.62
897	SLU 37	139	39	8735	2.57	9.91	-0.69
897	SLU 38	136	56	8683	2.25	9.11	-0.62
897	SLU 39	136	40	8839	2.4	10.04	-0.6
897	SLU 40	134	57	8787	2.07	9.24	-0.53
897	SLU 41	139	40	8967	2.52	10.27	-0.65
897	SLU 42	137	58	8915	2.2	9.47	-0.59
897	SLU 43	137	38	8122	1.96	6.32	-0.68
897	SLU 44	133	67	8036	1.43	5	-0.57
897	SLU 45	141	39	8307	2.13	6.78	-0.73
897	SLU 46	139	56	8255	1.81	5.99	-0.66
897	SLU 47	136	67	8163	1.55	5.23	-0.62
897	SLU 48	144	39	8434	2.25	7.02	-0.78
897	SLU 49	142	56	8382	1.93	6.22	-0.71
897	SLU 50	143	39	8378	2.21	6.79	-0.78
897	SLU 51	141	56	8326	1.89	5.99	-0.71
897	SLU 52	141	71	8875	1.6	6.38	-0.6
897	SLU 53	150	43	9145	2.3	8.17	-0.76
897	SLU 54	147	60	9093	1.98	7.37	-0.69
897	SLU 55	144	71	9002	1.72	6.62	-0.65
897	SLU 56	153	43	9273	2.42	8.4	-0.81
897	SLU 57	150	60	9221	2.1	7.61	-0.74
897	SLU 58	152	43	9217	2.38	8.18	-0.81
897	SLU 59	149	60	9165	2.06	7.38	-0.75
897	SLU 60	149	44	9321	2.21	8.31	-0.72
897	SLU 61	146	61	9269	1.89	7.51	-0.66
897	SLU 62	152	44	9449	2.33	8.54	-0.77
897	SLU 63	149	62	9397	2.01	7.74	-0.71
897	SLU 64	152	42	9224	2.47	8.85	-0.71
897	SLU 65	148	70	9138	1.93	7.52	-0.59
897	SLU 66	156	42	9408	2.63	9.3	-0.76
897	SLU 67	154	59	9356	2.31	8.51	-0.69
897	SLU 68	151	71	9265	2.06	7.75	-0.65
897	SLU 69	159	43	9536	2.76	9.54	-0.81
897	SLU 70	157	60	9484	2.44	8.74	-0.74
897	SLU 71	158	42	9479	2.72	9.31	-0.81
897	SLU 72	156	60	9427	2.4	8.52	-0.74
897	SLU 73	156	75	9977	2.11	8.91	-0.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
897	SLU 74	165	47	10247	2.81	10.69	-0.79
897	SLU 75	162	64	10195	2.48	9.9	-0.72
897	SLU 76	159	75	10104	2.23	9.14	-0.68
897	SLU 77	168	47	10375	2.93	10.93	-0.84
897	SLU 78	165	64	10323	2.61	10.13	-0.77
897	SLU 79	167	47	10318	2.89	10.7	-0.84
897	SLU 80	164	64	10266	2.57	9.91	-0.77
897	SLU 81	164	48	10423	2.71	10.83	-0.75
897	SLU 82	161	65	10371	2.39	10.03	-0.68
897	SLU 83	167	48	10550	2.84	11.06	-0.8
897	SLU 84	164	65	10498	2.52	10.27	-0.73
897	SLE RA 1	114	31	6853	1.79	6.25	-0.54
897	SLE RA 2	111	50	6796	1.43	5.37	-0.46
897	SLE RA 3	117	32	6976	1.9	6.56	-0.57
897	SLE RA 4	115	43	6941	1.68	6.03	-0.53
897	SLE RA 5	113	51	6881	1.51	5.52	-0.5
897	SLE RA 6	119	32	7061	1.98	6.71	-0.6
897	SLE RA 7	117	43	7027	1.77	6.18	-0.56
897	SLE RA 8	118	32	7024	1.95	6.56	-0.61
897	SLE RA 9	116	43	6989	1.74	6.03	-0.56
897	SLE RA 10	116	53	7355	1.55	6.29	-0.48
897	SLE RA 11	122	34	7535	2.01	7.48	-0.59
897	SLE RA 12	120	46	7501	1.8	6.95	-0.55
897	SLE RA 13	118	53	7440	1.63	6.45	-0.52
897	SLE RA 14	124	35	7621	2.09	7.64	-0.62
897	SLE RA 15	122	46	7586	1.88	7.11	-0.58
897	SLE RA 16	123	35	7583	2.07	7.49	-0.63
897	SLE RA 17	122	46	7548	1.85	6.96	-0.58
897	SLE RA 18	122	35	7652	1.95	7.57	-0.57
897	SLE RA 19	120	47	7618	1.74	7.04	-0.52
897	SLE RA 20	124	36	7737	2.03	7.73	-0.6
897	SLE RA 21	122	47	7703	1.82	7.2	-0.56
897	SLE FR 1	114	31	6853	1.79	6.25	-0.54
897	SLE FR 2	113	35	6842	1.72	6.07	-0.52
897	SLE FR 3	115	31	6887	1.82	6.31	-0.55
897	SLE FR 4	116	36	7082	1.77	6.47	-0.53
897	SLE FR 5	117	33	7127	1.87	6.71	-0.56
897	SLE FR 6	118	33	7253	1.87	6.91	-0.55
897	SLE QP 1	114	31	6853	1.79	6.25	-0.54
897	SLE QP 2	116	32	7093	1.84	6.65	-0.55
897	SLD 1	633	81	5819	-2.75	0.43	-3.19
897	SLD 2	561	169	5741	-3.33	1.75	-0.88
897	SLD 3	687	-270	7089	4.8	18.42	-4.69
897	SLD 4	615	-182	7011	4.21	19.74	-2.38
897	SLD 5	201	563	4798	-10.89	-22.73	0.54
897	SLD 6	154	620	4748	-11.26	-21.88	2.03
897	SLD 7	383	-605	9031	14.28	37.24	-4.47
897	SLD 8	336	-548	8981	13.9	38.09	-2.98
897	SLD 9	-104	613	5205	-10.22	-24.79	1.88
897	SLD 10	-150	670	5155	-10.6	-23.94	3.37
897	SLD 11	78	-555	9438	14.94	35.17	-3.12
897	SLD 12	31	-498	9388	14.56	36.02	-1.64
897	SLD 13	-383	247	7175	-0.54	-6.45	1.29
897	SLD 14	-455	335	7098	-1.13	-5.13	3.6
897	SLD 15	-328	-104	8445	7.01	11.54	-0.22
897	SLD 16	-400	-16	8367	6.42	12.86	2.1
897	SLV 1	922	132	5010	-5.88	-3.99	-4.6
897	SLV 2	808	271	4888	-6.8	-1.91	-0.95
897	SLV 3	1015	-465	7178	7	26.73	-7.16
897	SLV 4	901	-327	7056	6.08	28.82	-3.51
897	SLV 5	239	943	3204	-19.84	-43.54	1.44
897	SLV 6	162	1036	3122	-20.46	-42.13	3.9
897	SLV 7	547	-1049	10428	23.09	58.88	-7.1
897	SLV 8	471	-956	10346	22.47	60.29	-4.64
897	SLV 9	-238	1021	3840	-18.8	-46.99	3.55
897	SLV 10	-315	1114	3758	-19.42	-45.59	6
897	SLV 11	70	-971	11064	24.14	55.43	-4.99
897	SLV 12	-7	-878	10982	23.51	56.83	-2.54
897	SLV 13	-669	392	7131	-2.4	-15.52	2.42
897	SLV 14	-783	530	7009	-3.33	-13.44	6.07
897	SLV 15	-576	-206	9298	10.48	15.2	-0.14
897	SLV 16	-690	-67	9176	9.55	17.29	3.5
897	SLV FO 1	1003	142	4802	-6.65	-5.06	-5
897	SLV FO 2	878	295	4668	-7.67	-2.77	-0.99
897	SLV FO 3	1105	-515	7186	7.52	28.74	-7.82
897	SLV FO 4	979	-363	7052	6.5	31.03	-3.81
897	SLV FO 5	251	1034	2815	-22.01	-48.55	1.64
897	SLV FO 6	167	1137	2725	-22.69	-47.01	4.34
897	SLV FO 7	590	-1157	10762	25.22	64.11	-7.75
897	SLV FO 8	506	-1054	10671	24.53	65.65	-5.05
897	SLV FO 9	-274	1119	3515	-20.86	-52.36	3.96
897	SLV FO 10	-358	1222	3425	-21.54	-50.82	6.66
897	SLV FO 11	65	-1072	11461	26.37	60.3	-5.44
897	SLV FO 12	-19	-969	11371	25.68	61.85	-2.74
897	SLV FO 13	-747	428	7134	-2.83	-17.74	2.72
897	SLV FO 14	-872	580	7000	-3.84	-15.45	6.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
897	SLV FO 15	-645	-230	9518	11.34	16.06	-0.1
897	SLV FO 16	-771	-77	9384	10.32	18.35	3.91
897	CRTFP Ux+	0	0	0	0	0	0
897	CRTFP Ux-	0	0	0	0	0	0
897	CRTFP Uy+	0	0	0	0	0	0
897	CRTFP Uy-	0	0	0	0	0	0
900	SLU 1	64	15	3932	1.05	734.49	-5.25
900	SLU 2	62	38	3874	0.64	726.82	-13.37
900	SLU 3	66	16	4041	1.18	752.57	-5.47
900	SLU 4	65	30	4006	0.94	747.97	-10.34
900	SLU 5	64	39	3949	0.75	739.28	-13.78
900	SLU 6	68	17	4116	1.29	765.03	-5.88
900	SLU 7	67	31	4081	1.04	760.43	-10.75
900	SLU 8	68	17	4083	1.27	759.41	-6.07
900	SLU 9	66	31	4048	1.02	754.8	-10.94
900	SLU 10	67	40	4345	0.75	809.63	-13.9
900	SLU 11	71	17	4511	1.3	835.38	-6
900	SLU 12	70	31	4477	1.05	830.78	-10.87
900	SLU 13	68	41	4420	0.86	822.08	-14.31
900	SLU 14	73	18	4587	1.4	847.84	-6.41
900	SLU 15	71	32	4552	1.15	843.24	-11.28
900	SLU 16	72	19	4553	1.38	842.21	-6.59
900	SLU 17	71	33	4518	1.13	837.61	-11.47
900	SLU 18	71	17	4605	1.21	852.78	-6
900	SLU 19	69	31	4570	0.97	848.18	-10.88
900	SLU 20	72	18	4680	1.32	865.24	-6.41
900	SLU 21	71	32	4645	1.07	860.64	-11.28
900	SLU 22	72	13	4554	1.41	842.25	-4.51
900	SLU 23	70	36	4496	1	834.58	-12.63
900	SLU 24	74	13	4663	1.54	860.33	-4.73
900	SLU 25	73	27	4628	1.29	855.73	-9.61
900	SLU 26	71	37	4571	1.11	847.03	-13.04
900	SLU 27	76	15	4738	1.65	872.79	-5.14
900	SLU 28	74	29	4703	1.4	868.19	-10.01
900	SLU 29	75	15	4705	1.63	867.16	-5.33
900	SLU 30	74	29	4670	1.38	862.56	-10.2
900	SLU 31	74	38	4967	1.11	917.38	-13.16
900	SLU 32	78	15	5133	1.65	943.14	-5.26
900	SLU 33	77	29	5098	1.41	938.53	-10.13
900	SLU 34	76	39	5042	1.22	929.84	-13.57
900	SLU 35	80	16	5209	1.76	955.59	-5.67
900	SLU 36	79	30	5174	1.51	950.99	-10.54
900	SLU 37	80	17	5175	1.74	949.97	-5.86
900	SLU 38	78	31	5140	1.49	945.37	-10.73
900	SLU 39	78	15	5226	1.57	960.54	-5.27
900	SLU 40	77	29	5191	1.32	955.94	-10.14
900	SLU 41	80	16	5302	1.68	973	-5.68
900	SLU 42	79	30	5267	1.43	968.4	-10.55
900	SLU 43	81	20	4899	1.25	917.89	-7.08
900	SLU 44	79	43	4841	0.84	910.22	-15.2
900	SLU 45	83	21	5007	1.38	935.97	-7.3
900	SLU 46	82	35	4973	1.13	931.37	-12.17
900	SLU 47	81	45	4916	0.94	922.68	-15.6
900	SLU 48	85	22	5083	1.48	948.43	-7.71
900	SLU 49	84	36	5048	1.24	943.83	-12.58
900	SLU 50	84	22	5049	1.46	942.81	-7.89
900	SLU 51	83	36	5014	1.21	938.21	-12.77
900	SLU 52	83	45	5311	0.95	993.03	-15.72
900	SLU 53	88	22	5478	1.49	1018.78	-7.82
900	SLU 54	86	36	5443	1.24	1014.18	-12.7
900	SLU 55	85	46	5386	1.05	1005.49	-16.13
900	SLU 56	89	23	5553	1.6	1031.24	-8.23
900	SLU 57	88	37	5518	1.35	1026.64	-13.11
900	SLU 58	89	24	5520	1.57	1025.61	-8.42
900	SLU 59	88	38	5485	1.33	1021.01	-13.29
900	SLU 60	88	22	5571	1.41	1036.19	-7.83
900	SLU 61	86	36	5536	1.16	1031.58	-12.7
900	SLU 62	89	23	5646	1.52	1048.64	-8.24
900	SLU 63	88	37	5611	1.27	1044.04	-13.11
900	SLU 64	89	18	5521	1.61	1025.65	-6.34
900	SLU 65	86	41	5463	1.19	1017.98	-14.46
900	SLU 66	91	19	5629	1.74	1043.73	-6.56
900	SLU 67	89	33	5594	1.49	1039.13	-11.43
900	SLU 68	88	42	5538	1.3	1030.44	-14.87
900	SLU 69	92	20	5705	1.84	1056.19	-6.97
900	SLU 70	91	34	5670	1.59	1051.59	-11.84
900	SLU 71	92	20	5671	1.82	1050.56	-7.16
900	SLU 72	90	34	5636	1.57	1045.96	-12.03
900	SLU 73	91	43	5933	1.31	1100.78	-14.99
900	SLU 74	95	20	6100	1.85	1126.54	-7.09
900	SLU 75	94	34	6065	1.6	1121.94	-11.96
900	SLU 76	92	44	6008	1.41	1113.24	-15.4
900	SLU 77	97	21	6175	1.95	1139	-7.5
900	SLU 78	95	35	6140	1.71	1134.39	-12.37
900	SLU 79	96	22	6142	1.93	1133.37	-7.69
900	SLU 80	95	36	6107	1.68	1128.77	-12.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
900	SLU 81	95	20	6193	1.77	1143.94	-7.09
900	SLU 82	94	34	6158	1.52	1139.34	-11.97
900	SLU 83	97	21	6268	1.87	1156.4	-7.5
900	SLU 84	95	35	6233	1.63	1151.8	-12.38
900	SLE RA 1	66	14	4110	1.16	765.28	-5.04
900	SLE RA 2	65	30	4071	0.88	760.16	-10.45
900	SLE RA 3	68	15	4182	1.24	777.33	-5.19
900	SLE RA 4	67	24	4159	1.08	774.26	-8.43
900	SLE RA 5	66	31	4121	0.95	768.47	-10.72
900	SLE RA 6	69	16	4233	1.31	785.64	-5.46
900	SLE RA 7	68	25	4209	1.15	782.57	-8.71
900	SLE RA 8	69	16	4210	1.3	781.89	-5.58
900	SLE RA 9	68	25	4187	1.13	778.82	-8.83
900	SLE RA 10	68	31	4385	0.96	815.37	-10.8
900	SLE RA 11	71	16	4496	1.32	832.54	-5.54
900	SLE RA 12	70	25	4473	1.15	829.47	-8.79
900	SLE RA 13	69	32	4435	1.03	823.67	-11.08
900	SLE RA 14	72	17	4546	1.39	840.84	-5.81
900	SLE RA 15	71	26	4523	1.22	837.77	-9.06
900	SLE RA 16	72	17	4524	1.37	837.09	-5.94
900	SLE RA 17	71	26	4501	1.21	834.02	-9.18
900	SLE RA 18	71	16	4558	1.26	844.14	-5.54
900	SLE RA 19	70	25	4535	1.1	841.07	-8.79
900	SLE RA 20	72	17	4608	1.33	852.45	-5.81
900	SLE RA 21	71	26	4585	1.17	849.38	-9.06
900	SLE FR 1	66	14	4110	1.16	765.28	-5.04
900	SLE FR 2	66	17	4102	1.1	764.25	-6.12
900	SLE FR 3	67	15	4130	1.19	768.6	-5.15
900	SLE FR 4	67	18	4237	1.13	787.91	-6.27
900	SLE FR 5	68	15	4265	1.22	792.26	-5.3
900	SLE FR 6	69	15	4334	1.21	804.71	-5.29
900	SLE QP 1	66	14	4110	1.16	765.28	-5.04
900	SLE QP 2	68	15	4244	1.19	788.94	-5.19
900	SLD 1	395	-20	2702	-2.43	547.76	6.76
900	SLD 2	348	103	2624	-2.98	538.19	-35.95
900	SLD 3	419	-298	3541	3.48	658.69	104.04
900	SLD 4	373	-176	3464	2.94	649.11	61.33
900	SLD 5	136	405	2522	-8.77	550	-141.8
900	SLD 6	106	484	2472	-9.12	543.83	-169.31
900	SLD 7	219	-522	5320	10.94	919.74	182.47
900	SLD 8	189	-443	5270	10.58	913.58	154.97
900	SLD 9	-53	473	3219	-8.21	664.3	-165.35
900	SLD 10	-83	552	3169	-8.56	658.13	-192.85
900	SLD 11	29	-455	6017	11.5	1034.04	158.93
900	SLD 12	-1	-376	5967	11.15	1027.87	131.42
900	SLD 13	-237	205	5025	-0.56	928.76	-71.71
900	SLD 14	-284	328	4948	-1.1	919.18	-114.42
900	SLD 15	-212	-73	5865	5.35	1039.69	25.57
900	SLD 16	-259	50	5787	4.81	1030.11	-17.14
900	SLV 1	579	-20	1776	-4.89	404.5	6.72
900	SLV 2	505	173	1654	-5.75	389.4	-60.6
900	SLV 3	620	-495	3209	5.19	593.81	172.68
900	SLV 4	547	-302	3087	4.33	578.71	105.36
900	SLV 5	171	688	1353	-15.77	389.31	-240.75
900	SLV 6	122	819	1271	-16.35	379.14	-286.08
900	SLV 7	311	-894	6130	17.85	1020.33	312.44
900	SLV 8	261	-764	6048	17.27	1010.16	267.11
900	SLV 9	-126	794	2441	-14.89	567.71	-277.49
900	SLV 10	-175	924	2359	-15.47	557.54	-322.81
900	SLV 11	14	-789	7218	18.73	1198.73	275.7
900	SLV 12	-36	-659	7136	18.15	1188.56	230.37
900	SLV 13	-411	331	5402	-1.95	999.16	-115.74
900	SLV 14	-485	525	5280	-2.82	984.07	-183.06
900	SLV 15	-369	-144	6835	8.13	1188.47	50.22
900	SLV 16	-443	50	6713	7.27	1173.37	-17.1
900	SLV FO 1	630	-24	1529	-5.5	366.06	7.91
900	SLV FO 2	549	189	1395	-6.45	349.45	-66.14
900	SLV FO 3	676	-546	3105	5.59	574.29	190.47
900	SLV FO 4	595	-333	2971	4.65	557.69	116.41
900	SLV FO 5	182	756	1064	-17.47	349.34	-264.31
900	SLV FO 6	127	899	974	-18.11	338.16	-314.17
900	SLV FO 7	335	-985	6318	19.52	1043.47	344.2
900	SLV FO 8	280	-842	6228	18.88	1032.29	294.34
900	SLV FO 9	-145	872	2261	-16.5	545.58	-304.72
900	SLV FO 10	-199	1015	2171	-17.14	534.4	-354.58
900	SLV FO 11	8	-869	7515	20.48	1239.71	303.79
900	SLV FO 12	-46	-726	7425	19.85	1228.53	253.93
900	SLV FO 13	-459	363	5518	-2.27	1020.19	-126.79
900	SLV FO 14	-540	576	5384	-3.22	1003.58	-200.85
900	SLV FO 15	-413	-160	7094	8.83	1228.42	55.76
900	SLV FO 16	-494	53	6960	7.88	1211.82	-18.29
900	CRTFP Ux+	0	0	0	0	0	0
900	CRTFP Ux-	0	0	0	0	0	0
900	CRTFP Uy+	0	0	0	0	0	0
900	CRTFP Uy-	0	0	0	0	0	0
902	SLU 1	-109	9	6436	-0.58	-4.6	1.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
902	SLU 2	-106	41	6349	-1.07	-2.64	1.3
902	SLU 3	-113	9	6610	-0.49	-5.19	1.47
902	SLU 4	-110	28	6558	-0.79	-4.02	1.4
902	SLU 5	-108	40	6465	-1.01	-3.09	1.34
902	SLU 6	-114	9	6726	-0.42	-5.63	1.5
902	SLU 7	-112	28	6674	-0.72	-4.46	1.44
902	SLU 8	-113	9	6667	-0.44	-5.49	1.49
902	SLU 9	-111	28	6615	-0.74	-4.31	1.42
902	SLU 10	-114	41	7195	-1.27	-4.52	1.56
902	SLU 11	-121	9	7457	-0.69	-7.07	1.73
902	SLU 12	-119	28	7405	-0.99	-5.9	1.66
902	SLU 13	-116	41	7311	-1.2	-4.97	1.6
902	SLU 14	-123	9	7572	-0.62	-7.51	1.77
902	SLU 15	-121	28	7520	-0.92	-6.34	1.7
902	SLU 16	-122	9	7514	-0.64	-7.37	1.75
902	SLU 17	-120	28	7462	-0.94	-6.19	1.68
902	SLU 18	-122	10	7645	-0.86	-7.28	1.79
902	SLU 19	-120	29	7593	-1.16	-6.11	1.72
902	SLU 20	-124	10	7761	-0.79	-7.73	1.83
902	SLU 21	-122	29	7709	-1.09	-6.56	1.76
902	SLU 22	-125	8	7537	-0.5	-7.26	1.72
902	SLU 23	-122	40	7450	-1	-5.31	1.6
902	SLU 24	-128	8	7711	-0.41	-7.85	1.77
902	SLU 25	-126	27	7659	-0.71	-6.68	1.7
902	SLU 26	-123	40	7565	-0.93	-5.75	1.64
902	SLU 27	-130	8	7827	-0.34	-8.3	1.81
902	SLU 28	-128	27	7775	-0.64	-7.12	1.74
902	SLU 29	-129	8	7768	-0.36	-8.15	1.79
902	SLU 30	-127	27	7716	-0.66	-6.98	1.72
902	SLU 31	-130	40	8296	-1.2	-7.19	1.87
902	SLU 32	-137	9	8557	-0.61	-9.73	2.03
902	SLU 33	-135	28	8505	-0.91	-8.56	1.97
902	SLU 34	-132	40	8412	-1.13	-7.63	1.9
902	SLU 35	-139	8	8673	-0.54	-10.18	2.07
902	SLU 36	-137	27	8621	-0.84	-9.01	2
902	SLU 37	-138	9	8615	-0.56	-10.03	2.06
902	SLU 38	-136	27	8562	-0.86	-8.86	1.99
902	SLU 39	-138	9	8746	-0.78	-9.95	2.09
902	SLU 40	-136	28	8694	-1.08	-8.78	2.03
902	SLU 41	-140	9	8862	-0.72	-10.39	2.13
902	SLU 42	-138	28	8809	-1.01	-9.22	2.06
902	SLU 43	-137	12	7989	-0.77	-5.06	1.73
902	SLU 44	-133	44	7902	-1.27	-3.11	1.62
902	SLU 45	-140	12	8163	-0.69	-5.65	1.79
902	SLU 46	-138	31	8111	-0.99	-4.48	1.72
902	SLU 47	-135	43	8018	-1.2	-3.55	1.66
902	SLU 48	-142	12	8279	-0.62	-6.1	1.82
902	SLU 49	-140	31	8227	-0.92	-4.93	1.76
902	SLU 50	-141	12	8220	-0.64	-5.95	1.81
902	SLU 51	-138	31	8168	-0.94	-4.78	1.74
902	SLU 52	-142	44	8749	-1.47	-4.99	1.88
902	SLU 53	-149	13	9010	-0.89	-7.54	2.05
902	SLU 54	-147	31	8958	-1.19	-6.36	1.98
902	SLU 55	-144	44	8864	-1.4	-5.43	1.92
902	SLU 56	-151	12	9126	-0.82	-7.98	2.09
902	SLU 57	-148	31	9074	-1.12	-6.81	2.02
902	SLU 58	-149	12	9067	-0.84	-7.83	2.07
902	SLU 59	-147	31	9015	-1.14	-6.66	2
902	SLU 60	-149	13	9198	-1.06	-7.75	2.11
902	SLU 61	-147	32	9146	-1.36	-6.58	2.04
902	SLU 62	-151	13	9314	-0.99	-8.19	2.15
902	SLU 63	-149	32	9262	-1.29	-7.02	2.08
902	SLU 64	-153	11	9090	-0.7	-7.73	2.03
902	SLU 65	-149	43	9003	-1.2	-5.77	1.92
902	SLU 66	-156	11	9264	-0.61	-8.32	2.09
902	SLU 67	-154	30	9212	-0.91	-7.15	2.02
902	SLU 68	-151	43	9119	-1.13	-6.22	1.96
902	SLU 69	-158	11	9380	-0.54	-8.76	2.13
902	SLU 70	-155	30	9328	-0.84	-7.59	2.06
902	SLU 71	-156	11	9321	-0.56	-8.61	2.11
902	SLU 72	-154	30	9269	-0.86	-7.44	2.04
902	SLU 73	-158	43	9850	-1.39	-7.65	2.19
902	SLU 74	-165	12	10111	-0.81	-10.2	2.35
902	SLU 75	-162	31	10059	-1.11	-9.03	2.29
902	SLU 76	-160	43	9965	-1.33	-8.1	2.22
902	SLU 77	-167	12	10227	-0.74	-10.64	2.39
902	SLU 78	-164	30	10174	-1.04	-9.47	2.32
902	SLU 79	-165	12	10168	-0.76	-10.5	2.37
902	SLU 80	-163	30	10116	-1.06	-9.32	2.31
902	SLU 81	-165	12	10299	-0.98	-10.41	2.41
902	SLU 82	-163	31	10247	-1.28	-9.24	2.35
902	SLU 83	-167	12	10415	-0.91	-10.86	2.45
902	SLU 84	-165	31	10363	-1.21	-9.69	2.38
902	SLE RA 1	-114	9	6750	-0.55	-5.36	1.5
902	SLE RA 2	-111	30	6692	-0.89	-4.06	1.42
902	SLE RA 3	-116	9	6867	-0.5	-5.75	1.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
902	SLE RA 4	-115	21	6832	-0.69	-4.97	1.49
902	SLE RA 5	-113	30	6770	-0.84	-4.35	1.45
902	SLE RA 6	-117	9	6944	-0.45	-6.05	1.56
902	SLE RA 7	-116	21	6909	-0.65	-5.27	1.51
902	SLE RA 8	-116	9	6905	-0.46	-5.95	1.55
902	SLE RA 9	-115	21	6870	-0.66	-5.17	1.5
902	SLE RA 10	-117	30	7257	-1.02	-5.31	1.6
902	SLE RA 11	-122	9	7431	-0.63	-7.01	1.71
902	SLE RA 12	-120	22	7396	-0.83	-6.23	1.67
902	SLE RA 13	-119	30	7334	-0.97	-5.61	1.62
902	SLE RA 14	-123	9	7508	-0.58	-7.3	1.74
902	SLE RA 15	-122	22	7473	-0.78	-6.52	1.69
902	SLE RA 16	-122	9	7469	-0.6	-7.2	1.73
902	SLE RA 17	-121	22	7434	-0.8	-6.42	1.68
902	SLE RA 18	-122	9	7556	-0.74	-7.15	1.75
902	SLE RA 19	-121	22	7522	-0.94	-6.37	1.71
902	SLE RA 20	-124	9	7634	-0.7	-7.45	1.78
902	SLE RA 21	-122	22	7599	-0.9	-6.66	1.73
902	SLE FR 1	-114	9	6750	-0.55	-5.36	1.5
902	SLE FR 2	-113	13	6739	-0.62	-5.1	1.48
902	SLE FR 3	-114	9	6781	-0.54	-5.48	1.51
902	SLE FR 4	-116	13	6981	-0.68	-5.63	1.56
902	SLE FR 5	-117	9	7023	-0.59	-6.01	1.58
902	SLE FR 6	-118	9	7153	-0.65	-6.25	1.62
902	SLE QP 1	-114	9	6750	-0.55	-5.36	1.5
902	SLE QP 2	-116	9	6992	-0.61	-5.9	1.57
902	SLD 1	470	347	7213	-3.37	12.92	-3.19
902	SLD 2	393	252	7279	-2.87	11.79	-0.76
902	SLD 3	414	-41	8452	3.68	-13.13	-1.52
902	SLD 4	337	-136	8517	4.18	-14.26	0.9
902	SLD 5	157	715	5169	-12.22	39.46	-2.8
902	SLD 6	108	654	5211	-11.9	38.73	-1.24
902	SLD 7	-29	-578	9297	11.29	-47.38	2.75
902	SLD 8	-78	-639	9339	11.61	-48.11	4.31
902	SLD 9	-155	657	4645	-12.83	36.32	-1.17
902	SLD 10	-204	596	4687	-12.51	35.59	0.39
902	SLD 11	-341	-636	8773	10.68	-50.52	4.38
902	SLD 12	-390	-697	8815	11	-51.25	5.94
902	SLD 13	-570	154	5467	-5.4	2.47	2.25
902	SLD 14	-647	59	5533	-4.9	1.34	4.67
902	SLD 15	-626	-234	6705	1.65	-23.58	3.91
902	SLD 16	-703	-329	6771	2.15	-24.71	6.33
902	SLV 1	807	566	7246	-5.43	25.65	-6.01
902	SLV 2	686	416	7349	-4.64	23.86	-2.19
902	SLV 3	712	-96	9359	6.61	-18.81	-3.17
902	SLV 4	591	-246	9462	7.39	-20.59	0.65
902	SLV 5	327	1208	3844	-20.45	71.33	-5.72
902	SLV 6	246	1107	3914	-19.92	70.13	-3.15
902	SLV 7	10	-998	10887	19.66	-76.86	3.75
902	SLV 8	-71	-1099	10957	20.19	-78.07	6.32
902	SLV 9	-162	1117	3027	-21.41	66.27	-3.17
902	SLV 10	-243	1016	3097	-20.88	65.07	-0.6
902	SLV 11	-479	-1089	10070	18.7	-81.92	6.3
902	SLV 12	-560	-1190	10140	19.23	-83.12	8.87
902	SLV 13	-823	264	4522	-8.61	8.8	2.5
902	SLV 14	-944	114	4625	-7.83	7.01	6.32
902	SLV 15	-919	-398	6635	3.42	-35.66	5.34
902	SLV 16	-1040	-548	6738	4.21	-37.44	9.16
902	SLV FO 1	899	622	7271	-5.91	28.81	-6.77
902	SLV FO 2	766	457	7385	-5.05	26.84	-2.57
902	SLV FO 3	794	-106	9595	7.33	-20.1	-3.65
902	SLV FO 4	661	-271	9709	8.19	-22.06	0.56
902	SLV FO 5	372	1328	3529	-22.44	79.05	-6.45
902	SLV FO 6	282	1217	3606	-21.86	77.73	-3.62
902	SLV FO 7	23	-1099	11277	21.69	-83.96	3.96
902	SLV FO 8	-67	-1210	11354	22.27	-85.28	6.79
902	SLV FO 9	-166	1228	2631	-23.49	73.49	-3.64
902	SLV FO 10	-256	1117	2707	-22.91	72.17	-0.81
902	SLV FO 11	-515	-1199	10378	20.64	-89.52	6.77
902	SLV FO 12	-605	-1310	10455	21.22	-90.84	9.6
902	SLV FO 13	-894	289	4275	-9.41	10.27	2.59
902	SLV FO 14	-1027	125	4389	-8.55	8.31	6.79
902	SLV FO 15	-999	-439	6599	3.82	-38.63	5.72
902	SLV FO 16	-1132	-603	6713	4.69	-40.6	9.92
902	CRTFP Ux+	0	0	0	0	0	0
902	CRTFP Ux-	0	0	0	0	0	0
902	CRTFP Uy+	0	0	0	0	0	0
902	CRTFP Uy-	0	0	0	0	0	0
905	SLU 1	2	35	2592	-2.06	482.7	-8.59
905	SLU 2	3	52	2570	-2.22	480.52	-12.7
905	SLU 3	2	36	2656	-2.08	494	-8.72
905	SLU 4	3	46	2643	-2.17	492.69	-11.19
905	SLU 5	3	52	2612	-2.23	487.94	-12.74
905	SLU 6	3	36	2699	-2.08	501.42	-8.76
905	SLU 7	3	46	2685	-2.18	500.11	-11.23
905	SLU 8	3	35	2677	-2.08	497.54	-8.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
905	SLU 9	3	45	2663	-2.17	496.23	-11.13
905	SLU 10	3	54	2905	-2.57	540.7	-13.36
905	SLU 11	2	38	2992	-2.43	554.19	-9.38
905	SLU 12	3	48	2978	-2.52	552.88	-11.85
905	SLU 13	3	55	2947	-2.58	548.12	-13.4
905	SLU 14	3	39	3034	-2.44	561.61	-9.42
905	SLU 15	3	49	3021	-2.53	560.3	-11.89
905	SLU 16	3	38	3012	-2.43	557.73	-9.32
905	SLU 17	3	48	2999	-2.52	556.41	-11.79
905	SLU 18	2	39	3071	-2.56	568.68	-9.53
905	SLU 19	2	49	3058	-2.66	567.37	-12
905	SLU 20	2	39	3113	-2.57	576.1	-9.57
905	SLU 21	3	49	3100	-2.67	574.79	-12.04
905	SLU 22	2	40	3021	-2.35	558.88	-9.74
905	SLU 23	3	56	2998	-2.51	556.7	-13.86
905	SLU 24	3	40	3085	-2.37	570.19	-9.88
905	SLU 25	3	50	3072	-2.47	568.88	-12.35
905	SLU 26	3	57	3041	-2.52	564.12	-13.89
905	SLU 27	3	41	3128	-2.38	577.6	-9.91
905	SLU 28	3	51	3114	-2.48	576.29	-12.38
905	SLU 29	3	40	3106	-2.37	573.72	-9.82
905	SLU 30	3	50	3092	-2.47	572.41	-12.29
905	SLU 31	3	59	3334	-2.87	616.89	-14.52
905	SLU 32	3	43	3421	-2.72	630.37	-10.54
905	SLU 33	3	53	3407	-2.82	629.06	-13.01
905	SLU 34	3	59	3376	-2.88	624.3	-14.56
905	SLU 35	3	43	3463	-2.73	637.79	-10.57
905	SLU 36	3	53	3450	-2.83	636.48	-13.04
905	SLU 37	3	43	3441	-2.72	633.91	-10.48
905	SLU 38	3	53	3428	-2.82	632.6	-12.95
905	SLU 39	2	44	3500	-2.86	644.87	-10.68
905	SLU 40	3	54	3487	-2.95	643.56	-13.15
905	SLU 41	3	44	3542	-2.87	652.28	-10.72
905	SLU 42	3	54	3529	-2.96	650.97	-13.19
905	SLU 43	3	44	3222	-2.58	601.39	-10.77
905	SLU 44	3	61	3200	-2.74	599.21	-14.88
905	SLU 45	3	45	3287	-2.59	612.69	-10.9
905	SLU 46	3	55	3273	-2.69	611.38	-13.37
905	SLU 47	4	61	3242	-2.74	606.63	-14.92
905	SLU 48	3	45	3329	-2.6	620.11	-10.94
905	SLU 49	4	55	3316	-2.7	618.8	-13.41
905	SLU 50	3	44	3307	-2.59	616.23	-10.84
905	SLU 51	4	54	3294	-2.69	614.92	-13.31
905	SLU 52	3	63	3535	-3.09	659.4	-15.54
905	SLU 53	3	47	3622	-2.94	672.88	-11.56
905	SLU 54	3	57	3609	-3.04	671.57	-14.03
905	SLU 55	4	63	3578	-3.1	666.81	-15.58
905	SLU 56	3	48	3665	-2.95	680.3	-11.6
905	SLU 57	4	57	3651	-3.05	678.99	-14.07
905	SLU 58	3	47	3643	-2.94	676.42	-11.5
905	SLU 59	4	57	3629	-3.04	675.11	-13.97
905	SLU 60	3	48	3701	-3.08	687.38	-11.71
905	SLU 61	3	58	3688	-3.17	686.06	-14.18
905	SLU 62	3	48	3744	-3.09	694.79	-11.75
905	SLU 63	3	58	3731	-3.18	693.48	-14.22
905	SLU 64	3	49	3651	-2.87	677.58	-11.92
905	SLU 65	4	65	3629	-3.03	675.39	-16.04
905	SLU 66	3	49	3716	-2.89	688.88	-12.06
905	SLU 67	4	59	3702	-2.98	687.57	-14.53
905	SLU 68	4	65	3671	-3.04	682.81	-16.07
905	SLU 69	4	50	3758	-2.9	696.3	-12.09
905	SLU 70	4	59	3745	-2.99	694.98	-14.56
905	SLU 71	4	49	3736	-2.89	692.41	-12
905	SLU 72	4	59	3723	-2.98	691.1	-14.47
905	SLU 73	4	68	3964	-3.38	735.58	-16.7
905	SLU 74	3	52	4051	-3.24	749.06	-12.72
905	SLU 75	4	62	4038	-3.34	747.75	-15.19
905	SLU 76	4	68	4007	-3.39	743	-16.74
905	SLU 77	4	52	4094	-3.25	756.48	-12.75
905	SLU 78	4	62	4080	-3.34	755.17	-15.22
905	SLU 79	4	52	4072	-3.24	752.6	-12.66
905	SLU 80	4	62	4058	-3.34	751.29	-15.13
905	SLU 81	3	53	4130	-3.37	763.56	-12.86
905	SLU 82	3	63	4117	-3.47	762.25	-15.33
905	SLU 83	3	53	4173	-3.38	770.98	-12.9
905	SLU 84	4	63	4160	-3.48	769.66	-15.37
905	SLE RA 1	2	37	2714	-2.14	504.47	-8.92
905	SLE RA 2	3	47	2699	-2.25	503.01	-11.66
905	SLE RA 3	2	37	2757	-2.15	512	-9.01
905	SLE RA 4	3	43	2748	-2.22	511.13	-10.65
905	SLE RA 5	3	48	2728	-2.26	507.96	-11.69
905	SLE RA 6	3	37	2786	-2.16	516.95	-9.03
905	SLE RA 7	3	44	2777	-2.22	516.07	-10.68
905	SLE RA 8	3	37	2771	-2.16	514.36	-8.97
905	SLE RA 9	3	43	2762	-2.22	513.49	-10.61
905	SLE RA 10	3	49	2923	-2.48	543.14	-12.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
905	SLE RA 11	2	39	2981	-2.39	552.13	-9.45
905	SLE RA 12	3	45	2972	-2.45	551.25	-11.09
905	SLE RA 13	3	49	2951	-2.49	548.08	-12.13
905	SLE RA 14	3	39	3009	-2.4	557.07	-9.47
905	SLE RA 15	3	45	3000	-2.46	556.2	-11.12
905	SLE RA 16	3	39	2995	-2.39	554.48	-9.41
905	SLE RA 17	3	45	2986	-2.45	553.61	-11.05
905	SLE RA 18	2	39	3034	-2.48	561.79	-9.55
905	SLE RA 19	2	46	3025	-2.54	560.92	-11.19
905	SLE RA 20	2	39	3062	-2.48	566.74	-9.57
905	SLE RA 21	3	46	3053	-2.55	565.86	-11.22
905	SLE FR 1	2	37	2714	-2.14	504.47	-8.92
905	SLE FR 2	2	39	2711	-2.16	504.18	-9.46
905	SLE FR 3	2	37	2726	-2.15	506.45	-8.93
905	SLE FR 4	2	39	2807	-2.27	521.37	-9.65
905	SLE FR 5	2	37	2821	-2.25	523.64	-9.12
905	SLE FR 6	2	38	2874	-2.31	533.13	-9.23
905	SLE QP 1	2	37	2714	-2.14	504.47	-8.92
905	SLE QP 2	2	37	2810	-2.24	521.67	-9.1
905	SLD 1	283	164	2777	-3.12	526.57	-41.12
905	SLD 2	253	147	2776	-3.04	525.58	-36.5
905	SLD 3	270	-35	3100	-0.85	559.82	8.83
905	SLD 4	241	-53	3100	-0.77	558.83	13.45
905	SLD 5	110	381	2310	-5.96	472.87	-95.27
905	SLD 6	91	370	2309	-5.91	472.24	-92.29
905	SLD 7	69	-284	3388	1.6	583.72	71.24
905	SLD 8	50	-296	3388	1.66	583.08	74.22
905	SLD 9	-46	370	2233	-6.14	460.25	-92.43
905	SLD 10	-65	359	2232	-6.09	459.61	-89.45
905	SLD 11	-86	-295	3311	1.42	571.1	74.08
905	SLD 12	-106	-307	3311	1.48	570.46	77.06
905	SLD 13	-236	128	2521	-3.72	484.5	-31.66
905	SLD 14	-266	110	2520	-3.64	483.51	-27.04
905	SLD 15	-249	-72	2844	-1.45	517.75	18.29
905	SLD 16	-278	-90	2843	-1.37	516.76	22.91
905	SLV 1	442	251	2735	-3.78	526.88	-62.86
905	SLV 2	395	223	2733	-3.65	525.32	-55.58
905	SLV 3	422	-90	3287	0.1	583.64	22.33
905	SLV 4	375	-118	3285	0.23	582.08	29.61
905	SLV 5	174	623	1950	-8.6	437.44	-155.8
905	SLV 6	143	604	1949	-8.51	436.39	-150.9
905	SLV 7	105	-512	3791	4.31	626.63	128.18
905	SLV 8	74	-531	3790	4.4	625.58	133.08
905	SLV 9	-69	606	1830	-8.89	417.75	-151.29
905	SLV 10	-101	587	1829	-8.8	416.7	-146.39
905	SLV 11	-138	-530	3671	4.03	606.94	132.69
905	SLV 12	-170	-548	3670	4.12	605.89	137.59
905	SLV 13	-370	192	2335	-4.72	461.25	-47.82
905	SLV 14	-417	164	2334	-4.58	459.69	-40.54
905	SLV 15	-391	-148	2887	-0.84	518.01	37.37
905	SLV 16	-438	-176	2886	-0.71	516.45	44.65
905	SLV FO 1	486	272	2727	-3.93	527.4	-68.24
905	SLV FO 2	435	241	2726	-3.79	525.69	-60.23
905	SLV FO 3	464	-102	3334	0.33	589.83	25.48
905	SLV FO 4	412	-133	3333	0.48	588.12	33.49
905	SLV FO 5	192	682	1864	-9.24	429.02	-170.47
905	SLV FO 6	157	661	1863	-9.14	427.86	-165.08
905	SLV FO 7	116	-567	3889	4.96	637.13	141.91
905	SLV FO 8	81	-588	3888	5.06	635.97	147.3
905	SLV FO 9	-77	662	1732	-9.55	407.36	-165.51
905	SLV FO 10	-111	642	1731	-9.45	406.21	-160.12
905	SLV FO 11	-153	-586	3757	4.65	615.47	146.87
905	SLV FO 12	-187	-607	3756	4.75	614.31	152.26
905	SLV FO 13	-408	208	2287	-4.96	455.21	-51.69
905	SLV FO 14	-459	177	2286	-4.82	453.5	-43.69
905	SLV FO 15	-430	-167	2895	-0.7	517.64	42.02
905	SLV FO 16	-482	-198	2893	-0.56	515.93	50.03
905	CRTFP Ux+	0	0	0	0	0	0
905	CRTFP Ux-	0	0	0	0	0	0
905	CRTFP Uy+	0	0	0	0	0	0
905	CRTFP Uy-	0	0	0	0	0	0
907	SLU 1	15	84	4352	1.67	-32.56	0.47
907	SLU 2	15	113	4311	1.26	-32.55	0.54
907	SLU 3	16	85	4459	1.81	-33.67	0.48
907	SLU 4	16	102	4434	1.56	-33.67	0.52
907	SLU 5	16	113	4382	1.36	-33.31	0.54
907	SLU 6	17	85	4530	1.9	-34.42	0.48
907	SLU 7	17	102	4505	1.66	-34.42	0.52
907	SLU 8	17	84	4494	1.86	-34.06	0.47
907	SLU 9	17	102	4469	1.62	-34.06	0.51
907	SLU 10	16	119	4885	1.37	-36.06	0.65
907	SLU 11	17	91	5034	1.91	-37.18	0.6
907	SLU 12	17	109	5008	1.67	-37.18	0.64
907	SLU 13	17	120	4956	1.47	-36.82	0.65
907	SLU 14	18	91	5105	2.01	-37.94	0.6
907	SLU 15	18	109	5079	1.77	-37.93	0.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
907	SLU 16	18	90	5069	1.97	-37.57	0.58
907	SLU 17	18	108	5044	1.73	-37.57	0.63
907	SLU 18	17	93	5173	1.82	-37.57	0.63
907	SLU 19	17	110	5148	1.58	-37.57	0.67
907	SLU 20	18	93	5244	1.92	-38.33	0.63
907	SLU 21	18	110	5219	1.68	-38.32	0.67
907	SLU 22	17	92	5079	2.1	-37.46	0.63
907	SLU 23	17	122	5037	1.7	-37.45	0.7
907	SLU 24	18	93	5186	2.24	-38.57	0.65
907	SLU 25	18	111	5161	2	-38.56	0.69
907	SLU 26	18	122	5109	1.8	-38.2	0.7
907	SLU 27	20	93	5257	2.34	-39.32	0.65
907	SLU 28	20	111	5232	2.1	-39.32	0.69
907	SLU 29	19	92	5221	2.3	-38.96	0.64
907	SLU 30	19	110	5196	2.05	-38.96	0.68
907	SLU 31	19	128	5612	1.8	-40.96	0.82
907	SLU 32	20	100	5760	2.35	-42.08	0.76
907	SLU 33	20	117	5735	2.11	-42.08	0.8
907	SLU 34	20	128	5683	1.9	-41.71	0.82
907	SLU 35	21	100	5831	2.45	-42.83	0.76
907	SLU 36	21	117	5806	2.2	-42.83	0.8
907	SLU 37	21	99	5796	2.4	-42.47	0.75
907	SLU 38	21	116	5771	2.16	-42.47	0.79
907	SLU 39	19	101	5900	2.25	-42.47	0.8
907	SLU 40	19	119	5875	2.01	-42.47	0.84
907	SLU 41	20	101	5971	2.35	-43.22	0.8
907	SLU 42	20	119	5946	2.11	-43.22	0.84
907	SLU 43	18	106	5409	2.02	-40.65	0.55
907	SLU 44	18	135	5367	1.61	-40.64	0.62
907	SLU 45	19	107	5515	2.16	-41.76	0.56
907	SLU 46	19	124	5490	1.92	-41.76	0.61
907	SLU 47	19	135	5438	1.71	-41.39	0.62
907	SLU 48	20	107	5587	2.25	-42.51	0.56
907	SLU 49	20	124	5561	2.01	-42.51	0.61
907	SLU 50	20	106	5551	2.21	-42.15	0.55
907	SLU 51	20	124	5526	1.97	-42.15	0.59
907	SLU 52	20	142	5942	1.72	-44.15	0.74
907	SLU 53	21	113	6090	2.26	-45.27	0.68
907	SLU 54	21	131	6065	2.02	-45.27	0.72
907	SLU 55	21	142	6013	1.82	-44.91	0.74
907	SLU 56	22	113	6161	2.36	-46.02	0.68
907	SLU 57	22	131	6136	2.12	-46.02	0.72
907	SLU 58	22	112	6125	2.32	-45.66	0.67
907	SLU 59	22	130	6100	2.08	-45.66	0.71
907	SLU 60	20	115	6230	2.17	-45.66	0.72
907	SLU 61	20	133	6205	1.93	-45.66	0.76
907	SLU 62	21	115	6301	2.27	-46.42	0.72
907	SLU 63	21	133	6276	2.03	-46.41	0.76
907	SLU 64	21	114	6136	2.45	-45.54	0.72
907	SLU 65	21	144	6094	2.05	-45.54	0.79
907	SLU 66	22	115	6242	2.59	-46.66	0.73
907	SLU 67	22	133	6217	2.35	-46.65	0.77
907	SLU 68	22	144	6165	2.15	-46.29	0.79
907	SLU 69	23	115	6313	2.69	-47.41	0.73
907	SLU 70	23	133	6288	2.45	-47.41	0.77
907	SLU 71	23	115	6278	2.65	-47.05	0.72
907	SLU 72	23	132	6253	2.4	-47.05	0.76
907	SLU 73	22	150	6668	2.16	-49.05	0.9
907	SLU 74	23	122	6817	2.7	-50.17	0.85
907	SLU 75	23	139	6792	2.46	-50.16	0.89
907	SLU 76	23	150	6740	2.25	-49.8	0.9
907	SLU 77	25	122	6888	2.8	-50.92	0.85
907	SLU 78	25	139	6863	2.56	-50.92	0.89
907	SLU 79	24	121	6852	2.75	-50.56	0.83
907	SLU 80	24	139	6827	2.51	-50.56	0.88
907	SLU 81	23	123	6956	2.6	-50.56	0.88
907	SLU 82	23	141	6931	2.36	-50.56	0.92
907	SLU 83	24	124	7027	2.7	-51.31	0.88
907	SLU 84	24	141	7002	2.46	-51.31	0.92
907	SLE RA 1	15	86	4560	1.79	-33.96	0.52
907	SLE RA 2	15	106	4532	1.52	-33.95	0.56
907	SLE RA 3	16	87	4631	1.88	-34.7	0.52
907	SLE RA 4	16	99	4614	1.72	-34.7	0.55
907	SLE RA 5	16	106	4580	1.59	-34.46	0.56
907	SLE RA 6	17	87	4678	1.95	-35.2	0.52
907	SLE RA 7	17	99	4662	1.79	-35.2	0.55
907	SLE RA 8	17	86	4655	1.92	-34.96	0.52
907	SLE RA 9	17	98	4638	1.76	-34.96	0.54
907	SLE RA 10	16	110	4915	1.59	-36.29	0.64
907	SLE RA 11	17	91	5014	1.95	-37.04	0.6
907	SLE RA 12	17	103	4997	1.79	-37.04	0.63
907	SLE RA 13	17	110	4963	1.66	-36.8	0.64
907	SLE RA 14	18	91	5061	2.02	-37.54	0.6
907	SLE RA 15	18	103	5045	1.86	-37.54	0.63
907	SLE RA 16	18	90	5038	1.99	-37.3	0.59
907	SLE RA 17	18	102	5021	1.83	-37.3	0.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
907	SLE RA 18	17	92	5107	1.89	-37.3	0.63
907	SLE RA 19	17	104	5090	1.73	-37.3	0.65
907	SLE RA 20	17	92	5155	1.96	-37.8	0.63
907	SLE RA 21	18	104	5138	1.8	-37.8	0.65
907	SLE FR 1	15	86	4560	1.79	-33.96	0.52
907	SLE FR 2	15	90	4554	1.74	-33.96	0.53
907	SLE FR 3	16	86	4579	1.82	-34.16	0.52
907	SLE FR 4	16	92	4719	1.77	-34.96	0.56
907	SLE FR 5	16	88	4743	1.85	-35.16	0.55
907	SLE FR 6	16	89	4834	1.84	-35.63	0.57
907	SLE QP 1	15	86	4560	1.79	-33.96	0.52
907	SLE QP 2	16	88	4724	1.82	-34.96	0.55
907	SLD 1	570	216	4014	-1.27	-6.7	-2.85
907	SLD 2	510	248	4023	-1.4	-6.83	-0.66
907	SLD 3	581	-143	4643	4.44	-8	-3.65
907	SLD 4	522	-111	4651	4.32	-8.13	-1.46
907	SLD 5	175	666	3556	-7.75	-24.48	0.38
907	SLD 6	137	686	3562	-7.83	-24.57	1.79
907	SLD 7	212	-532	5652	11.3	-28.83	-2.31
907	SLD 8	174	-511	5657	11.22	-28.91	-0.9
907	SLD 9	-143	687	3791	-7.58	-41.01	2
907	SLD 10	-181	707	3797	-7.66	-41.1	3.41
907	SLD 11	-106	-510	5887	11.47	-45.35	-0.69
907	SLD 12	-144	-490	5892	11.39	-45.44	0.72
907	SLD 13	-490	287	4797	-0.68	-61.79	2.56
907	SLD 14	-549	319	4805	-0.8	-61.92	4.75
907	SLD 15	-479	-72	5426	5.04	-63.09	1.75
907	SLD 16	-538	-40	5434	4.91	-63.22	3.95
907	SLV 1	883	314	3570	-3.45	9.23	-4.73
907	SLV 2	789	363	3584	-3.65	9.02	-1.27
907	SLV 3	901	-299	4643	6.31	7.01	-6.1
907	SLV 4	808	-249	4657	6.11	6.8	-2.65
907	SLV 5	266	1075	2748	-14.52	-18.31	0.4
907	SLV 6	203	1109	2757	-14.65	-18.45	2.73
907	SLV 7	326	-966	6325	17.99	-25.69	-4.17
907	SLV 8	263	-933	6334	17.86	-25.83	-1.85
907	SLV 9	-232	1109	3114	-14.22	-44.1	2.94
907	SLV 10	-295	1142	3123	-14.35	-44.24	5.27
907	SLV 11	-171	-933	6691	18.29	-51.47	-1.63
907	SLV 12	-234	-899	6700	18.16	-51.61	0.7
907	SLV 13	-776	425	4792	-2.47	-76.73	3.74
907	SLV 14	-870	475	4805	-2.67	-76.94	7.2
907	SLV 15	-758	-188	5865	7.29	-78.94	2.37
907	SLV 16	-851	-138	5878	7.09	-79.15	5.83
907	SLV FO 1	970	336	3455	-3.97	13.64	-5.26
907	SLV FO 2	867	391	3470	-4.19	13.42	-1.46
907	SLV FO 3	990	-338	4635	6.75	11.21	-6.77
907	SLV FO 4	887	-283	4650	6.54	10.98	-2.97
907	SLV FO 5	291	1174	2550	-16.15	-16.64	0.39
907	SLV FO 6	221	1211	2560	-16.29	-16.8	2.95
907	SLV FO 7	358	-1072	6485	19.61	-24.76	-4.65
907	SLV FO 8	288	-1035	6495	19.47	-24.91	-2.09
907	SLV FO 9	-257	1211	2953	-15.83	-45.01	3.18
907	SLV FO 10	-326	1248	2963	-15.97	-45.16	5.74
907	SLV FO 11	-190	-1035	6888	19.93	-53.12	-1.85
907	SLV FO 12	-259	-998	6898	19.79	-53.28	0.71
907	SLV FO 13	-855	459	4798	-2.9	-80.9	4.06
907	SLV FO 14	-958	513	4813	-3.11	-81.13	7.87
907	SLV FO 15	-835	-215	5979	7.83	-83.34	2.55
907	SLV FO 16	-938	-160	5993	7.61	-83.57	6.36
907	CRTFP Ux+	0	0	0	0	0	0
907	CRTFP Ux-	0	0	0	0	0	0
907	CRTFP Uy+	0	0	0	0	0	0
907	CRTFP Uy-	0	0	0	0	0	0
909	SLU 1	-54	-1	3233	1.96	-351.57	-0.22
909	SLU 2	-52	17	3184	1.66	-346.73	4.42
909	SLU 3	-55	-2	3321	2.07	-360.05	-0.31
909	SLU 4	-54	10	3291	1.89	-357.15	2.47
909	SLU 5	-53	17	3241	1.74	-352.31	4.43
909	SLU 6	-56	-2	3379	2.15	-365.64	-0.31
909	SLU 7	-55	10	3349	1.97	-362.73	2.48
909	SLU 8	-55	-1	3349	2.12	-362.74	-0.21
909	SLU 9	-54	10	3319	1.94	-359.83	2.58
909	SLU 10	-57	19	3580	1.91	-386.89	4.72
909	SLU 11	-60	0	3718	2.32	-400.21	-0.01
909	SLU 12	-59	11	3688	2.14	-397.31	2.77
909	SLU 13	-58	19	3638	1.99	-392.47	4.73
909	SLU 14	-60	0	3775	2.4	-405.8	-0.01
909	SLU 15	-60	11	3746	2.22	-402.89	2.78
909	SLU 16	-60	0	3746	2.37	-402.9	0.09
909	SLU 17	-59	11	3716	2.19	-399.99	2.88
909	SLU 18	-60	0	3800	2.31	-408.94	0.2
909	SLU 19	-60	12	3770	2.13	-406.04	2.99
909	SLU 20	-61	0	3858	2.4	-414.53	0.21
909	SLU 21	-60	12	3828	2.21	-411.62	3
909	SLU 22	-61	-3	3765	2.44	-404.67	-0.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
909	SLU 23	-60	16	3715	2.14	-399.82	3.96
909	SLU 24	-62	-3	3852	2.55	-413.15	-0.77
909	SLU 25	-62	8	3822	2.37	-410.24	2.01
909	SLU 26	-61	16	3773	2.22	-405.41	3.97
909	SLU 27	-63	-3	3910	2.63	-418.73	-0.77
909	SLU 28	-62	8	3880	2.45	-415.82	2.02
909	SLU 29	-63	-3	3880	2.6	-415.83	-0.67
909	SLU 30	-62	8	3850	2.42	-412.92	2.12
909	SLU 31	-65	17	4112	2.38	-439.98	4.26
909	SLU 32	-67	-2	4249	2.8	-453.31	-0.47
909	SLU 33	-66	9	4219	2.62	-450.4	2.31
909	SLU 34	-65	17	4169	2.47	-445.57	4.27
909	SLU 35	-68	-2	4307	2.88	-458.89	-0.47
909	SLU 36	-67	9	4277	2.7	-455.98	2.32
909	SLU 37	-67	-2	4277	2.85	-455.99	-0.37
909	SLU 38	-67	9	4247	2.67	-453.08	2.42
909	SLU 39	-68	-1	4331	2.79	-462.04	-0.26
909	SLU 40	-67	10	4302	2.61	-459.13	2.53
909	SLU 41	-69	-1	4389	2.87	-467.62	-0.25
909	SLU 42	-68	10	4359	2.69	-464.71	2.54
909	SLU 43	-67	-1	4021	2.38	-438.84	-0.13
909	SLU 44	-66	18	3971	2.08	-434	4.51
909	SLU 45	-68	-1	4109	2.5	-447.32	-0.22
909	SLU 46	-68	10	4079	2.32	-444.42	2.56
909	SLU 47	-67	18	4029	2.16	-439.58	4.52
909	SLU 48	-69	-1	4166	2.58	-452.91	-0.22
909	SLU 49	-68	10	4137	2.4	-450	2.57
909	SLU 50	-69	-1	4137	2.55	-450.01	-0.12
909	SLU 51	-68	10	4107	2.37	-447.1	2.67
909	SLU 52	-71	19	4368	2.33	-474.16	4.81
909	SLU 53	-73	0	4505	2.75	-487.48	0.08
909	SLU 54	-72	11	4476	2.56	-484.58	2.86
909	SLU 55	-71	19	4426	2.41	-479.74	4.82
909	SLU 56	-74	0	4563	2.83	-493.07	0.08
909	SLU 57	-73	11	4533	2.65	-490.16	2.87
909	SLU 58	-73	0	4533	2.8	-490.17	0.18
909	SLU 59	-73	12	4504	2.61	-487.26	2.97
909	SLU 60	-74	1	4588	2.74	-496.21	0.29
909	SLU 61	-73	12	4558	2.56	-493.31	3.08
909	SLU 62	-75	1	4646	2.82	-501.8	0.3
909	SLU 63	-74	12	4616	2.64	-498.89	3.09
909	SLU 64	-74	-3	4553	2.86	-491.93	-0.59
909	SLU 65	-73	16	4503	2.56	-487.09	4.05
909	SLU 66	-76	-3	4640	2.98	-500.42	-0.68
909	SLU 67	-75	8	4610	2.79	-497.51	2.1
909	SLU 68	-74	16	4561	2.64	-492.67	4.06
909	SLU 69	-77	-3	4698	3.06	-506	-0.68
909	SLU 70	-76	8	4668	2.88	-503.09	2.11
909	SLU 71	-76	-3	4668	3.03	-503.1	-0.58
909	SLU 72	-75	8	4638	2.84	-500.19	2.21
909	SLU 73	-78	17	4900	2.81	-527.25	4.35
909	SLU 74	-81	-2	5037	3.22	-540.58	-0.38
909	SLU 75	-80	9	5007	3.04	-537.67	2.4
909	SLU 76	-79	17	4957	2.89	-532.83	4.36
909	SLU 77	-81	-2	5095	3.31	-546.16	-0.38
909	SLU 78	-81	9	5065	3.12	-543.25	2.41
909	SLU 79	-81	-2	5065	3.27	-543.26	-0.28
909	SLU 80	-80	10	5035	3.09	-540.35	2.51
909	SLU 81	-81	-1	5119	3.22	-549.31	-0.17
909	SLU 82	-81	10	5089	3.04	-546.4	2.62
909	SLU 83	-82	-1	5177	3.3	-554.89	-0.16
909	SLU 84	-81	10	5147	3.12	-551.98	2.63
909	SLE RA 1	-56	-2	3385	2.1	-366.74	-0.36
909	SLE RA 2	-55	11	3352	1.9	-363.51	2.74
909	SLE RA 3	-57	-2	3444	2.17	-372.4	-0.42
909	SLE RA 4	-56	6	3424	2.05	-370.46	1.44
909	SLE RA 5	-55	11	3391	1.95	-367.24	2.75
909	SLE RA 6	-57	-2	3482	2.23	-376.12	-0.41
909	SLE RA 7	-57	6	3462	2.11	-374.18	1.45
909	SLE RA 8	-57	-2	3462	2.21	-374.19	-0.35
909	SLE RA 9	-56	6	3442	2.08	-372.25	1.51
909	SLE RA 10	-58	11	3617	2.06	-390.29	2.94
909	SLE RA 11	-60	-1	3708	2.34	-399.17	-0.22
909	SLE RA 12	-59	6	3688	2.22	-397.23	1.64
909	SLE RA 13	-59	11	3655	2.12	-394.01	2.95
909	SLE RA 14	-60	-1	3747	2.39	-402.89	-0.21
909	SLE RA 15	-60	6	3727	2.27	-400.95	1.65
909	SLE RA 16	-60	-1	3727	2.37	-400.96	-0.15
909	SLE RA 17	-59	7	3707	2.25	-399.02	1.71
909	SLE RA 18	-60	-1	3763	2.33	-404.99	-0.07
909	SLE RA 19	-60	7	3743	2.21	-403.05	1.79
909	SLE RA 20	-61	-1	3802	2.39	-408.71	-0.07
909	SLE RA 21	-60	7	3782	2.27	-406.77	1.79
909	SLE FR 1	-56	-2	3385	2.1	-366.74	-0.36
909	SLE FR 2	-55	1	3379	2.06	-366.1	0.26
909	SLE FR 3	-56	-2	3401	2.12	-368.23	-0.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
909	SLE FR 4	-57	1	3492	2.13	-377.57	0.35
909	SLE FR 5	-57	-1	3514	2.19	-379.71	-0.27
909	SLE FR 6	-58	-1	3574	2.22	-385.87	-0.21
909	SLE QP 1	-56	-2	3385	2.1	-366.74	-0.36
909	SLE QP 2	-57	-1	3499	2.17	-378.22	-0.27
909	SLD 1	227	61	4215	0.89	-452.67	15.23
909	SLD 2	187	-38	4276	1.26	-459.21	-9.52
909	SLD 3	207	-168	4914	5.21	-518.69	-41.94
909	SLD 4	167	-268	4974	5.58	-525.22	-66.69
909	SLD 5	67	382	2644	-4.83	-299.31	95.35
909	SLD 6	41	318	2683	-4.6	-303.52	79.41
909	SLD 7	-3	-382	4972	9.57	-519.36	-95.22
909	SLD 8	-28	-446	5011	9.81	-523.57	-111.16
909	SLD 9	-86	443	1986	-5.47	-232.87	110.62
909	SLD 10	-111	379	2025	-5.24	-237.08	94.68
909	SLD 11	-155	-321	4314	8.93	-452.92	-79.95
909	SLD 12	-181	-385	4353	9.17	-457.13	-95.89
909	SLD 13	-281	265	2023	-1.24	-231.21	66.15
909	SLD 14	-321	165	2083	-0.87	-237.75	41.4
909	SLD 15	-302	36	2722	3.08	-297.23	8.98
909	SLD 16	-341	-64	2782	3.45	-303.76	-15.77
909	SLV 1	390	114	4565	-0.15	-489.48	28.27
909	SLV 2	327	-43	4660	0.44	-499.78	-10.74
909	SLV 3	355	-277	5756	7.23	-602.1	-69.26
909	SLV 4	292	-434	5851	7.81	-612.4	-108.27
909	SLV 5	143	656	1994	-9.82	-238.87	163.49
909	SLV 6	101	550	2058	-9.43	-245.81	137.23
909	SLV 7	24	-648	5965	14.76	-614.26	-161.6
909	SLV 8	-18	-754	6029	15.15	-621.2	-187.87
909	SLV 9	-96	751	968	-10.82	-135.24	187.33
909	SLV 10	-138	645	1032	-10.42	-142.17	161.06
909	SLV 11	-215	-552	4939	13.76	-510.63	-137.77
909	SLV 12	-257	-658	5003	14.15	-517.56	-164.03
909	SLV 13	-406	432	1146	-3.47	-144.03	107.73
909	SLV 14	-469	274	1241	-2.89	-154.34	68.72
909	SLV 15	-442	41	2337	3.9	-256.65	10.2
909	SLV 16	-505	-117	2432	4.48	-266.95	-28.81
909	SLV FO 1	435	125	4671	-0.38	-500.61	31.13
909	SLV FO 2	366	-48	4776	0.26	-511.94	-11.79
909	SLV FO 3	396	-305	5982	7.73	-624.48	-76.15
909	SLV FO 4	327	-478	6087	8.37	-635.82	-119.07
909	SLV FO 5	163	721	1843	-11.02	-224.94	179.87
909	SLV FO 6	116	605	1914	-10.59	-232.57	150.98
909	SLV FO 7	32	-712	6212	16.02	-637.86	-177.74
909	SLV FO 8	-14	-829	6282	16.45	-645.5	-206.63
909	SLV FO 9	-100	826	715	-12.12	-110.94	206.09
909	SLV FO 10	-147	710	785	-11.68	-118.57	177.2
909	SLV FO 11	-230	-608	5083	14.92	-523.87	-151.52
909	SLV FO 12	-277	-724	5154	15.35	-531.5	-180.41
909	SLV FO 13	-441	475	910	-4.04	-120.62	118.53
909	SLV FO 14	-510	302	1015	-3.4	-131.95	75.61
909	SLV FO 15	-480	45	2221	4.07	-244.49	11.25
909	SLV FO 16	-549	-128	2326	4.71	-255.83	-31.67
909	CRTFP Ux+	0	0	0	0	0	0
909	CRTFP Ux-	0	0	0	0	0	0
909	CRTFP Uy+	0	0	0	0	0	0
909	CRTFP Uy-	0	0	0	0	0	0
912	SLU 1	112	31	6591	1.62	11.89	-0.3
912	SLU 2	107	60	6487	1.08	10.55	-0.21
912	SLU 3	116	32	6780	1.77	12.53	-0.33
912	SLU 4	113	49	6718	1.45	11.73	-0.28
912	SLU 5	110	60	6618	1.2	10.9	-0.25
912	SLU 6	120	32	6911	1.89	12.89	-0.37
912	SLU 7	117	49	6849	1.57	12.08	-0.32
912	SLU 8	119	32	6853	1.85	12.6	-0.38
912	SLU 9	116	49	6791	1.53	11.79	-0.33
912	SLU 10	115	64	7331	1.23	12.81	-0.23
912	SLU 11	125	36	7624	1.92	14.8	-0.34
912	SLU 12	122	54	7562	1.6	14	-0.29
912	SLU 13	119	65	7462	1.35	13.17	-0.26
912	SLU 14	128	37	7755	2.04	15.16	-0.38
912	SLU 15	125	54	7693	1.72	14.35	-0.33
912	SLU 16	127	36	7698	2	14.87	-0.39
912	SLU 17	124	54	7635	1.68	14.06	-0.34
912	SLU 18	124	38	7796	1.83	15.13	-0.32
912	SLU 19	121	55	7734	1.51	14.32	-0.26
912	SLU 20	127	38	7928	1.95	15.48	-0.36
912	SLU 21	124	55	7866	1.63	14.68	-0.3
912	SLU 22	127	35	7708	2.09	15.57	-0.29
912	SLU 23	122	64	7604	1.55	14.23	-0.2
912	SLU 24	131	36	7897	2.24	16.21	-0.32
912	SLU 25	128	53	7835	1.92	15.41	-0.27
912	SLU 26	125	64	7736	1.67	14.58	-0.24
912	SLU 27	135	36	8029	2.36	16.57	-0.36
912	SLU 28	132	53	7966	2.04	15.76	-0.31
912	SLU 29	134	36	7971	2.32	16.28	-0.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
912	SLU 30	131	53	7909	2	15.47	-0.32
912	SLU 31	130	68	8448	1.7	16.49	-0.21
912	SLU 32	140	40	8741	2.39	18.48	-0.33
912	SLU 33	137	57	8679	2.07	17.68	-0.28
912	SLU 34	134	69	8580	1.82	16.85	-0.25
912	SLU 35	143	41	8873	2.51	18.84	-0.37
912	SLU 36	140	58	8810	2.19	18.03	-0.32
912	SLU 37	142	40	8815	2.47	18.55	-0.38
912	SLU 38	139	57	8753	2.15	17.74	-0.33
912	SLU 39	139	41	8914	2.3	18.81	-0.3
912	SLU 40	136	59	8852	1.98	18	-0.25
912	SLU 41	142	42	9045	2.42	19.16	-0.34
912	SLU 42	139	59	8983	2.1	18.36	-0.29
912	SLU 43	140	39	8185	1.94	14.2	-0.39
912	SLU 44	135	68	8081	1.41	12.85	-0.31
912	SLU 45	145	40	8374	2.1	14.84	-0.43
912	SLU 46	142	57	8312	1.78	14.03	-0.37
912	SLU 47	139	68	8212	1.52	13.21	-0.35
912	SLU 48	148	40	8505	2.21	15.19	-0.47
912	SLU 49	145	58	8443	1.89	14.39	-0.41
912	SLU 50	147	40	8448	2.17	14.91	-0.47
912	SLU 51	144	57	8385	1.85	14.1	-0.42
912	SLU 52	144	72	8925	1.56	15.12	-0.32
912	SLU 53	153	44	9218	2.25	17.11	-0.44
912	SLU 54	150	62	9156	1.93	16.3	-0.39
912	SLU 55	147	73	9056	1.67	15.47	-0.36
912	SLU 56	156	45	9349	2.36	17.46	-0.48
912	SLU 57	153	62	9287	2.04	16.66	-0.43
912	SLU 58	155	45	9292	2.32	17.17	-0.48
912	SLU 59	152	62	9229	2	16.37	-0.43
912	SLU 60	152	46	9390	2.16	17.44	-0.41
912	SLU 61	149	63	9328	1.84	16.63	-0.36
912	SLU 62	156	46	9522	2.27	17.79	-0.45
912	SLU 63	153	63	9460	1.95	16.98	-0.4
912	SLU 64	156	43	9302	2.41	17.88	-0.38
912	SLU 65	150	72	9198	1.88	16.53	-0.3
912	SLU 66	160	44	9491	2.57	18.52	-0.42
912	SLU 67	157	61	9429	2.25	17.71	-0.36
912	SLU 68	154	72	9330	1.99	16.89	-0.34
912	SLU 69	163	44	9623	2.68	18.87	-0.45
912	SLU 70	160	61	9560	2.36	18.07	-0.4
912	SLU 71	162	44	9565	2.64	18.59	-0.46
912	SLU 72	159	61	9503	2.32	17.78	-0.41
912	SLU 73	159	76	10042	2.03	18.8	-0.31
912	SLU 74	168	48	10335	2.72	20.79	-0.43
912	SLU 75	165	65	10273	2.4	19.98	-0.38
912	SLU 76	162	77	10174	2.14	19.15	-0.35
912	SLU 77	171	49	10467	2.83	21.14	-0.47
912	SLU 78	168	66	10405	2.51	20.34	-0.42
912	SLU 79	170	48	10409	2.79	20.85	-0.47
912	SLU 80	167	66	10347	2.47	20.05	-0.42
912	SLU 81	167	50	10508	2.63	21.11	-0.4
912	SLU 82	164	67	10446	2.31	20.31	-0.35
912	SLU 83	171	50	10639	2.74	21.47	-0.44
912	SLU 84	168	67	10577	2.42	20.66	-0.39
912	SLE RA 1	116	32	6910	1.75	12.94	-0.3
912	SLE RA 2	113	52	6841	1.4	12.05	-0.24
912	SLE RA 3	119	33	7036	1.86	13.37	-0.32
912	SLE RA 4	117	44	6994	1.64	12.83	-0.28
912	SLE RA 5	115	52	6928	1.47	12.28	-0.26
912	SLE RA 6	121	33	7124	1.93	13.61	-0.34
912	SLE RA 7	119	45	7082	1.72	13.07	-0.31
912	SLE RA 8	121	33	7085	1.91	13.41	-0.35
912	SLE RA 9	119	44	7044	1.69	12.88	-0.31
912	SLE RA 10	118	54	7403	1.5	13.56	-0.25
912	SLE RA 11	125	36	7599	1.96	14.88	-0.33
912	SLE RA 12	123	47	7557	1.74	14.35	-0.29
912	SLE RA 13	121	55	7491	1.57	13.79	-0.27
912	SLE RA 14	127	36	7686	2.03	15.12	-0.35
912	SLE RA 15	125	47	7645	1.82	14.58	-0.32
912	SLE RA 16	126	36	7648	2.01	14.93	-0.36
912	SLE RA 17	124	47	7606	1.79	14.39	-0.32
912	SLE RA 18	124	37	7714	1.9	15.1	-0.31
912	SLE RA 19	122	48	7672	1.68	14.56	-0.27
912	SLE RA 20	126	37	7801	1.97	15.34	-0.33
912	SLE RA 21	124	48	7760	1.76	14.8	-0.3
912	SLE FR 1	116	32	6910	1.75	12.94	-0.3
912	SLE FR 2	116	36	6896	1.68	12.76	-0.28
912	SLE FR 3	117	33	6945	1.78	13.04	-0.31
912	SLE FR 4	118	38	7137	1.72	13.41	-0.29
912	SLE FR 5	120	34	7186	1.83	13.68	-0.31
912	SLE FR 6	120	35	7312	1.82	14.02	-0.3
912	SLE QP 1	116	32	6910	1.75	12.94	-0.3
912	SLE QP 2	119	34	7151	1.8	13.59	-0.3
912	SLD 1	647	82	5729	-3	6.63	-3.49
912	SLD 2	562	170	5633	-3.56	8.14	-1.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
912	SLD 3	708	-268	7240	4.51	24.95	-4.62
912	SLD 4	624	-180	7144	3.96	26.46	-2.33
912	SLD 5	198	564	4449	-10.95	-16.54	0.06
912	SLD 6	144	620	4388	-11.31	-15.57	1.54
912	SLD 7	403	-602	9486	14.11	44.52	-3.7
912	SLD 8	349	-546	9424	13.75	45.49	-2.22
912	SLD 9	-112	613	4878	-10.16	-18.31	1.63
912	SLD 10	-166	670	4816	-10.52	-17.34	3.1
912	SLD 11	93	-553	9914	14.9	42.75	-2.13
912	SLD 12	39	-496	9853	14.54	43.72	-0.66
912	SLD 13	-387	247	7158	-0.37	0.72	1.73
912	SLD 14	-471	335	7062	-0.92	2.23	4.02
912	SLD 15	-325	-102	8669	7.15	19.04	0.6
912	SLD 16	-409	-15	8573	6.59	20.55	2.89
912	SLV 1	942	134	4820	-6.25	1.81	-5.24
912	SLV 2	810	272	4669	-7.12	4.19	-1.63
912	SLV 3	1047	-463	7399	6.58	33.1	-7.16
912	SLV 4	914	-324	7248	5.7	35.48	-3.55
912	SLV 5	232	943	2569	-19.91	-37.85	0.46
912	SLV 6	143	1036	2467	-20.5	-36.24	2.89
912	SLV 7	580	-1046	11165	22.85	66.46	-5.95
912	SLV 8	491	-953	11063	22.26	68.06	-3.52
912	SLV 9	-254	1020	3239	-18.67	-40.88	2.92
912	SLV 10	-343	1113	3138	-19.26	-39.28	5.35
912	SLV 11	95	-968	11835	24.09	63.42	-3.49
912	SLV 12	5	-875	11733	23.5	65.03	-1.06
912	SLV 13	-677	392	7054	-2.11	-8.3	2.95
912	SLV 14	-809	530	6903	-2.99	-5.92	6.56
912	SLV 15	-572	-205	9633	10.71	22.99	1.03
912	SLV 16	-705	-66	9482	9.84	25.37	4.64
912	SLV FO 1	1025	144	4587	-7.05	0.63	-5.73
912	SLV FO 2	879	296	4421	-8.02	3.25	-1.76
912	SLV FO 3	1140	-513	7424	7.06	35.05	-7.84
912	SLV FO 4	994	-360	7258	6.1	37.67	-3.87
912	SLV FO 5	243	1034	2111	-22.08	-42.99	0.54
912	SLV FO 6	145	1136	1999	-22.73	-41.23	3.21
912	SLV FO 7	626	-1154	11566	24.95	71.74	-6.51
912	SLV FO 8	528	-1051	11454	24.31	73.51	-3.84
912	SLV FO 9	-291	1119	2848	-20.72	-46.33	3.24
912	SLV FO 10	-389	1221	2736	-21.36	-44.56	5.91
912	SLV FO 11	92	-1069	12303	26.32	68.41	-3.81
912	SLV FO 12	-6	-966	12191	25.67	70.17	-1.14
912	SLV FO 13	-756	428	7044	-2.5	-10.49	3.28
912	SLV FO 14	-902	580	6878	-3.47	-7.87	7.25
912	SLV FO 15	-641	-228	9881	11.61	23.93	1.16
912	SLV FO 16	-787	-76	9715	10.64	26.55	5.13
912	CRTFP Ux+	0	0	0	0	0	0
912	CRTFP Ux-	0	0	0	0	0	0
912	CRTFP Uy+	0	0	0	0	0	0
912	CRTFP Uy-	0	0	0	0	0	0
915	SLU 1	66	14	4013	4.36	790.64	-5.01
915	SLU 2	63	37	3941	3.88	778.22	-13.12
915	SLU 3	68	15	4126	4.59	811.33	-5.21
915	SLU 4	66	29	4084	4.3	803.87	-10.08
915	SLU 5	65	38	4021	4.06	792.64	-13.52
915	SLU 6	70	16	4206	4.77	825.74	-5.61
915	SLU 7	68	30	4163	4.48	818.29	-10.48
915	SLU 8	69	16	4171	4.71	819.48	-5.8
915	SLU 9	68	30	4129	4.43	812.02	-10.67
915	SLU 10	68	39	4421	4.44	867.99	-13.63
915	SLU 11	72	16	4607	5.14	901.1	-5.72
915	SLU 12	71	30	4564	4.86	893.65	-10.59
915	SLU 13	69	40	4501	4.61	882.41	-14.03
915	SLU 14	74	17	4686	5.32	915.52	-6.12
915	SLU 15	73	31	4643	5.03	908.06	-10.99
915	SLU 16	74	18	4652	5.27	909.25	-6.31
915	SLU 17	72	32	4609	4.98	901.8	-11.18
915	SLU 18	72	16	4699	5.15	918.89	-5.73
915	SLU 19	71	30	4656	4.87	911.44	-10.6
915	SLU 20	74	17	4778	5.33	933.31	-6.13
915	SLU 21	72	31	4735	5.04	925.86	-11
915	SLU 22	73	12	4654	5.3	909.62	-4.24
915	SLU 23	71	35	4582	4.83	897.19	-12.35
915	SLU 24	76	12	4768	5.53	930.3	-4.44
915	SLU 25	74	26	4725	5.25	922.84	-9.31
915	SLU 26	72	36	4662	5	911.61	-12.75
915	SLU 27	77	14	4847	5.71	944.72	-4.84
915	SLU 28	76	27	4804	5.42	937.26	-9.71
915	SLU 29	77	14	4813	5.65	938.45	-5.03
915	SLU 30	75	28	4770	5.37	931	-9.9
915	SLU 31	75	37	5063	5.38	986.97	-12.86
915	SLU 32	80	14	5248	6.09	1020.08	-4.95
915	SLU 33	79	28	5205	5.8	1012.62	-9.82
915	SLU 34	77	38	5142	5.56	1001.39	-13.25
915	SLU 35	82	15	5327	6.26	1034.49	-5.35
915	SLU 36	80	29	5285	5.98	1027.04	-10.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
915	SLU 37	81	16	5293	6.21	1028.23	-5.54
915	SLU 38	80	29	5250	5.92	1020.77	-10.41
915	SLU 39	80	14	5340	6.09	1037.87	-4.96
915	SLU 40	78	28	5297	5.81	1030.41	-9.83
915	SLU 41	82	15	5419	6.27	1052.29	-5.36
915	SLU 42	80	29	5376	5.98	1044.83	-10.22
915	SLU 43	83	19	4996	5.35	987.05	-6.77
915	SLU 44	80	42	4925	4.87	974.62	-14.89
915	SLU 45	85	20	5110	5.58	1007.73	-6.98
915	SLU 46	83	34	5068	5.29	1000.27	-11.85
915	SLU 47	82	43	5004	5.05	989.04	-15.29
915	SLU 48	87	21	5190	5.75	1022.14	-7.38
915	SLU 49	85	35	5147	5.47	1014.69	-12.25
915	SLU 50	86	21	5155	5.7	1015.88	-7.57
915	SLU 51	85	35	5112	5.41	1008.43	-12.44
915	SLU 52	85	44	5405	5.42	1064.4	-15.39
915	SLU 53	89	21	5591	6.13	1097.5	-7.48
915	SLU 54	88	35	5548	5.84	1090.05	-12.35
915	SLU 55	86	45	5485	5.6	1078.81	-15.79
915	SLU 56	91	22	5670	6.31	1111.92	-7.88
915	SLU 57	90	36	5627	6.02	1104.46	-12.75
915	SLU 58	91	23	5636	6.25	1105.66	-8.07
915	SLU 59	89	37	5593	5.97	1098.2	-12.94
915	SLU 60	89	21	5683	6.14	1115.3	-7.49
915	SLU 61	88	35	5640	5.85	1107.84	-12.36
915	SLU 62	91	22	5762	6.31	1129.71	-7.89
915	SLU 63	89	36	5719	6.03	1122.26	-12.76
915	SLU 64	90	17	5638	6.29	1106.02	-6
915	SLU 65	88	40	5566	5.81	1093.59	-14.12
915	SLU 66	93	17	5752	6.52	1126.7	-6.21
915	SLU 67	91	31	5709	6.23	1119.25	-11.08
915	SLU 68	90	41	5646	5.99	1108.01	-14.52
915	SLU 69	94	19	5831	6.69	1141.12	-6.61
915	SLU 70	93	32	5788	6.41	1133.66	-11.48
915	SLU 71	94	19	5796	6.64	1134.86	-6.8
915	SLU 72	92	33	5754	6.35	1127.4	-11.67
915	SLU 73	92	42	6047	6.36	1183.37	-14.62
915	SLU 74	97	19	6232	7.07	1216.48	-6.71
915	SLU 75	96	33	6189	6.78	1209.02	-11.58
915	SLU 76	94	43	6126	6.54	1197.79	-15.02
915	SLU 77	99	20	6311	7.25	1230.89	-7.11
915	SLU 78	97	34	6268	6.96	1223.44	-11.98
915	SLU 79	99	21	6277	7.19	1224.63	-7.3
915	SLU 80	97	34	6234	6.91	1217.18	-12.17
915	SLU 81	97	19	6324	7.08	1234.27	-6.72
915	SLU 82	95	33	6281	6.79	1226.82	-11.59
915	SLU 83	99	20	6403	7.25	1248.69	-7.12
915	SLU 84	97	34	6360	6.97	1241.23	-11.99
915	SLE RA 1	68	13	4196	4.63	824.64	-4.79
915	SLE RA 2	66	29	4148	4.31	816.35	-10.2
915	SLE RA 3	69	14	4272	4.78	838.42	-4.92
915	SLE RA 4	68	23	4243	4.59	833.45	-8.17
915	SLE RA 5	67	30	4201	4.43	825.96	-10.46
915	SLE RA 6	71	15	4325	4.9	848.04	-5.19
915	SLE RA 7	69	24	4296	4.71	843.07	-8.44
915	SLE RA 8	70	15	4302	4.86	843.86	-5.32
915	SLE RA 9	69	24	4273	4.67	838.89	-8.56
915	SLE RA 10	69	30	4468	4.68	876.2	-10.53
915	SLE RA 11	72	15	4592	5.15	898.27	-5.26
915	SLE RA 12	71	24	4563	4.96	893.3	-8.51
915	SLE RA 13	70	31	4521	4.8	885.81	-10.8
915	SLE RA 14	74	16	4645	5.27	907.89	-5.53
915	SLE RA 15	73	25	4616	5.08	902.92	-8.77
915	SLE RA 16	73	16	4622	5.23	903.71	-5.65
915	SLE RA 17	72	25	4593	5.04	898.74	-8.9
915	SLE RA 18	72	15	4653	5.16	910.14	-5.27
915	SLE RA 19	71	24	4625	4.97	905.17	-8.51
915	SLE RA 20	73	16	4706	5.27	919.75	-5.53
915	SLE RA 21	72	25	4678	5.08	914.78	-8.78
915	SLE FR 1	68	13	4196	4.63	824.64	-4.79
915	SLE FR 2	67	17	4186	4.57	822.98	-5.87
915	SLE FR 3	68	14	4217	4.68	828.48	-4.89
915	SLE FR 4	69	17	4323	4.72	848.63	-6.01
915	SLE FR 5	70	14	4354	4.83	854.13	-5.04
915	SLE FR 6	70	14	4424	4.89	867.39	-5.03
915	SLE QP 1	68	13	4196	4.63	824.64	-4.79
915	SLE QP 2	69	14	4333	4.79	850.29	-4.93
915	SLD 1	405	-21	2665	-0.2	556.62	7.02
915	SLD 2	351	102	2570	-0.83	540.77	-35.67
915	SLD 3	435	-299	3693	6.6	735.47	104.23
915	SLD 4	381	-176	3598	5.97	719.62	61.54
915	SLD 5	134	404	2289	-6.92	493.66	-141.44
915	SLD 6	99	483	2228	-7.33	483.45	-168.93
915	SLD 7	233	-523	5716	15.76	1089.82	182.6
915	SLD 8	199	-444	5655	15.36	1079.61	155.11
915	SLD 9	-61	472	3010	-5.78	620.96	-164.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
915	SLD 10	-95	551	2949	-6.19	610.75	-192.46
915	SLD 11	39	-456	6437	16.9	1217.12	159.07
915	SLD 12	4	-377	6376	16.5	1206.91	131.58
915	SLD 13	-243	204	5068	3.6	980.96	-71.4
915	SLD 14	-297	327	4973	2.97	965.1	-114.09
915	SLD 15	-213	-74	6096	10.41	1159.81	25.81
915	SLD 16	-267	49	6001	9.78	1143.95	-16.88
915	SLV 1	595	-21	1655	-3.5	378.98	6.99
915	SLV 2	509	172	1505	-4.49	353.99	-60.3
915	SLV 3	645	-496	3409	8.11	684.2	172.83
915	SLV 4	560	-302	3260	7.12	659.21	105.54
915	SLV 5	166	687	896	-15.13	250.65	-240.32
915	SLV 6	108	818	795	-15.8	233.82	-285.62
915	SLV 7	335	-895	6745	23.58	1268.04	312.47
915	SLV 8	277	-765	6645	22.92	1251.21	267.17
915	SLV 9	-139	793	2021	-13.34	449.36	-277.03
915	SLV 10	-197	923	1921	-14.01	432.54	-322.33
915	SLV 11	30	-790	7871	25.37	1466.75	275.76
915	SLV 12	-28	-660	7770	24.7	1449.93	230.46
915	SLV 13	-422	330	5406	2.46	1041.37	-115.4
915	SLV 14	-507	524	5257	1.46	1016.37	-182.69
915	SLV 15	-371	-145	7161	14.07	1346.59	50.44
915	SLV 16	-457	49	7011	13.08	1321.59	-16.85
915	SLV FO 1	647	-25	1387	-4.33	331.85	8.18
915	SLV FO 2	553	188	1222	-5.42	304.36	-65.84
915	SLV FO 3	703	-547	3317	8.45	667.59	190.6
915	SLV FO 4	609	-334	3152	7.35	640.1	116.58
915	SLV FO 5	176	755	552	-17.12	190.68	-263.86
915	SLV FO 6	112	898	441	-17.86	172.17	-313.69
915	SLV FO 7	361	-986	6986	25.46	1309.81	344.21
915	SLV FO 8	298	-843	6876	24.73	1291.3	294.38
915	SLV FO 9	-160	871	1790	-15.15	409.27	-304.24
915	SLV FO 10	-223	1014	1679	-15.89	390.76	-354.07
915	SLV FO 11	26	-870	8224	27.43	1528.4	303.83
915	SLV FO 12	-38	-727	8114	26.69	1509.89	254
915	SLV FO 13	-471	362	5513	2.22	1060.48	-126.44
915	SLV FO 14	-565	575	5349	1.13	1032.98	-200.46
915	SLV FO 15	-415	-160	7444	15	1396.22	55.98
915	SLV FO 16	-509	52	7279	13.9	1368.72	-18.04
915	CRTFP Ux+	0	0	0	0	0	0
915	CRTFP Ux-	0	0	0	0	0	0
915	CRTFP Uy+	0	0	0	0	0	0
915	CRTFP Uy-	0	0	0	0	0	0
917	SLU 1	-116	10	6431	0.41	-7.2	1.13
917	SLU 2	-112	41	6329	-0.07	-5.25	1.04
917	SLU 3	-120	10	6609	0.52	-7.86	1.17
917	SLU 4	-117	28	6548	0.23	-6.69	1.12
917	SLU 5	-114	41	6447	0.01	-5.73	1.07
917	SLU 6	-122	9	6727	0.6	-8.35	1.2
917	SLU 7	-119	28	6666	0.31	-7.18	1.15
917	SLU 8	-121	10	6667	0.57	-8.17	1.18
917	SLU 9	-118	28	6606	0.28	-7	1.13
917	SLU 10	-122	42	7171	-0.17	-7.49	1.28
917	SLU 11	-130	10	7450	0.41	-10.1	1.41
917	SLU 12	-128	29	7389	0.13	-8.93	1.36
917	SLU 13	-124	42	7289	-0.09	-7.98	1.31
917	SLU 14	-132	10	7568	0.49	-10.59	1.44
917	SLU 15	-130	29	7507	0.21	-9.42	1.39
917	SLU 16	-131	10	7509	0.47	-10.42	1.43
917	SLU 17	-128	29	7448	0.18	-9.25	1.38
917	SLU 18	-131	11	7634	0.26	-10.4	1.47
917	SLU 19	-128	30	7572	-0.02	-9.23	1.42
917	SLU 20	-133	11	7752	0.34	-10.89	1.5
917	SLU 21	-131	29	7690	0.06	-9.72	1.45
917	SLU 22	-134	9	7536	0.61	-10.33	1.39
917	SLU 23	-130	41	7434	0.13	-8.38	1.3
917	SLU 24	-137	9	7714	0.72	-10.99	1.43
917	SLU 25	-135	28	7652	0.43	-9.82	1.38
917	SLU 26	-132	40	7552	0.21	-8.87	1.33
917	SLU 27	-139	9	7832	0.8	-11.48	1.46
917	SLU 28	-137	28	7770	0.51	-10.31	1.41
917	SLU 29	-138	9	7772	0.77	-11.31	1.45
917	SLU 30	-135	28	7711	0.48	-10.14	1.39
917	SLU 31	-140	41	8276	0.03	-10.63	1.55
917	SLU 32	-148	9	8555	0.61	-13.24	1.67
917	SLU 33	-145	28	8494	0.33	-12.07	1.62
917	SLU 34	-142	41	8394	0.11	-11.11	1.57
917	SLU 35	-150	9	8673	0.69	-13.73	1.7
917	SLU 36	-147	28	8612	0.41	-12.56	1.65
917	SLU 37	-148	9	8614	0.67	-13.55	1.69
917	SLU 38	-146	28	8553	0.38	-12.38	1.64
917	SLU 39	-148	10	8738	0.46	-13.54	1.74
917	SLU 40	-146	29	8677	0.17	-12.37	1.68
917	SLU 41	-151	10	8856	0.54	-14.03	1.76
917	SLU 42	-148	29	8795	0.25	-12.86	1.71
917	SLU 43	-145	13	7982	0.47	-8.28	1.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
917	SLU 44	-141	45	7880	-0.01	-6.33	1.29
917	SLU 45	-149	13	8159	0.57	-8.94	1.42
917	SLU 46	-146	32	8098	0.28	-7.77	1.37
917	SLU 47	-143	44	7998	0.07	-6.82	1.32
917	SLU 48	-151	13	8277	0.65	-9.43	1.45
917	SLU 49	-148	32	8216	0.36	-8.26	1.4
917	SLU 50	-150	13	8218	0.63	-9.26	1.43
917	SLU 51	-147	32	8157	0.34	-8.09	1.38
917	SLU 52	-151	45	8722	-0.12	-8.58	1.53
917	SLU 53	-159	13	9001	0.47	-11.19	1.66
917	SLU 54	-156	32	8940	0.18	-10.02	1.61
917	SLU 55	-153	45	8840	-0.04	-9.06	1.56
917	SLU 56	-161	13	9119	0.55	-11.68	1.69
917	SLU 57	-159	32	9058	0.26	-10.51	1.64
917	SLU 58	-160	13	9060	0.52	-11.5	1.68
917	SLU 59	-157	32	8998	0.24	-10.33	1.62
917	SLU 60	-160	14	9184	0.32	-11.49	1.72
917	SLU 61	-157	33	9123	0.03	-10.32	1.67
917	SLU 62	-162	14	9302	0.4	-11.98	1.75
917	SLU 63	-160	33	9241	0.11	-10.81	1.7
917	SLU 64	-163	12	9087	0.66	-11.42	1.64
917	SLU 65	-159	44	8985	0.18	-9.47	1.55
917	SLU 66	-166	12	9264	0.77	-12.08	1.68
917	SLU 67	-164	31	9203	0.48	-10.91	1.63
917	SLU 68	-161	44	9103	0.26	-9.95	1.58
917	SLU 69	-168	12	9382	0.85	-12.57	1.71
917	SLU 70	-166	31	9321	0.56	-11.4	1.66
917	SLU 71	-167	12	9323	0.82	-12.39	1.69
917	SLU 72	-164	31	9262	0.54	-11.22	1.64
917	SLU 73	-169	44	9826	0.08	-11.71	1.79
917	SLU 74	-176	13	10106	0.67	-14.32	1.92
917	SLU 75	-174	32	10045	0.38	-13.15	1.87
917	SLU 76	-171	44	9944	0.16	-12.2	1.82
917	SLU 77	-179	13	10224	0.75	-14.81	1.95
917	SLU 78	-176	31	10163	0.46	-13.64	1.9
917	SLU 79	-177	13	10164	0.72	-14.64	1.94
917	SLU 80	-175	31	10103	0.43	-13.47	1.89
917	SLU 81	-177	13	10289	0.52	-14.62	1.98
917	SLU 82	-175	32	10228	0.23	-13.45	1.93
917	SLU 83	-180	13	10407	0.6	-15.11	2.01
917	SLU 84	-177	32	10346	0.31	-13.94	1.96
917	SLE RA 1	-121	10	6747	0.47	-8.09	1.2
917	SLE RA 2	-119	31	6679	0.15	-6.79	1.14
917	SLE RA 3	-124	9	6865	0.54	-8.53	1.23
917	SLE RA 4	-122	22	6825	0.35	-7.75	1.2
917	SLE RA 5	-120	30	6758	0.2	-7.12	1.16
917	SLE RA 6	-125	9	6944	0.59	-8.86	1.25
917	SLE RA 7	-123	22	6903	0.4	-8.08	1.21
917	SLE RA 8	-124	9	6904	0.57	-8.74	1.24
917	SLE RA 9	-123	22	6864	0.38	-7.96	1.21
917	SLE RA 10	-125	31	7240	0.08	-8.29	1.31
917	SLE RA 11	-131	10	7426	0.47	-10.03	1.39
917	SLE RA 12	-129	22	7386	0.28	-9.25	1.36
917	SLE RA 13	-127	31	7319	0.13	-8.61	1.33
917	SLE RA 14	-132	10	7505	0.52	-10.36	1.41
917	SLE RA 15	-130	22	7464	0.33	-9.58	1.38
917	SLE RA 16	-131	10	7465	0.51	-10.24	1.4
917	SLE RA 17	-129	22	7425	0.31	-9.46	1.37
917	SLE RA 18	-131	10	7549	0.37	-10.23	1.43
917	SLE RA 19	-129	23	7508	0.18	-9.45	1.4
917	SLE RA 20	-133	10	7627	0.42	-10.56	1.45
917	SLE RA 21	-131	23	7586	0.23	-9.78	1.42
917	SLE FR 1	-121	10	6747	0.47	-8.09	1.2
917	SLE FR 2	-121	14	6733	0.4	-7.83	1.19
917	SLE FR 3	-122	10	6779	0.49	-8.22	1.21
917	SLE FR 4	-124	14	6974	0.37	-8.47	1.26
917	SLE FR 5	-125	10	7019	0.46	-8.87	1.28
917	SLE FR 6	-126	10	7148	0.42	-9.16	1.32
917	SLE QP 1	-121	10	6747	0.47	-8.09	1.2
917	SLE QP 2	-124	10	6988	0.44	-8.73	1.27
917	SLD 1	485	347	7129	-1.85	10.32	-3.91
917	SLD 2	396	252	7209	-1.41	9.21	-1.49
917	SLD 3	422	-40	8582	5.02	-15.7	-2.58
917	SLD 4	332	-135	8662	5.46	-16.82	-0.16
917	SLD 5	171	715	4811	-10.74	36.65	-2.72
917	SLD 6	113	654	4863	-10.46	35.93	-1.17
917	SLD 7	-42	-576	9657	12.16	-50.1	1.73
917	SLD 8	-100	-637	9708	12.44	-50.82	3.28
917	SLD 9	-149	657	4267	-11.56	33.35	-0.74
917	SLD 10	-207	596	4318	-11.28	32.63	0.82
917	SLD 11	-362	-634	9112	11.34	-53.4	3.71
917	SLD 12	-420	-695	9164	11.62	-54.12	5.27
917	SLD 13	-581	155	5313	-4.58	-0.65	2.7
917	SLD 14	-670	60	5393	-4.15	-1.77	5.12
917	SLD 15	-644	-232	6766	2.29	-26.68	4.04
917	SLD 16	-734	-327	6846	2.72	-27.79	6.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
917	SLV 1	836	565	7100	-3.63	23.16	-6.95
917	SLV 2	695	415	7227	-2.94	21.4	-3.14
917	SLV 3	727	-96	9581	8.09	-21.25	-4.68
917	SLV 4	586	-245	9707	8.78	-23.01	-0.86
917	SLV 5	356	1206	3236	-18.69	68.52	-5.36
917	SLV 6	260	1105	3321	-18.23	67.33	-2.8
917	SLV 7	-8	-996	11503	20.39	-79.52	2.23
917	SLV 8	-103	-1096	11588	20.85	-80.7	4.8
917	SLV 9	-146	1116	2387	-19.97	63.23	-2.25
917	SLV 10	-241	1015	2472	-19.51	62.05	0.31
917	SLV 11	-509	-1086	10654	19.1	-84.8	5.34
917	SLV 12	-604	-1186	10739	19.56	-85.99	7.91
917	SLV 13	-835	265	4268	-7.9	5.54	3.41
917	SLV 14	-976	115	4394	-7.22	3.78	7.22
917	SLV 15	-944	-396	6748	3.82	-38.87	5.69
917	SLV 16	-1085	-545	6875	4.5	-40.63	9.5
917	SLV FO 1	933	620	7112	-4.03	26.35	-7.78
917	SLV FO 2	777	456	7251	-3.28	24.41	-3.58
917	SLV FO 3	813	-106	9840	8.86	-22.5	-5.27
917	SLV FO 4	657	-271	9979	9.61	-24.44	-1.08
917	SLV FO 5	404	1326	2861	-20.6	76.24	-6.03
917	SLV FO 6	299	1215	2955	-20.1	74.94	-3.2
917	SLV FO 7	4	-1096	11955	22.38	-86.6	2.33
917	SLV FO 8	-101	-1207	12048	22.89	-87.9	5.15
917	SLV FO 9	-148	1227	1927	-22.01	70.43	-2.61
917	SLV FO 10	-253	1116	2020	-21.51	69.13	0.22
917	SLV FO 11	-548	-1195	11020	20.97	-92.41	5.75
917	SLV FO 12	-652	-1306	11114	21.48	-93.71	8.57
917	SLV FO 13	-906	290	3996	-8.74	6.97	3.62
917	SLV FO 14	-1061	126	4135	-7.99	5.03	7.82
917	SLV FO 15	-1026	-436	6724	4.16	-41.88	6.13
917	SLV FO 16	-1181	-601	6863	4.91	-43.82	10.32
917	CRTFP Ux+	0	0	0	0	0	0
917	CRTFP Ux-	0	0	0	0	0	0
917	CRTFP Uy+	0	0	0	0	0	0
917	CRTFP Uy-	0	0	0	0	0	0
920	SLU 1	-5	35	2533	-1.46	408.23	-8.65
920	SLU 2	-4	52	2505	-1.65	405.79	-12.76
920	SLU 3	-4	36	2597	-1.46	417.66	-8.79
920	SLU 4	-4	46	2581	-1.57	416.19	-11.25
920	SLU 5	-4	52	2548	-1.64	411.99	-12.8
920	SLU 6	-4	36	2640	-1.45	423.85	-8.83
920	SLU 7	-4	46	2623	-1.56	422.39	-11.29
920	SLU 8	-4	36	2618	-1.45	420.62	-8.73
920	SLU 9	-4	46	2601	-1.56	419.15	-11.2
920	SLU 10	-5	55	2831	-1.91	455.16	-13.43
920	SLU 11	-5	39	2923	-1.72	467.03	-9.46
920	SLU 12	-5	49	2906	-1.83	465.57	-11.93
920	SLU 13	-5	55	2873	-1.91	461.36	-13.47
920	SLU 14	-5	39	2965	-1.71	473.22	-9.5
920	SLU 15	-5	49	2948	-1.83	471.76	-11.97
920	SLU 16	-5	39	2943	-1.71	469.99	-9.4
920	SLU 17	-5	48	2927	-1.82	468.53	-11.87
920	SLU 18	-6	39	2998	-1.84	478.76	-9.61
920	SLU 19	-6	49	2981	-1.95	477.29	-12.08
920	SLU 20	-6	40	3040	-1.83	484.95	-9.65
920	SLU 21	-5	49	3024	-1.94	483.49	-12.12
920	SLU 22	-6	40	2954	-1.65	471.37	-9.81
920	SLU 23	-5	57	2926	-1.83	468.94	-13.92
920	SLU 24	-5	41	3018	-1.64	480.8	-9.95
920	SLU 25	-5	51	3002	-1.75	479.34	-12.41
920	SLU 26	-5	57	2969	-1.82	475.13	-13.96
920	SLU 27	-5	41	3061	-1.63	487	-9.99
920	SLU 28	-5	51	3044	-1.74	485.54	-12.45
920	SLU 29	-5	41	3039	-1.63	483.76	-9.89
920	SLU 30	-5	50	3022	-1.74	482.3	-12.35
920	SLU 31	-6	59	3252	-2.09	518.31	-14.59
920	SLU 32	-6	44	3344	-1.9	530.17	-10.62
920	SLU 33	-6	53	3327	-2.01	528.71	-13.09
920	SLU 34	-6	60	3294	-2.09	524.5	-14.63
920	SLU 35	-6	44	3386	-1.9	536.37	-10.66
920	SLU 36	-6	54	3369	-2.01	534.91	-13.13
920	SLU 37	-6	43	3364	-1.9	533.13	-10.56
920	SLU 38	-6	53	3348	-2.01	531.67	-13.03
920	SLU 39	-7	44	3419	-2.02	541.9	-10.77
920	SLU 40	-7	54	3402	-2.13	540.44	-13.24
920	SLU 41	-7	44	3461	-2.01	548.1	-10.81
920	SLU 42	-6	54	3444	-2.13	546.64	-13.28
920	SLU 43	-6	44	3149	-1.84	509.04	-10.85
920	SLU 44	-5	61	3121	-2.03	506.61	-14.96
920	SLU 45	-6	45	3213	-1.84	518.47	-10.99
920	SLU 46	-5	55	3196	-1.95	517.01	-13.45
920	SLU 47	-5	61	3163	-2.02	512.8	-15
920	SLU 48	-5	45	3255	-1.83	524.67	-11.03
920	SLU 49	-5	55	3239	-1.94	523.21	-13.49
920	SLU 50	-5	45	3234	-1.83	521.43	-10.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
920	SLU 51	-5	55	3217	-1.94	519.97	-13.4
920	SLU 52	-6	64	3446	-2.29	555.98	-15.63
920	SLU 53	-6	48	3538	-2.1	567.84	-11.66
920	SLU 54	-6	58	3522	-2.21	566.38	-14.13
920	SLU 55	-6	64	3489	-2.28	562.17	-15.67
920	SLU 56	-6	48	3581	-2.09	574.04	-11.7
920	SLU 57	-6	58	3564	-2.2	572.58	-14.17
920	SLU 58	-6	48	3559	-2.09	570.81	-11.6
920	SLU 59	-6	57	3542	-2.2	569.34	-14.07
920	SLU 60	-7	48	3613	-2.22	579.57	-11.81
920	SLU 61	-7	58	3597	-2.33	578.11	-14.28
920	SLU 62	-7	49	3656	-2.21	585.77	-11.85
920	SLU 63	-6	58	3639	-2.32	584.31	-14.32
920	SLU 64	-7	49	3570	-2.02	572.19	-12.01
920	SLU 65	-6	66	3542	-2.21	569.75	-16.12
920	SLU 66	-6	50	3634	-2.02	581.62	-12.15
920	SLU 67	-6	60	3617	-2.13	580.16	-14.61
920	SLU 68	-6	66	3584	-2.2	575.95	-16.16
920	SLU 69	-6	50	3676	-2.01	587.82	-12.18
920	SLU 70	-6	60	3660	-2.12	586.35	-14.65
920	SLU 71	-6	50	3655	-2.01	584.58	-12.09
920	SLU 72	-6	59	3638	-2.12	583.12	-14.55
920	SLU 73	-7	68	3867	-2.47	619.13	-16.79
920	SLU 74	-7	53	3959	-2.28	630.99	-12.82
920	SLU 75	-7	62	3942	-2.39	629.53	-15.28
920	SLU 76	-7	69	3910	-2.46	625.32	-16.83
920	SLU 77	-7	53	4002	-2.27	637.19	-12.86
920	SLU 78	-7	63	3985	-2.38	635.72	-15.32
920	SLU 79	-7	52	3980	-2.27	633.95	-12.76
920	SLU 80	-7	62	3963	-2.38	632.49	-15.23
920	SLU 81	-8	53	4034	-2.4	642.72	-12.97
920	SLU 82	-8	63	4018	-2.51	641.26	-15.44
920	SLU 83	-8	53	4077	-2.39	648.92	-13.01
920	SLU 84	-7	63	4060	-2.5	647.45	-15.47
920	SLE RA 1	-5	37	2653	-1.52	426.27	-8.98
920	SLE RA 2	-4	48	2635	-1.64	424.64	-11.72
920	SLE RA 3	-5	37	2696	-1.51	432.55	-9.07
920	SLE RA 4	-5	44	2685	-1.59	431.58	-10.72
920	SLE RA 5	-4	48	2663	-1.64	428.77	-11.75
920	SLE RA 6	-5	37	2724	-1.51	436.68	-9.1
920	SLE RA 7	-4	44	2713	-1.58	435.71	-10.74
920	SLE RA 8	-5	37	2710	-1.51	434.53	-9.04
920	SLE RA 9	-4	44	2699	-1.58	433.55	-10.68
920	SLE RA 10	-5	50	2852	-1.82	457.56	-12.17
920	SLE RA 11	-5	39	2913	-1.69	465.47	-9.52
920	SLE RA 12	-5	46	2902	-1.76	464.49	-11.17
920	SLE RA 13	-5	50	2880	-1.81	461.69	-12.2
920	SLE RA 14	-5	39	2941	-1.68	469.6	-9.55
920	SLE RA 15	-5	46	2930	-1.76	468.62	-11.19
920	SLE RA 16	-5	39	2927	-1.68	467.44	-9.48
920	SLE RA 17	-5	45	2916	-1.76	466.47	-11.13
920	SLE RA 18	-6	39	2963	-1.77	473.29	-9.62
920	SLE RA 19	-6	46	2952	-1.84	472.31	-11.27
920	SLE RA 20	-6	40	2991	-1.76	477.42	-9.65
920	SLE RA 21	-5	46	2980	-1.84	476.44	-11.29
920	SLE FR 1	-5	37	2653	-1.52	426.27	-8.98
920	SLE FR 2	-5	39	2650	-1.54	425.94	-9.53
920	SLE FR 3	-5	37	2665	-1.51	427.92	-8.99
920	SLE FR 4	-5	40	2743	-1.62	440.05	-9.72
920	SLE FR 5	-5	38	2758	-1.59	442.03	-9.19
920	SLE FR 6	-5	38	2808	-1.64	449.78	-9.3
920	SLE QP 1	-5	37	2653	-1.52	426.27	-8.98
920	SLE QP 2	-5	38	2746	-1.59	440.37	-9.17
920	SLD 1	286	165	2681	-2.67	444.11	-41.18
920	SLD 2	250	147	2683	-2.57	443.6	-36.54
920	SLD 3	273	-35	3083	-0.04	480.7	8.67
920	SLD 4	237	-53	3086	0.06	480.19	13.32
920	SLD 5	108	381	2116	-5.91	386.09	-95.19
920	SLD 6	85	370	2117	-5.85	385.76	-92.2
920	SLD 7	65	-283	3457	2.84	508.06	70.99
920	SLD 8	42	-295	3459	2.9	507.72	73.98
920	SLD 9	-52	370	2034	-6.08	373.02	-92.33
920	SLD 10	-75	359	2035	-6.02	372.69	-89.34
920	SLD 11	-95	-294	3375	2.66	494.99	73.85
920	SLD 12	-118	-306	3377	2.73	494.66	76.84
920	SLD 13	-247	128	2407	-3.24	400.56	-31.67
920	SLD 14	-283	110	2409	-3.14	400.04	-27.02
920	SLD 15	-260	-72	2809	-0.62	437.15	18.19
920	SLD 16	-296	-89	2812	-0.52	436.63	22.83
920	SLV 1	451	251	2615	-3.46	443.52	-62.91
920	SLV 2	395	223	2618	-3.3	442.71	-55.59
920	SLV 3	429	-89	3302	1.02	505.97	22.12
920	SLV 4	373	-117	3305	1.17	505.16	29.44
920	SLV 5	175	623	1665	-8.97	346.76	-155.61
920	SLV 6	137	604	1667	-8.87	346.21	-150.69
920	SLV 7	102	-511	3954	5.95	554.92	127.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
920	SLV 8	64	-530	3956	6.06	554.37	132.73
920	SLV 9	-75	605	1537	-9.24	326.38	-151.08
920	SLV 10	-113	586	1539	-9.14	325.83	-146.15
920	SLV 11	-148	-528	3826	5.68	534.54	132.34
920	SLV 12	-186	-547	3828	5.79	533.99	137.26
920	SLV 13	-383	192	2188	-4.36	375.59	-47.79
920	SLV 14	-439	164	2191	-4.2	374.78	-40.47
920	SLV 15	-405	-148	2874	0.12	438.04	37.24
920	SLV 16	-461	-176	2878	0.27	437.23	44.56
920	SLV FO 1	497	272	2602	-3.64	443.84	-68.28
920	SLV FO 2	435	241	2606	-3.47	442.94	-60.23
920	SLV FO 3	473	-102	3357	1.28	512.53	25.25
920	SLV FO 4	410	-133	3361	1.45	511.64	33.3
920	SLV FO 5	194	681	1557	-9.71	337.39	-170.26
920	SLV FO 6	152	660	1559	-9.59	336.79	-164.84
920	SLV FO 7	113	-566	4075	6.71	566.37	141.5
920	SLV FO 8	71	-587	4077	6.82	565.77	146.92
920	SLV FO 9	-82	662	1416	-10.01	314.98	-165.27
920	SLV FO 10	-124	641	1418	-9.89	314.38	-159.85
920	SLV FO 11	-162	-585	3934	6.41	543.96	146.49
920	SLV FO 12	-204	-606	3936	6.53	543.35	151.91
920	SLV FO 13	-421	208	2132	-4.64	369.11	-51.65
920	SLV FO 14	-483	177	2135	-4.46	368.22	-43.6
920	SLV FO 15	-445	-166	2887	0.29	437.81	41.88
920	SLV FO 16	-507	-197	2891	0.46	436.91	49.93
920	CRTFP Ux+	0	0	0	0	0	0
920	CRTFP Ux-	0	0	0	0	0	0
920	CRTFP Uy+	0	0	0	0	0	0
920	CRTFP Uy-	0	0	0	0	0	0
922	SLU 1	12	87	4437	3.5	-30.24	0.51
922	SLU 2	12	116	4381	3.05	-30.23	0.57
922	SLU 3	13	88	4549	3.7	-31.28	0.53
922	SLU 4	13	106	4515	3.43	-31.27	0.56
922	SLU 5	13	117	4456	3.19	-30.93	0.58
922	SLU 6	14	88	4624	3.84	-31.98	0.53
922	SLU 7	14	106	4590	3.57	-31.97	0.57
922	SLU 8	14	87	4586	3.78	-31.65	0.52
922	SLU 9	14	105	4553	3.51	-31.64	0.56
922	SLU 10	13	123	4963	3.39	-33.45	0.71
922	SLU 11	14	95	5131	4.04	-34.51	0.67
922	SLU 12	14	112	5097	3.77	-34.5	0.71
922	SLU 13	14	123	5038	3.53	-34.16	0.72
922	SLU 14	15	95	5205	4.17	-35.21	0.68
922	SLU 15	15	113	5172	3.91	-35.2	0.71
922	SLU 16	15	94	5168	4.11	-34.88	0.66
922	SLU 17	15	112	5135	3.84	-34.87	0.7
922	SLU 18	13	97	5268	3.98	-34.85	0.71
922	SLU 19	13	114	5234	3.71	-34.84	0.75
922	SLU 20	14	97	5343	4.12	-35.56	0.72
922	SLU 21	14	114	5309	3.85	-35.55	0.75
922	SLU 22	14	96	5183	4.24	-34.75	0.7
922	SLU 23	13	126	5127	3.79	-34.74	0.76
922	SLU 24	15	97	5295	4.44	-35.79	0.72
922	SLU 25	15	115	5261	4.17	-35.78	0.75
922	SLU 26	14	126	5202	3.93	-35.44	0.76
922	SLU 27	16	97	5370	4.58	-36.49	0.72
922	SLU 28	16	115	5336	4.31	-36.49	0.76
922	SLU 29	16	96	5332	4.51	-36.16	0.71
922	SLU 30	16	114	5299	4.25	-36.15	0.74
922	SLU 31	14	132	5709	4.12	-37.96	0.9
922	SLU 32	16	104	5876	4.77	-39.02	0.86
922	SLU 33	16	122	5843	4.5	-39.01	0.9
922	SLU 34	15	132	5784	4.26	-38.67	0.91
922	SLU 35	17	104	5951	4.91	-39.72	0.86
922	SLU 36	17	122	5918	4.64	-39.71	0.9
922	SLU 37	17	103	5914	4.85	-39.39	0.85
922	SLU 38	16	121	5881	4.58	-39.38	0.89
922	SLU 39	15	106	6014	4.71	-39.36	0.9
922	SLU 40	15	123	5980	4.44	-39.35	0.94
922	SLU 41	16	106	6088	4.85	-40.07	0.91
922	SLU 42	16	124	6055	4.58	-40.06	0.94
922	SLU 43	15	110	5512	4.3	-37.77	0.6
922	SLU 44	15	139	5456	3.85	-37.75	0.66
922	SLU 45	16	111	5624	4.5	-38.8	0.62
922	SLU 46	16	129	5591	4.23	-38.79	0.65
922	SLU 47	16	140	5531	3.99	-38.45	0.66
922	SLU 48	17	111	5699	4.64	-39.51	0.62
922	SLU 49	17	129	5666	4.37	-39.5	0.66
922	SLU 50	17	110	5662	4.58	-39.18	0.61
922	SLU 51	17	128	5628	4.31	-39.17	0.64
922	SLU 52	16	146	6038	4.19	-40.98	0.8
922	SLU 53	17	118	6206	4.83	-42.03	0.76
922	SLU 54	17	135	6172	4.57	-42.02	0.8
922	SLU 55	17	146	6113	4.32	-41.68	0.81
922	SLU 56	18	118	6281	4.97	-42.74	0.76
922	SLU 57	18	136	6247	4.7	-42.73	0.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
922	SLU 58	18	117	6243	4.91	-42.4	0.75
922	SLU 59	18	135	6210	4.64	-42.39	0.79
922	SLU 60	16	120	6343	4.78	-42.38	0.8
922	SLU 61	16	137	6310	4.51	-42.37	0.84
922	SLU 62	17	120	6418	4.91	-43.08	0.81
922	SLU 63	17	137	6384	4.65	-43.07	0.84
922	SLU 64	17	119	6258	5.04	-42.28	0.79
922	SLU 65	16	149	6202	4.59	-42.26	0.85
922	SLU 66	18	120	6370	5.24	-43.32	0.81
922	SLU 67	18	138	6337	4.97	-43.31	0.84
922	SLU 68	17	149	6277	4.73	-42.97	0.85
922	SLU 69	19	120	6445	5.37	-44.02	0.81
922	SLU 70	19	138	6412	5.11	-44.01	0.85
922	SLU 71	19	119	6408	5.31	-43.69	0.8
922	SLU 72	19	137	6374	5.04	-43.68	0.83
922	SLU 73	17	155	6784	4.92	-45.49	0.99
922	SLU 74	19	127	6952	5.57	-46.54	0.95
922	SLU 75	19	145	6918	5.3	-46.53	0.98
922	SLU 76	18	155	6859	5.06	-46.19	1
922	SLU 77	20	127	7027	5.71	-47.25	0.95
922	SLU 78	20	145	6993	5.44	-47.24	0.99
922	SLU 79	20	126	6989	5.65	-46.91	0.94
922	SLU 80	19	144	6956	5.38	-46.9	0.98
922	SLU 81	18	129	7089	5.51	-46.89	0.99
922	SLU 82	18	146	7055	5.24	-46.88	1.03
922	SLU 83	19	129	7164	5.65	-47.59	1
922	SLU 84	19	147	7130	5.38	-47.58	1.03
922	SLE RA 1	12	90	4650	3.71	-31.53	0.57
922	SLE RA 2	12	109	4613	3.41	-31.52	0.6
922	SLE RA 3	13	90	4725	3.85	-32.22	0.58
922	SLE RA 4	13	102	4702	3.67	-32.22	0.6
922	SLE RA 5	13	109	4663	3.51	-31.99	0.61
922	SLE RA 6	14	90	4774	3.94	-32.69	0.58
922	SLE RA 7	14	102	4752	3.76	-32.69	0.6
922	SLE RA 8	14	90	4750	3.9	-32.47	0.57
922	SLE RA 9	14	102	4727	3.72	-32.46	0.59
922	SLE RA 10	13	114	5001	3.64	-33.67	0.7
922	SLE RA 11	14	95	5112	4.07	-34.37	0.67
922	SLE RA 12	14	107	5090	3.89	-34.37	0.7
922	SLE RA 13	14	114	5050	3.73	-34.14	0.7
922	SLE RA 14	15	95	5162	4.16	-34.84	0.67
922	SLE RA 15	14	107	5140	3.98	-34.84	0.7
922	SLE RA 16	14	94	5137	4.12	-34.62	0.67
922	SLE RA 17	14	106	5115	3.94	-34.61	0.69
922	SLE RA 18	13	96	5204	4.03	-34.6	0.7
922	SLE RA 19	13	108	5182	3.85	-34.6	0.72
922	SLE RA 20	14	96	5254	4.12	-35.07	0.7
922	SLE RA 21	14	108	5231	3.94	-35.07	0.73
922	SLE FR 1	12	90	4650	3.71	-31.53	0.57
922	SLE FR 2	12	93	4642	3.65	-31.53	0.57
922	SLE FR 3	13	90	4670	3.75	-31.72	0.57
922	SLE FR 4	13	95	4809	3.75	-32.45	0.61
922	SLE FR 5	13	92	4836	3.84	-32.64	0.61
922	SLE FR 6	13	93	4927	3.87	-33.07	0.63
922	SLE QP 1	12	90	4650	3.71	-31.53	0.57
922	SLE QP 2	13	91	4816	3.81	-32.45	0.61
922	SLD 1	586	219	4008	0.34	-4.96	-3.49
922	SLD 2	515	251	4012	0.2	-4.99	-1.12
922	SLD 3	596	-139	4832	6.68	-6.31	-4.16
922	SLD 4	525	-107	4836	6.54	-6.34	-1.79
922	SLD 5	182	668	3324	-6.82	-22.14	0
922	SLD 6	136	688	3326	-6.91	-22.17	1.52
922	SLD 7	215	-526	6069	14.31	-26.66	-2.26
922	SLD 8	169	-506	6072	14.22	-26.68	-0.73
922	SLD 9	-144	689	3560	-6.6	-38.23	1.94
922	SLD 10	-190	709	3562	-6.69	-38.25	3.47
922	SLD 11	-111	-505	6306	14.53	-42.74	-0.31
922	SLD 12	-156	-485	6308	14.44	-42.76	1.22
922	SLD 13	-499	290	4796	1.07	-58.56	3
922	SLD 14	-571	322	4800	0.93	-58.6	5.37
922	SLD 15	-490	-68	5619	7.41	-59.92	2.33
922	SLD 16	-561	-36	5624	7.27	-59.95	4.7
922	SLV 1	911	317	3495	-2.11	10.54	-5.78
922	SLV 2	798	366	3502	-2.33	10.49	-2.04
922	SLV 3	927	-294	4901	8.71	8.24	-6.93
922	SLV 4	814	-245	4908	8.49	8.19	-3.19
922	SLV 5	279	1076	2286	-14.33	-16.05	-0.26
922	SLV 6	203	1110	2290	-14.48	-16.09	2.25
922	SLV 7	332	-960	6973	21.72	-23.73	-4.09
922	SLV 8	256	-927	6977	21.58	-23.76	-1.58
922	SLV 9	-231	1110	2655	-13.96	-41.14	2.79
922	SLV 10	-307	1143	2659	-14.11	-41.18	5.31
922	SLV 11	-178	-927	7341	22.09	-48.82	-1.04
922	SLV 12	-253	-893	7346	21.95	-48.85	1.47
922	SLV 13	-789	428	4724	-0.87	-73.09	4.4
922	SLV 14	-901	477	4731	-1.1	-73.15	8.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
922	SLV 15	-773	-183	6130	9.94	-75.4	3.25
922	SLV 16	-885	-134	6137	9.72	-75.45	6.99
922	SLV FO 1	1000	339	3363	-2.7	14.84	-6.41
922	SLV FO 2	877	394	3370	-2.94	14.78	-2.3
922	SLV FO 3	1018	-333	4910	9.2	12.31	-7.68
922	SLV FO 4	895	-278	4917	8.96	12.25	-3.57
922	SLV FO 5	305	1175	2033	-16.15	-14.41	-0.35
922	SLV FO 6	222	1212	2038	-16.31	-14.45	2.42
922	SLV FO 7	364	-1065	7189	23.52	-22.86	-4.56
922	SLV FO 8	281	-1029	7193	23.35	-22.89	-1.8
922	SLV FO 9	-255	1212	2439	-15.74	-42.01	3.01
922	SLV FO 10	-339	1248	2443	-15.9	-42.05	5.78
922	SLV FO 11	-197	-1029	7594	23.92	-50.45	-1.21
922	SLV FO 12	-280	-992	7599	23.76	-50.49	1.56
922	SLV FO 13	-869	461	4715	-1.34	-77.16	4.78
922	SLV FO 14	-993	516	4722	-1.59	-77.21	8.89
922	SLV FO 15	-852	-211	6262	10.56	-79.69	3.51
922	SLV FO 16	-975	-156	6269	10.31	-79.75	7.63
922	CRTFP Ux+	0	0	0	0	0	0
922	CRTFP Ux-	0	0	0	0	0	0
922	CRTFP Uy+	0	0	0	0	0	0
922	CRTFP Uy-	0	0	0	0	0	0
924	SLU 1	-56	-2	3327	3.97	-419.07	-0.37
924	SLU 2	-54	17	3267	3.63	-411.4	4.28
924	SLU 3	-58	-2	3419	4.14	-429.89	-0.47
924	SLU 4	-57	9	3383	3.93	-425.28	2.32
924	SLU 5	-55	17	3328	3.75	-418.57	4.28
924	SLU 6	-59	-2	3480	4.26	-437.06	-0.46
924	SLU 7	-58	9	3444	4.06	-432.45	2.32
924	SLU 8	-58	-2	3448	4.21	-433.42	-0.37
924	SLU 9	-57	9	3413	4	-428.81	2.42
924	SLU 10	-60	18	3676	4.15	-460.12	4.55
924	SLU 11	-63	-1	3828	4.66	-478.6	-0.19
924	SLU 12	-62	10	3792	4.46	-474	2.6
924	SLU 13	-61	18	3737	4.27	-467.29	4.56
924	SLU 14	-64	-1	3888	4.78	-485.78	-0.19
924	SLU 15	-63	10	3853	4.58	-481.17	2.6
924	SLU 16	-63	-1	3857	4.73	-482.13	-0.09
924	SLU 17	-62	10	3821	4.53	-477.53	2.7
924	SLU 18	-64	0	3911	4.72	-488.67	0.03
924	SLU 19	-63	11	3875	4.51	-484.07	2.82
924	SLU 20	-65	0	3972	4.84	-495.84	0.03
924	SLU 21	-64	11	3936	4.63	-491.24	2.82
924	SLU 22	-64	-4	3879	4.81	-484.68	-0.86
924	SLU 23	-63	15	3819	4.47	-477.01	3.79
924	SLU 24	-66	-4	3971	4.98	-495.5	-0.95
924	SLU 25	-65	7	3935	4.78	-490.89	1.83
924	SLU 26	-64	15	3880	4.59	-484.18	3.79
924	SLU 27	-67	-4	4032	5.1	-502.67	-0.95
924	SLU 28	-66	7	3996	4.9	-498.07	1.83
924	SLU 29	-66	-4	4001	5.05	-499.03	-0.85
924	SLU 30	-65	7	3965	4.85	-494.42	1.93
924	SLU 31	-68	16	4228	4.99	-525.73	4.07
924	SLU 32	-71	-3	4380	5.51	-544.22	-0.67
924	SLU 33	-70	8	4344	5.3	-539.61	2.11
924	SLU 34	-69	16	4289	5.11	-532.9	4.07
924	SLU 35	-72	-3	4441	5.63	-551.39	-0.67
924	SLU 36	-71	8	4405	5.42	-546.78	2.11
924	SLU 37	-71	-3	4410	5.58	-547.75	-0.58
924	SLU 38	-70	8	4374	5.37	-543.14	2.21
924	SLU 39	-72	-2	4463	5.56	-554.28	-0.46
924	SLU 40	-71	9	4427	5.36	-549.68	2.33
924	SLU 41	-73	-2	4524	5.68	-561.45	-0.46
924	SLU 42	-72	9	4488	5.48	-556.85	2.33
924	SLU 43	-70	-2	4135	4.87	-522.3	-0.31
924	SLU 44	-69	17	4075	4.53	-514.63	4.33
924	SLU 45	-72	-2	4227	5.04	-533.11	-0.41
924	SLU 46	-71	9	4191	4.84	-528.51	2.38
924	SLU 47	-69	17	4136	4.65	-521.8	4.33
924	SLU 48	-73	-2	4288	5.16	-540.29	-0.41
924	SLU 49	-72	9	4252	4.96	-535.68	2.38
924	SLU 50	-72	-2	4257	5.11	-536.64	-0.31
924	SLU 51	-71	9	4221	4.91	-532.04	2.48
924	SLU 52	-74	18	4484	5.05	-563.34	4.61
924	SLU 53	-77	-1	4636	5.57	-581.83	-0.13
924	SLU 54	-76	10	4600	5.36	-577.23	2.66
924	SLU 55	-75	18	4545	5.17	-570.51	4.61
924	SLU 56	-78	-1	4697	5.69	-589	-0.13
924	SLU 57	-77	10	4661	5.48	-584.4	2.66
924	SLU 58	-77	-1	4666	5.63	-585.36	-0.03
924	SLU 59	-76	10	4630	5.43	-580.76	2.76
924	SLU 60	-78	0	4719	5.62	-591.9	0.09
924	SLU 61	-77	11	4684	5.41	-587.29	2.87
924	SLU 62	-79	0	4780	5.74	-599.07	0.09
924	SLU 63	-78	11	4744	5.53	-594.46	2.87
924	SLU 64	-78	-4	4687	5.71	-587.91	-0.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
924	SLU 65	-77	15	4628	5.37	-580.24	3.84
924	SLU 66	-80	-4	4780	5.88	-598.73	-0.9
924	SLU 67	-79	7	4744	5.68	-594.12	1.89
924	SLU 68	-78	15	4689	5.49	-587.41	3.84
924	SLU 69	-81	-4	4840	6.01	-605.9	-0.9
924	SLU 70	-80	7	4805	5.8	-601.29	1.89
924	SLU 71	-80	-4	4809	5.95	-602.26	-0.8
924	SLU 72	-79	7	4773	5.75	-597.65	1.99
924	SLU 73	-82	16	5036	5.9	-628.95	4.12
924	SLU 74	-85	-3	5188	6.41	-647.44	-0.62
924	SLU 75	-84	8	5152	6.2	-642.84	2.17
924	SLU 76	-83	16	5097	6.02	-636.13	4.12
924	SLU 77	-86	-3	5249	6.53	-654.61	-0.62
924	SLU 78	-85	8	5213	6.32	-650.01	2.17
924	SLU 79	-85	-3	5218	6.48	-650.97	-0.52
924	SLU 80	-85	8	5182	6.27	-646.37	2.27
924	SLU 81	-86	-2	5272	6.46	-657.51	-0.4
924	SLU 82	-85	9	5236	6.26	-652.9	2.38
924	SLU 83	-87	-2	5333	6.58	-664.68	-0.4
924	SLU 84	-86	9	5297	6.38	-660.08	2.39
924	SLE RA 1	-58	-2	3484	4.21	-437.82	-0.51
924	SLE RA 2	-57	10	3444	3.98	-432.7	2.59
924	SLE RA 3	-59	-3	3546	4.32	-445.03	-0.57
924	SLE RA 4	-59	5	3522	4.19	-441.96	1.28
924	SLE RA 5	-58	10	3485	4.06	-437.48	2.59
924	SLE RA 6	-60	-3	3586	4.4	-449.81	-0.57
924	SLE RA 7	-59	5	3562	4.27	-446.74	1.29
924	SLE RA 8	-60	-2	3566	4.37	-447.38	-0.51
924	SLE RA 9	-59	5	3542	4.23	-444.31	1.35
924	SLE RA 10	-61	11	3717	4.33	-465.18	2.77
924	SLE RA 11	-63	-2	3818	4.67	-477.51	-0.39
924	SLE RA 12	-62	5	3794	4.54	-474.44	1.47
924	SLE RA 13	-62	11	3758	4.41	-469.96	2.77
924	SLE RA 14	-64	-2	3859	4.75	-482.29	-0.39
924	SLE RA 15	-63	5	3835	4.62	-479.22	1.47
924	SLE RA 16	-63	-2	3838	4.72	-479.86	-0.32
924	SLE RA 17	-63	6	3814	4.58	-476.79	1.54
924	SLE RA 18	-64	-1	3874	4.71	-484.22	-0.24
924	SLE RA 19	-63	6	3850	4.57	-481.15	1.62
924	SLE RA 20	-64	-1	3914	4.79	-489	-0.24
924	SLE RA 21	-63	6	3890	4.65	-485.93	1.62
924	SLE FR 1	-58	-2	3484	4.21	-437.82	-0.51
924	SLE FR 2	-58	0	3476	4.16	-436.8	0.11
924	SLE FR 3	-59	-2	3501	4.24	-439.73	-0.51
924	SLE FR 4	-60	0	3593	4.31	-450.72	0.19
924	SLE FR 5	-60	-2	3617	4.39	-453.65	-0.43
924	SLE FR 6	-61	-2	3679	4.46	-461.02	-0.37
924	SLE QP 1	-58	-2	3484	4.21	-437.82	-0.51
924	SLE QP 2	-60	-2	3601	4.36	-451.74	-0.43
924	SLD 1	241	61	4283	3.5	-527.85	15.07
924	SLD 2	194	-39	4356	3.93	-537.53	-9.66
924	SLD 3	215	-169	5126	8.36	-634.71	-42.04
924	SLD 4	168	-268	5199	8.78	-644.38	-66.77
924	SLD 5	78	382	2515	-3.33	-310.85	95.09
924	SLD 6	48	317	2562	-3.06	-317.07	79.17
924	SLD 7	-9	-383	5325	12.85	-667.03	-95.27
924	SLD 8	-39	-447	5372	13.12	-673.26	-111.2
924	SLD 9	-81	443	1831	-4.4	-230.22	110.34
924	SLD 10	-111	378	1878	-4.13	-236.45	94.42
924	SLD 11	-168	-322	4641	11.78	-586.4	-80.02
924	SLD 12	-198	-386	4688	12.05	-592.63	-95.95
924	SLD 13	-288	264	2003	-0.06	-259.1	65.91
924	SLD 14	-335	164	2076	0.36	-268.77	41.18
924	SLD 15	-314	35	2846	4.79	-365.95	8.8
924	SLD 16	-361	-65	2919	5.21	-375.62	-15.93
924	SLV 1	414	113	4603	2.67	-562.56	28.1
924	SLV 2	340	-44	4718	3.33	-577.81	-10.88
924	SLV 3	369	-278	6041	10.95	-744.85	-69.32
924	SLV 4	295	-435	6156	11.62	-760.1	-108.3
924	SLV 5	163	655	1699	-8.83	-205.67	163.16
924	SLV 6	114	549	1777	-8.39	-215.93	136.92
924	SLV 7	15	-649	6493	18.77	-813.3	-161.58
924	SLV 8	-35	-754	6570	19.22	-823.56	-187.82
924	SLV 9	-85	750	632	-10.5	-79.92	186.96
924	SLV 10	-135	644	710	-10.06	-90.18	160.72
924	SLV 11	-234	-553	5426	17.1	-687.54	-137.78
924	SLV 12	-283	-659	5503	17.55	-697.81	-164.02
924	SLV 13	-415	431	1047	-2.9	-143.38	107.44
924	SLV 14	-489	273	1162	-2.23	-158.63	68.46
924	SLV 15	-460	40	2485	5.39	-325.67	10.02
924	SLV 16	-533	-118	2600	6.05	-340.92	-28.96
924	SLV FO 1	461	125	4703	2.5	-573.64	30.96
924	SLV FO 2	380	-48	4830	3.23	-590.41	-11.92
924	SLV FO 3	412	-305	6285	11.61	-774.16	-76.21
924	SLV FO 4	331	-478	6411	12.34	-790.93	-119.09
924	SLV FO 5	186	721	1509	-10.15	-181.06	179.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
924	SLV FO 6	131	604	1594	-9.66	-192.35	150.65
924	SLV FO 7	22	-713	6782	20.22	-849.45	-177.69
924	SLV FO 8	-32	-830	6867	20.71	-860.74	-206.56
924	SLV FO 9	-88	825	336	-11.99	-42.73	205.7
924	SLV FO 10	-142	709	421	-11.5	-54.03	176.84
924	SLV FO 11	-251	-608	5608	18.38	-711.12	-151.51
924	SLV FO 12	-306	-725	5693	18.87	-722.42	-180.38
924	SLV FO 13	-451	474	791	-3.62	-112.55	118.23
924	SLV FO 14	-532	301	918	-2.89	-129.32	75.35
924	SLV FO 15	-500	44	2373	5.49	-313.06	11.07
924	SLV FO 16	-581	-129	2499	6.22	-329.84	-31.81
924	CRTFP Ux+	0	0	0	0	0	0
924	CRTFP Ux-	0	0	0	0	0	0
924	CRTFP Uy+	0	0	0	0	0	0
924	CRTFP Uy-	0	0	0	0	0	0
927	SLU 1	113	32	6644	1.72	18.27	0.11
927	SLU 2	107	61	6523	1.2	16.91	0.16
927	SLU 3	117	33	6838	1.86	19.1	0.1
927	SLU 4	114	50	6765	1.55	18.28	0.13
927	SLU 5	111	61	6658	1.3	17.38	0.14
927	SLU 6	121	33	6972	1.97	19.57	0.08
927	SLU 7	118	50	6900	1.65	18.76	0.11
927	SLU 8	120	33	6913	1.93	19.22	0.07
927	SLU 9	117	50	6841	1.62	18.4	0.1
927	SLU 10	116	65	7372	1.34	20.06	0.18
927	SLU 11	126	37	7686	2	22.25	0.12
927	SLU 12	122	55	7614	1.69	21.43	0.15
927	SLU 13	119	66	7506	1.44	20.53	0.16
927	SLU 14	129	38	7821	2.1	22.72	0.1
927	SLU 15	126	55	7749	1.79	21.91	0.13
927	SLU 16	128	38	7762	2.06	22.37	0.09
927	SLU 17	125	55	7690	1.75	21.55	0.12
927	SLU 18	125	39	7856	1.91	22.77	0.14
927	SLU 19	121	56	7784	1.6	21.95	0.17
927	SLU 20	128	39	7991	2.02	23.24	0.12
927	SLU 21	125	56	7918	1.71	22.43	0.15
927	SLU 22	128	36	7776	2.16	23.11	0.18
927	SLU 23	122	65	7655	1.64	21.75	0.23
927	SLU 24	132	37	7970	2.3	23.94	0.17
927	SLU 25	129	54	7897	1.99	23.12	0.2
927	SLU 26	126	65	7790	1.74	22.22	0.21
927	SLU 27	136	37	8104	2.4	24.41	0.15
927	SLU 28	132	54	8032	2.09	23.6	0.18
927	SLU 29	135	37	8045	2.36	24.06	0.14
927	SLU 30	131	54	7973	2.05	23.24	0.17
927	SLU 31	131	69	8504	1.77	24.9	0.25
927	SLU 32	141	41	8818	2.44	27.09	0.19
927	SLU 33	137	59	8746	2.12	26.27	0.22
927	SLU 34	134	70	8638	1.88	25.37	0.23
927	SLU 35	144	42	8953	2.54	27.56	0.17
927	SLU 36	141	59	8881	2.23	26.75	0.2
927	SLU 37	143	42	8894	2.5	27.21	0.16
927	SLU 38	140	59	8822	2.19	26.39	0.19
927	SLU 39	140	43	8988	2.35	27.61	0.21
927	SLU 40	136	60	8915	2.04	26.79	0.24
927	SLU 41	143	43	9123	2.46	28.08	0.19
927	SLU 42	140	60	9050	2.14	27.27	0.22
927	SLU 43	142	41	8249	2.08	22.09	0.12
927	SLU 44	136	69	8128	1.56	20.73	0.17
927	SLU 45	146	41	8443	2.23	22.92	0.11
927	SLU 46	143	58	8370	1.92	22.1	0.14
927	SLU 47	140	70	8263	1.67	21.2	0.15
927	SLU 48	150	42	8577	2.33	23.39	0.09
927	SLU 49	146	59	8505	2.02	22.58	0.12
927	SLU 50	149	41	8518	2.29	23.04	0.08
927	SLU 51	145	59	8446	1.98	22.22	0.11
927	SLU 52	144	74	8977	1.7	23.88	0.19
927	SLU 53	154	46	9291	2.36	26.07	0.13
927	SLU 54	151	63	9219	2.05	25.25	0.16
927	SLU 55	148	74	9111	1.81	24.35	0.17
927	SLU 56	158	46	9426	2.47	26.54	0.11
927	SLU 57	155	63	9354	2.16	25.73	0.14
927	SLU 58	157	46	9367	2.43	26.19	0.1
927	SLU 59	154	63	9295	2.12	25.37	0.13
927	SLU 60	153	47	9461	2.28	26.59	0.15
927	SLU 61	150	64	9389	1.97	25.77	0.18
927	SLU 62	157	47	9596	2.38	27.06	0.13
927	SLU 63	154	65	9523	2.07	26.25	0.16
927	SLU 64	157	45	9381	2.52	26.93	0.19
927	SLU 65	151	73	9260	2	25.57	0.24
927	SLU 66	161	45	9574	2.66	27.76	0.18
927	SLU 67	158	62	9502	2.35	26.94	0.21
927	SLU 68	155	74	9395	2.11	26.04	0.22
927	SLU 69	164	46	9709	2.77	28.23	0.16
927	SLU 70	161	63	9637	2.46	27.42	0.19
927	SLU 71	163	45	9650	2.73	27.88	0.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
927	SLU 72	160	63	9578	2.42	27.06	0.18
927	SLU 73	159	78	10108	2.14	28.72	0.26
927	SLU 74	169	50	10423	2.8	30.91	0.2
927	SLU 75	166	67	10351	2.49	30.09	0.23
927	SLU 76	163	78	10243	2.24	29.19	0.24
927	SLU 77	173	50	10558	2.91	31.38	0.18
927	SLU 78	170	67	10486	2.59	30.57	0.21
927	SLU 79	172	50	10499	2.87	31.03	0.17
927	SLU 80	169	67	10427	2.56	30.21	0.2
927	SLU 81	168	51	10593	2.72	31.43	0.22
927	SLU 82	165	68	10520	2.41	30.61	0.25
927	SLU 83	172	51	10728	2.82	31.9	0.2
927	SLU 84	169	69	10655	2.51	31.09	0.23
927	SLE RA 1	117	33	6967	1.84	19.65	0.13
927	SLE RA 2	113	53	6887	1.5	18.74	0.16
927	SLE RA 3	120	34	7096	1.94	20.2	0.13
927	SLE RA 4	118	45	7048	1.73	19.66	0.14
927	SLE RA 5	116	53	6976	1.57	19.06	0.15
927	SLE RA 6	122	34	7186	2.01	20.52	0.11
927	SLE RA 7	120	46	7138	1.8	19.98	0.13
927	SLE RA 8	122	34	7147	1.98	20.28	0.1
927	SLE RA 9	120	45	7099	1.77	19.74	0.12
927	SLE RA 10	119	56	7452	1.59	20.84	0.18
927	SLE RA 11	126	37	7662	2.03	22.3	0.14
927	SLE RA 12	123	48	7614	1.82	21.76	0.16
927	SLE RA 13	121	56	7542	1.66	21.16	0.16
927	SLE RA 14	128	37	7752	2.1	22.62	0.13
927	SLE RA 15	126	49	7704	1.89	22.08	0.14
927	SLE RA 16	127	37	7713	2.07	22.39	0.12
927	SLE RA 17	125	48	7664	1.87	21.84	0.14
927	SLE RA 18	125	38	7775	1.97	22.65	0.15
927	SLE RA 19	123	49	7727	1.77	22.11	0.17
927	SLE RA 20	127	38	7865	2.04	22.97	0.14
927	SLE RA 21	125	49	7817	1.84	22.42	0.16
927	SLE FR 1	117	33	6967	1.84	19.65	0.13
927	SLE FR 2	116	37	6951	1.77	19.47	0.14
927	SLE FR 3	118	34	7003	1.87	19.78	0.13
927	SLE FR 4	119	39	7193	1.81	20.37	0.15
927	SLE FR 5	120	35	7245	1.91	20.68	0.13
927	SLE FR 6	121	36	7371	1.91	21.15	0.14
927	SLE QP 1	117	33	6967	1.84	19.65	0.13
927	SLE QP 2	119	35	7209	1.88	20.55	0.14
927	SLD 1	663	83	5630	-3.27	13.09	-3.66
927	SLD 2	567	171	5517	-3.75	14.79	-1.46
927	SLD 3	729	-266	7378	4.03	31.77	-4.27
927	SLD 4	633	-178	7266	3.55	33.47	-2.07
927	SLD 5	199	564	4104	-10.65	-10.3	-0.46
927	SLD 6	137	620	4031	-10.96	-9.2	0.96
927	SLD 7	419	-600	9931	13.68	51.94	-2.49
927	SLD 8	358	-543	9858	13.37	53.04	-1.07
927	SLD 9	-119	613	4561	-9.61	-11.94	1.35
927	SLD 10	-180	669	4488	-9.91	-10.84	2.77
927	SLD 11	102	-550	10388	14.72	50.3	-0.68
927	SLD 12	40	-494	10315	14.41	51.4	0.73
927	SLD 13	-394	248	7153	0.21	7.63	2.35
927	SLD 14	-490	335	7041	-0.27	9.33	4.55
927	SLD 15	-328	-101	8902	7.51	26.31	1.74
927	SLD 16	-424	-14	8789	7.03	28.01	3.94
927	SLV 1	967	135	4615	-6.69	7.99	-5.79
927	SLV 2	816	273	4438	-7.45	10.67	-2.31
927	SLV 3	1080	-461	7599	5.76	39.89	-6.82
927	SLV 4	929	-322	7421	5.01	42.57	-3.35
927	SLV 5	231	942	1940	-19.44	-32.09	-0.72
927	SLV 6	130	1035	1820	-19.95	-30.29	1.62
927	SLV 7	606	-1043	11884	22.08	74.23	-4.17
927	SLV 8	505	-950	11765	21.57	76.03	-1.83
927	SLV 9	-266	1019	2654	-17.8	-34.93	2.11
927	SLV 10	-367	1112	2535	-18.31	-33.13	4.45
927	SLV 11	109	-965	12599	23.71	71.39	-1.34
927	SLV 12	7	-872	12479	23.2	73.19	1
927	SLV 13	-690	392	6998	-1.24	-1.47	3.63
927	SLV 14	-841	530	6820	-2	1.21	7.1
927	SLV 15	-577	-203	9981	11.21	30.43	2.59
927	SLV 16	-728	-65	9804	10.46	33.11	6.07
927	SLV FO 1	1052	145	4356	-7.55	6.74	-6.38
927	SLV FO 2	886	297	4161	-8.38	9.68	-2.56
927	SLV FO 3	1176	-510	7637	6.15	41.82	-7.52
927	SLV FO 4	1010	-358	7443	5.32	44.77	-3.7
927	SLV FO 5	243	1033	1413	-21.57	-37.36	-0.8
927	SLV FO 6	131	1135	1281	-22.13	-35.37	1.77
927	SLV FO 7	655	-1150	12351	24.1	79.6	-4.6
927	SLV FO 8	543	-1048	12220	23.54	81.58	-2.03
927	SLV FO 9	-304	1117	2199	-19.77	-40.48	2.31
927	SLV FO 10	-416	1220	2068	-20.33	-38.5	4.88
927	SLV FO 11	108	-1065	13138	25.89	76.47	-1.49
927	SLV FO 12	-4	-963	13006	25.34	78.46	1.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
927	SLV FO 13	-771	428	6976	-1.55	-3.67	3.98
927	SLV FO 14	-937	580	6781	-2.39	-0.72	7.8
927	SLV FO 15	-647	-227	10258	12.15	31.42	2.84
927	SLV FO 16	-813	-75	10063	11.32	34.36	6.66
927	CRTFP Ux+	0	0	0	0	0	0
927	CRTFP Ux-	0	0	0	0	0	0
927	CRTFP Uy+	0	0	0	0	0	0
927	CRTFP Uy-	0	0	0	0	0	0
930	SLU 1	-11	35	2504	-0.23	366.13	-8.63
930	SLU 2	-10	52	2470	-0.45	362.79	-12.73
930	SLU 3	-11	36	2569	-0.19	374.68	-8.77
930	SLU 4	-11	46	2549	-0.32	372.68	-11.23
930	SLU 5	-10	52	2513	-0.42	368.43	-12.77
930	SLU 6	-11	36	2612	-0.15	380.32	-8.81
930	SLU 7	-11	46	2592	-0.28	378.31	-11.27
930	SLU 8	-11	36	2591	-0.16	377.4	-8.71
930	SLU 9	-10	45	2570	-0.29	375.4	-11.17
930	SLU 10	-12	54	2790	-0.54	405.92	-13.41
930	SLU 11	-13	39	2889	-0.27	417.81	-9.45
930	SLU 12	-12	48	2868	-0.4	415.8	-11.91
930	SLU 13	-12	55	2833	-0.5	411.55	-13.45
930	SLU 14	-13	39	2932	-0.24	423.44	-9.49
930	SLU 15	-12	49	2911	-0.37	421.44	-11.95
930	SLU 16	-13	38	2910	-0.25	420.53	-9.39
930	SLU 17	-12	48	2889	-0.38	418.52	-11.85
930	SLU 18	-14	39	2961	-0.36	427.74	-9.6
930	SLU 19	-13	49	2940	-0.49	425.74	-12.06
930	SLU 20	-13	39	3004	-0.32	433.38	-9.64
930	SLU 21	-13	49	2983	-0.45	431.37	-12.1
930	SLU 22	-13	40	2923	-0.19	422.19	-9.78
930	SLU 23	-12	56	2889	-0.4	418.85	-13.88
930	SLU 24	-13	41	2988	-0.14	430.74	-9.92
930	SLU 25	-13	50	2967	-0.27	428.73	-12.38
930	SLU 26	-12	57	2932	-0.37	424.48	-13.92
930	SLU 27	-13	41	3031	-0.11	436.37	-9.96
930	SLU 28	-13	51	3010	-0.24	434.37	-12.42
930	SLU 29	-13	40	3009	-0.12	433.46	-9.86
930	SLU 30	-13	50	2988	-0.25	431.46	-12.32
930	SLU 31	-14	59	3208	-0.49	461.98	-14.56
930	SLU 32	-15	43	3307	-0.23	473.87	-10.59
930	SLU 33	-15	53	3287	-0.36	471.86	-13.05
930	SLU 34	-14	59	3251	-0.46	467.61	-14.6
930	SLU 35	-15	44	3350	-0.19	479.5	-10.63
930	SLU 36	-14	53	3330	-0.32	477.49	-13.1
930	SLU 37	-15	43	3328	-0.2	476.59	-10.54
930	SLU 38	-14	53	3308	-0.33	474.58	-13
930	SLU 39	-16	44	3379	-0.31	483.8	-10.75
930	SLU 40	-15	54	3359	-0.44	481.79	-13.21
930	SLU 41	-16	44	3422	-0.28	489.43	-10.79
930	SLU 42	-15	54	3402	-0.41	487.43	-13.25
930	SLU 43	-14	44	3112	-0.32	456.75	-10.83
930	SLU 44	-13	61	3078	-0.54	453.41	-14.93
930	SLU 45	-14	45	3177	-0.27	465.3	-10.96
930	SLU 46	-13	55	3157	-0.4	463.3	-13.42
930	SLU 47	-13	61	3121	-0.5	459.05	-14.97
930	SLU 48	-14	45	3220	-0.24	470.94	-11
930	SLU 49	-13	55	3200	-0.37	468.93	-13.46
930	SLU 50	-13	45	3198	-0.25	468.02	-10.91
930	SLU 51	-13	54	3178	-0.38	466.02	-13.37
930	SLU 52	-15	63	3397	-0.62	496.54	-15.6
930	SLU 53	-15	48	3497	-0.36	508.43	-11.64
930	SLU 54	-15	57	3476	-0.49	506.42	-14.1
930	SLU 55	-15	64	3440	-0.59	502.17	-15.64
930	SLU 56	-15	48	3540	-0.32	514.06	-11.68
930	SLU 57	-15	58	3519	-0.45	512.06	-14.14
930	SLU 58	-15	47	3518	-0.34	511.15	-11.58
930	SLU 59	-15	57	3497	-0.47	509.14	-14.04
930	SLU 60	-16	48	3569	-0.44	518.36	-11.79
930	SLU 61	-16	58	3548	-0.57	516.36	-14.25
930	SLU 62	-16	48	3612	-0.41	524	-11.83
930	SLU 63	-16	58	3591	-0.54	521.99	-14.29
930	SLU 64	-16	49	3531	-0.27	512.81	-11.97
930	SLU 65	-15	65	3496	-0.49	509.47	-16.08
930	SLU 66	-16	50	3596	-0.23	521.36	-12.11
930	SLU 67	-15	59	3575	-0.36	519.35	-14.57
930	SLU 68	-15	66	3539	-0.45	515.1	-16.12
930	SLU 69	-16	50	3639	-0.19	526.99	-12.15
930	SLU 70	-15	60	3618	-0.32	524.99	-14.61
930	SLU 71	-16	49	3617	-0.2	524.08	-12.06
930	SLU 72	-15	59	3596	-0.33	522.08	-14.52
930	SLU 73	-17	68	3816	-0.58	552.6	-16.75
930	SLU 74	-17	52	3915	-0.31	564.49	-12.79
930	SLU 75	-17	62	3895	-0.44	562.48	-15.25
930	SLU 76	-17	68	3859	-0.54	558.23	-16.79
930	SLU 77	-17	53	3958	-0.28	570.12	-12.83
930	SLU 78	-17	62	3938	-0.41	568.12	-15.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
930	SLU 79	-17	52	3936	-0.29	567.21	-12.73
930	SLU 80	-17	62	3916	-0.42	565.2	-15.19
930	SLU 81	-18	53	3987	-0.4	574.42	-12.94
930	SLU 82	-18	63	3966	-0.53	572.41	-15.4
930	SLU 83	-18	53	4030	-0.36	580.05	-12.98
930	SLU 84	-18	63	4010	-0.49	578.05	-15.44
930	SLE RA 1	-12	37	2624	-0.22	382.15	-8.96
930	SLE RA 2	-11	48	2601	-0.36	379.92	-11.69
930	SLE RA 3	-12	37	2667	-0.19	387.85	-9.05
930	SLE RA 4	-11	44	2654	-0.28	386.51	-10.69
930	SLE RA 5	-11	48	2630	-0.34	383.68	-11.72
930	SLE RA 6	-12	37	2696	-0.17	391.61	-9.08
930	SLE RA 7	-11	44	2682	-0.25	390.27	-10.72
930	SLE RA 8	-11	37	2681	-0.17	389.66	-9.01
930	SLE RA 9	-11	43	2668	-0.26	388.33	-10.65
930	SLE RA 10	-12	49	2814	-0.42	408.67	-12.14
930	SLE RA 11	-13	39	2880	-0.25	416.6	-9.5
930	SLE RA 12	-13	45	2867	-0.33	415.26	-11.14
930	SLE RA 13	-12	50	2843	-0.4	412.43	-12.17
930	SLE RA 14	-13	39	2909	-0.22	420.36	-9.53
930	SLE RA 15	-12	46	2895	-0.31	419.02	-11.17
930	SLE RA 16	-13	39	2894	-0.23	418.41	-9.46
930	SLE RA 17	-12	45	2881	-0.32	417.08	-11.1
930	SLE RA 18	-13	39	2928	-0.3	423.22	-9.6
930	SLE RA 19	-13	46	2914	-0.39	421.89	-11.24
930	SLE RA 20	-13	39	2957	-0.28	426.98	-9.63
930	SLE RA 21	-13	46	2943	-0.37	425.64	-11.27
930	SLE FR 1	-12	37	2624	-0.22	382.15	-8.96
930	SLE FR 2	-11	39	2619	-0.25	381.7	-9.51
930	SLE FR 3	-12	37	2635	-0.21	383.65	-8.97
930	SLE FR 4	-12	40	2711	-0.27	394.03	-9.7
930	SLE FR 5	-12	37	2727	-0.23	395.97	-9.16
930	SLE FR 6	-12	38	2776	-0.26	402.69	-9.28
930	SLE QP 1	-12	37	2624	-0.22	382.15	-8.96
930	SLE QP 2	-12	37	2715	-0.24	394.47	-9.15
930	SLD 1	292	164	2611	-1.52	393.36	-41.12
930	SLD 2	249	146	2617	-1.41	393.51	-36.47
930	SLD 3	278	-35	3106	1.56	442.6	8.62
930	SLD 4	236	-53	3111	1.68	442.74	13.27
930	SLD 5	106	380	1933	-5.32	319.44	-94.98
930	SLD 6	79	369	1937	-5.25	319.54	-91.98
930	SLD 7	63	-283	3581	4.96	483.56	70.81
930	SLD 8	35	-294	3585	5.03	483.65	73.81
930	SLD 9	-59	369	1845	-5.52	305.3	-92.12
930	SLD 10	-87	358	1849	-5.45	305.39	-89.12
930	SLD 11	-103	-294	3494	4.76	469.41	73.68
930	SLD 12	-130	-305	3497	4.84	469.5	76.68
930	SLD 13	-260	127	2319	-2.16	346.2	-31.57
930	SLD 14	-303	110	2325	-2.05	346.35	-26.92
930	SLD 15	-273	-72	2814	0.92	395.44	18.16
930	SLD 16	-316	-89	2819	1.03	395.58	22.82
930	SLV 1	465	250	2517	-2.46	389.13	-62.82
930	SLV 2	398	222	2526	-2.28	389.35	-55.48
930	SLV 3	442	-89	3361	2.81	473.15	22.01
930	SLV 4	375	-117	3369	2.98	473.38	29.34
930	SLV 5	177	621	1374	-8.93	265.39	-155.28
930	SLV 6	132	602	1380	-8.81	265.54	-150.34
930	SLV 7	103	-510	4187	8.62	545.47	127.48
930	SLV 8	58	-529	4193	8.74	545.62	132.42
930	SLV 9	-82	604	1237	-9.23	243.32	-150.72
930	SLV 10	-127	585	1243	-9.11	243.47	-145.79
930	SLV 11	-156	-527	4050	8.32	523.4	132.03
930	SLV 12	-201	-546	4056	8.44	523.56	136.97
930	SLV 13	-400	192	2061	-3.47	315.57	-47.65
930	SLV 14	-466	164	2070	-3.29	315.79	-40.31
930	SLV 15	-422	-147	2905	1.79	399.59	37.18
930	SLV 16	-489	-175	2913	1.97	399.82	44.52
930	SLV FO 1	512	272	2497	-2.68	388.59	-68.19
930	SLV FO 2	439	241	2507	-2.48	388.84	-60.12
930	SLV FO 3	488	-102	3425	3.11	481.02	25.12
930	SLV FO 4	414	-133	3435	3.31	481.27	33.19
930	SLV FO 5	196	680	1240	-9.79	252.48	-169.89
930	SLV FO 6	146	659	1247	-9.66	252.65	-164.46
930	SLV FO 7	114	-565	4334	9.51	560.57	141.14
930	SLV FO 8	65	-585	4341	9.64	560.74	146.58
930	SLV FO 9	-89	660	1090	-10.13	228.21	-164.88
930	SLV FO 10	-139	640	1096	-10	228.37	-159.45
930	SLV FO 11	-171	-584	4184	9.17	536.3	146.15
930	SLV FO 12	-220	-605	4190	9.31	536.46	151.58
930	SLV FO 13	-438	207	1995	-3.79	307.68	-51.5
930	SLV FO 14	-512	177	2005	-3.6	307.93	-43.43
930	SLV FO 15	-463	-166	2924	2	400.11	41.81
930	SLV FO 16	-536	-197	2933	2.19	400.35	49.88
930	CRTFP Ux+	0	0	0	0	0	0
930	CRTFP Ux-	0	0	0	0	0	0
930	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
930	CRTFP Uy-	0	0	0	0	0	0
932	SLU 1	9	90	4577	5.18	-27.97	0.51
932	SLU 2	9	119	4506	4.69	-27.94	0.56
932	SLU 3	10	91	4697	5.44	-28.93	0.53
932	SLU 4	10	109	4654	5.14	-28.91	0.56
932	SLU 5	10	120	4586	4.87	-28.6	0.57
932	SLU 6	11	91	4777	5.61	-29.59	0.54
932	SLU 7	11	109	4734	5.32	-29.57	0.57
932	SLU 8	11	90	4737	5.53	-29.28	0.52
932	SLU 9	11	108	4695	5.24	-29.26	0.55
932	SLU 10	9	126	5102	5.24	-30.89	0.72
932	SLU 11	10	98	5293	5.98	-31.88	0.69
932	SLU 12	10	116	5250	5.69	-31.86	0.72
932	SLU 13	10	127	5182	5.41	-31.54	0.73
932	SLU 14	11	98	5373	6.15	-32.53	0.7
932	SLU 15	11	116	5330	5.86	-32.52	0.73
932	SLU 16	11	98	5333	6.07	-32.23	0.68
932	SLU 17	11	115	5291	5.78	-32.21	0.71
932	SLU 18	9	100	5428	5.96	-32.18	0.74
932	SLU 19	9	118	5386	5.66	-32.16	0.77
932	SLU 20	10	100	5508	6.13	-32.83	0.74
932	SLU 21	10	118	5466	5.84	-32.82	0.78
932	SLU 22	10	100	5351	6.2	-32.1	0.71
932	SLU 23	9	129	5281	5.71	-32.07	0.76
932	SLU 24	11	101	5471	6.45	-33.06	0.73
932	SLU 25	11	118	5429	6.16	-33.05	0.76
932	SLU 26	10	129	5361	5.89	-32.73	0.77
932	SLU 27	12	101	5551	6.63	-33.72	0.73
932	SLU 28	12	119	5509	6.34	-33.7	0.77
932	SLU 29	12	100	5511	6.55	-33.41	0.72
932	SLU 30	12	118	5469	6.26	-33.4	0.75
932	SLU 31	9	136	5877	6.25	-35.02	0.92
932	SLU 32	11	108	6067	7	-36.01	0.89
932	SLU 33	11	125	6024	6.7	-36	0.92
932	SLU 34	10	136	5957	6.43	-35.68	0.93
932	SLU 35	12	108	6147	7.17	-36.67	0.89
932	SLU 36	12	126	6104	6.88	-36.65	0.93
932	SLU 37	12	107	6107	7.09	-36.36	0.88
932	SLU 38	12	125	6065	6.8	-36.34	0.91
932	SLU 39	10	110	6203	6.97	-36.31	0.94
932	SLU 40	10	127	6160	6.68	-36.3	0.97
932	SLU 41	11	110	6283	7.15	-36.97	0.94
932	SLU 42	11	128	6240	6.86	-36.95	0.97
932	SLU 43	12	114	5685	6.39	-34.94	0.59
932	SLU 44	11	143	5614	5.9	-34.91	0.65
932	SLU 45	13	115	5804	6.64	-35.9	0.61
932	SLU 46	13	132	5762	6.35	-35.89	0.64
932	SLU 47	12	143	5694	6.07	-35.57	0.65
932	SLU 48	14	115	5884	6.82	-36.56	0.62
932	SLU 49	14	133	5842	6.53	-36.54	0.65
932	SLU 50	14	114	5845	6.74	-36.25	0.61
932	SLU 51	14	132	5802	6.44	-36.24	0.64
932	SLU 52	11	150	6210	6.44	-37.86	0.81
932	SLU 53	13	122	6400	7.19	-38.85	0.77
932	SLU 54	13	140	6358	6.89	-38.83	0.8
932	SLU 55	12	150	6290	6.62	-38.52	0.81
932	SLU 56	14	122	6480	7.36	-39.51	0.78
932	SLU 57	14	140	6438	7.07	-39.49	0.81
932	SLU 58	14	121	6441	7.28	-39.2	0.77
932	SLU 59	14	139	6398	6.99	-39.18	0.8
932	SLU 60	12	124	6536	7.16	-39.15	0.82
932	SLU 61	12	141	6494	6.87	-39.13	0.85
932	SLU 62	13	124	6616	7.34	-39.81	0.83
932	SLU 63	13	142	6574	7.05	-39.79	0.86
932	SLU 64	13	123	6459	7.4	-39.07	0.79
932	SLU 65	12	153	6388	6.92	-39.05	0.84
932	SLU 66	14	124	6579	7.66	-40.04	0.81
932	SLU 67	13	142	6536	7.37	-40.02	0.84
932	SLU 68	13	153	6468	7.09	-39.7	0.85
932	SLU 69	15	125	6659	7.83	-40.69	0.82
932	SLU 70	14	142	6616	7.54	-40.68	0.85
932	SLU 71	15	124	6619	7.75	-40.39	0.81
932	SLU 72	14	141	6577	7.46	-40.37	0.84
932	SLU 73	12	160	6984	7.46	-41.99	1
932	SLU 74	14	132	7175	8.2	-42.98	0.97
932	SLU 75	13	149	7132	7.91	-42.97	1
932	SLU 76	13	160	7064	7.64	-42.65	1.01
932	SLU 77	15	132	7254	8.38	-43.64	0.98
932	SLU 78	14	149	7212	8.09	-43.62	1.01
932	SLU 79	15	131	7215	8.3	-43.33	0.97
932	SLU 80	14	148	7172	8	-43.32	1
932	SLU 81	13	133	7310	8.18	-43.28	1.02
932	SLU 82	12	151	7268	7.89	-43.27	1.05
932	SLU 83	14	134	7390	8.36	-43.94	1.03
932	SLU 84	13	151	7348	8.06	-43.92	1.06
932	SLE RA 1	9	93	4798	5.47	-29.15	0.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
932	SLE RA 2	9	112	4751	5.15	-29.13	0.6
932	SLE RA 3	10	93	4878	5.64	-29.79	0.58
932	SLE RA 4	10	105	4850	5.45	-29.78	0.6
932	SLE RA 5	10	112	4805	5.26	-29.57	0.6
932	SLE RA 6	11	94	4931	5.76	-30.23	0.58
932	SLE RA 7	11	105	4903	5.56	-30.22	0.6
932	SLE RA 8	11	93	4905	5.71	-30.02	0.57
932	SLE RA 9	11	105	4877	5.51	-30.01	0.6
932	SLE RA 10	9	117	5149	5.51	-31.1	0.71
932	SLE RA 11	10	98	5275	6	-31.76	0.69
932	SLE RA 12	10	110	5247	5.81	-31.74	0.71
932	SLE RA 13	10	117	5202	5.63	-31.53	0.71
932	SLE RA 14	11	98	5329	6.12	-32.19	0.69
932	SLE RA 15	11	110	5300	5.93	-32.18	0.71
932	SLE RA 16	11	98	5302	6.07	-31.99	0.68
932	SLE RA 17	11	110	5274	5.87	-31.98	0.7
932	SLE RA 18	10	99	5366	5.99	-31.96	0.72
932	SLE RA 19	9	111	5338	5.79	-31.94	0.74
932	SLE RA 20	10	100	5419	6.11	-32.39	0.72
932	SLE RA 21	10	111	5391	5.91	-32.38	0.74
932	SLE FR 1	9	93	4798	5.47	-29.15	0.57
932	SLE FR 2	9	97	4789	5.41	-29.14	0.57
932	SLE FR 3	10	93	4820	5.52	-29.32	0.57
932	SLE FR 4	9	99	4959	5.56	-29.99	0.62
932	SLE FR 5	10	95	4990	5.67	-30.17	0.61
932	SLE FR 6	10	96	5082	5.73	-30.55	0.64
932	SLE QP 1	9	93	4798	5.47	-29.15	0.57
932	SLE QP 2	10	95	4969	5.63	-29.99	0.61
932	SLD 1	605	222	4054	1.79	-3.22	-3.99
932	SLD 2	521	254	4054	1.64	-3.16	-1.52
932	SLD 3	615	-135	5092	8.68	-4.64	-4.56
932	SLD 4	531	-104	5091	8.53	-4.57	-2.09
932	SLD 5	187	669	3120	-5.95	-19.83	-0.33
932	SLD 6	133	690	3120	-6.04	-19.79	1.26
932	SLD 7	221	-521	6580	17.02	-24.54	-2.23
932	SLD 8	167	-501	6579	16.92	-24.49	-0.63
932	SLD 9	-148	691	3358	-5.67	-35.49	1.86
932	SLD 10	-202	711	3358	-5.76	-35.44	3.45
932	SLD 11	-114	-500	6817	17.3	-40.19	-0.03
932	SLD 12	-168	-480	6817	17.2	-40.15	1.56
932	SLD 13	-512	293	4846	2.72	-55.41	3.31
932	SLD 14	-596	325	4845	2.57	-55.34	5.78
932	SLD 15	-502	-64	5884	9.61	-56.82	2.75
932	SLD 16	-586	-33	5883	9.46	-56.76	5.22
932	SLV 1	942	319	3466	-0.92	11.87	-6.58
932	SLV 2	810	369	3465	-1.15	11.97	-2.69
932	SLV 3	958	-290	5237	10.84	9.47	-7.55
932	SLV 4	826	-241	5236	10.61	9.57	-3.65
932	SLV 5	289	1077	1832	-14.13	-13.81	-0.81
932	SLV 6	201	1110	1831	-14.28	-13.74	1.81
932	SLV 7	343	-954	7736	25.07	-21.82	-4.03
932	SLV 8	254	-921	7735	24.91	-21.75	-1.4
932	SLV 9	-235	1110	2202	-13.66	-38.23	2.63
932	SLV 10	-324	1144	2202	-13.81	-38.16	5.25
932	SLV 11	-182	-921	8106	25.54	-46.24	-0.59
932	SLV 12	-270	-887	8106	25.38	-46.17	2.03
932	SLV 13	-807	430	4701	0.65	-69.55	4.88
932	SLV 14	-939	480	4700	0.41	-69.45	8.77
932	SLV 15	-791	-179	6472	12.4	-71.95	3.91
932	SLV 16	-923	-130	6472	12.17	-71.85	7.81
932	SLV FO 1	1035	342	3315	-1.57	16.05	-7.3
932	SLV FO 2	890	396	3314	-1.83	16.17	-3.02
932	SLV FO 3	1053	-329	5264	11.36	13.41	-8.36
932	SLV FO 4	908	-274	5263	11.11	13.53	-4.08
932	SLV FO 5	317	1175	1518	-16.1	-12.19	-0.95
932	SLV FO 6	220	1212	1517	-16.27	-12.11	1.93
932	SLV FO 7	376	-1059	8012	27.01	-21	-4.49
932	SLV FO 8	279	-1022	8012	26.84	-20.92	-1.61
932	SLV FO 9	-260	1212	1926	-15.59	-39.06	2.83
932	SLV FO 10	-357	1248	1925	-15.76	-38.98	5.71
932	SLV FO 11	-201	-1022	8420	27.53	-47.87	-0.71
932	SLV FO 12	-298	-986	8419	27.36	-47.79	2.18
932	SLV FO 13	-889	464	4675	0.15	-73.51	5.3
932	SLV FO 14	-1034	518	4674	-0.11	-73.39	9.59
932	SLV FO 15	-871	-207	6623	13.08	-76.15	4.24
932	SLV FO 16	-1016	-152	6622	12.83	-76.03	8.53
932	CRTFP Ux+	0	0	0	0	0	0
932	CRTFP Ux-	0	0	0	0	0	0
932	CRTFP Uy+	0	0	0	0	0	0
932	CRTFP Uy-	0	0	0	0	0	0
935	SLU 1	-202	18	10731	1387.06	-21.4	26.89
935	SLU 2	-194	70	10531	1359.33	-18.38	25.81
935	SLU 3	-208	18	11033	1426.51	-22.7	27.69
935	SLU 4	-204	49	10913	1409.87	-20.89	27.05
935	SLU 5	-198	70	10732	1385.68	-19.31	26.31
935	SLU 6	-212	18	11234	1452.86	-23.63	28.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
935	SLU 7	-207	49	11114	1436.22	-21.82	27.54
935	SLU 8	-210	18	11134	1439.77	-23.26	27.88
935	SLU 9	-205	49	11014	1423.13	-21.45	27.23
935	SLU 10	-214	71	11923	1538.49	-23.29	28.69
935	SLU 11	-228	19	12425	1605.68	-27.61	30.57
935	SLU 12	-223	50	12305	1589.03	-25.8	29.93
935	SLU 13	-218	71	12124	1564.85	-24.22	29.19
935	SLU 14	-231	19	12627	1632.03	-28.54	31.07
935	SLU 15	-227	50	12507	1615.39	-26.73	30.42
935	SLU 16	-229	19	12526	1618.94	-28.17	30.76
935	SLU 17	-224	50	12406	1602.29	-26.36	30.11
935	SLU 18	-230	20	12720	1643.01	-28.42	31
935	SLU 19	-225	51	12600	1626.37	-26.6	30.36
935	SLU 20	-234	20	12921	1669.37	-29.35	31.5
935	SLU 21	-229	51	12801	1652.73	-27.53	30.85
935	SLU 22	-234	17	12581	1626.59	-28.12	31.25
935	SLU 23	-226	69	12381	1598.85	-25.1	30.17
935	SLU 24	-240	17	12883	1666.04	-29.42	32.05
935	SLU 25	-235	48	12763	1649.39	-27.61	31.4
935	SLU 26	-229	69	12582	1625.2	-26.03	30.66
935	SLU 27	-243	17	13085	1692.39	-30.35	32.54
935	SLU 28	-239	48	12964	1675.75	-28.54	31.9
935	SLU 29	-241	17	12984	1679.29	-29.98	32.23
935	SLU 30	-236	48	12864	1662.65	-28.17	31.59
935	SLU 31	-245	70	13773	1778.02	-30.01	33.05
935	SLU 32	-259	18	14275	1845.2	-34.33	34.93
935	SLU 33	-254	49	14155	1828.56	-32.52	34.28
935	SLU 34	-249	70	13975	1804.37	-30.94	33.54
935	SLU 35	-263	18	14477	1871.55	-35.26	35.42
935	SLU 36	-258	49	14357	1854.91	-33.45	34.78
935	SLU 37	-260	18	14376	1858.46	-34.9	35.11
935	SLU 38	-256	49	14256	1841.82	-33.08	34.47
935	SLU 39	-261	19	14570	1882.54	-35.14	35.36
935	SLU 40	-257	50	14450	1865.9	-33.32	34.71
935	SLU 41	-265	19	14772	1908.89	-36.07	35.85
935	SLU 42	-260	50	14651	1892.25	-34.26	35.21
935	SLU 43	-252	24	13316	1721.06	-25.52	33.46
935	SLU 44	-244	76	13115	1693.32	-22.49	32.39
935	SLU 45	-258	24	13618	1760.51	-26.81	34.27
935	SLU 46	-254	55	13498	1743.87	-25	33.62
935	SLU 47	-248	76	13317	1719.68	-23.43	32.88
935	SLU 48	-262	24	13819	1786.86	-27.75	34.76
935	SLU 49	-257	55	13699	1770.22	-25.93	34.11
935	SLU 50	-260	24	13719	1773.77	-27.38	34.45
935	SLU 51	-255	55	13599	1757.13	-25.57	33.81
935	SLU 52	-264	77	14508	1872.49	-27.41	35.27
935	SLU 53	-278	25	15010	1939.67	-31.73	37.14
935	SLU 54	-273	56	14890	1923.03	-29.91	36.5
935	SLU 55	-267	77	14709	1898.84	-28.34	35.76
935	SLU 56	-281	25	15212	1966.03	-32.66	37.64
935	SLU 57	-277	56	15092	1949.38	-30.84	36.99
935	SLU 58	-279	25	15111	1952.93	-32.29	37.33
935	SLU 59	-274	56	14991	1936.29	-30.48	36.69
935	SLU 60	-280	26	15305	1977.01	-32.53	37.58
935	SLU 61	-275	57	15185	1960.37	-30.72	36.93
935	SLU 62	-284	26	15506	2003.36	-33.46	38.07
935	SLU 63	-279	57	15386	1986.72	-31.65	37.42
935	SLU 64	-284	23	15166	1960.58	-32.24	37.82
935	SLU 65	-276	75	14966	1932.85	-29.22	36.74
935	SLU 66	-290	23	15468	2000.03	-33.54	38.62
935	SLU 67	-285	54	15348	1983.39	-31.72	37.98
935	SLU 68	-279	75	15167	1959.2	-30.15	37.24
935	SLU 69	-293	23	15669	2026.39	-34.47	39.12
935	SLU 70	-289	54	15549	2009.74	-32.65	38.47
935	SLU 71	-291	23	15569	2013.29	-34.1	38.81
935	SLU 72	-286	54	15449	1996.65	-32.29	38.16
935	SLU 73	-295	76	16358	2112.01	-34.13	39.62
935	SLU 74	-309	24	16860	2179.2	-38.45	41.5
935	SLU 75	-304	55	16740	2162.56	-36.63	40.85
935	SLU 76	-299	76	16559	2138.37	-35.06	40.12
935	SLU 77	-313	24	17062	2205.55	-39.38	42
935	SLU 78	-308	55	16942	2188.91	-37.56	41.35
935	SLU 79	-310	24	16961	2192.46	-39.01	41.69
935	SLU 80	-306	55	16841	2175.81	-37.2	41.04
935	SLU 81	-311	25	17155	2216.53	-39.25	41.93
935	SLU 82	-307	56	17035	2199.89	-37.44	41.29
935	SLU 83	-315	25	17356	2242.89	-40.18	42.43
935	SLU 84	-310	56	17236	2226.25	-38.37	41.78
935	SLE RA 1	-211	18	11259	1455.5	-23.32	28.13
935	SLE RA 2	-206	53	11126	1437.01	-21.31	27.42
935	SLE RA 3	-215	18	11461	1481.8	-24.19	28.67
935	SLE RA 4	-212	39	11381	1470.7	-22.98	28.24
935	SLE RA 5	-208	52	11260	1454.58	-21.93	27.75
935	SLE RA 6	-218	18	11595	1499.37	-24.81	29
935	SLE RA 7	-215	38	11515	1488.27	-23.6	28.57
935	SLE RA 8	-216	18	11528	1490.64	-24.56	28.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
935	SLE RA 9	-213	38	11448	1479.54	-23.35	28.36
935	SLE RA 10	-219	53	12054	1556.45	-24.58	29.34
935	SLE RA 11	-228	19	12389	1601.24	-27.46	30.59
935	SLE RA 12	-225	39	12309	1590.15	-26.25	30.16
935	SLE RA 13	-221	53	12188	1574.02	-25.2	29.67
935	SLE RA 14	-231	19	12523	1618.81	-28.08	30.92
935	SLE RA 15	-228	39	12443	1607.72	-26.87	30.49
935	SLE RA 16	-229	19	12456	1610.08	-27.84	30.71
935	SLE RA 17	-226	39	12376	1598.99	-26.63	30.28
935	SLE RA 18	-230	19	12585	1626.13	-28	30.88
935	SLE RA 19	-227	40	12505	1615.04	-26.79	30.45
935	SLE RA 20	-232	19	12720	1643.7	-28.62	31.21
935	SLE RA 21	-229	40	12640	1632.61	-27.41	30.78
935	SLE FR 1	-211	18	11259	1455.5	-23.32	28.13
935	SLE FR 2	-210	25	11233	1451.8	-22.92	27.99
935	SLE FR 3	-212	18	11313	1462.53	-23.57	28.27
935	SLE FR 4	-216	25	11630	1502.99	-24.32	28.81
935	SLE FR 5	-218	18	11711	1513.72	-24.97	29.09
935	SLE FR 6	-220	19	11922	1540.82	-25.66	29.51
935	SLE QP 1	-211	18	11259	1455.5	-23.32	28.13
935	SLE QP 2	-217	18	11657	1506.69	-24.72	28.96
935	SLD 1	848	572	11762	1513.15	5.88	-118.56
935	SLD 2	673	416	11920	1534.98	4.21	-91.19
935	SLD 3	731	-65	14623	1910.2	-34.44	-102.12
935	SLD 4	555	-221	14781	1932.03	-36.11	-74.76
935	SLD 5	311	1176	7323	902.68	45.9	-44.93
935	SLD 6	198	1076	7424	916.73	44.82	-27.31
935	SLD 7	-81	-945	16858	2226.19	-88.5	9.85
935	SLD 8	-194	-1045	16960	2240.24	-89.58	27.47
935	SLD 9	-240	1082	6354	773.14	40.13	30.44
935	SLD 10	-353	982	6456	787.19	39.06	48.06
935	SLD 11	-632	-1039	15890	2096.64	-94.27	85.22
935	SLD 12	-745	-1140	15992	2110.7	-95.34	102.84
935	SLD 13	-989	258	8533	1081.35	-13.34	132.67
935	SLD 14	-1164	102	8691	1103.18	-15.01	160.04
935	SLD 15	-1107	-379	11394	1478.4	-53.66	149.11
935	SLD 16	-1282	-535	11552	1500.23	-55.33	176.47
935	SLV 1	1462	930	11610	1487.48	26.27	-203.53
935	SLV 2	1185	684	11859	1521.88	23.64	-160.4
935	SLV 3	1261	-156	16491	2164.96	-42.53	-175.48
935	SLV 4	985	-402	16740	2199.36	-45.17	-132.35
935	SLV 5	643	1984	4193	466.99	95.42	-91.39
935	SLV 6	457	1819	4361	490.15	93.65	-62.35
935	SLV 7	-26	-1634	20464	2725.26	-133.93	2.12
935	SLV 8	-212	-1800	20632	2748.42	-135.71	31.16
935	SLV 9	-221	1837	2682	264.95	86.26	26.75
935	SLV 10	-408	1671	2850	288.11	84.48	55.79
935	SLV 11	-890	-1782	18953	2523.23	-143.1	120.26
935	SLV 12	-1076	-1947	19121	2546.39	-144.87	149.3
935	SLV 13	-1418	439	6574	814.02	-4.28	190.26
935	SLV 14	-1695	193	6823	848.42	-6.91	233.39
935	SLV 15	-1619	-647	11455	1491.5	-73.09	218.31
935	SLV 16	-1896	-893	11704	1525.9	-75.72	261.45
935	SLV FO 1	1630	1021	11605	1485.55	31.37	-226.78
935	SLV FO 2	1326	750	11880	1523.4	28.48	-179.33
935	SLV FO 3	1409	-173	16974	2230.78	-44.31	-195.92
935	SLV FO 4	1105	-444	17249	2268.63	-47.21	-148.48
935	SLV FO 5	729	2181	3447	363.02	107.44	-103.42
935	SLV FO 6	524	1999	3632	388.5	105.49	-71.48
935	SLV FO 7	-7	-1800	21344	2847.12	-144.85	-0.56
935	SLV FO 8	-212	-1982	21529	2872.6	-146.8	31.38
935	SLV FO 9	-222	2019	1785	140.78	97.36	26.53
935	SLV FO 10	-427	1836	1970	166.26	95.4	58.47
935	SLV FO 11	-958	-1962	19683	2624.88	-154.94	129.39
935	SLV FO 12	-1162	-2144	19867	2650.36	-156.89	161.33
935	SLV FO 13	-1538	481	6065	744.75	-2.24	206.39
935	SLV FO 14	-1843	210	6340	782.59	-5.13	253.84
935	SLV FO 15	-1759	-713	11435	1489.98	-77.92	237.25
935	SLV FO 16	-2064	-984	11709	1527.82	-80.82	284.69
935	CRTFP Ux+	0	0	0	0	0	0
935	CRTFP Ux-	0	0	0	0	0	0
935	CRTFP Uy+	0	0	0	0.01	0	0
935	CRTFP Uy-	0	0	0	-0.01	0	0
938	SLU 1	68	13	4192	7.73	922.9	-4.78
938	SLU 2	65	37	4106	7.19	904.2	-12.89
938	SLU 3	71	14	4315	8.07	948.54	-4.98
938	SLU 4	69	28	4263	7.74	937.32	-9.84
938	SLU 5	67	38	4192	7.44	922.23	-13.28
938	SLU 6	73	15	4400	8.32	966.57	-5.36
938	SLU 7	71	29	4348	7.99	955.35	-10.23
938	SLU 8	73	15	4364	8.23	958.95	-5.56
938	SLU 9	71	29	4312	7.91	947.73	-10.42
938	SLU 10	70	38	4609	8.19	1010.95	-13.37
938	SLU 11	76	15	4818	9.07	1055.29	-5.46
938	SLU 12	74	29	4766	8.74	1044.07	-10.33
938	SLU 13	72	39	4695	8.44	1028.97	-13.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
938	SLU 14	78	16	4904	9.32	1073.31	-5.85
938	SLU 15	76	30	4852	8.99	1062.09	-10.71
938	SLU 16	77	17	4867	9.24	1065.7	-6.04
938	SLU 17	76	31	4815	8.91	1054.48	-10.91
938	SLU 18	75	15	4912	9.17	1075.39	-5.47
938	SLU 19	73	29	4860	8.84	1064.17	-10.34
938	SLU 20	77	16	4997	9.42	1093.42	-5.86
938	SLU 21	75	30	4945	9.09	1082.2	-10.73
938	SLU 22	77	11	4870	9.27	1066.44	-3.98
938	SLU 23	74	34	4784	8.73	1047.74	-12.09
938	SLU 24	79	11	4993	9.61	1092.08	-4.18
938	SLU 25	77	25	4941	9.28	1080.87	-9.04
938	SLU 26	76	35	4870	8.98	1065.77	-12.48
938	SLU 27	81	13	5078	9.86	1110.11	-4.56
938	SLU 28	80	26	5026	9.53	1098.89	-9.43
938	SLU 29	81	13	5042	9.77	1102.49	-4.76
938	SLU 30	79	27	4990	9.44	1091.27	-9.62
938	SLU 31	78	36	5287	9.73	1154.49	-12.57
938	SLU 32	84	13	5496	10.61	1198.83	-4.66
938	SLU 33	82	27	5444	10.28	1187.61	-9.53
938	SLU 34	80	37	5373	9.98	1172.51	-12.96
938	SLU 35	86	14	5582	10.86	1216.85	-5.05
938	SLU 36	84	28	5530	10.53	1205.64	-9.91
938	SLU 37	86	14	5545	10.78	1209.24	-5.24
938	SLU 38	84	28	5493	10.45	1198.02	-10.11
938	SLU 39	83	13	5590	10.71	1218.93	-4.67
938	SLU 40	82	27	5538	10.38	1207.71	-9.54
938	SLU 41	86	14	5675	10.96	1236.96	-5.06
938	SLU 42	84	28	5623	10.63	1225.74	-9.93
938	SLU 43	86	18	5218	9.53	1150.56	-6.49
938	SLU 44	83	41	5131	8.98	1131.86	-14.6
938	SLU 45	89	19	5340	9.86	1176.2	-6.69
938	SLU 46	87	33	5288	9.53	1164.98	-11.55
938	SLU 47	85	42	5217	9.23	1149.89	-14.99
938	SLU 48	91	20	5426	10.11	1194.23	-7.07
938	SLU 49	89	34	5374	9.78	1183.01	-11.94
938	SLU 50	90	20	5389	10.03	1186.61	-7.27
938	SLU 51	88	34	5337	9.7	1175.39	-12.13
938	SLU 52	88	43	5634	9.98	1238.6	-15.08
938	SLU 53	94	20	5843	10.86	1282.94	-7.17
938	SLU 54	92	34	5791	10.54	1271.72	-12.03
938	SLU 55	90	44	5720	10.23	1256.63	-15.47
938	SLU 56	96	21	5929	11.11	1300.97	-7.56
938	SLU 57	94	35	5877	10.79	1289.75	-12.42
938	SLU 58	95	22	5893	11.03	1293.35	-7.75
938	SLU 59	93	36	5841	10.7	1282.13	-12.61
938	SLU 60	93	20	5937	10.96	1303.05	-7.18
938	SLU 61	91	34	5885	10.63	1291.83	-12.05
938	SLU 62	95	21	6023	11.21	1321.07	-7.57
938	SLU 63	93	35	5971	10.88	1309.85	-12.43
938	SLU 64	94	16	5896	11.07	1294.1	-5.69
938	SLU 65	91	39	5809	10.52	1275.4	-13.8
938	SLU 66	97	16	6018	11.4	1319.74	-5.89
938	SLU 67	95	30	5966	11.07	1308.52	-10.75
938	SLU 68	93	40	5895	10.77	1293.43	-14.19
938	SLU 69	99	17	6104	11.65	1337.77	-6.27
938	SLU 70	97	31	6052	11.32	1326.55	-11.14
938	SLU 71	99	18	6067	11.57	1330.15	-6.47
938	SLU 72	97	32	6015	11.24	1318.93	-11.33
938	SLU 73	96	40	6312	11.52	1382.14	-14.28
938	SLU 74	102	18	6521	12.4	1426.48	-6.37
938	SLU 75	100	32	6469	12.07	1415.27	-11.23
938	SLU 76	98	41	6398	11.77	1400.17	-14.67
938	SLU 77	104	19	6607	12.65	1444.51	-6.76
938	SLU 78	102	33	6555	12.32	1433.29	-11.62
938	SLU 79	103	19	6571	12.57	1436.89	-6.95
938	SLU 80	101	33	6519	12.24	1425.67	-11.81
938	SLU 81	101	18	6615	12.5	1446.59	-6.38
938	SLU 82	99	32	6563	12.17	1435.37	-11.25
938	SLU 83	103	19	6701	12.75	1464.61	-6.77
938	SLU 84	101	33	6649	12.42	1453.4	-11.63
938	SLE RA 1	71	13	4386	8.17	963.91	-4.55
938	SLE RA 2	69	28	4328	7.81	951.45	-9.96
938	SLE RA 3	73	13	4468	8.4	981.01	-4.68
938	SLE RA 4	71	22	4433	8.18	973.53	-7.93
938	SLE RA 5	70	29	4385	7.98	963.46	-10.22
938	SLE RA 6	74	14	4525	8.56	993.02	-4.94
938	SLE RA 7	73	23	4490	8.34	985.55	-8.18
938	SLE RA 8	74	14	4500	8.51	987.95	-5.07
938	SLE RA 9	72	23	4466	8.29	980.47	-8.31
938	SLE RA 10	72	29	4664	8.48	1022.61	-10.28
938	SLE RA 11	76	14	4803	9.07	1052.17	-5.01
938	SLE RA 12	74	23	4769	8.85	1044.69	-8.25
938	SLE RA 13	73	30	4721	8.64	1034.63	-10.54
938	SLE RA 14	77	15	4860	9.23	1064.19	-5.26
938	SLE RA 15	76	24	4826	9.01	1056.71	-8.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
938	SLE RA 16	77	15	4836	9.18	1059.11	-5.39
938	SLE RA 17	76	24	4801	8.96	1051.63	-8.64
938	SLE RA 18	75	14	4866	9.13	1065.57	-5.01
938	SLE RA 19	74	23	4831	8.91	1058.09	-8.26
938	SLE RA 20	77	15	4923	9.3	1077.59	-5.27
938	SLE RA 21	75	24	4888	9.08	1070.11	-8.52
938	SLE FR 1	71	13	4386	8.17	963.91	-4.55
938	SLE FR 2	70	16	4374	8.1	961.42	-5.63
938	SLE FR 3	71	13	4409	8.24	968.72	-4.66
938	SLE FR 4	72	16	4518	8.39	991.92	-5.77
938	SLE FR 5	73	13	4553	8.53	999.22	-4.79
938	SLE FR 6	73	13	4626	8.65	1014.74	-4.78
938	SLE QP 1	71	13	4386	8.17	963.91	-4.55
938	SLE QP 2	72	13	4530	8.46	994.41	-4.69
938	SLD 1	418	-22	2692	1.98	615.29	7.26
938	SLD 2	356	101	2577	1.26	591.18	-35.41
938	SLD 3	455	-300	3937	9.8	883.91	104.37
938	SLD 4	393	-177	3822	9.07	859.8	61.71
938	SLD 5	131	404	2110	-5.2	477.41	-141.06
938	SLD 6	90	483	2036	-5.67	461.88	-168.53
938	SLD 7	254	-524	6260	20.83	1372.82	182.65
938	SLD 8	214	-445	6186	20.37	1357.29	155.18
938	SLD 9	-69	471	2874	-3.44	631.53	-164.56
938	SLD 10	-110	550	2800	-3.91	616	-192.03
938	SLD 11	54	-456	7024	22.59	1526.94	159.15
938	SLD 12	14	-377	6950	22.12	1511.41	131.68
938	SLD 13	-249	203	5237	7.85	1129.02	-71.09
938	SLD 14	-311	326	5122	7.13	1104.91	-113.75
938	SLD 15	-212	-75	6482	15.66	1397.64	26.02
938	SLD 16	-274	48	6367	14.94	1373.53	-16.64
938	SLV 1	612	-22	1572	-2.22	383.19	7.23
938	SLV 2	514	172	1390	-3.36	345.18	-60.02
938	SLV 3	675	-496	3696	11.11	841.61	172.89
938	SLV 4	577	-303	3515	9.97	803.61	105.65
938	SLV 5	157	686	453	-14.75	122.86	-239.83
938	SLV 6	91	817	331	-15.51	97.27	-285.1
938	SLV 7	367	-896	7537	29.69	1650.94	312.39
938	SLV 8	300	-766	7414	28.92	1625.36	267.12
938	SLV 9	-156	792	1645	-11.99	363.46	-276.5
938	SLV 10	-222	922	1523	-12.76	337.88	-321.78
938	SLV 11	53	-791	8728	32.44	1891.55	275.72
938	SLV 12	-13	-660	8606	31.67	1865.96	230.45
938	SLV 13	-433	329	5545	6.95	1185.21	-115.03
938	SLV 14	-531	523	5363	5.81	1147.21	-182.28
938	SLV 15	-370	-146	7669	20.28	1643.64	50.64
938	SLV 16	-468	48	7488	19.14	1605.63	-16.61
938	SLV FO 1	666	-25	1276	-3.28	322.07	8.42
938	SLV FO 2	558	187	1076	-4.54	280.26	-65.55
938	SLV FO 3	735	-547	3613	11.38	826.33	190.65
938	SLV FO 4	627	-335	3414	10.12	784.53	116.68
938	SLV FO 5	166	754	46	-17.07	35.7	-263.34
938	SLV FO 6	93	897	-88	-17.91	7.56	-313.14
938	SLV FO 7	396	-987	7837	31.81	1716.6	344.1
938	SLV FO 8	323	-844	7703	30.96	1688.45	294.3
938	SLV FO 9	-179	870	1357	-14.04	300.37	-303.69
938	SLV FO 10	-252	1013	1223	-14.89	272.22	-353.49
938	SLV FO 11	51	-871	9148	34.83	1981.26	303.76
938	SLV FO 12	-22	-728	9014	33.99	1953.12	253.96
938	SLV FO 13	-483	361	5646	6.8	1204.29	-126.06
938	SLV FO 14	-591	573	5447	5.54	1162.49	-200.03
938	SLV FO 15	-414	-161	7983	21.46	1708.56	56.17
938	SLV FO 16	-522	51	7784	20.21	1666.75	-17.8
938	CRTFP Ux+	0	0	0	0	0	0
938	CRTFP Ux-	0	0	0	0	0	0
938	CRTFP Uy+	0	0	0	0	0	0
938	CRTFP Uy-	0	0	0	0	0	0
939	SLU 1	-47	106	8482	113.59	3.52	10.69
939	SLU 2	-44	171	8356	97.79	3.54	10.82
939	SLU 3	-48	107	8700	120.78	3.68	11.09
939	SLU 4	-46	147	8624	111.29	3.69	11.17
939	SLU 5	-44	171	8501	102.77	3.65	11.08
939	SLU 6	-48	107	8844	125.76	3.78	11.35
939	SLU 7	-46	147	8769	116.28	3.8	11.43
939	SLU 8	-47	106	8771	123.57	3.73	11.21
939	SLU 9	-45	145	8696	114.08	3.74	11.29
939	SLU 10	-52	179	9420	111.39	3.68	12.31
939	SLU 11	-55	115	9764	134.38	3.81	12.58
939	SLU 12	-53	154	9688	124.9	3.83	12.66
939	SLU 13	-51	179	9565	116.38	3.78	12.57
939	SLU 14	-55	115	9908	139.37	3.92	12.84
939	SLU 15	-53	154	9833	129.89	3.93	12.92
939	SLU 16	-54	114	9835	137.17	3.86	12.7
939	SLU 17	-52	153	9759	127.69	3.88	12.78
939	SLU 18	-58	117	10002	133.03	3.71	12.82
939	SLU 19	-56	156	9927	123.55	3.73	12.9
939	SLU 20	-57	117	10146	138.02	3.82	13.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
939	SLU 21	-56	156	10071	128.53	3.83	13.16
939	SLU 22	-55	120	9882	141.69	3.81	12.86
939	SLU 23	-52	186	9757	125.88	3.83	12.99
939	SLU 24	-56	122	10100	148.87	3.97	13.27
939	SLU 25	-54	161	10025	139.38	3.98	13.34
939	SLU 26	-52	186	9901	130.87	3.93	13.25
939	SLU 27	-56	122	10245	153.86	4.07	13.53
939	SLU 28	-54	161	10169	144.37	4.08	13.6
939	SLU 29	-55	121	10171	151.66	4.02	13.38
939	SLU 30	-53	160	10096	142.18	4.03	13.46
939	SLU 31	-60	193	10821	139.49	3.96	14.48
939	SLU 32	-63	129	11164	162.47	4.1	14.76
939	SLU 33	-61	168	11089	152.99	4.11	14.84
939	SLU 34	-59	193	10965	144.47	4.07	14.74
939	SLU 35	-63	129	11309	167.46	4.2	15.02
939	SLU 36	-61	169	11233	157.98	4.22	15.1
939	SLU 37	-62	128	11235	165.27	4.15	14.87
939	SLU 38	-60	167	11160	155.78	4.16	14.95
939	SLU 39	-66	131	11402	161.12	4	14.99
939	SLU 40	-64	170	11327	151.64	4.01	15.07
939	SLU 41	-65	131	11547	166.11	4.1	15.25
939	SLU 42	-64	170	11471	156.63	4.12	15.33
939	SLU 43	-59	133	10547	138.04	4.48	13.15
939	SLU 44	-56	198	10421	122.23	4.5	13.28
939	SLU 45	-59	134	10764	145.22	4.64	13.55
939	SLU 46	-57	173	10689	135.74	4.65	13.63
939	SLU 47	-56	198	10565	127.22	4.6	13.54
939	SLU 48	-59	134	10909	150.21	4.74	13.81
939	SLU 49	-57	173	10833	140.73	4.75	13.89
939	SLU 50	-59	133	10836	148.01	4.69	13.67
939	SLU 51	-57	172	10760	138.53	4.7	13.75
939	SLU 52	-63	205	11485	135.84	4.63	14.77
939	SLU 53	-66	142	11828	158.83	4.77	15.05
939	SLU 54	-65	181	11753	149.34	4.78	15.12
939	SLU 55	-63	206	11629	140.83	4.74	15.03
939	SLU 56	-66	142	11973	163.82	4.87	15.31
939	SLU 57	-64	181	11897	154.33	4.89	15.38
939	SLU 58	-66	140	11899	161.62	4.82	15.16
939	SLU 59	-64	180	11824	152.14	4.83	15.24
939	SLU 60	-69	143	12067	157.48	4.67	15.28
939	SLU 61	-67	183	11991	147.99	4.68	15.36
939	SLU 62	-69	143	12211	162.46	4.77	15.54
939	SLU 63	-67	183	12136	152.98	4.79	15.62
939	SLU 64	-67	147	11947	166.13	4.77	15.32
939	SLU 65	-64	212	11821	150.33	4.79	15.45
939	SLU 66	-67	149	12165	173.32	4.92	15.73
939	SLU 67	-65	188	12089	163.83	4.94	15.8
939	SLU 68	-64	213	11966	155.31	4.89	15.71
939	SLU 69	-67	149	12309	178.3	5.03	15.99
939	SLU 70	-65	188	12234	168.82	5.04	16.07
939	SLU 71	-67	147	12236	176.11	4.97	15.84
939	SLU 72	-65	187	12160	166.62	4.99	15.92
939	SLU 73	-71	220	12885	163.93	4.92	16.94
939	SLU 74	-74	156	13229	186.92	5.06	17.22
939	SLU 75	-73	195	13153	177.44	5.07	17.3
939	SLU 76	-71	220	13030	168.92	5.03	17.2
939	SLU 77	-74	156	13373	191.91	5.16	17.48
939	SLU 78	-72	195	13298	182.42	5.17	17.56
939	SLU 79	-74	155	13300	189.71	5.11	17.33
939	SLU 80	-72	194	13224	180.23	5.12	17.41
939	SLU 81	-77	158	13467	185.57	4.96	17.45
939	SLU 82	-75	197	13391	176.09	4.97	17.53
939	SLU 83	-77	158	13611	190.56	5.06	17.71
939	SLU 84	-75	197	13536	181.07	5.07	17.79
939	SLE RA 1	-50	110	8882	121.62	3.6	11.31
939	SLE RA 2	-48	154	8798	111.08	3.62	11.4
939	SLE RA 3	-50	111	9027	126.41	3.71	11.58
939	SLE RA 4	-49	137	8977	120.09	3.72	11.63
939	SLE RA 5	-48	154	8895	114.41	3.69	11.57
939	SLE RA 6	-50	111	9124	129.73	3.78	11.75
939	SLE RA 7	-49	137	9073	123.41	3.79	11.8
939	SLE RA 8	-49	110	9075	128.27	3.74	11.66
939	SLE RA 9	-48	136	9025	121.95	3.75	11.71
939	SLE RA 10	-52	159	9508	120.15	3.71	12.39
939	SLE RA 11	-55	116	9737	135.48	3.8	12.57
939	SLE RA 12	-53	142	9686	129.16	3.81	12.62
939	SLE RA 13	-52	159	9604	123.48	3.78	12.56
939	SLE RA 14	-55	116	9833	138.8	3.87	12.75
939	SLE RA 15	-53	142	9783	132.48	3.88	12.8
939	SLE RA 16	-54	115	9784	137.34	3.83	12.65
939	SLE RA 17	-53	141	9734	131.02	3.84	12.7
939	SLE RA 18	-56	117	9896	134.58	3.73	12.73
939	SLE RA 19	-55	143	9845	128.26	3.74	12.78
939	SLE RA 20	-56	117	9992	137.9	3.8	12.9
939	SLE RA 21	-55	143	9941	131.58	3.81	12.95
939	SLE FR 1	-50	110	8882	121.62	3.6	11.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
939	SLE FR 2	-49	119	8865	119.51	3.61	11.33
939	SLE FR 3	-50	110	8921	122.95	3.63	11.38
939	SLE FR 4	-51	121	9169	123.4	3.64	11.75
939	SLE FR 5	-52	112	9225	126.84	3.67	11.8
939	SLE FR 6	-53	114	9389	128.1	3.67	12.02
939	SLE QP 1	-50	110	8882	121.62	3.6	11.31
939	SLE QP 2	-52	112	9186	125.51	3.64	11.74
939	SLD 1	1206	595	8747	28.5	3.31	-4.5
939	SLD 2	1031	541	8765	35.6	3.45	7.95
939	SLD 3	1148	-197	10563	253.03	2.99	-5.92
939	SLD 4	973	-251	10581	260.13	3.13	6.53
939	SLD 5	443	1468	6298	-245.35	4	6.87
939	SLD 6	330	1433	6309	-240.78	4.1	14.89
939	SLD 7	251	-1173	12350	503.08	2.93	2.15
939	SLD 8	138	-1208	12361	507.65	3.03	10.17
939	SLD 9	-241	1432	6011	-256.64	4.25	13.3
939	SLD 10	-354	1397	6022	-252.07	4.35	21.32
939	SLD 11	-434	-1209	12063	491.8	3.19	8.58
939	SLD 12	-547	-1244	12075	496.37	3.28	16.6
939	SLD 13	-1076	475	7792	-9.12	4.15	16.94
939	SLD 14	-1252	422	7810	-2.02	4.3	29.39
939	SLD 15	-1134	-317	9608	215.41	3.83	15.52
939	SLD 16	-1310	-371	9625	222.51	3.98	27.97
939	SLV 1	1923	926	8368	-41.72	3.08	-13.68
939	SLV 2	1646	841	8396	-30.53	3.31	5.95
939	SLV 3	1824	-425	11467	341.46	2.53	-16.1
939	SLV 4	1548	-510	11495	352.65	2.77	3.53
939	SLV 5	741	2421	4236	-507.9	4.25	4.12
939	SLV 6	555	2364	4255	-500.37	4.41	17.33
939	SLV 7	414	-2083	14565	769.36	2.44	-3.95
939	SLV 8	227	-2140	14584	776.89	2.6	9.27
939	SLV 9	-331	2364	3789	-525.88	4.69	14.2
939	SLV 10	-517	2307	3808	-518.35	4.84	27.42
939	SLV 11	-658	-2140	14117	751.38	2.87	6.14
939	SLV 12	-845	-2197	14136	758.92	3.03	19.35
939	SLV 13	-1651	735	6878	-101.64	4.52	19.94
939	SLV 14	-1928	650	6906	-90.45	4.75	39.57
939	SLV 15	-1749	-617	9976	281.54	3.97	17.52
939	SLV 16	-2026	-702	10004	292.73	4.21	37.15
939	SLV FO 1	2120	1007	8287	-58.44	3.02	-16.22
939	SLV FO 2	1816	914	8317	-46.13	3.28	5.37
939	SLV FO 3	2012	-479	11695	363.06	2.42	-18.88
939	SLV FO 4	1708	-573	11726	375.37	2.68	2.71
939	SLV FO 5	821	2652	3741	-571.24	4.32	3.36
939	SLV FO 6	616	2589	3762	-562.96	4.49	17.89
939	SLV FO 7	460	-2302	15102	833.75	2.32	-5.52
939	SLV FO 8	255	-2365	15123	842.03	2.49	9.02
939	SLV FO 9	-359	2589	3249	-591.02	4.79	14.45
939	SLV FO 10	-564	2526	3270	-582.73	4.96	28.99
939	SLV FO 11	-719	-2365	14610	813.97	2.79	5.58
939	SLV FO 12	-924	-2428	14631	822.26	2.97	20.11
939	SLV FO 13	-1811	797	6647	-124.35	4.6	20.76
939	SLV FO 14	-2115	703	6678	-112.04	4.86	42.35
939	SLV FO 15	-1919	-690	10055	297.14	4.01	18.1
939	SLV FO 16	-2224	-783	10086	309.45	4.26	39.69
939	CRTFP Ux+	0	0	0	0	0	0
939	CRTFP Ux-	0	0	0	0	0	0
939	CRTFP Uy+	0	0	0	0	0	0
939	CRTFP Uy-	0	0	0	0	0	0
940	SLU 1	-60	-3	3485	6.1	-531.31	-0.52
940	SLU 2	-58	16	3414	5.72	-519.87	4.12
940	SLU 3	-62	-3	3584	6.34	-545.78	-0.62
940	SLU 4	-60	8	3541	6.1	-538.92	2.16
940	SLU 5	-59	16	3479	5.88	-529.52	4.11
940	SLU 6	-63	-3	3649	6.5	-555.43	-0.63
940	SLU 7	-61	8	3606	6.27	-548.57	2.15
940	SLU 8	-62	-3	3616	6.43	-550.59	-0.53
940	SLU 9	-61	8	3573	6.19	-543.73	2.25
940	SLU 10	-63	17	3844	6.53	-583.15	4.37
940	SLU 11	-67	-2	4014	7.15	-609.06	-0.37
940	SLU 12	-66	9	3971	6.92	-602.2	2.41
940	SLU 13	-65	17	3909	6.69	-592.79	4.37
940	SLU 14	-69	-2	4079	7.31	-618.7	-0.37
940	SLU 15	-67	9	4036	7.08	-611.84	2.41
940	SLU 16	-68	-2	4046	7.24	-613.87	-0.27
940	SLU 17	-67	9	4003	7.01	-607.01	2.51
940	SLU 18	-68	-1	4100	7.26	-621.7	-0.15
940	SLU 19	-67	10	4057	7.03	-614.84	2.63
940	SLU 20	-69	-1	4165	7.43	-631.34	-0.16
940	SLU 21	-68	10	4122	7.19	-624.48	2.62
940	SLU 22	-69	-5	4070	7.33	-617.51	-1.04
940	SLU 23	-67	14	3999	6.95	-606.08	3.6
940	SLU 24	-71	-5	4169	7.57	-631.99	-1.14
940	SLU 25	-69	6	4126	7.34	-625.13	1.64
940	SLU 26	-68	14	4064	7.11	-615.72	3.6
940	SLU 27	-72	-5	4234	7.73	-641.63	-1.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
940	SLU 28	-70	6	4191	7.5	-634.77	1.64
940	SLU 29	-71	-5	4201	7.66	-636.8	-1.04
940	SLU 30	-70	6	4158	7.42	-629.94	1.74
940	SLU 31	-73	15	4429	7.76	-669.35	3.86
940	SLU 32	-76	-4	4599	8.38	-695.26	-0.88
940	SLU 33	-75	7	4556	8.15	-688.4	1.9
940	SLU 34	-74	15	4494	7.92	-679	3.85
940	SLU 35	-78	-4	4664	8.54	-704.91	-0.89
940	SLU 36	-76	7	4621	8.31	-698.05	1.89
940	SLU 37	-77	-4	4631	8.47	-700.07	-0.79
940	SLU 38	-76	7	4588	8.24	-693.21	1.99
940	SLU 39	-77	-3	4685	8.5	-707.9	-0.67
940	SLU 40	-76	8	4642	8.26	-701.04	2.11
940	SLU 41	-78	-3	4750	8.66	-717.55	-0.67
940	SLU 42	-77	8	4707	8.43	-710.69	2.11
940	SLU 43	-75	-3	4331	7.51	-661.14	-0.5
940	SLU 44	-73	16	4259	7.12	-649.71	4.14
940	SLU 45	-77	-3	4429	7.74	-675.62	-0.6
940	SLU 46	-75	8	4386	7.51	-668.76	2.18
940	SLU 47	-74	16	4325	7.29	-659.35	4.13
940	SLU 48	-78	-3	4494	7.91	-685.26	-0.61
940	SLU 49	-76	8	4452	7.67	-678.4	2.18
940	SLU 50	-77	-3	4461	7.83	-680.43	-0.51
940	SLU 51	-76	8	4419	7.6	-673.57	2.28
940	SLU 52	-78	17	4689	7.94	-712.99	4.39
940	SLU 53	-82	-2	4859	8.56	-738.9	-0.35
940	SLU 54	-81	9	4816	8.33	-732.04	2.44
940	SLU 55	-79	17	4755	8.1	-722.63	4.39
940	SLU 56	-83	-2	4924	8.72	-748.54	-0.35
940	SLU 57	-82	9	4882	8.49	-741.68	2.43
940	SLU 58	-83	-2	4891	8.65	-743.71	-0.25
940	SLU 59	-81	9	4848	8.42	-736.85	2.53
940	SLU 60	-83	-1	4945	8.67	-751.54	-0.13
940	SLU 61	-82	10	4902	8.44	-744.68	2.65
940	SLU 62	-84	-1	5010	8.83	-761.18	-0.14
940	SLU 63	-83	10	4967	8.6	-754.32	2.65
940	SLU 64	-84	-5	4915	8.74	-747.35	-1.02
940	SLU 65	-82	14	4844	8.35	-735.91	3.62
940	SLU 66	-86	-5	5014	8.98	-761.82	-1.12
940	SLU 67	-84	6	4971	8.74	-754.96	1.66
940	SLU 68	-83	14	4909	8.52	-745.56	3.62
940	SLU 69	-87	-5	5079	9.14	-771.47	-1.12
940	SLU 70	-85	6	5036	8.91	-764.61	1.66
940	SLU 71	-86	-5	5046	9.07	-766.63	-1.02
940	SLU 72	-85	6	5003	8.83	-759.77	1.76
940	SLU 73	-87	15	5274	9.17	-799.19	3.88
940	SLU 74	-91	-4	5444	9.79	-825.1	-0.86
940	SLU 75	-90	7	5401	9.56	-818.24	1.92
940	SLU 76	-88	15	5339	9.33	-808.83	3.87
940	SLU 77	-92	-4	5509	9.95	-834.74	-0.87
940	SLU 78	-91	7	5466	9.72	-827.88	1.92
940	SLU 79	-92	-4	5476	9.88	-829.91	-0.77
940	SLU 80	-90	7	5433	9.65	-823.05	2.02
940	SLU 81	-92	-3	5530	9.9	-837.74	-0.65
940	SLU 82	-91	8	5487	9.67	-830.88	2.13
940	SLU 83	-93	-4	5595	10.07	-847.38	-0.65
940	SLU 84	-92	8	5552	9.83	-840.52	2.13
940	SLE RA 1	-63	-3	3653	6.45	-555.94	-0.67
940	SLE RA 2	-61	9	3605	6.2	-548.31	2.42
940	SLE RA 3	-64	-4	3718	6.61	-565.59	-0.74
940	SLE RA 4	-63	4	3690	6.46	-561.01	1.12
940	SLE RA 5	-62	9	3649	6.3	-554.74	2.42
940	SLE RA 6	-64	-4	3762	6.72	-572.02	-0.74
940	SLE RA 7	-64	4	3733	6.56	-567.44	1.12
940	SLE RA 8	-64	-3	3740	6.67	-568.79	-0.67
940	SLE RA 9	-63	4	3711	6.51	-564.22	1.18
940	SLE RA 10	-65	10	3892	6.74	-590.5	2.59
940	SLE RA 11	-68	-3	4005	7.15	-607.77	-0.57
940	SLE RA 12	-67	5	3976	7	-603.2	1.29
940	SLE RA 13	-66	10	3935	6.85	-596.93	2.59
940	SLE RA 14	-68	-3	4048	7.26	-614.2	-0.57
940	SLE RA 15	-67	5	4020	7.11	-609.63	1.29
940	SLE RA 16	-68	-3	4026	7.21	-610.98	-0.5
940	SLE RA 17	-67	5	3998	7.06	-606.41	1.35
940	SLE RA 18	-68	-2	4062	7.23	-616.2	-0.42
940	SLE RA 19	-67	5	4034	7.07	-611.63	1.43
940	SLE RA 20	-69	-2	4106	7.34	-622.63	-0.43
940	SLE RA 21	-68	5	4077	7.18	-618.05	1.43
940	SLE FR 1	-63	-3	3653	6.45	-555.94	-0.67
940	SLE FR 2	-62	-1	3643	6.4	-554.41	-0.05
940	SLE FR 3	-63	-3	3670	6.5	-558.51	-0.67
940	SLE FR 4	-64	0	3766	6.63	-572.49	0.02
940	SLE FR 5	-64	-3	3793	6.73	-576.59	-0.6
940	SLE FR 6	-65	-3	3857	6.84	-586.07	-0.55
940	SLE QP 1	-63	-3	3653	6.45	-555.94	-0.67
940	SLE QP 2	-64	-3	3775	6.69	-574.01	-0.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
940	SLD 1	253	60	4437	6.25	-660.6	14.94
940	SLD 2	200	-40	4524	6.73	-674.65	-9.77
940	SLD 3	220	-169	5442	11.72	-821.15	-42.09
940	SLD 4	166	-269	5530	12.2	-835.2	-66.8
940	SLD 5	91	381	2433	-1.82	-354.08	94.8
940	SLD 6	56	316	2490	-1.51	-363.13	78.89
940	SLD 7	-20	-383	5786	16.41	-889.23	-95.28
940	SLD 8	-55	-447	5842	16.72	-898.28	-111.19
940	SLD 9	-73	442	1709	-3.35	-249.75	110
940	SLD 10	-108	377	1765	-3.03	-258.8	94.09
940	SLD 11	-185	-322	5061	14.88	-784.9	-80.08
940	SLD 12	-219	-387	5117	15.19	-793.95	-95.99
940	SLD 13	-295	263	2021	1.17	-312.83	65.61
940	SLD 14	-348	163	2109	1.65	-326.88	40.9
940	SLD 15	-328	34	3027	6.64	-473.38	8.58
940	SLD 16	-382	-66	3114	7.12	-487.43	-16.12
940	SLV 1	436	113	4732	5.6	-697.19	27.98
940	SLV 2	351	-45	4870	6.36	-719.34	-10.97
940	SLV 3	379	-278	6448	14.93	-971.07	-69.3
940	SLV 4	294	-435	6585	15.69	-993.22	-108.24
940	SLV 5	188	654	1435	-7.93	-191.46	162.78
940	SLV 6	131	548	1528	-7.42	-206.37	136.56
940	SLV 7	-2	-649	7153	23.17	-1104.37	-161.47
940	SLV 8	-59	-755	7246	23.68	-1119.28	-187.69
940	SLV 9	-69	749	305	-10.31	-28.75	186.5
940	SLV 10	-126	643	397	-9.8	-43.66	160.28
940	SLV 11	-260	-554	6023	20.79	-941.66	-137.75
940	SLV 12	-317	-660	6116	21.3	-956.57	-163.97
940	SLV 13	-423	430	965	-2.32	-154.81	107.06
940	SLV 14	-508	272	1103	-1.56	-176.96	68.11
940	SLV 15	-480	39	2681	7.01	-428.69	9.78
940	SLV 16	-565	-119	2818	7.77	-450.83	-29.17
940	SLV FO 1	486	124	4828	5.49	-709.51	30.83
940	SLV FO 2	393	-49	4979	6.33	-733.88	-12.01
940	SLV FO 3	424	-306	6715	15.75	-1010.77	-76.17
940	SLV FO 4	330	-479	6866	16.59	-1035.14	-119.01
940	SLV FO 5	214	720	1201	-9.39	-153.21	179.11
940	SLV FO 6	151	603	1303	-8.83	-169.61	150.27
940	SLV FO 7	4	-714	7491	24.82	-1157.41	-177.56
940	SLV FO 8	-58	-830	7593	25.38	-1173.81	-206.4
940	SLV FO 9	-70	824	-42	-12.01	25.78	205.21
940	SLV FO 10	-133	708	60	-11.44	9.38	176.37
940	SLV FO 11	-279	-609	6248	22.2	-978.42	-151.46
940	SLV FO 12	-342	-726	6350	22.77	-994.82	-180.3
940	SLV FO 13	-459	473	684	-3.22	-112.89	117.82
940	SLV FO 14	-552	300	836	-2.38	-137.26	74.98
940	SLV FO 15	-521	43	2571	7.05	-414.15	10.82
940	SLV FO 16	-615	-130	2723	7.88	-438.52	-32.02
940	CRTFP Ux+	0	0	0	0	0	0
940	CRTFP Ux-	0	0	0	0	0	0
940	CRTFP Uy+	0	0	0	0	0	0
940	CRTFP Uy-	0	0	0	0	0	0
943	SLU 1	95	28	5717	-158.32	20.64	3.2
943	SLU 2	90	53	5601	-155.4	19.46	3.07
943	SLU 3	99	29	5886	-162.96	21.5	3.31
943	SLU 4	96	43	5816	-161.2	20.79	3.24
943	SLU 5	93	53	5719	-158.62	19.96	3.15
943	SLU 6	102	29	6004	-166.18	22	3.4
943	SLU 7	99	44	5934	-164.43	21.29	3.32
943	SLU 8	101	29	5952	-164.78	21.65	3.37
943	SLU 9	98	44	5883	-163.02	20.94	3.29
943	SLU 10	97	57	6329	-175.62	22.85	3.31
943	SLU 11	106	33	6614	-183.18	24.89	3.56
943	SLU 12	103	47	6544	-181.43	24.18	3.48
943	SLU 13	100	57	6447	-178.85	23.35	3.4
943	SLU 14	109	33	6731	-186.41	25.39	3.65
943	SLU 15	106	48	6662	-184.65	24.68	3.57
943	SLU 16	108	33	6680	-185	25.04	3.62
943	SLU 17	105	47	6611	-183.25	24.33	3.54
943	SLU 18	105	34	6757	-187.22	25.49	3.55
943	SLU 19	102	48	6687	-185.46	24.78	3.47
943	SLU 20	108	34	6874	-190.44	25.99	3.64
943	SLU 21	105	49	6805	-188.69	25.28	3.56
943	SLU 22	107	32	6694	-185.33	25.7	3.66
943	SLU 23	103	56	6578	-182.4	24.52	3.53
943	SLU 24	111	32	6863	-189.96	26.56	3.78
943	SLU 25	108	47	6793	-188.21	25.85	3.7
943	SLU 26	106	56	6696	-185.63	25.02	3.61
943	SLU 27	114	33	6981	-193.19	27.06	3.86
943	SLU 28	111	47	6911	-191.43	26.35	3.78
943	SLU 29	113	32	6929	-191.78	26.71	3.83
943	SLU 30	111	47	6860	-190.03	26	3.75
943	SLU 31	110	60	7306	-202.63	27.91	3.78
943	SLU 32	118	36	7591	-210.19	29.95	4.03
943	SLU 33	115	51	7521	-208.43	29.24	3.95
943	SLU 34	113	60	7424	-205.85	28.41	3.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
943	SLU 35	121	36	7708	-213.42	30.45	4.11
943	SLU 36	118	51	7639	-211.66	29.74	4.03
943	SLU 37	120	36	7657	-212.01	30.1	4.08
943	SLU 38	118	51	7588	-210.25	29.39	4
943	SLU 39	117	37	7734	-214.22	30.55	4.01
943	SLU 40	114	52	7664	-212.47	29.84	3.93
943	SLU 41	120	38	7851	-217.45	31.05	4.1
943	SLU 42	117	52	7782	-215.69	30.34	4.02
943	SLU 43	119	36	7097	-196.56	25.1	4
943	SLU 44	115	60	6981	-193.63	23.92	3.87
943	SLU 45	123	36	7266	-201.2	25.96	4.12
943	SLU 46	120	51	7197	-199.44	25.25	4.04
943	SLU 47	118	60	7099	-196.86	24.42	3.95
943	SLU 48	126	36	7384	-204.42	26.46	4.2
943	SLU 49	123	51	7314	-202.67	25.75	4.12
943	SLU 50	125	36	7332	-203.01	26.11	4.17
943	SLU 51	123	51	7263	-201.26	25.4	4.09
943	SLU 52	121	64	7709	-213.86	27.31	4.11
943	SLU 53	130	40	7994	-221.42	29.35	4.36
943	SLU 54	127	55	7924	-219.67	28.64	4.29
943	SLU 55	125	64	7827	-217.09	27.81	4.2
943	SLU 56	133	40	8112	-224.65	29.85	4.45
943	SLU 57	130	55	8042	-222.89	29.14	4.37
943	SLU 58	132	40	8060	-223.24	29.5	4.42
943	SLU 59	129	55	7991	-221.48	28.79	4.34
943	SLU 60	129	41	8137	-225.46	29.95	4.35
943	SLU 61	126	56	8067	-223.7	29.24	4.27
943	SLU 62	132	41	8254	-228.68	30.45	4.44
943	SLU 63	129	56	8185	-226.93	29.74	4.36
943	SLU 64	132	39	8074	-223.57	30.16	4.46
943	SLU 65	127	63	7958	-220.64	28.98	4.33
943	SLU 66	135	40	8243	-228.2	31.02	4.58
943	SLU 67	133	54	8173	-226.45	30.31	4.5
943	SLU 68	130	64	8076	-223.87	29.48	4.41
943	SLU 69	138	40	8361	-231.43	31.52	4.66
943	SLU 70	136	55	8291	-229.67	30.81	4.58
943	SLU 71	138	40	8309	-230.02	31.17	4.63
943	SLU 72	135	54	8240	-228.26	30.46	4.55
943	SLU 73	134	67	8686	-240.87	32.37	4.58
943	SLU 74	142	43	8971	-248.43	34.41	4.83
943	SLU 75	140	58	8901	-246.67	33.7	4.75
943	SLU 76	137	68	8804	-244.09	32.87	4.66
943	SLU 77	145	44	9089	-251.65	34.91	4.91
943	SLU 78	143	58	9019	-249.9	34.2	4.83
943	SLU 79	145	44	9037	-250.25	34.56	4.88
943	SLU 80	142	58	8968	-248.49	33.85	4.8
943	SLU 81	142	45	9114	-252.46	35	4.81
943	SLU 82	139	59	9044	-250.71	34.29	4.74
943	SLU 83	145	45	9231	-255.69	35.51	4.9
943	SLU 84	142	60	9162	-253.93	34.8	4.82
943	SLE RA 1	99	29	5996	-166.04	22.09	3.33
943	SLE RA 2	95	46	5919	-164.09	21.3	3.24
943	SLE RA 3	101	30	6109	-169.13	22.66	3.41
943	SLE RA 4	99	39	6062	-167.96	22.19	3.36
943	SLE RA 5	97	46	5997	-166.24	21.63	3.3
943	SLE RA 6	103	30	6187	-171.28	22.99	3.46
943	SLE RA 7	101	40	6141	-170.11	22.52	3.41
943	SLE RA 8	103	30	6153	-170.34	22.76	3.44
943	SLE RA 9	101	39	6107	-169.17	22.29	3.39
943	SLE RA 10	100	48	6404	-177.57	23.56	3.41
943	SLE RA 11	106	32	6594	-182.61	24.92	3.57
943	SLE RA 12	104	42	6548	-181.44	24.45	3.52
943	SLE RA 13	102	48	6482	-179.72	23.9	3.46
943	SLE RA 14	108	32	6672	-184.76	25.26	3.63
943	SLE RA 15	106	42	6626	-183.59	24.78	3.58
943	SLE RA 16	107	32	6638	-183.83	25.02	3.61
943	SLE RA 17	105	42	6592	-182.65	24.55	3.56
943	SLE RA 18	105	33	6689	-185.3	25.32	3.56
943	SLE RA 19	103	43	6643	-184.13	24.84	3.51
943	SLE RA 20	107	33	6768	-187.45	25.65	3.62
943	SLE RA 21	105	43	6721	-186.28	25.18	3.57
943	SLE FR 1	99	29	5996	-166.04	22.09	3.33
943	SLE FR 2	98	33	5981	-165.65	21.93	3.31
943	SLE FR 3	99	29	6027	-166.9	22.22	3.35
943	SLE FR 4	100	34	6188	-171.43	22.9	3.38
943	SLE FR 5	101	30	6235	-172.68	23.19	3.42
943	SLE FR 6	102	31	6343	-175.67	23.7	3.45
943	SLE QP 1	99	29	5996	-166.04	22.09	3.33
943	SLE QP 2	101	30	6204	-171.82	23.06	3.4
943	SLD 1	580	72	4719	-133.91	11.69	13.48
943	SLD 2	489	146	4613	-131.16	13.3	12.63
943	SLD 3	638	-226	6392	-176.28	28	15.11
943	SLD 4	547	-151	6285	-173.53	29.61	14.26
943	SLD 5	172	481	3240	-96.66	-5.37	4.09
943	SLD 6	114	529	3172	-94.89	-4.33	3.54
943	SLD 7	365	-510	8815	-237.89	49	9.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
943	SLD 8	307	-462	8747	-236.12	50.04	8.99
943	SLD 9	-106	523	3661	-107.52	-3.92	-2.2
943	SLD 10	-164	571	3592	-105.75	-2.89	-2.74
943	SLD 11	87	-468	9236	-248.75	50.45	3.26
943	SLD 12	29	-420	9168	-246.97	51.48	2.71
943	SLD 13	-346	212	6123	-170.11	16.51	-7.46
943	SLD 14	-437	286	6016	-167.35	18.11	-8.32
943	SLD 15	-288	-86	7795	-212.48	32.82	-5.83
943	SLD 16	-379	-11	7689	-209.72	34.42	-6.68
943	SLV 1	848	116	3764	-109.54	3.71	19.09
943	SLV 2	706	233	3596	-105.2	6.24	17.75
943	SLV 3	947	-391	6618	-181.84	31.58	21.87
943	SLV 4	804	-274	6450	-177.5	34.11	20.53
943	SLV 5	202	803	1174	-44.28	-25.48	4.13
943	SLV 6	106	882	1061	-41.36	-23.78	3.23
943	SLV 7	530	-887	10689	-285.3	67.4	13.42
943	SLV 8	434	-808	10575	-282.38	69.11	12.51
943	SLV 9	-233	869	1832	-61.26	-23	-5.71
943	SLV 10	-329	948	1719	-58.34	-21.29	-6.62
943	SLV 11	95	-821	11347	-302.28	69.89	3.57
943	SLV 12	-1	-742	11234	-299.35	71.6	2.67
943	SLV 13	-603	334	5958	-166.13	12	-13.73
943	SLV 14	-746	452	5790	-161.79	14.54	-15.07
943	SLV 15	-504	-173	8812	-238.44	39.87	-10.95
943	SLV 16	-647	-55	8644	-234.1	42.4	-12.29
943	SLV FO 1	923	124	3520	-103.31	1.77	20.66
943	SLV FO 2	766	254	3335	-98.53	4.56	19.18
943	SLV FO 3	1032	-434	6660	-182.84	32.43	23.72
943	SLV FO 4	874	-304	6475	-178.07	35.22	22.24
943	SLV FO 5	212	880	671	-31.53	-30.34	4.21
943	SLV FO 6	107	967	547	-28.31	-28.46	3.21
943	SLV FO 7	573	-979	11137	-296.64	71.84	14.42
943	SLV FO 8	468	-892	11013	-293.43	73.72	13.42
943	SLV FO 9	-267	952	1395	-50.2	-27.6	-6.62
943	SLV FO 10	-372	1039	1271	-46.99	-25.72	-7.62
943	SLV FO 11	95	-907	11861	-315.32	74.58	3.59
943	SLV FO 12	-11	-819	11737	-312.11	76.45	2.59
943	SLV FO 13	-673	365	5933	-165.57	10.9	-15.44
943	SLV FO 14	-830	494	5748	-160.79	13.69	-16.92
943	SLV FO 15	-565	-193	9073	-245.1	41.55	-12.38
943	SLV FO 16	-722	-63	8888	-240.33	44.34	-13.86
943	CRTFP Ux+	0	0	0	0	0	0
943	CRTFP Ux-	0	0	0	0	0	0
943	CRTFP Uy+	0	0	0	0	0	0
943	CRTFP Uy-	0	0	0	0	0	0
946	SLU 1	-16	35	2524	1.54	365.41	-8.54
946	SLU 2	-16	51	2482	1.28	360.34	-12.63
946	SLU 3	-17	35	2592	1.64	374.33	-8.68
946	SLU 4	-16	45	2567	1.48	371.29	-11.13
946	SLU 5	-16	51	2527	1.35	366.25	-12.67
946	SLU 6	-17	35	2637	1.71	380.25	-8.72
946	SLU 7	-16	45	2611	1.56	377.2	-11.17
946	SLU 8	-16	35	2614	1.68	377.24	-8.62
946	SLU 9	-16	45	2589	1.53	374.2	-11.07
946	SLU 10	-18	54	2803	1.44	403.01	-13.3
946	SLU 11	-19	38	2912	1.8	417	-9.35
946	SLU 12	-19	48	2887	1.65	413.96	-11.8
946	SLU 13	-18	54	2848	1.51	408.92	-13.34
946	SLU 14	-19	38	2957	1.87	422.92	-9.39
946	SLU 15	-19	48	2932	1.72	419.87	-11.84
946	SLU 16	-19	38	2935	1.84	419.91	-9.29
946	SLU 17	-19	48	2909	1.69	416.86	-11.75
946	SLU 18	-20	39	2982	1.77	426.36	-9.5
946	SLU 19	-20	49	2957	1.61	423.32	-11.95
946	SLU 20	-20	39	3027	1.84	432.28	-9.54
946	SLU 21	-20	49	3002	1.68	429.23	-11.99
946	SLU 22	-19	39	2949	1.91	422	-9.67
946	SLU 23	-19	56	2908	1.65	416.93	-13.76
946	SLU 24	-20	40	3017	2.01	430.93	-9.81
946	SLU 25	-19	50	2992	1.86	427.88	-12.26
946	SLU 26	-19	56	2952	1.72	422.84	-13.8
946	SLU 27	-20	40	3062	2.08	436.84	-9.85
946	SLU 28	-19	50	3037	1.93	433.8	-12.3
946	SLU 29	-20	40	3039	2.05	433.83	-9.75
946	SLU 30	-19	50	3014	1.9	430.79	-12.21
946	SLU 31	-21	59	3228	1.81	459.6	-14.44
946	SLU 32	-22	43	3337	2.17	473.59	-10.48
946	SLU 33	-22	53	3312	2.02	470.55	-12.94
946	SLU 34	-21	59	3273	1.88	465.51	-14.48
946	SLU 35	-22	43	3382	2.24	479.51	-10.52
946	SLU 36	-22	53	3357	2.09	476.46	-12.98
946	SLU 37	-22	43	3360	2.21	476.5	-10.42
946	SLU 38	-22	52	3334	2.06	473.45	-12.88
946	SLU 39	-23	43	3407	2.14	482.96	-10.63
946	SLU 40	-23	53	3382	1.99	479.91	-13.09
946	SLU 41	-23	44	3452	2.21	488.87	-10.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
946	SLU 42	-23	53	3427	2.06	485.83	-13.13
946	SLU 43	-20	44	3136	1.87	455.63	-10.71
946	SLU 44	-20	60	3094	1.61	450.56	-14.8
946	SLU 45	-20	44	3203	1.97	464.56	-10.85
946	SLU 46	-20	54	3178	1.82	461.51	-13.3
946	SLU 47	-20	60	3139	1.68	456.47	-14.84
946	SLU 48	-20	44	3248	2.04	470.47	-10.89
946	SLU 49	-20	54	3223	1.89	467.43	-13.34
946	SLU 50	-20	44	3226	2.01	467.46	-10.79
946	SLU 51	-20	54	3200	1.86	464.42	-13.25
946	SLU 52	-22	63	3415	1.77	493.23	-15.47
946	SLU 53	-23	47	3524	2.13	507.22	-11.52
946	SLU 54	-23	57	3499	1.98	504.18	-13.98
946	SLU 55	-22	63	3459	1.85	499.14	-15.51
946	SLU 56	-23	47	3569	2.2	513.14	-11.56
946	SLU 57	-23	57	3544	2.05	510.09	-14.01
946	SLU 58	-23	47	3546	2.17	510.13	-11.46
946	SLU 59	-22	57	3521	2.02	507.08	-13.92
946	SLU 60	-24	48	3594	2.1	516.59	-11.67
946	SLU 61	-23	57	3569	1.95	513.54	-14.13
946	SLU 62	-24	48	3639	2.17	522.5	-11.71
946	SLU 63	-23	58	3614	2.02	519.45	-14.17
946	SLU 64	-23	48	3561	2.24	512.22	-11.85
946	SLU 65	-23	65	3519	1.99	507.15	-15.94
946	SLU 66	-24	49	3628	2.34	521.15	-11.98
946	SLU 67	-23	59	3603	2.19	518.1	-14.44
946	SLU 68	-23	65	3564	2.06	513.06	-15.98
946	SLU 69	-24	49	3673	2.42	527.06	-12.02
946	SLU 70	-23	59	3648	2.26	524.02	-14.48
946	SLU 71	-23	49	3651	2.39	524.05	-11.93
946	SLU 72	-23	58	3625	2.23	521.01	-14.38
946	SLU 73	-25	67	3840	2.15	549.82	-16.61
946	SLU 74	-26	52	3949	2.51	563.81	-12.65
946	SLU 75	-26	61	3924	2.35	560.77	-15.11
946	SLU 76	-25	68	3884	2.22	555.73	-16.65
946	SLU 77	-26	52	3994	2.58	569.73	-12.69
946	SLU 78	-26	62	3969	2.42	566.68	-15.15
946	SLU 79	-26	51	3971	2.55	566.72	-12.6
946	SLU 80	-26	61	3946	2.39	563.67	-15.05
946	SLU 81	-27	52	4019	2.47	573.18	-12.81
946	SLU 82	-26	62	3994	2.32	570.13	-15.26
946	SLU 83	-27	52	4064	2.54	579.09	-12.85
946	SLU 84	-27	62	4039	2.39	576.05	-15.3
946	SLE RA 1	-17	36	2646	1.64	381.58	-8.86
946	SLE RA 2	-17	47	2618	1.47	378.2	-11.59
946	SLE RA 3	-17	36	2691	1.71	387.53	-8.95
946	SLE RA 4	-17	43	2674	1.61	385.5	-10.59
946	SLE RA 5	-17	47	2648	1.52	382.14	-11.62
946	SLE RA 6	-17	37	2721	1.76	391.47	-8.98
946	SLE RA 7	-17	43	2704	1.66	389.44	-10.62
946	SLE RA 8	-17	36	2706	1.74	389.47	-8.92
946	SLE RA 9	-17	43	2689	1.64	387.44	-10.55
946	SLE RA 10	-19	49	2832	1.58	406.64	-12.04
946	SLE RA 11	-19	38	2904	1.82	415.97	-9.4
946	SLE RA 12	-19	45	2888	1.72	413.94	-11.04
946	SLE RA 13	-19	49	2861	1.63	410.59	-12.06
946	SLE RA 14	-19	38	2934	1.87	419.92	-9.43
946	SLE RA 15	-19	45	2918	1.76	417.89	-11.06
946	SLE RA 16	-19	38	2919	1.85	417.91	-9.36
946	SLE RA 17	-19	45	2902	1.74	415.88	-11
946	SLE RA 18	-20	39	2951	1.8	422.22	-9.5
946	SLE RA 19	-19	45	2934	1.69	420.19	-11.14
946	SLE RA 20	-20	39	2981	1.84	426.16	-9.53
946	SLE RA 21	-19	45	2964	1.74	424.13	-11.17
946	SLE FR 1	-17	36	2646	1.64	381.58	-8.86
946	SLE FR 2	-17	38	2640	1.61	380.9	-9.41
946	SLE FR 3	-17	36	2658	1.66	383.16	-8.87
946	SLE FR 4	-18	39	2732	1.66	393.1	-9.6
946	SLE FR 5	-18	37	2749	1.71	395.35	-9.07
946	SLE FR 6	-18	37	2798	1.72	401.9	-9.18
946	SLE QP 1	-17	36	2646	1.64	381.58	-8.86
946	SLE QP 2	-18	37	2737	1.69	393.77	-9.06
946	SLD 1	301	163	2588	0.19	383.61	-40.95
946	SLD 2	251	146	2598	0.32	384.63	-36.31
946	SLD 3	288	-35	3191	3.85	457.33	8.65
946	SLD 4	238	-53	3201	3.98	458.35	13.3
946	SLD 5	106	379	1776	-4.33	278.74	-94.66
946	SLD 6	74	367	1782	-4.25	279.4	-91.67
946	SLD 7	62	-283	3787	7.87	524.47	70.69
946	SLD 8	30	-294	3793	7.95	525.13	73.69
946	SLD 9	-66	368	1682	-4.57	262.42	-91.8
946	SLD 10	-98	356	1688	-4.49	263.08	-88.8
946	SLD 11	-110	-294	3693	7.63	508.14	73.56
946	SLD 12	-142	-305	3699	7.71	508.8	76.55
946	SLD 13	-274	127	2274	-0.6	329.19	-31.41
946	SLD 14	-323	109	2283	-0.48	330.22	-26.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
946	SLD 15	-287	-72	2877	3.06	402.91	18.2
946	SLD 16	-337	-90	2887	3.19	403.94	22.84
946	SLV 1	482	249	2460	-0.91	372.5	-62.6
946	SLV 2	404	221	2475	-0.71	374.12	-55.28
946	SLV 3	460	-89	3490	5.34	498.31	22
946	SLV 4	382	-117	3505	5.54	499.93	29.32
946	SLV 5	181	619	1090	-8.6	196.28	-154.8
946	SLV 6	128	600	1100	-8.47	197.37	-149.87
946	SLV 7	106	-509	4522	12.23	615.64	127.21
946	SLV 8	54	-528	4532	12.36	616.73	132.14
946	SLV 9	-89	602	943	-8.98	170.81	-150.25
946	SLV 10	-142	583	953	-8.85	171.9	-145.32
946	SLV 11	-164	-526	4375	11.85	590.17	131.76
946	SLV 12	-216	-545	4385	11.98	591.26	136.69
946	SLV 13	-418	191	1970	-2.16	287.62	-47.43
946	SLV 14	-496	163	1985	-1.96	289.23	-40.11
946	SLV 15	-440	-147	3000	4.09	413.42	37.17
946	SLV 16	-518	-175	3014	4.29	415.04	44.49
946	SLV FO 1	532	270	2433	-1.17	370.37	-67.96
946	SLV FO 2	447	240	2449	-0.95	372.15	-59.9
946	SLV FO 3	508	-102	3565	5.71	508.76	25.1
946	SLV FO 4	422	-133	3582	5.92	510.54	33.16
946	SLV FO 5	200	677	925	-9.63	176.53	-169.37
946	SLV FO 6	143	657	936	-9.49	177.73	-163.95
946	SLV FO 7	118	-564	4700	13.28	637.83	140.83
946	SLV FO 8	61	-584	4711	13.43	639.03	146.26
946	SLV FO 9	-97	658	763	-10.05	148.52	-164.37
946	SLV FO 10	-154	637	774	-9.9	149.72	-158.94
946	SLV FO 11	-179	-583	4539	12.87	609.81	145.84
946	SLV FO 12	-236	-604	4550	13.01	611.01	151.26
946	SLV FO 13	-458	206	1893	-2.54	277	-51.27
946	SLV FO 14	-544	176	1910	-2.33	278.78	-43.21
946	SLV FO 15	-483	-166	3026	4.33	415.39	41.79
946	SLV FO 16	-568	-197	3042	4.55	417.17	49.85
946	CRTFP Ux+	0	0	0	0	0	0
946	CRTFP Ux-	0	0	0	0	0	0
946	CRTFP Uy+	0	0	0	0	0	0
946	CRTFP Uy-	0	0	0	0	0	0
948	SLU 1	7	93	4774	6.99	-25.73	0.46
948	SLU 2	6	122	4686	6.46	-25.7	0.51
948	SLU 3	8	94	4902	7.31	-26.62	0.48
948	SLU 4	7	111	4850	6.99	-26.6	0.51
948	SLU 5	7	122	4773	6.68	-26.3	0.51
948	SLU 6	9	94	4989	7.52	-27.23	0.49
948	SLU 7	8	112	4936	7.2	-27.21	0.52
948	SLU 8	9	93	4946	7.42	-26.95	0.48
948	SLU 9	8	111	4894	7.1	-26.93	0.5
948	SLU 10	5	129	5304	7.24	-28.37	0.68
948	SLU 11	7	101	5519	8.08	-29.3	0.65
948	SLU 12	6	119	5467	7.76	-29.27	0.68
948	SLU 13	6	130	5390	7.45	-28.98	0.68
948	SLU 14	8	101	5606	8.3	-29.9	0.66
948	SLU 15	7	119	5553	7.98	-29.88	0.68
948	SLU 16	8	101	5563	8.2	-29.62	0.65
948	SLU 17	7	118	5511	7.88	-29.6	0.67
948	SLU 18	6	103	5655	8.1	-29.55	0.7
948	SLU 19	5	121	5603	7.78	-29.53	0.73
948	SLU 20	7	103	5741	8.31	-30.16	0.71
948	SLU 21	6	121	5689	8	-30.14	0.74
948	SLU 22	6	103	5586	8.32	-29.49	0.66
948	SLU 23	6	132	5499	7.79	-29.46	0.7
948	SLU 24	7	104	5714	8.64	-30.38	0.68
948	SLU 25	7	121	5662	8.32	-30.36	0.71
948	SLU 26	7	132	5585	8.01	-30.07	0.71
948	SLU 27	8	104	5801	8.85	-30.99	0.69
948	SLU 28	8	122	5748	8.53	-30.97	0.71
948	SLU 29	8	103	5758	8.75	-30.71	0.67
948	SLU 30	8	121	5706	8.43	-30.69	0.7
948	SLU 31	5	139	6116	8.57	-32.13	0.87
948	SLU 32	7	111	6332	9.41	-33.06	0.85
948	SLU 33	6	129	6279	9.09	-33.04	0.87
948	SLU 34	6	140	6202	8.78	-32.74	0.88
948	SLU 35	8	111	6418	9.62	-33.67	0.86
948	SLU 36	7	129	6366	9.31	-33.64	0.88
948	SLU 37	8	111	6375	9.53	-33.39	0.84
948	SLU 38	7	128	6323	9.21	-33.36	0.87
948	SLU 39	5	113	6467	9.43	-33.31	0.9
948	SLU 40	5	131	6415	9.11	-33.29	0.93
948	SLU 41	6	113	6554	9.64	-33.92	0.91
948	SLU 42	6	131	6501	9.33	-33.9	0.93
948	SLU 43	9	117	5927	8.63	-32.16	0.54
948	SLU 44	8	146	5840	8.11	-32.12	0.58
948	SLU 45	10	118	6056	8.95	-33.05	0.56
948	SLU 46	9	136	6004	8.63	-33.03	0.58
948	SLU 47	9	146	5926	8.32	-32.73	0.59
948	SLU 48	11	118	6142	9.16	-33.66	0.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
948	SLU 49	10	136	6090	8.85	-33.64	0.59
948	SLU 50	11	117	6100	9.06	-33.38	0.55
948	SLU 51	10	135	6047	8.75	-33.36	0.58
948	SLU 52	7	154	6457	8.88	-34.8	0.75
948	SLU 53	9	126	6673	9.72	-35.72	0.72
948	SLU 54	9	143	6621	9.41	-35.7	0.75
948	SLU 55	8	154	6543	9.1	-35.41	0.75
948	SLU 56	10	126	6759	9.94	-36.33	0.73
948	SLU 57	10	143	6707	9.62	-36.31	0.76
948	SLU 58	10	125	6717	9.84	-36.05	0.72
948	SLU 59	10	142	6665	9.52	-36.03	0.74
948	SLU 60	8	127	6809	9.74	-35.98	0.78
948	SLU 61	7	145	6757	9.43	-35.96	0.8
948	SLU 62	9	128	6895	9.96	-36.59	0.78
948	SLU 63	8	145	6843	9.64	-36.57	0.81
948	SLU 64	9	127	6739	9.96	-35.92	0.73
948	SLU 65	8	156	6652	9.44	-35.89	0.78
948	SLU 66	9	128	6868	10.28	-36.81	0.75
948	SLU 67	9	146	6816	9.96	-36.79	0.78
948	SLU 68	9	157	6738	9.65	-36.5	0.78
948	SLU 69	10	128	6954	10.49	-37.42	0.76
948	SLU 70	10	146	6902	10.18	-37.4	0.79
948	SLU 71	11	127	6912	10.39	-37.14	0.75
948	SLU 72	10	145	6860	10.08	-37.12	0.77
948	SLU 73	7	164	7269	10.21	-38.56	0.94
948	SLU 74	9	136	7485	11.05	-39.49	0.92
948	SLU 75	8	153	7433	10.74	-39.47	0.95
948	SLU 76	8	164	7356	10.43	-39.17	0.95
948	SLU 77	10	136	7571	11.27	-40.1	0.93
948	SLU 78	9	153	7519	10.95	-40.07	0.95
948	SLU 79	10	135	7529	11.17	-39.82	0.91
948	SLU 80	9	152	7477	10.85	-39.79	0.94
948	SLU 81	7	138	7621	11.07	-39.74	0.97
948	SLU 82	7	155	7569	10.75	-39.72	1
948	SLU 83	8	138	7707	11.29	-40.35	0.98
948	SLU 84	8	155	7655	10.97	-40.33	1.01
948	SLE RA 1	7	95	5006	7.37	-26.81	0.52
948	SLE RA 2	6	115	4948	7.02	-26.78	0.55
948	SLE RA 3	7	96	5091	7.58	-27.4	0.53
948	SLE RA 4	7	108	5057	7.37	-27.39	0.55
948	SLE RA 5	7	115	5005	7.16	-27.19	0.55
948	SLE RA 6	8	96	5149	7.72	-27.81	0.54
948	SLE RA 7	8	108	5114	7.51	-27.79	0.56
948	SLE RA 8	8	96	5121	7.66	-27.62	0.53
948	SLE RA 9	8	108	5086	7.45	-27.6	0.55
948	SLE RA 10	6	120	5359	7.54	-28.56	0.66
948	SLE RA 11	7	101	5503	8.1	-29.18	0.65
948	SLE RA 12	6	113	5468	7.89	-29.17	0.66
948	SLE RA 13	6	120	5416	7.68	-28.97	0.67
948	SLE RA 14	7	101	5560	8.24	-29.59	0.65
948	SLE RA 15	7	113	5526	8.03	-29.57	0.67
948	SLE RA 16	7	101	5532	8.17	-29.4	0.64
948	SLE RA 17	7	112	5497	7.96	-29.39	0.66
948	SLE RA 18	6	102	5593	8.11	-29.35	0.68
948	SLE RA 19	6	114	5559	7.9	-29.34	0.7
948	SLE RA 20	7	103	5651	8.25	-29.76	0.68
948	SLE RA 21	6	114	5616	8.04	-29.74	0.7
948	SLE FR 1	7	95	5006	7.37	-26.81	0.52
948	SLE FR 2	7	99	4994	7.3	-26.8	0.53
948	SLE FR 3	7	96	5029	7.43	-26.97	0.52
948	SLE FR 4	6	101	5170	7.52	-27.57	0.57
948	SLE FR 5	7	98	5205	7.65	-27.73	0.57
948	SLE FR 6	6	99	5299	7.74	-28.08	0.6
948	SLE QP 1	7	95	5006	7.37	-26.81	0.52
948	SLE QP 2	6	98	5182	7.59	-27.57	0.57
948	SLD 1	625	225	4149	3.35	-1.5	-4.3
948	SLD 2	529	256	4144	3.2	-1.33	-1.81
948	SLD 3	637	-132	5419	10.83	-2.98	-4.78
948	SLD 4	540	-100	5413	10.67	-2.81	-2.29
948	SLD 5	192	671	2947	-4.99	-17.54	-0.59
948	SLD 6	130	691	2944	-5.08	-17.43	1.01
948	SLD 7	229	-517	7180	19.92	-22.46	-2.19
948	SLD 8	167	-497	7176	19.83	-22.35	-0.59
948	SLD 9	-154	692	3187	-4.64	-32.79	1.73
948	SLD 10	-216	712	3184	-4.74	-32.68	3.33
948	SLD 11	-117	-496	7420	20.27	-37.71	0.12
948	SLD 12	-179	-475	7417	20.17	-37.6	1.72
948	SLD 13	-527	295	4950	4.51	-52.33	3.43
948	SLD 14	-624	327	4945	4.36	-52.16	5.91
948	SLD 15	-516	-61	6220	11.99	-53.81	2.95
948	SLD 16	-613	-30	6215	11.83	-53.64	5.43
948	SLV 1	976	321	3477	0.36	13.21	-7.04
948	SLV 2	824	371	3468	0.12	13.47	-3.13
948	SLV 3	994	-286	5644	13.12	10.69	-7.86
948	SLV 4	842	-237	5636	12.87	10.95	-3.94
948	SLV 5	299	1077	1385	-13.87	-11.57	-1.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
948	SLV 6	197	1110	1379	-14.04	-11.39	1.43
948	SLV 7	358	-948	8609	28.64	-19.96	-3.93
948	SLV 8	255	-915	8604	28.48	-19.78	-1.29
948	SLV 9	-243	1110	1760	-13.29	-35.36	2.43
948	SLV 10	-345	1143	1754	-13.45	-35.18	5.07
948	SLV 11	-184	-915	8985	29.22	-43.75	-0.29
948	SLV 12	-286	-882	8979	29.06	-43.57	2.34
948	SLV 13	-829	432	4728	2.31	-66.09	5.08
948	SLV 14	-981	481	4719	2.07	-65.83	9
948	SLV 15	-811	-176	6895	15.07	-68.61	4.26
948	SLV 16	-963	-126	6887	14.83	-68.35	8.18
948	SLV FO 1	1073	344	3307	-0.36	17.28	-7.8
948	SLV FO 2	906	398	3297	-0.63	17.57	-3.5
948	SLV FO 3	1093	-325	5691	13.67	14.52	-8.7
948	SLV FO 4	925	-270	5681	13.4	14.81	-4.4
948	SLV FO 5	328	1175	1005	-16.02	-9.97	-1.38
948	SLV FO 6	216	1211	999	-16.2	-9.78	1.52
948	SLV FO 7	393	-1053	8952	30.74	-19.19	-4.38
948	SLV FO 8	280	-1016	8946	30.56	-19	-1.48
948	SLV FO 9	-267	1211	1418	-15.38	-36.14	2.62
948	SLV FO 10	-380	1248	1412	-15.55	-35.95	5.52
948	SLV FO 11	-203	-1016	9365	31.39	-45.36	-0.38
948	SLV FO 12	-315	-980	9359	31.21	-45.17	2.52
948	SLV FO 13	-912	465	4683	1.79	-69.95	5.53
948	SLV FO 14	-1080	520	4673	1.52	-69.66	9.84
948	SLV FO 15	-893	-203	7067	15.81	-72.71	4.63
948	SLV FO 16	-1060	-149	7057	15.55	-72.43	8.94
948	CRTFP Ux+	0	0	0	0	0	0
948	CRTFP Ux-	0	0	0	0	0	0
948	CRTFP Uy+	0	0	0	0	0	0
948	CRTFP Uy-	0	0	0	0	0	0
951	SLU 1	48	8	2952	-197.68	739.19	0.26
951	SLU 2	46	24	2884	-193.28	722.16	-5.33
951	SLU 3	50	9	3040	-203.54	760.63	0.27
951	SLU 4	49	18	2999	-200.9	750.41	-3.09
951	SLU 5	47	25	2946	-197.4	737.29	-5.48
951	SLU 6	52	10	3102	-207.66	775.77	0.12
951	SLU 7	50	19	3061	-205.02	765.55	-3.23
951	SLU 8	51	10	3075	-205.92	769.46	-0.03
951	SLU 9	50	19	3035	-203.28	759.24	-3.39
951	SLU 10	49	25	3240	-217.09	809.3	-5.42
951	SLU 11	53	10	3396	-227.35	847.78	0.19
951	SLU 12	52	19	3355	-224.71	837.56	-3.17
951	SLU 13	51	26	3302	-221.21	824.43	-5.56
951	SLU 14	55	10	3457	-231.47	862.91	0.04
951	SLU 15	54	20	3417	-228.83	852.69	-3.31
951	SLU 16	55	11	3431	-229.73	856.6	-0.11
951	SLU 17	53	20	3391	-227.09	846.38	-3.47
951	SLU 18	53	10	3460	-231.7	863.69	0.14
951	SLU 19	51	19	3420	-229.05	853.46	-3.21
951	SLU 20	54	10	3522	-235.82	878.82	0
951	SLU 21	53	20	3482	-233.17	868.6	-3.36
951	SLU 22	54	7	3434	-229.9	857.36	1.22
951	SLU 23	52	22	3367	-225.5	840.32	-4.37
951	SLU 24	56	7	3522	-235.76	878.8	1.23
951	SLU 25	55	16	3482	-233.12	868.58	-2.12
951	SLU 26	53	23	3429	-229.62	855.46	-4.51
951	SLU 27	58	8	3584	-239.88	893.93	1.09
951	SLU 28	56	17	3544	-237.24	883.71	-2.26
951	SLU 29	57	8	3558	-238.14	887.63	0.93
951	SLU 30	56	18	3518	-235.5	877.4	-2.42
951	SLU 31	55	23	3723	-249.31	927.47	-4.45
951	SLU 32	59	8	3878	-259.57	965.94	1.15
951	SLU 33	58	17	3838	-256.93	955.72	-2.2
951	SLU 34	57	24	3785	-253.43	942.6	-4.59
951	SLU 35	61	9	3940	-263.69	981.08	1.01
951	SLU 36	59	18	3900	-261.05	970.86	-2.34
951	SLU 37	61	9	3914	-261.95	974.77	0.85
951	SLU 38	59	18	3873	-259.31	964.55	-2.5
951	SLU 39	59	8	3943	-263.92	981.85	1.1
951	SLU 40	57	17	3902	-261.27	971.63	-2.25
951	SLU 41	60	9	4005	-268.04	996.98	0.96
951	SLU 42	59	18	3964	-265.39	986.76	-2.39
951	SLU 43	61	12	3672	-245.94	920.44	0
951	SLU 44	58	27	3604	-241.53	903.4	-5.59
951	SLU 45	62	12	3760	-251.8	941.88	0.01
951	SLU 46	61	21	3719	-249.16	931.66	-3.34
951	SLU 47	60	28	3666	-245.65	918.53	-5.73
951	SLU 48	64	13	3822	-255.92	957.01	-0.13
951	SLU 49	63	22	3781	-253.28	946.79	-3.48
951	SLU 50	64	13	3796	-254.18	950.7	-0.29
951	SLU 51	62	22	3755	-251.54	940.48	-3.64
951	SLU 52	61	28	3960	-265.34	990.54	-5.67
951	SLU 53	66	13	4116	-275.61	1029.02	-0.07
951	SLU 54	64	22	4075	-272.97	1018.8	-3.42
951	SLU 55	63	29	4022	-269.47	1005.68	-5.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
951	SLU 56	67	13	4178	-279.73	1044.16	-0.21
951	SLU 57	66	23	4137	-277.09	1033.93	-3.57
951	SLU 58	67	14	4152	-277.99	1037.85	-0.37
951	SLU 59	66	23	4111	-275.35	1027.63	-3.72
951	SLU 60	65	13	4180	-279.95	1044.93	-0.12
951	SLU 61	64	22	4140	-277.31	1034.71	-3.47
951	SLU 62	67	14	4242	-284.07	1060.06	-0.26
951	SLU 63	65	23	4202	-281.43	1049.84	-3.61
951	SLU 64	66	10	4154	-278.16	1038.6	0.97
951	SLU 65	64	25	4087	-273.75	1021.57	-4.62
951	SLU 66	68	10	4242	-284.02	1060.04	0.98
951	SLU 67	67	20	4202	-281.38	1049.82	-2.37
951	SLU 68	66	26	4149	-277.88	1036.7	-4.77
951	SLU 69	70	11	4304	-288.14	1075.18	0.84
951	SLU 70	69	20	4264	-285.5	1064.96	-2.52
951	SLU 71	70	11	4278	-286.4	1068.87	0.68
951	SLU 72	68	21	4238	-283.76	1058.65	-2.67
951	SLU 73	67	26	4443	-297.56	1108.71	-4.7
951	SLU 74	72	11	4598	-307.83	1147.19	0.9
951	SLU 75	70	20	4558	-305.19	1136.97	-2.46
951	SLU 76	69	27	4505	-301.69	1123.84	-4.85
951	SLU 77	73	12	4660	-311.95	1162.32	0.75
951	SLU 78	72	21	4620	-309.31	1152.1	-2.6
951	SLU 79	73	12	4634	-310.21	1156.01	0.6
951	SLU 80	71	22	4594	-307.57	1145.79	-2.76
951	SLU 81	71	11	4663	-312.17	1163.09	0.85
951	SLU 82	70	21	4622	-309.53	1152.87	-2.5
951	SLU 83	73	12	4725	-316.29	1178.23	0.71
951	SLU 84	71	21	4684	-313.65	1168.01	-2.65
951	SLE RA 1	50	8	3089	-206.89	772.95	0.53
951	SLE RA 2	48	18	3045	-203.95	761.6	-3.2
951	SLE RA 3	51	8	3148	-210.79	787.25	0.54
951	SLE RA 4	50	14	3121	-209.03	780.43	-1.7
951	SLE RA 5	49	19	3086	-206.7	771.69	-3.29
951	SLE RA 6	52	9	3189	-213.54	797.34	0.44
951	SLE RA 7	51	15	3162	-211.78	790.52	-1.79
951	SLE RA 8	52	9	3172	-212.38	793.13	0.34
951	SLE RA 9	51	15	3145	-210.62	786.32	-1.9
951	SLE RA 10	50	19	3282	-219.82	819.69	-3.25
951	SLE RA 11	53	9	3385	-226.67	845.34	0.49
951	SLE RA 12	52	15	3358	-224.91	838.53	-1.75
951	SLE RA 13	51	19	3323	-222.57	829.78	-3.35
951	SLE RA 14	54	9	3427	-229.41	855.43	0.39
951	SLE RA 15	53	15	3400	-227.65	848.62	-1.85
951	SLE RA 16	54	10	3409	-228.26	851.23	0.29
951	SLE RA 17	53	16	3382	-226.49	844.41	-1.95
951	SLE RA 18	53	9	3428	-229.56	855.95	0.45
951	SLE RA 19	52	15	3402	-227.8	849.13	-1.78
951	SLE RA 20	54	9	3470	-232.31	866.04	0.36
951	SLE RA 21	53	16	3443	-230.55	859.22	-1.88
951	SLE FR 1	50	8	3089	-206.89	772.95	0.53
951	SLE FR 2	49	10	3080	-206.3	770.68	-0.21
951	SLE FR 3	50	8	3106	-207.99	776.99	0.49
951	SLE FR 4	50	10	3182	-213.1	795.58	-0.24
951	SLE FR 5	51	8	3208	-214.79	801.89	0.47
951	SLE FR 6	51	8	3259	-218.23	814.45	0.49
951	SLE QP 1	50	8	3089	-206.89	772.95	0.53
951	SLE QP 2	51	8	3191	-213.69	797.85	0.51
951	SLD 1	286	-15	1846	-124.49	475.27	13.83
951	SLD 2	240	67	1757	-118.64	453.18	-17.92
951	SLD 3	316	-201	2815	-187.79	719.93	80.77
951	SLD 4	270	-119	2725	-181.94	697.84	49.02
951	SLD 5	84	269	1334	-91.93	333.81	-91.55
951	SLD 6	54	322	1277	-88.16	319.58	-112
951	SLD 7	184	-351	4563	-302.93	1149.34	131.56
951	SLD 8	154	-298	4505	-299.17	1135.12	111.12
951	SLD 9	-52	314	1877	-128.21	460.59	-110.1
951	SLD 10	-82	367	1820	-124.45	446.36	-130.55
951	SLD 11	47	-305	5106	-339.22	1276.12	113.01
951	SLD 12	17	-253	5048	-335.45	1261.9	92.57
951	SLD 13	-168	135	3657	-245.44	897.86	-48
951	SLD 14	-215	217	3568	-239.59	875.77	-79.75
951	SLD 15	-139	-51	4626	-308.74	1142.52	18.93
951	SLD 16	-185	31	4536	-302.89	1120.43	-12.82
951	SLV 1	418	-15	1022	-69.87	276.6	16.71
951	SLV 2	345	114	881	-60.65	241.78	-33.34
951	SLV 3	469	-332	2675	-177.91	694.14	130.88
951	SLV 4	396	-203	2534	-168.69	659.32	80.83
951	SLV 5	98	458	60	-8.41	14.71	-158.45
951	SLV 6	49	545	-35	-2.2	-8.73	-192.15
951	SLV 7	267	-599	5569	-368.53	1406.5	222.12
951	SLV 8	218	-512	5474	-362.33	1383.06	188.43
951	SLV 9	-116	529	908	-65.05	212.64	-187.41
951	SLV 10	-165	615	813	-58.85	189.2	-221.11
951	SLV 11	53	-529	6418	-425.18	1604.44	193.16
951	SLV 12	4	-442	6323	-418.97	1581	159.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
951	SLV 13	-295	219	3849	-258.69	936.39	-79.82
951	SLV 14	-368	349	3708	-249.47	901.57	-129.87
951	SLV 15	-244	-98	5502	-366.73	1353.92	34.36
951	SLV 16	-317	32	5361	-357.51	1319.11	-15.7
951	SLV FO 1	455	-17	805	-55.49	224.48	18.33
951	SLV FO 2	375	125	650	-45.35	186.17	-36.73
951	SLV FO 3	511	-366	2623	-174.33	683.77	143.92
951	SLV FO 4	431	-224	2468	-164.19	645.47	88.86
951	SLV FO 5	102	503	-253	12.12	-63.61	-174.35
951	SLV FO 6	48	599	-358	18.95	-89.39	-211.41
951	SLV FO 7	288	-660	5807	-384.02	1467.37	244.28
951	SLV FO 8	234	-564	5703	-377.19	1441.58	207.22
951	SLV FO 9	-133	581	680	-50.19	154.12	-206.2
951	SLV FO 10	-187	676	575	-43.36	128.34	-243.27
951	SLV FO 11	53	-582	6740	-446.33	1685.1	212.43
951	SLV FO 12	-1	-487	6636	-439.5	1659.31	175.36
951	SLV FO 13	-329	241	3914	-263.19	950.24	-87.85
951	SLV FO 14	-409	383	3759	-253.05	911.94	-142.91
951	SLV FO 15	-273	-108	5733	-382.03	1409.53	37.74
951	SLV FO 16	-354	34	5577	-371.89	1371.23	-17.32
951	CRTFP Ux+	0	0	0	0	0	0
951	CRTFP Ux-	0	0	0	0	0	0
951	CRTFP Uy+	0	0	0	0	0	0
951	CRTFP Uy-	0	0	0	0	0	0
952	SLU 1	-55	-3	3159	-83.11	-584.04	-2.14
952	SLU 2	-53	13	3088	-81.39	-570.42	1.89
952	SLU 3	-57	-3	3250	-85.46	-600.56	-2.28
952	SLU 4	-55	6	3207	-84.43	-592.38	0.14
952	SLU 5	-54	13	3149	-82.95	-581.44	1.86
952	SLU 6	-58	-3	3311	-87.02	-611.58	-2.32
952	SLU 7	-56	6	3268	-85.99	-603.4	0.1
952	SLU 8	-57	-3	3280	-86.23	-606.09	-2.22
952	SLU 9	-56	7	3238	-85.2	-597.91	0.2
952	SLU 10	-58	14	3480	-91.64	-641.49	1.95
952	SLU 11	-62	-2	3642	-95.71	-671.63	-2.23
952	SLU 12	-60	7	3599	-94.68	-663.45	0.19
952	SLU 13	-59	14	3540	-93.2	-652.51	1.91
952	SLU 14	-63	-3	3702	-97.27	-682.65	-2.27
952	SLU 15	-62	7	3660	-96.24	-674.47	0.15
952	SLU 16	-62	-2	3672	-96.48	-677.16	-2.16
952	SLU 17	-61	7	3629	-95.45	-668.98	0.26
952	SLU 18	-62	-2	3719	-97.75	-685.57	-2.07
952	SLU 19	-61	8	3676	-96.72	-677.4	0.35
952	SLU 20	-64	-2	3779	-99.32	-696.59	-2.1
952	SLU 21	-62	8	3737	-98.28	-688.42	0.32
952	SLU 22	-64	-5	3695	-97.06	-681.43	-2.85
952	SLU 23	-61	11	3624	-95.34	-667.8	1.18
952	SLU 24	-65	-5	3786	-99.41	-697.94	-2.99
952	SLU 25	-64	4	3743	-98.38	-689.77	-0.57
952	SLU 26	-62	11	3684	-96.91	-678.83	1.15
952	SLU 27	-66	-5	3846	-100.98	-708.97	-3.03
952	SLU 28	-65	4	3804	-99.94	-700.79	-0.61
952	SLU 29	-66	-5	3816	-100.19	-703.47	-2.93
952	SLU 30	-64	5	3773	-99.15	-695.3	-0.51
952	SLU 31	-66	12	4015	-105.59	-738.87	1.24
952	SLU 32	-70	-4	4178	-109.66	-769.01	-2.94
952	SLU 33	-69	5	4135	-108.63	-760.84	-0.52
952	SLU 34	-67	12	4076	-107.16	-749.9	1.2
952	SLU 35	-72	-4	4238	-111.23	-780.04	-2.98
952	SLU 36	-70	5	4195	-110.19	-771.86	-0.56
952	SLU 37	-71	-4	4208	-110.44	-774.54	-2.87
952	SLU 38	-69	5	4165	-109.41	-766.37	-0.45
952	SLU 39	-71	-4	4255	-111.71	-782.96	-2.78
952	SLU 40	-70	6	4212	-110.68	-774.78	-0.36
952	SLU 41	-72	-4	4315	-113.27	-793.98	-2.81
952	SLU 42	-71	6	4272	-112.24	-785.8	-0.39
952	SLU 43	-69	-3	3924	-103.26	-725.87	-2.54
952	SLU 44	-66	13	3852	-101.54	-712.24	1.49
952	SLU 45	-70	-3	4014	-105.61	-742.38	-2.68
952	SLU 46	-69	6	3972	-104.58	-734.2	-0.26
952	SLU 47	-67	13	3913	-103.1	-723.26	1.46
952	SLU 48	-71	-3	4075	-107.17	-753.4	-2.72
952	SLU 49	-70	6	4032	-106.14	-745.23	-0.3
952	SLU 50	-71	-3	4045	-106.38	-747.91	-2.62
952	SLU 51	-69	6	4002	-105.35	-739.73	-0.19
952	SLU 52	-71	14	4244	-111.79	-783.31	1.55
952	SLU 53	-76	-3	4406	-115.86	-813.45	-2.63
952	SLU 54	-74	7	4363	-114.83	-805.28	-0.21
952	SLU 55	-72	14	4304	-113.35	-794.33	1.51
952	SLU 56	-77	-3	4466	-117.42	-824.47	-2.67
952	SLU 57	-75	7	4424	-116.39	-816.3	-0.25
952	SLU 58	-76	-2	4436	-116.63	-818.98	-2.56
952	SLU 59	-74	7	4393	-115.6	-810.8	-0.14
952	SLU 60	-76	-2	4483	-117.9	-827.39	-2.47
952	SLU 61	-75	8	4440	-116.87	-819.22	-0.04
952	SLU 62	-77	-2	4543	-119.46	-838.42	-2.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
952	SLU 63	-76	8	4501	-118.43	-830.24	-0.08
952	SLU 64	-77	-5	4459	-117.21	-823.25	-3.25
952	SLU 65	-75	11	4388	-115.49	-809.63	0.79
952	SLU 66	-79	-5	4550	-119.56	-839.77	-3.39
952	SLU 67	-77	4	4507	-118.53	-831.59	-0.97
952	SLU 68	-76	11	4449	-117.05	-820.65	0.75
952	SLU 69	-80	-5	4611	-121.12	-850.79	-3.43
952	SLU 70	-78	4	4568	-120.09	-842.61	-1.01
952	SLU 71	-79	-5	4580	-120.34	-845.3	-3.32
952	SLU 72	-78	5	4537	-119.3	-837.12	-0.9
952	SLU 73	-80	12	4780	-125.74	-880.7	0.84
952	SLU 74	-84	-5	4942	-129.81	-910.84	-3.34
952	SLU 75	-83	5	4899	-128.78	-902.66	-0.92
952	SLU 76	-81	12	4840	-127.31	-891.72	0.8
952	SLU 77	-85	-5	5002	-131.38	-921.86	-3.38
952	SLU 78	-84	5	4959	-130.34	-913.68	-0.96
952	SLU 79	-84	-4	4972	-130.59	-916.37	-3.27
952	SLU 80	-83	5	4929	-129.55	-908.19	-0.85
952	SLU 81	-85	-4	5019	-131.86	-924.78	-3.17
952	SLU 82	-83	6	4976	-130.82	-916.61	-0.75
952	SLU 83	-86	-4	5079	-133.42	-935.8	-3.21
952	SLU 84	-84	6	5036	-132.39	-927.63	-0.79
952	SLE RA 1	-57	-3	3313	-87.1	-611.87	-2.34
952	SLE RA 2	-56	7	3265	-85.95	-602.78	0.35
952	SLE RA 3	-59	-4	3373	-88.66	-622.88	-2.44
952	SLE RA 4	-58	3	3345	-87.98	-617.43	-0.83
952	SLE RA 5	-57	7	3305	-86.99	-610.13	0.32
952	SLE RA 6	-59	-4	3413	-89.71	-630.23	-2.46
952	SLE RA 7	-58	3	3385	-89.02	-624.77	-0.85
952	SLE RA 8	-59	-3	3393	-89.18	-626.56	-2.39
952	SLE RA 9	-58	3	3365	-88.49	-621.11	-0.78
952	SLE RA 10	-59	8	3526	-92.78	-650.16	0.38
952	SLE RA 11	-62	-3	3634	-95.5	-670.26	-2.4
952	SLE RA 12	-61	3	3606	-94.81	-664.81	-0.79
952	SLE RA 13	-60	8	3566	-93.83	-657.51	0.36
952	SLE RA 14	-63	-3	3674	-96.54	-677.61	-2.43
952	SLE RA 15	-62	3	3646	-95.85	-672.15	-0.82
952	SLE RA 16	-62	-3	3654	-96.01	-673.94	-2.36
952	SLE RA 17	-61	3	3626	-95.32	-668.49	-0.75
952	SLE RA 18	-62	-3	3685	-96.86	-679.55	-2.29
952	SLE RA 19	-61	4	3657	-96.17	-674.1	-0.68
952	SLE RA 20	-63	-3	3726	-97.9	-686.9	-2.32
952	SLE RA 21	-62	4	3697	-97.21	-681.45	-0.71
952	SLE FR 1	-57	-3	3313	-87.1	-611.87	-2.34
952	SLE FR 2	-57	-1	3303	-86.87	-610.05	-1.81
952	SLE FR 3	-58	-3	3329	-87.51	-614.81	-2.35
952	SLE FR 4	-59	-1	3415	-89.8	-630.36	-1.79
952	SLE FR 5	-59	-3	3441	-90.44	-635.11	-2.34
952	SLE FR 6	-60	-3	3499	-91.98	-645.71	-2.32
952	SLE QP 1	-57	-3	3313	-87.1	-611.87	-2.34
952	SLE QP 2	-59	-3	3424	-90.03	-632.17	-2.33
952	SLD 1	225	51	3983	-105.68	-722.24	54.32
952	SLD 2	173	-35	4071	-107.78	-738.78	31.7
952	SLD 3	189	-145	4988	-129.92	-914.37	4.57
952	SLD 4	137	-230	5076	-132.02	-930.91	-18.06
952	SLD 5	90	325	2053	-57.59	-364.95	94.02
952	SLD 6	56	270	2109	-58.95	-375.6	79.45
952	SLD 7	-30	-328	5403	-138.4	-1005.39	-71.83
952	SLD 8	-64	-383	5459	-139.75	-1016.04	-86.4
952	SLD 9	-54	377	1390	-40.3	-248.31	81.74
952	SLD 10	-87	322	1446	-41.65	-258.96	67.17
952	SLD 11	-174	-276	4740	-121.11	-888.74	-84.11
952	SLD 12	-208	-331	4796	-122.46	-899.4	-98.68
952	SLD 13	-254	224	1773	-48.03	-333.43	13.4
952	SLD 14	-306	139	1861	-50.13	-349.97	-9.23
952	SLD 15	-291	28	2778	-72.27	-525.56	-36.36
952	SLD 16	-342	-57	2865	-74.37	-542.11	-58.98
952	SLV 1	388	96	4222	-112.65	-758.45	89.92
952	SLV 2	307	-39	4360	-115.96	-784.52	54.26
952	SLV 3	327	-238	5936	-154	-1086.2	5.05
952	SLV 4	245	-373	6074	-157.32	-1112.27	-30.62
952	SLV 5	184	559	1038	-33.48	-168.09	160.73
952	SLV 6	129	468	1131	-35.71	-185.65	136.72
952	SLV 7	-21	-556	6752	-171.32	-1260.61	-122.19
952	SLV 8	-76	-646	6845	-173.55	-1278.17	-146.2
952	SLV 9	-41	640	4	-6.5	13.82	141.54
952	SLV 10	-97	549	97	-8.73	-3.73	117.53
952	SLV 11	-247	-474	5718	-144.34	-1078.7	-141.38
952	SLV 12	-302	-565	5811	-146.57	-1096.25	-165.39
952	SLV 13	-363	366	775	-22.74	-152.07	25.96
952	SLV 14	-445	232	913	-26.05	-178.14	-9.7
952	SLV 15	-424	32	2489	-64.09	-479.83	-58.92
952	SLV 16	-506	-102	2627	-67.4	-505.9	-94.58
952	SLV FO 1	433	106	4302	-114.91	-771.07	99.15
952	SLV FO 2	343	-42	4453	-118.56	-799.75	59.92
952	SLV FO 3	365	-262	6187	-160.4	-1131.6	5.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
952	SLV FO 4	275	-410	6339	-164.04	-1160.29	-33.45
952	SLV FO 5	208	615	799	-27.82	-121.69	177.04
952	SLV FO 6	148	515	901	-30.28	-140.99	150.63
952	SLV FO 7	-18	-611	7085	-179.45	-1323.46	-134.18
952	SLV FO 8	-78	-710	7187	-181.9	-1342.76	-160.59
952	SLV FO 9	-40	704	-338	1.85	78.42	155.93
952	SLV FO 10	-100	604	-236	-0.61	59.11	129.52
952	SLV FO 11	-265	-522	5947	-149.77	-1123.35	-155.28
952	SLV FO 12	-326	-621	6049	-152.23	-1142.66	-181.69
952	SLV FO 13	-393	403	510	-16.01	-104.06	28.79
952	SLV FO 14	-483	256	662	-19.65	-132.74	-10.44
952	SLV FO 15	-461	36	2396	-61.49	-464.59	-64.57
952	SLV FO 16	-551	-112	2547	-65.14	-493.27	-103.81
952	CRTFP Ux+	0	0	0	0	0	0
952	CRTFP Ux-	0	0	0	0	0	0
952	CRTFP Uy+	0	0	0	0	0	0
952	CRTFP Uy-	0	0	0	0	0	0
968	SLU 1	126	40	7961	-341.24	-147.56	8.32
968	SLU 2	119	74	7784	-335.48	-145.25	8.71
968	SLU 3	131	41	8199	-351.16	-151.68	8.63
968	SLU 4	127	61	8093	-347.7	-150.29	8.86
968	SLU 5	123	74	7950	-342.39	-148.25	8.94
968	SLU 6	135	41	8364	-358.08	-154.68	8.86
968	SLU 7	131	61	8258	-354.62	-153.29	9.09
968	SLU 8	134	41	8292	-355.07	-153.56	8.78
968	SLU 9	130	61	8186	-351.61	-152.17	9.02
968	SLU 10	128	79	8793	-379.2	-163.06	9.4
968	SLU 11	140	46	9207	-394.88	-169.49	9.32
968	SLU 12	136	66	9101	-391.43	-168.1	9.55
968	SLU 13	132	80	8958	-386.12	-166.06	9.63
968	SLU 14	144	47	9373	-401.8	-172.48	9.55
968	SLU 15	140	67	9267	-398.34	-171.1	9.78
968	SLU 16	143	47	9301	-398.79	-171.37	9.47
968	SLU 17	139	67	9195	-395.33	-169.98	9.71
968	SLU 18	138	48	9402	-403.7	-173	9.3
968	SLU 19	135	68	9296	-400.24	-171.62	9.54
968	SLU 20	143	48	9567	-410.62	-176	9.54
968	SLU 21	139	68	9461	-407.16	-174.61	9.77
968	SLU 22	141	45	9323	-399.39	-170.96	9.46
968	SLU 23	135	79	9146	-393.63	-168.65	9.85
968	SLU 24	147	46	9561	-409.31	-175.07	9.77
968	SLU 25	143	66	9455	-405.85	-173.69	10
968	SLU 26	139	79	9312	-400.54	-171.65	10.08
968	SLU 27	151	46	9726	-416.22	-178.07	10
968	SLU 28	147	66	9620	-412.77	-176.68	10.23
968	SLU 29	150	46	9654	-413.22	-176.95	9.92
968	SLU 30	146	66	9548	-409.76	-175.57	10.15
968	SLU 31	144	84	10155	-437.35	-186.46	10.54
968	SLU 32	156	51	10569	-453.03	-192.88	10.45
968	SLU 33	152	71	10463	-449.57	-191.5	10.69
968	SLU 34	148	84	10320	-444.26	-189.45	10.77
968	SLU 35	160	52	10735	-459.95	-195.88	10.69
968	SLU 36	156	72	10629	-456.49	-194.49	10.92
968	SLU 37	159	51	10663	-456.94	-194.76	10.61
968	SLU 38	155	72	10557	-453.48	-193.38	10.84
968	SLU 39	154	53	10764	-461.85	-196.4	10.44
968	SLU 40	151	73	10658	-458.39	-195.01	10.68
968	SLU 41	159	53	10929	-468.76	-199.4	10.67
968	SLU 42	155	73	10823	-465.31	-198.01	10.91
968	SLU 43	158	50	9882	-423.68	-183.81	10.43
968	SLU 44	151	84	9706	-417.92	-181.5	10.81
968	SLU 45	163	51	10120	-433.6	-187.92	10.73
968	SLU 46	159	71	10014	-430.14	-186.54	10.97
968	SLU 47	155	84	9871	-424.83	-184.5	11.05
968	SLU 48	167	52	10286	-440.51	-190.92	10.96
968	SLU 49	163	72	10180	-437.05	-189.54	11.2
968	SLU 50	166	51	10213	-437.51	-189.8	10.89
968	SLU 51	162	72	10107	-434.05	-188.42	11.12
968	SLU 52	160	89	10714	-461.64	-199.31	11.5
968	SLU 53	172	57	11129	-477.32	-205.73	11.42
968	SLU 54	168	77	11023	-473.86	-204.35	11.66
968	SLU 55	164	90	10880	-468.55	-202.31	11.74
968	SLU 56	176	57	11294	-484.23	-208.73	11.65
968	SLU 57	172	77	11188	-480.78	-207.35	11.89
968	SLU 58	175	57	11222	-481.23	-207.61	11.58
968	SLU 59	171	77	11116	-477.77	-206.23	11.81
968	SLU 60	171	58	11323	-486.14	-209.25	11.41
968	SLU 61	167	78	11217	-482.68	-207.86	11.64
968	SLU 62	175	59	11489	-493.05	-212.25	11.64
968	SLU 63	171	79	11383	-489.59	-210.86	11.88
968	SLU 64	174	55	11244	-481.83	-207.21	11.56
968	SLU 65	167	89	11068	-476.06	-204.89	11.95
968	SLU 66	179	56	11482	-491.75	-211.32	11.87
968	SLU 67	175	76	11376	-488.29	-209.93	12.1
968	SLU 68	171	89	11233	-482.98	-207.89	12.18
968	SLU 69	183	57	11648	-498.66	-214.32	12.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
968	SLU 70	179	77	11542	-495.2	-212.93	12.34
968	SLU 71	182	56	11575	-495.65	-213.2	12.03
968	SLU 72	178	76	11469	-492.2	-211.81	12.26
968	SLU 73	176	94	12076	-519.79	-222.7	12.64
968	SLU 74	188	62	12491	-535.47	-229.13	12.56
968	SLU 75	184	82	12385	-532.01	-227.74	12.79
968	SLU 76	180	95	12242	-526.7	-225.7	12.87
968	SLU 77	192	62	12656	-542.38	-232.13	12.79
968	SLU 78	188	82	12550	-538.92	-230.74	13.03
968	SLU 79	191	62	12584	-539.38	-231.01	12.72
968	SLU 80	187	82	12478	-535.92	-229.62	12.95
968	SLU 81	187	63	12685	-544.29	-232.65	12.55
968	SLU 82	183	83	12579	-540.83	-231.26	12.78
968	SLU 83	191	64	12851	-551.2	-235.64	12.78
968	SLU 84	187	84	12745	-547.74	-234.26	13.01
968	SLE RA 1	130	41	8350	-357.86	-154.25	8.64
968	SLE RA 2	126	64	8232	-354.01	-152.71	8.9
968	SLE RA 3	133	42	8509	-364.47	-156.99	8.85
968	SLE RA 4	131	55	8438	-362.16	-156.07	9.01
968	SLE RA 5	129	64	8343	-358.62	-154.7	9.06
968	SLE RA 6	136	42	8619	-369.08	-158.99	9
968	SLE RA 7	134	56	8548	-366.77	-158.06	9.16
968	SLE RA 8	136	42	8571	-367.07	-158.24	8.95
968	SLE RA 9	133	56	8500	-364.77	-157.32	9.11
968	SLE RA 10	132	67	8905	-383.16	-164.58	9.36
968	SLE RA 11	140	46	9181	-393.62	-168.86	9.31
968	SLE RA 12	137	59	9110	-391.31	-167.94	9.47
968	SLE RA 13	135	68	9015	-387.77	-166.58	9.52
968	SLE RA 14	142	46	9291	-398.23	-170.86	9.46
968	SLE RA 15	140	59	9221	-395.92	-169.94	9.62
968	SLE RA 16	142	46	9243	-396.22	-170.12	9.41
968	SLE RA 17	139	59	9173	-393.92	-169.19	9.57
968	SLE RA 18	139	47	9311	-399.5	-171.21	9.3
968	SLE RA 19	136	60	9240	-397.19	-170.28	9.46
968	SLE RA 20	141	47	9421	-404.1	-173.21	9.46
968	SLE RA 21	139	60	9350	-401.8	-172.28	9.61
968	SLE FR 1	130	41	8350	-357.86	-154.25	8.64
968	SLE FR 2	129	46	8327	-357.09	-153.94	8.7
968	SLE FR 3	131	42	8394	-359.7	-155.05	8.71
968	SLE FR 4	132	48	8615	-369.58	-159.03	8.89
968	SLE FR 5	134	43	8682	-372.19	-160.13	8.9
968	SLE FR 6	134	44	8830	-378.68	-162.73	8.97
968	SLE QP 1	130	41	8350	-357.86	-154.25	8.64
968	SLE QP 2	133	43	8638	-370.35	-159.34	8.84
968	SLD 1	819	99	6376	-297.61	-124.07	37.89
968	SLD 2	683	203	6218	-291.81	-118.18	36.5
968	SLD 3	897	-310	8922	-381.16	-158.32	33.11
968	SLD 4	761	-206	8764	-375.37	-152.43	31.71
968	SLD 5	244	662	4125	-222.8	-97.82	25.05
968	SLD 6	156	729	4024	-219.06	-94.03	24.15
968	SLD 7	504	-701	12612	-501.31	-211.99	9.11
968	SLD 8	416	-634	12510	-497.58	-208.2	8.21
968	SLD 9	-151	720	4766	-243.11	-110.47	9.47
968	SLD 10	-238	787	4665	-239.38	-106.68	8.57
968	SLD 11	109	-643	13253	-521.63	-224.64	-6.47
968	SLD 12	21	-576	13151	-517.9	-220.85	-7.37
968	SLD 13	-495	292	8513	-365.32	-166.24	-14.03
968	SLD 14	-632	396	8355	-359.53	-160.35	-15.43
968	SLD 15	-418	-117	11059	-448.88	-200.49	-18.81
968	SLD 16	-554	-13	10901	-443.09	-194.6	-20.21
968	SLV 1	1204	159	4920	-250.65	-101.7	54.73
968	SLV 2	989	322	4671	-241.52	-92.42	52.53
968	SLV 3	1337	-538	9265	-393.24	-160.11	46.56
968	SLV 4	1121	-375	9016	-384.11	-150.83	44.36
968	SLV 5	293	1105	979	-119.89	-55.18	35.42
968	SLV 6	148	1215	812	-113.74	-48.94	33.94
968	SLV 7	735	-1219	15462	-595.18	-249.89	8.17
968	SLV 8	590	-1110	15295	-589.03	-243.65	6.69
968	SLV 9	-325	1196	1982	-151.67	-75.02	11
968	SLV 10	-470	1305	1814	-145.52	-68.78	9.52
968	SLV 11	117	-1129	16465	-626.96	-269.73	-16.25
968	SLV 12	-28	-1019	16297	-620.81	-263.49	-17.73
968	SLV 13	-856	461	8260	-356.59	-167.84	-26.67
968	SLV 14	-1071	624	8012	-347.46	-158.56	-28.87
968	SLV 15	-724	-236	12605	-499.17	-226.25	-34.85
968	SLV 16	-939	-73	12357	-490.04	-216.97	-37.05
968	SLV FO 1	1311	171	4548	-238.68	-95.94	59.32
968	SLV FO 2	1075	350	4274	-228.64	-85.73	56.9
968	SLV FO 3	1457	-596	9327	-395.53	-160.19	50.33
968	SLV FO 4	1220	-417	9054	-385.48	-149.98	47.91
968	SLV FO 5	309	1211	213	-94.84	-44.77	38.08
968	SLV FO 6	150	1332	29	-88.08	-37.9	36.45
968	SLV FO 7	795	-1346	16145	-617.66	-258.95	8.1
968	SLV FO 8	636	-1225	15961	-610.9	-252.08	6.47
968	SLV FO 9	-370	1311	1316	-129.8	-66.59	11.21
968	SLV FO 10	-530	1432	1132	-123.04	-59.72	9.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
968	SLV FO 11	115	-1246	17247	-652.62	-280.77	-18.76
968	SLV FO 12	-44	-1125	17063	-645.85	-273.9	-20.39
968	SLV FO 13	-955	503	8223	-355.21	-168.69	-30.22
968	SLV FO 14	-1192	682	7949	-345.17	-158.48	-32.64
968	SLV FO 15	-809	-264	13002	-512.06	-232.94	-39.22
968	SLV FO 16	-1046	-85	12729	-502.01	-222.73	-41.64
968	CRTFP Ux+	0	0	0	0	0	0
968	CRTFP Ux-	0	0	0	0	0	0
968	CRTFP Uy+	0	0	0	0	0	0
968	CRTFP Uy-	0	0	0	0	0	0
985	SLU 1	-21	34	2609	3.76	419	-8.39
985	SLU 2	-20	50	2558	3.46	411.1	-12.47
985	SLU 3	-21	35	2681	3.93	429.94	-8.53
985	SLU 4	-21	44	2650	3.75	425.2	-10.97
985	SLU 5	-20	51	2606	3.57	418.39	-12.51
985	SLU 6	-21	35	2729	4.05	437.23	-8.57
985	SLU 7	-21	45	2698	3.86	432.49	-11.01
985	SLU 8	-21	34	2705	4	433.58	-8.47
985	SLU 9	-21	44	2674	3.81	428.84	-10.92
985	SLU 10	-23	53	2889	3.93	460.87	-13.13
985	SLU 11	-24	37	3012	4.4	479.71	-9.19
985	SLU 12	-24	47	2981	4.22	474.97	-11.64
985	SLU 13	-23	53	2937	4.04	468.16	-13.17
985	SLU 14	-24	37	3060	4.52	487.01	-9.23
985	SLU 15	-24	47	3029	4.34	482.27	-11.68
985	SLU 16	-24	37	3036	4.47	483.35	-9.13
985	SLU 17	-24	47	3005	4.28	478.61	-11.58
985	SLU 18	-25	38	3082	4.44	490.1	-9.34
985	SLU 19	-25	48	3051	4.25	485.36	-11.79
985	SLU 20	-25	38	3129	4.55	497.39	-9.38
985	SLU 21	-25	48	3099	4.37	492.65	-11.83
985	SLU 22	-25	39	3053	4.54	486.17	-9.51
985	SLU 23	-24	55	3002	4.24	478.27	-13.58
985	SLU 24	-25	39	3125	4.71	497.11	-9.64
985	SLU 25	-25	49	3094	4.53	492.37	-12.09
985	SLU 26	-24	55	3050	4.36	485.56	-13.62
985	SLU 27	-25	39	3172	4.83	504.4	-9.68
985	SLU 28	-25	49	3142	4.65	499.66	-12.12
985	SLU 29	-25	39	3148	4.78	500.75	-9.58
985	SLU 30	-25	49	3118	4.59	496.01	-12.03
985	SLU 31	-27	58	3332	4.71	528.04	-14.25
985	SLU 32	-28	42	3455	5.19	546.88	-10.3
985	SLU 33	-28	52	3425	5	542.14	-12.75
985	SLU 34	-27	58	3380	4.83	535.33	-14.29
985	SLU 35	-28	42	3503	5.3	554.18	-10.34
985	SLU 36	-28	52	3472	5.12	549.44	-12.79
985	SLU 37	-28	42	3479	5.25	550.52	-10.25
985	SLU 38	-28	51	3449	5.07	545.78	-12.69
985	SLU 39	-29	42	3525	5.22	557.27	-10.45
985	SLU 40	-29	52	3495	5.03	552.53	-12.9
985	SLU 41	-29	43	3573	5.33	564.56	-10.49
985	SLU 42	-29	52	3542	5.15	559.82	-12.94
985	SLU 43	-26	43	3240	4.62	521.67	-10.53
985	SLU 44	-25	59	3189	4.32	513.77	-14.61
985	SLU 45	-26	43	3312	4.79	532.61	-10.66
985	SLU 46	-26	53	3281	4.61	527.87	-13.11
985	SLU 47	-25	59	3237	4.43	521.06	-14.65
985	SLU 48	-26	43	3360	4.91	539.9	-10.7
985	SLU 49	-26	53	3329	4.73	535.16	-13.15
985	SLU 50	-26	43	3336	4.86	536.25	-10.61
985	SLU 51	-26	53	3305	4.67	531.51	-13.05
985	SLU 52	-28	62	3520	4.79	563.54	-15.27
985	SLU 53	-29	46	3642	5.26	582.38	-11.33
985	SLU 54	-29	56	3612	5.08	577.64	-13.77
985	SLU 55	-28	62	3567	4.9	570.83	-15.31
985	SLU 56	-29	46	3690	5.38	589.68	-11.36
985	SLU 57	-29	56	3660	5.2	584.94	-13.81
985	SLU 58	-29	46	3666	5.33	586.02	-11.27
985	SLU 59	-29	56	3636	5.14	581.28	-13.72
985	SLU 60	-30	47	3712	5.3	592.77	-11.48
985	SLU 61	-29	56	3682	5.11	588.03	-13.92
985	SLU 62	-30	47	3760	5.41	600.06	-11.52
985	SLU 63	-30	57	3730	5.23	595.32	-13.96
985	SLU 64	-29	47	3684	5.4	588.84	-11.64
985	SLU 65	-29	64	3632	5.1	580.94	-15.72
985	SLU 66	-30	48	3755	5.57	599.78	-11.78
985	SLU 67	-29	58	3725	5.39	595.04	-14.22
985	SLU 68	-29	64	3680	5.22	588.23	-15.76
985	SLU 69	-30	48	3803	5.69	607.07	-11.81
985	SLU 70	-30	58	3773	5.51	602.33	-14.26
985	SLU 71	-30	48	3779	5.64	603.42	-11.72
985	SLU 72	-29	57	3749	5.45	598.68	-14.17
985	SLU 73	-32	66	3963	5.57	630.71	-16.38
985	SLU 74	-33	51	4086	6.05	649.55	-12.44
985	SLU 75	-32	60	4055	5.86	644.81	-14.89
985	SLU 76	-32	66	4011	5.69	638	-16.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
985	SLU 77	-33	51	4134	6.16	656.85	-12.48
985	SLU 78	-33	60	4103	5.98	652.11	-14.92
985	SLU 79	-33	50	4110	6.11	653.19	-12.38
985	SLU 80	-32	60	4079	5.93	648.45	-14.83
985	SLU 81	-34	51	4156	6.08	659.94	-12.59
985	SLU 82	-33	61	4125	5.89	655.2	-15.04
985	SLU 83	-34	51	4204	6.19	667.23	-12.63
985	SLU 84	-34	61	4173	6.01	662.49	-15.07
985	SLE RA 1	-22	35	2736	3.99	438.19	-8.71
985	SLE RA 2	-21	46	2702	3.78	432.92	-11.43
985	SLE RA 3	-22	36	2784	4.1	445.49	-8.8
985	SLE RA 4	-22	42	2763	3.98	442.33	-10.43
985	SLE RA 5	-22	46	2734	3.86	437.78	-11.46
985	SLE RA 6	-22	36	2816	4.18	450.35	-8.83
985	SLE RA 7	-22	42	2795	4.05	447.19	-10.46
985	SLE RA 8	-22	36	2800	4.14	447.91	-8.76
985	SLE RA 9	-22	42	2779	4.02	444.75	-10.39
985	SLE RA 10	-23	48	2922	4.1	466.1	-11.87
985	SLE RA 11	-24	38	3004	4.41	478.67	-9.24
985	SLE RA 12	-24	44	2984	4.29	475.51	-10.87
985	SLE RA 13	-24	48	2954	4.17	470.96	-11.9
985	SLE RA 14	-24	38	3036	4.49	483.53	-9.27
985	SLE RA 15	-24	44	3016	4.37	480.37	-10.9
985	SLE RA 16	-24	37	3020	4.46	481.09	-9.2
985	SLE RA 17	-24	44	3000	4.33	477.93	-10.84
985	SLE RA 18	-25	38	3051	4.43	485.59	-9.34
985	SLE RA 19	-24	44	3030	4.31	482.43	-10.97
985	SLE RA 20	-25	38	3083	4.51	490.45	-9.37
985	SLE RA 21	-25	45	3062	4.39	487.29	-11
985	SLE FR 1	-22	35	2736	3.99	438.19	-8.71
985	SLE FR 2	-22	38	2729	3.94	437.13	-9.25
985	SLE FR 3	-22	35	2749	4.02	440.13	-8.72
985	SLE FR 4	-23	38	2824	4.08	451.36	-9.44
985	SLE FR 5	-23	36	2843	4.15	454.35	-8.91
985	SLE FR 6	-23	37	2893	4.21	461.89	-9.03
985	SLE QP 1	-22	35	2736	3.99	438.19	-8.71
985	SLE QP 2	-23	36	2830	4.12	452.41	-8.9
985	SLD 1	312	162	2628	2.38	427.85	-40.68
985	SLD 2	256	144	2642	2.52	430.07	-36.07
985	SLD 3	298	-36	3361	6.73	541.81	8.77
985	SLD 4	242	-53	3375	6.87	544.03	13.39
985	SLD 5	108	377	1656	-3.02	271.82	-94.24
985	SLD 6	72	366	1665	-2.93	273.25	-91.26
985	SLD 7	63	-282	4099	11.48	651.69	70.61
985	SLD 8	27	-294	4107	11.57	653.12	73.59
985	SLD 9	-72	366	1553	-3.33	251.7	-91.39
985	SLD 10	-108	355	1562	-3.24	253.13	-88.41
985	SLD 11	-117	-293	3996	11.17	631.57	73.46
985	SLD 12	-153	-305	4005	11.26	633	76.43
985	SLD 13	-287	126	2286	1.37	360.79	-31.19
985	SLD 14	-344	108	2300	1.51	363.01	-26.57
985	SLD 15	-301	-72	3019	5.72	474.75	18.27
985	SLD 16	-357	-90	3032	5.86	476.97	22.88
985	SLV 1	502	248	2462	1.09	405.74	-62.25
985	SLV 2	414	220	2483	1.31	409.24	-54.98
985	SLV 3	479	-90	3712	8.52	600.22	22.09
985	SLV 4	391	-117	3734	8.73	603.72	29.36
985	SLV 5	186	616	819	-8.09	142.78	-154.19
985	SLV 6	127	598	834	-7.94	145.14	-149.29
985	SLV 7	110	-508	4987	16.66	791.07	126.96
985	SLV 8	50	-527	5002	16.8	793.43	131.86
985	SLV 9	-95	599	659	-8.57	111.39	-149.66
985	SLV 10	-155	580	673	-8.42	113.75	-144.76
985	SLV 11	-172	-525	4827	16.18	759.68	131.49
985	SLV 12	-232	-544	4842	16.33	762.03	136.38
985	SLV 13	-436	190	1927	-0.49	301.09	-47.17
985	SLV 14	-525	162	1949	-0.28	304.59	-39.89
985	SLV 15	-459	-148	3178	6.93	495.58	37.18
985	SLV 16	-548	-175	3199	7.15	499.08	44.45
985	SLV FO 1	555	269	2425	0.79	401.07	-67.59
985	SLV FO 2	457	238	2449	1.03	404.92	-59.59
985	SLV FO 3	530	-102	3800	8.96	615	25.19
985	SLV FO 4	432	-133	3824	9.2	618.85	33.19
985	SLV FO 5	207	674	618	-9.31	111.82	-168.71
985	SLV FO 6	142	654	634	-9.15	114.41	-163.33
985	SLV FO 7	123	-562	5203	17.91	824.94	140.54
985	SLV FO 8	57	-583	5219	18.07	827.53	145.93
985	SLV FO 9	-103	655	442	-9.83	77.29	-163.73
985	SLV FO 10	-168	635	458	-9.67	79.88	-158.35
985	SLV FO 11	-187	-581	5027	17.39	790.4	145.52
985	SLV FO 12	-252	-602	5043	17.55	793	150.91
985	SLV FO 13	-477	205	1837	-0.96	285.96	-50.99
985	SLV FO 14	-575	174	1861	-0.72	289.81	-42.99
985	SLV FO 15	-503	-166	3212	7.21	499.9	41.78
985	SLV FO 16	-600	-197	3236	7.45	503.75	49.79
985	CRTFP Ux+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
985	CRTFP Ux-	0	0	0	0	0	0
985	CRTFP Uy+	0	0	0	0	0	0
985	CRTFP Uy-	0	0	0	0	0	0
987	SLU 1	5	95	5034	9.2	-23.53	0.37
987	SLU 2	3	124	4929	8.62	-23.49	0.41
987	SLU 3	5	96	5174	9.58	-24.35	0.39
987	SLU 4	5	113	5111	9.23	-24.32	0.41
987	SLU 5	4	124	5023	8.88	-24.05	0.42
987	SLU 6	6	96	5268	9.84	-24.92	0.4
987	SLU 7	6	114	5205	9.49	-24.89	0.42
987	SLU 8	6	95	5222	9.72	-24.66	0.39
987	SLU 9	6	113	5159	9.37	-24.63	0.41
987	SLU 10	2	131	5576	9.68	-25.89	0.58
987	SLU 11	4	104	5821	10.64	-26.75	0.56
987	SLU 12	3	121	5758	10.3	-26.73	0.58
987	SLU 13	3	132	5670	9.94	-26.45	0.58
987	SLU 14	5	104	5915	10.9	-27.32	0.56
987	SLU 15	4	121	5852	10.56	-27.29	0.59
987	SLU 16	5	103	5869	10.78	-27.06	0.55
987	SLU 17	4	120	5806	10.44	-27.03	0.57
987	SLU 18	2	106	5958	10.72	-26.96	0.61
987	SLU 19	1	123	5895	10.37	-26.94	0.63
987	SLU 20	3	106	6052	10.98	-27.53	0.62
987	SLU 21	2	123	5989	10.63	-27.5	0.64
987	SLU 22	3	105	5896	10.92	-26.93	0.56
987	SLU 23	2	134	5791	10.34	-26.88	0.59
987	SLU 24	4	106	6036	11.3	-27.75	0.57
987	SLU 25	3	124	5973	10.95	-27.72	0.6
987	SLU 26	3	134	5885	10.6	-27.45	0.6
987	SLU 27	5	107	6130	11.56	-28.31	0.58
987	SLU 28	4	124	6067	11.21	-28.28	0.6
987	SLU 29	5	106	6083	11.44	-28.06	0.57
987	SLU 30	4	123	6020	11.09	-28.03	0.59
987	SLU 31	0	142	6437	11.4	-29.28	0.76
987	SLU 32	2	114	6682	12.36	-30.15	0.74
987	SLU 33	2	131	6619	12.02	-30.12	0.76
987	SLU 34	1	142	6531	11.66	-29.85	0.77
987	SLU 35	3	114	6776	12.62	-30.71	0.75
987	SLU 36	3	132	6713	12.28	-30.69	0.77
987	SLU 37	3	113	6730	12.5	-30.46	0.73
987	SLU 38	3	131	6667	12.15	-30.43	0.76
987	SLU 39	1	116	6820	12.44	-30.36	0.79
987	SLU 40	0	133	6757	12.09	-30.33	0.82
987	SLU 41	2	116	6913	12.7	-30.92	0.8
987	SLU 42	1	134	6850	12.35	-30.9	0.82
987	SLU 43	6	119	6249	11.37	-29.43	0.42
987	SLU 44	5	149	6145	10.79	-29.38	0.46
987	SLU 45	7	121	6389	11.75	-30.25	0.44
987	SLU 46	7	138	6327	11.4	-30.22	0.46
987	SLU 47	6	149	6238	11.05	-29.95	0.47
987	SLU 48	8	121	6483	12.01	-30.81	0.45
987	SLU 49	8	139	6420	11.66	-30.78	0.47
987	SLU 50	8	120	6437	11.89	-30.56	0.44
987	SLU 51	8	138	6374	11.54	-30.53	0.46
987	SLU 52	4	156	6791	11.85	-31.78	0.63
987	SLU 53	6	128	7036	12.81	-32.65	0.61
987	SLU 54	5	146	6973	12.47	-32.62	0.63
987	SLU 55	5	157	6885	12.11	-32.35	0.63
987	SLU 56	6	129	7130	13.07	-33.21	0.61
987	SLU 57	6	146	7067	12.73	-33.19	0.64
987	SLU 58	7	128	7084	12.95	-32.96	0.6
987	SLU 59	6	145	7021	12.6	-32.93	0.62
987	SLU 60	4	130	7173	12.89	-32.86	0.66
987	SLU 61	3	148	7110	12.54	-32.83	0.68
987	SLU 62	5	131	7267	13.15	-33.42	0.67
987	SLU 63	4	148	7204	12.8	-33.4	0.69
987	SLU 64	5	130	7111	13.08	-32.83	0.61
987	SLU 65	4	159	7006	12.51	-32.78	0.64
987	SLU 66	6	131	7251	13.47	-33.64	0.62
987	SLU 67	5	149	7188	13.12	-33.62	0.65
987	SLU 68	5	159	7100	12.77	-33.34	0.65
987	SLU 69	7	131	7345	13.73	-34.21	0.63
987	SLU 70	6	149	7282	13.38	-34.18	0.65
987	SLU 71	7	130	7298	13.61	-33.95	0.62
987	SLU 72	6	148	7236	13.26	-33.92	0.64
987	SLU 73	2	167	7653	13.57	-35.18	0.81
987	SLU 74	4	139	7897	14.53	-36.05	0.79
987	SLU 75	4	156	7834	14.19	-36.02	0.81
987	SLU 76	3	167	7746	13.83	-35.74	0.82
987	SLU 77	5	139	7991	14.79	-36.61	0.79
987	SLU 78	4	157	7928	14.45	-36.58	0.82
987	SLU 79	5	138	7945	14.67	-36.35	0.78
987	SLU 80	5	156	7882	14.32	-36.33	0.81
987	SLU 81	3	141	8035	14.6	-36.26	0.84
987	SLU 82	2	158	7972	14.26	-36.23	0.86
987	SLU 83	4	141	8128	14.87	-36.82	0.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
987	SLU 84	3	159	8066	14.52	-36.79	0.87
987	SLE RA 1	4	98	5280	9.69	-24.5	0.43
987	SLE RA 2	3	117	5211	9.3	-24.47	0.45
987	SLE RA 3	5	98	5374	9.94	-25.05	0.44
987	SLE RA 4	4	110	5332	9.71	-25.03	0.45
987	SLE RA 5	4	117	5273	9.48	-24.85	0.46
987	SLE RA 6	5	99	5436	10.12	-25.43	0.44
987	SLE RA 7	5	110	5394	9.89	-25.41	0.46
987	SLE RA 8	5	98	5406	10.03	-25.26	0.43
987	SLE RA 9	5	110	5364	9.8	-25.24	0.45
987	SLE RA 10	2	122	5642	10.01	-26.07	0.56
987	SLE RA 11	4	104	5805	10.65	-26.65	0.55
987	SLE RA 12	3	115	5763	10.42	-26.63	0.56
987	SLE RA 13	3	122	5704	10.19	-26.45	0.57
987	SLE RA 14	4	104	5868	10.83	-27.03	0.55
987	SLE RA 15	4	115	5826	10.6	-27.01	0.57
987	SLE RA 16	4	103	5837	10.74	-26.86	0.54
987	SLE RA 17	4	115	5795	10.51	-26.84	0.56
987	SLE RA 18	3	105	5896	10.7	-26.79	0.58
987	SLE RA 19	2	117	5854	10.47	-26.77	0.6
987	SLE RA 20	3	105	5959	10.87	-27.17	0.59
987	SLE RA 21	3	117	5917	10.64	-27.15	0.6
987	SLE FR 1	4	98	5280	9.69	-24.5	0.43
987	SLE FR 2	4	101	5267	9.61	-24.5	0.43
987	SLE FR 3	4	98	5306	9.76	-24.65	0.43
987	SLE FR 4	3	104	5451	9.91	-25.18	0.48
987	SLE FR 5	4	100	5490	10.06	-25.34	0.47
987	SLE FR 6	3	101	5588	10.19	-25.65	0.5
987	SLE QP 1	4	98	5280	9.69	-24.5	0.43
987	SLE QP 2	4	100	5465	9.99	-25.19	0.47
987	SLD 1	647	226	4298	5.25	0.22	-4.33
987	SLD 2	538	258	4288	5.09	0.49	-1.93
987	SLD 3	659	-129	5821	13.43	-1.33	-4.74
987	SLD 4	550	-97	5811	13.27	-1.06	-2.35
987	SLD 5	197	671	2808	-3.81	-15.26	-0.75
987	SLD 6	126	691	2801	-3.91	-15.09	0.79
987	SLD 7	238	-513	7883	23.46	-20.43	-2.13
987	SLD 8	168	-493	7877	23.36	-20.26	-0.59
987	SLD 9	-160	692	3054	-3.37	-30.12	1.54
987	SLD 10	-231	712	3047	-3.47	-29.95	3.08
987	SLD 11	-119	-492	8130	23.9	-35.29	0.15
987	SLD 12	-189	-472	8123	23.8	-35.12	1.7
987	SLD 13	-543	297	5120	6.71	-49.32	3.29
987	SLD 14	-652	328	5109	6.55	-49.05	5.69
987	SLD 15	-531	-58	6642	14.89	-50.87	2.88
987	SLD 16	-640	-27	6632	14.74	-50.6	5.28
987	SLV 1	1012	323	3533	1.91	14.56	-7.04
987	SLV 2	839	372	3516	1.67	14.98	-3.26
987	SLV 3	1031	-283	6132	15.87	11.92	-7.75
987	SLV 4	859	-234	6115	15.63	12.34	-3.97
987	SLV 5	308	1076	947	-13.56	-9.34	-1.42
987	SLV 6	192	1109	936	-13.73	-9.06	1.13
987	SLV 7	374	-943	9610	32.98	-18.14	-3.77
987	SLV 8	258	-910	9599	32.81	-17.86	-1.22
987	SLV 9	-251	1109	1332	-12.83	-32.52	2.17
987	SLV 10	-367	1142	1321	-13	-32.24	4.71
987	SLV 11	-185	-910	9995	33.71	-41.32	-0.18
987	SLV 12	-301	-877	9984	33.55	-41.04	2.37
987	SLV 13	-852	433	4815	4.35	-62.72	4.91
987	SLV 14	-1024	482	4799	4.11	-62.3	8.69
987	SLV 15	-832	-173	7414	18.32	-65.36	4.21
987	SLV 16	-1004	-123	7398	18.07	-64.94	7.99
987	SLV FO 1	1112	345	3339	1.1	18.53	-7.8
987	SLV FO 2	923	399	3321	0.83	19	-3.64
987	SLV FO 3	1134	-321	6198	16.46	15.63	-8.57
987	SLV FO 4	945	-267	6180	16.19	16.09	-4.41
987	SLV FO 5	339	1174	495	-15.92	-7.76	-1.61
987	SLV FO 6	211	1210	483	-16.1	-7.45	1.19
987	SLV FO 7	411	-1047	10024	35.28	-17.43	-4.19
987	SLV FO 8	284	-1011	10012	35.1	-17.12	-1.39
987	SLV FO 9	-276	1210	918	-15.11	-33.26	2.34
987	SLV FO 10	-404	1247	906	-15.3	-32.95	5.14
987	SLV FO 11	-204	-1011	10448	36.08	-42.93	-0.24
987	SLV FO 12	-331	-974	10436	35.9	-42.62	2.56
987	SLV FO 13	-937	466	4750	3.79	-66.47	5.36
987	SLV FO 14	-1127	521	4732	3.52	-66.01	9.52
987	SLV FO 15	-916	-200	7609	19.15	-69.37	4.58
987	SLV FO 16	-1105	-146	7591	18.88	-68.91	8.74
987	CRTFP Ux+	0	0	0	0	0	0
987	CRTFP Ux-	0	0	0	0	0	0
987	CRTFP Uy+	0	0	0	0	0	0
987	CRTFP Uy-	0	0	0	0	0	0
992	SLU 1	28	9	2070	57.92	492.28	-2.92
992	SLU 2	27	18	2020	56.48	481.3	-5.04
992	SLU 3	29	9	2133	59.67	506.72	-2.99
992	SLU 4	28	14	2103	58.81	500.13	-4.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
992	SLU 5	28	18	2064	57.7	491.24	-5.09
992	SLU 6	30	9	2176	60.89	516.66	-3.04
992	SLU 7	29	14	2146	60.03	510.07	-4.31
992	SLU 8	30	9	2157	60.35	512.15	-3.02
992	SLU 9	29	14	2127	59.49	505.57	-4.29
992	SLU 10	29	19	2282	63.78	542.6	-5.4
992	SLU 11	31	10	2394	66.96	568.02	-3.35
992	SLU 12	30	16	2364	66.1	561.43	-4.62
992	SLU 13	30	19	2325	64.99	552.54	-5.45
992	SLU 14	32	10	2437	68.18	577.96	-3.4
992	SLU 15	31	16	2407	67.32	571.37	-4.67
992	SLU 16	32	10	2418	67.64	573.45	-3.38
992	SLU 17	31	16	2388	66.78	566.87	-4.65
992	SLU 18	31	11	2443	68.34	579.85	-3.44
992	SLU 19	30	16	2414	67.47	573.26	-4.71
992	SLU 20	32	11	2487	69.55	589.78	-3.49
992	SLU 21	31	16	2457	68.69	583.2	-4.76
992	SLU 22	32	10	2425	67.85	575.12	-3.26
992	SLU 23	30	19	2375	66.41	564.15	-5.38
992	SLU 24	33	10	2488	69.6	589.57	-3.33
992	SLU 25	32	15	2458	68.74	582.98	-4.6
992	SLU 26	31	19	2419	67.63	574.09	-5.42
992	SLU 27	34	10	2531	70.82	599.51	-3.38
992	SLU 28	33	15	2501	69.96	592.92	-4.64
992	SLU 29	34	10	2512	70.28	595	-3.36
992	SLU 30	33	15	2482	69.42	588.42	-4.63
992	SLU 31	32	20	2637	73.7	625.45	-5.74
992	SLU 32	35	11	2749	76.89	650.87	-3.69
992	SLU 33	34	17	2719	76.03	644.28	-4.96
992	SLU 34	33	20	2680	74.92	635.39	-5.79
992	SLU 35	36	11	2792	78.11	660.8	-3.74
992	SLU 36	35	17	2762	77.25	654.22	-5.01
992	SLU 37	35	11	2773	77.57	656.3	-3.72
992	SLU 38	35	17	2743	76.71	649.72	-4.99
992	SLU 39	34	12	2799	78.27	662.69	-3.78
992	SLU 40	33	17	2769	77.4	656.11	-5.05
992	SLU 41	35	12	2842	79.48	672.63	-3.83
992	SLU 42	34	17	2812	78.62	666.05	-5.1
992	SLU 43	35	11	2569	71.89	611.56	-3.69
992	SLU 44	34	20	2519	70.46	600.58	-5.8
992	SLU 45	37	11	2632	73.65	626	-3.75
992	SLU 46	36	17	2602	72.78	619.41	-5.02
992	SLU 47	35	20	2563	71.67	610.52	-5.85
992	SLU 48	38	12	2675	74.86	635.94	-3.8
992	SLU 49	37	17	2645	74	629.35	-5.07
992	SLU 50	37	11	2656	74.32	631.43	-3.78
992	SLU 51	36	17	2626	73.46	624.85	-5.05
992	SLU 52	36	21	2781	77.75	661.88	-6.16
992	SLU 53	39	13	2893	80.94	687.3	-4.12
992	SLU 54	38	18	2863	80.07	680.71	-5.38
992	SLU 55	37	21	2824	78.96	671.82	-6.21
992	SLU 56	40	13	2937	82.15	697.23	-4.16
992	SLU 57	39	18	2907	81.29	690.65	-5.43
992	SLU 58	39	13	2917	81.61	692.73	-4.15
992	SLU 59	38	18	2888	80.75	686.15	-5.42
992	SLU 60	38	13	2943	82.31	699.12	-4.2
992	SLU 61	37	18	2913	81.45	692.54	-5.47
992	SLU 62	39	13	2986	83.52	709.06	-4.25
992	SLU 63	38	18	2956	82.66	702.48	-5.52
992	SLU 64	39	12	2925	81.82	694.4	-4.02
992	SLU 65	37	21	2875	80.39	683.43	-6.14
992	SLU 66	40	12	2987	83.57	708.85	-4.09
992	SLU 67	39	18	2957	82.71	702.26	-5.36
992	SLU 68	38	21	2918	81.6	693.37	-6.19
992	SLU 69	41	13	3030	84.79	718.78	-4.14
992	SLU 70	40	18	3000	83.93	712.2	-5.41
992	SLU 71	41	12	3011	84.25	714.28	-4.12
992	SLU 72	40	18	2981	83.39	707.7	-5.39
992	SLU 73	39	22	3136	87.68	744.73	-6.5
992	SLU 74	42	14	3248	90.87	770.14	-4.45
992	SLU 75	41	19	3218	90	763.56	-5.72
992	SLU 76	40	22	3179	88.89	754.66	-6.55
992	SLU 77	43	14	3292	92.08	780.08	-4.5
992	SLU 78	42	19	3262	91.22	773.5	-5.77
992	SLU 79	43	14	3273	91.54	775.58	-4.48
992	SLU 80	42	19	3243	90.68	768.99	-5.75
992	SLU 81	42	14	3298	92.24	781.97	-4.54
992	SLU 82	41	19	3268	91.38	775.39	-5.81
992	SLU 83	43	14	3341	93.45	791.91	-4.59
992	SLU 84	42	19	3311	92.59	785.33	-5.86
992	SLE RA 1	29	9	2172	60.76	515.95	-3.02
992	SLE RA 2	28	15	2138	59.8	508.63	-4.43
992	SLE RA 3	30	9	2213	61.93	525.58	-3.06
992	SLE RA 4	29	13	2193	61.35	521.19	-3.91
992	SLE RA 5	29	15	2167	60.61	515.26	-4.46
992	SLE RA 6	31	9	2242	62.74	532.2	-3.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
992	SLE RA 7	30	13	2222	62.16	527.81	-3.94
992	SLE RA 8	30	9	2229	62.38	529.2	-3.09
992	SLE RA 9	30	13	2209	61.8	524.81	-3.93
992	SLE RA 10	29	16	2313	64.66	549.5	-4.67
992	SLE RA 11	31	10	2387	66.79	566.44	-3.31
992	SLE RA 12	31	14	2367	66.21	562.05	-4.15
992	SLE RA 13	30	16	2341	65.47	556.12	-4.7
992	SLE RA 14	32	10	2416	67.6	573.07	-3.34
992	SLE RA 15	31	14	2396	67.02	568.68	-4.19
992	SLE RA 16	32	10	2404	67.24	570.06	-3.33
992	SLE RA 17	31	14	2384	66.66	565.67	-4.17
992	SLE RA 18	31	10	2420	67.7	574.33	-3.37
992	SLE RA 19	30	14	2400	67.13	569.94	-4.21
992	SLE RA 20	32	11	2449	68.51	580.95	-3.4
992	SLE RA 21	31	14	2429	67.94	576.56	-4.24
992	SLE FR 1	29	9	2172	60.76	515.95	-3.02
992	SLE FR 2	29	10	2165	60.57	514.48	-3.3
992	SLE FR 3	29	9	2183	61.08	518.6	-3.03
992	SLE FR 4	30	11	2240	62.65	532	-3.41
992	SLE FR 5	30	10	2258	63.17	536.11	-3.14
992	SLE FR 6	30	10	2296	64.23	545.14	-3.19
992	SLE QP 1	29	9	2172	60.76	515.95	-3.02
992	SLE QP 2	30	10	2246	62.84	533.46	-3.12
992	SLD 1	214	74	1602	44.07	374.19	-21.95
992	SLD 2	176	98	1561	42.95	367.74	-26.98
992	SLD 3	232	-31	2320	64.74	533.49	3.91
992	SLD 4	194	-7	2280	63.62	527.04	-1.11
992	SLD 5	64	184	970	26.06	245.18	-47.13
992	SLD 6	40	200	944	25.33	241.03	-50.37
992	SLD 7	124	-166	3365	94.95	776.19	39.07
992	SLD 8	100	-151	3339	94.23	772.03	35.84
992	SLD 9	-40	170	1154	31.45	294.89	-42.09
992	SLD 10	-65	186	1127	30.73	290.74	-45.32
992	SLD 11	20	-181	3548	100.35	825.89	44.12
992	SLD 12	-5	-165	3522	99.63	821.74	40.88
992	SLD 13	-135	26	2213	62.06	539.88	-5.13
992	SLD 14	-172	50	2172	60.94	533.43	-10.16
992	SLD 15	-117	-79	2931	82.73	699.18	20.73
992	SLD 16	-154	-55	2891	81.61	692.73	15.7
992	SLV 1	317	118	1187	32.03	273.15	-34.41
992	SLV 2	258	156	1124	30.26	262.98	-42.33
992	SLV 3	348	-62	2414	67.31	545.07	9.71
992	SLV 4	288	-23	2350	65.54	534.9	1.79
992	SLV 5	81	307	81	0.42	44.86	-77.94
992	SLV 6	41	333	38	-0.77	38.02	-83.28
992	SLV 7	183	-291	4168	118.02	951.25	69.12
992	SLV 8	143	-265	4125	116.82	944.4	63.78
992	SLV 9	-83	285	367	8.86	122.52	-70.03
992	SLV 10	-123	310	324	7.67	115.68	-75.37
992	SLV 11	19	-314	4455	126.45	1028.91	77.03
992	SLV 12	-21	-288	4412	125.26	1022.06	71.7
992	SLV 13	-229	43	2143	60.15	532.02	-8.04
992	SLV 14	-288	81	2079	58.38	521.85	-15.96
992	SLV 15	-198	-137	3369	95.42	803.94	36.08
992	SLV 16	-258	-98	3305	93.65	793.77	28.16
992	SLV FO 1	346	128	1082	28.95	247.12	-37.54
992	SLV FO 2	281	171	1011	27	235.94	-46.25
992	SLV FO 3	379	-69	2430	67.75	546.23	11
992	SLV FO 4	314	-27	2360	65.81	535.04	2.28
992	SLV FO 5	86	337	-136	-5.82	-4	-85.43
992	SLV FO 6	42	365	-183	-7.13	-11.53	-91.29
992	SLV FO 7	198	-321	4360	123.53	993.02	76.34
992	SLV FO 8	154	-293	4313	122.22	985.49	70.48
992	SLV FO 9	-94	312	179	3.46	81.43	-76.72
992	SLV FO 10	-138	340	132	2.15	73.9	-82.59
992	SLV FO 11	18	-346	4676	132.81	1078.45	85.04
992	SLV FO 12	-26	-318	4628	131.5	1070.92	79.18
992	SLV FO 13	-255	46	2132	59.88	531.88	-8.53
992	SLV FO 14	-320	88	2062	57.93	520.69	-17.24
992	SLV FO 15	-221	-151	3481	98.68	830.99	40
992	SLV FO 16	-286	-109	3411	96.74	819.8	31.29
992	CRTFP Ux+	0	0	0	0	0	0
992	CRTFP Ux-	0	0	0	0	0	0
992	CRTFP Uy+	0	0	0	0	0	0
992	CRTFP Uy-	0	0	0	0	0	0
993	SLU 1	-96	-6	5581	-1278.55	-960.6	-24.85
993	SLU 2	-92	21	5450	-1251.05	-937.92	-18.76
993	SLU 3	-99	-7	5743	-1314.95	-988.37	-25.74
993	SLU 4	-96	9	5664	-1298.45	-974.76	-22.08
993	SLU 5	-93	21	5558	-1275.26	-956.44	-19.24
993	SLU 6	-101	-7	5850	-1339.16	-1006.89	-26.22
993	SLU 7	-98	9	5772	-1322.66	-993.28	-22.57
993	SLU 8	-100	-7	5797	-1326.96	-997.65	-25.82
993	SLU 9	-97	10	5718	-1310.46	-984.04	-22.17
993	SLU 10	-101	22	6144	-1408.84	-1056.95	-20.79
993	SLU 11	-108	-6	6436	-1472.73	-1107.4	-27.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
993	SLU 12	-106	10	6358	-1456.23	-1093.79	-24.12
993	SLU 13	-103	22	6251	-1433.04	-1075.48	-21.28
993	SLU 14	-110	-6	6544	-1496.94	-1125.93	-28.26
993	SLU 15	-107	10	6466	-1480.44	-1112.31	-24.61
993	SLU 16	-109	-6	6490	-1484.74	-1116.68	-27.86
993	SLU 17	-106	11	6412	-1468.24	-1103.07	-24.21
993	SLU 18	-109	-5	6572	-1503.96	-1130.65	-27.76
993	SLU 19	-106	12	6493	-1487.46	-1117.04	-24.1
993	SLU 20	-111	-5	6680	-1528.16	-1149.18	-28.24
993	SLU 21	-108	11	6601	-1511.66	-1135.56	-24.59
993	SLU 22	-111	-10	6532	-1493.89	-1123.89	-29.19
993	SLU 23	-107	17	6401	-1466.39	-1101.2	-23.1
993	SLU 24	-114	-11	6694	-1530.29	-1151.65	-30.08
993	SLU 25	-111	5	6615	-1513.79	-1138.04	-26.42
993	SLU 26	-108	17	6509	-1490.6	-1119.72	-23.58
993	SLU 27	-116	-11	6802	-1554.49	-1170.17	-30.57
993	SLU 28	-113	5	6723	-1537.99	-1156.56	-26.91
993	SLU 29	-115	-10	6748	-1542.3	-1160.93	-30.16
993	SLU 30	-112	6	6669	-1525.8	-1147.32	-26.51
993	SLU 31	-116	18	7095	-1624.17	-1220.24	-25.13
993	SLU 32	-123	-10	7388	-1688.07	-1270.69	-32.11
993	SLU 33	-121	7	7309	-1671.57	-1257.08	-28.46
993	SLU 34	-118	18	7203	-1648.38	-1238.76	-25.62
993	SLU 35	-125	-10	7496	-1712.27	-1289.21	-32.6
993	SLU 36	-122	6	7417	-1695.77	-1275.6	-28.95
993	SLU 37	-124	-9	7442	-1700.08	-1279.97	-32.2
993	SLU 38	-121	7	7363	-1683.58	-1266.35	-28.55
993	SLU 39	-124	-8	7523	-1719.29	-1293.94	-32.1
993	SLU 40	-121	8	7445	-1702.79	-1280.33	-28.44
993	SLU 41	-126	-9	7631	-1743.5	-1312.46	-32.58
993	SLU 42	-123	8	7553	-1727	-1298.85	-28.93
993	SLU 43	-120	-7	6929	-1588.29	-1192.8	-30.81
993	SLU 44	-115	20	6798	-1560.79	-1170.12	-24.72
993	SLU 45	-123	-8	7091	-1624.69	-1220.57	-31.7
993	SLU 46	-120	8	7012	-1608.19	-1206.95	-28.05
993	SLU 47	-117	20	6906	-1584.99	-1188.64	-25.21
993	SLU 48	-125	-8	7198	-1648.89	-1239.09	-32.19
993	SLU 49	-122	8	7120	-1632.39	-1225.48	-28.54
993	SLU 50	-124	-7	7145	-1636.7	-1229.85	-31.79
993	SLU 51	-121	9	7066	-1620.2	-1216.23	-28.13
993	SLU 52	-124	21	7492	-1718.57	-1289.15	-26.76
993	SLU 53	-132	-7	7784	-1782.47	-1339.6	-33.74
993	SLU 54	-129	10	7706	-1765.97	-1325.99	-30.08
993	SLU 55	-126	21	7599	-1742.78	-1307.67	-27.25
993	SLU 56	-134	-7	7892	-1806.67	-1358.12	-34.23
993	SLU 57	-131	9	7814	-1790.17	-1344.51	-30.57
993	SLU 58	-133	-6	7838	-1794.48	-1348.88	-33.82
993	SLU 59	-130	10	7760	-1777.98	-1335.27	-30.17
993	SLU 60	-133	-5	7920	-1813.69	-1362.85	-33.72
993	SLU 61	-130	11	7841	-1797.19	-1349.24	-30.07
993	SLU 62	-135	-6	8028	-1837.9	-1381.37	-34.21
993	SLU 63	-132	11	7949	-1821.4	-1367.76	-30.55
993	SLU 64	-135	-11	7880	-1803.63	-1356.09	-35.15
993	SLU 65	-130	16	7749	-1776.13	-1333.4	-29.06
993	SLU 66	-138	-12	8042	-1840.02	-1383.85	-36.04
993	SLU 67	-135	5	7963	-1823.52	-1370.24	-32.39
993	SLU 68	-132	16	7857	-1800.33	-1351.92	-29.55
993	SLU 69	-140	-12	8150	-1864.23	-1402.37	-36.53
993	SLU 70	-137	5	8071	-1847.73	-1388.76	-32.88
993	SLU 71	-139	-11	8096	-1852.04	-1393.13	-36.13
993	SLU 72	-136	5	8017	-1835.54	-1379.52	-32.47
993	SLU 73	-139	18	8443	-1933.91	-1452.43	-31.1
993	SLU 74	-147	-10	8736	-1997.81	-1502.89	-38.08
993	SLU 75	-144	6	8657	-1981.31	-1489.27	-34.43
993	SLU 76	-141	17	8551	-1958.11	-1470.96	-31.59
993	SLU 77	-149	-10	8844	-2022.01	-1521.41	-38.57
993	SLU 78	-146	6	8765	-2005.51	-1507.8	-34.91
993	SLU 79	-148	-10	8790	-2009.82	-1512.16	-38.17
993	SLU 80	-145	6	8711	-1993.32	-1498.55	-34.51
993	SLU 81	-148	-9	8871	-2029.03	-1526.14	-38.06
993	SLU 82	-145	7	8793	-2012.53	-1512.52	-34.41
993	SLU 83	-150	-9	8979	-2053.23	-1544.66	-38.55
993	SLU 84	-147	7	8901	-2036.73	-1531.05	-34.9
993	SLE RA 1	-100	-7	5853	-1340.08	-1007.26	-26.09
993	SLE RA 2	-97	11	5765	-1321.74	-992.13	-22.03
993	SLE RA 3	-103	-8	5961	-1364.34	-1025.77	-26.68
993	SLE RA 4	-101	3	5908	-1353.34	-1016.69	-24.24
993	SLE RA 5	-99	11	5837	-1337.88	-1004.48	-22.35
993	SLE RA 6	-104	-8	6032	-1380.48	-1038.11	-27
993	SLE RA 7	-102	3	5980	-1369.48	-1029.04	-24.57
993	SLE RA 8	-103	-8	5996	-1372.35	-1031.95	-26.74
993	SLE RA 9	-101	3	5944	-1361.35	-1022.88	-24.3
993	SLE RA 10	-103	11	6228	-1426.93	-1071.49	-23.38
993	SLE RA 11	-109	-7	6423	-1469.53	-1105.12	-28.04
993	SLE RA 12	-107	4	6371	-1458.53	-1096.05	-25.6
993	SLE RA 13	-105	11	6300	-1443.07	-1083.84	-23.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
993	SLE RA 14	-110	-7	6495	-1485.67	-1117.47	-28.36
993	SLE RA 15	-108	4	6443	-1474.67	-1108.4	-25.93
993	SLE RA 16	-109	-7	6459	-1477.54	-1111.31	-28.09
993	SLE RA 17	-107	4	6407	-1466.54	-1102.23	-25.66
993	SLE RA 18	-109	-6	6513	-1490.35	-1120.62	-28.03
993	SLE RA 19	-107	5	6461	-1479.35	-1111.55	-25.59
993	SLE RA 20	-110	-6	6585	-1506.48	-1132.97	-28.35
993	SLE RA 21	-109	4	6533	-1495.48	-1123.9	-25.92
993	SLE FR 1	-100	-7	5853	-1340.08	-1007.26	-26.09
993	SLE FR 2	-100	-4	5835	-1336.41	-1004.23	-25.27
993	SLE FR 3	-101	-8	5881	-1346.53	-1012.2	-26.22
993	SLE FR 4	-102	-4	6033	-1381.49	-1038.24	-25.86
993	SLE FR 5	-104	-7	6080	-1391.61	-1046.21	-26.8
993	SLE FR 6	-105	-7	6183	-1415.21	-1063.94	-27.06
993	SLE QP 1	-100	-7	5853	-1340.08	-1007.26	-26.09
993	SLE QP 2	-103	-7	6051	-1385.16	-1041.27	-26.67
993	SLD 1	384	85	7019	-1624.42	-1197.79	133.67
993	SLD 2	292	-61	7181	-1658.35	-1225.33	84.28
993	SLD 3	317	-249	8865	-2011.82	-1518	56.5
993	SLD 4	225	-395	9027	-2045.75	-1545.55	7.11
993	SLD 5	161	552	3513	-863.55	-597.82	146.97
993	SLD 6	102	458	3617	-885.39	-615.56	115.17
993	SLD 7	-64	-561	9668	-2154.88	-1665.21	-110.27
993	SLD 8	-123	-655	9772	-2176.72	-1682.95	-142.07
993	SLD 9	-83	641	2330	-593.59	-399.58	88.74
993	SLD 10	-143	547	2434	-615.44	-417.32	56.93
993	SLD 11	-308	-472	8484	-1884.92	-1466.97	-168.5
993	SLD 12	-368	-566	8588	-1906.77	-1484.71	-200.31
993	SLD 13	-431	381	3075	-724.57	-536.99	-60.45
993	SLD 14	-523	235	3236	-758.5	-564.53	-109.83
993	SLD 15	-498	47	4921	-1111.97	-857.2	-137.62
993	SLD 16	-591	-99	5083	-1145.9	-884.75	-187
993	SLV 1	666	162	7425	-1729.73	-1261.72	230.48
993	SLV 2	521	-68	7679	-1783.21	-1305.14	152.63
993	SLV 3	551	-408	10574	-2390.55	-1807.97	98.81
993	SLV 4	406	-638	10829	-2444.02	-1851.38	20.96
993	SLV 5	330	950	1639	-476.32	-270.83	264.71
993	SLV 6	232	796	1810	-512.32	-300.06	212.3
993	SLV 7	-54	-948	12137	-2679.03	-2091.64	-174.2
993	SLV 8	-152	-1103	12308	-2715.03	-2120.87	-226.61
993	SLV 9	-54	1089	-207	-55.29	38.34	173.27
993	SLV 10	-152	934	-35	-91.29	9.11	120.86
993	SLV 11	-438	-810	10292	-2258	-1782.47	-265.63
993	SLV 12	-536	-965	10463	-2294	-1811.7	-318.04
993	SLV 13	-612	623	1273	-326.3	-231.15	-74.3
993	SLV 14	-757	393	1528	-379.77	-274.57	-152.15
993	SLV 15	-727	54	4423	-987.11	-777.39	-205.97
993	SLV 16	-873	-176	4677	-1040.58	-820.81	-283.82
993	SLV FO 1	743	179	7562	-1764.19	-1283.77	256.2
993	SLV FO 2	583	-74	7842	-1823.01	-1331.53	170.56
993	SLV FO 3	617	-448	11026	-2491.08	-1884.64	111.36
993	SLV FO 4	457	-701	11306	-2549.91	-1932.39	25.73
993	SLV FO 5	373	1046	1198	-385.44	-193.79	293.84
993	SLV FO 6	265	876	1386	-425.04	-225.94	236.19
993	SLV FO 7	-50	-1042	12746	-2808.41	-2196.68	-188.95
993	SLV FO 8	-157	-1213	12934	-2848.02	-2228.83	-246.6
993	SLV FO 9	-49	1198	-832	77.7	146.3	193.27
993	SLV FO 10	-157	1028	-644	38.1	114.15	135.62
993	SLV FO 11	-471	-890	10716	-2345.28	-1856.59	-289.53
993	SLV FO 12	-579	-1060	10904	-2384.88	-1888.74	-347.18
993	SLV FO 13	-663	686	795	-220.41	-150.14	-79.06
993	SLV FO 14	-823	434	1075	-279.23	-197.9	-164.69
993	SLV FO 15	-789	60	4260	-947.3	-751.01	-223.9
993	SLV FO 16	-950	-193	4540	-1006.13	-798.76	-309.53
993	CRTFP Ux+	0	0	0	0	0	0
993	CRTFP Ux-	0	0	0	0	0	0
993	CRTFP Uy+	0	0	0	-0.01	0	0
993	CRTFP Uy-	0	0	0	0.01	0	0
995	SLU 1	-71	-2	3900	-1076.89	-100.19	-24.93
995	SLU 2	-68	18	3811	-1054.97	-97.93	-23.28
995	SLU 3	-74	-2	4012	-1106.87	-103.05	-25.72
995	SLU 4	-72	10	3959	-1093.72	-101.69	-24.73
995	SLU 5	-70	18	3886	-1074.89	-99.84	-23.77
995	SLU 6	-75	-2	4087	-1126.79	-104.95	-26.21
995	SLU 7	-73	10	4033	-1113.63	-103.6	-25.22
995	SLU 8	-74	-2	4049	-1116.73	-104	-25.9
995	SLU 9	-72	10	3996	-1103.57	-102.64	-24.91
995	SLU 10	-75	19	4294	-1185.23	-110.28	-25.64
995	SLU 11	-81	-1	4495	-1237.13	-115.39	-28.08
995	SLU 12	-79	11	4441	-1223.98	-114.04	-27.09
995	SLU 13	-76	19	4368	-1205.15	-112.18	-26.13
995	SLU 14	-82	-1	4569	-1257.04	-117.3	-28.57
995	SLU 15	-80	11	4516	-1243.89	-115.95	-27.58
995	SLU 16	-81	-1	4532	-1246.98	-116.35	-28.26
995	SLU 17	-79	11	4479	-1233.83	-114.99	-27.27
995	SLU 18	-81	0	4589	-1262.97	-117.83	-28.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
995	SLU 19	-79	12	4536	-1249.82	-116.47	-27.31
995	SLU 20	-83	0	4664	-1282.89	-119.73	-28.79
995	SLU 21	-81	12	4611	-1269.74	-118.38	-27.8
995	SLU 22	-83	-4	4561	-1254.39	-117.07	-28.85
995	SLU 23	-79	16	4472	-1232.47	-114.81	-27.2
995	SLU 24	-85	-4	4673	-1284.36	-119.93	-29.64
995	SLU 25	-83	8	4619	-1271.21	-118.58	-28.65
995	SLU 26	-81	16	4546	-1252.39	-116.72	-27.68
995	SLU 27	-86	-4	4747	-1304.28	-121.84	-30.13
995	SLU 28	-84	8	4694	-1291.13	-120.48	-29.13
995	SLU 29	-85	-4	4710	-1294.22	-120.88	-29.82
995	SLU 30	-83	8	4657	-1281.07	-119.53	-28.83
995	SLU 31	-86	17	4954	-1362.73	-127.16	-29.56
995	SLU 32	-92	-3	5155	-1414.62	-132.28	-32
995	SLU 33	-90	9	5102	-1401.47	-130.92	-31.01
995	SLU 34	-88	17	5029	-1382.64	-129.07	-30.04
995	SLU 35	-93	-3	5230	-1434.54	-134.19	-32.48
995	SLU 36	-91	9	5177	-1421.39	-132.83	-31.49
995	SLU 37	-92	-3	5193	-1424.48	-133.23	-32.18
995	SLU 38	-90	9	5139	-1411.33	-131.88	-31.19
995	SLU 39	-92	-2	5250	-1440.47	-134.71	-32.22
995	SLU 40	-90	10	5197	-1427.32	-133.36	-31.23
995	SLU 41	-94	-2	5325	-1460.39	-136.62	-32.71
995	SLU 42	-92	10	5272	-1447.24	-135.26	-31.72
995	SLU 43	-89	-1	4843	-1339.1	-124.45	-31.07
995	SLU 44	-86	18	4754	-1317.18	-122.2	-29.42
995	SLU 45	-91	-2	4955	-1369.08	-127.31	-31.86
995	SLU 46	-89	10	4902	-1355.93	-125.96	-30.87
995	SLU 47	-87	18	4829	-1337.1	-124.1	-29.9
995	SLU 48	-93	-2	5030	-1389	-129.22	-32.34
995	SLU 49	-91	10	4977	-1375.85	-127.86	-31.35
995	SLU 50	-92	-1	4993	-1378.94	-128.27	-32.04
995	SLU 51	-90	11	4939	-1365.79	-126.91	-31.05
995	SLU 52	-93	19	5237	-1447.44	-134.55	-31.78
995	SLU 53	-98	-1	5438	-1499.34	-139.66	-34.22
995	SLU 54	-96	11	5385	-1486.19	-138.31	-33.23
995	SLU 55	-94	19	5312	-1467.36	-136.45	-32.26
995	SLU 56	-100	-1	5513	-1519.26	-141.57	-34.7
995	SLU 57	-98	11	5459	-1506.1	-140.21	-33.71
995	SLU 58	-99	0	5475	-1509.19	-140.62	-34.4
995	SLU 59	-97	12	5422	-1496.04	-139.26	-33.41
995	SLU 60	-99	0	5533	-1525.19	-142.1	-34.44
995	SLU 61	-97	12	5480	-1512.03	-140.74	-33.45
995	SLU 62	-100	0	5608	-1545.1	-144	-34.93
995	SLU 63	-98	12	5554	-1531.95	-142.65	-33.93
995	SLU 64	-100	-3	5504	-1516.6	-141.34	-34.99
995	SLU 65	-97	16	5415	-1494.68	-139.08	-33.34
995	SLU 66	-102	-4	5616	-1546.58	-144.2	-35.78
995	SLU 67	-101	8	5563	-1533.43	-142.84	-34.79
995	SLU 68	-98	16	5490	-1514.6	-140.99	-33.82
995	SLU 69	-104	-4	5691	-1566.49	-146.1	-36.26
995	SLU 70	-102	8	5637	-1553.34	-144.75	-35.27
995	SLU 71	-103	-3	5653	-1556.43	-145.15	-35.96
995	SLU 72	-101	8	5600	-1543.28	-143.8	-34.97
995	SLU 73	-104	17	5898	-1624.94	-151.43	-35.7
995	SLU 74	-109	-3	6099	-1676.83	-156.55	-38.14
995	SLU 75	-107	9	6045	-1663.68	-155.19	-37.15
995	SLU 76	-105	17	5973	-1644.86	-153.34	-36.18
995	SLU 77	-111	-3	6174	-1696.75	-158.45	-38.62
995	SLU 78	-109	9	6120	-1683.6	-157.1	-37.63
995	SLU 79	-110	-2	6136	-1686.69	-157.5	-38.32
995	SLU 80	-108	9	6083	-1673.54	-156.15	-37.33
995	SLU 81	-110	-2	6194	-1702.68	-158.98	-38.36
995	SLU 82	-108	10	6140	-1689.53	-157.63	-37.37
995	SLU 83	-111	-2	6268	-1722.6	-160.89	-38.84
995	SLU 84	-109	10	6215	-1709.45	-159.53	-37.85
995	SLE RA 1	-75	-2	4089	-1127.6	-105.01	-26.05
995	SLE RA 2	-73	11	4029	-1112.99	-103.51	-24.95
995	SLE RA 3	-76	-2	4163	-1147.59	-106.92	-26.58
995	SLE RA 4	-75	5	4128	-1138.82	-106.01	-25.92
995	SLE RA 5	-73	11	4079	-1126.27	-104.78	-25.27
995	SLE RA 6	-77	-2	4213	-1160.87	-108.19	-26.9
995	SLE RA 7	-76	5	4178	-1152.1	-107.28	-26.24
995	SLE RA 8	-77	-2	4188	-1154.16	-107.55	-26.7
995	SLE RA 9	-75	6	4153	-1145.39	-106.65	-26.04
995	SLE RA 10	-77	12	4351	-1199.83	-111.74	-26.53
995	SLE RA 11	-81	-2	4485	-1234.43	-115.15	-28.15
995	SLE RA 12	-79	6	4450	-1225.66	-114.25	-27.49
995	SLE RA 13	-78	12	4401	-1213.11	-113.01	-26.85
995	SLE RA 14	-82	-2	4535	-1247.71	-116.42	-28.48
995	SLE RA 15	-80	6	4499	-1238.94	-115.52	-27.82
995	SLE RA 16	-81	-1	4510	-1241	-115.79	-28.27
995	SLE RA 17	-80	6	4474	-1232.23	-114.88	-27.61
995	SLE RA 18	-81	-1	4548	-1251.66	-116.77	-28.3
995	SLE RA 19	-80	7	4513	-1242.89	-115.87	-27.64
995	SLE RA 20	-82	-1	4598	-1264.94	-118.04	-28.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
995	SLE RA 21	-81	7	4563	-1256.17	-117.14	-27.96
995	SLE FR 1	-75	-2	4089	-1127.6	-105.01	-26.05
995	SLE FR 2	-74	0	4077	-1124.68	-104.71	-25.83
995	SLE FR 3	-75	-2	4109	-1132.92	-105.52	-26.18
995	SLE FR 4	-76	1	4215	-1161.9	-108.24	-26.51
995	SLE FR 5	-77	-2	4247	-1170.13	-109.05	-26.86
995	SLE FR 6	-78	-2	4319	-1189.63	-110.89	-27.18
995	SLE QP 1	-75	-2	4089	-1127.6	-105.01	-26.05
995	SLE QP 2	-77	-2	4227	-1164.82	-108.54	-26.73
995	SLD 1	289	66	4884	-1366.03	-124.07	105.13
995	SLD 2	222	-39	4992	-1392.95	-126.73	78.74
995	SLD 3	242	-177	6139	-1675.06	-156.03	82.23
995	SLD 4	174	-282	6247	-1701.98	-158.68	55.84
995	SLD 5	117	404	2502	-751.86	-64.28	52.1
995	SLD 6	73	337	2571	-769.2	-65.99	35.1
995	SLD 7	-41	-404	6686	-1781.96	-170.79	-24.23
995	SLD 8	-85	-472	6755	-1799.29	-172.5	-41.23
995	SLD 9	-68	468	1698	-530.35	-44.58	-12.22
995	SLD 10	-112	401	1768	-547.68	-46.29	-29.22
995	SLD 11	-226	-341	5882	-1560.45	-151.09	-88.56
995	SLD 12	-270	-408	5952	-1577.78	-152.8	-105.56
995	SLD 13	-327	278	2206	-627.66	-58.39	-109.29
995	SLD 14	-395	173	2314	-654.58	-61.05	-135.68
995	SLD 15	-375	35	3461	-936.69	-90.35	-132.19
995	SLD 16	-443	-70	3569	-963.61	-93.01	-158.58
995	SLV 1	501	122	5159	-1455.85	-130.41	181.74
995	SLV 2	394	-43	5329	-1498.28	-134.6	140.14
995	SLV 3	420	-292	7300	-1982.97	-184.91	142.65
995	SLV 4	313	-457	7470	-2025.4	-189.1	101.05
995	SLV 5	239	694	1227	-444.74	-31.65	102.86
995	SLV 6	168	583	1342	-473.3	-34.47	74.85
995	SLV 7	-31	-686	8365	-2201.82	-213.34	-27.43
995	SLV 8	-103	-797	8479	-2230.39	-216.16	-55.44
995	SLV 9	-51	793	-26	-99.25	-0.92	1.99
995	SLV 10	-123	682	89	-127.82	-3.74	-26.02
995	SLV 11	-321	-587	7112	-1856.34	-182.61	-128.31
995	SLV 12	-393	-698	7226	-1884.9	-185.43	-156.32
995	SLV 13	-466	453	983	-304.24	-27.97	-154.5
995	SLV 14	-573	288	1153	-346.67	-32.16	-196.11
995	SLV 15	-547	39	3124	-831.37	-82.48	-193.59
995	SLV 16	-654	-126	3294	-873.79	-86.67	-235.2
995	SLV FO 1	559	135	5252	-1484.95	-132.59	202.59
995	SLV FO 2	441	-47	5439	-1531.62	-137.2	156.82
995	SLV FO 3	469	-321	7608	-2064.79	-192.55	159.59
995	SLV FO 4	352	-503	7795	-2111.46	-197.16	113.82
995	SLV FO 5	271	764	927	-372.73	-23.96	115.82
995	SLV FO 6	192	641	1053	-404.15	-27.06	85.01
995	SLV FO 7	-26	-754	8778	-2305.52	-223.82	-27.5
995	SLV FO 8	-105	-877	8904	-2336.94	-226.92	-58.32
995	SLV FO 9	-48	873	-451	7.3	9.84	4.86
995	SLV FO 10	-127	750	-325	-24.12	6.74	-25.95
995	SLV FO 11	-345	-645	7400	-1925.49	-190.02	-138.46
995	SLV FO 12	-424	-767	7526	-1956.91	-193.12	-169.28
995	SLV FO 13	-505	499	659	-218.18	-19.92	-167.28
995	SLV FO 14	-623	317	845	-264.85	-24.53	-213.05
995	SLV FO 15	-595	43	3014	-798.02	-79.88	-210.28
995	SLV FO 16	-712	-138	3201	-844.69	-84.49	-256.04
995	CRTFP Ux+	0	0	0	0	0	0
995	CRTFP Ux-	0	0	0	0	0	0
995	CRTFP Uy+	0	0	0	0	0	0
995	CRTFP Uy-	0	0	0	0	0	0
996	SLU 1	-83	4	4171	-1000.53	11.18	-28.86
996	SLU 2	-79	25	4077	-980.83	10.89	-27.6
996	SLU 3	-86	4	4290	-1027.77	11.53	-29.76
996	SLU 4	-83	17	4234	-1015.95	11.35	-29.01
996	SLU 5	-81	26	4156	-998.94	11.12	-28.16
996	SLU 6	-87	4	4369	-1045.88	11.76	-30.32
996	SLU 7	-85	17	4313	-1034.06	11.58	-29.57
996	SLU 8	-86	4	4330	-1036.73	11.65	-29.98
996	SLU 9	-84	17	4273	-1024.92	11.47	-29.23
996	SLU 10	-87	27	4591	-1099.05	12.33	-30.39
996	SLU 11	-94	5	4804	-1145.99	12.97	-32.55
996	SLU 12	-91	18	4748	-1134.17	12.8	-31.79
996	SLU 13	-89	27	4671	-1117.15	12.56	-30.95
996	SLU 14	-95	5	4884	-1164.09	13.21	-33.11
996	SLU 15	-93	18	4827	-1152.27	13.03	-32.35
996	SLU 16	-94	6	4844	-1154.95	13.09	-32.77
996	SLU 17	-92	19	4788	-1143.13	12.91	-32.01
996	SLU 18	-94	6	4906	-1169.41	13.24	-32.84
996	SLU 19	-92	19	4850	-1157.59	13.06	-32.08
996	SLU 20	-96	6	4985	-1187.51	13.47	-33.4
996	SLU 21	-94	19	4929	-1175.69	13.3	-32.64
996	SLU 22	-96	2	4874	-1161.61	13.19	-33.34
996	SLU 23	-92	24	4780	-1141.91	12.89	-32.08
996	SLU 24	-99	2	4993	-1188.85	13.54	-34.24
996	SLU 25	-96	15	4937	-1177.03	13.36	-33.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
996	SLU 26	-94	24	4860	-1160.01	13.12	-32.64
996	SLU 27	-100	3	5073	-1206.95	13.77	-34.8
996	SLU 28	-98	15	5016	-1195.14	13.59	-34.05
996	SLU 29	-99	3	5033	-1197.81	13.65	-34.46
996	SLU 30	-97	16	4977	-1185.99	13.47	-33.71
996	SLU 31	-100	25	5295	-1260.13	14.33	-34.87
996	SLU 32	-107	4	5508	-1307.07	14.98	-37.02
996	SLU 33	-104	17	5451	-1295.25	14.8	-36.27
996	SLU 34	-102	26	5374	-1278.23	14.56	-35.43
996	SLU 35	-108	4	5587	-1325.17	15.21	-37.58
996	SLU 36	-106	17	5531	-1313.35	15.03	-36.83
996	SLU 37	-107	4	5547	-1316.03	15.09	-37.24
996	SLU 38	-105	17	5491	-1304.21	14.91	-36.49
996	SLU 39	-107	4	5609	-1330.49	15.25	-37.32
996	SLU 40	-105	17	5553	-1318.67	15.07	-36.56
996	SLU 41	-109	5	5688	-1348.59	15.48	-37.88
996	SLU 42	-107	18	5632	-1336.77	15.3	-37.12
996	SLU 43	-104	6	5181	-1245.46	13.85	-35.99
996	SLU 44	-100	27	5087	-1225.76	13.55	-34.73
996	SLU 45	-106	5	5300	-1272.7	14.2	-36.89
996	SLU 46	-104	18	5244	-1260.89	14.02	-36.13
996	SLU 47	-101	27	5167	-1243.87	13.78	-35.29
996	SLU 48	-108	6	5380	-1290.81	14.43	-37.45
996	SLU 49	-106	19	5323	-1278.99	14.25	-36.69
996	SLU 50	-107	6	5340	-1281.67	14.31	-37.11
996	SLU 51	-105	19	5284	-1269.85	14.13	-36.35
996	SLU 52	-108	28	5602	-1343.98	15	-37.51
996	SLU 53	-114	7	5815	-1390.92	15.64	-39.67
996	SLU 54	-112	20	5758	-1379.1	15.46	-38.92
996	SLU 55	-109	29	5681	-1362.08	15.23	-38.07
996	SLU 56	-116	7	5894	-1409.02	15.87	-40.23
996	SLU 57	-114	20	5838	-1397.21	15.69	-39.48
996	SLU 58	-115	7	5854	-1399.88	15.76	-39.89
996	SLU 59	-113	20	5798	-1388.07	15.58	-39.13
996	SLU 60	-115	7	5916	-1414.34	15.91	-39.96
996	SLU 61	-113	20	5860	-1402.52	15.73	-39.21
996	SLU 62	-117	8	5995	-1432.44	16.14	-40.52
996	SLU 63	-114	21	5939	-1420.63	15.96	-39.77
996	SLU 64	-116	4	5884	-1406.54	15.86	-40.46
996	SLU 65	-113	26	5791	-1386.84	15.56	-39.21
996	SLU 66	-119	4	6004	-1433.78	16.21	-41.36
996	SLU 67	-117	17	5947	-1421.96	16.03	-40.61
996	SLU 68	-114	26	5870	-1404.94	15.79	-39.77
996	SLU 69	-121	4	6083	-1451.88	16.44	-41.92
996	SLU 70	-118	17	6027	-1440.07	16.26	-41.17
996	SLU 71	-120	5	6043	-1442.74	16.32	-41.58
996	SLU 72	-117	17	5987	-1430.93	16.14	-40.83
996	SLU 73	-121	27	6305	-1505.06	17	-41.99
996	SLU 74	-127	5	6518	-1552	17.65	-44.15
996	SLU 75	-125	18	6462	-1540.18	17.47	-43.39
996	SLU 76	-122	27	6384	-1523.16	17.23	-42.55
996	SLU 77	-129	6	6597	-1570.1	17.88	-44.71
996	SLU 78	-126	19	6541	-1558.28	17.7	-43.95
996	SLU 79	-128	6	6558	-1560.96	17.76	-44.37
996	SLU 80	-125	19	6501	-1549.14	17.58	-43.61
996	SLU 81	-128	6	6619	-1575.42	17.92	-44.44
996	SLU 82	-126	19	6563	-1563.6	17.74	-43.69
996	SLU 83	-129	6	6699	-1593.52	18.15	-45
996	SLU 84	-127	19	6642	-1581.7	17.97	-44.25
996	SLE RA 1	-87	3	4372	-1046.55	11.76	-30.14
996	SLE RA 2	-84	18	4309	-1033.42	11.56	-29.3
996	SLE RA 3	-88	3	4451	-1064.71	11.99	-30.74
996	SLE RA 4	-87	12	4414	-1056.83	11.87	-30.24
996	SLE RA 5	-85	18	4362	-1045.49	11.71	-29.68
996	SLE RA 6	-90	4	4504	-1076.78	12.14	-31.12
996	SLE RA 7	-88	12	4467	-1068.9	12.02	-30.61
996	SLE RA 8	-89	4	4478	-1070.69	12.07	-30.89
996	SLE RA 9	-87	12	4440	-1062.81	11.95	-30.39
996	SLE RA 10	-90	19	4652	-1112.23	12.52	-31.16
996	SLE RA 11	-94	4	4794	-1143.52	12.95	-32.6
996	SLE RA 12	-92	13	4757	-1135.64	12.83	-32.09
996	SLE RA 13	-91	19	4705	-1124.3	12.67	-31.53
996	SLE RA 14	-95	4	4847	-1155.59	13.1	-32.97
996	SLE RA 15	-93	13	4810	-1147.71	12.99	-32.47
996	SLE RA 16	-94	5	4821	-1149.5	13.03	-32.74
996	SLE RA 17	-93	13	4783	-1141.62	12.91	-32.24
996	SLE RA 18	-94	5	4862	-1159.14	13.13	-32.79
996	SLE RA 19	-93	13	4824	-1151.26	13.01	-32.29
996	SLE RA 20	-95	5	4915	-1171.21	13.28	-33.17
996	SLE RA 21	-94	14	4877	-1163.33	13.17	-32.66
996	SLE FR 1	-87	3	4372	-1046.55	11.76	-30.14
996	SLE FR 2	-86	6	4359	-1043.92	11.72	-29.97
996	SLE FR 3	-87	4	4393	-1051.38	11.82	-30.29
996	SLE FR 4	-89	7	4506	-1077.7	12.13	-30.77
996	SLE FR 5	-89	4	4540	-1085.15	12.23	-31.09
996	SLE FR 6	-91	4	4617	-1102.84	12.44	-31.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
996	SLE QP 1	-87	3	4372	-1046.55	11.76	-30.14
996	SLE QP 2	-89	4	4519	-1080.33	12.17	-30.94
996	SLD 1	335	305	5165	-1255.72	16.12	117.28
996	SLD 2	257	193	5275	-1279.41	16.6	90.18
996	SLD 3	280	40	6494	-1534.24	20.2	98.64
996	SLD 4	202	-72	6605	-1557.93	20.68	71.54
996	SLD 5	135	515	2677	-706.45	7.08	46.46
996	SLD 6	84	443	2748	-721.7	7.39	29.01
996	SLD 7	-48	-368	7109	-1634.85	20.69	-15.67
996	SLD 8	-98	-440	7180	-1650.1	21	-33.12
996	SLD 9	-80	448	1858	-510.55	3.34	-28.75
996	SLD 10	-130	375	1929	-525.81	3.65	-46.2
996	SLD 11	-262	-435	6290	-1438.95	16.95	-90.88
996	SLD 12	-313	-508	6361	-1454.2	17.26	-108.33
996	SLD 13	-380	80	2433	-602.72	3.66	-133.42
996	SLD 14	-458	-33	2544	-626.41	4.14	-160.51
996	SLD 15	-435	-185	3763	-881.24	7.74	-152.06
996	SLD 16	-513	-298	3873	-904.93	8.22	-179.15
996	SLV 1	580	494	5428	-1333.33	18.02	202.86
996	SLV 2	456	317	5602	-1370.68	18.78	160.15
996	SLV 3	486	43	7696	-1808.43	24.98	171.04
996	SLV 4	363	-135	7870	-1845.77	25.74	128.33
996	SLV 5	277	870	1319	-428.7	3.23	95.43
996	SLV 6	194	750	1436	-453.84	3.74	66.68
996	SLV 7	-35	-637	8879	-2012.34	26.43	-10.64
996	SLV 8	-118	-756	8997	-2037.48	26.94	-39.39
996	SLV 9	-60	764	41	-123.17	-2.6	-22.48
996	SLV 10	-143	645	158	-148.31	-2.09	-51.24
996	SLV 11	-372	-742	7601	-1706.81	20.6	-128.55
996	SLV 12	-455	-862	7719	-1731.95	21.11	-157.31
996	SLV 13	-541	143	1168	-314.89	-1.4	-190.2
996	SLV 14	-664	-35	1342	-352.23	-0.64	-232.91
996	SLV 15	-634	-309	3436	-789.98	5.56	-222.02
996	SLV 16	-758	-487	3610	-827.32	6.32	-264.73
996	SLV FO 1	647	544	5519	-1358.63	18.61	226.24
996	SLV FO 2	511	348	5711	-1399.71	19.44	179.26
996	SLV FO 3	544	46	8014	-1881.24	26.26	191.24
996	SLV FO 4	408	-149	8205	-1922.31	27.1	144.26
996	SLV FO 5	313	956	999	-363.54	2.33	108.07
996	SLV FO 6	222	825	1128	-391.2	2.89	76.44
996	SLV FO 7	-30	-701	9316	-2105.55	27.86	-8.61
996	SLV FO 8	-121	-832	9445	-2133.2	28.42	-40.23
996	SLV FO 9	-57	840	-407	-27.45	-4.08	-21.64
996	SLV FO 10	-148	709	-278	-55.11	-3.52	-53.27
996	SLV FO 11	-400	-817	7910	-1769.46	21.45	-138.32
996	SLV FO 12	-491	-948	8039	-1797.11	22.01	-169.94
996	SLV FO 13	-586	157	832	-238.34	-2.76	-206.13
996	SLV FO 14	-722	-39	1024	-279.42	-1.93	-253.11
996	SLV FO 15	-689	-341	3327	-760.94	4.9	-241.13
996	SLV FO 16	-825	-536	3519	-802.02	5.73	-288.11
996	CRTFP Ux+	0	0	0	0	0	0
996	CRTFP Ux-	0	0	0	0	0	0
996	CRTFP Uy+	0	0	0	0	0	0
996	CRTFP Uy-	0	0	0	0	0	0
997	SLU 1	-83	10	3881	-803.96	8.42	-28.95
997	SLU 2	-80	30	3795	-788.93	8.18	-27.7
997	SLU 3	-86	10	3991	-825.23	8.68	-29.85
997	SLU 4	-84	22	3939	-816.22	8.54	-29.1
997	SLU 5	-81	30	3868	-803.07	8.36	-28.26
997	SLU 6	-87	10	4064	-839.37	8.86	-30.41
997	SLU 7	-85	23	4013	-830.35	8.71	-29.66
997	SLU 8	-86	11	4027	-832.24	8.77	-30.07
997	SLU 9	-84	23	3976	-823.22	8.62	-29.32
997	SLU 10	-88	32	4272	-881.2	9.25	-30.5
997	SLU 11	-94	12	4468	-917.5	9.75	-32.66
997	SLU 12	-92	24	4416	-908.49	9.61	-31.9
997	SLU 13	-89	32	4345	-895.34	9.43	-31.06
997	SLU 14	-96	12	4541	-931.64	9.92	-33.22
997	SLU 15	-93	24	4490	-922.62	9.78	-32.47
997	SLU 16	-95	12	4505	-924.51	9.84	-32.88
997	SLU 17	-92	24	4453	-915.49	9.69	-32.12
997	SLU 18	-95	12	4562	-935.78	9.95	-32.96
997	SLU 19	-93	24	4511	-926.76	9.8	-32.21
997	SLU 20	-96	12	4636	-949.91	10.12	-33.52
997	SLU 21	-94	25	4584	-940.9	9.98	-32.77
997	SLU 22	-96	9	4532	-929.59	9.92	-33.45
997	SLU 23	-93	30	4446	-914.56	9.68	-32.19
997	SLU 24	-99	10	4642	-950.86	10.18	-34.35
997	SLU 25	-97	22	4590	-941.85	10.04	-33.6
997	SLU 26	-94	30	4519	-928.7	9.86	-32.75
997	SLU 27	-100	10	4715	-965	10.36	-34.91
997	SLU 28	-98	22	4664	-955.98	10.21	-34.16
997	SLU 29	-99	10	4679	-957.87	10.27	-34.57
997	SLU 30	-97	22	4627	-948.85	10.13	-33.82
997	SLU 31	-101	31	4923	-1006.83	10.75	-35
997	SLU 32	-107	11	5119	-1043.13	11.25	-37.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
997	SLU 33	-105	23	5068	-1034.12	11.11	-36.4
997	SLU 34	-102	32	4997	-1020.97	10.93	-35.56
997	SLU 35	-108	12	5193	-1057.27	11.43	-37.72
997	SLU 36	-106	24	5141	-1048.26	11.28	-36.96
997	SLU 37	-107	12	5156	-1050.14	11.34	-37.38
997	SLU 38	-105	24	5104	-1041.12	11.2	-36.62
997	SLU 39	-108	12	5214	-1061.41	11.45	-37.46
997	SLU 40	-105	24	5162	-1052.39	11.31	-36.7
997	SLU 41	-109	12	5287	-1075.54	11.62	-38.02
997	SLU 42	-107	24	5235	-1066.53	11.48	-37.27
997	SLU 43	-104	13	4822	-1002.08	10.43	-36.09
997	SLU 44	-100	33	4736	-987.05	10.19	-34.84
997	SLU 45	-106	13	4932	-1023.35	10.69	-36.99
997	SLU 46	-104	25	4880	-1014.33	10.55	-36.24
997	SLU 47	-102	33	4809	-1001.19	10.37	-35.4
997	SLU 48	-108	13	5005	-1037.49	10.87	-37.55
997	SLU 49	-106	26	4953	-1028.47	10.72	-36.8
997	SLU 50	-107	14	4968	-1030.35	10.78	-37.21
997	SLU 51	-105	26	4917	-1021.34	10.64	-36.46
997	SLU 52	-108	35	5213	-1079.32	11.26	-37.64
997	SLU 53	-114	15	5409	-1115.62	11.76	-39.8
997	SLU 54	-112	27	5357	-1106.6	11.62	-39.05
997	SLU 55	-110	35	5286	-1093.46	11.44	-38.21
997	SLU 56	-116	15	5482	-1129.76	11.94	-40.36
997	SLU 57	-114	27	5431	-1120.74	11.79	-39.61
997	SLU 58	-115	15	5446	-1122.62	11.85	-40.02
997	SLU 59	-113	27	5394	-1113.61	11.71	-39.27
997	SLU 60	-115	15	5503	-1133.89	11.96	-40.1
997	SLU 61	-113	27	5452	-1124.87	11.82	-39.35
997	SLU 62	-117	15	5577	-1148.03	12.13	-40.66
997	SLU 63	-115	28	5525	-1139.01	11.99	-39.91
997	SLU 64	-117	12	5473	-1127.71	11.93	-40.59
997	SLU 65	-113	33	5387	-1112.68	11.69	-39.34
997	SLU 66	-119	13	5583	-1148.98	12.19	-41.49
997	SLU 67	-117	25	5531	-1139.96	12.05	-40.74
997	SLU 68	-115	33	5460	-1126.82	11.87	-39.9
997	SLU 69	-121	13	5656	-1163.12	12.37	-42.05
997	SLU 70	-119	25	5605	-1154.1	12.23	-41.3
997	SLU 71	-120	13	5620	-1155.98	12.28	-41.71
997	SLU 72	-118	25	5568	-1146.97	12.14	-40.96
997	SLU 73	-121	34	5864	-1204.95	12.76	-42.14
997	SLU 74	-127	14	6060	-1241.25	13.26	-44.3
997	SLU 75	-125	26	6009	-1232.23	13.12	-43.55
997	SLU 76	-123	35	5937	-1219.09	12.94	-42.7
997	SLU 77	-129	15	6134	-1255.39	13.44	-44.86
997	SLU 78	-127	27	6082	-1246.37	13.29	-44.11
997	SLU 79	-128	15	6097	-1248.25	13.35	-44.52
997	SLU 80	-126	27	6045	-1239.24	13.21	-43.77
997	SLU 81	-128	15	6155	-1259.52	13.46	-44.6
997	SLU 82	-126	27	6103	-1250.5	13.32	-43.85
997	SLU 83	-130	15	6228	-1273.66	13.63	-45.16
997	SLU 84	-128	27	6176	-1264.64	13.49	-44.41
997	SLE RA 1	-87	10	4067	-839.86	8.85	-30.24
997	SLE RA 2	-84	23	4009	-829.84	8.69	-29.4
997	SLE RA 3	-89	10	4140	-854.04	9.02	-30.84
997	SLE RA 4	-87	18	4106	-848.03	8.93	-30.33
997	SLE RA 5	-86	23	4058	-839.26	8.81	-29.77
997	SLE RA 6	-90	10	4189	-863.46	9.14	-31.21
997	SLE RA 7	-88	18	4155	-857.45	9.04	-30.71
997	SLE RA 8	-89	10	4165	-858.71	9.08	-30.98
997	SLE RA 9	-88	18	4130	-852.7	8.98	-30.48
997	SLE RA 10	-90	24	4328	-891.35	9.4	-31.27
997	SLE RA 11	-94	11	4458	-915.55	9.74	-32.71
997	SLE RA 12	-93	19	4424	-909.54	9.64	-32.21
997	SLE RA 13	-91	24	4377	-900.78	9.52	-31.64
997	SLE RA 14	-95	11	4507	-924.98	9.85	-33.08
997	SLE RA 15	-94	19	4473	-918.96	9.76	-32.58
997	SLE RA 16	-94	11	4483	-920.22	9.79	-32.85
997	SLE RA 17	-93	19	4448	-914.21	9.7	-32.35
997	SLE RA 18	-95	11	4521	-927.73	9.87	-32.91
997	SLE RA 19	-93	19	4487	-921.72	9.77	-32.41
997	SLE RA 20	-96	11	4570	-937.16	9.98	-33.28
997	SLE RA 21	-94	20	4536	-931.15	9.89	-32.78
997	SLE FR 1	-87	10	4067	-839.86	8.85	-30.24
997	SLE FR 2	-86	12	4055	-837.85	8.82	-30.07
997	SLE FR 3	-87	10	4086	-843.63	8.89	-30.39
997	SLE FR 4	-89	13	4192	-864.21	9.12	-30.87
997	SLE FR 5	-90	10	4223	-869.99	9.2	-31.19
997	SLE FR 6	-91	10	4294	-883.79	9.36	-31.57
997	SLE QP 1	-87	10	4067	-839.86	8.85	-30.24
997	SLE QP 2	-89	10	4203	-866.22	9.15	-31.04
997	SLD 1	335	289	4740	-991.83	12.61	117.5
997	SLD 2	257	185	4837	-1009.18	13.02	90.37
997	SLD 3	281	39	5961	-1205.58	15.82	98.87
997	SLD 4	202	-65	6059	-1222.92	16.23	71.74
997	SLD 5	134	490	2494	-576.74	5.26	46.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
997	SLD 6	84	423	2557	-587.91	5.52	28.97
997	SLD 7	-48	-341	6567	-1289.22	15.95	-15.65
997	SLD 8	-98	-408	6629	-1300.4	16.21	-33.12
997	SLD 9	-80	429	1777	-432.04	2.1	-28.95
997	SLD 10	-131	362	1840	-443.21	2.36	-46.43
997	SLD 11	-262	-402	5849	-1144.53	12.79	-91.04
997	SLD 12	-313	-469	5912	-1155.7	13.05	-108.51
997	SLD 13	-381	85	2348	-509.51	2.08	-133.82
997	SLD 14	-459	-19	2445	-526.86	2.48	-160.95
997	SLD 15	-436	-164	3569	-723.26	5.29	-152.44
997	SLD 16	-514	-268	3667	-740.61	5.69	-179.58
997	SLV 1	581	464	4949	-1046.36	14.31	203.26
997	SLV 2	457	300	5103	-1073.71	14.95	160.49
997	SLV 3	487	39	7034	-1410.98	19.78	171.46
997	SLV 4	364	-126	7187	-1438.32	20.42	128.69
997	SLV 5	276	822	1238	-362.16	2.29	95.46
997	SLV 6	193	711	1341	-380.57	2.72	66.67
997	SLV 7	-35	-596	8184	-1577.54	20.52	-10.53
997	SLV 8	-118	-706	8288	-1595.95	20.95	-39.33
997	SLV 9	-61	726	118	-136.48	-2.64	-22.75
997	SLV 10	-144	616	222	-154.89	-2.21	-51.54
997	SLV 11	-371	-691	7065	-1351.87	15.59	-128.74
997	SLV 12	-455	-802	7169	-1370.28	16.02	-157.54
997	SLV 13	-542	146	1219	-294.11	-2.12	-190.77
997	SLV 14	-666	-18	1373	-321.46	-1.48	-233.54
997	SLV 15	-636	-280	3303	-658.73	3.35	-222.57
997	SLV 16	-759	-444	3457	-686.07	3.99	-265.34
997	SLV FO 1	648	509	5024	-1064.38	14.83	226.69
997	SLV FO 2	512	329	5193	-1094.46	15.53	179.65
997	SLV FO 3	545	41	7317	-1465.46	20.85	191.71
997	SLV FO 4	409	-139	7486	-1495.53	21.55	144.67
997	SLV FO 5	313	903	941	-311.75	1.6	108.11
997	SLV FO 6	221	781	1055	-332	2.07	76.44
997	SLV FO 7	-29	-656	8583	-1648.68	21.65	-8.48
997	SLV FO 8	-121	-778	8696	-1668.93	22.13	-40.16
997	SLV FO 9	-58	798	-290	-63.51	-3.82	-21.92
997	SLV FO 10	-149	677	-176	-83.76	-3.35	-53.59
997	SLV FO 11	-400	-761	7352	-1400.43	16.23	-138.51
997	SLV FO 12	-491	-883	7465	-1420.68	16.7	-170.19
997	SLV FO 13	-588	159	921	-236.9	-3.24	-206.74
997	SLV FO 14	-724	-21	1090	-266.98	-2.54	-253.79
997	SLV FO 15	-690	-308	3213	-637.98	2.77	-241.72
997	SLV FO 16	-826	-489	3382	-668.06	3.47	-288.77
997	CRTFP Ux+	0	0	0	0	0	0
997	CRTFP Ux-	0	0	0	0	0	0
997	CRTFP Uy+	0	0	0	0	0	0
997	CRTFP Uy-	0	0	0	0	0	0
998	SLU 1	-83	15	3674	-672.34	5.55	-28.97
998	SLU 2	-80	34	3594	-660.56	5.38	-27.72
998	SLU 3	-86	15	3778	-689.61	5.72	-29.87
998	SLU 4	-84	27	3730	-682.54	5.62	-29.12
998	SLU 5	-81	35	3663	-672.04	5.49	-28.28
998	SLU 6	-87	16	3847	-701.09	5.84	-30.43
998	SLU 7	-85	27	3799	-694.02	5.74	-29.68
998	SLU 8	-86	16	3812	-695.3	5.78	-30.09
998	SLU 9	-84	27	3764	-688.23	5.68	-29.34
998	SLU 10	-88	36	4046	-735.61	6.06	-30.54
998	SLU 11	-94	17	4229	-764.66	6.4	-32.69
998	SLU 12	-92	29	4181	-757.59	6.3	-31.94
998	SLU 13	-89	36	4115	-747.09	6.18	-31.1
998	SLU 14	-95	18	4298	-776.14	6.52	-33.25
998	SLU 15	-93	29	4250	-769.07	6.42	-32.5
998	SLU 16	-95	18	4264	-770.35	6.46	-32.91
998	SLU 17	-92	29	4216	-763.28	6.36	-32.16
998	SLU 18	-95	17	4319	-779.55	6.52	-33.01
998	SLU 19	-93	29	4271	-772.48	6.42	-32.26
998	SLU 20	-96	18	4388	-791.03	6.64	-33.57
998	SLU 21	-94	29	4340	-783.96	6.54	-32.81
998	SLU 22	-96	15	4289	-774.33	6.52	-33.48
998	SLU 23	-93	35	4209	-762.55	6.35	-32.23
998	SLU 24	-99	16	4392	-791.6	6.7	-34.38
998	SLU 25	-97	27	4344	-784.53	6.6	-33.63
998	SLU 26	-94	35	4278	-774.03	6.47	-32.79
998	SLU 27	-100	16	4462	-803.08	6.81	-34.94
998	SLU 28	-98	28	4414	-796.01	6.71	-34.19
998	SLU 29	-99	16	4427	-797.29	6.75	-34.6
998	SLU 30	-97	28	4379	-790.22	6.65	-33.85
998	SLU 31	-101	36	4660	-837.59	7.04	-35.05
998	SLU 32	-107	18	4844	-866.64	7.38	-37.2
998	SLU 33	-105	29	4796	-859.57	7.28	-36.45
998	SLU 34	-102	37	4729	-849.08	7.15	-35.61
998	SLU 35	-108	18	4913	-878.12	7.49	-37.76
998	SLU 36	-106	30	4865	-871.05	7.39	-37.01
998	SLU 37	-107	18	4878	-872.34	7.44	-37.42
998	SLU 38	-105	30	4830	-865.27	7.33	-36.67
998	SLU 39	-108	18	4934	-881.54	7.5	-37.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
998	SLU 40	-106	29	4886	-874.47	7.4	-36.76
998	SLU 41	-109	18	5003	-893.02	7.61	-38.07
998	SLU 42	-107	30	4955	-885.95	7.51	-37.32
998	SLU 43	-104	19	4566	-839.08	6.88	-36.12
998	SLU 44	-100	38	4486	-827.3	6.71	-34.87
998	SLU 45	-106	20	4669	-856.35	7.05	-37.02
998	SLU 46	-104	31	4621	-849.28	6.95	-36.27
998	SLU 47	-102	39	4555	-838.78	6.82	-35.43
998	SLU 48	-108	20	4738	-867.83	7.17	-37.58
998	SLU 49	-106	32	4690	-860.76	7.07	-36.82
998	SLU 50	-107	20	4704	-862.04	7.11	-37.24
998	SLU 51	-105	32	4656	-854.97	7.01	-36.48
998	SLU 52	-108	40	4937	-902.34	7.39	-37.69
998	SLU 53	-114	21	5121	-931.39	7.74	-39.84
998	SLU 54	-112	33	5073	-924.32	7.63	-39.09
998	SLU 55	-110	41	5006	-913.82	7.51	-38.25
998	SLU 56	-116	22	5190	-942.87	7.85	-40.4
998	SLU 57	-114	33	5142	-935.8	7.75	-39.65
998	SLU 58	-115	22	5155	-937.09	7.79	-40.06
998	SLU 59	-113	33	5107	-930.02	7.69	-39.31
998	SLU 60	-115	22	5210	-946.29	7.85	-40.15
998	SLU 61	-113	33	5162	-939.22	7.75	-39.4
998	SLU 62	-117	22	5280	-957.77	7.97	-40.71
998	SLU 63	-115	34	5232	-950.7	7.87	-39.96
998	SLU 64	-117	20	5180	-941.07	7.85	-40.63
998	SLU 65	-113	39	5100	-929.29	7.68	-39.38
998	SLU 66	-119	20	5284	-958.33	8.03	-41.53
998	SLU 67	-117	32	5236	-951.26	7.93	-40.77
998	SLU 68	-115	40	5170	-940.77	7.8	-39.93
998	SLU 69	-121	21	5353	-969.81	8.14	-42.08
998	SLU 70	-119	32	5305	-962.74	8.04	-41.33
998	SLU 71	-120	21	5319	-964.03	8.08	-41.74
998	SLU 72	-118	32	5271	-956.96	7.98	-40.99
998	SLU 73	-121	41	5552	-1004.33	8.37	-42.2
998	SLU 74	-127	22	5735	-1033.38	8.71	-44.35
998	SLU 75	-125	33	5687	-1026.31	8.61	-43.6
998	SLU 76	-123	41	5621	-1015.81	8.48	-42.76
998	SLU 77	-129	22	5804	-1044.86	8.82	-44.91
998	SLU 78	-127	34	5756	-1037.79	8.72	-44.16
998	SLU 79	-128	22	5770	-1039.07	8.77	-44.57
998	SLU 80	-126	34	5722	-1032	8.66	-43.82
998	SLU 81	-128	22	5825	-1048.28	8.83	-44.66
998	SLU 82	-126	34	5777	-1041.21	8.73	-43.91
998	SLU 83	-130	23	5894	-1059.76	8.94	-45.22
998	SLU 84	-128	34	5846	-1052.69	8.84	-44.47
998	SLE RA 1	-87	15	3850	-701.48	5.83	-30.26
998	SLE RA 2	-84	28	3797	-693.63	5.71	-29.43
998	SLE RA 3	-89	15	3919	-712.99	5.94	-30.86
998	SLE RA 4	-87	23	3887	-708.28	5.87	-30.36
998	SLE RA 5	-86	28	3843	-701.28	5.79	-29.8
998	SLE RA 6	-90	16	3965	-720.65	6.02	-31.23
998	SLE RA 7	-88	23	3933	-715.93	5.95	-30.73
998	SLE RA 8	-89	16	3942	-716.79	5.98	-31.01
998	SLE RA 9	-88	23	3910	-712.08	5.91	-30.5
998	SLE RA 10	-90	29	4097	-743.66	6.17	-31.31
998	SLE RA 11	-94	17	4220	-763.02	6.4	-32.74
998	SLE RA 12	-93	24	4188	-758.31	6.33	-32.24
998	SLE RA 13	-91	29	4143	-751.31	6.25	-31.68
998	SLE RA 14	-95	17	4266	-770.68	6.47	-33.11
998	SLE RA 15	-94	25	4234	-765.97	6.41	-32.61
998	SLE RA 16	-94	17	4243	-766.82	6.44	-32.89
998	SLE RA 17	-93	25	4211	-762.11	6.37	-32.39
998	SLE RA 18	-95	17	4280	-772.96	6.48	-32.95
998	SLE RA 19	-93	24	4248	-768.24	6.41	-32.45
998	SLE RA 20	-96	17	4326	-780.61	6.55	-33.32
998	SLE RA 21	-94	25	4294	-775.9	6.49	-32.82
998	SLE FR 1	-87	15	3850	-701.48	5.83	-30.26
998	SLE FR 2	-86	18	3839	-699.91	5.8	-30.09
998	SLE FR 3	-87	15	3868	-704.54	5.86	-30.41
998	SLE FR 4	-89	18	3968	-721.35	6	-30.9
998	SLE FR 5	-90	16	3997	-725.99	6.05	-31.22
998	SLE FR 6	-91	16	4065	-737.22	6.15	-31.61
998	SLE QP 1	-87	15	3850	-701.48	5.83	-30.26
998	SLE QP 2	-89	16	3979	-722.92	6.02	-31.07
998	SLD 1	336	274	4420	-809.18	9.01	117.76
998	SLD 2	258	177	4507	-821.92	9.34	90.6
998	SLD 3	282	38	5560	-978.24	11.3	99.17
998	SLD 4	203	-59	5647	-990.98	11.62	72
998	SLD 5	134	468	2366	-490.2	3.4	46.46
998	SLD 6	84	406	2422	-498.4	3.61	28.96
998	SLD 7	-47	-319	6168	-1053.74	11.01	-15.53
998	SLD 8	-97	-381	6224	-1061.95	11.22	-33.02
998	SLD 9	-81	412	1734	-383.9	0.82	-29.12
998	SLD 10	-132	350	1789	-392.11	1.03	-46.61
998	SLD 11	-262	-374	5535	-947.45	8.44	-91.1
998	SLD 12	-313	-437	5591	-955.65	8.65	-108.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
998	SLD 13	-382	90	2311	-454.87	0.42	-134.14
998	SLD 14	-460	-7	2397	-467.61	0.75	-161.31
998	SLD 15	-436	-146	3451	-623.93	2.7	-152.73
998	SLD 16	-514	-243	3538	-636.67	3.03	-179.9
998	SLV 1	582	437	4583	-844.98	10.52	203.69
998	SLV 2	458	285	4719	-865.07	11.03	160.87
998	SLV 3	489	34	6528	-1133.4	14.41	171.95
998	SLV 4	366	-118	6665	-1153.48	14.93	129.12
998	SLV 5	275	781	1184	-318.37	1.37	95.5
998	SLV 6	192	679	1275	-331.89	1.71	66.67
998	SLV 7	-33	-561	7669	-1279.74	14.35	-10.32
998	SLV 8	-116	-664	7761	-1293.26	14.7	-39.15
998	SLV 9	-62	695	197	-152.59	-2.66	-22.99
998	SLV 10	-145	592	289	-166.11	-2.31	-51.82
998	SLV 11	-371	-648	6682	-1113.96	10.33	-128.8
998	SLV 12	-454	-750	6774	-1127.48	10.68	-157.63
998	SLV 13	-544	149	1293	-292.37	-2.89	-191.26
998	SLV 14	-667	-3	1429	-312.45	-2.37	-234.08
998	SLV 15	-637	-253	3239	-580.78	1.01	-223
998	SLV 16	-760	-406	3375	-600.87	1.52	-265.83
998	SLV FO 1	649	479	4643	-857.19	10.97	227.17
998	SLV FO 2	513	311	4793	-879.28	11.53	180.06
998	SLV FO 3	547	36	6783	-1174.44	15.25	192.25
998	SLV FO 4	411	-132	6933	-1196.53	15.82	145.14
998	SLV FO 5	312	858	904	-277.92	0.9	108.15
998	SLV FO 6	220	745	1005	-292.79	1.28	76.44
998	SLV FO 7	-28	-619	8038	-1335.42	15.19	-8.24
998	SLV FO 8	-119	-732	8139	-1350.3	15.57	-39.95
998	SLV FO 9	-60	763	-182	-95.55	-3.52	-22.18
998	SLV FO 10	-151	650	-80	-110.43	-3.14	-53.89
998	SLV FO 11	-399	-714	6952	-1153.06	10.76	-138.58
998	SLV FO 12	-490	-826	7054	-1167.93	11.14	-170.29
998	SLV FO 13	-590	163	1024	-249.32	-3.78	-207.28
998	SLV FO 14	-725	-5	1175	-271.41	-3.21	-254.38
998	SLV FO 15	-691	-280	3165	-566.57	0.51	-242.2
998	SLV FO 16	-827	-448	3315	-588.66	1.07	-289.3
998	CRTFP Ux+	0	0	0	0	0	0
998	CRTFP Ux-	0	0	0	0	0	0
998	CRTFP Uy+	0	0	0	0	0	0
998	CRTFP Uy-	0	0	0	0	0	0
999	SLU 1	-83	19	3552	-603.18	2.76	-28.93
999	SLU 2	-79	37	3476	-593.26	2.65	-27.68
999	SLU 3	-86	19	3651	-618.34	2.85	-29.82
999	SLU 4	-83	30	3606	-612.38	2.78	-29.07
999	SLU 5	-81	38	3542	-603.34	2.71	-28.24
999	SLU 6	-87	20	3718	-628.42	2.9	-30.37
999	SLU 7	-85	31	3672	-622.46	2.84	-29.63
999	SLU 8	-86	20	3685	-623.34	2.87	-30.04
999	SLU 9	-84	31	3639	-617.39	2.81	-29.29
999	SLU 10	-87	39	3913	-659.51	2.96	-30.52
999	SLU 11	-94	21	4088	-684.58	3.15	-32.66
999	SLU 12	-91	32	4043	-678.63	3.09	-31.91
999	SLU 13	-89	39	3979	-669.59	3.02	-31.07
999	SLU 14	-95	22	4155	-694.67	3.21	-33.21
999	SLU 15	-93	33	4109	-688.71	3.15	-32.46
999	SLU 16	-94	22	4122	-689.59	3.18	-32.87
999	SLU 17	-92	33	4076	-683.64	3.12	-32.12
999	SLU 18	-95	21	4176	-697.82	3.19	-32.98
999	SLU 19	-92	32	4130	-691.87	3.13	-32.23
999	SLU 20	-96	22	4242	-707.9	3.25	-33.53
999	SLU 21	-94	33	4197	-701.95	3.19	-32.79
999	SLU 22	-96	20	4145	-692.92	3.22	-33.44
999	SLU 23	-92	38	4069	-683	3.11	-32.19
999	SLU 24	-98	21	4245	-708.08	3.31	-34.33
999	SLU 25	-96	32	4199	-702.12	3.24	-33.58
999	SLU 26	-94	39	4136	-693.08	3.17	-32.75
999	SLU 27	-100	21	4311	-718.16	3.36	-34.88
999	SLU 28	-98	32	4266	-712.2	3.3	-34.14
999	SLU 29	-99	21	4278	-713.08	3.33	-34.55
999	SLU 30	-97	32	4233	-707.13	3.27	-33.8
999	SLU 31	-100	40	4506	-749.25	3.42	-35.03
999	SLU 32	-107	22	4682	-774.32	3.61	-37.16
999	SLU 33	-104	33	4636	-768.37	3.55	-36.42
999	SLU 34	-102	41	4573	-759.33	3.48	-35.58
999	SLU 35	-108	23	4748	-784.4	3.67	-37.72
999	SLU 36	-106	34	4703	-778.45	3.61	-36.97
999	SLU 37	-107	23	4715	-779.33	3.64	-37.38
999	SLU 38	-105	34	4669	-773.38	3.58	-36.63
999	SLU 39	-107	22	4769	-787.56	3.65	-37.49
999	SLU 40	-105	33	4724	-781.61	3.59	-36.74
999	SLU 41	-109	23	4836	-797.64	3.71	-38.04
999	SLU 42	-107	34	4790	-791.69	3.65	-37.29
999	SLU 43	-103	24	4414	-753.37	3.43	-36.06
999	SLU 44	-100	42	4338	-743.45	3.32	-34.81
999	SLU 45	-106	25	4513	-768.52	3.51	-36.95
999	SLU 46	-104	36	4468	-762.57	3.45	-36.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
999	SLU 47	-101	43	4404	-753.53	3.38	-35.37
999	SLU 48	-108	25	4580	-778.61	3.57	-37.51
999	SLU 49	-105	36	4534	-772.65	3.51	-36.76
999	SLU 50	-107	25	4547	-773.53	3.54	-37.17
999	SLU 51	-104	36	4501	-767.58	3.48	-36.42
999	SLU 52	-108	44	4775	-809.69	3.63	-37.65
999	SLU 53	-114	26	4950	-834.77	3.82	-39.79
999	SLU 54	-112	37	4905	-828.82	3.76	-39.04
999	SLU 55	-109	45	4841	-819.77	3.69	-38.2
999	SLU 56	-116	27	5017	-844.85	3.88	-40.34
999	SLU 57	-113	38	4971	-838.9	3.81	-39.59
999	SLU 58	-115	27	4984	-839.78	3.85	-40
999	SLU 59	-112	38	4938	-833.83	3.78	-39.26
999	SLU 60	-115	26	5038	-848.01	3.86	-40.11
999	SLU 61	-113	37	4992	-842.05	3.8	-39.36
999	SLU 62	-117	27	5104	-858.09	3.92	-40.67
999	SLU 63	-114	38	5059	-852.14	3.86	-39.92
999	SLU 64	-116	25	5007	-843.11	3.89	-40.57
999	SLU 65	-113	44	4931	-833.18	3.78	-39.32
999	SLU 66	-119	26	5107	-858.26	3.98	-41.46
999	SLU 67	-117	37	5061	-852.31	3.91	-40.71
999	SLU 68	-114	44	4998	-843.27	3.84	-39.88
999	SLU 69	-120	26	5173	-868.34	4.03	-42.02
999	SLU 70	-118	37	5128	-862.39	3.97	-41.27
999	SLU 71	-120	26	5140	-863.27	4	-41.68
999	SLU 72	-117	37	5095	-857.32	3.94	-40.93
999	SLU 73	-121	45	5368	-899.43	4.09	-42.16
999	SLU 74	-127	27	5544	-924.51	4.28	-44.3
999	SLU 75	-125	39	5498	-918.56	4.22	-43.55
999	SLU 76	-122	46	5435	-909.51	4.15	-42.71
999	SLU 77	-129	28	5610	-934.59	4.34	-44.85
999	SLU 78	-126	39	5565	-928.64	4.28	-44.1
999	SLU 79	-128	28	5577	-929.52	4.31	-44.51
999	SLU 80	-125	39	5532	-923.56	4.25	-43.77
999	SLU 81	-128	28	5631	-937.75	4.32	-44.62
999	SLU 82	-126	39	5586	-931.79	4.26	-43.87
999	SLU 83	-129	28	5698	-947.83	4.38	-45.17
999	SLU 84	-127	39	5652	-941.87	4.32	-44.43
999	SLE RA 1	-87	19	3721	-628.82	2.89	-30.22
999	SLE RA 2	-84	31	3671	-622.21	2.82	-29.38
999	SLE RA 3	-88	20	3788	-638.93	2.95	-30.81
999	SLE RA 4	-87	27	3757	-634.96	2.91	-30.31
999	SLE RA 5	-85	32	3715	-628.93	2.86	-29.75
999	SLE RA 6	-89	20	3832	-645.65	2.99	-31.18
999	SLE RA 7	-88	27	3802	-641.68	2.94	-30.68
999	SLE RA 8	-89	20	3810	-642.26	2.97	-30.96
999	SLE RA 9	-87	27	3780	-638.29	2.92	-30.46
999	SLE RA 10	-90	33	3962	-666.37	3.02	-31.28
999	SLE RA 11	-94	21	4079	-683.09	3.15	-32.7
999	SLE RA 12	-92	28	4049	-679.12	3.11	-32.2
999	SLE RA 13	-91	33	4006	-673.09	3.06	-31.65
999	SLE RA 14	-95	21	4123	-689.81	3.19	-33.07
999	SLE RA 15	-93	28	4093	-685.84	3.15	-32.57
999	SLE RA 16	-94	21	4101	-686.43	3.17	-32.85
999	SLE RA 17	-93	28	4071	-682.46	3.13	-32.35
999	SLE RA 18	-94	21	4137	-691.91	3.18	-32.92
999	SLE RA 19	-93	28	4107	-687.95	3.14	-32.42
999	SLE RA 20	-95	21	4182	-698.64	3.22	-33.29
999	SLE RA 21	-94	28	4151	-694.67	3.18	-32.79
999	SLE FR 1	-87	19	3721	-628.82	2.89	-30.22
999	SLE FR 2	-86	22	3711	-627.5	2.88	-30.05
999	SLE FR 3	-87	19	3739	-631.51	2.9	-30.36
999	SLE FR 4	-88	22	3836	-646.43	2.96	-30.86
999	SLE FR 5	-89	20	3864	-650.44	2.99	-31.17
999	SLE FR 6	-90	20	3929	-660.37	3.03	-31.57
999	SLE QP 1	-87	19	3721	-628.82	2.89	-30.22
999	SLE QP 2	-89	20	3846	-647.75	2.98	-31.03
999	SLD 1	337	261	4205	-703.89	5.55	118.06
999	SLD 2	259	172	4283	-713.69	5.8	90.87
999	SLD 3	283	35	5292	-847.73	6.92	99.53
999	SLD 4	205	-55	5370	-857.53	7.17	72.34
999	SLD 5	134	451	2292	-444.75	1.62	46.48
999	SLD 6	83	393	2343	-451.06	1.78	28.97
999	SLD 7	-45	-303	5914	-924.21	6.2	-15.29
999	SLD 8	-96	-361	5965	-930.53	6.36	-32.79
999	SLD 9	-82	400	1728	-364.97	-0.41	-29.26
999	SLD 10	-133	342	1778	-371.29	-0.25	-46.77
999	SLD 11	-261	-354	5349	-844.44	4.17	-91.02
999	SLD 12	-312	-411	5400	-850.75	4.33	-108.53
999	SLD 13	-383	94	2322	-437.97	-1.22	-134.39
999	SLD 14	-461	4	2401	-447.77	-0.97	-161.58
999	SLD 15	-436	-132	3409	-581.81	0.16	-152.92
999	SLD 16	-515	-222	3487	-591.61	0.41	-180.11
999	SLV 1	583	414	4326	-724.7	6.89	204.12
999	SLV 2	459	273	4449	-740.16	7.28	161.26
999	SLV 3	491	29	6179	-970.1	9.23	172.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
999	SLV 4	368	-113	6303	-985.56	9.62	129.63
999	SLV 5	275	750	1156	-295.75	0.53	95.49
999	SLV 6	192	654	1239	-306.16	0.79	66.64
999	SLV 7	-31	-536	7334	-1113.77	8.33	-9.95
999	SLV 8	-114	-632	7417	-1124.18	8.59	-38.8
999	SLV 9	-64	671	275	-171.32	-2.64	-23.25
999	SLV 10	-147	576	358	-181.73	-2.37	-52.1
999	SLV 11	-369	-615	6454	-989.34	5.16	-128.69
999	SLV 12	-452	-710	6537	-999.75	5.42	-157.54
999	SLV 13	-546	152	1390	-309.94	-3.67	-191.68
999	SLV 14	-669	11	1513	-325.39	-3.27	-234.54
999	SLV 15	-637	-233	3243	-555.34	-1.33	-223.31
999	SLV 16	-761	-375	3366	-570.8	-0.93	-266.17
999	SLV FO 1	650	454	4374	-732.39	7.28	227.63
999	SLV FO 2	514	298	4509	-749.4	7.71	180.49
999	SLV FO 3	549	29	6413	-1002.34	9.85	192.83
999	SLV FO 4	413	-126	6548	-1019.34	10.28	145.69
999	SLV FO 5	311	823	887	-260.55	0.28	108.14
999	SLV FO 6	220	718	978	-272	0.57	76.41
999	SLV FO 7	-25	-592	7683	-1160.37	8.86	-7.84
999	SLV FO 8	-117	-697	7775	-1171.82	9.15	-39.58
999	SLV FO 9	-61	736	-82	-123.68	-3.2	-22.47
999	SLV FO 10	-153	631	9	-135.13	-2.91	-54.21
999	SLV FO 11	-397	-678	6714	-1023.5	5.38	-138.46
999	SLV FO 12	-489	-783	6806	-1034.95	5.67	-170.19
999	SLV FO 13	-591	166	1144	-276.16	-4.33	-207.75
999	SLV FO 14	-727	10	1279	-293.16	-3.9	-254.89
999	SLV FO 15	-692	-259	3183	-546.1	-1.76	-242.54
999	SLV FO 16	-828	-415	3318	-563.1	-1.32	-289.68
999	CRTFP Ux+	0	0	0	0	0	0
999	CRTFP Ux-	0	0	0	0	0	0
999	CRTFP Uy+	0	0	0	0	0	0
999	CRTFP Uy-	0	0	0	0	0	0
1000	SLU 1	-82	21	3509	-591.83	0.17	-28.82
1000	SLU 2	-79	39	3435	-582.47	0.13	-27.59
1000	SLU 3	-85	22	3607	-606.63	0.18	-29.71
1000	SLU 4	-83	32	3563	-601.01	0.15	-28.97
1000	SLU 5	-80	39	3501	-592.32	0.13	-28.14
1000	SLU 6	-87	22	3673	-616.48	0.18	-30.26
1000	SLU 7	-84	33	3629	-610.86	0.16	-29.51
1000	SLU 8	-86	22	3640	-611.53	0.18	-29.92
1000	SLU 9	-83	33	3596	-605.91	0.15	-29.18
1000	SLU 10	-87	40	3868	-647.77	0.08	-30.43
1000	SLU 11	-93	23	4040	-671.93	0.13	-32.55
1000	SLU 12	-91	34	3996	-666.31	0.11	-31.81
1000	SLU 13	-89	41	3934	-657.61	0.09	-30.98
1000	SLU 14	-95	24	4106	-681.78	0.13	-33.1
1000	SLU 15	-93	35	4062	-676.16	0.11	-32.36
1000	SLU 16	-94	24	4073	-676.83	0.13	-32.77
1000	SLU 17	-92	34	4029	-671.21	0.11	-32.02
1000	SLU 18	-94	23	4128	-685.11	0.1	-32.89
1000	SLU 19	-92	34	4083	-679.49	0.08	-32.14
1000	SLU 20	-96	24	4193	-694.96	0.11	-33.44
1000	SLU 21	-93	34	4149	-689.34	0.08	-32.69
1000	SLU 22	-95	22	4096	-679.92	0.15	-33.33
1000	SLU 23	-92	40	4022	-670.55	0.11	-32.09
1000	SLU 24	-98	23	4194	-694.71	0.16	-34.21
1000	SLU 25	-96	34	4150	-689.1	0.14	-33.47
1000	SLU 26	-93	41	4088	-680.4	0.12	-32.64
1000	SLU 27	-99	24	4260	-704.56	0.16	-34.76
1000	SLU 28	-97	34	4216	-698.94	0.14	-34.02
1000	SLU 29	-98	24	4227	-699.61	0.16	-34.42
1000	SLU 30	-96	34	4183	-694	0.14	-33.68
1000	SLU 31	-100	42	4455	-735.85	0.06	-34.93
1000	SLU 32	-106	25	4627	-760.01	0.11	-37.05
1000	SLU 33	-104	35	4583	-754.39	0.09	-36.31
1000	SLU 34	-101	42	4521	-745.7	0.07	-35.48
1000	SLU 35	-108	25	4693	-769.86	0.12	-37.6
1000	SLU 36	-105	36	4649	-764.24	0.09	-36.86
1000	SLU 37	-107	25	4660	-764.91	0.11	-37.27
1000	SLU 38	-104	36	4616	-759.29	0.09	-36.53
1000	SLU 39	-107	25	4715	-773.19	0.09	-37.39
1000	SLU 40	-105	35	4670	-767.58	0.06	-36.65
1000	SLU 41	-108	25	4780	-783.04	0.09	-37.94
1000	SLU 42	-106	36	4736	-777.43	0.07	-37.19
1000	SLU 43	-103	27	4360	-739.18	0.23	-35.93
1000	SLU 44	-99	45	4287	-729.82	0.19	-34.69
1000	SLU 45	-105	27	4459	-753.98	0.24	-36.81
1000	SLU 46	-103	38	4414	-748.36	0.21	-36.07
1000	SLU 47	-101	45	4352	-739.67	0.19	-35.24
1000	SLU 48	-107	28	4524	-763.83	0.24	-37.36
1000	SLU 49	-105	39	4480	-758.21	0.21	-36.62
1000	SLU 50	-106	28	4492	-758.88	0.24	-37.03
1000	SLU 51	-104	39	4447	-753.26	0.21	-36.28
1000	SLU 52	-107	46	4720	-795.12	0.14	-37.53
1000	SLU 53	-113	29	4892	-819.28	0.19	-39.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1000	SLU 54	-111	40	4847	-813.66	0.16	-38.91
1000	SLU 55	-109	47	4785	-804.96	0.14	-38.08
1000	SLU 56	-115	30	4957	-829.13	0.19	-40.2
1000	SLU 57	-113	40	4913	-823.51	0.17	-39.46
1000	SLU 58	-114	29	4925	-824.18	0.19	-39.87
1000	SLU 59	-112	40	4880	-818.56	0.16	-39.13
1000	SLU 60	-114	29	4979	-832.46	0.16	-39.99
1000	SLU 61	-112	40	4935	-826.84	0.14	-39.25
1000	SLU 62	-116	29	5045	-842.31	0.17	-40.54
1000	SLU 63	-114	40	5000	-836.69	0.14	-39.8
1000	SLU 64	-116	28	4947	-827.27	0.21	-40.43
1000	SLU 65	-112	46	4874	-817.9	0.17	-39.19
1000	SLU 66	-118	29	5046	-842.06	0.22	-41.31
1000	SLU 67	-116	40	5001	-836.45	0.19	-40.57
1000	SLU 68	-114	47	4939	-827.75	0.17	-39.74
1000	SLU 69	-120	29	5111	-851.91	0.22	-41.86
1000	SLU 70	-118	40	5067	-846.29	0.2	-41.12
1000	SLU 71	-119	29	5079	-846.96	0.22	-41.53
1000	SLU 72	-117	40	5034	-841.35	0.19	-40.79
1000	SLU 73	-120	48	5307	-883.2	0.12	-42.04
1000	SLU 74	-126	30	5479	-907.36	0.17	-44.16
1000	SLU 75	-124	41	5434	-901.74	0.15	-43.41
1000	SLU 76	-122	48	5372	-893.05	0.13	-42.58
1000	SLU 77	-128	31	5544	-917.21	0.17	-44.71
1000	SLU 78	-126	42	5500	-911.59	0.15	-43.96
1000	SLU 79	-127	31	5512	-912.26	0.17	-44.37
1000	SLU 80	-125	42	5467	-906.64	0.15	-43.63
1000	SLU 81	-127	30	5566	-920.54	0.14	-44.49
1000	SLU 82	-125	41	5522	-914.93	0.12	-43.75
1000	SLU 83	-129	31	5632	-930.39	0.15	-45.04
1000	SLU 84	-127	42	5587	-924.78	0.12	-44.3
1000	SLE RA 1	-86	21	3677	-617	0.17	-30.11
1000	SLE RA 2	-84	33	3627	-610.76	0.14	-29.29
1000	SLE RA 3	-88	22	3742	-626.86	0.17	-30.7
1000	SLE RA 4	-86	29	3713	-623.12	0.15	-30.2
1000	SLE RA 5	-85	34	3671	-617.32	0.14	-29.65
1000	SLE RA 6	-89	22	3786	-633.43	0.17	-31.07
1000	SLE RA 7	-87	29	3756	-629.69	0.16	-30.57
1000	SLE RA 8	-88	22	3764	-630.13	0.17	-30.84
1000	SLE RA 9	-87	29	3735	-626.39	0.15	-30.35
1000	SLE RA 10	-89	34	3916	-654.29	0.11	-31.18
1000	SLE RA 11	-93	23	4031	-670.39	0.14	-32.6
1000	SLE RA 12	-92	30	4001	-666.65	0.12	-32.1
1000	SLE RA 13	-90	35	3960	-660.85	0.11	-31.55
1000	SLE RA 14	-94	23	4075	-676.96	0.14	-32.96
1000	SLE RA 15	-93	30	4045	-673.22	0.13	-32.47
1000	SLE RA 16	-94	23	4053	-673.66	0.14	-32.74
1000	SLE RA 17	-92	30	4023	-669.92	0.12	-32.24
1000	SLE RA 18	-94	23	4089	-679.19	0.12	-32.82
1000	SLE RA 19	-92	30	4060	-675.44	0.1	-32.32
1000	SLE RA 20	-95	23	4133	-685.75	0.12	-33.18
1000	SLE RA 21	-93	30	4103	-682.01	0.11	-32.69
1000	SLE FR 1	-86	21	3677	-617	0.17	-30.11
1000	SLE FR 2	-86	24	3667	-615.75	0.16	-29.95
1000	SLE FR 3	-87	22	3694	-619.63	0.17	-30.26
1000	SLE FR 4	-88	24	3791	-634.41	0.15	-30.76
1000	SLE FR 5	-89	22	3818	-638.28	0.15	-31.07
1000	SLE FR 6	-90	22	3883	-648.09	0.14	-31.46
1000	SLE QP 1	-86	21	3677	-617	0.17	-30.11
1000	SLE QP 2	-88	22	3800	-635.66	0.15	-30.92
1000	SLD 1	338	252	4089	-669.68	2.37	118.35
1000	SLD 2	260	167	4161	-678.06	2.55	91.16
1000	SLD 3	285	32	5148	-806.44	2.87	99.93
1000	SLD 4	207	-53	5220	-814.81	3.05	72.74
1000	SLD 5	133	439	2269	-437.01	0.02	46.47
1000	SLD 6	83	385	2315	-442.4	0.13	28.96
1000	SLD 7	-43	-294	5798	-892.86	1.71	-14.93
1000	SLD 8	-94	-349	5845	-898.26	1.82	-32.44
1000	SLD 9	-83	392	1756	-373.05	-1.51	-29.41
1000	SLD 10	-133	338	1802	-378.45	-1.4	-46.92
1000	SLD 11	-260	-341	5286	-828.91	0.17	-90.81
1000	SLD 12	-310	-395	5332	-834.3	0.28	-108.32
1000	SLD 13	-384	96	2381	-456.5	-2.74	-134.58
1000	SLD 14	-462	12	2453	-464.87	-2.57	-161.77
1000	SLD 15	-437	-124	3440	-593.25	-2.24	-153.01
1000	SLD 16	-515	-208	3512	-601.63	-2.06	-180.2
1000	SLV 1	584	397	4172	-678.65	3.57	204.51
1000	SLV 2	461	264	4285	-691.85	3.85	161.65
1000	SLV 3	493	22	5979	-911.99	4.43	173.06
1000	SLV 4	370	-111	6092	-925.19	4.71	130.2
1000	SLV 5	273	728	1151	-292.19	-0.18	95.4
1000	SLV 6	191	639	1227	-301.08	0.01	66.55
1000	SLV 7	-28	-523	7173	-1069.99	2.69	-9.43
1000	SLV 8	-111	-612	7249	-1078.88	2.88	-38.28
1000	SLV 9	-66	656	352	-192.43	-2.57	-23.57
1000	SLV 10	-149	566	428	-201.32	-2.38	-52.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1000	SLV 11	-367	-595	6374	-970.23	0.3	-128.39
1000	SLV 12	-450	-685	6450	-979.12	0.48	-157.25
1000	SLV 13	-547	155	1509	-346.12	-4.4	-192.04
1000	SLV 14	-670	22	1622	-359.32	-4.13	-234.9
1000	SLV 15	-638	-221	3315	-579.46	-3.55	-223.49
1000	SLV 16	-761	-354	3429	-592.66	-3.27	-266.35
1000	SLV FO 1	651	435	4209	-682.95	3.92	228.05
1000	SLV FO 2	516	288	4334	-697.47	4.22	180.9
1000	SLV FO 3	552	22	6197	-939.63	4.86	193.46
1000	SLV FO 4	416	-124	6321	-954.15	5.17	146.31
1000	SLV FO 5	310	799	886	-257.84	-0.21	108.03
1000	SLV FO 6	218	701	970	-267.62	0	76.29
1000	SLV FO 7	-22	-577	7510	-1113.43	2.94	-7.28
1000	SLV FO 8	-113	-675	7594	-1123.2	3.15	-39.02
1000	SLV FO 9	-64	719	7	-148.11	-2.84	-22.83
1000	SLV FO 10	-155	621	91	-157.88	-2.64	-54.57
1000	SLV FO 11	-395	-657	6631	-1003.69	0.31	-138.14
1000	SLV FO 12	-487	-755	6715	-1013.47	0.51	-169.88
1000	SLV FO 13	-593	168	1280	-317.16	-4.86	-208.16
1000	SLV FO 14	-728	22	1404	-331.68	-4.56	-255.3
1000	SLV FO 15	-692	-245	3267	-573.84	-3.91	-242.75
1000	SLV FO 16	-828	-391	3391	-588.36	-3.61	-289.89
1000	CRTFP Ux+	0	0	0	0	0	0
1000	CRTFP Ux-	0	0	0	0	0	0
1000	CRTFP Uy+	0	0	0	0	0	0
1000	CRTFP Uy-	0	0	0	0	0	0
1001	SLU 1	-82	21	3538	-632.5	-2.1	-28.68
1001	SLU 2	-78	39	3465	-622.5	-2.09	-27.45
1001	SLU 3	-84	22	3637	-648.52	-2.17	-29.56
1001	SLU 4	-82	33	3593	-642.53	-2.16	-28.82
1001	SLU 5	-80	39	3531	-633.17	-2.13	-28
1001	SLU 6	-86	22	3704	-659.2	-2.21	-30.1
1001	SLU 7	-84	33	3660	-653.2	-2.2	-29.36
1001	SLU 8	-85	22	3671	-653.84	-2.19	-29.77
1001	SLU 9	-83	33	3627	-647.84	-2.18	-29.03
1001	SLU 10	-86	40	3904	-693.97	-2.45	-30.3
1001	SLU 11	-92	23	4077	-719.99	-2.53	-32.4
1001	SLU 12	-90	34	4032	-714	-2.52	-31.67
1001	SLU 13	-88	41	3970	-704.64	-2.49	-30.85
1001	SLU 14	-94	24	4143	-730.67	-2.57	-32.95
1001	SLU 15	-92	34	4099	-724.67	-2.56	-32.21
1001	SLU 16	-93	24	4110	-725.31	-2.55	-32.62
1001	SLU 17	-91	34	4066	-719.31	-2.54	-31.88
1001	SLU 18	-93	23	4166	-734.6	-2.61	-32.75
1001	SLU 19	-91	34	4121	-728.6	-2.6	-32.02
1001	SLU 20	-95	24	4232	-745.27	-2.66	-33.29
1001	SLU 21	-93	34	4188	-739.27	-2.65	-32.56
1001	SLU 22	-95	23	4132	-728.53	-2.54	-33.17
1001	SLU 23	-91	40	4059	-718.53	-2.53	-31.95
1001	SLU 24	-97	23	4231	-744.55	-2.61	-34.05
1001	SLU 25	-95	34	4187	-738.55	-2.6	-33.31
1001	SLU 26	-93	41	4125	-729.2	-2.57	-32.49
1001	SLU 27	-99	24	4298	-755.22	-2.65	-34.59
1001	SLU 28	-97	35	4254	-749.23	-2.64	-33.85
1001	SLU 29	-98	24	4265	-749.87	-2.63	-34.26
1001	SLU 30	-96	34	4221	-743.87	-2.62	-33.52
1001	SLU 31	-99	42	4498	-790	-2.89	-34.79
1001	SLU 32	-105	25	4670	-816.02	-2.97	-36.9
1001	SLU 33	-103	35	4626	-810.02	-2.96	-36.16
1001	SLU 34	-101	42	4564	-800.67	-2.93	-35.34
1001	SLU 35	-107	25	4737	-826.69	-3.01	-37.44
1001	SLU 36	-105	36	4693	-820.7	-3	-36.7
1001	SLU 37	-106	25	4704	-821.34	-2.99	-37.11
1001	SLU 38	-104	36	4660	-815.34	-2.98	-36.37
1001	SLU 39	-106	24	4759	-830.63	-3.05	-37.24
1001	SLU 40	-104	35	4715	-824.63	-3.04	-36.51
1001	SLU 41	-108	25	4826	-841.3	-3.1	-37.78
1001	SLU 42	-106	36	4782	-835.3	-3.09	-37.05
1001	SLU 43	-102	27	4396	-789.33	-2.58	-35.75
1001	SLU 44	-99	45	4323	-779.33	-2.57	-34.52
1001	SLU 45	-105	28	4495	-805.35	-2.65	-36.62
1001	SLU 46	-102	38	4451	-799.35	-2.64	-35.88
1001	SLU 47	-100	45	4389	-790	-2.61	-35.06
1001	SLU 48	-106	28	4562	-816.02	-2.69	-37.16
1001	SLU 49	-104	39	4518	-810.02	-2.68	-36.43
1001	SLU 50	-105	28	4529	-810.67	-2.67	-36.83
1001	SLU 51	-103	39	4485	-804.67	-2.66	-36.1
1001	SLU 52	-107	46	4762	-850.8	-2.93	-37.37
1001	SLU 53	-113	29	4934	-876.82	-3.01	-39.47
1001	SLU 54	-111	40	4890	-870.82	-3	-38.73
1001	SLU 55	-108	47	4828	-861.47	-2.97	-37.91
1001	SLU 56	-114	30	5001	-887.49	-3.05	-40.01
1001	SLU 57	-112	40	4957	-881.49	-3.04	-39.28
1001	SLU 58	-113	29	4968	-882.14	-3.03	-39.68
1001	SLU 59	-111	40	4924	-876.14	-3.02	-38.94
1001	SLU 60	-114	29	5023	-891.42	-3.09	-39.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1001	SLU 61	-112	40	4979	-885.43	-3.08	-39.08
1001	SLU 62	-115	29	5090	-902.1	-3.14	-40.36
1001	SLU 63	-113	40	5046	-896.1	-3.13	-39.62
1001	SLU 64	-115	29	4990	-885.35	-3.02	-40.24
1001	SLU 65	-111	46	4917	-875.36	-3.01	-39.01
1001	SLU 66	-117	29	5089	-901.38	-3.09	-41.11
1001	SLU 67	-115	40	5045	-895.38	-3.08	-40.38
1001	SLU 68	-113	47	4983	-886.03	-3.05	-39.55
1001	SLU 69	-119	30	5156	-912.05	-3.13	-41.65
1001	SLU 70	-117	40	5111	-906.05	-3.12	-40.92
1001	SLU 71	-118	30	5123	-906.7	-3.11	-41.32
1001	SLU 72	-116	40	5079	-900.7	-3.1	-40.59
1001	SLU 73	-119	48	5356	-946.83	-3.37	-41.86
1001	SLU 74	-125	31	5528	-972.85	-3.45	-43.96
1001	SLU 75	-123	41	5484	-966.85	-3.44	-43.22
1001	SLU 76	-121	48	5422	-957.5	-3.41	-42.4
1001	SLU 77	-127	31	5595	-983.52	-3.49	-44.5
1001	SLU 78	-125	42	5551	-977.52	-3.48	-43.77
1001	SLU 79	-126	31	5562	-978.17	-3.47	-44.17
1001	SLU 80	-124	42	5518	-972.17	-3.46	-43.44
1001	SLU 81	-126	30	5617	-987.45	-3.53	-44.31
1001	SLU 82	-124	41	5573	-981.45	-3.52	-43.57
1001	SLU 83	-128	31	5684	-998.12	-3.58	-44.85
1001	SLU 84	-126	42	5640	-992.13	-3.57	-44.11
1001	SLE RA 1	-86	22	3708	-659.94	-2.23	-29.96
1001	SLE RA 2	-83	33	3659	-653.27	-2.22	-29.15
1001	SLE RA 3	-87	22	3774	-670.62	-2.27	-30.55
1001	SLE RA 4	-86	29	3745	-666.62	-2.27	-30.06
1001	SLE RA 5	-84	34	3703	-660.39	-2.25	-29.51
1001	SLE RA 6	-88	22	3818	-677.73	-2.3	-30.91
1001	SLE RA 7	-87	30	3789	-673.73	-2.3	-30.42
1001	SLE RA 8	-88	22	3796	-674.16	-2.29	-30.69
1001	SLE RA 9	-86	29	3767	-670.17	-2.28	-30.2
1001	SLE RA 10	-89	34	3952	-700.92	-2.46	-31.05
1001	SLE RA 11	-93	23	4067	-718.27	-2.51	-32.45
1001	SLE RA 12	-91	30	4037	-714.27	-2.5	-31.96
1001	SLE RA 13	-90	35	3996	-708.03	-2.49	-31.41
1001	SLE RA 14	-94	23	4111	-725.38	-2.54	-32.81
1001	SLE RA 15	-92	30	4082	-721.38	-2.53	-32.32
1001	SLE RA 16	-93	23	4089	-721.81	-2.53	-32.59
1001	SLE RA 17	-92	30	4060	-717.81	-2.52	-32.1
1001	SLE RA 18	-93	23	4126	-728	-2.57	-32.68
1001	SLE RA 19	-92	30	4097	-724	-2.56	-32.19
1001	SLE RA 20	-94	23	4170	-735.12	-2.6	-33.04
1001	SLE RA 21	-93	30	4141	-731.12	-2.59	-32.55
1001	SLE FR 1	-86	22	3708	-659.94	-2.23	-29.96
1001	SLE FR 2	-85	24	3698	-658.6	-2.23	-29.8
1001	SLE FR 3	-86	22	3726	-662.78	-2.24	-30.11
1001	SLE FR 4	-87	24	3824	-679.02	-2.33	-30.61
1001	SLE FR 5	-88	22	3851	-683.2	-2.34	-30.92
1001	SLE FR 6	-89	22	3917	-693.97	-2.4	-31.32
1001	SLE QP 1	-86	22	3708	-659.94	-2.23	-29.96
1001	SLE QP 2	-88	22	3833	-680.36	-2.33	-30.78
1001	SLD 1	339	244	4061	-699.09	-0.4	118.61
1001	SLD 2	261	164	4129	-707.33	-0.29	91.44
1001	SLD 3	287	26	5117	-845.37	-0.69	100.35
1001	SLD 4	208	-54	5185	-853.61	-0.59	73.18
1001	SLD 5	133	432	2288	-462.7	-1.32	46.41
1001	SLD 6	82	381	2332	-468.01	-1.25	28.92
1001	SLD 7	-41	-293	5809	-950.3	-2.31	-14.47
1001	SLD 8	-92	-345	5852	-955.61	-2.24	-31.96
1001	SLD 9	-84	389	1815	-405.11	-2.42	-29.59
1001	SLD 10	-134	337	1858	-410.41	-2.35	-47.09
1001	SLD 11	-258	-337	5335	-892.7	-3.41	-90.47
1001	SLD 12	-308	-388	5379	-898.01	-3.34	-107.97
1001	SLD 13	-384	98	2482	-507.1	-4.08	-134.74
1001	SLD 14	-462	18	2550	-515.34	-3.97	-161.9
1001	SLD 15	-436	-120	3538	-653.38	-4.37	-153
1001	SLD 16	-514	-200	3606	-661.62	-4.27	-180.17
1001	SLV 1	585	385	4110	-698.81	0.71	204.82
1001	SLV 2	462	259	4217	-711.8	0.88	161.99
1001	SLV 3	496	13	5912	-948.42	0.2	173.64
1001	SLV 4	373	-112	6019	-961.4	0.37	130.81
1001	SLV 5	272	717	1164	-304.9	-0.68	95.18
1001	SLV 6	189	633	1236	-313.65	-0.57	66.35
1001	SLV 7	-25	-520	7170	-1136.92	-2.37	-8.75
1001	SLV 8	-108	-605	7242	-1145.66	-2.26	-37.58
1001	SLV 9	-68	649	425	-215.05	-2.4	-23.97
1001	SLV 10	-151	564	497	-223.79	-2.29	-52.8
1001	SLV 11	-365	-589	6431	-1047.07	-4.1	-127.91
1001	SLV 12	-448	-673	6503	-1055.81	-3.98	-156.74
1001	SLV 13	-549	156	1648	-399.31	-5.03	-192.37
1001	SLV 14	-672	31	1755	-412.29	-4.86	-235.19
1001	SLV 15	-638	-215	3450	-648.91	-5.54	-223.55
1001	SLV 16	-761	-341	3557	-661.9	-5.37	-266.37
1001	SLV FO 1	652	421	4138	-700.66	1.01	228.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1001	SLV FO 2	517	283	4255	-714.94	1.2	181.27
1001	SLV FO 3	554	12	6120	-975.22	0.45	194.08
1001	SLV FO 4	419	-126	6237	-989.51	0.64	146.97
1001	SLV FO 5	308	787	897	-267.36	-0.52	107.78
1001	SLV FO 6	217	694	976	-276.97	-0.39	76.07
1001	SLV FO 7	-19	-575	7503	-1182.57	-2.38	-6.55
1001	SLV FO 8	-110	-668	7582	-1192.19	-2.25	-38.26
1001	SLV FO 9	-66	712	84	-168.52	-2.41	-23.29
1001	SLV FO 10	-157	619	163	-178.14	-2.29	-55.01
1001	SLV FO 11	-393	-650	6691	-1083.74	-4.27	-137.62
1001	SLV FO 12	-484	-743	6770	-1093.35	-4.15	-169.34
1001	SLV FO 13	-595	170	1430	-371.21	-5.3	-208.53
1001	SLV FO 14	-730	32	1547	-385.49	-5.12	-255.64
1001	SLV FO 15	-693	-239	3412	-645.77	-5.86	-242.83
1001	SLV FO 16	-828	-377	3529	-660.05	-5.68	-289.93
1001	CRTFP Ux+	0	0	0	0	0	0
1001	CRTFP Ux-	0	0	0	0	0	0
1001	CRTFP Uy+	0	0	0	0	0	0
1001	CRTFP Uy-	0	0	0	0	0	0
1002	SLU 1	-81	20	3629	-717.8	-3.92	-28.51
1002	SLU 2	-78	38	3554	-706.1	-3.86	-27.3
1002	SLU 3	-84	20	3731	-736.42	-4.05	-29.38
1002	SLU 4	-82	31	3686	-729.4	-4.01	-28.65
1002	SLU 5	-79	38	3622	-718.5	-3.94	-27.84
1002	SLU 6	-85	21	3799	-748.83	-4.13	-29.91
1002	SLU 7	-83	32	3754	-741.8	-4.09	-29.19
1002	SLU 8	-84	21	3765	-742.61	-4.09	-29.59
1002	SLU 9	-82	31	3720	-735.59	-4.05	-28.86
1002	SLU 10	-86	39	4007	-789.93	-4.46	-30.16
1002	SLU 11	-92	21	4184	-820.25	-4.65	-32.23
1002	SLU 12	-90	32	4139	-813.23	-4.61	-31.51
1002	SLU 13	-87	39	4075	-802.34	-4.55	-30.69
1002	SLU 14	-93	22	4252	-832.66	-4.73	-32.77
1002	SLU 15	-91	33	4207	-825.64	-4.7	-32.04
1002	SLU 16	-92	22	4218	-826.44	-4.69	-32.44
1002	SLU 17	-90	32	4174	-819.42	-4.66	-31.71
1002	SLU 18	-93	21	4276	-837.56	-4.79	-32.59
1002	SLU 19	-91	32	4232	-830.54	-4.75	-31.87
1002	SLU 20	-94	22	4344	-849.97	-4.87	-33.13
1002	SLU 21	-92	32	4300	-842.94	-4.83	-32.4
1002	SLU 22	-94	21	4241	-830.1	-4.7	-32.99
1002	SLU 23	-91	39	4166	-818.39	-4.64	-31.78
1002	SLU 24	-96	22	4343	-848.72	-4.83	-33.86
1002	SLU 25	-94	32	4298	-841.69	-4.79	-33.13
1002	SLU 26	-92	39	4234	-830.8	-4.72	-32.32
1002	SLU 27	-98	22	4411	-861.12	-4.91	-34.39
1002	SLU 28	-96	33	4366	-854.1	-4.87	-33.67
1002	SLU 29	-97	22	4377	-854.91	-4.87	-34.06
1002	SLU 30	-95	33	4332	-847.89	-4.83	-33.34
1002	SLU 31	-99	40	4620	-902.22	-5.25	-34.64
1002	SLU 32	-105	23	4796	-932.55	-5.43	-36.71
1002	SLU 33	-103	33	4751	-925.53	-5.39	-35.99
1002	SLU 34	-100	40	4688	-914.63	-5.33	-35.17
1002	SLU 35	-106	23	4864	-944.95	-5.52	-37.25
1002	SLU 36	-104	34	4820	-937.93	-5.48	-36.52
1002	SLU 37	-105	23	4830	-938.74	-5.48	-36.92
1002	SLU 38	-103	34	4786	-931.72	-5.44	-36.19
1002	SLU 39	-106	22	4889	-949.86	-5.57	-37.07
1002	SLU 40	-104	33	4844	-942.83	-5.53	-36.34
1002	SLU 41	-107	23	4957	-962.26	-5.65	-37.61
1002	SLU 42	-105	33	4912	-955.24	-5.61	-36.88
1002	SLU 43	-101	25	4507	-894.64	-4.83	-35.53
1002	SLU 44	-98	43	4433	-882.94	-4.77	-34.32
1002	SLU 45	-104	26	4609	-913.26	-4.95	-36.4
1002	SLU 46	-102	37	4564	-906.24	-4.92	-35.67
1002	SLU 47	-99	44	4501	-895.34	-4.85	-34.86
1002	SLU 48	-105	27	4677	-925.67	-5.04	-36.93
1002	SLU 49	-103	37	4633	-918.64	-5	-36.21
1002	SLU 50	-104	26	4643	-919.45	-5	-36.6
1002	SLU 51	-102	37	4599	-912.43	-4.96	-35.88
1002	SLU 52	-106	44	4886	-966.77	-5.37	-37.18
1002	SLU 53	-112	27	5063	-997.09	-5.56	-39.25
1002	SLU 54	-110	38	5018	-990.07	-5.52	-38.53
1002	SLU 55	-107	45	4954	-979.17	-5.45	-37.71
1002	SLU 56	-113	27	5131	-1009.5	-5.64	-39.79
1002	SLU 57	-111	38	5086	-1002.47	-5.6	-39.06
1002	SLU 58	-112	27	5097	-1003.28	-5.6	-39.46
1002	SLU 59	-110	38	5052	-996.26	-5.56	-38.73
1002	SLU 60	-113	27	5155	-1014.4	-5.7	-39.61
1002	SLU 61	-111	37	5110	-1007.38	-5.66	-38.89
1002	SLU 62	-114	27	5223	-1026.8	-5.78	-40.15
1002	SLU 63	-112	38	5178	-1019.78	-5.74	-39.42
1002	SLU 64	-114	27	5119	-1006.94	-5.61	-40.01
1002	SLU 65	-111	44	5045	-995.23	-5.55	-38.8
1002	SLU 66	-116	27	5221	-1025.55	-5.74	-40.88
1002	SLU 67	-114	38	5177	-1018.53	-5.7	-40.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1002	SLU 68	-112	45	5113	-1007.64	-5.63	-39.34
1002	SLU 69	-118	28	5290	-1037.96	-5.82	-41.41
1002	SLU 70	-116	38	5245	-1030.94	-5.78	-40.69
1002	SLU 71	-117	28	5256	-1031.75	-5.78	-41.08
1002	SLU 72	-115	38	5211	-1024.72	-5.74	-40.36
1002	SLU 73	-119	45	5498	-1079.06	-6.15	-41.66
1002	SLU 74	-125	28	5675	-1109.39	-6.34	-43.73
1002	SLU 75	-123	39	5630	-1102.36	-6.3	-43
1002	SLU 76	-120	46	5566	-1091.47	-6.24	-42.19
1002	SLU 77	-126	29	5743	-1121.79	-6.43	-44.27
1002	SLU 78	-124	39	5698	-1114.77	-6.39	-43.54
1002	SLU 79	-125	28	5709	-1115.58	-6.38	-43.94
1002	SLU 80	-123	39	5664	-1108.56	-6.35	-43.21
1002	SLU 81	-126	28	5767	-1126.69	-6.48	-44.09
1002	SLU 82	-124	39	5722	-1119.67	-6.44	-43.36
1002	SLU 83	-127	28	5835	-1139.1	-6.56	-44.62
1002	SLU 84	-125	39	5791	-1132.08	-6.52	-43.9
1002	SLE RA 1	-85	20	3803	-749.89	-4.15	-29.79
1002	SLE RA 2	-83	32	3754	-742.08	-4.1	-28.99
1002	SLE RA 3	-87	21	3871	-762.3	-4.23	-30.37
1002	SLE RA 4	-85	28	3842	-757.62	-4.2	-29.89
1002	SLE RA 5	-84	32	3799	-750.35	-4.16	-29.34
1002	SLE RA 6	-88	21	3917	-770.57	-4.28	-30.73
1002	SLE RA 7	-86	28	3887	-765.89	-4.26	-30.24
1002	SLE RA 8	-87	21	3894	-766.43	-4.26	-30.51
1002	SLE RA 9	-86	28	3864	-761.75	-4.23	-30.02
1002	SLE RA 10	-88	33	4056	-797.97	-4.51	-30.89
1002	SLE RA 11	-92	21	4174	-818.19	-4.63	-32.27
1002	SLE RA 12	-91	28	4144	-813.5	-4.61	-31.79
1002	SLE RA 13	-89	33	4101	-806.24	-4.56	-31.25
1002	SLE RA 14	-93	22	4219	-826.46	-4.69	-32.63
1002	SLE RA 15	-92	29	4189	-821.78	-4.66	-32.15
1002	SLE RA 16	-92	21	4197	-822.31	-4.66	-32.41
1002	SLE RA 17	-91	29	4167	-817.63	-4.63	-31.93
1002	SLE RA 18	-93	21	4235	-829.72	-4.72	-32.51
1002	SLE RA 19	-91	28	4205	-825.04	-4.7	-32.03
1002	SLE RA 20	-94	21	4281	-838	-4.78	-32.87
1002	SLE RA 21	-92	29	4251	-833.31	-4.75	-32.39
1002	SLE FR 1	-85	20	3803	-749.89	-4.15	-29.79
1002	SLE FR 2	-84	23	3793	-748.33	-4.14	-29.63
1002	SLE FR 3	-85	20	3822	-753.19	-4.17	-29.94
1002	SLE FR 4	-87	23	3923	-772.28	-4.31	-30.45
1002	SLE FR 5	-88	21	3951	-777.15	-4.34	-30.75
1002	SLE FR 6	-89	21	4019	-789.81	-4.43	-31.15
1002	SLE QP 1	-85	20	3803	-749.89	-4.15	-29.79
1002	SLE QP 2	-87	21	3933	-773.84	-4.32	-30.61
1002	SLD 1	340	237	4107	-782.86	-2.61	118.82
1002	SLD 2	262	162	4172	-792.06	-2.56	91.7
1002	SLD 3	288	18	5182	-953.45	-3.59	100.76
1002	SLD 4	210	-57	5247	-962.65	-3.54	73.64
1002	SLD 5	132	430	2343	-516.23	-2.32	46.26
1002	SLD 6	82	382	2385	-522.15	-2.29	28.8
1002	SLD 7	-39	-299	5927	-1084.87	-5.6	-13.92
1002	SLD 8	-89	-348	5969	-1090.8	-5.57	-31.38
1002	SLD 9	-85	389	1897	-456.88	-3.07	-29.84
1002	SLD 10	-135	340	1939	-462.8	-3.04	-47.3
1002	SLD 11	-256	-341	5481	-1025.52	-6.35	-90.02
1002	SLD 12	-306	-389	5523	-1031.45	-6.32	-107.48
1002	SLD 13	-385	98	2619	-585.02	-5.1	-134.86
1002	SLD 14	-463	23	2684	-594.23	-5.05	-161.98
1002	SLD 15	-436	-121	3694	-755.62	-6.08	-152.92
1002	SLD 16	-514	-196	3759	-764.82	-6.03	-180.03
1002	SLV 1	586	376	4125	-775.35	-1.57	205.02
1002	SLV 2	463	256	4228	-789.86	-1.5	162.28
1002	SLV 3	498	2	5959	-1066.45	-3.25	174.2
1002	SLV 4	376	-117	6062	-1080.95	-3.18	131.46
1002	SLV 5	270	715	1189	-330.09	-0.96	94.8
1002	SLV 6	188	635	1258	-339.85	-0.91	66.03
1002	SLV 7	-22	-529	7304	-1300.41	-6.56	-7.93
1002	SLV 8	-104	-609	7373	-1310.18	-6.51	-36.71
1002	SLV 9	-70	650	493	-237.5	-2.13	-24.51
1002	SLV 10	-153	570	562	-247.26	-2.08	-53.28
1002	SLV 11	-362	-594	6608	-1207.82	-7.73	-127.24
1002	SLV 12	-445	-674	6677	-1217.59	-7.68	-156.02
1002	SLV 13	-550	158	1804	-466.72	-5.46	-192.68
1002	SLV 14	-673	39	1907	-481.23	-5.38	-235.42
1002	SLV 15	-638	-215	3638	-757.82	-7.14	-223.5
1002	SLV 16	-760	-335	3741	-772.32	-7.06	-266.24
1002	SLV FO 1	653	411	4144	-775.5	-1.3	228.59
1002	SLV FO 2	518	280	4257	-791.46	-1.22	181.57
1002	SLV FO 3	557	0	6162	-1095.71	-3.15	194.68
1002	SLV FO 4	422	-131	6275	-1111.67	-3.07	147.66
1002	SLV FO 5	306	785	915	-285.71	-0.63	107.34
1002	SLV FO 6	215	696	991	-296.45	-0.57	75.69
1002	SLV FO 7	-15	-584	7641	-1353.07	-6.79	-5.67
1002	SLV FO 8	-106	-672	7717	-1363.81	-6.73	-37.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1002	SLV FO 9	-69	713	149	-183.86	-1.91	-23.9
1002	SLV FO 10	-159	625	225	-194.6	-1.85	-55.55
1002	SLV FO 11	-390	-655	6875	-1251.22	-8.07	-136.91
1002	SLV FO 12	-481	-744	6951	-1261.96	-8.01	-168.56
1002	SLV FO 13	-596	172	1591	-436.01	-5.57	-208.88
1002	SLV FO 14	-731	41	1704	-451.96	-5.49	-255.9
1002	SLV FO 15	-693	-239	3609	-756.22	-7.42	-242.78
1002	SLV FO 16	-828	-370	3722	-772.17	-7.34	-289.8
1002	CRTFP Ux+	0	0	0	0	0	0
1002	CRTFP Ux-	0	0	0	0	0	0
1002	CRTFP Uy+	0	0	0	0	0	0
1002	CRTFP Uy-	0	0	0	0	0	0
1003	SLU 1	-81	18	3763	-838.78	-5.08	-28.34
1003	SLU 2	-77	36	3686	-824.43	-4.98	-27.15
1003	SLU 3	-83	18	3870	-861.1	-5.25	-29.19
1003	SLU 4	-81	29	3823	-852.49	-5.18	-28.48
1003	SLU 5	-79	36	3757	-839.31	-5.09	-27.68
1003	SLU 6	-85	18	3941	-875.98	-5.35	-29.72
1003	SLU 7	-83	29	3894	-867.37	-5.29	-29.01
1003	SLU 8	-84	18	3905	-868.54	-5.3	-29.4
1003	SLU 9	-82	29	3859	-859.93	-5.24	-28.68
1003	SLU 10	-85	36	4160	-925.65	-5.75	-30.01
1003	SLU 11	-91	19	4344	-962.32	-6.01	-32.06
1003	SLU 12	-89	29	4297	-953.71	-5.95	-31.34
1003	SLU 13	-87	36	4231	-940.53	-5.86	-30.54
1003	SLU 14	-93	19	4415	-977.2	-6.12	-32.58
1003	SLU 15	-91	30	4368	-968.59	-6.06	-31.87
1003	SLU 16	-92	19	4379	-969.75	-6.07	-32.26
1003	SLU 17	-90	30	4333	-961.15	-6.01	-31.55
1003	SLU 18	-92	18	4440	-983.37	-6.18	-32.43
1003	SLU 19	-90	29	4394	-974.77	-6.12	-31.71
1003	SLU 20	-94	19	4511	-998.25	-6.29	-32.96
1003	SLU 21	-92	30	4465	-989.65	-6.23	-32.24
1003	SLU 22	-93	18	4402	-974.09	-6.09	-32.81
1003	SLU 23	-90	36	4325	-959.74	-5.98	-31.62
1003	SLU 24	-96	19	4508	-996.41	-6.25	-33.66
1003	SLU 25	-94	29	4462	-987.81	-6.19	-32.95
1003	SLU 26	-92	37	4396	-974.63	-6.09	-32.15
1003	SLU 27	-97	19	4579	-1011.29	-6.36	-34.19
1003	SLU 28	-95	30	4533	-1002.69	-6.3	-33.48
1003	SLU 29	-96	19	4544	-1003.85	-6.31	-33.86
1003	SLU 30	-94	30	4498	-995.24	-6.24	-33.15
1003	SLU 31	-98	37	4799	-1060.96	-6.75	-34.48
1003	SLU 32	-104	19	4982	-1097.63	-7.02	-36.52
1003	SLU 33	-102	30	4936	-1089.03	-6.96	-35.81
1003	SLU 34	-100	37	4870	-1075.84	-6.86	-35.01
1003	SLU 35	-105	20	5053	-1112.51	-7.13	-37.05
1003	SLU 36	-103	30	5007	-1103.91	-7.06	-36.34
1003	SLU 37	-105	19	5018	-1105.07	-7.07	-36.73
1003	SLU 38	-103	30	4972	-1096.46	-7.01	-36.01
1003	SLU 39	-105	19	5079	-1118.69	-7.19	-36.89
1003	SLU 40	-103	30	5033	-1110.08	-7.12	-36.18
1003	SLU 41	-107	19	5150	-1133.57	-7.29	-37.42
1003	SLU 42	-105	30	5104	-1124.96	-7.23	-36.71
1003	SLU 43	-101	23	4673	-1044.01	-6.27	-35.31
1003	SLU 44	-97	41	4596	-1029.67	-6.16	-34.12
1003	SLU 45	-103	23	4780	-1066.34	-6.43	-36.16
1003	SLU 46	-101	34	4733	-1057.73	-6.36	-35.45
1003	SLU 47	-99	41	4667	-1044.55	-6.27	-34.65
1003	SLU 48	-104	23	4851	-1081.22	-6.54	-36.69
1003	SLU 49	-102	34	4804	-1072.61	-6.47	-35.98
1003	SLU 50	-104	23	4815	-1073.77	-6.48	-36.37
1003	SLU 51	-102	34	4769	-1065.17	-6.42	-35.65
1003	SLU 52	-105	41	5070	-1130.89	-6.93	-36.98
1003	SLU 53	-111	24	5254	-1167.56	-7.2	-39.03
1003	SLU 54	-109	34	5207	-1158.95	-7.13	-38.31
1003	SLU 55	-107	41	5141	-1145.77	-7.04	-37.51
1003	SLU 56	-113	24	5325	-1182.44	-7.3	-39.55
1003	SLU 57	-111	35	5278	-1173.83	-7.24	-38.84
1003	SLU 58	-112	24	5289	-1174.99	-7.25	-39.23
1003	SLU 59	-110	35	5243	-1166.39	-7.19	-38.52
1003	SLU 60	-112	23	5350	-1188.61	-7.36	-39.4
1003	SLU 61	-110	34	5304	-1180	-7.3	-38.68
1003	SLU 62	-114	24	5421	-1203.49	-7.47	-39.93
1003	SLU 63	-112	35	5375	-1194.89	-7.41	-39.21
1003	SLU 64	-113	23	5312	-1179.33	-7.27	-39.78
1003	SLU 65	-110	41	5235	-1164.98	-7.16	-38.59
1003	SLU 66	-116	24	5418	-1201.65	-7.43	-40.63
1003	SLU 67	-114	34	5372	-1193.05	-7.37	-39.92
1003	SLU 68	-111	42	5306	-1179.86	-7.27	-39.12
1003	SLU 69	-117	24	5489	-1216.53	-7.54	-41.16
1003	SLU 70	-115	35	5443	-1207.93	-7.48	-40.45
1003	SLU 71	-116	24	5454	-1209.09	-7.49	-40.83
1003	SLU 72	-114	35	5408	-1200.48	-7.42	-40.12
1003	SLU 73	-118	42	5709	-1266.2	-7.93	-41.45
1003	SLU 74	-124	24	5892	-1302.87	-8.2	-43.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1003	SLU 75	-122	35	5846	-1294.26	-8.14	-42.78
1003	SLU 76	-120	42	5780	-1281.08	-8.04	-41.98
1003	SLU 77	-125	25	5963	-1317.75	-8.31	-44.02
1003	SLU 78	-123	35	5917	-1309.14	-8.24	-43.31
1003	SLU 79	-124	24	5928	-1310.31	-8.25	-43.7
1003	SLU 80	-122	35	5882	-1301.7	-8.19	-42.98
1003	SLU 81	-125	24	5989	-1323.93	-8.37	-43.86
1003	SLU 82	-123	35	5943	-1315.32	-8.3	-43.15
1003	SLU 83	-126	24	6060	-1338.81	-8.48	-44.39
1003	SLU 84	-124	35	6014	-1330.2	-8.41	-43.68
1003	SLE RA 1	-84	18	3946	-877.44	-5.37	-29.62
1003	SLE RA 2	-82	30	3894	-867.87	-5.3	-28.82
1003	SLE RA 3	-86	18	4017	-892.32	-5.48	-30.18
1003	SLE RA 4	-85	25	3986	-886.58	-5.44	-29.71
1003	SLE RA 5	-83	30	3942	-877.79	-5.37	-29.18
1003	SLE RA 6	-87	18	4064	-902.24	-5.55	-30.54
1003	SLE RA 7	-86	25	4033	-896.5	-5.51	-30.06
1003	SLE RA 8	-86	18	4041	-897.28	-5.52	-30.32
1003	SLE RA 9	-85	25	4010	-891.54	-5.47	-29.84
1003	SLE RA 10	-88	30	4210	-935.35	-5.81	-30.73
1003	SLE RA 11	-91	18	4333	-959.8	-5.99	-32.09
1003	SLE RA 12	-90	26	4302	-954.06	-5.95	-31.62
1003	SLE RA 13	-89	30	4258	-945.27	-5.89	-31.08
1003	SLE RA 14	-92	19	4380	-969.72	-6.06	-32.45
1003	SLE RA 15	-91	26	4349	-963.98	-6.02	-31.97
1003	SLE RA 16	-92	19	4357	-964.76	-6.03	-32.23
1003	SLE RA 17	-90	26	4326	-959.02	-5.99	-31.75
1003	SLE RA 18	-92	18	4397	-973.84	-6.1	-32.34
1003	SLE RA 19	-91	26	4366	-968.1	-6.06	-31.87
1003	SLE RA 20	-93	19	4445	-983.76	-6.17	-32.69
1003	SLE RA 21	-92	26	4414	-978.02	-6.13	-32.22
1003	SLE FR 1	-84	18	3946	-877.44	-5.37	-29.62
1003	SLE FR 2	-84	20	3936	-875.52	-5.36	-29.46
1003	SLE FR 3	-85	18	3965	-881.4	-5.4	-29.76
1003	SLE FR 4	-86	20	4071	-904.44	-5.58	-30.27
1003	SLE FR 5	-87	18	4100	-910.32	-5.62	-30.57
1003	SLE FR 6	-88	18	4172	-925.64	-5.74	-30.98
1003	SLE QP 1	-84	18	3946	-877.44	-5.37	-29.62
1003	SLE QP 2	-87	18	4081	-906.36	-5.59	-30.43
1003	SLD 1	340	232	4207	-910.01	-4.04	118.94
1003	SLD 2	263	159	4272	-921.13	-4.05	91.91
1003	SLD 3	290	9	5320	-1117.75	-5.56	101.16
1003	SLD 4	212	-63	5385	-1128.87	-5.56	74.12
1003	SLD 5	131	432	2421	-590.46	-2.83	46
1003	SLD 6	81	386	2462	-597.62	-2.83	28.59
1003	SLD 7	-37	-310	6129	-1282.94	-7.88	-13.28
1003	SLD 8	-87	-357	6171	-1290.1	-7.88	-30.69
1003	SLD 9	-87	392	1992	-522.61	-3.3	-30.17
1003	SLD 10	-137	346	2033	-529.77	-3.3	-47.59
1003	SLD 11	-254	-350	5700	-1215.09	-8.36	-89.46
1003	SLD 12	-304	-396	5742	-1222.25	-8.36	-106.87
1003	SLD 13	-386	99	2778	-683.84	-5.62	-134.99
1003	SLD 14	-463	27	2843	-694.96	-5.62	-162.02
1003	SLD 15	-436	-124	3890	-891.59	-7.14	-152.77
1003	SLD 16	-514	-196	3955	-902.71	-7.14	-179.81
1003	SLV 1	586	368	4196	-896.76	-3.06	205.1
1003	SLV 2	464	255	4298	-914.29	-3.07	162.48
1003	SLV 3	500	-11	6094	-1251.24	-5.65	174.73
1003	SLV 4	378	-125	6196	-1268.77	-5.66	132.12
1003	SLV 5	268	720	1218	-362.57	-0.9	94.23
1003	SLV 6	186	644	1286	-374.37	-0.91	65.54
1003	SLV 7	-18	-546	7545	-1544.19	-9.54	-6.98
1003	SLV 8	-100	-622	7614	-1555.99	-9.54	-35.67
1003	SLV 9	-73	658	549	-256.72	-1.64	-25.2
1003	SLV 10	-155	582	617	-268.52	-1.64	-53.89
1003	SLV 11	-359	-608	6876	-1438.34	-10.28	-126.4
1003	SLV 12	-442	-685	6945	-1450.14	-10.28	-155.09
1003	SLV 13	-552	161	1966	-543.94	-5.53	-192.98
1003	SLV 14	-674	47	2068	-561.47	-5.53	-235.6
1003	SLV 15	-637	-219	3865	-898.43	-8.12	-223.34
1003	SLV 16	-760	-333	3967	-915.95	-8.12	-265.96
1003	SLV FO 1	654	403	4207	-895.8	-2.81	228.65
1003	SLV FO 2	519	278	4320	-915.08	-2.81	181.77
1003	SLV FO 3	559	-14	6296	-1285.73	-5.66	195.25
1003	SLV FO 4	425	-139	6408	-1305.01	-5.66	148.37
1003	SLV FO 5	304	791	931	-308.19	-0.43	106.69
1003	SLV FO 6	213	706	1007	-321.17	-0.44	75.13
1003	SLV FO 7	-11	-602	7892	-1607.97	-9.93	-4.63
1003	SLV FO 8	-102	-686	7967	-1620.95	-9.93	-36.19
1003	SLV FO 9	-72	722	195	-191.76	-1.25	-24.67
1003	SLV FO 10	-162	638	271	-204.74	-1.25	-56.23
1003	SLV FO 11	-387	-671	7156	-1491.54	-10.74	-136
1003	SLV FO 12	-477	-755	7231	-1504.52	-10.75	-167.56
1003	SLV FO 13	-598	175	1755	-507.7	-5.52	-209.24
1003	SLV FO 14	-733	50	1867	-526.98	-5.52	-256.12
1003	SLV FO 15	-693	-243	3843	-897.63	-8.37	-242.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1003	SLV FO 16	-827	-368	3955	-916.91	-8.37	-289.51
1003	CRTFP Ux+	0	0	0	0	0	0
1003	CRTFP Ux-	0	0	0	0	0	0
1003	CRTFP Uy+	0	0	0	0	0	0
1003	CRTFP Uy-	0	0	0	0	0	0
1004	SLU 1	-80	15	3919	-984.8	-5.28	-28.15
1004	SLU 2	-77	33	3838	-967.04	-5.15	-26.99
1004	SLU 3	-83	15	4030	-1011.63	-5.45	-28.99
1004	SLU 4	-81	26	3982	-1000.97	-5.38	-28.3
1004	SLU 5	-78	33	3913	-984.93	-5.27	-27.51
1004	SLU 6	-84	15	4105	-1029.52	-5.57	-29.52
1004	SLU 7	-82	26	4056	-1018.86	-5.49	-28.82
1004	SLU 8	-83	15	4068	-1020.58	-5.51	-29.19
1004	SLU 9	-81	26	4019	-1009.93	-5.43	-28.5
1004	SLU 10	-85	34	4336	-1089.24	-5.95	-29.86
1004	SLU 11	-91	15	4528	-1133.83	-6.25	-31.86
1004	SLU 12	-89	26	4479	-1123.17	-6.17	-31.17
1004	SLU 13	-87	34	4410	-1107.13	-6.07	-30.38
1004	SLU 14	-92	16	4602	-1151.72	-6.37	-32.38
1004	SLU 15	-90	27	4554	-1141.07	-6.29	-31.69
1004	SLU 16	-91	16	4565	-1142.79	-6.31	-32.06
1004	SLU 17	-89	27	4517	-1132.13	-6.23	-31.37
1004	SLU 18	-92	15	4630	-1159.37	-6.42	-32.25
1004	SLU 19	-90	26	4581	-1148.71	-6.34	-31.55
1004	SLU 20	-93	16	4704	-1177.26	-6.54	-32.77
1004	SLU 21	-91	27	4656	-1166.61	-6.46	-32.07
1004	SLU 22	-93	15	4589	-1147.97	-6.33	-32.6
1004	SLU 23	-90	34	4508	-1130.21	-6.2	-31.44
1004	SLU 24	-95	15	4700	-1174.8	-6.5	-33.45
1004	SLU 25	-93	26	4651	-1164.15	-6.43	-32.75
1004	SLU 26	-91	34	4582	-1148.1	-6.32	-31.96
1004	SLU 27	-97	15	4774	-1192.7	-6.62	-33.97
1004	SLU 28	-95	27	4726	-1182.04	-6.54	-33.27
1004	SLU 29	-96	15	4737	-1183.76	-6.56	-33.65
1004	SLU 30	-94	26	4689	-1173.1	-6.49	-32.95
1004	SLU 31	-98	34	5005	-1252.41	-7	-34.31
1004	SLU 32	-103	16	5197	-1297	-7.3	-36.32
1004	SLU 33	-101	27	5149	-1286.35	-7.22	-35.62
1004	SLU 34	-99	34	5080	-1270.3	-7.12	-34.83
1004	SLU 35	-105	16	5272	-1314.9	-7.42	-36.84
1004	SLU 36	-103	27	5223	-1304.24	-7.34	-36.14
1004	SLU 37	-104	16	5235	-1305.96	-7.36	-36.52
1004	SLU 38	-102	27	5186	-1295.3	-7.28	-35.82
1004	SLU 39	-105	16	5299	-1322.54	-7.47	-36.7
1004	SLU 40	-103	27	5251	-1311.89	-7.39	-36.01
1004	SLU 41	-106	16	5374	-1340.44	-7.59	-37.23
1004	SLU 42	-104	27	5325	-1329.78	-7.51	-36.53
1004	SLU 43	-100	19	4865	-1224.29	-6.51	-35.07
1004	SLU 44	-97	38	4784	-1206.53	-6.38	-33.9
1004	SLU 45	-102	19	4976	-1251.12	-6.68	-35.91
1004	SLU 46	-100	30	4928	-1240.46	-6.6	-35.21
1004	SLU 47	-98	38	4859	-1224.42	-6.49	-34.43
1004	SLU 48	-104	19	5051	-1269.01	-6.79	-36.43
1004	SLU 49	-102	31	5002	-1258.36	-6.72	-35.74
1004	SLU 50	-103	19	5014	-1260.08	-6.74	-36.11
1004	SLU 51	-101	30	4965	-1249.42	-6.66	-35.41
1004	SLU 52	-105	38	5282	-1328.73	-7.17	-36.77
1004	SLU 53	-110	20	5474	-1373.32	-7.47	-38.78
1004	SLU 54	-108	31	5425	-1362.67	-7.4	-38.08
1004	SLU 55	-106	38	5356	-1346.62	-7.29	-37.3
1004	SLU 56	-112	20	5548	-1391.22	-7.59	-39.3
1004	SLU 57	-110	31	5500	-1380.56	-7.51	-38.6
1004	SLU 58	-111	20	5511	-1382.28	-7.53	-38.98
1004	SLU 59	-109	31	5463	-1371.62	-7.46	-38.28
1004	SLU 60	-112	20	5576	-1398.86	-7.64	-39.17
1004	SLU 61	-110	31	5527	-1388.21	-7.57	-38.47
1004	SLU 62	-113	20	5650	-1416.76	-7.76	-39.69
1004	SLU 63	-111	31	5602	-1406.1	-7.68	-38.99
1004	SLU 64	-113	19	5535	-1387.47	-7.56	-39.52
1004	SLU 65	-109	38	5454	-1369.7	-7.43	-38.36
1004	SLU 66	-115	20	5646	-1414.3	-7.73	-40.37
1004	SLU 67	-113	31	5598	-1403.64	-7.65	-39.67
1004	SLU 68	-111	38	5528	-1387.6	-7.54	-38.88
1004	SLU 69	-116	20	5720	-1432.19	-7.84	-40.89
1004	SLU 70	-114	31	5672	-1421.53	-7.77	-40.19
1004	SLU 71	-116	20	5683	-1423.25	-7.79	-40.57
1004	SLU 72	-114	31	5635	-1412.6	-7.71	-39.87
1004	SLU 73	-117	38	5951	-1491.9	-8.23	-41.23
1004	SLU 74	-123	20	6143	-1536.5	-8.53	-43.24
1004	SLU 75	-121	31	6095	-1525.84	-8.45	-42.54
1004	SLU 76	-119	38	6026	-1509.8	-8.34	-41.75
1004	SLU 77	-125	20	6218	-1554.39	-8.64	-43.76
1004	SLU 78	-123	31	6169	-1543.73	-8.56	-43.06
1004	SLU 79	-124	20	6181	-1545.45	-8.58	-43.44
1004	SLU 80	-122	31	6132	-1534.8	-8.51	-42.74
1004	SLU 81	-124	20	6245	-1562.04	-8.7	-43.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1004	SLU 82	-122	31	6197	-1551.38	-8.62	-42.92
1004	SLU 83	-126	20	6320	-1579.93	-8.81	-44.14
1004	SLU 84	-124	31	6271	-1569.28	-8.73	-43.45
1004	SLE RA 1	-84	15	4110	-1031.42	-5.58	-29.42
1004	SLE RA 2	-82	27	4056	-1019.58	-5.5	-28.65
1004	SLE RA 3	-85	15	4184	-1049.31	-5.7	-29.98
1004	SLE RA 4	-84	22	4152	-1042.2	-5.65	-29.52
1004	SLE RA 5	-83	27	4106	-1031.51	-5.57	-28.99
1004	SLE RA 6	-86	15	4234	-1061.23	-5.77	-30.33
1004	SLE RA 7	-85	22	4202	-1054.13	-5.72	-29.87
1004	SLE RA 8	-86	15	4209	-1055.28	-5.74	-30.12
1004	SLE RA 9	-84	22	4177	-1048.17	-5.68	-29.65
1004	SLE RA 10	-87	27	4388	-1101.04	-6.03	-30.56
1004	SLE RA 11	-91	15	4516	-1130.77	-6.23	-31.9
1004	SLE RA 12	-90	23	4484	-1123.67	-6.18	-31.43
1004	SLE RA 13	-88	28	4438	-1112.97	-6.1	-30.91
1004	SLE RA 14	-92	15	4566	-1142.7	-6.3	-32.25
1004	SLE RA 15	-91	23	4533	-1135.6	-6.25	-31.78
1004	SLE RA 16	-91	15	4541	-1136.74	-6.27	-32.03
1004	SLE RA 17	-90	23	4509	-1129.64	-6.22	-31.57
1004	SLE RA 18	-92	15	4584	-1147.8	-6.34	-32.15
1004	SLE RA 19	-90	23	4552	-1140.7	-6.29	-31.69
1004	SLE RA 20	-93	15	4634	-1159.73	-6.42	-32.5
1004	SLE RA 21	-91	23	4601	-1152.63	-6.37	-32.04
1004	SLE FR 1	-84	15	4110	-1031.42	-5.58	-29.42
1004	SLE FR 2	-83	17	4100	-1029.05	-5.57	-29.27
1004	SLE FR 3	-84	15	4130	-1036.19	-5.61	-29.56
1004	SLE FR 4	-86	17	4242	-1063.96	-5.79	-30.09
1004	SLE FR 5	-87	15	4272	-1071.1	-5.84	-30.38
1004	SLE FR 6	-88	15	4347	-1089.61	-5.96	-30.79
1004	SLE QP 1	-84	15	4110	-1031.42	-5.58	-29.42
1004	SLE QP 2	-86	15	4252	-1066.33	-5.81	-30.24
1004	SLD 1	341	226	4335	-1067.76	-4.38	118.99
1004	SLD 2	263	158	4401	-1081.64	-4.42	92.07
1004	SLD 3	291	-2	5498	-1323.18	-6.19	101.55
1004	SLD 4	214	-70	5563	-1337.06	-6.23	74.63
1004	SLD 5	130	436	2503	-676.99	-2.62	45.62
1004	SLD 6	80	392	2545	-685.93	-2.65	28.28
1004	SLD 7	-34	-324	6378	-1528.38	-8.67	-12.53
1004	SLD 8	-84	-368	6420	-1537.33	-8.69	-29.87
1004	SLD 9	-88	398	2085	-595.34	-2.93	-30.61
1004	SLD 10	-138	354	2127	-604.28	-2.95	-47.95
1004	SLD 11	-252	-362	5960	-1446.74	-8.97	-88.77
1004	SLD 12	-302	-406	6002	-1455.68	-9	-106.1
1004	SLD 13	-386	100	2942	-795.6	-5.39	-135.11
1004	SLD 14	-464	32	3007	-809.49	-5.43	-162.03
1004	SLD 15	-436	-128	4104	-1051.02	-7.2	-152.56
1004	SLD 16	-513	-196	4170	-1064.91	-7.24	-179.48
1004	SLV 1	587	362	4296	-1049.74	-3.44	205.04
1004	SLV 2	465	254	4399	-1071.63	-3.5	162.6
1004	SLV 3	503	-27	6279	-1485.57	-6.54	175.25
1004	SLV 4	381	-135	6382	-1507.46	-6.6	132.82
1004	SLV 5	266	729	1238	-396.27	-0.39	93.43
1004	SLV 6	184	656	1307	-411.01	-0.43	64.86
1004	SLV 7	-14	-567	7849	-1849.02	-10.71	-5.84
1004	SLV 8	-96	-640	7919	-1863.76	-10.75	-34.41
1004	SLV 9	-76	670	586	-268.91	-0.87	-26.07
1004	SLV 10	-158	597	656	-283.65	-0.91	-54.64
1004	SLV 11	-356	-626	7197	-1721.66	-11.19	-125.34
1004	SLV 12	-438	-699	7267	-1736.4	-11.23	-153.91
1004	SLV 13	-553	165	2123	-625.21	-5.02	-193.3
1004	SLV 14	-675	57	2226	-647.1	-5.08	-235.74
1004	SLV 15	-637	-224	4106	-1061.04	-8.12	-223.08
1004	SLV 16	-759	-332	4209	-1082.92	-8.18	-265.52
1004	SLV FO 1	654	396	4300	-1048.08	-3.21	228.56
1004	SLV FO 2	520	278	4413	-1072.16	-3.27	181.89
1004	SLV FO 3	562	-31	6482	-1527.49	-6.61	195.8
1004	SLV FO 4	428	-150	6595	-1551.57	-6.68	149.13
1004	SLV FO 5	301	800	937	-329.26	0.15	105.8
1004	SLV FO 6	211	720	1013	-345.47	0.1	74.37
1004	SLV FO 7	-7	-626	8209	-1927.29	-11.2	-3.4
1004	SLV FO 8	-97	-705	8285	-1943.5	-11.25	-34.83
1004	SLV FO 9	-75	735	220	-189.17	-0.37	-25.65
1004	SLV FO 10	-165	655	296	-205.38	-0.42	-57.08
1004	SLV FO 11	-383	-691	7492	-1787.19	-11.72	-134.85
1004	SLV FO 12	-474	-770	7568	-1803.4	-11.77	-166.28
1004	SLV FO 13	-600	180	1910	-581.1	-4.94	-209.61
1004	SLV FO 14	-734	61	2023	-605.17	-5.01	-256.29
1004	SLV FO 15	-692	-248	4091	-1060.51	-8.35	-242.37
1004	SLV FO 16	-826	-367	4205	-1084.58	-8.41	-289.05
1004	CRTFP Ux+	0	0	0	0	0	0
1004	CRTFP Ux-	0	0	0	0	0	0
1004	CRTFP Uy+	0	0	0	0	0	0
1004	CRTFP Uy-	0	0	0	0	0	0
1005	SLU 1	-69	11	3504	-985.77	95.08	-24.42
1005	SLU 2	-66	27	3432	-967.13	93.13	-23.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1005	SLU 3	-71	11	3605	-1013.14	97.78	-25.14
1005	SLU 4	-69	20	3561	-1001.96	96.61	-24.83
1005	SLU 5	-67	27	3498	-985.39	94.93	-24.34
1005	SLU 6	-72	11	3671	-1031.4	99.58	-25.58
1005	SLU 7	-70	20	3628	-1020.22	98.41	-25.27
1005	SLU 8	-71	11	3638	-1022.3	98.69	-25.31
1005	SLU 9	-70	20	3595	-1011.11	97.52	-25
1005	SLU 10	-73	27	3879	-1092.1	105.2	-26.39
1005	SLU 11	-78	11	4052	-1138.11	109.86	-27.63
1005	SLU 12	-76	21	4009	-1126.93	108.68	-27.32
1005	SLU 13	-74	27	3946	-1110.37	107.01	-26.84
1005	SLU 14	-79	11	4119	-1156.38	111.66	-28.08
1005	SLU 15	-78	21	4075	-1145.19	110.49	-27.77
1005	SLU 16	-78	11	4086	-1147.27	110.76	-27.8
1005	SLU 17	-77	21	4042	-1136.09	109.59	-27.49
1005	SLU 18	-79	11	4144	-1164.3	112.33	-27.98
1005	SLU 19	-77	21	4100	-1153.12	111.16	-27.67
1005	SLU 20	-80	11	4211	-1182.57	114.14	-28.42
1005	SLU 21	-79	21	4167	-1171.38	112.96	-28.11
1005	SLU 22	-80	11	4107	-1152.52	111.33	-28.25
1005	SLU 23	-77	27	4034	-1133.88	109.38	-27.73
1005	SLU 24	-82	11	4207	-1179.89	114.03	-28.97
1005	SLU 25	-80	20	4163	-1168.71	112.86	-28.66
1005	SLU 26	-78	27	4101	-1152.15	111.19	-28.18
1005	SLU 27	-83	11	4274	-1198.15	115.84	-29.42
1005	SLU 28	-81	21	4230	-1186.97	114.67	-29.11
1005	SLU 29	-82	11	4241	-1189.05	114.94	-29.14
1005	SLU 30	-81	20	4197	-1177.86	113.77	-28.83
1005	SLU 31	-84	27	4482	-1258.86	121.46	-30.23
1005	SLU 32	-89	11	4655	-1304.86	126.11	-31.47
1005	SLU 33	-87	21	4611	-1293.68	124.94	-31.16
1005	SLU 34	-85	27	4549	-1277.12	123.26	-30.67
1005	SLU 35	-90	11	4722	-1323.13	127.91	-31.91
1005	SLU 36	-88	21	4678	-1311.94	126.74	-31.6
1005	SLU 37	-89	11	4688	-1314.02	127.02	-31.64
1005	SLU 38	-88	21	4645	-1302.84	125.85	-31.33
1005	SLU 39	-90	11	4747	-1331.05	128.58	-31.82
1005	SLU 40	-88	21	4703	-1319.87	127.41	-31.5
1005	SLU 41	-91	11	4813	-1349.32	130.39	-32.26
1005	SLU 42	-89	21	4770	-1338.13	129.22	-31.95
1005	SLU 43	-86	14	4349	-1224.33	118.03	-30.42
1005	SLU 44	-83	30	4276	-1205.69	116.08	-29.91
1005	SLU 45	-88	14	4449	-1251.7	120.73	-31.15
1005	SLU 46	-86	24	4406	-1240.51	119.56	-30.83
1005	SLU 47	-84	30	4343	-1223.95	117.89	-30.35
1005	SLU 48	-89	14	4516	-1269.96	122.54	-31.59
1005	SLU 49	-87	24	4472	-1258.78	121.37	-31.28
1005	SLU 50	-88	14	4483	-1260.85	121.64	-31.32
1005	SLU 51	-86	24	4439	-1249.67	120.47	-31
1005	SLU 52	-90	30	4724	-1330.66	128.16	-32.4
1005	SLU 53	-95	14	4897	-1376.67	132.81	-33.64
1005	SLU 54	-93	24	4853	-1365.49	131.64	-33.33
1005	SLU 55	-91	30	4791	-1348.93	129.96	-32.85
1005	SLU 56	-96	14	4964	-1394.93	134.61	-34.09
1005	SLU 57	-94	24	4920	-1383.75	133.44	-33.77
1005	SLU 58	-95	14	4931	-1385.83	133.72	-33.81
1005	SLU 59	-94	24	4887	-1374.65	132.55	-33.5
1005	SLU 60	-96	14	4989	-1402.86	135.28	-33.99
1005	SLU 61	-94	24	4945	-1391.68	134.11	-33.68
1005	SLU 62	-97	14	5056	-1421.12	137.09	-34.43
1005	SLU 63	-95	24	5012	-1409.94	135.92	-34.12
1005	SLU 64	-97	14	4952	-1391.08	134.29	-34.26
1005	SLU 65	-94	30	4879	-1372.44	132.33	-33.74
1005	SLU 66	-99	14	5052	-1418.45	136.99	-34.98
1005	SLU 67	-97	24	5008	-1407.27	135.81	-34.67
1005	SLU 68	-95	30	4946	-1390.7	134.14	-34.19
1005	SLU 69	-100	14	5119	-1436.71	138.79	-35.43
1005	SLU 70	-98	24	5075	-1425.53	137.62	-35.12
1005	SLU 71	-99	14	5085	-1427.61	137.89	-35.15
1005	SLU 72	-97	24	5042	-1416.42	136.72	-34.84
1005	SLU 73	-101	30	5327	-1497.41	144.41	-36.24
1005	SLU 74	-106	14	5500	-1543.42	149.06	-37.48
1005	SLU 75	-104	24	5456	-1532.24	147.89	-37.17
1005	SLU 76	-102	31	5393	-1515.68	146.21	-36.68
1005	SLU 77	-107	14	5566	-1561.69	150.86	-37.92
1005	SLU 78	-105	24	5523	-1550.5	149.69	-37.61
1005	SLU 79	-106	14	5533	-1552.58	149.97	-37.65
1005	SLU 80	-105	24	5490	-1541.4	148.8	-37.34
1005	SLU 81	-107	14	5591	-1569.61	151.54	-37.82
1005	SLU 82	-105	24	5548	-1558.43	150.37	-37.51
1005	SLU 83	-108	14	5658	-1587.88	153.34	-38.27
1005	SLU 84	-106	24	5615	-1576.69	152.17	-37.96
1005	SLE RA 1	-72	11	3677	-1033.41	99.72	-25.51
1005	SLE RA 2	-70	21	3628	-1020.99	98.42	-25.17
1005	SLE RA 3	-73	11	3743	-1051.66	101.52	-25.99
1005	SLE RA 4	-72	17	3714	-1044.2	100.74	-25.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1005	SLE RA 5	-71	21	3673	-1033.16	99.63	-25.46
1005	SLE RA 6	-74	11	3788	-1063.83	102.73	-26.29
1005	SLE RA 7	-73	17	3759	-1056.38	101.95	-26.08
1005	SLE RA 8	-74	11	3766	-1057.76	102.13	-26.11
1005	SLE RA 9	-72	17	3737	-1050.31	101.35	-25.9
1005	SLE RA 10	-75	22	3927	-1104.3	106.47	-26.83
1005	SLE RA 11	-78	11	4042	-1134.97	109.57	-27.66
1005	SLE RA 12	-77	17	4013	-1127.52	108.79	-27.45
1005	SLE RA 13	-76	22	3971	-1116.48	107.68	-27.13
1005	SLE RA 14	-79	11	4086	-1147.15	110.78	-27.95
1005	SLE RA 15	-78	17	4057	-1139.69	110	-27.75
1005	SLE RA 16	-78	11	4064	-1141.08	110.18	-27.77
1005	SLE RA 17	-77	17	4035	-1133.62	109.4	-27.56
1005	SLE RA 18	-79	11	4103	-1152.43	111.22	-27.89
1005	SLE RA 19	-78	17	4074	-1144.98	110.44	-27.68
1005	SLE RA 20	-79	11	4148	-1164.61	112.43	-28.18
1005	SLE RA 21	-78	17	4119	-1157.15	111.65	-27.98
1005	SLE FR 1	-72	11	3677	-1033.41	99.72	-25.51
1005	SLE FR 2	-72	13	3667	-1030.93	99.46	-25.44
1005	SLE FR 3	-72	11	3694	-1038.28	100.21	-25.63
1005	SLE FR 4	-74	13	3795	-1066.63	102.91	-26.16
1005	SLE FR 5	-74	11	3822	-1073.99	103.66	-26.34
1005	SLE FR 6	-75	11	3890	-1092.92	105.47	-26.7
1005	SLE QP 1	-72	11	3677	-1033.41	99.72	-25.51
1005	SLE QP 2	-74	11	3805	-1069.12	103.17	-26.22
1005	SLD 1	295	191	3844	-1070.88	105.12	99.18
1005	SLD 2	229	135	3901	-1085.75	106.69	77.54
1005	SLD 3	253	-11	4892	-1337.43	133.24	89.89
1005	SLD 4	187	-66	4950	-1352.3	134.81	68.25
1005	SLD 5	112	380	2216	-662.82	60.85	29.21
1005	SLD 6	69	344	2253	-672.4	61.86	15.27
1005	SLD 7	-28	-292	5711	-1551.32	154.56	-1.76
1005	SLD 8	-70	-327	5748	-1560.89	155.58	-15.69
1005	SLD 9	-77	349	1861	-577.34	50.77	-36.76
1005	SLD 10	-120	313	1898	-586.92	51.79	-50.69
1005	SLD 11	-216	-323	5356	-1465.84	144.49	-67.72
1005	SLD 12	-259	-358	5393	-1475.41	145.5	-81.66
1005	SLD 13	-335	87	2659	-785.94	71.54	-120.7
1005	SLD 14	-401	32	2717	-800.81	73.11	-142.34
1005	SLD 15	-376	-114	3708	-1052.49	99.65	-129.99
1005	SLD 16	-443	-170	3766	-1067.36	101.23	-151.63
1005	SLV 1	508	307	3788	-1052.21	104.14	171.09
1005	SLV 2	403	220	3879	-1075.65	106.62	136.98
1005	SLV 3	437	-36	5577	-1507.02	152.11	155.24
1005	SLV 4	332	-124	5668	-1530.45	154.59	121.13
1005	SLV 5	228	637	1069	-369.89	30.24	63.38
1005	SLV 6	158	578	1131	-385.67	31.91	40.42
1005	SLV 7	-9	-508	7033	-1885.9	190.15	10.54
1005	SLV 8	-80	-567	7094	-1901.68	191.82	-12.43
1005	SLV 9	-68	589	515	-236.56	14.53	-40.02
1005	SLV 10	-139	530	577	-252.34	16.2	-62.99
1005	SLV 11	-305	-557	6479	-1752.57	174.44	-92.87
1005	SLV 12	-376	-616	6540	-1768.35	176.11	-115.83
1005	SLV 13	-479	145	1941	-607.78	51.76	-173.58
1005	SLV 14	-584	58	2032	-631.22	54.24	-207.69
1005	SLV 15	-551	-198	3730	-1062.59	99.73	-189.43
1005	SLV 16	-656	-286	3821	-1086.02	102.21	-223.54
1005	SLV FO 1	566	337	3786	-1050.52	104.23	190.82
1005	SLV FO 2	450	241	3886	-1076.3	106.96	153.3
1005	SLV FO 3	488	-41	5754	-1550.81	157	173.39
1005	SLV FO 4	372	-137	5854	-1576.59	159.73	135.87
1005	SLV FO 5	258	700	796	-299.97	22.95	72.34
1005	SLV FO 6	181	635	863	-317.32	24.79	47.08
1005	SLV FO 7	-3	-560	7355	-1967.58	198.85	14.21
1005	SLV FO 8	-80	-625	7423	-1984.93	200.68	-11.05
1005	SLV FO 9	-67	646	186	-153.31	5.67	-41.4
1005	SLV FO 10	-145	581	254	-170.66	7.5	-66.66
1005	SLV FO 11	-328	-614	6746	-1820.91	181.56	-99.53
1005	SLV FO 12	-406	-678	6813	-1838.27	183.4	-124.79
1005	SLV FO 13	-520	159	1755	-561.65	46.62	-188.31
1005	SLV FO 14	-635	62	1855	-587.43	49.35	-225.84
1005	SLV FO 15	-598	-219	3723	-1061.93	99.39	-205.75
1005	SLV FO 16	-714	-316	3823	-1087.71	102.12	-243.27
1005	CRTFP Ux+	0	0	0	0	0	0
1005	CRTFP Ux-	0	0	0	0	0	0
1005	CRTFP Uy+	0	0	0	0	0	0
1005	CRTFP Uy-	0	0	0	0	0	0
1008	SLU 1	-246	26	13376	-3522.65	36.88	-68.66
1008	SLU 2	-236	88	13087	-3450.07	38.42	-66.39
1008	SLU 3	-253	26	13761	-3623.25	37.22	-70.7
1008	SLU 4	-247	63	13588	-3579.7	38.14	-69.34
1008	SLU 5	-241	87	13345	-3517.32	38.6	-67.65
1008	SLU 6	-257	26	14019	-3690.5	37.4	-71.96
1008	SLU 7	-252	63	13846	-3646.95	38.32	-70.6
1008	SLU 8	-255	26	13891	-3657.15	37.24	-71.18
1008	SLU 9	-249	63	13718	-3613.6	38.16	-69.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1008	SLU 10	-262	90	14805	-3903.49	40.76	-73.29
1008	SLU 11	-279	28	15479	-4076.67	39.56	-77.6
1008	SLU 12	-273	65	15306	-4033.12	40.48	-76.24
1008	SLU 13	-266	89	15063	-3970.74	40.94	-74.55
1008	SLU 14	-283	27	15737	-4143.92	39.74	-78.86
1008	SLU 15	-278	64	15564	-4100.38	40.66	-77.5
1008	SLU 16	-280	28	15610	-4110.57	39.58	-78.08
1008	SLU 17	-275	64	15436	-4067.02	40.5	-76.72
1008	SLU 18	-283	29	15830	-4170.39	40.22	-78.51
1008	SLU 19	-277	66	15657	-4126.85	41.15	-77.15
1008	SLU 20	-287	29	16088	-4237.64	40.41	-79.78
1008	SLU 21	-281	65	15915	-4194.1	41.33	-78.41
1008	SLU 22	-285	26	15690	-4130.78	39.77	-79.44
1008	SLU 23	-276	87	15402	-4058.2	41.3	-77.17
1008	SLU 24	-292	25	16076	-4231.38	40.1	-81.48
1008	SLU 25	-287	62	15903	-4187.84	41.02	-80.12
1008	SLU 26	-280	87	15660	-4125.45	41.48	-78.43
1008	SLU 27	-297	25	16333	-4298.63	40.28	-82.74
1008	SLU 28	-291	62	16160	-4255.09	41.2	-81.38
1008	SLU 29	-294	25	16206	-4265.28	40.13	-81.96
1008	SLU 30	-288	62	16033	-4221.74	41.05	-80.6
1008	SLU 31	-302	89	17120	-4511.62	43.64	-84.06
1008	SLU 32	-318	27	17794	-4684.8	42.44	-88.38
1008	SLU 33	-313	64	17621	-4641.26	43.36	-87.02
1008	SLU 34	-306	89	17378	-4578.87	43.82	-85.33
1008	SLU 35	-323	27	18052	-4752.05	42.62	-89.64
1008	SLU 36	-317	64	17879	-4708.51	43.55	-88.28
1008	SLU 37	-320	27	17924	-4718.7	42.47	-88.86
1008	SLU 38	-314	64	17751	-4675.16	43.39	-87.5
1008	SLU 39	-322	28	18145	-4778.52	43.11	-89.29
1008	SLU 40	-316	65	17972	-4734.98	44.03	-87.93
1008	SLU 41	-327	28	18403	-4845.78	43.29	-90.55
1008	SLU 42	-321	65	18230	-4802.23	44.21	-89.19
1008	SLU 43	-306	34	16595	-4370.94	46.96	-85.56
1008	SLU 44	-296	96	16306	-4298.36	48.49	-83.29
1008	SLU 45	-313	34	16980	-4471.54	47.29	-87.6
1008	SLU 46	-307	71	16807	-4428	48.22	-86.24
1008	SLU 47	-301	96	16564	-4365.61	48.67	-84.55
1008	SLU 48	-317	34	17238	-4538.79	47.48	-88.86
1008	SLU 49	-312	71	17065	-4495.25	48.4	-87.5
1008	SLU 50	-315	34	17110	-4505.44	47.32	-88.08
1008	SLU 51	-309	71	16937	-4461.9	48.24	-86.72
1008	SLU 52	-322	98	18025	-4751.78	50.83	-90.19
1008	SLU 53	-339	36	18698	-4924.96	49.63	-94.5
1008	SLU 54	-333	73	18525	-4881.42	50.56	-93.14
1008	SLU 55	-327	97	18282	-4819.03	51.01	-91.45
1008	SLU 56	-343	36	18956	-4992.21	49.82	-95.76
1008	SLU 57	-338	72	18783	-4948.67	50.74	-94.4
1008	SLU 58	-341	36	18829	-4958.86	49.66	-94.98
1008	SLU 59	-335	73	18656	-4915.32	50.58	-93.62
1008	SLU 60	-343	37	19050	-5018.68	50.3	-95.42
1008	SLU 61	-337	74	18876	-4975.14	51.22	-94.05
1008	SLU 62	-347	37	19307	-5085.94	50.48	-96.68
1008	SLU 63	-342	74	19134	-5042.39	51.4	-95.31
1008	SLU 64	-345	34	18910	-4979.07	49.84	-96.34
1008	SLU 65	-336	95	18621	-4906.5	51.38	-94.07
1008	SLU 66	-353	33	19295	-5079.67	50.18	-98.38
1008	SLU 67	-347	70	19122	-5036.13	51.1	-97.02
1008	SLU 68	-340	95	18879	-4973.75	51.56	-95.33
1008	SLU 69	-357	33	19553	-5146.93	50.36	-99.64
1008	SLU 70	-351	70	19379	-5103.38	51.28	-98.28
1008	SLU 71	-354	33	19425	-5113.58	50.2	-98.86
1008	SLU 72	-348	70	19252	-5070.03	51.12	-97.5
1008	SLU 73	-362	97	20339	-5359.92	53.72	-100.97
1008	SLU 74	-378	35	21013	-5533.09	52.52	-105.28
1008	SLU 75	-373	72	20840	-5489.55	53.44	-103.92
1008	SLU 76	-366	97	20597	-5427.17	53.9	-102.23
1008	SLU 77	-383	35	21271	-5600.35	52.7	-106.54
1008	SLU 78	-377	72	21098	-5556.8	53.62	-105.18
1008	SLU 79	-380	35	21143	-5567	52.54	-105.76
1008	SLU 80	-374	72	20970	-5523.45	53.46	-104.4
1008	SLU 81	-382	36	21364	-5626.82	53.18	-106.2
1008	SLU 82	-377	73	21191	-5583.27	54.11	-104.83
1008	SLU 83	-387	36	21622	-5694.07	53.37	-107.46
1008	SLU 84	-381	73	21449	-5650.52	54.29	-106.09
1008	SLE RA 1	-257	26	14037	-3696.4	37.71	-71.74
1008	SLE RA 2	-251	67	13845	-3648.02	38.73	-70.22
1008	SLE RA 3	-262	26	14294	-3763.47	37.93	-73.1
1008	SLE RA 4	-258	50	14179	-3734.44	38.54	-72.19
1008	SLE RA 5	-254	67	14017	-3692.85	38.85	-71.06
1008	SLE RA 6	-265	26	14466	-3808.3	38.05	-73.94
1008	SLE RA 7	-261	50	14350	-3779.27	38.67	-73.03
1008	SLE RA 8	-263	26	14381	-3786.07	37.95	-73.42
1008	SLE RA 9	-259	50	14265	-3757.04	38.56	-72.51
1008	SLE RA 10	-268	68	14990	-3950.3	40.29	-74.82
1008	SLE RA 11	-279	27	15439	-4065.75	39.49	-77.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1008	SLE RA 12	-275	52	15324	-4036.72	40.1	-76.79
1008	SLE RA 13	-271	68	15162	-3995.13	40.41	-75.66
1008	SLE RA 14	-282	27	15611	-4110.58	39.61	-78.54
1008	SLE RA 15	-278	51	15496	-4081.55	40.23	-77.63
1008	SLE RA 16	-280	27	15526	-4088.35	39.51	-78.02
1008	SLE RA 17	-276	52	15411	-4059.32	40.12	-77.11
1008	SLE RA 18	-282	28	15674	-4128.23	39.93	-78.31
1008	SLE RA 19	-278	52	15558	-4099.2	40.55	-77.4
1008	SLE RA 20	-285	28	15845	-4173.06	40.05	-79.15
1008	SLE RA 21	-281	52	15730	-4144.03	40.67	-78.24
1008	SLE FR 1	-257	26	14037	-3696.4	37.71	-71.74
1008	SLE FR 2	-256	34	13999	-3686.72	37.91	-71.44
1008	SLE FR 3	-258	26	14106	-3714.33	37.75	-72.07
1008	SLE FR 4	-263	35	14490	-3816.27	38.58	-73.41
1008	SLE FR 5	-266	26	14597	-3843.88	38.42	-74.05
1008	SLE FR 6	-269	27	14855	-3912.32	38.82	-75.02
1008	SLE QP 1	-257	26	14037	-3696.4	37.71	-71.74
1008	SLE QP 2	-264	27	14528	-3825.95	38.37	-73.71
1008	SLD 1	1105	684	14530	-3836.94	75.19	283.05
1008	SLD 2	858	498	14753	-3893.65	74.94	221.57
1008	SLD 3	959	-73	18671	-4877.41	55.95	247.54
1008	SLD 4	711	-259	18894	-4934.12	55.7	186.06
1008	SLD 5	412	1405	8209	-2241.45	78.64	97.75
1008	SLD 6	252	1285	8353	-2277.97	78.48	58.16
1008	SLD 7	-77	-1120	22013	-5709.68	14.51	-20.62
1008	SLD 8	-237	-1240	22157	-5746.2	14.35	-60.21
1008	SLD 9	-292	1293	6899	-1905.7	62.4	-87.2
1008	SLD 10	-451	1173	7043	-1942.22	62.24	-126.8
1008	SLD 11	-781	-1232	20703	-5373.93	-1.73	-205.58
1008	SLD 12	-940	-1352	20847	-5410.45	-1.89	-245.17
1008	SLD 13	-1240	312	10162	-2717.78	21.04	-333.48
1008	SLD 14	-1487	126	10385	-2774.49	20.8	-394.96
1008	SLD 15	-1386	-445	14303	-3758.25	1.81	-368.99
1008	SLD 16	-1634	-631	14527	-3814.96	1.56	-430.47
1008	SLV 1	1894	1110	14225	-3766.32	97.29	488.28
1008	SLV 2	1503	817	14577	-3855.71	96.9	391.37
1008	SLV 3	1643	-182	21291	-5541.68	64.44	427.66
1008	SLV 4	1253	-475	21644	-5631.07	64.05	330.75
1008	SLV 5	836	2366	3654	-1098.76	105.95	204.92
1008	SLV 6	573	2168	3891	-1158.94	105.69	139.68
1008	SLV 7	1	-1941	27209	-7016.61	-3.57	2.84
1008	SLV 8	-262	-2138	27446	-7076.79	-3.83	-62.4
1008	SLV 9	-267	2191	1610	-575.11	80.57	-85.02
1008	SLV 10	-530	1994	1847	-635.29	80.31	-150.26
1008	SLV 11	-1101	-2115	25165	-6492.96	-28.94	-287.1
1008	SLV 12	-1364	-2313	25402	-6553.14	-29.2	-352.34
1008	SLV 13	-1782	528	7412	-2020.83	12.7	-478.17
1008	SLV 14	-2172	235	7765	-2110.22	12.31	-575.08
1008	SLV 15	-2032	-763	14479	-3796.19	-20.16	-538.79
1008	SLV 16	-2422	-1057	14831	-3885.58	-20.54	-635.7
1008	SLV FO 1	2110	1218	14194	-3760.36	103.18	544.48
1008	SLV FO 2	1680	896	14582	-3858.69	102.76	437.88
1008	SLV FO 3	1834	-203	21968	-5713.25	67.04	477.8
1008	SLV FO 4	1405	-526	22355	-5811.58	66.62	371.2
1008	SLV FO 5	946	2600	2566	-826.04	112.71	232.78
1008	SLV FO 6	657	2382	2827	-892.24	112.42	161.01
1008	SLV FO 7	28	-2137	28477	-7335.67	-7.76	10.5
1008	SLV FO 8	-262	-2355	28738	-7401.87	-8.05	-61.27
1008	SLV FO 9	-267	2408	318	-250.03	84.79	-86.15
1008	SLV FO 10	-556	2190	579	-316.23	84.51	-157.91
1008	SLV FO 11	-1185	-2329	26229	-6759.66	-35.67	-308.43
1008	SLV FO 12	-1474	-2547	26490	-6825.86	-35.96	-380.2
1008	SLV FO 13	-1933	579	6701	-1840.32	10.13	-518.62
1008	SLV FO 14	-2363	256	7089	-1938.65	9.71	-625.22
1008	SLV FO 15	-2209	-842	14474	-3793.21	-26.01	-585.3
1008	SLV FO 16	-2638	-1165	14862	-3891.54	-26.43	-691.9
1008	CRTFP Ux+	0	0	0	0	0	0
1008	CRTFP Ux-	0	0	0	0	0	0
1008	CRTFP Uy+	0	0	0	-0.01	0	0
1008	CRTFP Uy-	0	0	0	0.01	0	0
1011	SLU 1	48	19	2951	-878.53	-126.96	17.6
1011	SLU 2	45	31	2886	-861.33	-124.17	17.28
1011	SLU 3	50	19	3039	-904.24	-130.73	18.3
1011	SLU 4	48	27	2999	-893.92	-129.06	18.11
1011	SLU 5	47	32	2947	-879.2	-126.8	17.84
1011	SLU 6	51	20	3100	-922.11	-133.37	18.86
1011	SLU 7	50	27	3061	-911.79	-131.69	18.67
1011	SLU 8	51	19	3073	-914.27	-132.23	18.73
1011	SLU 9	50	27	3034	-903.95	-130.55	18.53
1011	SLU 10	49	34	3258	-971.61	-140.15	18.59
1011	SLU 11	53	22	3411	-1014.51	-146.71	19.61
1011	SLU 12	52	29	3371	-1004.2	-145.04	19.42
1011	SLU 13	50	34	3319	-989.48	-142.78	19.15
1011	SLU 14	55	22	3472	-1032.38	-149.35	20.18
1011	SLU 15	53	29	3433	-1022.07	-147.67	19.98
1011	SLU 16	54	22	3445	-1024.55	-148.21	20.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1011	SLU 17	53	29	3406	-1014.23	-146.53	19.84
1011	SLU 18	53	22	3482	-1036.07	-149.79	19.48
1011	SLU 19	51	30	3443	-1025.75	-148.11	19.28
1011	SLU 20	54	23	3543	-1053.94	-152.42	20.04
1011	SLU 21	53	30	3504	-1043.62	-150.75	19.85
1011	SLU 22	54	21	3453	-1026.83	-148.51	19.84
1011	SLU 23	51	34	3388	-1009.63	-145.72	19.52
1011	SLU 24	56	22	3540	-1052.54	-152.28	20.54
1011	SLU 25	54	29	3501	-1042.22	-150.61	20.35
1011	SLU 26	53	34	3449	-1027.5	-148.36	20.08
1011	SLU 27	57	22	3602	-1070.41	-154.92	21.11
1011	SLU 28	56	30	3563	-1060.09	-153.24	20.91
1011	SLU 29	57	22	3575	-1062.57	-153.78	20.97
1011	SLU 30	56	29	3536	-1052.25	-152.11	20.77
1011	SLU 31	55	36	3760	-1119.91	-161.7	20.83
1011	SLU 32	59	24	3912	-1162.81	-168.26	21.86
1011	SLU 33	58	32	3873	-1152.49	-166.59	21.66
1011	SLU 34	56	36	3821	-1137.78	-164.33	21.4
1011	SLU 35	61	24	3974	-1180.68	-170.9	22.42
1011	SLU 36	59	32	3935	-1170.36	-169.22	22.22
1011	SLU 37	61	24	3947	-1172.85	-169.76	22.28
1011	SLU 38	59	32	3908	-1162.53	-168.09	22.09
1011	SLU 39	59	25	3984	-1184.37	-171.34	21.72
1011	SLU 40	57	32	3945	-1174.05	-169.66	21.53
1011	SLU 41	60	25	4045	-1202.24	-173.97	22.28
1011	SLU 42	59	33	4006	-1191.92	-172.3	22.09
1011	SLU 43	60	24	3664	-1091.24	-157.66	22.11
1011	SLU 44	58	36	3599	-1074.05	-154.87	21.79
1011	SLU 45	62	24	3752	-1116.95	-161.43	22.81
1011	SLU 46	61	32	3713	-1106.63	-159.76	22.62
1011	SLU 47	59	36	3660	-1091.92	-157.5	22.35
1011	SLU 48	64	24	3813	-1134.82	-164.07	23.37
1011	SLU 49	62	32	3774	-1124.5	-162.39	23.18
1011	SLU 50	63	24	3786	-1126.98	-162.93	23.24
1011	SLU 51	62	32	3747	-1116.67	-161.25	23.04
1011	SLU 52	61	39	3971	-1184.32	-170.85	23.1
1011	SLU 53	66	26	4124	-1227.23	-177.41	24.13
1011	SLU 54	64	34	4085	-1216.91	-175.74	23.93
1011	SLU 55	63	39	4032	-1202.19	-173.48	23.66
1011	SLU 56	67	27	4185	-1245.1	-180.04	24.69
1011	SLU 57	66	34	4146	-1234.78	-178.37	24.49
1011	SLU 58	67	27	4158	-1237.26	-178.91	24.55
1011	SLU 59	65	34	4119	-1226.94	-177.23	24.36
1011	SLU 60	65	27	4195	-1248.78	-180.49	23.99
1011	SLU 61	64	35	4156	-1238.46	-178.81	23.8
1011	SLU 62	67	27	4257	-1266.65	-183.12	24.55
1011	SLU 63	65	35	4218	-1256.33	-181.45	24.36
1011	SLU 64	66	26	4166	-1239.54	-179.21	24.36
1011	SLU 65	64	39	4101	-1222.35	-176.42	24.03
1011	SLU 66	68	27	4254	-1265.25	-182.98	25.06
1011	SLU 67	67	34	4215	-1254.93	-181.31	24.86
1011	SLU 68	65	39	4162	-1240.22	-179.05	24.59
1011	SLU 69	70	27	4315	-1283.12	-185.62	25.62
1011	SLU 70	68	34	4276	-1272.8	-183.94	25.42
1011	SLU 71	69	27	4288	-1275.28	-184.48	25.48
1011	SLU 72	68	34	4249	-1264.97	-182.8	25.28
1011	SLU 73	67	41	4473	-1332.62	-192.4	25.35
1011	SLU 74	72	29	4626	-1375.53	-198.96	26.37
1011	SLU 75	70	36	4587	-1365.21	-197.29	26.17
1011	SLU 76	69	41	4534	-1350.49	-195.03	25.91
1011	SLU 77	73	29	4687	-1393.4	-201.6	26.93
1011	SLU 78	72	37	4648	-1383.08	-199.92	26.74
1011	SLU 79	73	29	4660	-1385.56	-200.46	26.79
1011	SLU 80	71	37	4621	-1375.24	-198.78	26.6
1011	SLU 81	71	30	4697	-1397.08	-202.04	26.23
1011	SLU 82	70	37	4658	-1386.76	-200.36	26.04
1011	SLU 83	73	30	4758	-1414.95	-204.67	26.8
1011	SLU 84	71	37	4719	-1404.63	-203	26.6
1011	SLE RA 1	50	20	3094	-920.9	-133.12	18.24
1011	SLE RA 2	48	28	3051	-909.44	-131.26	18.03
1011	SLE RA 3	51	20	3153	-938.04	-135.63	18.71
1011	SLE RA 4	50	25	3127	-931.16	-134.52	18.58
1011	SLE RA 5	49	28	3092	-921.35	-133.01	18.4
1011	SLE RA 6	52	20	3194	-949.95	-137.39	19.08
1011	SLE RA 7	51	25	3167	-943.08	-136.27	18.95
1011	SLE RA 8	52	20	3176	-944.73	-136.63	18.99
1011	SLE RA 9	51	25	3150	-937.85	-135.51	18.86
1011	SLE RA 10	50	29	3299	-982.95	-141.91	18.9
1011	SLE RA 11	53	21	3401	-1011.56	-146.29	19.58
1011	SLE RA 12	52	26	3375	-1004.68	-145.17	19.45
1011	SLE RA 13	51	30	3340	-994.87	-143.67	19.28
1011	SLE RA 14	54	22	3442	-1023.47	-148.04	19.96
1011	SLE RA 15	53	27	3415	-1016.59	-146.93	19.83
1011	SLE RA 16	54	22	3424	-1018.25	-147.28	19.87
1011	SLE RA 17	53	27	3398	-1011.37	-146.17	19.74
1011	SLE RA 18	53	22	3448	-1025.93	-148.34	19.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1011	SLE RA 19	52	27	3422	-1019.05	-147.22	19.36
1011	SLE RA 20	54	22	3489	-1037.84	-150.09	19.87
1011	SLE RA 21	53	27	3463	-1030.96	-148.98	19.74
1011	SLE FR 1	50	20	3094	-920.9	-133.12	18.24
1011	SLE FR 2	49	21	3085	-918.61	-132.75	18.2
1011	SLE FR 3	50	20	3110	-925.67	-133.82	18.39
1011	SLE FR 4	50	22	3192	-950.12	-137.31	18.57
1011	SLE FR 5	51	20	3217	-957.17	-138.39	18.77
1011	SLE FR 6	51	21	3271	-973.41	-140.73	18.87
1011	SLE QP 1	50	20	3094	-920.9	-133.12	18.24
1011	SLE QP 2	51	20	3200	-952.41	-137.68	18.62
1011	SLD 1	310	33	2355	-728.31	-101.21	110.96
1011	SLD 2	258	78	2292	-713.42	-98.47	94.74
1011	SLD 3	340	-119	3294	-977.14	-141.5	115.34
1011	SLD 4	288	-74	3231	-962.25	-138.76	99.12
1011	SLD 5	92	247	1533	-510.34	-66.11	42.47
1011	SLD 6	58	276	1493	-500.75	-64.35	32.02
1011	SLD 7	192	-259	4664	-1339.79	-200.4	57.07
1011	SLD 8	158	-231	4623	-1330.2	-198.63	46.62
1011	SLD 9	-57	271	1778	-574.62	-76.73	-9.39
1011	SLD 10	-91	300	1737	-565.03	-74.97	-19.83
1011	SLD 11	43	-235	4908	-1404.06	-211.02	5.22
1011	SLD 12	9	-206	4868	-1394.47	-209.25	-5.23
1011	SLD 13	-187	114	3169	-942.57	-136.61	-61.88
1011	SLD 14	-239	159	3107	-927.67	-133.87	-78.1
1011	SLD 15	-157	-37	4109	-1191.4	-176.89	-57.5
1011	SLD 16	-209	7	4046	-1176.51	-174.16	-73.72
1011	SLV 1	455	51	1811	-584.3	-77.8	163.13
1011	SLV 2	373	122	1713	-560.83	-73.48	137.56
1011	SLV 3	506	-208	3414	-1008.98	-146.55	170.53
1011	SLV 4	424	-137	3316	-985.5	-142.23	144.97
1011	SLV 5	110	409	371	-202.27	-16.25	55.52
1011	SLV 6	55	457	305	-186.47	-13.35	38.31
1011	SLV 7	280	-454	5714	-1617.85	-245.42	80.19
1011	SLV 8	225	-407	5647	-1602.05	-242.51	62.98
1011	SLV 9	-123	447	754	-302.77	-32.86	-25.74
1011	SLV 10	-179	495	687	-286.97	-29.95	-42.95
1011	SLV 11	46	-416	6096	-1718.35	-262.02	-1.07
1011	SLV 12	-9	-369	6029	-1702.55	-259.11	-18.28
1011	SLV 13	-323	178	3085	-919.31	-133.14	-107.73
1011	SLV 14	-405	249	2987	-895.84	-128.82	-133.3
1011	SLV 15	-272	-81	4688	-1343.99	-201.89	-100.33
1011	SLV 16	-354	-10	4589	-1320.51	-197.57	-125.89
1011	SLV FO 1	496	54	1673	-547.49	-71.81	177.58
1011	SLV FO 2	405	132	1564	-521.67	-67.06	149.46
1011	SLV FO 3	552	-231	3436	-1014.63	-147.43	185.72
1011	SLV FO 4	461	-153	3327	-988.81	-142.68	157.6
1011	SLV FO 5	116	448	88	-127.26	-4.11	59.21
1011	SLV FO 6	55	500	15	-109.87	-0.91	40.27
1011	SLV FO 7	303	-502	5965	-1684.39	-256.19	86.35
1011	SLV FO 8	242	-449	5892	-1667.01	-252.99	67.41
1011	SLV FO 9	-141	490	509	-237.81	-22.37	-30.18
1011	SLV FO 10	-202	542	436	-220.43	-19.18	-49.11
1011	SLV FO 11	46	-460	6385	-1794.95	-274.45	-3.04
1011	SLV FO 12	-15	-407	6312	-1777.56	-271.26	-21.97
1011	SLV FO 13	-360	194	3074	-916	-132.68	-120.37
1011	SLV FO 14	-451	272	2965	-890.18	-127.94	-148.49
1011	SLV FO 15	-304	-91	4837	-1383.15	-208.31	-112.22
1011	SLV FO 16	-394	-13	4728	-1357.33	-203.56	-140.35
1011	CRTFP Ux+	0	0	0	0	0	0
1011	CRTFP Ux-	0	0	0	0	0	0
1011	CRTFP Uy+	0	0	0	0	0	0
1011	CRTFP Uy-	0	0	0	0	0	0
1012	SLU 1	63	27	3752	-1024.29	3.78	22.27
1012	SLU 2	60	43	3669	-1004.85	3.69	21.11
1012	SLU 3	66	27	3863	-1053.91	3.9	23.18
1012	SLU 4	64	37	3814	-1042.24	3.85	22.48
1012	SLU 5	62	43	3747	-1025.45	3.77	21.84
1012	SLU 6	68	28	3941	-1074.5	3.99	23.91
1012	SLU 7	66	37	3891	-1062.84	3.93	23.21
1012	SLU 8	68	28	3907	-1065.48	3.94	23.74
1012	SLU 9	66	37	3858	-1053.82	3.89	23.04
1012	SLU 10	65	46	4140	-1131.9	4.24	22.71
1012	SLU 11	71	31	4334	-1180.95	4.46	24.78
1012	SLU 12	69	40	4284	-1169.29	4.4	24.08
1012	SLU 13	67	46	4218	-1152.49	4.33	23.44
1012	SLU 14	73	31	4412	-1201.55	4.54	25.51
1012	SLU 15	71	41	4362	-1189.89	4.49	24.81
1012	SLU 16	72	31	4378	-1192.53	4.5	25.34
1012	SLU 17	70	40	4329	-1180.87	4.45	24.64
1012	SLU 18	70	31	4424	-1205.78	4.57	24.56
1012	SLU 19	68	41	4375	-1194.12	4.52	23.86
1012	SLU 20	72	32	4502	-1226.38	4.65	25.29
1012	SLU 21	70	41	4453	-1214.72	4.6	24.59
1012	SLU 22	71	30	4387	-1195.08	4.53	25.1
1012	SLU 23	68	46	4304	-1175.65	4.44	23.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1012	SLU 24	74	31	4498	-1224.7	4.66	26.01
1012	SLU 25	72	41	4449	-1213.04	4.6	25.31
1012	SLU 26	70	47	4382	-1196.24	4.53	24.67
1012	SLU 27	76	31	4576	-1245.3	4.74	26.74
1012	SLU 28	74	41	4526	-1233.64	4.69	26.04
1012	SLU 29	76	31	4542	-1236.28	4.7	26.56
1012	SLU 30	74	41	4493	-1224.62	4.64	25.87
1012	SLU 31	73	50	4775	-1302.69	5	25.54
1012	SLU 32	79	34	4969	-1351.75	5.21	27.61
1012	SLU 33	77	44	4920	-1340.08	5.16	26.91
1012	SLU 34	75	50	4853	-1323.29	5.08	26.27
1012	SLU 35	81	35	5047	-1372.34	5.3	28.34
1012	SLU 36	79	44	4997	-1360.68	5.24	27.64
1012	SLU 37	80	34	5013	-1363.32	5.25	28.17
1012	SLU 38	78	44	4964	-1351.66	5.2	27.47
1012	SLU 39	78	35	5060	-1376.58	5.33	27.39
1012	SLU 40	76	44	5010	-1364.92	5.27	26.69
1012	SLU 41	80	35	5137	-1397.17	5.41	28.12
1012	SLU 42	78	45	5088	-1385.51	5.35	27.42
1012	SLU 43	80	33	4659	-1273.02	4.65	27.98
1012	SLU 44	76	50	4577	-1253.58	4.56	26.82
1012	SLU 45	82	34	4771	-1302.64	4.78	28.89
1012	SLU 46	80	44	4721	-1290.97	4.72	28.19
1012	SLU 47	78	50	4655	-1274.18	4.65	27.55
1012	SLU 48	84	35	4848	-1323.23	4.86	29.62
1012	SLU 49	82	44	4799	-1311.57	4.81	28.92
1012	SLU 50	84	34	4815	-1314.21	4.82	29.45
1012	SLU 51	82	44	4766	-1302.55	4.76	28.75
1012	SLU 52	81	53	5048	-1380.63	5.12	28.42
1012	SLU 53	87	37	5242	-1429.68	5.33	30.49
1012	SLU 54	85	47	5192	-1418.02	5.28	29.79
1012	SLU 55	83	53	5126	-1401.22	5.2	29.15
1012	SLU 56	89	38	5319	-1450.28	5.42	31.22
1012	SLU 57	87	47	5270	-1438.62	5.36	30.52
1012	SLU 58	88	38	5286	-1441.26	5.37	31.05
1012	SLU 59	86	47	5236	-1429.6	5.32	30.35
1012	SLU 60	86	38	5332	-1454.51	5.45	30.27
1012	SLU 61	84	48	5283	-1442.85	5.39	29.57
1012	SLU 62	88	39	5410	-1475.11	5.53	31
1012	SLU 63	86	48	5361	-1463.45	5.47	30.3
1012	SLU 64	88	37	5295	-1443.81	5.41	30.81
1012	SLU 65	84	53	5212	-1424.38	5.32	29.65
1012	SLU 66	90	38	5406	-1473.43	5.53	31.72
1012	SLU 67	88	47	5356	-1461.77	5.48	31.02
1012	SLU 68	87	54	5290	-1444.97	5.4	30.38
1012	SLU 69	92	38	5484	-1494.03	5.61	32.45
1012	SLU 70	90	48	5434	-1482.36	5.56	31.75
1012	SLU 71	92	38	5450	-1485.01	5.57	32.28
1012	SLU 72	90	48	5401	-1473.34	5.52	31.58
1012	SLU 73	89	56	5683	-1551.42	5.87	31.25
1012	SLU 74	95	41	5877	-1600.48	6.09	33.32
1012	SLU 75	93	51	5827	-1588.81	6.03	32.62
1012	SLU 76	91	57	5761	-1572.02	5.96	31.98
1012	SLU 77	97	41	5955	-1621.07	6.17	34.05
1012	SLU 78	95	51	5905	-1609.41	6.12	33.35
1012	SLU 79	96	41	5921	-1612.05	6.13	33.88
1012	SLU 80	95	51	5872	-1600.39	6.07	33.18
1012	SLU 81	94	42	5967	-1625.31	6.2	33.1
1012	SLU 82	92	51	5918	-1613.64	6.15	32.4
1012	SLU 83	96	42	6045	-1645.9	6.28	33.83
1012	SLU 84	94	52	5996	-1634.24	6.23	33.13
1012	SLE RA 1	66	28	3933	-1073.09	3.99	23.08
1012	SLE RA 2	64	38	3878	-1060.13	3.93	22.3
1012	SLE RA 3	67	28	4007	-1092.83	4.08	23.68
1012	SLE RA 4	66	35	3974	-1085.06	4.04	23.22
1012	SLE RA 5	65	39	3930	-1073.86	3.99	22.79
1012	SLE RA 6	69	28	4059	-1106.56	4.13	24.17
1012	SLE RA 7	68	35	4026	-1098.79	4.1	23.71
1012	SLE RA 8	69	28	4037	-1100.55	4.1	24.06
1012	SLE RA 9	67	35	4004	-1092.78	4.07	23.59
1012	SLE RA 10	67	41	4192	-1144.83	4.3	23.37
1012	SLE RA 11	70	30	4321	-1177.53	4.45	24.75
1012	SLE RA 12	69	37	4288	-1169.75	4.41	24.29
1012	SLE RA 13	68	41	4244	-1158.56	4.36	23.86
1012	SLE RA 14	72	31	4373	-1191.26	4.5	25.24
1012	SLE RA 15	71	37	4340	-1183.49	4.47	24.77
1012	SLE RA 16	72	30	4351	-1185.25	4.47	25.12
1012	SLE RA 17	70	37	4318	-1177.47	4.44	24.66
1012	SLE RA 18	70	31	4382	-1194.08	4.52	24.6
1012	SLE RA 19	69	37	4349	-1186.31	4.49	24.14
1012	SLE RA 20	71	31	4433	-1207.82	4.58	25.09
1012	SLE RA 21	70	37	4401	-1200.04	4.54	24.63
1012	SLE FR 1	66	28	3933	-1073.09	3.99	23.08
1012	SLE FR 2	65	30	3922	-1070.5	3.98	22.92
1012	SLE FR 3	66	28	3954	-1078.58	4.02	23.27
1012	SLE FR 4	67	31	4057	-1106.8	4.14	23.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1012	SLE FR 5	68	29	4088	-1114.88	4.17	23.73
1012	SLE FR 6	68	29	4157	-1133.59	4.26	23.84
1012	SLE QP 1	66	28	3933	-1073.09	3.99	23.08
1012	SLE QP 2	67	29	4068	-1109.39	4.15	23.54
1012	SLD 1	404	39	2980	-861.23	3.7	141.15
1012	SLD 2	336	101	2898	-844	3.72	117.43
1012	SLD 3	444	-157	4170	-1143.05	4.98	155.31
1012	SLD 4	376	-95	4087	-1125.82	5	131.6
1012	SLD 5	119	318	1952	-610.48	2.07	41.42
1012	SLD 6	75	358	1899	-599.38	2.09	26.15
1012	SLD 7	253	-335	5916	-1549.88	6.34	88.63
1012	SLD 8	209	-295	5863	-1538.78	6.35	73.35
1012	SLD 9	-75	352	2272	-680	1.95	-26.28
1012	SLD 10	-119	392	2219	-668.9	1.97	-41.55
1012	SLD 11	59	-301	6236	-1619.4	6.22	20.92
1012	SLD 12	15	-261	6183	-1608.3	6.23	5.65
1012	SLD 13	-242	152	4048	-1092.96	3.3	-84.52
1012	SLD 14	-310	214	3966	-1075.72	3.32	-108.24
1012	SLD 15	-202	-44	5238	-1374.78	4.58	-70.36
1012	SLD 16	-270	19	5155	-1357.54	4.6	-94.08
1012	SLV 1	592	58	2283	-701.27	3.36	207.02
1012	SLV 2	485	156	2153	-674.1	3.39	169.63
1012	SLV 3	661	-276	4313	-1182.23	5.54	231.09
1012	SLV 4	553	-178	4183	-1155.07	5.58	193.7
1012	SLV 5	141	525	479	-262.55	0.6	49.05
1012	SLV 6	69	591	391	-244.26	0.62	23.88
1012	SLV 7	369	-587	7243	-1865.78	7.88	129.28
1012	SLV 8	297	-521	7156	-1847.49	7.9	104.12
1012	SLV 9	-163	578	979	-371.28	0.41	-57.04
1012	SLV 10	-235	645	892	-352.99	0.43	-82.21
1012	SLV 11	65	-534	7744	-1974.51	7.69	23.19
1012	SLV 12	-7	-468	7657	-1956.22	7.71	-1.98
1012	SLV 13	-419	235	3953	-1063.71	2.73	-146.63
1012	SLV 14	-527	333	3823	-1036.54	2.76	-184.02
1012	SLV 15	-351	-99	5982	-1544.68	4.91	-122.56
1012	SLV 16	-458	-1	5852	-1517.51	4.94	-159.95
1012	SLV FO 1	645	61	2105	-660.45	3.28	225.37
1012	SLV FO 2	527	169	1962	-630.57	3.32	184.24
1012	SLV FO 3	720	-306	4337	-1189.52	5.68	251.84
1012	SLV FO 4	602	-198	4194	-1159.63	5.72	210.72
1012	SLV FO 5	148	575	120	-177.87	0.24	51.6
1012	SLV FO 6	69	648	23	-157.75	0.26	23.92
1012	SLV FO 7	399	-649	7561	-1941.42	8.25	139.86
1012	SLV FO 8	320	-576	7465	-1921.3	8.27	112.17
1012	SLV FO 9	-185	633	671	-297.47	0.03	-65.1
1012	SLV FO 10	-265	706	574	-277.35	0.06	-92.79
1012	SLV FO 11	65	-591	8112	-2061.03	8.04	23.16
1012	SLV FO 12	-14	-518	8016	-2040.91	8.06	-4.53
1012	SLV FO 13	-468	256	3941	-1059.14	2.59	-163.65
1012	SLV FO 14	-586	364	3798	-1029.26	2.62	-204.77
1012	SLV FO 15	-393	-112	6174	-1588.21	4.99	-137.17
1012	SLV FO 16	-511	-4	6031	-1558.32	5.02	-178.29
1012	CRTFP Ux+	0	0	0	0	0	0
1012	CRTFP Ux-	0	0	0	0	0	0
1012	CRTFP Uy+	0	0	0	0	0	0
1012	CRTFP Uy-	0	0	0	0	0	0
1013	SLU 1	64	29	3621	-897.01	4.11	22.62
1013	SLU 2	61	45	3541	-880.54	4.02	21.42
1013	SLU 3	67	30	3728	-922.54	4.24	23.54
1013	SLU 4	65	39	3680	-912.66	4.19	22.83
1013	SLU 5	63	45	3616	-898.32	4.11	22.17
1013	SLU 6	69	30	3803	-940.32	4.33	24.29
1013	SLU 7	67	40	3755	-930.43	4.28	23.57
1013	SLU 8	69	30	3771	-932.57	4.28	24.11
1013	SLU 9	67	40	3723	-922.68	4.23	23.4
1013	SLU 10	66	48	3993	-989.89	4.63	23.04
1013	SLU 11	72	33	4179	-1031.89	4.85	25.16
1013	SLU 12	70	43	4132	-1022	4.79	24.44
1013	SLU 13	68	49	4068	-1007.67	4.72	23.79
1013	SLU 14	74	34	4254	-1049.66	4.93	25.91
1013	SLU 15	72	43	4207	-1039.78	4.88	25.19
1013	SLU 16	73	33	4222	-1041.91	4.89	25.73
1013	SLU 17	71	43	4175	-1032.03	4.84	25.01
1013	SLU 18	71	34	4266	-1053.22	4.97	24.93
1013	SLU 19	69	43	4218	-1043.34	4.92	24.21
1013	SLU 20	73	34	4341	-1071	5.06	25.67
1013	SLU 21	71	44	4293	-1061.12	5.01	24.96
1013	SLU 22	73	33	4230	-1043.95	4.92	25.48
1013	SLU 23	69	49	4150	-1027.48	4.84	24.29
1013	SLU 24	75	33	4337	-1069.48	5.05	26.41
1013	SLU 25	73	43	4289	-1059.59	5	25.69
1013	SLU 26	71	49	4225	-1045.26	4.93	25.04
1013	SLU 27	77	34	4412	-1087.25	5.14	27.16
1013	SLU 28	75	44	4364	-1077.37	5.09	26.44
1013	SLU 29	77	34	4380	-1079.51	5.1	26.98
1013	SLU 30	75	43	4332	-1069.62	5.05	26.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1013	SLU 31	74	52	4602	-1136.83	5.44	25.91
1013	SLU 32	80	37	4788	-1178.82	5.66	28.03
1013	SLU 33	78	46	4741	-1168.94	5.61	27.31
1013	SLU 34	76	53	4677	-1154.6	5.53	26.65
1013	SLU 35	82	37	4863	-1196.6	5.75	28.77
1013	SLU 36	80	47	4816	-1186.72	5.7	28.06
1013	SLU 37	81	37	4831	-1188.85	5.7	28.59
1013	SLU 38	79	47	4784	-1178.97	5.65	27.88
1013	SLU 39	79	37	4875	-1200.16	5.79	27.79
1013	SLU 40	77	47	4827	-1190.28	5.74	27.08
1013	SLU 41	81	38	4950	-1217.94	5.88	28.54
1013	SLU 42	79	48	4902	-1208.06	5.82	27.82
1013	SLU 43	81	36	4498	-1115.74	5.06	28.42
1013	SLU 44	78	52	4419	-1099.27	4.98	27.23
1013	SLU 45	84	37	4605	-1141.26	5.19	29.34
1013	SLU 46	82	47	4557	-1131.38	5.14	28.63
1013	SLU 47	80	53	4494	-1117.04	5.06	27.97
1013	SLU 48	86	38	4680	-1159.04	5.28	30.09
1013	SLU 49	84	47	4632	-1149.16	5.23	29.38
1013	SLU 50	85	37	4648	-1151.29	5.24	29.91
1013	SLU 51	83	47	4600	-1141.41	5.19	29.2
1013	SLU 52	82	56	4870	-1208.61	5.58	28.84
1013	SLU 53	88	40	5057	-1250.61	5.8	30.96
1013	SLU 54	86	50	5009	-1240.73	5.75	30.25
1013	SLU 55	84	56	4945	-1226.39	5.67	29.59
1013	SLU 56	90	41	5132	-1268.39	5.89	31.71
1013	SLU 57	88	51	5084	-1258.5	5.84	30.99
1013	SLU 58	90	41	5100	-1260.64	5.84	31.53
1013	SLU 59	88	50	5052	-1250.76	5.79	30.81
1013	SLU 60	88	41	5143	-1271.95	5.93	30.73
1013	SLU 61	86	51	5096	-1262.06	5.87	30.01
1013	SLU 62	90	42	5218	-1289.73	6.01	31.48
1013	SLU 63	88	51	5171	-1279.84	5.96	30.76
1013	SLU 64	89	40	5107	-1262.68	5.87	31.29
1013	SLU 65	86	56	5028	-1246.2	5.79	30.09
1013	SLU 66	92	41	5214	-1288.2	6.01	32.21
1013	SLU 67	90	50	5166	-1278.32	5.96	31.5
1013	SLU 68	88	57	5103	-1263.98	5.88	30.84
1013	SLU 69	94	41	5289	-1305.98	6.1	32.96
1013	SLU 70	92	51	5241	-1296.1	6.04	32.24
1013	SLU 71	93	41	5257	-1298.23	6.05	32.78
1013	SLU 72	91	51	5209	-1288.35	6	32.06
1013	SLU 73	90	59	5479	-1355.55	6.4	31.71
1013	SLU 74	96	44	5666	-1397.55	6.61	33.83
1013	SLU 75	94	54	5618	-1387.67	6.56	33.11
1013	SLU 76	92	60	5554	-1373.33	6.48	32.46
1013	SLU 77	98	45	5741	-1415.33	6.7	34.57
1013	SLU 78	96	54	5693	-1405.44	6.65	33.86
1013	SLU 79	98	45	5709	-1407.58	6.66	34.4
1013	SLU 80	96	54	5661	-1397.69	6.61	33.68
1013	SLU 81	96	45	5752	-1418.89	6.74	33.6
1013	SLU 82	94	54	5705	-1409	6.69	32.88
1013	SLU 83	98	45	5827	-1436.66	6.83	34.34
1013	SLU 84	96	55	5780	-1426.78	6.78	33.63
1013	SLE RA 1	67	30	3795	-938.99	4.34	23.44
1013	SLE RA 2	65	41	3742	-928.01	4.28	22.64
1013	SLE RA 3	69	31	3866	-956.01	4.43	24.05
1013	SLE RA 4	67	37	3834	-949.42	4.39	23.58
1013	SLE RA 5	66	41	3792	-939.87	4.34	23.14
1013	SLE RA 6	70	31	3916	-967.86	4.49	24.55
1013	SLE RA 7	69	37	3884	-961.28	4.45	24.07
1013	SLE RA 8	70	31	3895	-962.7	4.46	24.43
1013	SLE RA 9	68	37	3863	-956.11	4.42	23.95
1013	SLE RA 10	68	43	4043	-1000.91	4.69	23.72
1013	SLE RA 11	72	33	4167	-1028.91	4.83	25.13
1013	SLE RA 12	70	39	4135	-1022.32	4.8	24.65
1013	SLE RA 13	69	43	4093	-1012.76	4.75	24.22
1013	SLE RA 14	73	33	4217	-1040.76	4.89	25.63
1013	SLE RA 15	72	40	4185	-1034.17	4.86	25.15
1013	SLE RA 16	73	33	4196	-1035.6	4.86	25.51
1013	SLE RA 17	71	39	4164	-1029.01	4.83	25.03
1013	SLE RA 18	71	33	4225	-1043.13	4.92	24.98
1013	SLE RA 19	70	40	4193	-1036.55	4.88	24.5
1013	SLE RA 20	73	34	4275	-1054.99	4.98	25.47
1013	SLE RA 21	71	40	4243	-1048.4	4.94	25
1013	SLE FR 1	67	30	3795	-938.99	4.34	23.44
1013	SLE FR 2	66	32	3784	-936.8	4.33	23.28
1013	SLE FR 3	67	30	3815	-943.74	4.36	23.64
1013	SLE FR 4	68	33	3913	-968.04	4.5	23.74
1013	SLE FR 5	69	31	3944	-974.98	4.54	24.1
1013	SLE FR 6	69	32	4010	-991.06	4.63	24.21
1013	SLE QP 1	67	30	3795	-938.99	4.34	23.44
1013	SLE QP 2	68	31	3924	-970.24	4.51	23.9
1013	SLD 1	403	34	2847	-764.09	4.38	141.12
1013	SLD 2	335	100	2764	-748.63	4.39	117.32
1013	SLD 3	445	-159	3995	-1003.58	5.59	155.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1013	SLD 4	377	-93	3912	-988.12	5.6	131.89
1013	SLD 5	118	314	1874	-547.82	2.64	41.05
1013	SLD 6	74	356	1820	-537.87	2.65	25.73
1013	SLD 7	256	-331	5701	-1346.12	6.67	89.63
1013	SLD 8	212	-288	5647	-1336.17	6.67	74.3
1013	SLD 9	-76	350	2200	-604.3	2.35	-26.51
1013	SLD 10	-120	392	2147	-594.35	2.36	-41.84
1013	SLD 11	63	-295	6027	-1402.6	6.38	22.07
1013	SLD 12	19	-252	5974	-1392.65	6.39	6.74
1013	SLD 13	-240	155	3936	-952.36	3.43	-84.09
1013	SLD 14	-309	221	3853	-936.9	3.44	-107.9
1013	SLD 15	-199	-38	5084	-1191.85	4.63	-69.52
1013	SLD 16	-267	27	5001	-1176.39	4.65	-93.32
1013	SLV 1	591	50	2159	-630.76	4.22	206.74
1013	SLV 2	483	154	2028	-606.39	4.23	169.22
1013	SLV 3	662	-280	4118	-1039.48	6.28	231.51
1013	SLV 4	554	-176	3987	-1015.11	6.3	193.99
1013	SLV 5	138	517	447	-253.04	1.29	48.17
1013	SLV 6	66	587	359	-236.64	1.3	22.91
1013	SLV 7	373	-582	6978	-1615.45	8.17	130.76
1013	SLV 8	301	-512	6890	-1599.05	8.18	105.5
1013	SLV 9	-164	574	958	-341.43	0.85	-57.71
1013	SLV 10	-237	644	870	-325.02	0.86	-82.97
1013	SLV 11	70	-526	7488	-1703.83	7.72	24.88
1013	SLV 12	-2	-456	7400	-1687.43	7.73	-0.38
1013	SLV 13	-418	238	3860	-925.36	2.73	-146.2
1013	SLV 14	-525	342	3730	-900.99	2.75	-183.72
1013	SLV 15	-347	-92	5820	-1334.08	4.79	-121.42
1013	SLV 16	-455	12	5689	-1309.72	4.81	-158.94
1013	SLV FO 1	643	52	1982	-596.81	4.19	225.02
1013	SLV FO 2	525	166	1838	-570.01	4.21	183.75
1013	SLV FO 3	721	-311	4137	-1046.4	6.46	252.28
1013	SLV FO 4	603	-197	3993	-1019.6	6.47	211
1013	SLV FO 5	145	566	100	-181.33	0.97	50.6
1013	SLV FO 6	65	643	3	-163.28	0.98	22.82
1013	SLV FO 7	404	-643	7283	-1679.97	8.53	141.45
1013	SLV FO 8	324	-566	7186	-1661.93	8.54	113.66
1013	SLV FO 9	-188	628	661	-278.54	0.48	-65.87
1013	SLV FO 10	-267	705	564	-260.5	0.49	-93.65
1013	SLV FO 11	71	-581	7845	-1777.19	8.04	24.98
1013	SLV FO 12	-9	-504	7748	-1759.15	8.05	-2.81
1013	SLV FO 13	-466	259	3854	-920.87	2.55	-163.21
1013	SLV FO 14	-585	373	3710	-894.07	2.57	-204.48
1013	SLV FO 15	-389	-104	6009	-1370.47	4.82	-135.95
1013	SLV FO 16	-507	10	5865	-1343.66	4.84	-177.23
1013	CRTFP Ux+	0	0	0	0	0	0
1013	CRTFP Ux-	0	0	0	0	0	0
1013	CRTFP Uy+	0	0	0	0	0	0
1013	CRTFP Uy-	0	0	0	0	0	0
1014	SLU 1	65	31	3493	-781.62	3.63	22.94
1014	SLU 2	62	47	3416	-767.66	3.57	21.72
1014	SLU 3	68	32	3596	-803.46	3.74	23.88
1014	SLU 4	66	41	3549	-795.08	3.71	23.15
1014	SLU 5	64	48	3488	-782.9	3.64	22.48
1014	SLU 6	70	33	3668	-818.7	3.82	24.64
1014	SLU 7	68	42	3622	-810.33	3.78	23.91
1014	SLU 8	70	32	3637	-812.1	3.78	24.46
1014	SLU 9	68	42	3591	-803.72	3.75	23.73
1014	SLU 10	67	50	3848	-860.86	4.11	23.35
1014	SLU 11	73	35	4028	-896.66	4.29	25.52
1014	SLU 12	71	45	3982	-888.29	4.25	24.78
1014	SLU 13	69	51	3920	-876.1	4.19	24.11
1014	SLU 14	75	36	4100	-911.9	4.37	26.28
1014	SLU 15	73	46	4054	-903.53	4.33	25.54
1014	SLU 16	74	36	4070	-905.3	4.33	26.09
1014	SLU 17	72	45	4023	-896.93	4.29	25.36
1014	SLU 18	72	36	4111	-914.76	4.41	25.27
1014	SLU 19	70	45	4065	-906.39	4.37	24.54
1014	SLU 20	74	36	4183	-930.01	4.49	26.03
1014	SLU 21	72	46	4137	-921.63	4.45	25.3
1014	SLU 22	74	35	4076	-906.87	4.36	25.84
1014	SLU 23	70	51	3999	-892.91	4.29	24.62
1014	SLU 24	76	36	4179	-928.71	4.47	26.79
1014	SLU 25	74	45	4133	-920.33	4.43	26.05
1014	SLU 26	72	51	4071	-908.15	4.37	25.38
1014	SLU 27	79	36	4251	-943.95	4.55	27.55
1014	SLU 28	76	46	4205	-935.57	4.51	26.81
1014	SLU 29	78	36	4221	-937.35	4.51	27.36
1014	SLU 30	76	46	4174	-928.97	4.47	26.63
1014	SLU 31	75	54	4432	-986.11	4.84	26.26
1014	SLU 32	81	39	4612	-1021.91	5.02	28.42
1014	SLU 33	79	49	4566	-1013.53	4.98	27.69
1014	SLU 34	77	55	4504	-1001.35	4.92	27.02
1014	SLU 35	83	40	4684	-1037.15	5.09	29.18
1014	SLU 36	81	49	4638	-1028.78	5.06	28.45
1014	SLU 37	83	40	4653	-1030.55	5.06	29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1014	SLU 38	81	49	4607	-1022.17	5.02	28.26
1014	SLU 39	80	40	4694	-1040.01	5.14	28.18
1014	SLU 40	78	49	4648	-1031.64	5.1	27.44
1014	SLU 41	82	40	4767	-1055.25	5.21	28.94
1014	SLU 42	80	50	4720	-1046.88	5.18	28.2
1014	SLU 43	82	39	4340	-973.16	4.47	28.83
1014	SLU 44	79	55	4263	-959.2	4.41	27.61
1014	SLU 45	85	40	4443	-995.01	4.58	29.77
1014	SLU 46	83	49	4397	-986.63	4.55	29.04
1014	SLU 47	81	55	4336	-974.44	4.48	28.37
1014	SLU 48	87	40	4515	-1010.25	4.66	30.53
1014	SLU 49	85	50	4469	-1001.87	4.62	29.8
1014	SLU 50	86	40	4485	-1003.65	4.62	30.35
1014	SLU 51	84	50	4439	-995.27	4.59	29.62
1014	SLU 52	83	58	4696	-1052.4	4.95	29.24
1014	SLU 53	90	43	4876	-1088.21	5.13	31.4
1014	SLU 54	87	53	4830	-1079.83	5.09	30.67
1014	SLU 55	86	59	4768	-1067.64	5.03	30
1014	SLU 56	92	44	4948	-1103.45	5.21	32.16
1014	SLU 57	90	54	4902	-1095.07	5.17	31.43
1014	SLU 58	91	44	4917	-1096.85	5.17	31.98
1014	SLU 59	89	53	4871	-1088.47	5.13	31.25
1014	SLU 60	89	44	4958	-1106.31	5.25	31.16
1014	SLU 61	87	53	4912	-1097.93	5.21	30.43
1014	SLU 62	91	44	5031	-1121.55	5.33	31.92
1014	SLU 63	89	54	4984	-1113.17	5.29	31.19
1014	SLU 64	90	43	4924	-1098.41	5.2	31.73
1014	SLU 65	87	59	4847	-1084.45	5.13	30.51
1014	SLU 66	93	44	5027	-1120.25	5.31	32.67
1014	SLU 67	91	53	4981	-1111.88	5.27	31.94
1014	SLU 68	89	59	4919	-1099.69	5.21	31.27
1014	SLU 69	95	44	5099	-1135.49	5.39	33.43
1014	SLU 70	93	54	5053	-1127.12	5.35	32.7
1014	SLU 71	95	44	5068	-1128.89	5.35	33.25
1014	SLU 72	93	54	5022	-1120.52	5.31	32.52
1014	SLU 73	92	62	5280	-1177.65	5.68	32.14
1014	SLU 74	98	47	5460	-1213.46	5.86	34.31
1014	SLU 75	96	57	5413	-1205.08	5.82	33.57
1014	SLU 76	94	63	5352	-1192.89	5.76	32.9
1014	SLU 77	100	48	5532	-1228.7	5.93	35.07
1014	SLU 78	98	57	5486	-1220.32	5.9	34.33
1014	SLU 79	99	48	5501	-1222.09	5.9	34.88
1014	SLU 80	97	57	5455	-1213.72	5.86	34.15
1014	SLU 81	97	48	5542	-1231.56	5.98	34.06
1014	SLU 82	95	57	5496	-1223.18	5.94	33.33
1014	SLU 83	99	48	5614	-1246.8	6.05	34.82
1014	SLU 84	97	58	5568	-1238.42	6.02	34.09
1014	SLE RA 1	68	32	3659	-817.4	3.84	23.77
1014	SLE RA 2	65	43	3608	-808.1	3.79	22.96
1014	SLE RA 3	70	33	3728	-831.97	3.91	24.4
1014	SLE RA 4	68	39	3697	-826.38	3.89	23.91
1014	SLE RA 5	67	43	3656	-818.26	3.85	23.46
1014	SLE RA 6	71	33	3776	-842.13	3.97	24.91
1014	SLE RA 7	70	39	3745	-836.54	3.94	24.42
1014	SLE RA 8	71	33	3756	-837.73	3.94	24.78
1014	SLE RA 9	69	39	3725	-832.14	3.91	24.3
1014	SLE RA 10	69	45	3897	-870.23	4.16	24.04
1014	SLE RA 11	73	35	4016	-894.1	4.28	25.49
1014	SLE RA 12	71	41	3986	-888.52	4.25	25
1014	SLE RA 13	70	45	3945	-880.39	4.21	24.55
1014	SLE RA 14	74	35	4065	-904.26	4.33	25.99
1014	SLE RA 15	73	42	4034	-898.68	4.3	25.51
1014	SLE RA 16	74	35	4044	-899.86	4.3	25.87
1014	SLE RA 17	72	42	4013	-894.28	4.28	25.38
1014	SLE RA 18	72	35	4072	-906.17	4.36	25.32
1014	SLE RA 19	71	42	4041	-900.58	4.33	24.84
1014	SLE RA 20	74	36	4120	-916.33	4.41	25.83
1014	SLE RA 21	72	42	4089	-910.74	4.38	25.34
1014	SLE FR 1	68	32	3659	-817.4	3.84	23.77
1014	SLE FR 2	67	34	3649	-815.54	3.83	23.61
1014	SLE FR 3	68	32	3679	-821.47	3.86	23.97
1014	SLE FR 4	69	35	3773	-842.17	3.98	24.07
1014	SLE FR 5	70	33	3802	-848.1	4.01	24.44
1014	SLE FR 6	70	34	3865	-861.79	4.1	24.55
1014	SLE QP 1	68	32	3659	-817.4	3.84	23.77
1014	SLE QP 2	69	33	3783	-844.03	3.99	24.24
1014	SLD 1	403	31	2703	-669.82	4.35	141.07
1014	SLD 2	335	100	2620	-655.83	4.37	117.2
1014	SLD 3	446	-161	3816	-873.41	5.27	156.01
1014	SLD 4	377	-92	3733	-859.41	5.29	132.14
1014	SLD 5	116	312	1786	-485.41	2.71	40.73
1014	SLD 6	72	356	1732	-476.4	2.72	25.36
1014	SLD 7	258	-328	5495	-1164.02	5.76	90.53
1014	SLD 8	214	-284	5442	-1155.01	5.78	75.16
1014	SLD 9	-76	350	2125	-533.06	2.21	-26.69
1014	SLD 10	-120	394	2071	-524.05	2.22	-42.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1014	SLD 11	66	-290	5834	-1211.67	5.27	23.11
1014	SLD 12	22	-246	5781	-1202.66	5.28	7.74
1014	SLD 13	-239	158	3833	-828.66	2.7	-83.66
1014	SLD 14	-307	227	3750	-814.66	2.72	-107.53
1014	SLD 15	-196	-34	4946	-1032.24	3.61	-68.72
1014	SLD 16	-265	35	4863	-1018.24	3.63	-92.59
1014	SLV 1	590	43	2016	-557.04	4.48	206.44
1014	SLV 2	482	152	1885	-534.98	4.52	168.82
1014	SLV 3	662	-284	3915	-904.48	6.05	231.85
1014	SLV 4	554	-175	3784	-882.42	6.08	194.22
1014	SLV 5	136	512	397	-235.1	1.76	47.39
1014	SLV 6	63	586	309	-220.25	1.78	22.06
1014	SLV 7	377	-579	6728	-1393.23	6.98	132.07
1014	SLV 8	304	-506	6639	-1378.38	7	106.74
1014	SLV 9	-166	572	927	-309.68	0.99	-58.26
1014	SLV 10	-239	645	839	-294.83	1.01	-83.6
1014	SLV 11	75	-520	7258	-1467.81	6.2	26.41
1014	SLV 12	3	-447	7169	-1452.96	6.23	1.08
1014	SLV 13	-416	241	3782	-805.65	1.9	-145.75
1014	SLV 14	-524	350	3651	-783.59	1.94	-183.37
1014	SLV 15	-344	-86	5682	-1153.08	3.47	-120.34
1014	SLV 16	-452	23	5550	-1131.03	3.5	-157.97
1014	SLV FO 1	642	44	1839	-528.34	4.53	224.66
1014	SLV FO 2	523	164	1695	-504.08	4.57	183.27
1014	SLV FO 3	722	-316	3928	-910.52	6.26	252.61
1014	SLV FO 4	603	-196	3784	-886.26	6.29	211.22
1014	SLV FO 5	142	560	59	-174.21	1.54	49.71
1014	SLV FO 6	62	641	-39	-157.88	1.56	21.84
1014	SLV FO 7	408	-641	7022	-1448.15	7.28	142.85
1014	SLV FO 8	328	-560	6925	-1431.82	7.3	114.99
1014	SLV FO 9	-190	626	641	-256.25	0.69	-66.51
1014	SLV FO 10	-270	706	544	-239.91	0.71	-94.38
1014	SLV FO 11	76	-575	7605	-1530.19	6.42	26.63
1014	SLV FO 12	-4	-494	7508	-1513.86	6.45	-1.24
1014	SLV FO 13	-465	262	3782	-801.81	1.69	-162.74
1014	SLV FO 14	-584	382	3638	-777.54	1.73	-204.13
1014	SLV FO 15	-385	-98	5871	-1183.99	3.42	-134.8
1014	SLV FO 16	-504	22	5727	-1159.73	3.45	-176.19
1014	CRTFP Ux+	0	0	0	0	0	0
1014	CRTFP Ux-	0	0	0	0	0	0
1014	CRTFP Uy+	0	0	0	0	0	0
1014	CRTFP Uy-	0	0	0	0	0	0
1015	SLU 1	66	32	3390	-688.29	2.58	23.25
1015	SLU 2	63	48	3315	-676.2	2.54	22.01
1015	SLU 3	69	33	3490	-707.17	2.66	24.21
1015	SLU 4	67	43	3445	-699.92	2.64	23.46
1015	SLU 5	65	49	3385	-689.41	2.6	22.78
1015	SLU 6	71	34	3560	-720.37	2.71	24.98
1015	SLU 7	69	44	3515	-713.12	2.69	24.24
1015	SLU 8	71	34	3530	-714.69	2.68	24.79
1015	SLU 9	69	44	3485	-707.44	2.66	24.05
1015	SLU 10	67	52	3732	-756.21	2.95	23.65
1015	SLU 11	74	37	3907	-787.18	3.06	25.86
1015	SLU 12	72	46	3862	-779.93	3.04	25.11
1015	SLU 13	70	53	3802	-769.42	3.01	24.43
1015	SLU 14	76	38	3977	-800.38	3.12	26.63
1015	SLU 15	74	47	3932	-793.13	3.1	25.88
1015	SLU 16	75	37	3947	-794.7	3.09	26.44
1015	SLU 17	73	47	3902	-787.45	3.07	25.7
1015	SLU 18	73	37	3986	-802.59	3.16	25.6
1015	SLU 19	71	47	3940	-795.34	3.14	24.86
1015	SLU 20	75	38	4056	-815.79	3.21	26.38
1015	SLU 21	73	48	4011	-808.54	3.19	25.63
1015	SLU 22	75	36	3953	-795.89	3.11	26.19
1015	SLU 23	71	52	3878	-783.8	3.08	24.95
1015	SLU 24	78	37	4053	-814.77	3.19	27.15
1015	SLU 25	75	47	4007	-807.52	3.17	26.4
1015	SLU 26	73	53	3948	-797.01	3.13	25.72
1015	SLU 27	80	38	4123	-827.97	3.24	27.92
1015	SLU 28	78	48	4077	-820.72	3.22	27.18
1015	SLU 29	79	38	4093	-822.29	3.22	27.73
1015	SLU 30	77	47	4048	-815.04	3.2	26.99
1015	SLU 31	76	55	4295	-863.81	3.49	26.59
1015	SLU 32	82	41	4470	-894.78	3.6	28.8
1015	SLU 33	80	50	4424	-887.53	3.58	28.05
1015	SLU 34	78	56	4365	-877.02	3.54	27.37
1015	SLU 35	84	41	4540	-907.98	3.65	29.57
1015	SLU 36	82	51	4494	-900.73	3.63	28.82
1015	SLU 37	84	41	4510	-902.3	3.62	29.38
1015	SLU 38	82	51	4465	-895.05	3.6	28.64
1015	SLU 39	81	41	4549	-910.19	3.69	28.54
1015	SLU 40	79	50	4503	-902.93	3.67	27.8
1015	SLU 41	84	42	4619	-923.39	3.75	29.32
1015	SLU 42	82	51	4573	-916.14	3.73	28.57
1015	SLU 43	83	40	4214	-857.88	3.17	29.22
1015	SLU 44	80	56	4139	-845.8	3.13	27.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1015	SLU 45	86	41	4314	-876.76	3.25	30.18
1015	SLU 46	84	51	4269	-869.51	3.23	29.43
1015	SLU 47	82	57	4209	-859	3.19	28.74
1015	SLU 48	88	42	4384	-889.97	3.3	30.95
1015	SLU 49	86	52	4339	-882.72	3.28	30.2
1015	SLU 50	88	42	4354	-884.29	3.27	30.76
1015	SLU 51	86	52	4309	-877.04	3.25	30.02
1015	SLU 52	85	60	4556	-925.81	3.54	29.62
1015	SLU 53	91	45	4731	-956.77	3.65	31.82
1015	SLU 54	89	55	4686	-949.52	3.63	31.08
1015	SLU 55	87	61	4626	-939.01	3.6	30.39
1015	SLU 56	93	46	4801	-969.98	3.71	32.6
1015	SLU 57	91	56	4756	-962.73	3.69	31.85
1015	SLU 58	92	46	4771	-964.3	3.68	32.41
1015	SLU 59	90	55	4726	-957.05	3.66	31.66
1015	SLU 60	90	45	4810	-972.18	3.75	31.57
1015	SLU 61	88	55	4765	-964.93	3.73	30.82
1015	SLU 62	92	46	4880	-985.38	3.8	32.34
1015	SLU 63	90	56	4835	-978.13	3.78	31.6
1015	SLU 64	92	44	4777	-965.48	3.7	32.16
1015	SLU 65	88	60	4702	-953.4	3.67	30.91
1015	SLU 66	95	45	4877	-984.36	3.78	33.12
1015	SLU 67	92	55	4832	-977.11	3.76	32.37
1015	SLU 68	90	61	4772	-966.6	3.72	31.68
1015	SLU 69	97	46	4947	-997.57	3.83	33.89
1015	SLU 70	95	56	4902	-990.32	3.81	33.14
1015	SLU 71	96	46	4917	-991.89	3.81	33.7
1015	SLU 72	94	56	4872	-984.64	3.79	32.96
1015	SLU 73	93	64	5119	-1033.41	4.08	32.56
1015	SLU 74	99	49	5294	-1064.37	4.19	34.76
1015	SLU 75	97	58	5248	-1057.12	4.17	34.02
1015	SLU 76	95	65	5189	-1046.61	4.13	33.33
1015	SLU 77	101	50	5364	-1077.58	4.24	35.54
1015	SLU 78	99	59	5318	-1070.33	4.22	34.79
1015	SLU 79	101	50	5334	-1071.9	4.21	35.35
1015	SLU 80	99	59	5289	-1064.65	4.19	34.6
1015	SLU 81	99	49	5373	-1079.78	4.28	34.51
1015	SLU 82	96	59	5327	-1072.53	4.26	33.76
1015	SLU 83	101	50	5443	-1092.98	4.34	35.28
1015	SLU 84	99	60	5397	-1085.73	4.32	34.54
1015	SLE RA 1	69	33	3551	-719.03	2.73	24.09
1015	SLE RA 2	66	44	3501	-710.97	2.71	23.26
1015	SLE RA 3	71	34	3617	-731.62	2.78	24.73
1015	SLE RA 4	69	40	3587	-726.78	2.77	24.23
1015	SLE RA 5	68	44	3547	-719.78	2.74	23.78
1015	SLE RA 6	72	35	3664	-740.42	2.82	25.24
1015	SLE RA 7	71	41	3634	-735.59	2.8	24.75
1015	SLE RA 8	72	34	3644	-736.63	2.8	25.12
1015	SLE RA 9	70	41	3614	-731.8	2.79	24.62
1015	SLE RA 10	70	46	3779	-764.31	2.98	24.36
1015	SLE RA 11	74	36	3895	-784.96	3.05	25.83
1015	SLE RA 12	72	43	3865	-780.12	3.04	25.33
1015	SLE RA 13	71	47	3825	-773.12	3.01	24.87
1015	SLE RA 14	75	37	3942	-793.76	3.09	26.34
1015	SLE RA 15	74	43	3912	-788.93	3.08	25.85
1015	SLE RA 16	75	37	3922	-789.97	3.07	26.22
1015	SLE RA 17	73	43	3892	-785.14	3.06	25.72
1015	SLE RA 18	73	36	3948	-795.23	3.12	25.66
1015	SLE RA 19	72	43	3918	-790.39	3.1	25.16
1015	SLE RA 20	75	37	3995	-804.03	3.15	26.17
1015	SLE RA 21	73	43	3965	-799.2	3.14	25.68
1015	SLE FR 1	69	33	3551	-719.03	2.73	24.09
1015	SLE FR 2	68	35	3541	-717.42	2.72	23.92
1015	SLE FR 3	69	33	3570	-722.55	2.74	24.29
1015	SLE FR 4	70	36	3660	-740.28	2.84	24.39
1015	SLE FR 5	71	34	3689	-745.41	2.86	24.77
1015	SLE FR 6	71	35	3750	-757.13	2.92	24.87
1015	SLE QP 1	69	33	3551	-719.03	2.73	24.09
1015	SLE QP 2	70	34	3670	-741.89	2.85	24.56
1015	SLD 1	403	28	2569	-586.74	3.82	141
1015	SLD 2	334	100	2485	-573.78	3.87	117.08
1015	SLD 3	446	-165	3659	-763.34	4.29	156.26
1015	SLD 4	378	-92	3575	-750.38	4.34	132.34
1015	SLD 5	115	311	1701	-429.73	2.42	40.45
1015	SLD 6	71	358	1647	-421.38	2.45	25.05
1015	SLD 7	261	-330	5334	-1018.4	3.98	91.34
1015	SLD 8	217	-283	5280	-1010.05	4.02	75.94
1015	SLD 9	-77	351	2060	-473.73	1.68	-26.82
1015	SLD 10	-121	398	2006	-465.38	1.71	-42.22
1015	SLD 11	69	-290	5693	-1062.39	3.24	24.07
1015	SLD 12	25	-243	5639	-1054.05	3.27	8.67
1015	SLD 13	-238	160	3766	-733.4	1.35	-83.22
1015	SLD 14	-306	233	3681	-720.44	1.4	-107.14
1015	SLD 15	-194	-32	4856	-910	1.82	-67.96
1015	SLD 16	-263	41	4771	-897.04	1.87	-91.88
1015	SLV 1	589	37	1872	-486.65	4.33	206.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1015	SLV 2	481	152	1739	-466.22	4.41	168.43
1015	SLV 3	663	-291	3732	-788.04	5.14	232.09
1015	SLV 4	555	-176	3599	-767.62	5.21	194.39
1015	SLV 5	133	511	335	-212.02	2.06	46.69
1015	SLV 6	60	589	245	-198.26	2.11	21.31
1015	SLV 7	381	-582	6535	-1216.66	4.73	133.23
1015	SLV 8	308	-505	6445	-1202.91	4.79	107.85
1015	SLV 9	-168	574	895	-280.87	0.91	-58.73
1015	SLV 10	-241	651	806	-267.12	0.96	-84.11
1015	SLV 11	80	-520	7095	-1285.51	3.58	27.81
1015	SLV 12	7	-443	7006	-1271.76	3.63	2.43
1015	SLV 13	-415	245	3742	-716.16	0.48	-145.27
1015	SLV 14	-523	359	3608	-695.73	0.56	-182.97
1015	SLV 15	-340	-84	5602	-1017.55	1.28	-119.31
1015	SLV 16	-449	31	5468	-997.13	1.36	-157.01
1015	SLV FO 1	641	38	1692	-461.13	4.48	224.29
1015	SLV FO 2	522	164	1546	-438.66	4.57	182.81
1015	SLV FO 3	722	-323	3738	-792.66	5.36	252.84
1015	SLV FO 4	603	-197	3592	-770.19	5.45	211.37
1015	SLV FO 5	139	559	1	-159.03	1.98	48.91
1015	SLV FO 6	59	644	-98	-143.9	2.04	20.98
1015	SLV FO 7	412	-644	6821	-1264.14	4.92	144.1
1015	SLV FO 8	332	-559	6722	-1249.01	4.98	116.17
1015	SLV FO 9	-192	628	618	-234.77	0.71	-67.06
1015	SLV FO 10	-272	712	519	-219.64	0.77	-94.98
1015	SLV FO 11	81	-576	7438	-1339.88	3.65	28.14
1015	SLV FO 12	1	-491	7339	-1324.75	3.71	0.21
1015	SLV FO 13	-463	266	3749	-713.59	0.24	-162.25
1015	SLV FO 14	-582	392	3602	-691.12	0.33	-203.72
1015	SLV FO 15	-381	-95	5795	-1045.12	1.12	-133.69
1015	SLV FO 16	-500	31	5648	-1022.65	1.21	-175.17
1015	CRTFP Ux+	0	0	0	0	0	0
1015	CRTFP Ux-	0	0	0	0	0	0
1015	CRTFP Uy+	0	0	0	0	0	0
1015	CRTFP Uy-	0	0	0	0	0	0
1016	SLU 1	67	32	3329	-626.04	1.12	23.53
1016	SLU 2	64	48	3254	-615.04	1.13	22.27
1016	SLU 3	70	33	3427	-642.97	1.15	24.51
1016	SLU 4	68	43	3382	-636.37	1.15	23.75
1016	SLU 5	66	50	3323	-626.9	1.14	23.05
1016	SLU 6	72	35	3496	-654.83	1.17	25.29
1016	SLU 7	70	44	3451	-648.23	1.17	24.54
1016	SLU 8	72	34	3467	-649.77	1.16	25.1
1016	SLU 9	70	44	3422	-643.17	1.16	24.34
1016	SLU 10	68	52	3661	-686.03	1.34	23.93
1016	SLU 11	75	37	3834	-713.96	1.36	26.17
1016	SLU 12	73	47	3789	-707.35	1.37	25.42
1016	SLU 13	71	53	3729	-697.89	1.36	24.72
1016	SLU 14	77	38	3902	-725.82	1.38	26.96
1016	SLU 15	75	48	3857	-719.22	1.39	26.2
1016	SLU 16	77	38	3873	-720.75	1.37	26.77
1016	SLU 17	74	48	3828	-714.15	1.38	26.01
1016	SLU 18	74	37	3910	-727.45	1.43	25.91
1016	SLU 19	72	47	3865	-720.85	1.43	25.15
1016	SLU 20	76	38	3979	-739.31	1.44	26.7
1016	SLU 21	74	48	3934	-732.71	1.45	25.94
1016	SLU 22	76	36	3879	-721.65	1.39	26.51
1016	SLU 23	72	52	3804	-710.65	1.39	25.25
1016	SLU 24	79	37	3977	-738.58	1.42	27.49
1016	SLU 25	76	47	3931	-731.98	1.42	26.73
1016	SLU 26	74	53	3872	-722.51	1.41	26.03
1016	SLU 27	81	38	4045	-750.44	1.44	28.27
1016	SLU 28	79	48	4000	-743.84	1.44	27.51
1016	SLU 29	80	38	4016	-745.38	1.42	28.08
1016	SLU 30	78	48	3971	-738.78	1.43	27.32
1016	SLU 31	77	55	4210	-781.63	1.61	26.91
1016	SLU 32	83	40	4383	-809.56	1.63	29.15
1016	SLU 33	81	50	4338	-802.96	1.64	28.39
1016	SLU 34	79	57	4279	-793.5	1.63	27.69
1016	SLU 35	86	42	4452	-821.43	1.65	29.93
1016	SLU 36	83	51	4407	-814.82	1.66	29.18
1016	SLU 37	85	41	4423	-816.36	1.64	29.74
1016	SLU 38	83	51	4378	-809.76	1.64	28.98
1016	SLU 39	83	41	4460	-823.06	1.69	28.89
1016	SLU 40	80	50	4415	-816.46	1.7	28.13
1016	SLU 41	85	42	4528	-834.92	1.71	29.67
1016	SLU 42	83	52	4483	-828.32	1.72	28.91
1016	SLU 43	85	41	4139	-781.08	1.36	29.57
1016	SLU 44	81	57	4064	-770.07	1.37	28.31
1016	SLU 45	87	42	4237	-798	1.39	30.55
1016	SLU 46	85	52	4192	-791.4	1.4	29.79
1016	SLU 47	83	58	4133	-781.94	1.39	29.09
1016	SLU 48	90	43	4306	-809.87	1.41	31.33
1016	SLU 49	87	53	4261	-803.27	1.42	30.58
1016	SLU 50	89	43	4277	-804.8	1.4	31.14
1016	SLU 51	87	53	4232	-798.2	1.4	30.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1016	SLU 52	86	60	4471	-841.06	1.58	29.97
1016	SLU 53	92	45	4644	-868.99	1.61	32.21
1016	SLU 54	90	55	4599	-862.39	1.61	31.46
1016	SLU 55	88	61	4540	-852.92	1.6	30.76
1016	SLU 56	94	46	4713	-880.85	1.63	33
1016	SLU 57	92	56	4668	-874.25	1.63	32.24
1016	SLU 58	94	46	4684	-875.79	1.61	32.81
1016	SLU 59	92	56	4639	-869.19	1.62	32.05
1016	SLU 60	91	46	4720	-882.48	1.67	31.95
1016	SLU 61	89	55	4675	-875.88	1.67	31.19
1016	SLU 62	94	47	4789	-894.35	1.69	32.74
1016	SLU 63	91	56	4744	-887.74	1.69	31.98
1016	SLU 64	93	44	4689	-876.68	1.63	32.55
1016	SLU 65	89	60	4614	-865.68	1.64	31.29
1016	SLU 66	96	45	4787	-893.61	1.66	33.53
1016	SLU 67	94	55	4742	-887.01	1.67	32.77
1016	SLU 68	92	62	4683	-877.55	1.66	32.07
1016	SLU 69	98	47	4856	-905.47	1.68	34.31
1016	SLU 70	96	56	4811	-898.87	1.68	33.55
1016	SLU 71	98	46	4827	-900.41	1.67	34.12
1016	SLU 72	95	56	4782	-893.81	1.67	33.36
1016	SLU 73	94	64	5021	-936.67	1.85	32.95
1016	SLU 74	101	49	5193	-964.6	1.88	35.19
1016	SLU 75	98	59	5148	-958	1.88	34.43
1016	SLU 76	96	65	5089	-948.53	1.87	33.73
1016	SLU 77	103	50	5262	-976.46	1.9	35.97
1016	SLU 78	101	60	5217	-969.86	1.9	35.22
1016	SLU 79	102	50	5233	-971.39	1.88	35.78
1016	SLU 80	100	60	5188	-964.79	1.89	35.02
1016	SLU 81	100	49	5270	-978.09	1.94	34.93
1016	SLU 82	98	59	5225	-971.49	1.94	34.17
1016	SLU 83	102	50	5339	-989.95	1.96	35.71
1016	SLU 84	100	60	5294	-983.35	1.96	34.95
1016	SLE RA 1	70	33	3486	-653.36	1.19	24.39
1016	SLE RA 2	67	44	3436	-646.03	1.2	23.54
1016	SLE RA 3	72	34	3551	-664.65	1.22	25.04
1016	SLE RA 4	70	41	3521	-660.24	1.22	24.53
1016	SLE RA 5	69	45	3482	-653.93	1.21	24.07
1016	SLE RA 6	73	35	3597	-672.55	1.23	25.56
1016	SLE RA 7	72	41	3567	-668.15	1.23	25.05
1016	SLE RA 8	73	35	3578	-669.18	1.22	25.43
1016	SLE RA 9	71	41	3548	-664.78	1.22	24.93
1016	SLE RA 10	70	46	3707	-693.35	1.34	24.65
1016	SLE RA 11	75	36	3822	-711.97	1.36	26.14
1016	SLE RA 12	73	43	3792	-707.57	1.36	25.64
1016	SLE RA 13	72	47	3753	-701.26	1.36	25.17
1016	SLE RA 14	76	37	3868	-719.88	1.37	26.67
1016	SLE RA 15	75	44	3838	-715.48	1.37	26.16
1016	SLE RA 16	76	37	3849	-716.5	1.36	26.54
1016	SLE RA 17	74	43	3819	-712.1	1.37	26.03
1016	SLE RA 18	74	36	3873	-720.96	1.4	25.97
1016	SLE RA 19	73	43	3843	-716.56	1.4	25.46
1016	SLE RA 20	76	37	3919	-728.87	1.41	26.49
1016	SLE RA 21	74	44	3889	-724.47	1.42	25.99
1016	SLE FR 1	70	33	3486	-653.36	1.19	24.39
1016	SLE FR 2	69	35	3476	-651.89	1.2	24.22
1016	SLE FR 3	70	33	3504	-656.52	1.2	24.59
1016	SLE FR 4	71	36	3592	-672.17	1.26	24.69
1016	SLE FR 5	72	34	3621	-676.8	1.26	25.07
1016	SLE FR 6	72	35	3680	-687.16	1.3	25.18
1016	SLE QP 1	70	33	3486	-653.36	1.19	24.39
1016	SLE QP 2	71	34	3602	-673.64	1.26	24.86
1016	SLD 1	402	24	2458	-522.38	2.95	140.9
1016	SLD 2	334	100	2371	-509.78	3.04	116.94
1016	SLD 3	447	-171	3542	-683.27	2.86	156.45
1016	SLD 4	378	-95	3455	-670.67	2.95	132.5
1016	SLD 5	114	314	1631	-386.41	1.89	40.2
1016	SLD 6	70	363	1575	-378.3	1.95	24.78
1016	SLD 7	264	-336	5242	-922.71	1.58	92.05
1016	SLD 8	219	-287	5186	-914.6	1.64	76.62
1016	SLD 9	-77	356	2018	-432.68	0.87	-26.9
1016	SLD 10	-121	405	1962	-424.57	0.93	-42.33
1016	SLD 11	72	-295	5630	-968.98	0.56	24.95
1016	SLD 12	28	-245	5574	-960.87	0.62	9.52
1016	SLD 13	-236	163	3750	-676.61	-0.44	-82.78
1016	SLD 14	-305	240	3663	-664.02	-0.35	-106.73
1016	SLD 15	-191	-32	4833	-837.5	-0.53	-67.22
1016	SLD 16	-260	45	4746	-824.91	-0.44	-91.18
1016	SLV 1	588	32	1737	-425.67	3.91	205.79
1016	SLV 2	479	152	1601	-405.81	4.05	168.03
1016	SLV 3	664	-301	3586	-700.25	3.75	232.24
1016	SLV 4	555	-181	3450	-680.39	3.89	194.49
1016	SLV 5	131	515	264	-186.5	2.27	46.06
1016	SLV 6	58	597	172	-173.13	2.36	20.65
1016	SLV 7	385	-593	6427	-1101.78	1.74	134.24
1016	SLV 8	312	-512	6335	-1088.41	1.83	108.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1016	SLV 9	-169	581	869	-258.87	0.68	-59.1
1016	SLV 10	-242	662	777	-245.5	0.77	-84.52
1016	SLV 11	84	-528	7033	-1174.15	0.15	29.08
1016	SLV 12	11	-447	6941	-1160.78	0.25	3.66
1016	SLV 13	-413	249	3755	-666.89	-1.38	-144.77
1016	SLV 14	-522	369	3618	-647.03	-1.24	-182.52
1016	SLV 15	-337	-84	5604	-941.47	-1.54	-118.31
1016	SLV 16	-445	37	5467	-921.61	-1.4	-156.07
1016	SLV FO 1	639	31	1551	-400.87	4.18	223.88
1016	SLV FO 2	520	164	1400	-379.03	4.33	182.35
1016	SLV FO 3	723	-335	3585	-702.91	4	252.98
1016	SLV FO 4	604	-202	3434	-681.07	4.16	211.45
1016	SLV FO 5	137	564	-70	-137.79	2.37	48.18
1016	SLV FO 6	57	653	-171	-123.08	2.47	20.22
1016	SLV FO 7	416	-656	6710	-1144.6	1.79	145.18
1016	SLV FO 8	336	-567	6609	-1129.89	1.89	117.22
1016	SLV FO 9	-193	635	596	-217.39	0.62	-67.5
1016	SLV FO 10	-274	725	495	-202.68	0.73	-95.46
1016	SLV FO 11	86	-584	7376	-1224.2	0.04	29.5
1016	SLV FO 12	5	-495	7274	-1209.49	0.15	1.54
1016	SLV FO 13	-462	270	3770	-666.21	-1.65	-161.73
1016	SLV FO 14	-581	403	3620	-644.37	-1.49	-203.26
1016	SLV FO 15	-378	-95	5804	-968.26	-1.82	-132.63
1016	SLV FO 16	-497	37	5654	-946.41	-1.66	-174.16
1016	CRTFP Ux+	0	0	0	0	0	0
1016	CRTFP Ux-	0	0	0	0	0	0
1016	CRTFP Uy+	0	0	0	0	0	0
1016	CRTFP Uy-	0	0	0	0	0	0
1017	SLU 1	68	31	3320	-601.88	-0.63	23.78
1017	SLU 2	64	48	3244	-591.03	-0.57	22.5
1017	SLU 3	71	32	3418	-618.07	-0.65	24.77
1017	SLU 4	69	42	3373	-611.56	-0.62	24
1017	SLU 5	67	49	3313	-602.4	-0.59	23.3
1017	SLU 6	73	34	3487	-629.44	-0.67	25.57
1017	SLU 7	71	44	3441	-622.93	-0.64	24.8
1017	SLU 8	73	33	3458	-624.62	-0.67	25.37
1017	SLU 9	70	44	3413	-618.11	-0.64	24.6
1017	SLU 10	69	51	3648	-658.07	-0.59	24.18
1017	SLU 11	76	36	3822	-685.11	-0.67	26.45
1017	SLU 12	74	46	3776	-678.6	-0.64	25.68
1017	SLU 13	71	52	3717	-669.44	-0.61	24.97
1017	SLU 14	78	37	3890	-696.48	-0.69	27.25
1017	SLU 15	76	47	3845	-689.97	-0.66	26.48
1017	SLU 16	77	37	3861	-691.66	-0.68	27.05
1017	SLU 17	75	47	3816	-685.15	-0.65	26.28
1017	SLU 18	75	36	3897	-697.65	-0.65	26.18
1017	SLU 19	73	46	3851	-691.14	-0.62	25.41
1017	SLU 20	77	37	3965	-709.02	-0.67	26.97
1017	SLU 21	75	47	3920	-702.51	-0.64	26.21
1017	SLU 22	77	34	3866	-692.38	-0.67	26.8
1017	SLU 23	73	51	3790	-681.53	-0.62	25.51
1017	SLU 24	80	35	3964	-708.57	-0.7	27.78
1017	SLU 25	77	45	3918	-702.06	-0.67	27.01
1017	SLU 26	75	52	3859	-692.9	-0.64	26.31
1017	SLU 27	82	37	4033	-719.94	-0.72	28.58
1017	SLU 28	80	47	3987	-713.43	-0.69	27.81
1017	SLU 29	81	36	4004	-715.12	-0.71	28.38
1017	SLU 30	79	47	3958	-708.61	-0.68	27.61
1017	SLU 31	78	54	4194	-748.57	-0.64	27.19
1017	SLU 32	84	39	4367	-775.61	-0.71	29.46
1017	SLU 33	82	49	4322	-769.1	-0.68	28.69
1017	SLU 34	80	55	4262	-759.94	-0.66	27.98
1017	SLU 35	87	40	4436	-786.98	-0.73	30.26
1017	SLU 36	84	50	4391	-780.47	-0.7	29.49
1017	SLU 37	86	40	4407	-782.16	-0.73	30.06
1017	SLU 38	84	50	4362	-775.65	-0.7	29.29
1017	SLU 39	84	39	4442	-788.15	-0.69	29.19
1017	SLU 40	81	49	4397	-781.64	-0.66	28.42
1017	SLU 41	86	40	4511	-799.52	-0.72	29.99
1017	SLU 42	84	50	4466	-793.01	-0.68	29.22
1017	SLU 43	86	39	4129	-751.42	-0.8	29.89
1017	SLU 44	82	56	4053	-740.57	-0.74	28.6
1017	SLU 45	88	41	4227	-767.61	-0.82	30.88
1017	SLU 46	86	51	4182	-761.1	-0.79	30.11
1017	SLU 47	84	57	4122	-751.94	-0.77	29.4
1017	SLU 48	91	42	4296	-778.98	-0.84	31.67
1017	SLU 49	88	52	4250	-772.47	-0.81	30.9
1017	SLU 50	90	42	4267	-774.16	-0.84	31.47
1017	SLU 51	88	52	4222	-767.65	-0.81	30.71
1017	SLU 52	87	59	4457	-807.61	-0.76	30.28
1017	SLU 53	93	44	4630	-834.65	-0.84	32.55
1017	SLU 54	91	54	4585	-828.14	-0.81	31.78
1017	SLU 55	89	61	4526	-818.98	-0.78	31.08
1017	SLU 56	95	45	4699	-846.02	-0.86	33.35
1017	SLU 57	93	55	4654	-839.51	-0.83	32.58
1017	SLU 58	95	45	4670	-841.2	-0.85	33.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1017	SLU 59	93	55	4625	-834.69	-0.82	32.38
1017	SLU 60	92	44	4706	-847.19	-0.82	32.28
1017	SLU 61	90	54	4660	-840.68	-0.79	31.51
1017	SLU 62	95	45	4774	-858.56	-0.84	33.08
1017	SLU 63	92	55	4729	-852.05	-0.81	32.31
1017	SLU 64	94	42	4675	-841.92	-0.84	32.9
1017	SLU 65	91	59	4599	-831.07	-0.79	31.62
1017	SLU 66	97	44	4773	-858.11	-0.87	33.89
1017	SLU 67	95	54	4727	-851.6	-0.84	33.12
1017	SLU 68	93	60	4668	-842.44	-0.81	32.41
1017	SLU 69	99	45	4842	-869.48	-0.89	34.68
1017	SLU 70	97	55	4796	-862.97	-0.86	33.91
1017	SLU 71	99	45	4813	-864.66	-0.88	34.49
1017	SLU 72	97	55	4767	-858.15	-0.85	33.72
1017	SLU 73	95	62	5003	-898.11	-0.81	33.29
1017	SLU 74	102	47	5176	-925.15	-0.89	35.57
1017	SLU 75	100	57	5131	-918.64	-0.85	34.8
1017	SLU 76	98	64	5071	-909.48	-0.83	34.09
1017	SLU 77	104	48	5245	-936.52	-0.91	36.36
1017	SLU 78	102	58	5200	-930.01	-0.87	35.59
1017	SLU 79	104	48	5216	-931.7	-0.9	36.16
1017	SLU 80	101	58	5171	-925.19	-0.87	35.39
1017	SLU 81	101	47	5251	-937.69	-0.87	35.29
1017	SLU 82	99	57	5206	-931.18	-0.83	34.53
1017	SLU 83	103	48	5320	-949.06	-0.89	36.09
1017	SLU 84	101	58	5275	-942.55	-0.86	35.32
1017	SLE RA 1	71	32	3476	-627.74	-0.64	24.64
1017	SLE RA 2	68	43	3426	-620.51	-0.6	23.79
1017	SLE RA 3	72	33	3542	-638.53	-0.66	25.3
1017	SLE RA 4	71	39	3511	-634.19	-0.64	24.79
1017	SLE RA 5	70	44	3472	-628.09	-0.62	24.32
1017	SLE RA 6	74	34	3587	-646.11	-0.67	25.83
1017	SLE RA 7	72	40	3557	-641.77	-0.65	25.32
1017	SLE RA 8	74	34	3568	-642.9	-0.67	25.7
1017	SLE RA 9	72	40	3538	-638.56	-0.65	25.19
1017	SLE RA 10	71	45	3695	-665.2	-0.61	24.91
1017	SLE RA 11	76	35	3810	-683.23	-0.67	26.42
1017	SLE RA 12	74	42	3780	-678.89	-0.65	25.91
1017	SLE RA 13	73	46	3741	-672.78	-0.63	25.44
1017	SLE RA 14	77	36	3856	-690.81	-0.68	26.95
1017	SLE RA 15	76	42	3826	-686.47	-0.66	26.44
1017	SLE RA 16	77	36	3837	-687.59	-0.68	26.82
1017	SLE RA 17	75	42	3807	-683.25	-0.66	26.31
1017	SLE RA 18	75	35	3861	-691.59	-0.65	26.24
1017	SLE RA 19	74	42	3830	-687.25	-0.63	25.73
1017	SLE RA 20	77	36	3906	-699.17	-0.67	26.77
1017	SLE RA 21	75	43	3876	-694.83	-0.65	26.26
1017	SLE FR 1	71	32	3476	-627.74	-0.64	24.64
1017	SLE FR 2	70	34	3466	-626.29	-0.63	24.47
1017	SLE FR 3	71	32	3495	-630.77	-0.64	24.86
1017	SLE FR 4	71	35	3582	-645.45	-0.64	24.95
1017	SLE FR 5	73	33	3610	-649.92	-0.65	25.34
1017	SLE FR 6	73	33	3668	-659.66	-0.65	25.44
1017	SLE QP 1	71	32	3476	-627.74	-0.64	24.64
1017	SLE QP 2	72	33	3592	-646.89	-0.64	25.12
1017	SLD 1	402	19	2380	-482.33	1.85	140.76
1017	SLD 2	333	100	2289	-469.16	2	116.79
1017	SLD 3	448	-181	3476	-640.72	1.13	156.56
1017	SLD 4	379	-100	3386	-627.55	1.27	132.59
1017	SLD 5	114	318	1580	-359.56	1.18	39.97
1017	SLD 6	69	370	1522	-351.08	1.27	24.53
1017	SLD 7	266	-349	5236	-887.53	-1.24	92.65
1017	SLD 8	221	-297	5177	-879.05	-1.14	77.21
1017	SLD 9	-78	362	2006	-414.74	-0.14	-26.96
1017	SLD 10	-122	414	1947	-406.25	-0.05	-42.4
1017	SLD 11	75	-305	5661	-942.7	-2.56	25.72
1017	SLD 12	30	-253	5603	-934.22	-2.47	10.28
1017	SLD 13	-235	166	3798	-666.23	-2.56	-82.34
1017	SLD 14	-304	247	3707	-653.06	-2.42	-106.31
1017	SLD 15	-189	-34	4894	-824.62	-3.28	-66.54
1017	SLD 16	-258	47	4804	-811.46	-3.14	-90.51
1017	SLV 1	586	25	1620	-378.41	3.31	205.4
1017	SLV 2	478	152	1477	-357.65	3.53	167.62
1017	SLV 3	664	-316	3491	-648.73	2.07	232.28
1017	SLV 4	556	-189	3349	-627.97	2.29	194.5
1017	SLV 5	129	525	188	-160.23	2.38	45.49
1017	SLV 6	56	610	92	-146.25	2.53	20.05
1017	SLV 7	388	-613	6427	-1061.31	-1.75	135.09
1017	SLV 8	315	-528	6330	-1047.33	-1.6	109.66
1017	SLV 9	-171	593	853	-246.45	0.31	-59.41
1017	SLV 10	-244	679	757	-232.48	0.46	-84.84
1017	SLV 11	88	-544	7091	-1147.53	-3.81	30.19
1017	SLV 12	15	-459	6995	-1133.56	-3.66	4.76
1017	SLV 13	-412	255	3835	-665.81	-3.58	-144.25
1017	SLV 14	-520	382	3692	-645.06	-3.35	-182.04
1017	SLV 15	-334	-87	5706	-936.14	-4.82	-117.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1017	SLV 16	-443	40	5563	-915.38	-4.59	-155.16
1017	SLV FO 1	638	25	1423	-351.56	3.7	223.43
1017	SLV FO 2	518	164	1266	-328.72	3.95	181.87
1017	SLV FO 3	723	-351	3481	-648.91	2.34	253
1017	SLV FO 4	604	-211	3324	-626.08	2.58	211.44
1017	SLV FO 5	134	574	-152	-111.56	2.68	47.53
1017	SLV FO 6	54	668	-258	-96.19	2.85	19.55
1017	SLV FO 7	419	-678	6710	-1102.75	-1.86	146.09
1017	SLV FO 8	339	-584	6604	-1087.38	-1.69	118.11
1017	SLV FO 9	-195	649	579	-206.41	0.41	-67.86
1017	SLV FO 10	-275	744	473	-191.04	0.57	-95.84
1017	SLV FO 11	90	-602	7441	-1197.6	-4.13	30.7
1017	SLV FO 12	10	-508	7335	-1182.22	-3.97	2.72
1017	SLV FO 13	-460	277	3859	-667.71	-3.87	-161.19
1017	SLV FO 14	-579	417	3702	-644.87	-3.63	-202.75
1017	SLV FO 15	-375	-99	5918	-965.06	-5.23	-131.62
1017	SLV FO 16	-494	41	5761	-942.23	-4.99	-173.18
1017	CRTFP Ux+	0	0	0	0	0	0
1017	CRTFP Ux-	0	0	0	0	0	0
1017	CRTFP Uy+	0	0	0	0	0	0
1017	CRTFP Uy-	0	0	0	0	0	0
1018	SLU 1	69	29	3372	-621.44	-2.56	23.98
1018	SLU 2	65	46	3294	-609.69	-2.46	22.68
1018	SLU 3	72	30	3472	-638.29	-2.65	24.98
1018	SLU 4	69	40	3425	-631.24	-2.59	24.2
1018	SLU 5	67	47	3364	-621.55	-2.53	23.49
1018	SLU 6	74	31	3542	-650.14	-2.72	25.78
1018	SLU 7	72	42	3495	-643.09	-2.66	25.01
1018	SLU 8	73	31	3513	-645.14	-2.69	25.59
1018	SLU 9	71	42	3466	-638.1	-2.63	24.81
1018	SLU 10	70	49	3702	-678.59	-2.74	24.37
1018	SLU 11	77	33	3880	-707.19	-2.93	26.67
1018	SLU 12	74	43	3833	-700.14	-2.87	25.89
1018	SLU 13	72	50	3772	-690.45	-2.8	25.17
1018	SLU 14	79	34	3950	-719.04	-2.99	27.47
1018	SLU 15	77	45	3903	-711.99	-2.93	26.69
1018	SLU 16	78	34	3921	-714.04	-2.97	27.27
1018	SLU 17	76	45	3874	-706.99	-2.91	26.49
1018	SLU 18	76	33	3955	-719.87	-2.95	26.39
1018	SLU 19	73	43	3908	-712.82	-2.89	25.62
1018	SLU 20	78	34	4025	-731.72	-3.02	27.2
1018	SLU 21	76	45	3978	-724.67	-2.96	26.42
1018	SLU 22	78	31	3925	-714.67	-2.96	27.02
1018	SLU 23	74	48	3847	-702.92	-2.86	25.72
1018	SLU 24	80	32	4025	-731.52	-3.05	28.02
1018	SLU 25	78	43	3978	-724.47	-2.99	27.24
1018	SLU 26	76	50	3917	-714.78	-2.92	26.52
1018	SLU 27	83	33	4095	-743.37	-3.11	28.82
1018	SLU 28	80	44	4048	-736.32	-3.05	28.04
1018	SLU 29	82	33	4066	-738.37	-3.09	28.62
1018	SLU 30	80	44	4019	-731.32	-3.03	27.85
1018	SLU 31	79	51	4255	-771.82	-3.13	27.41
1018	SLU 32	85	35	4433	-800.42	-3.32	29.71
1018	SLU 33	83	46	4386	-793.37	-3.26	28.93
1018	SLU 34	81	52	4325	-783.67	-3.2	28.21
1018	SLU 35	88	36	4503	-812.27	-3.39	30.51
1018	SLU 36	85	47	4456	-805.22	-3.33	29.73
1018	SLU 37	87	36	4474	-807.27	-3.36	30.31
1018	SLU 38	85	47	4427	-800.22	-3.3	29.53
1018	SLU 39	84	35	4508	-813.1	-3.35	29.43
1018	SLU 40	82	46	4461	-806.05	-3.29	28.65
1018	SLU 41	87	36	4578	-824.95	-3.41	30.24
1018	SLU 42	85	47	4531	-817.9	-3.35	29.46
1018	SLU 43	86	37	4194	-775.91	-3.2	30.13
1018	SLU 44	83	54	4116	-764.16	-3.1	28.84
1018	SLU 45	89	38	4294	-792.76	-3.29	31.14
1018	SLU 46	87	48	4247	-785.71	-3.23	30.36
1018	SLU 47	85	55	4186	-776.01	-3.16	29.64
1018	SLU 48	92	39	4364	-804.61	-3.35	31.94
1018	SLU 49	89	49	4317	-797.56	-3.29	31.16
1018	SLU 50	91	39	4335	-799.61	-3.33	31.74
1018	SLU 51	89	49	4288	-792.56	-3.27	30.96
1018	SLU 52	87	57	4524	-833.06	-3.37	30.53
1018	SLU 53	94	41	4702	-861.66	-3.56	32.82
1018	SLU 54	92	51	4655	-854.61	-3.5	32.05
1018	SLU 55	90	58	4594	-844.91	-3.43	31.33
1018	SLU 56	96	42	4772	-873.51	-3.62	33.63
1018	SLU 57	94	52	4725	-866.46	-3.56	32.85
1018	SLU 58	96	42	4743	-868.51	-3.6	33.43
1018	SLU 59	94	52	4696	-861.46	-3.54	32.65
1018	SLU 60	93	41	4777	-874.33	-3.59	32.55
1018	SLU 61	91	51	4730	-867.29	-3.53	31.77
1018	SLU 62	96	42	4847	-886.19	-3.65	33.35
1018	SLU 63	93	52	4800	-879.14	-3.59	32.57
1018	SLU 64	95	39	4747	-869.14	-3.59	33.17
1018	SLU 65	91	56	4669	-857.39	-3.49	31.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1018	SLU 66	98	40	4847	-885.99	-3.68	34.17
1018	SLU 67	96	50	4800	-878.94	-3.62	33.4
1018	SLU 68	94	57	4739	-869.24	-3.56	32.68
1018	SLU 69	100	41	4917	-897.84	-3.75	34.98
1018	SLU 70	98	52	4870	-890.79	-3.69	34.2
1018	SLU 71	100	41	4888	-892.84	-3.72	34.78
1018	SLU 72	97	52	4841	-885.79	-3.66	34
1018	SLU 73	96	59	5077	-926.29	-3.76	33.56
1018	SLU 74	103	43	5255	-954.89	-3.95	35.86
1018	SLU 75	101	53	5208	-947.84	-3.89	35.08
1018	SLU 76	99	60	5147	-938.14	-3.83	34.37
1018	SLU 77	105	44	5325	-966.74	-4.02	36.66
1018	SLU 78	103	55	5278	-959.69	-3.96	35.89
1018	SLU 79	105	44	5296	-961.74	-3.99	36.47
1018	SLU 80	102	55	5249	-954.69	-3.93	35.69
1018	SLU 81	102	43	5330	-967.56	-3.98	35.59
1018	SLU 82	100	53	5283	-960.52	-3.92	34.81
1018	SLU 83	104	44	5400	-979.41	-4.05	36.39
1018	SLU 84	102	55	5353	-972.37	-3.99	35.61
1018	SLE RA 1	71	29	3530	-648.08	-2.68	24.85
1018	SLE RA 2	69	41	3478	-640.25	-2.61	23.98
1018	SLE RA 3	73	30	3597	-659.31	-2.74	25.52
1018	SLE RA 4	72	37	3565	-654.61	-2.7	25
1018	SLE RA 5	70	42	3525	-648.15	-2.65	24.52
1018	SLE RA 6	75	31	3643	-667.21	-2.78	26.05
1018	SLE RA 7	73	38	3612	-662.51	-2.74	25.53
1018	SLE RA 8	74	31	3624	-663.88	-2.76	25.92
1018	SLE RA 9	73	38	3592	-659.18	-2.72	25.4
1018	SLE RA 10	72	43	3750	-686.18	-2.79	25.11
1018	SLE RA 11	76	32	3869	-705.24	-2.92	26.64
1018	SLE RA 12	75	39	3837	-700.54	-2.88	26.12
1018	SLE RA 13	74	44	3797	-694.08	-2.83	25.64
1018	SLE RA 14	78	33	3915	-713.14	-2.96	27.18
1018	SLE RA 15	76	40	3884	-708.45	-2.92	26.66
1018	SLE RA 16	78	33	3896	-709.81	-2.94	27.04
1018	SLE RA 17	76	40	3864	-705.11	-2.9	26.53
1018	SLE RA 18	76	32	3919	-713.69	-2.94	26.46
1018	SLE RA 19	74	39	3887	-709	-2.9	25.94
1018	SLE RA 20	77	33	3966	-721.6	-2.98	26.99
1018	SLE RA 21	76	40	3934	-716.9	-2.94	26.47
1018	SLE FR 1	71	29	3530	-648.08	-2.68	24.85
1018	SLE FR 2	71	32	3520	-646.51	-2.66	24.68
1018	SLE FR 3	72	30	3549	-651.24	-2.69	25.06
1018	SLE FR 4	72	32	3636	-666.2	-2.74	25.16
1018	SLE FR 5	73	30	3666	-670.92	-2.77	25.55
1018	SLE FR 6	74	31	3724	-680.88	-2.81	25.65
1018	SLE QP 1	71	29	3530	-648.08	-2.68	24.85
1018	SLE QP 2	73	30	3647	-667.76	-2.75	25.33
1018	SLD 1	401	13	2339	-470.85	0.62	140.56
1018	SLD 2	333	99	2243	-455.93	0.82	116.59
1018	SLD 3	448	-194	3471	-641.64	-0.8	156.58
1018	SLD 4	379	-109	3375	-626.71	-0.6	132.6
1018	SLD 5	113	325	1555	-352.23	0.37	39.73
1018	SLD 6	68	380	1493	-342.62	0.49	24.29
1018	SLD 7	268	-367	5327	-921.52	-4.34	93.12
1018	SLD 8	223	-312	5265	-911.9	-4.22	77.68
1018	SLD 9	-78	372	2029	-423.62	-1.29	-27.02
1018	SLD 10	-122	427	1967	-414.01	-1.16	-42.45
1018	SLD 11	77	-320	5800	-992.9	-6	26.37
1018	SLD 12	33	-265	5739	-983.29	-5.87	10.93
1018	SLD 13	-234	169	3919	-708.81	-4.91	-81.94
1018	SLD 14	-303	255	3823	-693.88	-4.71	-105.91
1018	SLD 15	-187	-38	5050	-879.6	-6.32	-65.92
1018	SLD 16	-256	47	4954	-864.67	-6.12	-89.89
1018	SLV 1	585	18	1523	-347.94	2.61	204.97
1018	SLV 2	476	153	1372	-324.41	2.92	167.18
1018	SLV 3	664	-336	3454	-639.42	0.19	232.21
1018	SLV 4	556	-201	3303	-615.89	0.51	194.42
1018	SLV 5	127	538	109	-134.12	2.45	44.96
1018	SLV 6	54	629	7	-118.28	2.67	19.52
1018	SLV 7	390	-642	6546	-1105.73	-5.59	135.77
1018	SLV 8	317	-551	6444	-1089.89	-5.38	110.33
1018	SLV 9	-172	612	850	-245.63	-0.13	-59.66
1018	SLV 10	-245	702	748	-229.79	0.08	-85.1
1018	SLV 11	92	-569	7286	-1217.24	-8.18	31.15
1018	SLV 12	19	-478	7184	-1201.4	-7.96	5.71
1018	SLV 13	-410	262	3991	-719.63	-6.02	-143.75
1018	SLV 14	-519	396	3839	-696.1	-5.7	-181.54
1018	SLV 15	-331	-92	5922	-1011.11	-8.43	-116.51
1018	SLV 16	-440	42	5770	-987.59	-8.12	-154.3
1018	SLV FO 1	636	17	1311	-315.96	3.14	222.93
1018	SLV FO 2	517	165	1144	-290.07	3.49	181.36
1018	SLV FO 3	723	-373	3435	-636.59	0.49	252.9
1018	SLV FO 4	604	-224	3268	-610.71	0.84	211.33
1018	SLV FO 5	132	589	-244	-80.76	2.98	46.92
1018	SLV FO 6	52	689	-356	-63.33	3.21	18.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1018	SLV FO 7	422	-709	6836	-1149.53	-5.87	146.81
1018	SLV FO 8	342	-609	6724	-1132.11	-5.64	118.83
1018	SLV FO 9	-196	670	570	-203.42	0.13	-68.16
1018	SLV FO 10	-277	769	458	-185.99	0.36	-96.14
1018	SLV FO 11	94	-629	7650	-1272.19	-8.72	31.73
1018	SLV FO 12	13	-529	7538	-1254.76	-8.48	3.75
1018	SLV FO 13	-459	285	4025	-724.82	-6.34	-160.66
1018	SLV FO 14	-578	433	3858	-698.94	-6	-202.23
1018	SLV FO 15	-372	-105	6149	-1045.45	-9	-130.7
1018	SLV FO 16	-491	44	5982	-1019.57	-8.65	-172.26
1018	CRTFP Ux+	0	0	0	0	0	0
1018	CRTFP Ux-	0	0	0	0	0	0
1018	CRTFP Uy+	0	0	0	0	0	0
1018	CRTFP Uy-	0	0	0	0	0	0
1019	SLU 1	69	25	3489	-689.03	-4.62	24.12
1019	SLU 2	65	43	3407	-675.25	-4.47	22.81
1019	SLU 3	72	26	3593	-708.07	-4.78	25.13
1019	SLU 4	70	37	3544	-699.8	-4.69	24.34
1019	SLU 5	68	45	3480	-688.65	-4.58	23.61
1019	SLU 6	74	28	3666	-721.47	-4.89	25.93
1019	SLU 7	72	38	3617	-713.21	-4.8	25.15
1019	SLU 8	74	28	3636	-715.84	-4.84	25.73
1019	SLU 9	72	39	3586	-707.57	-4.75	24.94
1019	SLU 10	70	46	3828	-752.36	-5.01	24.5
1019	SLU 11	77	29	4014	-785.18	-5.32	26.82
1019	SLU 12	75	40	3965	-776.91	-5.23	26.03
1019	SLU 13	73	47	3901	-765.76	-5.12	25.31
1019	SLU 14	79	30	4088	-798.58	-5.43	27.63
1019	SLU 15	77	41	4038	-790.32	-5.34	26.84
1019	SLU 16	79	30	4057	-792.95	-5.39	27.42
1019	SLU 17	76	41	4007	-784.68	-5.3	26.64
1019	SLU 18	76	29	4091	-799.18	-5.4	26.54
1019	SLU 19	74	40	4042	-790.91	-5.31	25.75
1019	SLU 20	79	30	4164	-812.59	-5.51	27.34
1019	SLU 21	76	41	4115	-804.32	-5.42	26.56
1019	SLU 22	78	26	4061	-793.56	-5.38	27.18
1019	SLU 23	74	45	3979	-779.79	-5.23	25.87
1019	SLU 24	81	28	4165	-812.61	-5.54	28.19
1019	SLU 25	79	38	4115	-804.34	-5.45	27.4
1019	SLU 26	77	46	4052	-793.19	-5.34	26.67
1019	SLU 27	83	29	4238	-826.01	-5.65	28.99
1019	SLU 28	81	40	4189	-817.75	-5.56	28.21
1019	SLU 29	83	29	4208	-820.38	-5.61	28.79
1019	SLU 30	80	40	4158	-812.11	-5.52	28
1019	SLU 31	79	47	4400	-856.9	-5.78	27.56
1019	SLU 32	86	30	4586	-889.71	-6.08	29.88
1019	SLU 33	84	41	4537	-881.45	-5.99	29.09
1019	SLU 34	81	48	4473	-870.3	-5.89	28.37
1019	SLU 35	88	31	4659	-903.12	-6.19	30.69
1019	SLU 36	86	42	4610	-894.85	-6.1	29.9
1019	SLU 37	88	31	4629	-897.48	-6.15	30.49
1019	SLU 38	85	42	4579	-889.22	-6.06	29.7
1019	SLU 39	85	30	4663	-903.72	-6.16	29.6
1019	SLU 40	83	41	4614	-895.45	-6.07	28.81
1019	SLU 41	87	31	4736	-917.12	-6.27	30.41
1019	SLU 42	85	42	4687	-908.86	-6.18	29.62
1019	SLU 43	87	32	4340	-859.89	-5.74	30.3
1019	SLU 44	83	51	4258	-846.11	-5.59	28.99
1019	SLU 45	90	33	4444	-878.93	-5.9	31.31
1019	SLU 46	88	44	4394	-870.67	-5.81	30.53
1019	SLU 47	85	52	4331	-859.52	-5.7	29.8
1019	SLU 48	92	35	4517	-892.34	-6.01	32.12
1019	SLU 49	90	46	4467	-884.07	-5.92	31.33
1019	SLU 50	92	35	4486	-886.7	-5.97	31.92
1019	SLU 51	89	46	4437	-878.44	-5.88	31.13
1019	SLU 52	88	53	4679	-923.22	-6.14	30.69
1019	SLU 53	95	36	4865	-956.04	-6.44	33.01
1019	SLU 54	92	47	4816	-947.78	-6.35	32.22
1019	SLU 55	90	54	4752	-936.63	-6.25	31.49
1019	SLU 56	97	37	4938	-969.45	-6.55	33.81
1019	SLU 57	95	48	4889	-961.18	-6.46	33.03
1019	SLU 58	96	37	4908	-963.81	-6.51	33.61
1019	SLU 59	94	48	4858	-955.54	-6.42	32.82
1019	SLU 60	94	36	4942	-970.05	-6.52	32.72
1019	SLU 61	92	47	4892	-961.78	-6.43	31.94
1019	SLU 62	96	37	5015	-983.45	-6.63	33.53
1019	SLU 63	94	48	4966	-975.19	-6.54	32.74
1019	SLU 64	96	34	4912	-964.43	-6.51	33.36
1019	SLU 65	92	52	4830	-950.65	-6.36	32.05
1019	SLU 66	99	35	5016	-983.47	-6.66	34.37
1019	SLU 67	96	46	4966	-975.21	-6.57	33.59
1019	SLU 68	94	53	4903	-964.06	-6.47	32.86
1019	SLU 69	101	36	5089	-996.88	-6.78	35.18
1019	SLU 70	99	47	5039	-988.61	-6.68	34.39
1019	SLU 71	100	36	5058	-991.24	-6.73	34.98
1019	SLU 72	98	47	5009	-982.98	-6.64	34.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1019	SLU 73	97	54	5251	-1027.76	-6.9	33.75
1019	SLU 74	104	37	5437	-1060.58	-7.21	36.07
1019	SLU 75	101	48	5388	-1052.31	-7.12	35.28
1019	SLU 76	99	56	5324	-1041.17	-7.01	34.55
1019	SLU 77	106	38	5510	-1073.99	-7.32	36.87
1019	SLU 78	104	49	5461	-1065.72	-7.23	36.09
1019	SLU 79	105	39	5480	-1068.35	-7.27	36.67
1019	SLU 80	103	50	5430	-1060.08	-7.18	35.88
1019	SLU 81	103	37	5514	-1074.58	-7.28	35.78
1019	SLU 82	101	48	5464	-1066.32	-7.19	35
1019	SLU 83	105	38	5587	-1087.99	-7.4	36.59
1019	SLU 84	103	49	5538	-1079.72	-7.3	35.8
1019	SLE RA 1	72	26	3653	-718.89	-4.84	24.99
1019	SLE RA 2	69	38	3598	-709.71	-4.74	24.12
1019	SLE RA 3	74	26	3722	-731.59	-4.94	25.66
1019	SLE RA 4	72	34	3689	-726.08	-4.88	25.14
1019	SLE RA 5	71	39	3647	-718.65	-4.81	24.65
1019	SLE RA 6	75	27	3771	-740.53	-5.02	26.2
1019	SLE RA 7	74	34	3738	-735.01	-4.96	25.68
1019	SLE RA 8	75	27	3750	-736.77	-4.99	26.07
1019	SLE RA 9	73	34	3717	-731.26	-4.93	25.54
1019	SLE RA 10	72	39	3879	-761.11	-5.1	25.25
1019	SLE RA 11	77	28	4003	-782.99	-5.3	26.79
1019	SLE RA 12	75	35	3970	-777.48	-5.24	26.27
1019	SLE RA 13	74	40	3927	-770.05	-5.17	25.78
1019	SLE RA 14	78	29	4052	-791.93	-5.38	27.33
1019	SLE RA 15	77	36	4019	-786.42	-5.32	26.81
1019	SLE RA 16	78	29	4031	-788.17	-5.35	27.2
1019	SLE RA 17	77	36	3998	-782.66	-5.29	26.67
1019	SLE RA 18	76	28	4054	-792.33	-5.36	26.61
1019	SLE RA 19	75	35	4021	-786.82	-5.29	26.08
1019	SLE RA 20	78	29	4103	-801.27	-5.43	27.14
1019	SLE RA 21	76	36	4070	-795.76	-5.37	26.62
1019	SLE FR 1	72	26	3653	-718.89	-4.84	24.99
1019	SLE FR 2	71	28	3642	-717.06	-4.82	24.82
1019	SLE FR 3	72	26	3672	-722.47	-4.87	25.21
1019	SLE FR 4	73	29	3762	-739.09	-4.97	25.3
1019	SLE FR 5	74	27	3793	-744.5	-5.02	25.69
1019	SLE FR 6	74	27	3853	-755.61	-5.1	25.8
1019	SLE QP 1	72	26	3653	-718.89	-4.84	24.99
1019	SLE QP 2	73	26	3773	-740.92	-4.99	25.48
1019	SLD 1	401	6	2341	-490.94	-0.7	140.3
1019	SLD 2	332	97	2237	-472.85	-0.44	116.34
1019	SLD 3	448	-211	3530	-690.37	-2.83	156.5
1019	SLD 4	379	-120	3426	-672.28	-2.57	132.53
1019	SLD 5	112	334	1557	-366.57	-0.52	39.49
1019	SLD 6	67	392	1491	-354.92	-0.35	24.05
1019	SLD 7	269	-390	5522	-1031.34	-7.62	93.46
1019	SLD 8	225	-331	5455	-1019.69	-7.45	78.03
1019	SLD 9	-78	384	2091	-462.16	-2.53	-27.08
1019	SLD 10	-123	443	2025	-450.51	-2.37	-42.51
1019	SLD 11	79	-340	6056	-1126.93	-9.64	26.9
1019	SLD 12	35	-281	5989	-1115.28	-9.47	11.47
1019	SLD 13	-233	173	4120	-809.57	-7.42	-81.58
1019	SLD 14	-302	264	4016	-791.48	-7.16	-105.55
1019	SLD 15	-185	-44	5309	-1009	-9.55	-65.38
1019	SLD 16	-254	47	5206	-990.91	-9.29	-89.35
1019	SLV 1	584	9	1451	-336.2	1.86	204.47
1019	SLV 2	475	153	1287	-307.7	2.28	166.69
1019	SLV 3	664	-361	3480	-676.58	-1.77	232.02
1019	SLV 4	555	-217	3317	-648.07	-1.36	194.24
1019	SLV 5	125	556	29	-108.59	2.5	44.45
1019	SLV 6	52	653	-81	-89.39	2.78	19.01
1019	SLV 7	392	-679	6794	-1243.18	-9.62	136.27
1019	SLV 8	319	-582	6684	-1223.99	-9.34	110.83
1019	SLV 9	-173	634	862	-257.86	-0.64	-59.88
1019	SLV 10	-246	731	752	-238.66	-0.36	-85.31
1019	SLV 11	95	-600	7628	-1392.46	-12.77	31.94
1019	SLV 12	21	-504	7518	-1373.26	-12.49	6.5
1019	SLV 13	-409	270	4229	-833.77	-8.63	-143.29
1019	SLV 14	-518	413	4066	-805.27	-8.21	-181.07
1019	SLV 15	-329	-101	6259	-1174.15	-12.26	-115.74
1019	SLV 16	-437	43	6096	-1145.64	-11.85	-153.52
1019	SLV FO 1	635	8	1218	-295.73	2.55	222.37
1019	SLV FO 2	515	166	1039	-264.37	3	180.81
1019	SLV FO 3	723	-400	3451	-670.15	-1.45	252.67
1019	SLV FO 4	604	-242	3271	-638.79	-1	211.11
1019	SLV FO 5	130	609	-346	-45.35	3.25	46.35
1019	SLV FO 6	50	716	-467	-24.24	3.56	18.37
1019	SLV FO 7	424	-749	7096	-1293.41	-10.08	147.35
1019	SLV FO 8	344	-643	6975	-1272.3	-9.78	119.37
1019	SLV FO 9	-197	695	571	-209.55	-0.21	-68.42
1019	SLV FO 10	-278	802	450	-188.44	0.1	-96.39
1019	SLV FO 11	97	-663	8013	-1457.61	-13.54	32.59
1019	SLV FO 12	16	-557	7892	-1436.5	-13.24	4.61
1019	SLV FO 13	-457	294	4275	-843.06	-8.99	-160.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1019	SLV FO 14	-577	452	4095	-811.7	-8.53	-201.72
1019	SLV FO 15	-369	-113	6508	-1217.48	-12.99	-129.86
1019	SLV FO 16	-489	45	6328	-1186.12	-12.53	-171.42
1019	CRTFP Ux+	0	0	0	0	0	0
1019	CRTFP Ux-	0	0	0	0	0	0
1019	CRTFP Uy+	0	0	0	0	0	0
1019	CRTFP Uy-	0	0	0	0	0	0
1020	SLU 1	69	21	3675	-807.58	-6.7	24.18
1020	SLU 2	66	40	3586	-790.57	-6.5	22.86
1020	SLU 3	72	22	3784	-830.44	-6.93	25.2
1020	SLU 4	70	33	3731	-820.23	-6.81	24.4
1020	SLU 5	68	41	3664	-806.67	-6.66	23.67
1020	SLU 6	75	23	3862	-846.54	-7.09	26.01
1020	SLU 7	72	35	3809	-836.33	-6.97	25.21
1020	SLU 8	74	23	3830	-839.78	-7.02	25.8
1020	SLU 9	72	35	3777	-829.57	-6.9	25.01
1020	SLU 10	71	42	4030	-882.61	-7.32	24.55
1020	SLU 11	77	24	4228	-922.48	-7.75	26.89
1020	SLU 12	75	35	4175	-912.27	-7.63	26.1
1020	SLU 13	73	43	4107	-898.71	-7.48	25.36
1020	SLU 14	80	25	4306	-938.58	-7.91	27.7
1020	SLU 15	77	37	4253	-928.37	-7.78	26.91
1020	SLU 16	79	25	4273	-931.82	-7.84	27.5
1020	SLU 17	77	37	4220	-921.61	-7.72	26.7
1020	SLU 18	76	24	4308	-939.06	-7.87	26.6
1020	SLU 19	74	35	4255	-928.86	-7.75	25.81
1020	SLU 20	79	25	4386	-955.16	-8.03	27.41
1020	SLU 21	76	37	4333	-944.96	-7.91	26.62
1020	SLU 22	78	21	4278	-932.5	-7.84	27.26
1020	SLU 23	75	40	4189	-915.49	-7.64	25.93
1020	SLU 24	81	22	4387	-955.36	-8.06	28.27
1020	SLU 25	79	33	4334	-945.15	-7.94	27.47
1020	SLU 26	77	41	4267	-931.59	-7.8	26.74
1020	SLU 27	84	23	4465	-971.45	-8.22	29.08
1020	SLU 28	81	35	4412	-961.25	-8.1	28.28
1020	SLU 29	83	23	4433	-964.69	-8.16	28.87
1020	SLU 30	81	35	4380	-954.49	-8.04	28.08
1020	SLU 31	79	42	4633	-1007.53	-8.46	27.63
1020	SLU 32	86	24	4831	-1047.39	-8.88	29.96
1020	SLU 33	84	36	4778	-1037.19	-8.76	29.17
1020	SLU 34	82	43	4710	-1023.63	-8.62	28.43
1020	SLU 35	88	25	4909	-1063.49	-9.04	30.77
1020	SLU 36	86	37	4856	-1053.29	-8.92	29.98
1020	SLU 37	88	26	4876	-1056.73	-8.98	30.57
1020	SLU 38	86	37	4823	-1046.53	-8.86	29.77
1020	SLU 39	85	24	4911	-1063.98	-9.01	29.68
1020	SLU 40	83	35	4858	-1053.78	-8.89	28.88
1020	SLU 41	88	25	4989	-1080.08	-9.17	30.49
1020	SLU 42	85	37	4936	-1069.88	-9.05	29.69
1020	SLU 43	87	27	4570	-1007.03	-8.33	30.38
1020	SLU 44	83	46	4482	-990.02	-8.13	29.06
1020	SLU 45	90	28	4680	-1029.88	-8.55	31.4
1020	SLU 46	88	40	4627	-1019.68	-8.43	30.6
1020	SLU 47	86	47	4559	-1006.12	-8.28	29.87
1020	SLU 48	93	29	4758	-1045.98	-8.71	32.21
1020	SLU 49	90	41	4705	-1035.78	-8.59	31.41
1020	SLU 50	92	30	4725	-1039.22	-8.64	32
1020	SLU 51	90	41	4672	-1029.02	-8.52	31.21
1020	SLU 52	88	48	4925	-1082.06	-8.94	30.75
1020	SLU 53	95	30	5124	-1121.92	-9.37	33.09
1020	SLU 54	93	42	5071	-1111.72	-9.25	32.3
1020	SLU 55	91	50	5003	-1098.16	-9.1	31.56
1020	SLU 56	97	31	5201	-1138.02	-9.53	33.9
1020	SLU 57	95	43	5148	-1127.82	-9.41	33.11
1020	SLU 58	97	32	5169	-1131.26	-9.46	33.7
1020	SLU 59	94	43	5116	-1121.06	-9.34	32.9
1020	SLU 60	94	30	5204	-1138.51	-9.49	32.81
1020	SLU 61	92	42	5151	-1128.31	-9.37	32.01
1020	SLU 62	97	31	5281	-1154.61	-9.65	33.61
1020	SLU 63	94	43	5228	-1144.41	-9.53	32.82
1020	SLU 64	96	27	5173	-1131.94	-9.46	33.46
1020	SLU 65	92	46	5085	-1114.94	-9.26	32.13
1020	SLU 66	99	28	5283	-1154.8	-9.69	34.47
1020	SLU 67	97	40	5230	-1144.6	-9.57	33.68
1020	SLU 68	95	48	5162	-1131.04	-9.42	32.94
1020	SLU 69	101	29	5361	-1170.9	-9.85	35.28
1020	SLU 70	99	41	5308	-1160.7	-9.72	34.48
1020	SLU 71	101	30	5328	-1164.14	-9.78	35.07
1020	SLU 72	98	41	5275	-1153.94	-9.66	34.28
1020	SLU 73	97	48	5528	-1206.98	-10.08	33.83
1020	SLU 74	104	30	5727	-1246.84	-10.5	36.17
1020	SLU 75	102	42	5674	-1236.64	-10.38	35.37
1020	SLU 76	100	50	5606	-1223.07	-10.24	34.64
1020	SLU 77	106	32	5804	-1262.94	-10.66	36.97
1020	SLU 78	104	43	5751	-1252.73	-10.54	36.18
1020	SLU 79	106	32	5772	-1256.18	-10.6	36.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1020	SLU 80	103	43	5719	-1245.98	-10.48	35.97
1020	SLU 81	103	30	5807	-1263.43	-10.63	35.88
1020	SLU 82	101	42	5754	-1253.22	-10.51	35.08
1020	SLU 83	105	31	5884	-1279.53	-10.79	36.69
1020	SLU 84	103	43	5831	-1269.32	-10.67	35.89
1020	SLE RA 1	72	21	3847	-843.27	-7.03	25.06
1020	SLE RA 2	69	34	3788	-831.93	-6.89	24.18
1020	SLE RA 3	74	22	3920	-858.51	-7.18	25.74
1020	SLE RA 4	72	29	3885	-851.71	-7.1	25.21
1020	SLE RA 5	71	35	3840	-842.67	-7	24.72
1020	SLE RA 6	76	22	3972	-869.24	-7.28	26.28
1020	SLE RA 7	74	30	3936	-862.44	-7.2	25.75
1020	SLE RA 8	75	23	3950	-864.74	-7.24	26.14
1020	SLE RA 9	74	30	3915	-857.93	-7.16	25.61
1020	SLE RA 10	73	35	4084	-893.29	-7.44	25.31
1020	SLE RA 11	77	23	4216	-919.87	-7.72	26.87
1020	SLE RA 12	76	31	4180	-913.07	-7.64	26.34
1020	SLE RA 13	74	36	4135	-904.03	-7.55	25.85
1020	SLE RA 14	79	24	4268	-930.6	-7.83	27.41
1020	SLE RA 15	77	31	4232	-923.8	-7.75	26.88
1020	SLE RA 16	78	24	4246	-926.1	-7.79	27.27
1020	SLE RA 17	77	32	4211	-919.29	-7.71	26.74
1020	SLE RA 18	77	23	4269	-930.93	-7.81	26.67
1020	SLE RA 19	75	31	4234	-924.12	-7.73	26.15
1020	SLE RA 20	78	24	4321	-941.66	-7.91	27.21
1020	SLE RA 21	77	31	4286	-934.86	-7.83	26.68
1020	SLE FR 1	72	21	3847	-843.27	-7.03	25.06
1020	SLE FR 2	72	24	3835	-841	-7	24.88
1020	SLE FR 3	73	21	3868	-847.56	-7.07	25.28
1020	SLE FR 4	73	24	3962	-867.3	-7.24	25.37
1020	SLE FR 5	74	22	3994	-873.86	-7.31	25.76
1020	SLE FR 6	74	22	4058	-887.1	-7.42	25.87
1020	SLE QP 1	72	21	3847	-843.27	-7.03	25.06
1020	SLE QP 2	73	22	3974	-869.57	-7.26	25.55
1020	SLD 1	400	-2	2385	-544.35	-2.02	139.98
1020	SLD 2	331	95	2272	-521.56	-1.7	116.03
1020	SLD 3	448	-231	3656	-789.57	-4.87	156.32
1020	SLD 4	379	-133	3543	-766.78	-4.55	132.37
1020	SLD 5	111	344	1589	-403.99	-1.43	39.21
1020	SLD 6	67	406	1516	-389.32	-1.22	23.79
1020	SLD 7	270	-417	5825	-1221.42	-10.92	93.68
1020	SLD 8	225	-354	5752	-1206.74	-10.71	78.25
1020	SLD 9	-79	397	2195	-532.39	-3.81	-27.16
1020	SLD 10	-123	460	2122	-517.72	-3.6	-42.59
1020	SLD 11	80	-363	6431	-1349.82	-13.31	27.3
1020	SLD 12	36	-301	6358	-1335.14	-13.1	11.88
1020	SLD 13	-232	176	4404	-972.35	-9.98	-81.28
1020	SLD 14	-301	274	4291	-949.56	-9.65	-105.23
1020	SLD 15	-184	-52	5675	-1217.58	-12.83	-64.94
1020	SLD 16	-253	45	5562	-1194.79	-12.5	-88.89
1020	SLV 1	582	0	1402	-344.12	1.12	203.92
1020	SLV 2	474	153	1224	-308.2	1.63	166.16
1020	SLV 3	664	-389	3571	-762.67	-3.74	231.72
1020	SLV 4	555	-236	3392	-726.74	-3.23	193.96
1020	SLV 5	123	577	-54	-83.85	2.53	43.95
1020	SLV 6	50	680	-174	-59.67	2.88	18.52
1020	SLV 7	394	-721	7175	-1478.99	-13.68	136.6
1020	SLV 8	321	-618	7055	-1454.81	-13.33	111.18
1020	SLV 9	-174	661	892	-284.33	-1.2	-60.09
1020	SLV 10	-247	764	772	-260.15	-0.85	-85.51
1020	SLV 11	97	-637	8121	-1679.47	-17.4	32.57
1020	SLV 12	23	-534	8001	-1655.29	-17.05	7.14
1020	SLV 13	-408	279	4555	-1012.39	-11.3	-142.87
1020	SLV 14	-517	432	4376	-976.47	-10.78	-180.63
1020	SLV 15	-327	-110	6724	-1430.93	-16.16	-115.07
1020	SLV 16	-436	43	6545	-1395.01	-15.64	-152.83
1020	SLV FO 1	633	-2	1145	-291.58	1.96	221.76
1020	SLV FO 2	514	167	949	-252.07	2.52	180.22
1020	SLV FO 3	723	-430	3531	-751.98	-3.39	252.34
1020	SLV FO 4	603	-262	3334	-712.46	-2.82	210.8
1020	SLV FO 5	128	633	-456	-5.28	3.51	45.79
1020	SLV FO 6	48	746	-589	21.32	3.89	17.82
1020	SLV FO 7	426	-795	7495	-1539.93	-14.32	147.71
1020	SLV FO 8	345	-681	7363	-1513.33	-13.94	119.74
1020	SLV FO 9	-198	725	584	-225.81	-0.59	-68.65
1020	SLV FO 10	-279	838	452	-199.21	-0.21	-96.62
1020	SLV FO 11	99	-703	8536	-1760.46	-18.41	33.27
1020	SLV FO 12	18	-589	8403	-1733.86	-18.03	5.3
1020	SLV FO 13	-456	305	4613	-1026.67	-11.7	-159.71
1020	SLV FO 14	-576	473	4417	-987.16	-11.13	-201.25
1020	SLV FO 15	-367	-123	6999	-1487.07	-17.05	-129.13
1020	SLV FO 16	-486	45	6802	-1447.56	-16.48	-170.67
1020	CRTFP Ux+	0	0	0	0	0	0
1020	CRTFP Ux-	0	0	0	0	0	0
1020	CRTFP Uy+	0	0	0	0	0	0
1020	CRTFP Uy-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1021	SLU 1	69	16	3927	-978.67	-8.7	24.18
1021	SLU 2	66	36	3831	-957.22	-8.45	22.84
1021	SLU 3	72	17	4045	-1007.02	-8.99	25.19
1021	SLU 4	70	29	3988	-994.14	-8.84	24.39
1021	SLU 5	68	37	3914	-977.18	-8.65	23.65
1021	SLU 6	75	18	4128	-1026.98	-9.19	26
1021	SLU 7	72	30	4071	-1014.11	-9.04	25.2
1021	SLU 8	74	19	4094	-1018.6	-9.11	25.8
1021	SLU 9	72	31	4036	-1005.73	-8.96	24.99
1021	SLU 10	70	38	4306	-1071.1	-9.53	24.53
1021	SLU 11	77	19	4520	-1120.9	-10.07	26.88
1021	SLU 12	75	31	4462	-1108.03	-9.92	26.08
1021	SLU 13	73	39	4389	-1091.07	-9.73	25.34
1021	SLU 14	80	20	4603	-1140.86	-10.27	27.69
1021	SLU 15	77	32	4546	-1127.99	-10.12	26.89
1021	SLU 16	79	20	4568	-1132.48	-10.19	27.48
1021	SLU 17	77	32	4511	-1119.61	-10.04	26.68
1021	SLU 18	76	19	4605	-1141.36	-10.24	26.59
1021	SLU 19	74	31	4547	-1128.49	-10.09	25.79
1021	SLU 20	79	20	4688	-1161.33	-10.44	27.4
1021	SLU 21	76	32	4631	-1148.45	-10.3	26.6
1021	SLU 22	78	15	4573	-1133.28	-10.19	27.25
1021	SLU 23	74	35	4477	-1111.83	-9.94	25.92
1021	SLU 24	81	16	4691	-1161.63	-10.48	28.27
1021	SLU 25	79	28	4634	-1148.75	-10.33	27.47
1021	SLU 26	77	36	4560	-1131.79	-10.14	26.73
1021	SLU 27	84	17	4774	-1181.59	-10.68	29.08
1021	SLU 28	81	29	4717	-1168.72	-10.53	28.28
1021	SLU 29	83	17	4740	-1173.21	-10.6	28.87
1021	SLU 30	81	29	4682	-1160.34	-10.45	28.07
1021	SLU 31	79	37	4952	-1225.72	-11.02	27.61
1021	SLU 32	86	18	5166	-1275.51	-11.56	29.96
1021	SLU 33	84	30	5108	-1262.64	-11.41	29.16
1021	SLU 34	82	38	5035	-1245.68	-11.22	28.41
1021	SLU 35	88	19	5249	-1295.47	-11.76	30.77
1021	SLU 36	86	31	5192	-1282.6	-11.61	29.96
1021	SLU 37	88	19	5214	-1287.09	-11.68	30.56
1021	SLU 38	86	31	5157	-1274.22	-11.53	29.76
1021	SLU 39	85	18	5251	-1295.97	-11.73	29.67
1021	SLU 40	83	30	5193	-1283.1	-11.58	28.86
1021	SLU 41	88	19	5334	-1315.94	-11.93	30.47
1021	SLU 42	85	31	5277	-1303.07	-11.79	29.67
1021	SLU 43	87	22	4883	-1219.27	-10.8	30.38
1021	SLU 44	83	42	4788	-1197.81	-10.55	29.04
1021	SLU 45	90	22	5001	-1247.61	-11.08	31.39
1021	SLU 46	88	34	4944	-1234.74	-10.93	30.59
1021	SLU 47	86	43	4871	-1217.78	-10.75	29.85
1021	SLU 48	93	23	5085	-1267.57	-11.29	32.2
1021	SLU 49	90	35	5028	-1254.7	-11.14	31.4
1021	SLU 50	92	24	5050	-1259.19	-11.2	31.99
1021	SLU 51	90	36	4993	-1246.32	-11.06	31.19
1021	SLU 52	88	43	5262	-1311.7	-11.63	30.73
1021	SLU 53	95	24	5476	-1361.49	-12.16	33.08
1021	SLU 54	93	36	5419	-1348.62	-12.01	32.28
1021	SLU 55	91	44	5346	-1331.66	-11.83	31.54
1021	SLU 56	97	25	5560	-1381.45	-12.37	33.89
1021	SLU 57	95	37	5502	-1368.58	-12.22	33.09
1021	SLU 58	97	25	5525	-1373.07	-12.28	33.68
1021	SLU 59	94	37	5467	-1360.2	-12.13	32.88
1021	SLU 60	94	24	5561	-1381.96	-12.34	32.79
1021	SLU 61	92	36	5504	-1369.09	-12.19	31.99
1021	SLU 62	97	25	5645	-1401.92	-12.54	33.6
1021	SLU 63	94	37	5587	-1389.05	-12.39	32.8
1021	SLU 64	96	21	5529	-1373.88	-12.29	33.45
1021	SLU 65	92	41	5434	-1352.42	-12.04	32.12
1021	SLU 66	99	21	5647	-1402.22	-12.57	34.47
1021	SLU 67	97	33	5590	-1389.35	-12.43	33.67
1021	SLU 68	95	42	5517	-1372.39	-12.24	32.92
1021	SLU 69	101	22	5731	-1422.18	-12.78	35.28
1021	SLU 70	99	34	5674	-1409.31	-12.63	34.47
1021	SLU 71	101	23	5696	-1413.8	-12.69	35.07
1021	SLU 72	98	35	5639	-1400.93	-12.55	34.27
1021	SLU 73	97	42	5908	-1466.31	-13.12	33.81
1021	SLU 74	104	23	6122	-1516.1	-13.65	36.16
1021	SLU 75	102	35	6065	-1503.23	-13.5	35.36
1021	SLU 76	99	43	5992	-1486.27	-13.32	34.61
1021	SLU 77	106	24	6206	-1536.06	-13.86	36.97
1021	SLU 78	104	36	6148	-1523.19	-13.71	36.16
1021	SLU 79	106	24	6171	-1527.68	-13.77	36.76
1021	SLU 80	103	36	6113	-1514.81	-13.62	35.96
1021	SLU 81	103	23	6207	-1536.57	-13.83	35.87
1021	SLU 82	101	35	6150	-1523.7	-13.68	35.06
1021	SLU 83	105	24	6291	-1556.53	-14.03	36.67
1021	SLU 84	103	36	6233	-1543.66	-13.88	35.87
1021	SLE RA 1	72	16	4111	-1022.85	-9.12	25.06
1021	SLE RA 2	69	29	4047	-1008.55	-8.96	24.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1021	SLE RA 3	74	16	4190	-1041.74	-9.32	25.73
1021	SLE RA 4	72	25	4152	-1033.16	-9.22	25.2
1021	SLE RA 5	71	30	4103	-1021.85	-9.09	24.71
1021	SLE RA 6	76	17	4246	-1055.05	-9.45	26.27
1021	SLE RA 7	74	25	4207	-1046.47	-9.35	25.74
1021	SLE RA 8	75	17	4223	-1049.46	-9.4	26.13
1021	SLE RA 9	74	26	4184	-1040.88	-9.3	25.6
1021	SLE RA 10	73	30	4364	-1084.47	-9.68	25.29
1021	SLE RA 11	77	18	4506	-1117.66	-10.03	26.86
1021	SLE RA 12	76	26	4468	-1109.08	-9.94	26.33
1021	SLE RA 13	74	31	4420	-1097.78	-9.81	25.83
1021	SLE RA 14	79	18	4562	-1130.97	-10.17	27.4
1021	SLE RA 15	77	26	4524	-1122.39	-10.07	26.86
1021	SLE RA 16	78	19	4539	-1125.39	-10.12	27.26
1021	SLE RA 17	77	27	4501	-1116.81	-10.02	26.73
1021	SLE RA 18	77	18	4563	-1131.31	-10.15	26.67
1021	SLE RA 19	75	26	4525	-1122.73	-10.05	26.13
1021	SLE RA 20	78	18	4619	-1144.62	-10.29	27.2
1021	SLE RA 21	77	26	4581	-1136.04	-10.19	26.67
1021	SLE FR 1	72	16	4111	-1022.85	-9.12	25.06
1021	SLE FR 2	72	19	4098	-1019.99	-9.09	24.88
1021	SLE FR 3	73	16	4134	-1028.17	-9.18	25.27
1021	SLE FR 4	73	19	4234	-1052.53	-9.4	25.36
1021	SLE FR 5	74	17	4269	-1060.71	-9.49	25.76
1021	SLE FR 6	74	17	4337	-1077.08	-9.64	25.86
1021	SLE QP 1	72	16	4111	-1022.85	-9.12	25.06
1021	SLE QP 2	73	16	4247	-1055.39	-9.43	25.54
1021	SLD 1	399	-11	2473	-631.72	-3.29	139.61
1021	SLD 2	330	93	2347	-602.65	-2.9	115.66
1021	SLD 3	447	-251	3847	-940.23	-6.81	156.07
1021	SLD 4	378	-147	3722	-911.16	-6.42	132.13
1021	SLD 5	110	354	1651	-465.38	-2.31	38.9
1021	SLD 6	66	421	1570	-446.66	-2.06	23.48
1021	SLD 7	270	-446	6234	-1493.74	-14.05	93.79
1021	SLD 8	226	-379	6153	-1475.02	-13.8	78.37
1021	SLD 9	-79	412	2340	-635.75	-5.06	-27.29
1021	SLD 10	-123	479	2260	-617.03	-4.81	-42.71
1021	SLD 11	81	-388	6923	-1664.11	-16.8	27.6
1021	SLD 12	37	-321	6843	-1645.39	-16.55	12.18
1021	SLD 13	-231	180	4771	-1199.62	-12.44	-81.05
1021	SLD 14	-300	284	4646	-1170.55	-12.06	-104.99
1021	SLD 15	-183	-60	6146	-1508.12	-15.97	-64.58
1021	SLD 16	-252	44	6021	-1479.05	-15.58	-88.53
1021	SLV 1	581	-10	1378	-371.72	0.41	203.33
1021	SLV 2	472	154	1180	-325.9	1.03	165.58
1021	SLV 3	663	-419	3724	-898.26	-5.6	231.34
1021	SLV 4	554	-255	3527	-852.44	-4.98	193.59
1021	SLV 5	122	599	-136	-60.25	2.52	43.43
1021	SLV 6	49	709	-269	-29.4	2.94	18.02
1021	SLV 7	395	-766	7686	-1815.39	-17.51	136.81
1021	SLV 8	321	-656	7553	-1784.54	-17.1	111.4
1021	SLV 9	-174	688	941	-326.23	-1.76	-60.32
1021	SLV 10	-248	799	808	-295.38	-1.35	-85.73
1021	SLV 11	98	-676	8762	-2081.37	-21.8	33.06
1021	SLV 12	25	-566	8630	-2050.53	-21.39	7.65
1021	SLV 13	-407	288	4967	-1258.33	-13.88	-142.51
1021	SLV 14	-516	452	4770	-1212.51	-13.27	-180.26
1021	SLV 15	-325	-121	7313	-1784.88	-19.89	-114.5
1021	SLV 16	-434	43	7116	-1739.06	-19.28	-152.25
1021	SLV FO 1	632	-12	1091	-303.35	1.4	221.1
1021	SLV FO 2	512	168	874	-252.95	2.07	179.58
1021	SLV FO 3	722	-463	3672	-882.55	-5.21	251.92
1021	SLV FO 4	602	-283	3455	-832.14	-4.54	210.4
1021	SLV FO 5	127	657	-574	39.27	3.72	45.22
1021	SLV FO 6	46	779	-720	73.2	4.17	17.27
1021	SLV FO 7	427	-844	8030	-1891.39	-18.32	147.93
1021	SLV FO 8	346	-723	7884	-1857.46	-17.87	119.98
1021	SLV FO 9	-199	756	610	-253.32	-1	-68.9
1021	SLV FO 10	-280	877	464	-219.38	-0.54	-96.85
1021	SLV FO 11	101	-746	9214	-2183.97	-23.04	33.81
1021	SLV FO 12	20	-624	9068	-2150.04	-22.58	5.86
1021	SLV FO 13	-455	316	5039	-1278.63	-14.32	-159.32
1021	SLV FO 14	-575	496	4822	-1228.23	-13.65	-200.84
1021	SLV FO 15	-365	-135	7620	-1857.83	-20.94	-128.5
1021	SLV FO 16	-485	45	7403	-1807.42	-20.26	-170.02
1021	CRTFP Ux+	0	0	0	0	0	0
1021	CRTFP Ux-	0	0	0	0	0	0
1021	CRTFP Uy+	0	0	0	0	0	0
1021	CRTFP Uy-	0	0	0	0	0	0
1022	SLU 1	59	10	3583	-1009.83	93.69	20.26
1022	SLU 2	56	28	3495	-987.15	91.4	18.61
1022	SLU 3	61	11	3692	-1039.59	96.52	21.11
1022	SLU 4	59	21	3639	-1025.98	95.14	20.12
1022	SLU 5	58	29	3572	-1008.1	93.4	19.27
1022	SLU 6	63	11	3769	-1060.55	98.51	21.77
1022	SLU 7	61	22	3716	-1046.94	97.14	20.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1022	SLU 8	63	12	3737	-1051.75	97.68	21.59
1022	SLU 9	61	23	3684	-1038.14	96.31	20.6
1022	SLU 10	60	29	3929	-1106.84	102.73	20.01
1022	SLU 11	66	12	4126	-1159.29	107.84	22.51
1022	SLU 12	64	22	4073	-1145.67	106.47	21.52
1022	SLU 13	62	30	4006	-1127.79	104.72	20.68
1022	SLU 14	68	12	4203	-1180.24	109.83	23.18
1022	SLU 15	66	23	4150	-1166.63	108.46	22.19
1022	SLU 16	67	13	4171	-1171.44	109	22.99
1022	SLU 17	65	24	4118	-1157.83	107.63	22
1022	SLU 18	65	12	4204	-1180.82	109.87	22.26
1022	SLU 19	63	22	4151	-1167.21	108.49	21.27
1022	SLU 20	67	13	4280	-1201.78	111.86	22.92
1022	SLU 21	65	23	4227	-1188.16	110.49	21.94
1022	SLU 22	66	8	4175	-1172.26	109.11	22.92
1022	SLU 23	63	26	4087	-1149.58	106.82	21.28
1022	SLU 24	69	9	4283	-1202.03	111.93	23.78
1022	SLU 25	67	20	4230	-1188.42	110.56	22.79
1022	SLU 26	65	27	4163	-1170.54	108.81	21.94
1022	SLU 27	71	10	4360	-1222.98	113.92	24.44
1022	SLU 28	69	20	4307	-1209.37	112.55	23.45
1022	SLU 29	70	10	4328	-1214.18	113.09	24.25
1022	SLU 30	68	21	4275	-1200.57	111.72	23.26
1022	SLU 31	67	27	4521	-1269.27	118.14	22.68
1022	SLU 32	73	10	4717	-1321.72	123.25	25.18
1022	SLU 33	71	21	4665	-1308.11	121.88	24.19
1022	SLU 34	69	28	4597	-1290.23	120.14	23.34
1022	SLU 35	75	11	4794	-1342.68	125.25	25.84
1022	SLU 36	73	21	4741	-1329.06	123.87	24.85
1022	SLU 37	75	11	4762	-1333.87	124.42	25.65
1022	SLU 38	73	22	4709	-1320.26	123.04	24.66
1022	SLU 39	72	10	4795	-1343.25	125.28	24.93
1022	SLU 40	70	21	4742	-1329.64	123.91	23.94
1022	SLU 41	74	11	4872	-1364.21	127.28	25.59
1022	SLU 42	72	21	4819	-1350.6	125.9	24.6
1022	SLU 43	74	14	4456	-1257.09	116.51	25.42
1022	SLU 44	71	32	4367	-1234.4	114.23	23.77
1022	SLU 45	77	14	4564	-1286.85	119.34	26.27
1022	SLU 46	75	25	4511	-1273.24	117.97	25.29
1022	SLU 47	73	33	4444	-1255.36	116.22	24.44
1022	SLU 48	78	15	4641	-1307.81	121.33	26.94
1022	SLU 49	76	26	4588	-1294.2	119.96	25.95
1022	SLU 50	78	16	4609	-1299.01	120.5	26.75
1022	SLU 51	76	26	4556	-1285.39	119.13	25.76
1022	SLU 52	75	33	4802	-1354.09	125.55	25.18
1022	SLU 53	81	15	4998	-1406.54	130.66	27.68
1022	SLU 54	79	26	4945	-1392.93	129.29	26.69
1022	SLU 55	77	34	4878	-1375.05	127.54	25.84
1022	SLU 56	83	16	5075	-1427.5	132.65	28.34
1022	SLU 57	81	27	5022	-1413.89	131.28	27.35
1022	SLU 58	82	17	5043	-1418.7	131.82	28.15
1022	SLU 59	80	27	4990	-1405.09	130.45	27.16
1022	SLU 60	80	15	5076	-1428.08	132.69	27.42
1022	SLU 61	78	26	5023	-1414.46	131.32	26.44
1022	SLU 62	82	16	5153	-1449.03	134.68	28.09
1022	SLU 63	80	27	5100	-1435.42	133.31	27.1
1022	SLU 64	82	12	5047	-1419.52	131.93	28.09
1022	SLU 65	78	30	4959	-1396.84	129.64	26.44
1022	SLU 66	84	13	5156	-1449.28	134.75	28.94
1022	SLU 67	82	23	5103	-1435.67	133.38	27.95
1022	SLU 68	80	31	5036	-1417.79	131.64	27.1
1022	SLU 69	86	13	5232	-1470.24	136.75	29.6
1022	SLU 70	84	24	5179	-1456.63	135.37	28.62
1022	SLU 71	86	14	5200	-1461.44	135.92	29.41
1022	SLU 72	84	24	5148	-1447.83	134.54	28.43
1022	SLU 73	82	31	5393	-1516.53	140.96	27.84
1022	SLU 74	88	14	5590	-1568.98	146.08	30.34
1022	SLU 75	86	24	5537	-1555.36	144.7	29.35
1022	SLU 76	84	32	5470	-1537.48	142.96	28.51
1022	SLU 77	90	14	5666	-1589.93	148.07	31.01
1022	SLU 78	88	25	5614	-1576.32	146.7	30.02
1022	SLU 79	90	15	5635	-1581.13	147.24	30.82
1022	SLU 80	88	26	5582	-1567.52	145.87	29.83
1022	SLU 81	87	14	5667	-1590.51	148.1	30.09
1022	SLU 82	85	24	5614	-1576.9	146.73	29.1
1022	SLU 83	89	14	5744	-1611.47	150.1	30.75
1022	SLU 84	87	25	5691	-1597.85	148.73	29.77
1022	SLE RA 1	61	10	3752	-1056.24	98.1	21.02
1022	SLE RA 2	59	22	3694	-1041.12	96.57	19.92
1022	SLE RA 3	63	10	3825	-1076.08	99.98	21.59
1022	SLE RA 4	61	17	3790	-1067.01	99.06	20.93
1022	SLE RA 5	60	22	3745	-1055.09	97.9	20.36
1022	SLE RA 6	64	11	3876	-1090.05	101.31	22.03
1022	SLE RA 7	63	18	3841	-1080.98	100.39	21.37
1022	SLE RA 8	64	11	3855	-1084.18	100.75	21.9
1022	SLE RA 9	62	18	3819	-1075.11	99.84	21.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1022	SLE RA 10	62	22	3983	-1120.91	104.12	20.86
1022	SLE RA 11	65	11	4114	-1155.88	107.53	22.52
1022	SLE RA 12	64	18	4079	-1146.8	106.61	21.86
1022	SLE RA 13	63	23	4034	-1134.88	105.45	21.3
1022	SLE RA 14	67	11	4165	-1169.85	108.86	22.97
1022	SLE RA 15	65	18	4130	-1160.77	107.94	22.31
1022	SLE RA 16	66	12	4144	-1163.98	108.3	22.84
1022	SLE RA 17	65	19	4109	-1154.9	107.39	22.18
1022	SLE RA 18	65	11	4166	-1170.23	108.88	22.36
1022	SLE RA 19	64	18	4130	-1161.16	107.96	21.7
1022	SLE RA 20	66	11	4217	-1184.2	110.21	22.8
1022	SLE RA 21	65	18	4182	-1175.13	109.29	22.14
1022	SLE FR 1	61	10	3752	-1056.24	98.1	21.02
1022	SLE FR 2	61	12	3741	-1053.21	97.79	20.8
1022	SLE FR 3	62	10	3773	-1061.83	98.63	21.2
1022	SLE FR 4	62	12	3865	-1087.41	101.03	21.2
1022	SLE FR 5	63	10	3897	-1096.03	101.86	21.6
1022	SLE FR 6	63	10	3959	-1113.24	103.49	21.69
1022	SLE QP 1	61	10	3752	-1056.24	98.1	21.02
1022	SLE QP 2	62	10	3876	-1090.44	101.33	21.42
1022	SLD 1	339	-16	2200	-633.54	58.77	116.69
1022	SLD 2	280	78	2083	-602.71	55.77	93.66
1022	SLD 3	380	-230	3467	-959.31	91.63	136.7
1022	SLD 4	321	-136	3350	-928.48	88.64	113.67
1022	SLD 5	93	309	1473	-464.58	39.23	23.61
1022	SLD 6	55	370	1397	-444.73	37.3	8.78
1022	SLD 7	230	-401	5695	-1550.48	148.78	90.32
1022	SLD 8	192	-341	5619	-1530.63	146.85	75.49
1022	SLD 9	-68	361	2134	-650.24	55.81	-32.65
1022	SLD 10	-105	421	2058	-630.39	53.88	-47.48
1022	SLD 11	69	-350	6355	-1736.14	165.36	34.06
1022	SLD 12	32	-289	6280	-1716.29	163.43	19.23
1022	SLD 13	-196	156	4403	-1252.39	114.02	-70.83
1022	SLD 14	-255	250	4286	-1221.57	111.03	-93.86
1022	SLD 15	-155	-58	5670	-1578.16	146.89	-50.82
1022	SLD 16	-214	36	5553	-1547.34	143.89	-73.85
1022	SLV 1	493	-16	1168	-353.66	32.51	169.48
1022	SLV 2	400	132	984	-305.07	27.79	133.18
1022	SLV 3	563	-380	3330	-909.67	88.6	203.55
1022	SLV 4	470	-232	3145	-861.07	83.88	167.26
1022	SLV 5	103	526	-180	-35.19	-3.51	20.94
1022	SLV 6	40	626	-304	-2.48	-6.69	-3.5
1022	SLV 7	336	-686	7025	-1888.55	183.46	134.51
1022	SLV 8	273	-587	6901	-1855.84	180.29	110.07
1022	SLV 9	-149	607	852	-325.03	22.38	-67.23
1022	SLV 10	-211	706	728	-292.32	19.2	-91.67
1022	SLV 11	84	-606	8057	-2178.4	209.35	46.34
1022	SLV 12	22	-506	7933	-2145.68	206.17	21.91
1022	SLV 13	-346	252	4607	-1319.8	118.78	-124.41
1022	SLV 14	-438	400	4423	-1271.21	114.06	-160.71
1022	SLV 15	-276	-112	6769	-1875.81	174.87	-90.34
1022	SLV 16	-368	36	6585	-1827.21	170.15	-126.64
1022	SLV FO 1	536	-19	897	-279.98	25.63	184.29
1022	SLV FO 2	434	144	695	-226.53	20.43	144.36
1022	SLV FO 3	613	-419	3275	-891.59	87.33	221.77
1022	SLV FO 4	511	-256	3072	-838.14	82.13	181.84
1022	SLV FO 5	107	578	-586	70.33	-13.99	20.89
1022	SLV FO 6	38	687	-722	106.32	-17.49	-5.99
1022	SLV FO 7	363	-756	7340	-1968.37	191.68	145.82
1022	SLV FO 8	295	-646	7204	-1932.38	188.18	118.94
1022	SLV FO 9	-170	666	549	-248.49	14.48	-76.1
1022	SLV FO 10	-239	776	413	-212.51	10.98	-102.98
1022	SLV FO 11	86	-667	8475	-2287.19	220.15	48.84
1022	SLV FO 12	18	-558	8339	-2251.21	216.65	21.96
1022	SLV FO 13	-387	276	4680	-1342.74	120.53	-139
1022	SLV FO 14	-488	439	4478	-1289.28	115.33	-178.93
1022	SLV FO 15	-310	-124	7058	-1954.34	182.23	-101.52
1022	SLV FO 16	-411	39	6855	-1900.89	177.04	-141.44
1022	CRTFP Ux+	0	0	0	0	0	0
1022	CRTFP Ux-	0	0	0	0	0	0
1022	CRTFP Uy+	0	0	0	0	0	0
1022	CRTFP Uy-	0	0	0	0	0	0
1023	SLU 1	78	11	4937	-1824.51	980.69	27.59
1023	SLU 2	73	35	4816	-1781.89	956.93	20.62
1023	SLU 3	81	11	5087	-1879.23	1010.21	28.76
1023	SLU 4	79	26	5014	-1853.66	995.95	24.58
1023	SLU 5	76	36	4922	-1820.45	977.77	21.4
1023	SLU 6	84	12	5193	-1917.79	1031.04	29.54
1023	SLU 7	81	27	5120	-1892.22	1016.78	25.36
1023	SLU 8	83	13	5148	-1901.63	1022.36	29.15
1023	SLU 9	80	28	5076	-1876.06	1008.1	24.97
1023	SLU 10	79	37	5414	-2002.18	1075.31	22.44
1023	SLU 11	87	13	5685	-2099.52	1128.58	30.59
1023	SLU 12	84	27	5613	-2073.95	1114.32	26.4
1023	SLU 13	81	38	5520	-2040.74	1096.14	23.22
1023	SLU 14	89	14	5791	-2138.08	1149.41	31.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1023	SLU 15	87	28	5718	-2112.51	1135.15	27.18
1023	SLU 16	88	14	5747	-2121.92	1140.73	30.97
1023	SLU 17	86	29	5674	-2096.34	1126.47	26.79
1023	SLU 18	86	13	5792	-2139.21	1149.8	30.2
1023	SLU 19	83	27	5719	-2113.64	1135.54	26.01
1023	SLU 20	88	14	5898	-2177.77	1170.63	30.98
1023	SLU 21	86	28	5825	-2152.2	1156.37	26.79
1023	SLU 22	88	8	5752	-2123.58	1141.77	32.03
1023	SLU 23	83	32	5631	-2080.96	1118.01	25.06
1023	SLU 24	91	9	5902	-2178.31	1171.28	33.2
1023	SLU 25	88	23	5829	-2152.74	1157.03	29.02
1023	SLU 26	86	33	5737	-2119.52	1138.84	25.84
1023	SLU 27	94	10	6008	-2216.87	1192.12	33.98
1023	SLU 28	91	24	5935	-2191.29	1177.86	29.8
1023	SLU 29	93	10	5964	-2200.7	1183.44	33.59
1023	SLU 30	90	25	5891	-2175.13	1169.18	29.41
1023	SLU 31	89	34	6229	-2301.25	1236.38	26.88
1023	SLU 32	96	10	6500	-2398.6	1289.65	35.03
1023	SLU 33	94	24	6428	-2373.02	1275.4	30.84
1023	SLU 34	91	35	6335	-2339.81	1257.21	27.66
1023	SLU 35	99	11	6606	-2437.15	1310.49	35.81
1023	SLU 36	96	25	6534	-2411.58	1296.23	31.62
1023	SLU 37	98	11	6562	-2420.99	1301.81	35.41
1023	SLU 38	96	26	6489	-2395.42	1287.55	31.23
1023	SLU 39	96	10	6607	-2438.28	1310.87	34.64
1023	SLU 40	93	24	6534	-2412.71	1296.62	30.45
1023	SLU 41	98	11	6713	-2476.84	1331.71	35.42
1023	SLU 42	95	25	6640	-2451.27	1317.45	31.23
1023	SLU 43	98	15	6138	-2269.32	1219.68	34.35
1023	SLU 44	93	40	6017	-2226.7	1195.92	27.38
1023	SLU 45	101	16	6288	-2324.05	1249.19	35.52
1023	SLU 46	98	30	6216	-2298.47	1234.93	31.34
1023	SLU 47	96	41	6123	-2265.26	1216.75	28.16
1023	SLU 48	104	17	6394	-2362.6	1270.02	36.3
1023	SLU 49	101	31	6321	-2337.03	1255.76	32.12
1023	SLU 50	103	17	6350	-2346.44	1261.34	35.91
1023	SLU 51	100	32	6277	-2320.87	1247.08	31.72
1023	SLU 52	99	41	6616	-2446.99	1314.29	29.2
1023	SLU 53	107	17	6887	-2544.33	1367.56	37.34
1023	SLU 54	104	32	6814	-2518.76	1353.3	33.16
1023	SLU 55	101	42	6722	-2485.55	1335.12	29.98
1023	SLU 56	109	18	6993	-2582.89	1388.39	38.12
1023	SLU 57	106	33	6920	-2557.32	1374.14	33.94
1023	SLU 58	108	19	6949	-2566.73	1379.71	37.73
1023	SLU 59	106	33	6876	-2541.16	1365.46	33.55
1023	SLU 60	106	17	6993	-2584.02	1388.78	36.95
1023	SLU 61	103	32	6921	-2558.45	1374.52	32.77
1023	SLU 62	108	18	7099	-2622.58	1409.61	37.73
1023	SLU 63	106	33	7027	-2597.01	1395.35	33.55
1023	SLU 64	108	13	6954	-2568.4	1380.75	38.79
1023	SLU 65	103	37	6832	-2525.78	1356.99	31.82
1023	SLU 66	111	13	7103	-2623.12	1410.26	39.96
1023	SLU 67	108	27	7031	-2597.55	1396.01	35.78
1023	SLU 68	106	38	6938	-2564.34	1377.82	32.59
1023	SLU 69	114	14	7209	-2661.68	1431.1	40.74
1023	SLU 70	111	28	7137	-2636.11	1416.84	36.55
1023	SLU 71	113	15	7165	-2645.51	1422.42	40.35
1023	SLU 72	110	29	7093	-2619.94	1408.16	36.16
1023	SLU 73	109	38	7431	-2746.07	1475.36	33.64
1023	SLU 74	116	14	7702	-2843.41	1528.64	41.78
1023	SLU 75	114	29	7629	-2817.84	1514.38	37.6
1023	SLU 76	111	39	7537	-2784.63	1496.2	34.42
1023	SLU 77	119	15	7808	-2881.97	1549.47	42.56
1023	SLU 78	116	30	7735	-2856.4	1535.21	38.38
1023	SLU 79	118	16	7764	-2865.8	1540.79	42.17
1023	SLU 80	116	30	7691	-2840.23	1526.53	37.99
1023	SLU 81	115	14	7809	-2883.09	1549.86	41.39
1023	SLU 82	113	29	7736	-2857.52	1535.6	37.21
1023	SLU 83	118	15	7914	-2921.65	1570.69	42.17
1023	SLU 84	115	30	7842	-2896.08	1556.43	37.99
1023	SLE RA 1	81	10	5170	-1909.96	1026.72	28.86
1023	SLE RA 2	78	26	5089	-1881.55	1010.88	24.21
1023	SLE RA 3	83	11	5270	-1946.44	1046.39	29.64
1023	SLE RA 4	81	20	5221	-1929.39	1036.89	26.85
1023	SLE RA 5	80	27	5160	-1907.25	1024.76	24.73
1023	SLE RA 6	85	11	5340	-1972.15	1060.28	30.16
1023	SLE RA 7	83	21	5292	-1955.1	1050.77	27.37
1023	SLE RA 8	84	12	5311	-1961.37	1054.49	29.9
1023	SLE RA 9	82	21	5262	-1944.32	1044.99	27.11
1023	SLE RA 10	81	27	5488	-2028.41	1089.79	25.43
1023	SLE RA 11	86	11	5669	-2093.3	1125.31	30.86
1023	SLE RA 12	85	21	5620	-2076.25	1115.8	28.07
1023	SLE RA 13	83	28	5559	-2054.11	1103.68	25.95
1023	SLE RA 14	88	12	5739	-2119.01	1139.19	31.38
1023	SLE RA 15	86	22	5691	-2101.96	1129.69	28.59
1023	SLE RA 16	88	12	5710	-2108.23	1133.41	31.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1023	SLE RA 17	86	22	5661	-2091.18	1123.9	28.33
1023	SLE RA 18	86	11	5740	-2119.76	1139.45	30.6
1023	SLE RA 19	84	21	5691	-2102.71	1129.95	27.81
1023	SLE RA 20	88	12	5810	-2145.46	1153.34	31.12
1023	SLE RA 21	86	22	5762	-2128.42	1143.84	28.33
1023	SLE FR 1	81	10	5170	-1909.96	1026.72	28.86
1023	SLE FR 2	80	14	5154	-1904.28	1023.55	27.93
1023	SLE FR 3	81	11	5198	-1920.24	1032.27	29.07
1023	SLE FR 4	82	14	5325	-1967.22	1057.37	28.45
1023	SLE FR 5	83	11	5369	-1983.18	1066.09	29.59
1023	SLE FR 6	83	11	5455	-2014.86	1083.08	29.73
1023	SLE QP 1	81	10	5170	-1909.96	1026.72	28.86
1023	SLE QP 2	82	11	5341	-1972.9	1060.54	29.38
1023	SLD 1	450	-27	3002	-1125.77	611.17	158.71
1023	SLD 2	372	103	2841	-1068.82	579.88	100.65
1023	SLD 3	504	-317	4740	-1737.77	952.48	242.39
1023	SLD 4	426	-188	4578	-1680.82	921.19	184.34
1023	SLD 5	124	418	2031	-800.35	413.45	-48.76
1023	SLD 6	74	501	1927	-763.67	393.3	-86.14
1023	SLD 7	304	-551	7824	-2840.36	1551.16	230.19
1023	SLD 8	254	-467	7720	-2803.68	1531.01	192.81
1023	SLD 9	-89	489	2961	-1142.11	590.06	-134.04
1023	SLD 10	-139	572	2857	-1105.44	569.91	-171.43
1023	SLD 11	90	-480	8754	-3182.12	1727.78	144.91
1023	SLD 12	40	-397	8650	-3145.45	1707.63	107.52
1023	SLD 13	-262	209	6103	-2264.98	1199.88	-125.57
1023	SLD 14	-339	338	5941	-2208.03	1168.59	-183.63
1023	SLD 15	-208	-81	7841	-2876.98	1541.19	-41.89
1023	SLD 16	-285	48	7679	-2820.03	1509.9	-99.94
1023	SLV 1	655	-27	1565	-606.27	334.37	226.48
1023	SLV 2	533	176	1310	-516.5	285.05	134.97
1023	SLV 3	747	-523	4531	-1650.79	916.89	369.13
1023	SLV 4	625	-319	4276	-1561.02	867.56	277.63
1023	SLV 5	138	713	-243	4.53	-31.59	-110.77
1023	SLV 6	56	850	-415	64.97	-64.8	-172.37
1023	SLV 7	443	-939	9644	-3477.21	1910.13	364.74
1023	SLV 8	361	-802	9472	-3416.78	1876.92	303.14
1023	SLV 9	-197	823	1209	-529.02	244.15	-244.37
1023	SLV 10	-279	960	1038	-468.59	210.94	-305.98
1023	SLV 11	109	-829	11096	-4010.77	2185.87	231.14
1023	SLV 12	26	-692	10925	-3950.33	2152.67	169.53
1023	SLV 13	-460	341	6406	-2384.78	1253.51	-218.86
1023	SLV 14	-582	544	6151	-2295.01	1204.19	-310.37
1023	SLV 15	-369	-155	9372	-3429.3	1836.03	-76.21
1023	SLV 16	-491	49	9117	-3339.53	1786.7	-167.72
1023	SLV FO 1	713	-31	1187	-469.6	261.75	246.19
1023	SLV FO 2	578	193	907	-370.85	207.5	145.53
1023	SLV FO 3	813	-576	4450	-1618.58	902.52	403.11
1023	SLV FO 4	679	-352	4169	-1519.83	848.27	302.45
1023	SLV FO 5	144	783	-801	202.28	-140.81	-124.78
1023	SLV FO 6	53	934	-990	268.76	-177.33	-192.55
1023	SLV FO 7	479	-1034	10074	-3627.64	1995.09	398.28
1023	SLV FO 8	389	-883	9885	-3561.16	1958.56	330.51
1023	SLV FO 9	-224	905	796	-384.63	162.51	-271.75
1023	SLV FO 10	-315	1055	608	-318.15	125.98	-339.51
1023	SLV FO 11	111	-913	11672	-4214.55	2298.41	251.31
1023	SLV FO 12	21	-762	11483	-4148.07	2261.88	183.55
1023	SLV FO 13	-514	374	6512	-2425.97	1272.81	-243.69
1023	SLV FO 14	-649	598	6232	-2327.22	1218.55	-344.34
1023	SLV FO 15	-414	-172	9775	-3574.94	1913.58	-86.77
1023	SLV FO 16	-548	53	9495	-3476.19	1859.32	-187.43
1023	CRTFP Ux+	0	0	0	0	0	0
1023	CRTFP Ux-	0	0	0	0	0	0
1023	CRTFP Uy+	0	0	0	-0.01	0	0
1023	CRTFP Uy-	0	0	0	0.01	0	0
1025	SLU 1	-28	38	3204	99.5	633	-8.56
1025	SLU 2	-27	57	3132	96.94	618.61	-13.25
1025	SLU 3	-29	39	3295	102.43	650.68	-8.69
1025	SLU 4	-28	50	3251	100.89	642.04	-11.5
1025	SLU 5	-28	57	3192	98.9	630.43	-13.28
1025	SLU 6	-29	39	3355	104.39	662.5	-8.72
1025	SLU 7	-29	50	3312	102.85	653.86	-11.54
1025	SLU 8	-29	38	3325	103.42	656.63	-8.63
1025	SLU 9	-28	49	3282	101.88	648	-11.44
1025	SLU 10	-31	60	3538	109.61	696.51	-13.88
1025	SLU 11	-33	42	3701	115.1	728.58	-9.32
1025	SLU 12	-32	53	3658	113.56	719.94	-12.13
1025	SLU 13	-32	60	3599	111.57	708.32	-13.91
1025	SLU 14	-33	42	3762	117.06	740.39	-9.35
1025	SLU 15	-32	53	3719	115.52	731.76	-12.17
1025	SLU 16	-33	41	3732	116.09	734.53	-9.26
1025	SLU 17	-32	52	3689	114.55	725.89	-12.07
1025	SLU 18	-34	42	3784	117.6	744.28	-9.46
1025	SLU 19	-33	53	3741	116.06	735.65	-12.28
1025	SLU 20	-34	42	3845	119.56	756.1	-9.5
1025	SLU 21	-33	54	3802	118.02	747.46	-12.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1025	SLU 22	-33	43	3755	116.88	739.17	-9.65
1025	SLU 23	-33	62	3683	114.31	724.78	-14.34
1025	SLU 24	-34	44	3846	119.81	756.85	-9.78
1025	SLU 25	-34	55	3803	118.27	748.21	-12.59
1025	SLU 26	-33	62	3744	116.27	736.6	-14.37
1025	SLU 27	-34	44	3907	121.77	768.66	-9.81
1025	SLU 28	-34	55	3863	120.23	760.03	-12.63
1025	SLU 29	-34	43	3876	120.8	762.8	-9.72
1025	SLU 30	-33	55	3833	119.26	754.17	-12.53
1025	SLU 31	-37	65	4089	126.98	802.67	-14.97
1025	SLU 32	-38	47	4252	132.47	834.74	-10.41
1025	SLU 33	-37	58	4209	130.94	826.11	-13.22
1025	SLU 34	-37	65	4150	128.94	814.49	-15
1025	SLU 35	-38	47	4313	134.44	846.56	-10.44
1025	SLU 36	-38	58	4270	132.9	837.92	-13.26
1025	SLU 37	-38	46	4283	133.47	840.7	-10.35
1025	SLU 38	-37	58	4240	131.93	832.06	-13.16
1025	SLU 39	-39	47	4336	134.98	850.45	-10.55
1025	SLU 40	-38	58	4292	133.44	841.82	-13.37
1025	SLU 41	-39	47	4396	136.94	862.27	-10.59
1025	SLU 42	-39	59	4353	135.4	853.63	-13.4
1025	SLU 43	-35	48	3976	123.39	786.5	-10.76
1025	SLU 44	-34	66	3904	120.83	772.11	-15.45
1025	SLU 45	-35	48	4067	126.32	804.18	-10.89
1025	SLU 46	-35	59	4024	124.78	795.54	-13.7
1025	SLU 47	-34	66	3965	122.79	783.93	-15.48
1025	SLU 48	-36	48	4128	128.28	816	-10.92
1025	SLU 49	-35	60	4084	126.74	807.36	-13.73
1025	SLU 50	-35	48	4097	127.32	810.13	-10.82
1025	SLU 51	-35	59	4054	125.78	801.5	-13.64
1025	SLU 52	-38	69	4310	133.5	850.01	-16.08
1025	SLU 53	-39	51	4473	138.99	882.07	-11.52
1025	SLU 54	-39	62	4430	137.45	873.44	-14.33
1025	SLU 55	-38	69	4371	135.46	861.82	-16.11
1025	SLU 56	-39	51	4534	140.95	893.89	-11.55
1025	SLU 57	-39	63	4491	139.41	885.26	-14.36
1025	SLU 58	-39	51	4504	139.98	888.03	-11.45
1025	SLU 59	-39	62	4461	138.45	879.39	-14.27
1025	SLU 60	-40	52	4557	141.49	897.78	-11.66
1025	SLU 61	-40	63	4513	139.95	889.15	-14.47
1025	SLU 62	-41	52	4617	143.45	909.6	-11.69
1025	SLU 63	-40	63	4574	141.91	900.96	-14.5
1025	SLU 64	-40	53	4527	140.77	892.67	-11.85
1025	SLU 65	-39	71	4455	138.21	878.28	-16.54
1025	SLU 66	-41	53	4618	143.7	910.35	-11.98
1025	SLU 67	-40	64	4575	142.16	901.71	-14.79
1025	SLU 68	-39	71	4516	140.17	890.1	-16.57
1025	SLU 69	-41	53	4679	145.66	922.16	-12.01
1025	SLU 70	-40	65	4636	144.12	913.53	-14.82
1025	SLU 71	-40	53	4649	144.69	916.3	-11.91
1025	SLU 72	-40	64	4605	143.15	907.67	-14.73
1025	SLU 73	-43	74	4862	150.87	956.17	-17.17
1025	SLU 74	-44	56	5025	156.37	988.24	-12.61
1025	SLU 75	-44	67	4981	154.83	979.61	-15.42
1025	SLU 76	-43	74	4922	152.84	967.99	-17.2
1025	SLU 77	-45	56	5085	158.33	1000.06	-12.64
1025	SLU 78	-44	68	5042	156.79	991.42	-15.45
1025	SLU 79	-44	56	5055	157.36	994.2	-12.54
1025	SLU 80	-44	67	5012	155.82	985.56	-15.36
1025	SLU 81	-46	57	5108	158.87	1003.95	-12.75
1025	SLU 82	-45	68	5065	157.33	995.32	-15.56
1025	SLU 83	-46	57	5169	160.83	1015.77	-12.78
1025	SLU 84	-45	68	5125	159.29	1007.13	-15.59
1025	SLE RA 1	-30	39	3361	104.46	663.34	-8.88
1025	SLE RA 2	-29	52	3313	102.76	653.74	-12
1025	SLE RA 3	-30	40	3422	106.42	675.12	-8.96
1025	SLE RA 4	-30	47	3393	105.39	669.36	-10.84
1025	SLE RA 5	-29	52	3354	104.06	661.62	-12.02
1025	SLE RA 6	-30	40	3462	107.72	683	-8.98
1025	SLE RA 7	-30	47	3434	106.7	677.24	-10.86
1025	SLE RA 8	-30	40	3442	107.08	679.09	-8.92
1025	SLE RA 9	-30	47	3413	106.05	673.33	-10.79
1025	SLE RA 10	-32	54	3584	111.2	705.67	-12.42
1025	SLE RA 11	-33	42	3693	114.86	727.05	-9.38
1025	SLE RA 12	-32	49	3664	113.84	721.29	-11.26
1025	SLE RA 13	-32	54	3625	112.51	713.55	-12.44
1025	SLE RA 14	-33	42	3733	116.17	734.93	-9.4
1025	SLE RA 15	-32	49	3705	115.15	729.17	-11.28
1025	SLE RA 16	-33	42	3713	115.53	731.02	-9.34
1025	SLE RA 17	-32	49	3684	114.5	725.26	-11.21
1025	SLE RA 18	-33	42	3748	116.53	737.52	-9.48
1025	SLE RA 19	-33	50	3720	115.51	731.77	-11.35
1025	SLE RA 20	-33	42	3789	117.84	745.4	-9.5
1025	SLE RA 21	-33	50	3760	116.81	739.64	-11.37
1025	SLE FR 1	-30	39	3361	104.46	663.34	-8.88
1025	SLE FR 2	-29	42	3352	104.12	661.42	-9.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1025	SLE FR 3	-30	39	3377	104.99	666.49	-8.88
1025	SLE FR 4	-31	43	3468	107.74	683.67	-9.68
1025	SLE FR 5	-31	40	3494	108.61	688.74	-9.06
1025	SLE FR 6	-31	41	3555	110.5	700.43	-9.18
1025	SLE QP 1	-30	39	3361	104.46	663.34	-8.88
1025	SLE QP 2	-31	40	3477	108.08	685.59	-9.06
1025	SLD 1	371	184	3170	96.41	630.81	-53.97
1025	SLD 2	299	164	3191	97.24	635.3	-46.67
1025	SLD 3	354	-42	4202	133.1	837.56	3.05
1025	SLD 4	282	-62	4223	133.93	842.04	10.35
1025	SLD 5	128	430	1816	48.78	354.83	-110.26
1025	SLD 6	82	417	1830	49.31	357.71	-105.56
1025	SLD 7	71	-324	5256	171.11	1043.97	79.8
1025	SLD 8	25	-337	5270	171.64	1046.86	84.5
1025	SLD 9	-86	417	1684	44.53	324.33	-102.61
1025	SLD 10	-133	404	1698	45.06	327.21	-97.91
1025	SLD 11	-143	-336	5125	166.86	1013.47	87.45
1025	SLD 12	-189	-349	5139	167.39	1016.36	92.15
1025	SLD 13	-344	143	2731	82.24	529.14	-28.46
1025	SLD 14	-415	122	2753	83.07	533.63	-21.16
1025	SLD 15	-361	-84	3764	118.93	735.89	28.56
1025	SLD 16	-432	-104	3785	119.76	740.37	35.85
1025	SLV 1	600	282	2922	87.19	585.01	-83.5
1025	SLV 2	487	250	2956	88.5	592.08	-72
1025	SLV 3	571	-104	4683	149.82	937.84	13.75
1025	SLV 4	458	-135	4717	151.13	944.9	25.25
1025	SLV 5	223	704	633	6.59	118.98	-181.03
1025	SLV 6	147	682	656	7.47	123.74	-173.28
1025	SLV 7	127	-582	6504	215.34	1295.07	143.13
1025	SLV 8	51	-603	6527	216.22	1299.82	150.88
1025	SLV 9	-112	684	428	-0.06	71.36	-168.99
1025	SLV 10	-189	662	450	0.82	76.12	-161.24
1025	SLV 11	-208	-602	6299	208.7	1247.45	155.17
1025	SLV 12	-285	-623	6322	209.58	1252.21	162.92
1025	SLV 13	-519	216	2237	65.04	426.28	-43.37
1025	SLV 14	-633	184	2271	66.35	433.35	-31.86
1025	SLV 15	-548	-170	3999	127.67	779.11	53.88
1025	SLV 16	-661	-202	4033	128.98	786.18	65.39
1025	SLV FO 1	663	306	2867	85.1	574.95	-90.95
1025	SLV FO 2	538	271	2904	86.54	582.72	-78.29
1025	SLV FO 3	632	-118	4804	153.99	963.06	16.03
1025	SLV FO 4	507	-153	4841	155.43	970.83	28.68
1025	SLV FO 5	249	770	349	-3.56	62.32	-198.23
1025	SLV FO 6	165	746	374	-2.59	67.55	-189.71
1025	SLV FO 7	143	-644	6807	226.07	1356.01	158.35
1025	SLV FO 8	59	-668	6832	227.04	1361.25	166.87
1025	SLV FO 9	-121	748	123	-10.87	9.94	-184.98
1025	SLV FO 10	-205	725	148	-9.9	15.17	-176.46
1025	SLV FO 11	-226	-666	6581	218.76	1303.63	171.6
1025	SLV FO 12	-310	-689	6606	219.73	1308.87	180.12
1025	SLV FO 13	-568	233	2113	60.74	400.35	-46.8
1025	SLV FO 14	-693	198	2151	62.18	408.13	-34.14
1025	SLV FO 15	-600	-191	4051	129.63	788.46	60.18
1025	SLV FO 16	-724	-226	4088	131.07	796.23	72.83
1025	CRTFP Ux+	0	0	0	0	0	0
1025	CRTFP Ux-	0	0	0	0	0	0
1025	CRTFP Uy+	0	0	0	0	0	0
1025	CRTFP Uy-	0	0	0	0	0	0
1027	SLU 1	3	110	6208	191.79	-23.91	0.19
1027	SLU 2	2	144	6063	186.78	-23.84	0.26
1027	SLU 3	4	112	6386	197.49	-24.75	0.18
1027	SLU 4	3	132	6299	194.48	-24.71	0.22
1027	SLU 5	3	144	6182	190.6	-24.42	0.24
1027	SLU 6	5	112	6505	201.31	-25.33	0.15
1027	SLU 7	4	132	6418	198.3	-25.29	0.2
1027	SLU 8	5	111	6447	199.45	-25.07	0.14
1027	SLU 9	4	131	6360	196.44	-25.03	0.18
1027	SLU 10	-1	153	6856	211.14	-26.22	0.53
1027	SLU 11	1	121	7179	221.85	-27.13	0.44
1027	SLU 12	0	141	7092	218.84	-27.09	0.49
1027	SLU 13	0	153	6976	214.97	-26.8	0.5
1027	SLU 14	2	121	7298	225.68	-27.71	0.42
1027	SLU 15	1	141	7211	222.67	-27.67	0.46
1027	SLU 16	2	120	7240	223.81	-27.45	0.4
1027	SLU 17	2	140	7153	220.8	-27.41	0.45
1027	SLU 18	-1	123	7341	226.6	-27.31	0.57
1027	SLU 19	-2	143	7254	223.59	-27.27	0.61
1027	SLU 20	0	124	7460	230.43	-27.89	0.54
1027	SLU 21	-1	144	7373	227.42	-27.85	0.59
1027	SLU 22	1	122	7276	225.05	-27.29	0.44
1027	SLU 23	-1	156	7131	220.03	-27.23	0.52
1027	SLU 24	1	124	7454	230.74	-28.13	0.43
1027	SLU 25	1	144	7367	227.73	-28.09	0.48
1027	SLU 26	0	156	7251	223.86	-27.81	0.5
1027	SLU 27	3	124	7574	234.57	-28.71	0.41
1027	SLU 28	2	144	7487	231.56	-28.67	0.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1027	SLU 29	3	123	7515	232.7	-28.46	0.39
1027	SLU 30	2	143	7428	229.69	-28.42	0.44
1027	SLU 31	-4	165	7924	244.4	-29.61	0.79
1027	SLU 32	-2	133	8247	255.11	-30.51	0.7
1027	SLU 33	-2	153	8160	252.1	-30.47	0.75
1027	SLU 34	-3	165	8044	248.23	-30.19	0.76
1027	SLU 35	0	133	8367	258.94	-31.09	0.67
1027	SLU 36	-1	153	8280	255.93	-31.05	0.72
1027	SLU 37	0	132	8308	257.07	-30.84	0.66
1027	SLU 38	-1	152	8221	254.06	-30.8	0.71
1027	SLU 39	-4	135	8409	259.86	-30.69	0.82
1027	SLU 40	-5	155	8322	256.85	-30.65	0.87
1027	SLU 41	-3	136	8529	263.69	-31.27	0.8
1027	SLU 42	-3	156	8442	260.68	-31.23	0.84
1027	SLU 43	5	139	7704	237.93	-29.92	0.15
1027	SLU 44	4	173	7559	232.91	-29.85	0.23
1027	SLU 45	6	141	7882	243.62	-30.76	0.14
1027	SLU 46	5	161	7795	240.61	-30.72	0.19
1027	SLU 47	5	173	7678	236.74	-30.43	0.21
1027	SLU 48	7	141	8001	247.45	-31.34	0.12
1027	SLU 49	6	161	7914	244.44	-31.3	0.16
1027	SLU 50	7	140	7943	245.58	-31.08	0.1
1027	SLU 51	6	160	7856	242.57	-31.04	0.15
1027	SLU 52	1	182	8352	257.28	-32.23	0.5
1027	SLU 53	3	150	8675	267.99	-33.14	0.41
1027	SLU 54	2	170	8588	264.98	-33.1	0.46
1027	SLU 55	2	182	8472	261.1	-32.81	0.47
1027	SLU 56	4	150	8794	271.82	-33.72	0.38
1027	SLU 57	3	170	8707	268.81	-33.68	0.43
1027	SLU 58	4	149	8736	269.95	-33.46	0.37
1027	SLU 59	3	169	8649	266.94	-33.42	0.42
1027	SLU 60	1	152	8837	272.74	-33.32	0.53
1027	SLU 61	0	172	8750	269.73	-33.28	0.58
1027	SLU 62	2	152	8956	276.57	-33.9	0.51
1027	SLU 63	1	173	8869	273.55	-33.86	0.55
1027	SLU 64	2	151	8772	271.19	-33.31	0.41
1027	SLU 65	1	185	8627	266.17	-33.24	0.49
1027	SLU 66	3	153	8950	276.88	-34.14	0.4
1027	SLU 67	2	173	8863	273.87	-34.1	0.45
1027	SLU 68	2	185	8747	269.99	-33.82	0.46
1027	SLU 69	4	153	9070	280.71	-34.73	0.38
1027	SLU 70	4	173	8983	277.7	-34.69	0.42
1027	SLU 71	5	152	9011	278.84	-34.47	0.36
1027	SLU 72	4	172	8924	275.83	-34.43	0.41
1027	SLU 73	-2	194	9420	290.53	-35.62	0.75
1027	SLU 74	0	162	9743	301.25	-36.52	0.67
1027	SLU 75	-1	182	9656	298.23	-36.48	0.71
1027	SLU 76	-1	194	9540	294.36	-36.2	0.73
1027	SLU 77	1	162	9863	305.07	-37.11	0.64
1027	SLU 78	1	182	9776	302.06	-37.06	0.69
1027	SLU 79	2	161	9804	303.21	-36.85	0.63
1027	SLU 80	1	181	9717	300.2	-36.81	0.67
1027	SLU 81	-2	164	9905	306	-36.7	0.79
1027	SLU 82	-3	184	9818	302.98	-36.66	0.84
1027	SLU 83	-1	165	10025	309.82	-37.29	0.77
1027	SLU 84	-2	185	9938	306.81	-37.24	0.81
1027	SLE RA 1	2	114	6513	201.3	-24.88	0.26
1027	SLE RA 2	1	136	6416	197.95	-24.83	0.31
1027	SLE RA 3	3	115	6632	205.09	-25.44	0.25
1027	SLE RA 4	2	128	6574	203.08	-25.41	0.28
1027	SLE RA 5	2	136	6496	200.5	-25.22	0.29
1027	SLE RA 6	4	115	6711	207.64	-25.82	0.24
1027	SLE RA 7	3	128	6653	205.63	-25.8	0.27
1027	SLE RA 8	4	114	6672	206.4	-25.65	0.23
1027	SLE RA 9	3	128	6614	204.39	-25.62	0.26
1027	SLE RA 10	0	142	6945	214.19	-26.42	0.49
1027	SLE RA 11	1	121	7160	221.34	-27.02	0.43
1027	SLE RA 12	0	134	7102	219.33	-26.99	0.46
1027	SLE RA 13	0	142	7025	216.75	-26.8	0.47
1027	SLE RA 14	2	121	7240	223.89	-27.41	0.41
1027	SLE RA 15	1	134	7182	221.88	-27.38	0.44
1027	SLE RA 16	2	120	7201	222.64	-27.24	0.4
1027	SLE RA 17	1	134	7143	220.64	-27.21	0.43
1027	SLE RA 18	0	122	7268	224.5	-27.14	0.51
1027	SLE RA 19	-1	136	7210	222.49	-27.11	0.54
1027	SLE RA 20	0	123	7348	227.05	-27.53	0.5
1027	SLE RA 21	0	136	7290	225.05	-27.5	0.53
1027	SLE FR 1	2	114	6513	201.3	-24.88	0.26
1027	SLE FR 2	2	118	6494	200.63	-24.87	0.27
1027	SLE FR 3	3	114	6545	202.32	-25.03	0.25
1027	SLE FR 4	1	121	6720	207.59	-25.55	0.35
1027	SLE FR 5	2	116	6771	209.28	-25.71	0.33
1027	SLE FR 6	1	118	6891	212.9	-26.01	0.39
1027	SLE QP 1	2	114	6513	201.3	-24.88	0.26
1027	SLE QP 2	2	116	6740	208.26	-25.56	0.34
1027	SLD 1	769	261	5208	157.59	2.53	-26.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1027	SLD 2	629	297	5190	156.83	2.96	-19.48
1027	SLD 3	785	-145	7302	229.93	0.66	-26.84
1027	SLD 4	644	-109	7284	229.18	1.1	-20.29
1027	SLD 5	232	770	3107	83.46	-14.37	-7.47
1027	SLD 6	142	793	3095	82.98	-14.09	-3.25
1027	SLD 7	285	-585	10088	324.61	-20.59	-10.17
1027	SLD 8	194	-562	10076	324.13	-20.31	-5.96
1027	SLD 9	-191	794	3403	92.39	-30.8	6.63
1027	SLD 10	-281	817	3391	91.91	-30.52	10.85
1027	SLD 11	-138	-561	10384	333.53	-37.02	3.92
1027	SLD 12	-229	-538	10372	333.05	-36.74	8.14
1027	SLD 13	-641	342	6195	187.34	-52.21	20.96
1027	SLD 14	-781	378	6177	186.59	-51.77	27.51
1027	SLD 15	-625	-65	8290	259.68	-54.08	20.15
1027	SLD 16	-766	-29	8271	258.93	-53.64	26.7
1027	SLV 1	1203	371	4195	123.8	18.39	-40.96
1027	SLV 2	983	428	4166	122.61	19.08	-30.64
1027	SLV 3	1229	-322	7769	247.27	15.21	-42.31
1027	SLV 4	1008	-265	7740	246.09	15.89	-31.99
1027	SLV 5	365	1234	560	-4.13	-7.68	-11.93
1027	SLV 6	216	1272	541	-4.93	-7.21	-4.99
1027	SLV 7	450	-1077	12475	407.45	-18.28	-16.43
1027	SLV 8	301	-1039	12456	406.65	-17.82	-9.48
1027	SLV 9	-298	1272	1023	9.86	-33.29	10.15
1027	SLV 10	-447	1310	1004	9.06	-32.83	17.1
1027	SLV 11	-213	-1039	12938	421.44	-43.9	5.66
1027	SLV 12	-361	-1001	12919	420.64	-43.43	12.61
1027	SLV 13	-1005	498	5739	170.43	-67.01	32.66
1027	SLV 14	-1226	554	5710	169.24	-66.32	42.98
1027	SLV 15	-979	-195	9313	293.9	-70.19	31.31
1027	SLV 16	-1200	-139	9285	292.72	-69.5	41.63
1027	SLV FO 1	1324	397	3940	115.35	22.78	-45.09
1027	SLV FO 2	1081	459	3909	114.05	23.54	-33.74
1027	SLV FO 3	1352	-366	7872	251.17	19.29	-46.57
1027	SLV FO 4	1109	-303	7841	249.87	20.04	-35.22
1027	SLV FO 5	401	1345	-58	-25.37	-5.89	-13.16
1027	SLV FO 6	237	1387	-79	-26.24	-5.38	-5.52
1027	SLV FO 7	495	-1196	13049	427.37	-17.55	-18.1
1027	SLV FO 8	331	-1155	13028	426.49	-17.04	-10.46
1027	SLV FO 9	-328	1387	452	-9.98	-34.07	11.13
1027	SLV FO 10	-491	1429	430	-10.86	-33.56	18.77
1027	SLV FO 11	-234	-1155	13558	442.76	-45.73	6.19
1027	SLV FO 12	-398	-1113	13537	441.88	-45.22	13.83
1027	SLV FO 13	-1106	536	5639	166.65	-71.15	35.89
1027	SLV FO 14	-1349	598	5607	165.34	-70.4	47.24
1027	SLV FO 15	-1077	-227	9571	302.47	-74.65	34.41
1027	SLV FO 16	-1320	-164	9539	301.16	-73.89	45.76
1027	CRTFP Ux+	0	0	0	0	0	0
1027	CRTFP Ux-	0	0	0	0	0	0
1027	CRTFP Uy+	0	0	0	0	0	0
1027	CRTFP Uy-	0	0	0	0	0	0
1031	SLU 1	29	13	2919	54.64	679.66	-3.36
1031	SLU 2	27	25	2846	53.16	664.16	-6.36
1031	SLU 3	30	13	3008	56.3	699.48	-3.42
1031	SLU 4	29	20	2963	55.41	690.19	-5.22
1031	SLU 5	28	25	2907	54.3	677.73	-6.4
1031	SLU 6	31	13	3069	57.44	713.05	-3.47
1031	SLU 7	30	20	3025	56.55	703.75	-5.27
1031	SLU 8	31	13	3042	56.92	706.79	-3.45
1031	SLU 9	30	20	2997	56.04	697.49	-5.25
1031	SLU 10	29	27	3212	59.94	747.83	-6.8
1031	SLU 11	32	15	3374	63.08	783.15	-3.86
1031	SLU 12	31	22	3330	62.19	773.86	-5.67
1031	SLU 13	30	27	3273	61.09	761.4	-6.85
1031	SLU 14	33	15	3435	64.22	796.72	-3.91
1031	SLU 15	32	22	3391	63.34	787.42	-5.71
1031	SLU 16	33	15	3408	63.71	790.46	-3.89
1031	SLU 17	32	22	3364	62.82	781.16	-5.69
1031	SLU 18	31	15	3443	64.33	799.18	-3.99
1031	SLU 19	30	22	3398	63.44	789.89	-5.79
1031	SLU 20	32	15	3504	65.47	812.75	-4.04
1031	SLU 21	31	23	3460	64.58	803.46	-5.84
1031	SLU 22	32	14	3419	63.95	793.04	-3.72
1031	SLU 23	30	26	3345	62.48	777.55	-6.72
1031	SLU 24	33	14	3508	65.61	812.86	-3.79
1031	SLU 25	32	22	3463	64.73	803.57	-5.59
1031	SLU 26	32	26	3407	63.62	791.11	-6.77
1031	SLU 27	35	14	3569	66.76	826.43	-3.84
1031	SLU 28	34	22	3524	65.87	817.14	-5.64
1031	SLU 29	34	14	3542	66.24	820.17	-3.82
1031	SLU 30	33	22	3497	65.35	810.88	-5.62
1031	SLU 31	32	28	3712	69.26	861.22	-7.17
1031	SLU 32	35	16	3874	72.4	896.53	-4.23
1031	SLU 33	34	23	3830	71.51	887.24	-6.03
1031	SLU 34	33	28	3773	70.4	874.78	-7.22
1031	SLU 35	36	16	3935	73.54	910.1	-4.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1031	SLU 36	35	24	3891	72.65	900.81	-6.08
1031	SLU 37	36	16	3908	73.02	903.84	-4.26
1031	SLU 38	35	23	3864	72.14	894.55	-6.06
1031	SLU 39	34	17	3943	73.64	912.57	-4.36
1031	SLU 40	33	24	3898	72.76	903.27	-6.16
1031	SLU 41	36	17	4004	74.79	926.13	-4.41
1031	SLU 42	35	24	3959	73.9	916.84	-6.21
1031	SLU 43	37	16	3624	67.83	844.68	-4.24
1031	SLU 44	35	28	3550	66.36	829.19	-7.24
1031	SLU 45	38	16	3712	69.49	864.5	-4.3
1031	SLU 46	37	23	3668	68.61	855.21	-6.1
1031	SLU 47	36	28	3611	67.5	842.75	-7.28
1031	SLU 48	39	16	3773	70.64	878.07	-4.35
1031	SLU 49	38	24	3729	69.75	868.77	-6.15
1031	SLU 50	39	16	3746	70.12	871.81	-4.33
1031	SLU 51	38	23	3702	69.23	862.52	-6.13
1031	SLU 52	37	30	3916	73.14	912.86	-7.68
1031	SLU 53	40	18	4079	76.28	948.17	-4.75
1031	SLU 54	39	25	4034	75.39	938.88	-6.55
1031	SLU 55	38	30	3978	74.28	926.42	-7.73
1031	SLU 56	41	18	4140	77.42	961.74	-4.79
1031	SLU 57	40	25	4095	76.53	952.44	-6.59
1031	SLU 58	41	18	4113	76.9	955.48	-4.77
1031	SLU 59	39	25	4068	76.02	946.19	-6.57
1031	SLU 60	39	19	4147	77.52	964.21	-4.87
1031	SLU 61	38	26	4103	76.64	954.91	-6.67
1031	SLU 62	40	19	4208	78.67	977.77	-4.92
1031	SLU 63	39	26	4164	77.78	968.48	-6.72
1031	SLU 64	40	17	4124	77.15	958.06	-4.6
1031	SLU 65	38	29	4050	75.67	942.57	-7.6
1031	SLU 66	41	18	4212	78.81	977.89	-4.67
1031	SLU 67	40	25	4168	77.92	968.59	-6.47
1031	SLU 68	39	30	4111	76.82	956.14	-7.65
1031	SLU 69	42	18	4273	79.95	991.45	-4.72
1031	SLU 70	41	25	4229	79.07	982.16	-6.52
1031	SLU 71	42	18	4246	79.44	985.2	-4.7
1031	SLU 72	41	25	4202	78.55	975.9	-6.5
1031	SLU 73	40	31	4416	82.46	1026.24	-8.05
1031	SLU 74	43	19	4578	85.59	1061.56	-5.11
1031	SLU 75	42	27	4534	84.71	1052.26	-6.91
1031	SLU 76	41	31	4477	83.6	1039.81	-8.1
1031	SLU 77	44	20	4640	86.74	1075.12	-5.16
1031	SLU 78	43	27	4595	85.85	1065.83	-6.96
1031	SLU 79	44	19	4612	86.22	1068.87	-5.14
1031	SLU 80	43	27	4568	85.33	1059.57	-6.94
1031	SLU 81	42	20	4647	86.84	1077.59	-5.24
1031	SLU 82	41	27	4603	85.95	1068.29	-7.04
1031	SLU 83	43	20	4708	87.98	1091.16	-5.29
1031	SLU 84	42	27	4664	87.1	1081.86	-7.09
1031	SLE RA 1	30	13	3062	57.3	712.05	-3.46
1031	SLE RA 2	29	21	3013	56.31	701.72	-5.46
1031	SLE RA 3	31	13	3121	58.4	725.27	-3.5
1031	SLE RA 4	30	18	3092	57.81	719.07	-4.7
1031	SLE RA 5	30	21	3054	57.08	710.77	-5.49
1031	SLE RA 6	32	13	3162	59.17	734.31	-3.53
1031	SLE RA 7	31	18	3132	58.58	728.12	-4.74
1031	SLE RA 8	31	13	3144	58.82	730.14	-3.52
1031	SLE RA 9	31	18	3114	58.23	723.94	-4.72
1031	SLE RA 10	30	22	3257	60.84	757.5	-5.76
1031	SLE RA 11	32	14	3365	62.93	781.05	-3.8
1031	SLE RA 12	31	19	3336	62.34	774.85	-5
1031	SLE RA 13	31	22	3298	61.6	766.55	-5.79
1031	SLE RA 14	33	15	3406	63.69	790.09	-3.83
1031	SLE RA 15	32	19	3377	63.1	783.9	-5.03
1031	SLE RA 16	32	14	3388	63.34	785.92	-3.82
1031	SLE RA 17	32	19	3358	62.75	779.72	-5.02
1031	SLE RA 18	31	15	3411	63.76	791.74	-3.88
1031	SLE RA 19	31	20	3382	63.17	785.54	-5.08
1031	SLE RA 20	32	15	3452	64.52	800.78	-3.92
1031	SLE RA 21	32	20	3422	63.93	794.58	-5.12
1031	SLE FR 1	30	13	3062	57.3	712.05	-3.46
1031	SLE FR 2	30	15	3052	57.1	709.99	-3.86
1031	SLE FR 3	30	13	3078	57.6	715.67	-3.47
1031	SLE FR 4	30	15	3157	59.04	733.89	-3.99
1031	SLE FR 5	31	14	3183	59.54	739.57	-3.6
1031	SLE FR 6	31	14	3237	60.53	751.89	-3.67
1031	SLE QP 1	30	13	3062	57.3	712.05	-3.46
1031	SLE QP 2	30	14	3167	59.24	735.96	-3.59
1031	SLD 1	302	104	2185	38.47	495.88	-28.62
1031	SLD 2	247	138	2131	37.57	489.02	-36.11
1031	SLD 3	322	-44	3246	59.72	721.53	8.07
1031	SLD 4	267	-10	3192	58.82	714.66	0.59
1031	SLD 5	90	259	1273	20.93	322.88	-65.47
1031	SLD 6	55	281	1238	20.35	318.46	-70.29
1031	SLD 7	158	-233	4809	91.77	1075.04	56.86
1031	SLD 8	123	-211	4774	91.18	1070.62	52.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1031	SLD 9	-62	238	1560	27.29	401.29	-59.21
1031	SLD 10	-98	261	1524	26.7	396.87	-64.03
1031	SLD 11	6	-254	5096	98.12	1153.45	63.12
1031	SLD 12	-30	-231	5061	97.54	1149.03	58.3
1031	SLD 13	-206	37	3142	59.65	757.25	-7.76
1031	SLD 14	-261	71	3087	58.75	750.38	-15.25
1031	SLD 15	-186	-111	4203	80.9	982.9	28.94
1031	SLD 16	-241	-77	4148	80	976.03	21.45
1031	SLV 1	455	165	1557	25.27	344.64	-45.34
1031	SLV 2	368	219	1471	23.84	333.81	-57.14
1031	SLV 3	489	-87	3368	61.54	729.84	17.27
1031	SLV 4	402	-33	3282	60.11	719.01	5.47
1031	SLV 5	122	431	-46	-5.7	36.36	-108.86
1031	SLV 6	63	467	-104	-6.66	29.07	-116.8
1031	SLV 7	237	-409	5990	115.21	1320.36	99.82
1031	SLV 8	178	-372	5932	114.25	1313.07	91.88
1031	SLV 9	-117	399	402	4.23	158.84	-99.05
1031	SLV 10	-176	436	344	3.26	151.55	-107
1031	SLV 11	-2	-440	6438	125.13	1442.84	109.63
1031	SLV 12	-61	-404	6380	124.17	1435.55	101.69
1031	SLV 13	-341	60	3052	58.36	752.9	-12.64
1031	SLV 14	-428	114	2966	56.93	742.07	-24.44
1031	SLV 15	-307	-192	4863	94.63	1138.1	49.96
1031	SLV 16	-394	-138	4777	93.2	1127.27	38.16
1031	SLV FO 1	497	180	1396	21.87	305.51	-49.51
1031	SLV FO 2	401	240	1301	20.3	293.6	-62.49
1031	SLV FO 3	535	-97	3388	61.77	729.23	19.35
1031	SLV FO 4	439	-37	3293	60.2	717.32	6.37
1031	SLV FO 5	131	472	-368	-12.19	-33.6	-119.39
1031	SLV FO 6	66	513	-432	-13.25	-41.61	-128.13
1031	SLV FO 7	257	-451	6272	120.8	1378.8	110.16
1031	SLV FO 8	193	-411	6208	119.75	1370.78	101.42
1031	SLV FO 9	-132	438	125	-1.28	101.13	-108.6
1031	SLV FO 10	-197	478	62	-2.33	93.11	-117.34
1031	SLV FO 11	-5	-485	6765	131.72	1513.53	120.95
1031	SLV FO 12	-70	-445	6701	130.67	1505.51	112.21
1031	SLV FO 13	-378	65	3040	58.27	754.6	-13.55
1031	SLV FO 14	-474	124	2946	56.7	742.69	-26.53
1031	SLV FO 15	-340	-212	5032	98.17	1178.31	55.32
1031	SLV FO 16	-436	-153	4937	96.6	1166.41	42.34
1031	CRTFP Ux+	0	0	0	0	0	0
1031	CRTFP Ux-	0	0	0	0	0	0
1031	CRTFP Uy+	0	0	0	0	0	0
1031	CRTFP Uy-	0	0	0	0	0	0
1034	SLU 1	-33	3	2113	0.83	-659.25	0.87
1034	SLU 2	-32	12	2062	0.76	-643.22	3.88
1034	SLU 3	-34	3	2175	0.86	-678.62	0.84
1034	SLU 4	-33	8	2145	0.82	-669	2.65
1034	SLU 5	-32	12	2104	0.79	-656.21	3.86
1034	SLU 6	-35	3	2217	0.88	-691.62	0.82
1034	SLU 7	-34	8	2187	0.85	-682	2.62
1034	SLU 8	-34	3	2197	0.87	-685.24	0.83
1034	SLU 9	-34	8	2166	0.83	-675.62	2.63
1034	SLU 10	-36	12	2333	0.86	-727.59	3.98
1034	SLU 11	-38	3	2446	0.95	-762.99	0.94
1034	SLU 12	-37	9	2416	0.91	-753.37	2.75
1034	SLU 13	-36	12	2375	0.88	-740.58	3.96
1034	SLU 14	-38	3	2488	0.98	-775.99	0.92
1034	SLU 15	-38	9	2457	0.94	-766.37	2.72
1034	SLU 16	-38	3	2467	0.96	-769.61	0.93
1034	SLU 17	-37	9	2437	0.93	-759.99	2.73
1034	SLU 18	-39	3	2500	0.96	-779.77	1.01
1034	SLU 19	-38	9	2469	0.92	-770.16	2.82
1034	SLU 20	-39	3	2542	0.98	-792.77	0.99
1034	SLU 21	-38	9	2511	0.94	-783.15	2.8
1034	SLU 22	-39	3	2482	0.98	-774.06	0.81
1034	SLU 23	-37	12	2431	0.92	-758.03	3.82
1034	SLU 24	-40	3	2544	1.02	-793.44	0.78
1034	SLU 25	-39	8	2513	0.98	-783.82	2.59
1034	SLU 26	-38	12	2472	0.94	-771.03	3.8
1034	SLU 27	-40	3	2585	1.04	-806.43	0.76
1034	SLU 28	-39	8	2555	1	-796.81	2.56
1034	SLU 29	-40	3	2565	1.03	-800.05	0.77
1034	SLU 30	-39	8	2534	0.99	-790.44	2.57
1034	SLU 31	-41	12	2701	1.01	-842.4	3.92
1034	SLU 32	-43	3	2814	1.11	-877.81	0.88
1034	SLU 33	-43	8	2784	1.07	-868.19	2.69
1034	SLU 34	-42	12	2743	1.04	-855.4	3.9
1034	SLU 35	-44	3	2856	1.13	-890.8	0.86
1034	SLU 36	-43	8	2826	1.1	-881.18	2.66
1034	SLU 37	-44	3	2836	1.12	-884.42	0.87
1034	SLU 38	-43	8	2805	1.09	-874.8	2.67
1034	SLU 39	-44	3	2868	1.12	-894.59	0.96
1034	SLU 40	-43	9	2838	1.08	-884.97	2.76
1034	SLU 41	-45	3	2910	1.14	-907.59	0.93
1034	SLU 42	-44	9	2879	1.1	-897.97	2.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1034	SLU 43	-41	4	2621	1.02	-817.66	1.15
1034	SLU 44	-40	13	2570	0.96	-801.62	4.16
1034	SLU 45	-42	4	2683	1.05	-837.03	1.12
1034	SLU 46	-41	9	2653	1.02	-827.41	2.93
1034	SLU 47	-40	13	2612	0.98	-814.62	4.14
1034	SLU 48	-43	4	2725	1.08	-850.03	1.1
1034	SLU 49	-42	9	2694	1.04	-840.41	2.9
1034	SLU 50	-42	4	2704	1.07	-843.65	1.11
1034	SLU 51	-42	9	2674	1.03	-834.03	2.91
1034	SLU 52	-44	13	2841	1.05	-885.99	4.26
1034	SLU 53	-46	4	2954	1.15	-921.4	1.22
1034	SLU 54	-45	10	2923	1.11	-911.78	3.03
1034	SLU 55	-44	13	2883	1.07	-898.99	4.24
1034	SLU 56	-46	4	2995	1.17	-934.4	1.2
1034	SLU 57	-46	10	2965	1.13	-924.78	3
1034	SLU 58	-46	4	2975	1.16	-928.02	1.21
1034	SLU 59	-45	10	2945	1.12	-918.4	3.01
1034	SLU 60	-47	4	3008	1.15	-938.18	1.3
1034	SLU 61	-46	10	2977	1.11	-928.56	3.1
1034	SLU 62	-47	4	3049	1.17	-951.18	1.27
1034	SLU 63	-46	10	3019	1.14	-941.56	3.08
1034	SLU 64	-47	4	2989	1.18	-932.47	1.09
1034	SLU 65	-45	13	2938	1.12	-916.44	4.1
1034	SLU 66	-48	4	3051	1.21	-951.85	1.06
1034	SLU 67	-47	9	3021	1.17	-942.23	2.87
1034	SLU 68	-46	13	2980	1.14	-929.44	4.08
1034	SLU 69	-48	3	3093	1.23	-964.84	1.04
1034	SLU 70	-47	9	3063	1.2	-955.22	2.85
1034	SLU 71	-48	4	3073	1.22	-958.46	1.05
1034	SLU 72	-47	9	3042	1.19	-948.84	2.85
1034	SLU 73	-49	13	3209	1.21	-1000.81	4.2
1034	SLU 74	-51	4	3322	1.3	-1036.21	1.16
1034	SLU 75	-51	9	3292	1.27	-1026.6	2.97
1034	SLU 76	-50	13	3251	1.23	-1013.81	4.18
1034	SLU 77	-52	4	3364	1.33	-1049.21	1.14
1034	SLU 78	-51	9	3333	1.29	-1039.59	2.95
1034	SLU 79	-52	4	3343	1.32	-1042.83	1.15
1034	SLU 80	-51	9	3313	1.28	-1033.21	2.95
1034	SLU 81	-52	4	3376	1.31	-1053	1.24
1034	SLU 82	-51	10	3345	1.27	-1043.38	3.04
1034	SLU 83	-53	4	3418	1.33	-1065.99	1.22
1034	SLU 84	-52	10	3387	1.3	-1056.38	3.02
1034	SLE RA 1	-35	3	2218	0.87	-692.05	0.85
1034	SLE RA 2	-34	9	2185	0.83	-681.36	2.86
1034	SLE RA 3	-35	3	2260	0.89	-704.97	0.83
1034	SLE RA 4	-35	6	2240	0.87	-698.55	2.04
1034	SLE RA 5	-34	9	2212	0.84	-690.03	2.84
1034	SLE RA 6	-36	3	2288	0.91	-713.63	0.82
1034	SLE RA 7	-35	6	2267	0.88	-707.22	2.02
1034	SLE RA 8	-35	3	2274	0.9	-709.38	0.83
1034	SLE RA 9	-35	6	2254	0.88	-702.97	2.03
1034	SLE RA 10	-36	9	2365	0.89	-737.61	2.93
1034	SLE RA 11	-38	3	2440	0.95	-761.21	0.9
1034	SLE RA 12	-37	7	2420	0.93	-754.8	2.1
1034	SLE RA 13	-37	9	2393	0.91	-746.27	2.91
1034	SLE RA 14	-38	3	2468	0.97	-769.88	0.89
1034	SLE RA 15	-38	7	2448	0.95	-763.47	2.09
1034	SLE RA 16	-38	3	2454	0.96	-765.63	0.89
1034	SLE RA 17	-38	7	2434	0.94	-759.21	2.09
1034	SLE RA 18	-38	3	2476	0.96	-772.4	0.95
1034	SLE RA 19	-38	7	2456	0.93	-765.99	2.15
1034	SLE RA 20	-39	3	2504	0.97	-781.07	0.94
1034	SLE RA 21	-38	7	2484	0.95	-774.65	2.14
1034	SLE FR 1	-35	3	2218	0.87	-692.05	0.85
1034	SLE FR 2	-35	4	2212	0.86	-689.91	1.26
1034	SLE FR 3	-35	3	2230	0.88	-695.52	0.85
1034	SLE FR 4	-36	4	2289	0.89	-714.02	1.28
1034	SLE FR 5	-36	3	2307	0.9	-719.62	0.88
1034	SLE FR 6	-37	3	2347	0.91	-732.23	0.9
1034	SLE QP 1	-35	3	2218	0.87	-692.05	0.85
1034	SLE QP 2	-36	3	2296	0.9	-716.16	0.88
1034	SLD 1	179	101	2271	0.75	-702.9	32.7
1034	SLD 2	138	75	2309	0.79	-714.98	24.31
1034	SLD 3	159	-13	2999	1.64	-932.57	-4.28
1034	SLD 4	118	-39	3038	1.69	-944.66	-12.68
1034	SLD 5	66	209	1176	-0.51	-361.76	67.97
1034	SLD 6	40	193	1201	-0.48	-369.54	62.56
1034	SLD 7	0	-170	3606	2.47	-1127.35	-55.32
1034	SLD 8	-27	-187	3630	2.5	-1135.13	-60.73
1034	SLD 9	-45	192	961	-0.7	-297.18	62.49
1034	SLD 10	-71	176	986	-0.67	-304.97	57.09
1034	SLD 11	-111	-187	3391	2.28	-1062.77	-60.8
1034	SLD 12	-137	-203	3415	2.3	-1070.56	-66.2
1034	SLD 13	-190	45	1554	0.11	-487.65	14.45
1034	SLD 14	-231	19	1592	0.15	-499.74	6.05
1034	SLD 15	-210	-69	2283	1	-717.33	-22.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1034	SLD 16	-250	-95	2321	1.05	-729.42	-30.94
1034	SLV 1	302	164	2203	0.6	-678.52	53.31
1034	SLV 2	238	123	2263	0.67	-697.57	40.07
1034	SLV 3	268	-30	3446	2.12	-1070.44	-9.77
1034	SLV 4	204	-71	3507	2.19	-1089.49	-23.01
1034	SLV 5	129	353	370	-1.52	-106.9	114.76
1034	SLV 6	86	326	411	-1.47	-119.72	105.85
1034	SLV 7	16	-293	4516	3.56	-1413.3	-95.52
1034	SLV 8	-27	-321	4557	3.61	-1426.12	-104.43
1034	SLV 9	-45	327	35	-1.82	-6.19	106.2
1034	SLV 10	-88	299	76	-1.77	-19.02	97.29
1034	SLV 11	-157	-320	4180	3.26	-1312.59	-104.08
1034	SLV 12	-200	-347	4221	3.31	-1325.42	-112.99
1034	SLV 13	-276	77	1085	-0.4	-342.82	24.78
1034	SLV 14	-340	36	1145	-0.33	-361.87	11.54
1034	SLV 15	-310	-117	2328	1.13	-734.74	-38.31
1034	SLV 16	-374	-158	2389	1.2	-753.79	-51.55
1034	SLV FO 1	336	180	2193	0.57	-674.76	58.56
1034	SLV FO 2	266	135	2260	0.65	-695.71	43.99
1034	SLV FO 3	299	-33	3561	2.24	-1105.87	-10.84
1034	SLV FO 4	228	-78	3628	2.32	-1126.82	-25.4
1034	SLV FO 5	145	388	178	-1.76	-45.97	126.15
1034	SLV FO 6	98	358	223	-1.71	-60.08	116.35
1034	SLV FO 7	21	-323	4738	3.83	-1483.01	-105.16
1034	SLV FO 8	-26	-353	4783	3.88	-1497.12	-114.97
1034	SLV FO 9	-45	359	-191	-2.09	64.81	116.73
1034	SLV FO 10	-93	329	-146	-2.03	50.7	106.93
1034	SLV FO 11	-170	-352	4369	3.5	-1372.23	-114.58
1034	SLV FO 12	-217	-382	4414	3.55	-1386.34	-124.38
1034	SLV FO 13	-300	84	964	-0.53	-305.49	27.17
1034	SLV FO 14	-370	39	1030	-0.45	-326.45	12.6
1034	SLV FO 15	-337	-129	2332	1.15	-736.6	-42.23
1034	SLV FO 16	-408	-174	2398	1.23	-757.56	-56.79
1034	CRTFP Ux+	0	0	0	0	0	0
1034	CRTFP Ux-	0	0	0	0	0	0
1034	CRTFP Uy+	0	0	0	0	0	0
1034	CRTFP Uy-	0	0	0	0	0	0
1074	SLU 1	-30	3	2157	0.88	-666.1	0.9
1074	SLU 2	-29	12	2103	0.81	-649.38	3.91
1074	SLU 3	-31	3	2221	0.91	-685.78	0.87
1074	SLU 4	-30	8	2189	0.88	-675.75	2.67
1074	SLU 5	-29	12	2146	0.84	-662.59	3.88
1074	SLU 6	-31	3	2264	0.94	-698.99	0.85
1074	SLU 7	-30	8	2232	0.9	-688.96	2.65
1074	SLU 8	-31	3	2243	0.93	-692.52	0.86
1074	SLU 9	-30	8	2211	0.89	-682.49	2.66
1074	SLU 10	-32	13	2379	0.91	-734.2	4.01
1074	SLU 11	-34	3	2497	1.02	-770.61	0.97
1074	SLU 12	-34	9	2465	0.98	-760.57	2.78
1074	SLU 13	-33	12	2422	0.94	-747.42	3.99
1074	SLU 14	-35	3	2540	1.04	-783.82	0.95
1074	SLU 15	-34	9	2508	1	-773.78	2.75
1074	SLU 16	-34	3	2519	1.03	-777.35	0.96
1074	SLU 17	-34	9	2486	0.99	-767.31	2.76
1074	SLU 18	-35	3	2551	1.02	-787.28	1.05
1074	SLU 19	-34	9	2519	0.98	-777.25	2.85
1074	SLU 20	-35	3	2594	1.05	-800.49	1.02
1074	SLU 21	-35	9	2562	1.01	-790.46	2.83
1074	SLU 22	-35	3	2534	1.05	-782.07	0.85
1074	SLU 23	-34	12	2480	0.98	-765.34	3.85
1074	SLU 24	-36	3	2598	1.09	-801.75	0.82
1074	SLU 25	-35	8	2566	1.05	-791.71	2.62
1074	SLU 26	-34	12	2523	1.01	-778.55	3.83
1074	SLU 27	-36	3	2641	1.11	-814.96	0.79
1074	SLU 28	-36	8	2609	1.07	-804.92	2.6
1074	SLU 29	-36	3	2620	1.1	-808.49	0.8
1074	SLU 30	-35	8	2588	1.06	-798.45	2.61
1074	SLU 31	-37	12	2756	1.09	-850.17	3.95
1074	SLU 32	-39	3	2874	1.19	-886.57	0.92
1074	SLU 33	-39	9	2841	1.15	-876.54	2.72
1074	SLU 34	-38	12	2799	1.11	-863.38	3.93
1074	SLU 35	-40	3	2917	1.21	-899.78	0.9
1074	SLU 36	-39	9	2884	1.17	-889.75	2.7
1074	SLU 37	-40	3	2896	1.2	-893.31	0.9
1074	SLU 38	-39	9	2863	1.16	-883.28	2.71
1074	SLU 39	-40	3	2928	1.19	-903.24	0.99
1074	SLU 40	-39	9	2896	1.15	-893.21	2.79
1074	SLU 41	-41	3	2971	1.22	-916.45	0.97
1074	SLU 42	-40	9	2939	1.18	-906.42	2.77
1074	SLU 43	-37	4	2676	1.08	-826.18	1.19
1074	SLU 44	-36	13	2621	1.02	-809.45	4.2
1074	SLU 45	-38	4	2739	1.12	-845.86	1.16
1074	SLU 46	-37	9	2707	1.08	-835.82	2.96
1074	SLU 47	-36	13	2664	1.04	-822.66	4.17
1074	SLU 48	-38	4	2782	1.14	-859.07	1.14
1074	SLU 49	-38	9	2750	1.11	-849.03	2.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1074	SLU 50	-38	4	2761	1.13	-852.6	1.15
1074	SLU 51	-37	9	2729	1.09	-842.56	2.95
1074	SLU 52	-39	13	2897	1.12	-894.28	4.3
1074	SLU 53	-41	4	3015	1.22	-930.68	1.26
1074	SLU 54	-41	10	2983	1.18	-920.65	3.07
1074	SLU 55	-40	13	2940	1.14	-907.49	4.27
1074	SLU 56	-42	4	3058	1.25	-943.89	1.24
1074	SLU 57	-41	10	3026	1.21	-933.86	3.04
1074	SLU 58	-42	4	3037	1.24	-937.42	1.25
1074	SLU 59	-41	10	3005	1.2	-927.39	3.05
1074	SLU 60	-42	4	3069	1.23	-947.35	1.34
1074	SLU 61	-41	10	3037	1.19	-937.32	3.14
1074	SLU 62	-43	4	3112	1.25	-960.56	1.31
1074	SLU 63	-42	10	3080	1.21	-950.53	3.12
1074	SLU 64	-42	4	3052	1.26	-942.14	1.14
1074	SLU 65	-41	13	2998	1.19	-925.42	4.14
1074	SLU 66	-43	4	3116	1.29	-961.82	1.11
1074	SLU 67	-42	9	3084	1.25	-951.79	2.91
1074	SLU 68	-41	13	3041	1.21	-938.63	4.12
1074	SLU 69	-43	4	3159	1.32	-975.03	1.08
1074	SLU 70	-43	9	3127	1.28	-965	2.89
1074	SLU 71	-43	4	3138	1.3	-968.56	1.09
1074	SLU 72	-42	9	3106	1.26	-958.53	2.89
1074	SLU 73	-45	13	3274	1.29	-1010.24	4.24
1074	SLU 74	-47	4	3392	1.39	-1046.64	1.21
1074	SLU 75	-46	10	3359	1.35	-1036.61	3.01
1074	SLU 76	-45	13	3317	1.31	-1023.45	4.22
1074	SLU 77	-47	4	3435	1.42	-1059.85	1.19
1074	SLU 78	-46	9	3402	1.38	-1049.82	2.99
1074	SLU 79	-47	4	3414	1.41	-1053.38	1.19
1074	SLU 80	-46	9	3381	1.37	-1043.35	3
1074	SLU 81	-47	4	3446	1.4	-1063.32	1.28
1074	SLU 82	-47	10	3414	1.36	-1053.28	3.08
1074	SLU 83	-48	4	3489	1.42	-1076.53	1.26
1074	SLU 84	-47	10	3457	1.38	-1066.49	3.06
1074	SLE RA 1	-31	3	2265	0.93	-699.24	0.89
1074	SLE RA 2	-30	9	2229	0.88	-688.09	2.89
1074	SLE RA 3	-32	3	2308	0.95	-712.36	0.87
1074	SLE RA 4	-31	7	2286	0.93	-705.67	2.07
1074	SLE RA 5	-31	9	2258	0.9	-696.89	2.87
1074	SLE RA 6	-32	3	2336	0.97	-721.16	0.85
1074	SLE RA 7	-32	7	2315	0.94	-714.47	2.05
1074	SLE RA 8	-32	3	2322	0.96	-716.85	0.86
1074	SLE RA 9	-31	7	2301	0.93	-710.16	2.06
1074	SLE RA 10	-33	9	2413	0.95	-744.64	2.96
1074	SLE RA 11	-34	3	2492	1.02	-768.91	0.93
1074	SLE RA 12	-34	7	2470	0.99	-762.22	2.14
1074	SLE RA 13	-33	9	2441	0.97	-753.44	2.94
1074	SLE RA 14	-35	3	2520	1.04	-777.71	0.92
1074	SLE RA 15	-34	7	2498	1.01	-771.02	2.12
1074	SLE RA 16	-34	3	2506	1.03	-773.4	0.92
1074	SLE RA 17	-34	7	2484	1	-766.71	2.13
1074	SLE RA 18	-35	3	2528	1.02	-780.02	0.98
1074	SLE RA 19	-34	7	2506	1	-773.33	2.18
1074	SLE RA 20	-35	3	2556	1.04	-788.83	0.97
1074	SLE RA 21	-35	7	2535	1.01	-782.14	2.17
1074	SLE FR 1	-31	3	2265	0.93	-699.24	0.89
1074	SLE FR 2	-31	4	2258	0.92	-697.01	1.29
1074	SLE FR 3	-31	3	2277	0.93	-702.76	0.88
1074	SLE FR 4	-32	4	2337	0.95	-721.24	1.32
1074	SLE FR 5	-32	3	2355	0.96	-726.99	0.91
1074	SLE FR 6	-33	3	2396	0.98	-739.63	0.93
1074	SLE QP 1	-31	3	2265	0.93	-699.24	0.89
1074	SLE QP 2	-32	3	2344	0.96	-723.47	0.91
1074	SLD 1	188	101	2310	0.78	-708.62	32.67
1074	SLD 2	145	75	2351	0.83	-721.04	24.26
1074	SLD 3	169	-13	3087	1.73	-948.62	-4.29
1074	SLD 4	127	-39	3128	1.78	-961.04	-12.69
1074	SLD 5	69	209	1148	-0.54	-352.88	67.93
1074	SLD 6	42	192	1175	-0.51	-360.88	62.52
1074	SLD 7	7	-170	3738	2.61	-1152.88	-55.25
1074	SLD 8	-20	-186	3765	2.65	-1160.88	-60.66
1074	SLD 9	-45	192	923	-0.73	-286.07	62.49
1074	SLD 10	-72	176	949	-0.7	-294.06	57.08
1074	SLD 11	-106	-186	3513	2.42	-1086.07	-60.69
1074	SLD 12	-134	-203	3540	2.45	-1094.06	-66.1
1074	SLD 13	-191	45	1560	0.14	-485.91	14.52
1074	SLD 14	-234	19	1601	0.19	-498.32	6.12
1074	SLD 15	-210	-69	2337	1.08	-725.91	-22.43
1074	SLD 16	-252	-95	2378	1.13	-738.32	-30.84
1074	SLV 1	314	164	2234	0.62	-682.59	53.24
1074	SLV 2	247	123	2298	0.7	-702.16	39.98
1074	SLV 3	282	-30	3560	2.23	-1092.14	-9.79
1074	SLV 4	216	-71	3624	2.31	-1111.7	-23.04
1074	SLV 5	132	353	288	-1.61	-86.42	114.68
1074	SLV 6	87	325	331	-1.55	-99.59	105.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1074	SLV 7	26	-293	4708	3.77	-1451.56	-95.42
1074	SLV 8	-18	-321	4751	3.82	-1464.73	-104.34
1074	SLV 9	-46	327	-63	-1.91	17.79	106.17
1074	SLV 10	-91	299	-20	-1.86	4.61	97.25
1074	SLV 11	-152	-319	4357	3.47	-1347.35	-103.93
1074	SLV 12	-196	-347	4400	3.52	-1360.53	-112.85
1074	SLV 13	-280	77	1063	-0.39	-335.24	24.87
1074	SLV 14	-347	36	1128	-0.32	-354.81	11.62
1074	SLV 15	-312	-117	2389	1.22	-744.78	-38.15
1074	SLV 16	-378	-158	2454	1.3	-764.35	-51.41
1074	SLV FO 1	348	180	2223	0.58	-678.51	58.47
1074	SLV FO 2	275	135	2294	0.67	-700.03	43.89
1074	SLV FO 3	314	-33	3681	2.36	-1129	-10.86
1074	SLV FO 4	240	-78	3752	2.44	-1150.52	-25.44
1074	SLV FO 5	148	388	82	-1.86	-22.71	126.06
1074	SLV FO 6	99	358	130	-1.8	-37.2	116.24
1074	SLV FO 7	32	-323	4944	4.05	-1524.37	-105.05
1074	SLV FO 8	-17	-353	4992	4.11	-1538.86	-114.87
1074	SLV FO 9	-48	359	-304	-2.2	91.91	116.7
1074	SLV FO 10	-97	329	-256	-2.14	77.42	106.88
1074	SLV FO 11	-164	-352	4558	3.72	-1409.74	-114.41
1074	SLV FO 12	-213	-382	4606	3.78	-1424.23	-124.23
1074	SLV FO 13	-305	84	935	-0.53	-296.42	27.27
1074	SLV FO 14	-378	39	1007	-0.44	-317.94	12.69
1074	SLV FO 15	-340	-129	2394	1.24	-746.91	-42.06
1074	SLV FO 16	-413	-174	2465	1.33	-768.44	-56.64
1074	CRTFP Ux+	0	0	0	0	0	0
1074	CRTFP Ux-	0	0	0	0	0	0
1074	CRTFP Uy+	0	0	0	0	0	0
1074	CRTFP Uy-	0	0	0	0	0	0
1078	SLU 1	-48	6	3700	-925.81	-642.42	-11.64
1078	SLU 2	-46	21	3607	-904.61	-626.2	-8.39
1078	SLU 3	-49	6	3810	-952.8	-661.46	-12.03
1078	SLU 4	-48	15	3754	-940.08	-651.73	-10.08
1078	SLU 5	-47	21	3681	-922.69	-638.98	-8.62
1078	SLU 6	-50	6	3883	-970.89	-674.24	-12.26
1078	SLU 7	-49	15	3828	-958.17	-664.51	-10.31
1078	SLU 8	-49	6	3847	-961.98	-667.99	-12.11
1078	SLU 9	-48	15	3792	-949.26	-658.25	-10.16
1078	SLU 10	-52	22	4081	-1023.52	-708.15	-9.84
1078	SLU 11	-55	6	4283	-1071.72	-743.41	-13.48
1078	SLU 12	-54	16	4228	-1059	-733.68	-11.53
1078	SLU 13	-53	22	4155	-1041.61	-720.93	-10.08
1078	SLU 14	-56	6	4357	-1089.81	-756.19	-13.71
1078	SLU 15	-55	15	4301	-1077.08	-746.46	-11.76
1078	SLU 16	-55	6	4321	-1080.9	-749.93	-13.56
1078	SLU 17	-54	15	4265	-1068.18	-740.2	-11.61
1078	SLU 18	-56	7	4377	-1095.69	-759.49	-13.71
1078	SLU 19	-55	16	4321	-1082.97	-749.76	-11.77
1078	SLU 20	-57	6	4450	-1113.78	-772.28	-13.95
1078	SLU 21	-56	16	4395	-1101.05	-762.54	-12
1078	SLU 22	-56	6	4347	-1086.81	-754.53	-13.88
1078	SLU 23	-54	21	4254	-1065.6	-738.31	-10.63
1078	SLU 24	-57	5	4457	-1113.8	-773.57	-14.27
1078	SLU 25	-56	15	4401	-1101.08	-763.83	-12.32
1078	SLU 26	-55	21	4328	-1083.69	-751.09	-10.87
1078	SLU 27	-58	5	4530	-1131.89	-786.35	-14.5
1078	SLU 28	-57	15	4475	-1119.16	-776.61	-12.55
1078	SLU 29	-58	5	4494	-1122.98	-780.09	-14.35
1078	SLU 30	-57	15	4439	-1110.26	-770.36	-12.4
1078	SLU 31	-60	22	4728	-1184.52	-820.25	-12.09
1078	SLU 32	-63	6	4930	-1232.72	-855.52	-15.72
1078	SLU 33	-62	15	4875	-1219.99	-845.78	-13.77
1078	SLU 34	-61	22	4802	-1202.61	-833.03	-12.32
1078	SLU 35	-64	6	5004	-1250.8	-868.3	-15.95
1078	SLU 36	-63	15	4948	-1238.08	-858.56	-14
1078	SLU 37	-64	6	4968	-1241.9	-862.04	-15.8
1078	SLU 38	-62	15	4912	-1229.17	-852.3	-13.85
1078	SLU 39	-64	6	5024	-1256.69	-871.6	-15.96
1078	SLU 40	-63	16	4968	-1243.96	-861.86	-14.01
1078	SLU 41	-65	6	5097	-1274.77	-884.38	-16.19
1078	SLU 42	-64	16	5042	-1262.05	-874.65	-14.24
1078	SLU 43	-59	8	4588	-1148.35	-796.72	-14.37
1078	SLU 44	-57	23	4495	-1127.15	-780.49	-11.12
1078	SLU 45	-61	8	4698	-1175.35	-815.76	-14.75
1078	SLU 46	-59	17	4642	-1162.63	-806.02	-12.8
1078	SLU 47	-58	23	4569	-1145.24	-793.27	-11.35
1078	SLU 48	-61	7	4771	-1193.43	-828.54	-14.98
1078	SLU 49	-60	17	4716	-1180.71	-818.8	-13.03
1078	SLU 50	-61	7	4735	-1184.53	-822.28	-14.83
1078	SLU 51	-60	17	4680	-1171.81	-812.54	-12.88
1078	SLU 52	-63	24	4969	-1246.07	-862.44	-12.57
1078	SLU 53	-66	8	5172	-1294.26	-897.7	-16.2
1078	SLU 54	-65	17	5116	-1281.54	-887.97	-14.25
1078	SLU 55	-64	24	5043	-1264.15	-875.22	-12.8
1078	SLU 56	-67	8	5245	-1312.35	-910.48	-16.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1078	SLU 57	-66	17	5190	-1299.63	-900.75	-14.49
1078	SLU 58	-67	8	5209	-1303.44	-904.23	-16.28
1078	SLU 59	-66	17	5153	-1290.72	-894.49	-14.33
1078	SLU 60	-68	8	5265	-1318.23	-913.79	-16.44
1078	SLU 61	-66	18	5209	-1305.51	-904.05	-14.49
1078	SLU 62	-68	8	5338	-1336.32	-926.57	-16.67
1078	SLU 63	-67	18	5283	-1323.6	-916.83	-14.72
1078	SLU 64	-67	7	5235	-1309.35	-908.82	-16.61
1078	SLU 65	-66	23	5143	-1288.15	-892.6	-13.36
1078	SLU 66	-69	7	5345	-1336.34	-927.86	-16.99
1078	SLU 67	-68	17	5289	-1323.62	-918.13	-15.04
1078	SLU 68	-67	23	5216	-1306.23	-905.38	-13.59
1078	SLU 69	-70	7	5419	-1354.43	-940.64	-17.23
1078	SLU 70	-69	17	5363	-1341.71	-930.91	-15.28
1078	SLU 71	-69	7	5382	-1345.52	-934.38	-17.07
1078	SLU 72	-68	17	5327	-1332.8	-924.65	-15.12
1078	SLU 73	-72	23	5616	-1407.06	-974.55	-14.81
1078	SLU 74	-75	8	5819	-1455.26	-1009.81	-18.45
1078	SLU 75	-74	17	5763	-1442.54	-1000.07	-16.5
1078	SLU 76	-72	23	5690	-1425.15	-987.33	-15.04
1078	SLU 77	-76	8	5892	-1473.35	-1022.59	-18.68
1078	SLU 78	-75	17	5837	-1460.62	-1012.85	-16.73
1078	SLU 79	-75	8	5856	-1464.44	-1016.33	-18.52
1078	SLU 80	-74	17	5801	-1451.72	-1006.6	-16.57
1078	SLU 81	-76	8	5912	-1479.23	-1025.89	-18.68
1078	SLU 82	-75	17	5856	-1466.51	-1016.16	-16.73
1078	SLU 83	-77	8	5986	-1497.32	-1038.67	-18.91
1078	SLU 84	-76	17	5930	-1484.59	-1028.94	-16.96
1078	SLE RA 1	-50	6	3885	-971.81	-674.45	-12.28
1078	SLE RA 2	-49	16	3823	-957.67	-663.64	-10.12
1078	SLE RA 3	-51	6	3958	-989.8	-687.15	-12.54
1078	SLE RA 4	-50	12	3921	-981.32	-680.66	-11.24
1078	SLE RA 5	-49	16	3872	-969.73	-672.16	-10.27
1078	SLE RA 6	-52	6	4007	-1001.86	-695.67	-12.69
1078	SLE RA 7	-51	12	3970	-993.38	-689.18	-11.39
1078	SLE RA 8	-51	6	3983	-995.92	-691.49	-12.59
1078	SLE RA 9	-50	12	3946	-987.44	-685.01	-11.29
1078	SLE RA 10	-53	16	4139	-1036.95	-718.27	-11.08
1078	SLE RA 11	-55	6	4274	-1069.08	-741.78	-13.51
1078	SLE RA 12	-54	12	4237	-1060.6	-735.29	-12.21
1078	SLE RA 13	-53	16	4188	-1049.01	-726.79	-11.24
1078	SLE RA 14	-55	6	4323	-1081.14	-750.3	-13.66
1078	SLE RA 15	-55	12	4286	-1072.66	-743.81	-12.36
1078	SLE RA 16	-55	6	4299	-1075.2	-746.13	-13.56
1078	SLE RA 17	-54	12	4262	-1066.72	-739.64	-12.26
1078	SLE RA 18	-56	6	4336	-1085.06	-752.5	-13.66
1078	SLE RA 19	-55	12	4299	-1076.58	-746.01	-12.36
1078	SLE RA 20	-56	6	4385	-1097.12	-761.02	-13.82
1078	SLE RA 21	-56	12	4348	-1088.64	-754.53	-12.52
1078	SLE FR 1	-50	6	3885	-971.81	-674.45	-12.28
1078	SLE FR 2	-50	8	3873	-968.98	-672.29	-11.85
1078	SLE FR 3	-50	6	3904	-976.63	-677.86	-12.34
1078	SLE FR 4	-52	8	4008	-1002.96	-695.71	-12.26
1078	SLE FR 5	-52	6	4040	-1010.61	-701.28	-12.76
1078	SLE FR 6	-53	6	4110	-1028.44	-713.48	-12.97
1078	SLE QP 1	-50	6	3885	-971.81	-674.45	-12.28
1078	SLE QP 2	-52	6	4020	-1005.78	-697.87	-12.7
1078	SLD 1	321	172	3973	-1002.77	-686.38	104.04
1078	SLD 2	250	127	4044	-1019.27	-698.58	77.55
1078	SLD 3	291	-20	5302	-1307.19	-919.23	62.19
1078	SLD 4	220	-65	5374	-1323.68	-931.44	35.71
1078	SLD 5	118	355	1977	-540.35	-339.17	90.35
1078	SLD 6	72	325	2023	-550.97	-347.02	73.29
1078	SLD 7	18	-285	6409	-1555.06	-1115.34	-49.14
1078	SLD 8	-28	-314	6455	-1565.68	-1123.2	-66.2
1078	SLD 9	-76	326	1585	-445.89	-272.54	40.8
1078	SLD 10	-122	297	1631	-456.51	-280.4	23.75
1078	SLD 11	-175	-314	6017	-1460.6	-1048.71	-98.68
1078	SLD 12	-221	-343	6063	-1471.22	-1056.57	-115.74
1078	SLD 13	-324	77	2667	-687.89	-464.3	-61.1
1078	SLD 14	-395	32	2738	-704.38	-476.5	-87.59
1078	SLD 15	-354	-115	3996	-992.3	-697.15	-102.95
1078	SLD 16	-425	-160	4068	-1008.8	-709.35	-129.43
1078	SLV 1	535	279	3848	-978.61	-662.76	173.31
1078	SLV 2	423	208	3960	-1004.61	-681.99	131.56
1078	SLV 3	484	-48	6117	-1498.05	-1060.1	101.9
1078	SLV 4	372	-120	6229	-1524.05	-1079.33	60.16
1078	SLV 5	222	598	506	-204.97	-81.11	159.19
1078	SLV 6	147	550	582	-222.48	-94.06	131.08
1078	SLV 7	53	-494	8069	-1936.42	-1405.58	-78.82
1078	SLV 8	-23	-542	8145	-1953.93	-1418.53	-106.93
1078	SLV 9	-81	553	-105	-57.64	22.79	81.53
1078	SLV 10	-156	505	-29	-75.15	9.85	53.43
1078	SLV 11	-251	-538	7458	-1789.09	-1301.68	-156.48
1078	SLV 12	-326	-586	7534	-1806.6	-1314.62	-184.58
1078	SLV 13	-476	131	1811	-487.52	-316.4	-85.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1078	SLV 14	-587	60	1924	-513.52	-335.63	-127.3
1078	SLV 15	-527	-196	4080	-1006.95	-713.74	-156.95
1078	SLV 16	-638	-268	4193	-1032.96	-732.98	-198.7
1078	SLV FO 1	594	307	3830	-975.9	-659.25	191.91
1078	SLV FO 2	471	228	3954	-1004.5	-680.41	145.98
1078	SLV FO 3	538	-54	6326	-1547.27	-1096.33	113.36
1078	SLV FO 4	414	-132	6450	-1575.88	-1117.48	67.44
1078	SLV FO 5	250	657	155	-124.89	-19.44	176.38
1078	SLV FO 6	167	604	238	-144.15	-33.68	145.46
1078	SLV FO 7	63	-544	8474	-2029.49	-1476.36	-85.43
1078	SLV FO 8	-20	-596	8557	-2048.74	-1490.6	-116.35
1078	SLV FO 9	-84	608	-517	37.17	94.86	90.95
1078	SLV FO 10	-166	555	-434	17.92	80.62	60.04
1078	SLV FO 11	-271	-592	7802	-1867.42	-1362.06	-170.85
1078	SLV FO 12	-353	-645	7885	-1886.68	-1376.3	-201.77
1078	SLV FO 13	-518	144	1590	-435.69	-278.26	-92.83
1078	SLV FO 14	-641	65	1714	-464.3	-299.41	-138.76
1078	SLV FO 15	-574	-216	4086	-1007.07	-715.33	-171.38
1078	SLV FO 16	-697	-295	4210	-1035.67	-736.49	-217.3
1078	CRTFP Ux+	0	0	0	0	0	0
1078	CRTFP Ux-	0	0	0	0	0	0
1078	CRTFP Uy+	0	0	0	0	0	0
1078	CRTFP Uy-	0	0	0	0	0	0
1080	SLU 1	-42	5	3193	-991.47	-85.29	-14.67
1080	SLU 2	-41	19	3115	-969.66	-83.21	-13.74
1080	SLU 3	-43	5	3287	-1019.98	-87.79	-15.1
1080	SLU 4	-43	13	3240	-1006.9	-86.54	-14.54
1080	SLU 5	-41	19	3178	-988.76	-84.89	-14
1080	SLU 6	-44	4	3350	-1039.08	-89.47	-15.36
1080	SLU 7	-43	13	3303	-1026	-88.22	-14.8
1080	SLU 8	-44	5	3320	-1029.67	-88.64	-15.18
1080	SLU 9	-43	13	3273	-1016.59	-87.4	-14.62
1080	SLU 10	-46	19	3523	-1095.89	-94.06	-15.54
1080	SLU 11	-49	5	3695	-1146.21	-98.64	-16.9
1080	SLU 12	-48	14	3648	-1133.13	-97.39	-16.34
1080	SLU 13	-47	19	3586	-1114.99	-95.74	-15.8
1080	SLU 14	-49	5	3758	-1165.31	-100.32	-17.16
1080	SLU 15	-48	13	3711	-1152.23	-99.07	-16.6
1080	SLU 16	-49	5	3727	-1155.9	-99.49	-16.98
1080	SLU 17	-48	13	3680	-1142.82	-98.25	-16.42
1080	SLU 18	-50	5	3776	-1171.8	-100.78	-17.24
1080	SLU 19	-49	14	3729	-1158.71	-99.54	-16.68
1080	SLU 20	-50	5	3839	-1190.9	-102.46	-17.5
1080	SLU 21	-49	14	3792	-1177.81	-101.22	-16.94
1080	SLU 22	-50	5	3749	-1162.01	-100.08	-17.25
1080	SLU 23	-48	19	3671	-1140.21	-98.01	-16.32
1080	SLU 24	-51	4	3844	-1190.53	-102.59	-17.68
1080	SLU 25	-50	13	3797	-1177.45	-101.34	-17.12
1080	SLU 26	-49	18	3734	-1159.31	-99.69	-16.58
1080	SLU 27	-52	4	3907	-1209.63	-104.27	-17.94
1080	SLU 28	-51	13	3860	-1196.55	-103.02	-17.38
1080	SLU 29	-51	4	3876	-1200.21	-103.44	-17.76
1080	SLU 30	-50	13	3829	-1187.13	-102.2	-17.2
1080	SLU 31	-53	19	4079	-1266.44	-108.86	-18.12
1080	SLU 32	-56	5	4251	-1316.76	-113.44	-19.48
1080	SLU 33	-55	13	4204	-1303.68	-112.19	-18.92
1080	SLU 34	-54	19	4142	-1285.54	-110.53	-18.37
1080	SLU 35	-57	5	4315	-1335.86	-115.12	-19.73
1080	SLU 36	-56	13	4268	-1322.78	-113.87	-19.18
1080	SLU 37	-56	5	4284	-1326.44	-114.29	-19.56
1080	SLU 38	-55	13	4237	-1313.36	-113.04	-19
1080	SLU 39	-57	5	4332	-1342.34	-115.58	-19.82
1080	SLU 40	-56	14	4285	-1329.26	-114.34	-19.26
1080	SLU 41	-58	5	4395	-1361.44	-117.26	-20.08
1080	SLU 42	-57	14	4348	-1348.36	-116.01	-19.52
1080	SLU 43	-52	6	3960	-1230.43	-105.8	-18.19
1080	SLU 44	-51	20	3882	-1208.63	-103.72	-17.26
1080	SLU 45	-54	6	4055	-1258.95	-108.3	-18.62
1080	SLU 46	-53	14	4008	-1245.87	-107.06	-18.06
1080	SLU 47	-52	20	3945	-1227.73	-105.4	-17.52
1080	SLU 48	-54	6	4118	-1278.05	-109.98	-18.87
1080	SLU 49	-53	14	4071	-1264.97	-108.74	-18.32
1080	SLU 50	-54	6	4087	-1268.63	-109.16	-18.7
1080	SLU 51	-53	14	4040	-1255.55	-107.91	-18.14
1080	SLU 52	-56	21	4290	-1334.86	-114.57	-19.06
1080	SLU 53	-59	7	4462	-1385.18	-119.15	-20.42
1080	SLU 54	-58	15	4415	-1372.1	-117.9	-19.86
1080	SLU 55	-57	21	4353	-1353.96	-116.25	-19.31
1080	SLU 56	-60	6	4526	-1404.28	-120.83	-20.67
1080	SLU 57	-59	15	4479	-1391.2	-119.58	-20.11
1080	SLU 58	-59	7	4495	-1394.86	-120.01	-20.5
1080	SLU 59	-58	15	4448	-1381.78	-118.76	-19.94
1080	SLU 60	-60	7	4543	-1410.76	-121.3	-20.76
1080	SLU 61	-59	15	4496	-1397.68	-120.05	-20.2
1080	SLU 62	-61	7	4606	-1429.86	-122.98	-21.02
1080	SLU 63	-60	15	4559	-1416.78	-121.73	-20.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1080	SLU 64	-60	6	4517	-1400.98	-120.6	-20.77
1080	SLU 65	-58	20	4438	-1379.18	-118.52	-19.84
1080	SLU 66	-61	6	4611	-1429.5	-123.1	-21.2
1080	SLU 67	-60	14	4564	-1416.41	-121.85	-20.64
1080	SLU 68	-59	20	4502	-1398.28	-120.2	-20.09
1080	SLU 69	-62	6	4674	-1448.6	-124.78	-21.45
1080	SLU 70	-61	14	4627	-1435.52	-123.53	-20.89
1080	SLU 71	-61	6	4643	-1439.18	-123.96	-21.28
1080	SLU 72	-60	14	4596	-1426.1	-122.71	-20.72
1080	SLU 73	-63	21	4846	-1505.41	-129.37	-21.64
1080	SLU 74	-66	6	5019	-1555.73	-133.95	-23
1080	SLU 75	-65	15	4972	-1542.64	-132.7	-22.44
1080	SLU 76	-64	20	4909	-1524.51	-131.05	-21.89
1080	SLU 77	-67	6	5082	-1574.83	-135.63	-23.25
1080	SLU 78	-66	15	5035	-1561.74	-134.38	-22.69
1080	SLU 79	-66	6	5051	-1565.41	-134.8	-23.08
1080	SLU 80	-65	15	5004	-1552.33	-133.56	-22.52
1080	SLU 81	-67	7	5099	-1581.31	-136.09	-23.34
1080	SLU 82	-66	15	5052	-1568.23	-134.85	-22.78
1080	SLU 83	-68	7	5163	-1600.41	-137.77	-23.59
1080	SLU 84	-67	15	5116	-1587.33	-136.53	-23.04
1080	SLE RA 1	-44	5	3352	-1040.19	-89.51	-15.41
1080	SLE RA 2	-43	14	3300	-1025.66	-88.13	-14.79
1080	SLE RA 3	-45	5	3415	-1059.21	-91.18	-15.7
1080	SLE RA 4	-45	10	3384	-1050.48	-90.35	-15.32
1080	SLE RA 5	-44	14	3342	-1038.39	-89.25	-14.96
1080	SLE RA 6	-46	5	3457	-1071.94	-92.3	-15.87
1080	SLE RA 7	-45	10	3426	-1063.22	-91.47	-15.49
1080	SLE RA 8	-45	5	3436	-1065.66	-91.75	-15.75
1080	SLE RA 9	-45	10	3405	-1056.94	-90.92	-15.38
1080	SLE RA 10	-47	14	3572	-1109.81	-95.36	-15.99
1080	SLE RA 11	-49	5	3687	-1143.36	-98.42	-16.9
1080	SLE RA 12	-48	11	3655	-1134.64	-97.58	-16.52
1080	SLE RA 13	-47	14	3614	-1122.55	-96.48	-16.16
1080	SLE RA 14	-49	5	3729	-1156.09	-99.53	-17.06
1080	SLE RA 15	-48	10	3698	-1147.37	-98.7	-16.69
1080	SLE RA 16	-49	5	3708	-1149.81	-98.99	-16.95
1080	SLE RA 17	-48	11	3677	-1141.09	-98.15	-16.58
1080	SLE RA 18	-49	5	3741	-1160.41	-99.85	-17.12
1080	SLE RA 19	-49	11	3709	-1151.69	-99.01	-16.75
1080	SLE RA 20	-50	5	3783	-1173.15	-100.97	-17.29
1080	SLE RA 21	-49	11	3751	-1164.43	-100.13	-16.92
1080	SLE FR 1	-44	5	3352	-1040.19	-89.51	-15.41
1080	SLE FR 2	-44	7	3342	-1037.29	-89.24	-15.29
1080	SLE FR 3	-45	5	3369	-1045.29	-89.96	-15.48
1080	SLE FR 4	-46	7	3458	-1073.35	-92.34	-15.8
1080	SLE FR 5	-46	5	3486	-1081.35	-93.06	-15.99
1080	SLE FR 6	-47	5	3546	-1100.3	-94.68	-16.27
1080	SLE QP 1	-44	5	3352	-1040.19	-89.51	-15.41
1080	SLE QP 2	-46	5	3469	-1076.26	-92.61	-15.92
1080	SLD 1	290	152	3422	-1075.27	-90.99	103.91
1080	SLD 2	226	113	3481	-1091.9	-92.5	80.78
1080	SLD 3	263	-20	4546	-1389.3	-120.83	90.07
1080	SLD 4	200	-59	4605	-1405.93	-122.34	66.94
1080	SLD 5	105	317	1740	-596.82	-46.62	45.01
1080	SLD 6	65	292	1778	-607.53	-47.59	30.11
1080	SLD 7	18	-257	5486	-1643.59	-146.07	-1.15
1080	SLD 8	-23	-283	5524	-1654.3	-147.04	-16.05
1080	SLD 9	-69	292	1413	-498.22	-38.19	-15.8
1080	SLD 10	-110	267	1451	-508.93	-39.16	-30.7
1080	SLD 11	-156	-282	5159	-1544.99	-137.64	-61.96
1080	SLD 12	-197	-308	5197	-1555.7	-138.61	-76.86
1080	SLD 13	-292	69	2332	-746.59	-62.89	-98.79
1080	SLD 14	-355	30	2391	-763.22	-64.4	-121.92
1080	SLD 15	-318	-103	3456	-1060.62	-92.73	-112.63
1080	SLD 16	-381	-143	3515	-1077.25	-94.23	-135.76
1080	SLV 1	482	248	3313	-1051.54	-87.88	172.92
1080	SLV 2	382	186	3406	-1077.76	-90.26	136.46
1080	SLV 3	437	-46	5231	-1587.38	-138.79	149.28
1080	SLV 4	338	-108	5324	-1613.6	-141.17	112.83
1080	SLV 5	199	535	496	-251.27	-13.54	83.38
1080	SLV 6	132	494	559	-268.92	-15.14	58.83
1080	SLV 7	50	-445	6889	-2037.39	-183.24	4.6
1080	SLV 8	-17	-486	6951	-2055.04	-184.84	-19.95
1080	SLV 9	-74	496	-14	-97.48	-0.39	-11.9
1080	SLV 10	-141	455	48	-115.13	-1.99	-36.45
1080	SLV 11	-224	-484	6379	-1883.6	-170.09	-90.68
1080	SLV 12	-291	-525	6441	-1901.25	-171.69	-115.23
1080	SLV 13	-429	117	1613	-538.92	-44.05	-144.68
1080	SLV 14	-529	56	1706	-565.14	-46.43	-181.13
1080	SLV 15	-474	-177	3531	-1074.76	-94.97	-168.31
1080	SLV 16	-574	-238	3624	-1100.98	-97.34	-204.77
1080	SLV FO 1	535	272	3298	-1049.07	-87.41	191.8
1080	SLV FO 2	425	204	3400	-1077.91	-90.03	151.7
1080	SLV FO 3	485	-51	5407	-1638.49	-143.41	165.81
1080	SLV FO 4	376	-119	5510	-1667.33	-146.03	125.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1080	SLV FO 5	223	588	199	-168.77	-5.63	93.31
1080	SLV FO 6	150	542	267	-188.18	-7.39	66.31
1080	SLV FO 7	59	-490	7231	-2133.5	-192.3	6.65
1080	SLV FO 8	-14	-535	7300	-2152.92	-194.06	-20.35
1080	SLV FO 9	-77	545	-362	0.4	8.84	-11.5
1080	SLV FO 10	-151	499	-294	-19.02	7.08	-38.5
1080	SLV FO 11	-241	-533	6670	-1964.34	-177.84	-98.16
1080	SLV FO 12	-315	-578	6739	-1983.75	-179.6	-125.16
1080	SLV FO 13	-468	129	1428	-485.19	-39.2	-157.55
1080	SLV FO 14	-577	61	1530	-514.03	-41.81	-197.65
1080	SLV FO 15	-517	-195	3537	-1074.61	-95.2	-183.55
1080	SLV FO 16	-626	-262	3640	-1103.45	-97.82	-223.65
1080	CRTFP Ux+	0	0	0	0	0	0
1080	CRTFP Ux-	0	0	0	0	0	0
1080	CRTFP Uy+	0	0	0	0	0	0
1080	CRTFP Uy-	0	0	0	0	0	0
1081	SLU 1	-49	5	3591	-1030.97	6.11	-17.04
1081	SLU 2	-47	22	3504	-1008.87	5.94	-16.43
1081	SLU 3	-50	5	3696	-1060.21	6.3	-17.53
1081	SLU 4	-49	15	3644	-1046.95	6.2	-17.16
1081	SLU 5	-48	22	3574	-1028.45	6.07	-16.71
1081	SLU 6	-51	5	3767	-1079.78	6.43	-17.82
1081	SLU 7	-50	15	3715	-1066.52	6.33	-17.45
1081	SLU 8	-50	5	3732	-1070.12	6.37	-17.62
1081	SLU 9	-49	15	3680	-1056.86	6.27	-17.25
1081	SLU 10	-53	23	3960	-1138.58	6.79	-18.53
1081	SLU 11	-56	6	4153	-1189.92	7.15	-19.63
1081	SLU 12	-55	16	4100	-1176.66	7.05	-19.26
1081	SLU 13	-54	23	4031	-1158.16	6.92	-18.82
1081	SLU 14	-57	6	4223	-1209.5	7.28	-19.92
1081	SLU 15	-56	16	4171	-1196.23	7.18	-19.55
1081	SLU 16	-56	6	4189	-1199.84	7.22	-19.72
1081	SLU 17	-55	16	4136	-1186.58	7.12	-19.35
1081	SLU 18	-57	7	4243	-1216.28	7.32	-20.05
1081	SLU 19	-56	16	4191	-1203.01	7.22	-19.68
1081	SLU 20	-58	6	4314	-1235.85	7.45	-20.33
1081	SLU 21	-57	16	4261	-1222.59	7.35	-19.96
1081	SLU 22	-57	5	4214	-1206.1	7.26	-20.02
1081	SLU 23	-55	22	4126	-1184	7.09	-19.4
1081	SLU 24	-59	5	4319	-1235.34	7.45	-20.51
1081	SLU 25	-58	15	4267	-1222.08	7.35	-20.14
1081	SLU 26	-56	22	4197	-1203.58	7.22	-19.69
1081	SLU 27	-59	5	4390	-1254.91	7.58	-20.79
1081	SLU 28	-58	15	4337	-1241.65	7.48	-20.42
1081	SLU 29	-59	5	4355	-1245.26	7.52	-20.59
1081	SLU 30	-58	15	4303	-1231.99	7.42	-20.22
1081	SLU 31	-62	23	4583	-1313.71	7.94	-21.5
1081	SLU 32	-65	6	4775	-1365.05	8.3	-22.61
1081	SLU 33	-64	16	4723	-1351.79	8.2	-22.24
1081	SLU 34	-62	23	4653	-1333.29	8.07	-21.79
1081	SLU 35	-65	6	4846	-1384.63	8.43	-22.9
1081	SLU 36	-64	16	4794	-1371.37	8.33	-22.53
1081	SLU 37	-65	6	4811	-1374.97	8.37	-22.7
1081	SLU 38	-64	16	4759	-1361.71	8.27	-22.33
1081	SLU 39	-66	7	4866	-1391.41	8.47	-23.02
1081	SLU 40	-65	17	4813	-1378.15	8.37	-22.65
1081	SLU 41	-67	7	4936	-1410.98	8.6	-23.31
1081	SLU 42	-66	16	4884	-1397.72	8.5	-22.94
1081	SLU 43	-60	7	4455	-1280.22	7.54	-21.14
1081	SLU 44	-59	24	4368	-1258.12	7.37	-20.52
1081	SLU 45	-62	7	4560	-1309.45	7.74	-21.63
1081	SLU 46	-61	17	4508	-1296.19	7.64	-21.25
1081	SLU 47	-59	23	4438	-1277.69	7.51	-20.81
1081	SLU 48	-63	7	4631	-1329.03	7.87	-21.91
1081	SLU 49	-62	17	4579	-1315.77	7.77	-21.54
1081	SLU 50	-62	7	4596	-1319.37	7.8	-21.71
1081	SLU 51	-61	17	4544	-1306.11	7.7	-21.34
1081	SLU 52	-65	24	4824	-1387.83	8.22	-22.62
1081	SLU 53	-68	8	5017	-1439.17	8.59	-23.73
1081	SLU 54	-67	18	4964	-1425.91	8.49	-23.36
1081	SLU 55	-65	24	4895	-1407.41	8.35	-22.91
1081	SLU 56	-69	7	5087	-1458.74	8.72	-24.02
1081	SLU 57	-68	17	5035	-1445.48	8.62	-23.64
1081	SLU 58	-68	8	5053	-1449.08	8.65	-23.81
1081	SLU 59	-67	17	5000	-1435.82	8.55	-23.44
1081	SLU 60	-69	8	5107	-1465.52	8.76	-24.14
1081	SLU 61	-68	18	5054	-1452.26	8.65	-23.77
1081	SLU 62	-70	8	5178	-1485.1	8.89	-24.43
1081	SLU 63	-69	18	5125	-1471.84	8.79	-24.06
1081	SLU 64	-69	7	5078	-1455.35	8.69	-24.11
1081	SLU 65	-67	24	4990	-1433.25	8.53	-23.49
1081	SLU 66	-70	7	5183	-1484.59	8.89	-24.6
1081	SLU 67	-69	17	5130	-1471.32	8.79	-24.23
1081	SLU 68	-68	23	5061	-1452.82	8.66	-23.78
1081	SLU 69	-71	7	5254	-1504.16	9.02	-24.89
1081	SLU 70	-70	17	5201	-1490.9	8.92	-24.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1081	SLU 71	-71	7	5219	-1494.5	8.96	-24.69
1081	SLU 72	-70	17	5166	-1481.24	8.86	-24.32
1081	SLU 73	-73	24	5447	-1562.96	9.38	-25.6
1081	SLU 74	-76	8	5639	-1614.3	9.74	-26.7
1081	SLU 75	-75	18	5587	-1601.04	9.64	-26.33
1081	SLU 76	-74	24	5517	-1582.54	9.51	-25.88
1081	SLU 77	-77	8	5710	-1633.87	9.87	-26.99
1081	SLU 78	-76	18	5657	-1620.61	9.77	-26.62
1081	SLU 79	-77	8	5675	-1624.22	9.81	-26.79
1081	SLU 80	-76	18	5623	-1610.95	9.71	-26.42
1081	SLU 81	-78	8	5730	-1640.65	9.91	-27.12
1081	SLU 82	-76	18	5677	-1627.39	9.81	-26.74
1081	SLU 83	-78	8	5800	-1660.23	10.04	-27.4
1081	SLU 84	-77	18	5748	-1646.97	9.94	-27.03
1081	SLE RA 1	-51	5	3769	-1081.01	6.43	-17.89
1081	SLE RA 2	-50	16	3711	-1066.27	6.32	-17.48
1081	SLE RA 3	-52	5	3839	-1100.5	6.56	-18.22
1081	SLE RA 4	-51	12	3804	-1091.66	6.5	-17.97
1081	SLE RA 5	-51	16	3758	-1079.33	6.41	-17.67
1081	SLE RA 6	-53	5	3886	-1113.55	6.65	-18.41
1081	SLE RA 7	-52	12	3851	-1104.71	6.58	-18.16
1081	SLE RA 8	-52	5	3863	-1107.11	6.61	-18.28
1081	SLE RA 9	-52	12	3828	-1098.27	6.54	-18.03
1081	SLE RA 10	-54	17	4015	-1152.75	6.89	-18.88
1081	SLE RA 11	-56	6	4143	-1186.97	7.13	-19.62
1081	SLE RA 12	-55	12	4108	-1178.13	7.06	-19.37
1081	SLE RA 13	-55	17	4062	-1165.8	6.98	-19.07
1081	SLE RA 14	-57	6	4191	-1200.03	7.22	-19.81
1081	SLE RA 15	-56	12	4156	-1191.18	7.15	-19.57
1081	SLE RA 16	-56	6	4167	-1193.59	7.18	-19.68
1081	SLE RA 17	-56	12	4132	-1184.75	7.11	-19.43
1081	SLE RA 18	-57	6	4204	-1204.55	7.24	-19.9
1081	SLE RA 19	-56	13	4169	-1195.7	7.18	-19.65
1081	SLE RA 20	-57	6	4251	-1217.6	7.33	-20.09
1081	SLE RA 21	-57	13	4216	-1208.76	7.26	-19.84
1081	SLE FR 1	-51	5	3769	-1081.01	6.43	-17.89
1081	SLE FR 2	-51	8	3757	-1078.06	6.41	-17.81
1081	SLE FR 3	-51	5	3788	-1086.23	6.47	-17.97
1081	SLE FR 4	-53	8	3888	-1115.12	6.65	-18.41
1081	SLE FR 5	-53	6	3918	-1123.29	6.71	-18.57
1081	SLE FR 6	-54	6	3986	-1142.78	6.84	-18.89
1081	SLE QP 1	-51	5	3769	-1081.01	6.43	-17.89
1081	SLE QP 2	-53	6	3899	-1118.07	6.68	-18.49
1081	SLD 1	346	82	3826	-1115.47	7.26	121.18
1081	SLD 2	271	39	3889	-1131.74	7.47	95.04
1081	SLD 3	316	-122	5082	-1434.33	9.64	110.59
1081	SLD 4	241	-165	5145	-1450.59	9.86	84.44
1081	SLD 5	126	344	1963	-630.89	3.2	43.97
1081	SLD 6	78	316	2003	-641.37	3.34	27.14
1081	SLD 7	25	-333	6147	-1693.75	11.15	8.66
1081	SLD 8	-24	-361	6188	-1704.22	11.29	-8.18
1081	SLD 9	-82	372	1611	-531.92	2.07	-28.81
1081	SLD 10	-130	345	1651	-542.39	2.21	-45.65
1081	SLD 11	-183	-305	5796	-1594.77	10.02	-64.12
1081	SLD 12	-232	-333	5836	-1605.25	10.16	-80.96
1081	SLD 13	-347	176	2654	-785.55	3.5	-121.43
1081	SLD 14	-422	133	2717	-801.81	3.71	-147.57
1081	SLD 15	-377	-27	3909	-1104.4	5.88	-132.02
1081	SLD 16	-452	-70	3972	-1120.67	6.1	-158.17
1081	SLV 1	575	139	3693	-1090.5	7.41	201.19
1081	SLV 2	457	71	3792	-1116.14	7.75	159.98
1081	SLV 3	523	-207	5835	-1634.56	11.47	183.12
1081	SLV 4	405	-275	5934	-1660.2	11.81	141.91
1081	SLV 5	236	584	570	-279.85	0.66	82.51
1081	SLV 6	157	538	637	-297.12	0.89	54.76
1081	SLV 7	63	-571	7711	-2093.39	14.22	22.28
1081	SLV 8	-16	-617	7778	-2110.65	14.45	-5.47
1081	SLV 9	-90	628	21	-125.49	-1.1	-31.52
1081	SLV 10	-169	583	88	-142.75	-0.87	-59.26
1081	SLV 11	-262	-527	7162	-1939.03	12.46	-91.75
1081	SLV 12	-342	-573	7229	-1956.29	12.69	-119.5
1081	SLV 13	-511	287	1864	-575.94	1.54	-178.9
1081	SLV 14	-629	219	1963	-601.58	1.88	-220.11
1081	SLV 15	-563	-60	4007	-1120	5.61	-196.97
1081	SLV 16	-681	-128	4106	-1145.64	5.95	-238.18
1081	SLV FO 1	638	153	3672	-1087.74	7.48	223.16
1081	SLV FO 2	508	78	3781	-1115.95	7.85	177.83
1081	SLV FO 3	581	-229	6029	-1686.21	11.95	203.28
1081	SLV FO 4	451	-304	6138	-1714.41	12.33	157.95
1081	SLV FO 5	265	642	237	-196.03	0.06	92.61
1081	SLV FO 6	178	592	310	-215.02	0.31	62.09
1081	SLV FO 7	75	-629	8092	-2190.93	14.98	26.35
1081	SLV FO 8	-12	-679	8165	-2209.91	15.23	-4.16
1081	SLV FO 9	-93	691	-367	-26.23	-1.87	-32.82
1081	SLV FO 10	-181	640	-293	-45.22	-1.62	-63.34
1081	SLV FO 11	-283	-580	7489	-2021.12	13.04	-99.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1081	SLV FO 12	-371	-631	7562	-2040.11	13.29	-129.6
1081	SLV FO 13	-557	315	1661	-521.73	1.03	-194.94
1081	SLV FO 14	-687	240	1770	-549.93	1.4	-240.27
1081	SLV FO 15	-614	-66	4017	-1120.19	5.5	-214.82
1081	SLV FO 16	-744	-141	4126	-1148.4	5.88	-260.15
1081	CRTFP Ux+	0	0	0	0	0	0
1081	CRTFP Ux-	0	0	0	0	0	0
1081	CRTFP Uy+	0	0	0	0	0	0
1081	CRTFP Uy-	0	0	0	0	0	0
1082	SLU 1	-47	6	3395	-892.89	5.25	-16.48
1082	SLU 2	-45	23	3313	-874.25	5.11	-15.88
1082	SLU 3	-49	6	3494	-917.78	5.42	-16.95
1082	SLU 4	-48	16	3444	-906.6	5.33	-16.59
1082	SLU 5	-46	23	3379	-890.91	5.22	-16.16
1082	SLU 6	-49	6	3560	-934.44	5.53	-17.22
1082	SLU 7	-48	16	3511	-923.26	5.45	-16.86
1082	SLU 8	-49	6	3527	-926.21	5.48	-17.03
1082	SLU 9	-48	16	3478	-915.03	5.39	-16.67
1082	SLU 10	-51	24	3742	-984.97	5.84	-17.93
1082	SLU 11	-54	7	3923	-1028.5	6.15	-19
1082	SLU 12	-53	17	3873	-1017.32	6.06	-18.64
1082	SLU 13	-52	24	3808	-1001.63	5.95	-18.21
1082	SLU 14	-55	7	3989	-1045.16	6.26	-19.27
1082	SLU 15	-54	17	3940	-1033.98	6.17	-18.91
1082	SLU 16	-55	7	3957	-1036.93	6.21	-19.08
1082	SLU 17	-54	17	3907	-1025.75	6.12	-18.72
1082	SLU 18	-56	8	4008	-1051.06	6.29	-19.4
1082	SLU 19	-55	18	3958	-1039.87	6.21	-19.05
1082	SLU 20	-56	8	4074	-1067.72	6.4	-19.68
1082	SLU 21	-55	18	4025	-1056.54	6.32	-19.32
1082	SLU 22	-56	7	3980	-1042.3	6.24	-19.37
1082	SLU 23	-54	23	3898	-1023.66	6.1	-18.77
1082	SLU 24	-57	7	4079	-1067.19	6.41	-19.84
1082	SLU 25	-56	17	4030	-1056.01	6.32	-19.48
1082	SLU 26	-55	23	3965	-1040.32	6.21	-19.05
1082	SLU 27	-58	7	4146	-1083.85	6.52	-20.11
1082	SLU 28	-57	16	4096	-1072.67	6.43	-19.75
1082	SLU 29	-57	7	4113	-1075.62	6.46	-19.92
1082	SLU 30	-56	16	4064	-1064.44	6.38	-19.56
1082	SLU 31	-60	24	4327	-1134.38	6.82	-20.82
1082	SLU 32	-63	8	4508	-1177.91	7.13	-21.89
1082	SLU 33	-62	18	4459	-1166.73	7.05	-21.53
1082	SLU 34	-60	24	4394	-1151.04	6.94	-21.1
1082	SLU 35	-64	8	4575	-1194.57	7.25	-22.16
1082	SLU 36	-63	18	4525	-1183.39	7.16	-21.8
1082	SLU 37	-63	8	4542	-1186.34	7.19	-21.97
1082	SLU 38	-62	18	4493	-1175.16	7.11	-21.61
1082	SLU 39	-64	8	4593	-1200.47	7.28	-22.29
1082	SLU 40	-63	18	4544	-1189.28	7.19	-21.94
1082	SLU 41	-65	8	4660	-1217.13	7.39	-22.57
1082	SLU 42	-64	18	4610	-1205.95	7.31	-22.21
1082	SLU 43	-59	8	4212	-1109.53	6.49	-20.43
1082	SLU 44	-57	25	4130	-1090.88	6.35	-19.83
1082	SLU 45	-60	8	4311	-1134.42	6.66	-20.9
1082	SLU 46	-59	18	4262	-1123.24	6.57	-20.54
1082	SLU 47	-58	24	4197	-1107.55	6.46	-20.11
1082	SLU 48	-61	8	4378	-1151.08	6.77	-21.17
1082	SLU 49	-60	18	4328	-1139.9	6.68	-20.82
1082	SLU 50	-60	8	4345	-1142.85	6.71	-20.98
1082	SLU 51	-59	18	4296	-1131.67	6.63	-20.62
1082	SLU 52	-63	26	4559	-1201.6	7.07	-21.88
1082	SLU 53	-66	9	4740	-1245.14	7.38	-22.95
1082	SLU 54	-65	19	4691	-1233.96	7.3	-22.59
1082	SLU 55	-63	25	4626	-1218.27	7.19	-22.16
1082	SLU 56	-67	9	4807	-1261.8	7.5	-23.22
1082	SLU 57	-66	19	4758	-1250.62	7.41	-22.87
1082	SLU 58	-66	9	4774	-1253.57	7.44	-23.03
1082	SLU 59	-65	19	4725	-1242.39	7.36	-22.67
1082	SLU 60	-67	10	4825	-1267.7	7.53	-23.36
1082	SLU 61	-66	20	4776	-1256.51	7.44	-23
1082	SLU 62	-68	10	4892	-1284.36	7.64	-23.63
1082	SLU 63	-67	19	4842	-1273.18	7.56	-23.27
1082	SLU 64	-67	9	4798	-1258.94	7.48	-23.32
1082	SLU 65	-65	25	4716	-1240.3	7.33	-22.72
1082	SLU 66	-68	8	4897	-1283.83	7.64	-23.79
1082	SLU 67	-67	18	4848	-1272.65	7.56	-23.43
1082	SLU 68	-66	25	4782	-1256.96	7.45	-23
1082	SLU 69	-69	8	4963	-1300.49	7.76	-24.06
1082	SLU 70	-68	18	4914	-1289.31	7.67	-23.71
1082	SLU 71	-68	8	4931	-1292.26	7.7	-23.87
1082	SLU 72	-67	18	4881	-1281.08	7.62	-23.51
1082	SLU 73	-71	26	5145	-1351.02	8.06	-24.77
1082	SLU 74	-74	10	5326	-1394.55	8.37	-25.84
1082	SLU 75	-73	19	5277	-1383.37	8.29	-25.48
1082	SLU 76	-72	26	5211	-1367.68	8.17	-25.05
1082	SLU 77	-75	9	5392	-1411.21	8.48	-26.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1082	SLU 78	-74	19	5343	-1400.03	8.4	-25.76
1082	SLU 79	-74	9	5360	-1402.98	8.43	-25.92
1082	SLU 80	-73	19	5310	-1391.8	8.34	-25.56
1082	SLU 81	-75	10	5411	-1417.11	8.52	-26.25
1082	SLU 82	-74	20	5361	-1405.92	8.43	-25.89
1082	SLU 83	-76	10	5477	-1433.77	8.63	-26.52
1082	SLU 84	-75	20	5428	-1422.59	8.54	-26.16
1082	SLE RA 1	-50	6	3562	-935.58	5.53	-17.3
1082	SLE RA 2	-48	17	3507	-923.15	5.44	-16.9
1082	SLE RA 3	-50	6	3628	-952.17	5.65	-17.61
1082	SLE RA 4	-50	13	3595	-944.71	5.59	-17.38
1082	SLE RA 5	-49	17	3551	-934.26	5.51	-17.09
1082	SLE RA 6	-51	6	3672	-963.28	5.72	-17.8
1082	SLE RA 7	-50	13	3639	-955.82	5.66	-17.56
1082	SLE RA 8	-51	6	3650	-957.79	5.68	-17.67
1082	SLE RA 9	-50	13	3618	-950.34	5.63	-17.43
1082	SLE RA 10	-52	18	3793	-996.96	5.92	-18.27
1082	SLE RA 11	-54	7	3914	-1025.99	6.13	-18.98
1082	SLE RA 12	-54	14	3881	-1018.53	6.07	-18.74
1082	SLE RA 13	-53	18	3838	-1008.07	6	-18.46
1082	SLE RA 14	-55	7	3958	-1037.09	6.21	-19.16
1082	SLE RA 15	-54	14	3925	-1029.64	6.15	-18.93
1082	SLE RA 16	-55	7	3936	-1031.61	6.17	-19.03
1082	SLE RA 17	-54	14	3904	-1024.15	6.11	-18.8
1082	SLE RA 18	-55	8	3971	-1041.02	6.23	-19.25
1082	SLE RA 19	-54	14	3938	-1033.57	6.17	-19.02
1082	SLE RA 20	-56	7	4015	-1052.13	6.3	-19.44
1082	SLE RA 21	-55	14	3982	-1044.68	6.25	-19.2
1082	SLE FR 1	-50	6	3562	-935.58	5.53	-17.3
1082	SLE FR 2	-49	9	3551	-933.09	5.51	-17.22
1082	SLE FR 3	-50	6	3580	-940.02	5.56	-17.37
1082	SLE FR 4	-51	9	3674	-964.72	5.72	-17.81
1082	SLE FR 5	-51	7	3702	-971.65	5.77	-17.96
1082	SLE FR 6	-52	7	3766	-988.3	5.88	-18.28
1082	SLE QP 1	-50	6	3562	-935.58	5.53	-17.3
1082	SLE QP 2	-51	7	3684	-967.21	5.74	-17.89
1082	SLD 1	349	84	3591	-961.65	6.36	122.17
1082	SLD 2	274	44	3647	-974.58	6.56	96.02
1082	SLD 3	319	-118	4770	-1230.89	8.38	111.87
1082	SLD 4	244	-158	4826	-1243.82	8.58	85.72
1082	SLD 5	126	343	1858	-554.96	2.82	44.25
1082	SLD 6	78	317	1894	-563.29	2.95	27.41
1082	SLD 7	28	-330	5789	-1452.44	9.57	9.92
1082	SLD 8	-20	-356	5825	-1460.77	9.7	-6.92
1082	SLD 9	-82	369	1544	-473.65	1.78	-28.85
1082	SLD 10	-131	343	1580	-481.98	1.91	-45.69
1082	SLD 11	-181	-303	5475	-1371.13	8.53	-63.18
1082	SLD 12	-229	-329	5511	-1379.46	8.66	-80.02
1082	SLD 13	-347	172	2543	-690.6	2.9	-121.5
1082	SLD 14	-422	132	2599	-703.53	3.1	-147.64
1082	SLD 15	-377	-30	3722	-959.84	4.93	-131.8
1082	SLD 16	-451	-70	3778	-972.77	5.12	-157.94
1082	SLV 1	578	141	3452	-938.69	6.56	202.37
1082	SLV 2	460	78	3540	-959.08	6.87	161.16
1082	SLV 3	528	-203	5464	-1398.09	10.01	184.8
1082	SLV 4	410	-266	5552	-1418.47	10.32	143.59
1082	SLV 5	236	581	546	-258.1	0.69	82.52
1082	SLV 6	156	539	605	-271.83	0.9	54.78
1082	SLV 7	68	-566	7254	-1789.42	12.2	23.97
1082	SLV 8	-11	-609	7313	-1803.14	12.41	-3.78
1082	SLV 9	-91	622	56	-131.28	-0.93	-32
1082	SLV 10	-171	580	115	-145	-0.72	-59.74
1082	SLV 11	-259	-525	6763	-1662.59	10.59	-90.55
1082	SLV 12	-339	-567	6823	-1676.32	10.79	-118.3
1082	SLV 13	-512	279	1817	-515.95	1.16	-179.36
1082	SLV 14	-630	216	1905	-536.33	1.47	-220.58
1082	SLV 15	-563	-65	3829	-975.34	4.62	-196.93
1082	SLV 16	-681	-128	3917	-995.73	4.93	-238.14
1082	SLV FO 1	641	155	3428	-935.84	6.64	224.39
1082	SLV FO 2	511	86	3525	-958.26	6.98	179.06
1082	SLV FO 3	586	-224	5642	-1441.18	10.44	205.07
1082	SLV FO 4	456	-293	5739	-1463.6	10.78	159.74
1082	SLV FO 5	265	638	232	-187.19	0.18	92.56
1082	SLV FO 6	177	592	298	-202.29	0.41	62.04
1082	SLV FO 7	80	-624	7611	-1871.64	12.85	28.16
1082	SLV FO 8	-7	-670	7676	-1886.73	13.08	-2.36
1082	SLV FO 9	-95	684	-307	-47.69	-1.6	-33.41
1082	SLV FO 10	-183	637	-242	-62.78	-1.37	-63.93
1082	SLV FO 11	-280	-578	7071	-1732.13	11.07	-97.82
1082	SLV FO 12	-367	-625	7136	-1747.23	11.3	-128.34
1082	SLV FO 13	-558	307	1630	-470.82	0.71	-195.51
1082	SLV FO 14	-688	237	1727	-493.25	1.05	-240.85
1082	SLV FO 15	-614	-72	3844	-976.16	4.5	-214.83
1082	SLV FO 16	-744	-141	3941	-998.58	4.84	-260.17
1082	CRTFP Ux+	0	0	0	0	0	0
1082	CRTFP Ux-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1082	CRTFP Uy+	0	0	0	0	0	0
1082	CRTFP Uy-	0	0	0	0	0	0
1083	SLU 1	-46	8	3233	-782.83	4.1	-15.91
1083	SLU 2	-44	25	3155	-766.88	3.99	-15.34
1083	SLU 3	-47	8	3327	-804.27	4.23	-16.36
1083	SLU 4	-46	18	3280	-794.7	4.17	-16.02
1083	SLU 5	-45	25	3218	-781.23	4.08	-15.6
1083	SLU 6	-48	8	3390	-818.62	4.32	-16.62
1083	SLU 7	-47	18	3343	-809.05	4.25	-16.28
1083	SLU 8	-47	8	3359	-811.52	4.28	-16.43
1083	SLU 9	-46	18	3312	-801.95	4.21	-16.09
1083	SLU 10	-50	26	3562	-862.5	4.56	-17.33
1083	SLU 11	-53	10	3734	-899.89	4.8	-18.35
1083	SLU 12	-52	20	3687	-890.32	4.73	-18.01
1083	SLU 13	-51	26	3625	-876.84	4.64	-17.59
1083	SLU 14	-53	10	3797	-914.24	4.89	-18.61
1083	SLU 15	-52	20	3750	-904.67	4.82	-18.27
1083	SLU 16	-53	10	3766	-907.14	4.84	-18.43
1083	SLU 17	-52	19	3719	-897.57	4.78	-18.08
1083	SLU 18	-54	10	3814	-919.42	4.91	-18.76
1083	SLU 19	-53	20	3767	-909.85	4.84	-18.41
1083	SLU 20	-55	10	3877	-933.77	5	-19.02
1083	SLU 21	-54	20	3830	-924.2	4.93	-18.68
1083	SLU 22	-54	10	3788	-911.82	4.87	-18.71
1083	SLU 23	-52	26	3711	-895.87	4.76	-18.14
1083	SLU 24	-55	9	3882	-933.26	5	-19.16
1083	SLU 25	-54	19	3836	-923.7	4.93	-18.82
1083	SLU 26	-53	26	3774	-910.22	4.85	-18.4
1083	SLU 27	-56	9	3945	-947.61	5.09	-19.42
1083	SLU 28	-55	19	3899	-938.04	5.02	-19.08
1083	SLU 29	-55	9	3914	-940.51	5.04	-19.23
1083	SLU 30	-54	19	3868	-930.95	4.98	-18.89
1083	SLU 31	-58	27	4117	-991.49	5.32	-20.13
1083	SLU 32	-61	11	4289	-1028.88	5.56	-21.15
1083	SLU 33	-60	21	4242	-1019.31	5.5	-20.81
1083	SLU 34	-59	27	4180	-1005.84	5.41	-20.4
1083	SLU 35	-61	11	4352	-1043.23	5.65	-21.42
1083	SLU 36	-61	21	4305	-1033.66	5.59	-21.08
1083	SLU 37	-61	11	4321	-1036.13	5.61	-21.23
1083	SLU 38	-60	21	4274	-1026.56	5.54	-20.89
1083	SLU 39	-62	12	4369	-1048.42	5.67	-21.56
1083	SLU 40	-61	21	4323	-1038.85	5.61	-21.22
1083	SLU 41	-63	11	4432	-1062.76	5.76	-21.82
1083	SLU 42	-62	21	4386	-1053.19	5.7	-21.48
1083	SLU 43	-57	11	4013	-973.45	5.07	-19.72
1083	SLU 44	-55	27	3935	-957.5	4.96	-19.15
1083	SLU 45	-58	11	4106	-994.9	5.2	-20.17
1083	SLU 46	-57	20	4060	-985.33	5.13	-19.83
1083	SLU 47	-56	27	3998	-971.85	5.05	-19.41
1083	SLU 48	-59	10	4169	-1009.24	5.29	-20.43
1083	SLU 49	-58	20	4123	-999.67	5.22	-20.09
1083	SLU 50	-58	10	4138	-1002.15	5.25	-20.24
1083	SLU 51	-57	20	4092	-992.58	5.18	-19.9
1083	SLU 52	-61	28	4342	-1053.12	5.52	-21.14
1083	SLU 53	-64	12	4513	-1090.51	5.76	-22.16
1083	SLU 54	-63	22	4467	-1080.94	5.7	-21.82
1083	SLU 55	-61	28	4405	-1067.47	5.61	-21.4
1083	SLU 56	-64	12	4576	-1104.86	5.85	-22.43
1083	SLU 57	-63	22	4529	-1095.29	5.79	-22.08
1083	SLU 58	-64	12	4545	-1097.76	5.81	-22.24
1083	SLU 59	-63	22	4499	-1088.19	5.74	-21.89
1083	SLU 60	-65	13	4594	-1110.05	5.88	-22.57
1083	SLU 61	-64	22	4547	-1100.48	5.81	-22.22
1083	SLU 62	-66	13	4656	-1124.39	5.96	-22.83
1083	SLU 63	-65	22	4610	-1114.82	5.9	-22.49
1083	SLU 64	-65	12	4568	-1102.44	5.83	-22.52
1083	SLU 65	-63	28	4490	-1086.5	5.72	-21.95
1083	SLU 66	-66	12	4662	-1123.89	5.97	-22.97
1083	SLU 67	-65	21	4615	-1114.32	5.9	-22.63
1083	SLU 68	-64	28	4553	-1100.84	5.81	-22.21
1083	SLU 69	-67	11	4725	-1138.23	6.05	-23.23
1083	SLU 70	-66	21	4678	-1128.67	5.99	-22.89
1083	SLU 71	-66	11	4694	-1131.14	6.01	-23.04
1083	SLU 72	-65	21	4647	-1121.57	5.95	-22.7
1083	SLU 73	-69	30	4897	-1182.11	6.29	-23.94
1083	SLU 74	-72	13	5068	-1219.5	6.53	-24.97
1083	SLU 75	-71	23	5022	-1209.93	6.47	-24.62
1083	SLU 76	-69	29	4960	-1196.46	6.38	-24.21
1083	SLU 77	-72	13	5131	-1233.85	6.62	-25.23
1083	SLU 78	-71	23	5085	-1224.28	6.55	-24.89
1083	SLU 79	-72	13	5100	-1226.75	6.58	-25.04
1083	SLU 80	-71	23	5054	-1217.18	6.51	-24.7
1083	SLU 81	-73	14	5149	-1239.04	6.64	-25.37
1083	SLU 82	-72	24	5102	-1229.47	6.58	-25.03
1083	SLU 83	-74	14	5212	-1253.39	6.73	-25.63
1083	SLU 84	-73	23	5165	-1243.82	6.66	-25.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1083	SLE RA 1	-48	9	3392	-819.68	4.32	-16.71
1083	SLE RA 2	-47	20	3340	-809.05	4.25	-16.33
1083	SLE RA 3	-49	9	3454	-833.98	4.41	-17.01
1083	SLE RA 4	-48	15	3423	-827.6	4.36	-16.78
1083	SLE RA 5	-47	20	3382	-818.62	4.31	-16.5
1083	SLE RA 6	-49	9	3496	-843.54	4.47	-17.18
1083	SLE RA 7	-49	15	3465	-837.16	4.42	-16.95
1083	SLE RA 8	-49	9	3476	-838.81	4.44	-17.06
1083	SLE RA 9	-48	15	3445	-832.43	4.39	-16.83
1083	SLE RA 10	-51	21	3611	-872.8	4.62	-17.66
1083	SLE RA 11	-53	10	3725	-897.72	4.78	-18.34
1083	SLE RA 12	-52	16	3694	-891.34	4.74	-18.11
1083	SLE RA 13	-51	21	3653	-882.36	4.68	-17.83
1083	SLE RA 14	-53	10	3767	-907.29	4.84	-18.51
1083	SLE RA 15	-52	16	3736	-900.91	4.8	-18.28
1083	SLE RA 16	-53	10	3747	-902.56	4.81	-18.39
1083	SLE RA 17	-52	16	3716	-896.18	4.77	-18.16
1083	SLE RA 18	-53	10	3779	-910.75	4.86	-18.61
1083	SLE RA 19	-53	17	3748	-904.37	4.81	-18.38
1083	SLE RA 20	-54	10	3821	-920.31	4.92	-18.78
1083	SLE RA 21	-53	17	3790	-913.93	4.87	-18.55
1083	SLE FR 1	-48	9	3392	-819.68	4.32	-16.71
1083	SLE FR 2	-48	11	3381	-817.56	4.3	-16.63
1083	SLE FR 3	-48	9	3408	-823.51	4.34	-16.78
1083	SLE FR 4	-49	11	3497	-844.88	4.47	-17.2
1083	SLE FR 5	-50	9	3525	-850.83	4.5	-17.35
1083	SLE FR 6	-51	9	3585	-865.22	4.59	-17.66
1083	SLE QP 1	-48	9	3392	-819.68	4.32	-16.71
1083	SLE QP 2	-50	9	3508	-847	4.48	-17.28
1083	SLD 1	351	169	3392	-836.96	5.14	123.09
1083	SLD 2	276	132	3442	-847.13	5.31	96.95
1083	SLD 3	323	-32	4509	-1067.46	6.72	113.1
1083	SLD 4	248	-69	4559	-1077.63	6.89	86.95
1083	SLD 5	127	368	1770	-492.66	2.26	44.49
1083	SLD 6	79	344	1802	-499.21	2.37	27.65
1083	SLD 7	32	-301	5494	-1260.97	7.51	11.17
1083	SLD 8	-17	-325	5526	-1267.52	7.62	-5.66
1083	SLD 9	-83	344	1490	-426.49	1.34	-28.89
1083	SLD 10	-131	320	1522	-433.04	1.45	-45.73
1083	SLD 11	-178	-326	5213	-1194.8	6.59	-62.21
1083	SLD 12	-226	-350	5245	-1201.35	6.7	-79.04
1083	SLD 13	-347	88	2457	-616.38	2.07	-121.51
1083	SLD 14	-422	50	2506	-626.55	2.25	-147.65
1083	SLD 15	-376	-113	3574	-846.87	3.65	-131.5
1083	SLD 16	-451	-150	3623	-857.04	3.82	-157.64
1083	SLV 1	581	273	3245	-814.38	5.4	203.44
1083	SLV 2	463	215	3323	-830.41	5.67	162.23
1083	SLV 3	532	-69	5152	-1207.64	8.08	186.4
1083	SLV 4	414	-128	5230	-1223.67	8.35	145.19
1083	SLV 5	236	619	523	-237.78	0.63	82.48
1083	SLV 6	156	579	576	-248.57	0.81	54.73
1083	SLV 7	73	-523	6878	-1548.65	9.58	25.67
1083	SLV 8	-6	-562	6930	-1559.44	9.77	-2.07
1083	SLV 9	-93	581	86	-134.56	-0.81	-32.48
1083	SLV 10	-172	541	138	-145.35	-0.62	-60.22
1083	SLV 11	-255	-561	6440	-1445.44	8.15	-89.29
1083	SLV 12	-335	-600	6492	-1456.23	8.33	-117.03
1083	SLV 13	-513	146	1786	-470.34	0.61	-179.74
1083	SLV 14	-631	88	1864	-486.37	0.88	-220.95
1083	SLV 15	-562	-196	3692	-863.6	3.3	-196.78
1083	SLV 16	-680	-255	3770	-879.63	3.57	-237.99
1083	SLV FO 1	644	300	3219	-811.11	5.49	225.51
1083	SLV FO 2	514	235	3305	-828.75	5.79	180.18
1083	SLV FO 3	590	-77	5316	-1243.7	8.44	206.76
1083	SLV FO 4	460	-142	5402	-1261.34	8.74	161.44
1083	SLV FO 5	264	680	225	-176.85	0.25	92.45
1083	SLV FO 6	177	636	283	-188.72	0.45	61.94
1083	SLV FO 7	85	-576	7215	-1618.82	10.09	29.96
1083	SLV FO 8	-2	-620	7272	-1630.69	10.3	-0.55
1083	SLV FO 9	-97	638	-257	-63.32	-1.33	-34
1083	SLV FO 10	-184	595	-199	-75.19	-1.13	-64.51
1083	SLV FO 11	-276	-618	6733	-1505.28	8.52	-96.49
1083	SLV FO 12	-363	-661	6791	-1517.15	8.72	-127
1083	SLV FO 13	-560	160	1614	-432.67	0.22	-195.99
1083	SLV FO 14	-690	96	1700	-450.3	0.52	-241.32
1083	SLV FO 15	-613	-217	3711	-865.26	3.18	-214.74
1083	SLV FO 16	-743	-281	3796	-882.89	3.48	-260.06
1083	CRTFP Ux+	0	0	0	0	0	0
1083	CRTFP Ux-	0	0	0	0	0	0
1083	CRTFP Uy+	0	0	0	0	0	0
1083	CRTFP Uy-	0	0	0	0	0	0
1084	SLU 1	-44	11	3114	-705.14	2.81	-15.33
1084	SLU 2	-43	28	3039	-691.05	2.73	-14.78
1084	SLU 3	-45	11	3204	-724.15	2.9	-15.76
1084	SLU 4	-44	21	3159	-715.69	2.86	-15.43
1084	SLU 5	-43	28	3100	-703.76	2.8	-15.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1084	SLU 6	-46	11	3264	-736.86	2.96	-16.01
1084	SLU 7	-45	21	3220	-728.4	2.92	-15.68
1084	SLU 8	-45	11	3235	-730.56	2.93	-15.82
1084	SLU 9	-45	21	3190	-722.11	2.89	-15.5
1084	SLU 10	-48	30	3430	-776.04	3.12	-16.72
1084	SLU 11	-51	13	3594	-809.14	3.28	-17.7
1084	SLU 12	-50	23	3550	-800.68	3.24	-17.37
1084	SLU 13	-49	29	3490	-788.75	3.18	-16.97
1084	SLU 14	-52	13	3655	-821.85	3.35	-17.94
1084	SLU 15	-51	23	3610	-813.39	3.3	-17.62
1084	SLU 16	-51	13	3625	-815.55	3.32	-17.76
1084	SLU 17	-50	23	3580	-807.1	3.27	-17.44
1084	SLU 18	-52	14	3671	-826.56	3.36	-18.09
1084	SLU 19	-51	24	3627	-818.1	3.31	-17.77
1084	SLU 20	-53	14	3732	-839.27	3.42	-18.34
1084	SLU 21	-52	24	3687	-830.81	3.37	-18.02
1084	SLU 22	-52	13	3647	-819.79	3.33	-18.04
1084	SLU 23	-50	29	3572	-805.7	3.25	-17.49
1084	SLU 24	-53	13	3737	-838.8	3.42	-18.47
1084	SLU 25	-52	23	3692	-830.34	3.38	-18.14
1084	SLU 26	-51	29	3633	-818.41	3.32	-17.74
1084	SLU 27	-54	13	3797	-851.51	3.48	-18.72
1084	SLU 28	-53	23	3753	-843.05	3.44	-18.39
1084	SLU 29	-53	13	3768	-845.21	3.45	-18.54
1084	SLU 30	-52	23	3723	-836.76	3.41	-18.21
1084	SLU 31	-56	31	3963	-890.69	3.64	-19.43
1084	SLU 32	-59	15	4127	-923.79	3.8	-20.41
1084	SLU 33	-58	25	4083	-915.33	3.76	-20.08
1084	SLU 34	-57	31	4023	-903.4	3.7	-19.68
1084	SLU 35	-59	15	4188	-936.5	3.86	-20.66
1084	SLU 36	-58	25	4143	-928.04	3.82	-20.33
1084	SLU 37	-59	15	4158	-930.2	3.84	-20.47
1084	SLU 38	-58	25	4113	-921.75	3.79	-20.15
1084	SLU 39	-60	16	4205	-941.21	3.88	-20.81
1084	SLU 40	-59	25	4160	-932.75	3.83	-20.48
1084	SLU 41	-61	15	4265	-953.92	3.94	-21.05
1084	SLU 42	-60	25	4220	-945.46	3.89	-20.73
1084	SLU 43	-55	14	3865	-877.38	3.48	-18.99
1084	SLU 44	-53	31	3791	-863.29	3.4	-18.45
1084	SLU 45	-56	14	3955	-896.39	3.57	-19.43
1084	SLU 46	-55	24	3911	-887.93	3.52	-19.1
1084	SLU 47	-54	31	3851	-876	3.46	-18.7
1084	SLU 48	-57	14	4016	-909.1	3.63	-19.68
1084	SLU 49	-56	24	3971	-900.64	3.58	-19.35
1084	SLU 50	-56	14	3986	-902.8	3.6	-19.49
1084	SLU 51	-55	24	3941	-894.34	3.55	-19.17
1084	SLU 52	-59	32	4181	-948.28	3.78	-20.39
1084	SLU 53	-61	16	4346	-981.38	3.95	-21.36
1084	SLU 54	-60	26	4301	-972.92	3.9	-21.04
1084	SLU 55	-59	32	4241	-960.99	3.84	-20.64
1084	SLU 56	-62	16	4406	-994.09	4.01	-21.61
1084	SLU 57	-61	26	4361	-985.63	3.96	-21.29
1084	SLU 58	-62	16	4376	-987.79	3.98	-21.43
1084	SLU 59	-61	26	4332	-979.33	3.94	-21.1
1084	SLU 60	-63	17	4423	-998.79	4.02	-21.76
1084	SLU 61	-62	27	4378	-990.34	3.98	-21.44
1084	SLU 62	-63	17	4483	-1011.5	4.08	-22.01
1084	SLU 63	-62	26	4438	-1003.05	4.04	-21.68
1084	SLU 64	-62	16	4398	-992.03	3.99	-21.71
1084	SLU 65	-61	32	4324	-977.94	3.92	-21.16
1084	SLU 66	-64	16	4488	-1011.04	4.09	-22.14
1084	SLU 67	-63	26	4444	-1002.58	4.04	-21.81
1084	SLU 68	-62	32	4384	-990.65	3.98	-21.41
1084	SLU 69	-64	16	4549	-1023.75	4.15	-22.39
1084	SLU 70	-63	26	4504	-1015.29	4.1	-22.06
1084	SLU 71	-64	16	4519	-1017.45	4.12	-22.2
1084	SLU 72	-63	26	4474	-1008.99	4.07	-21.88
1084	SLU 73	-66	34	4714	-1062.93	4.3	-23.1
1084	SLU 74	-69	18	4879	-1096.03	4.47	-24.08
1084	SLU 75	-68	27	4834	-1087.57	4.42	-23.75
1084	SLU 76	-67	34	4774	-1075.64	4.36	-23.35
1084	SLU 77	-70	18	4939	-1108.74	4.53	-24.32
1084	SLU 78	-69	27	4894	-1100.28	4.48	-24
1084	SLU 79	-69	17	4909	-1102.44	4.5	-24.14
1084	SLU 80	-68	27	4865	-1093.98	4.46	-23.82
1084	SLU 81	-70	18	4956	-1113.44	4.54	-24.47
1084	SLU 82	-69	28	4911	-1104.99	4.5	-24.15
1084	SLU 83	-71	18	5016	-1126.15	4.6	-24.72
1084	SLU 84	-70	28	4972	-1117.7	4.56	-24.4
1084	SLE RA 1	-46	12	3266	-737.9	2.96	-16.1
1084	SLE RA 2	-45	23	3216	-728.51	2.91	-15.74
1084	SLE RA 3	-47	12	3326	-750.57	3.02	-16.39
1084	SLE RA 4	-46	18	3296	-744.94	2.99	-16.17
1084	SLE RA 5	-46	23	3257	-736.98	2.95	-15.9
1084	SLE RA 6	-48	12	3366	-759.05	3.06	-16.56
1084	SLE RA 7	-47	18	3337	-753.41	3.03	-16.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1084	SLE RA 8	-47	12	3347	-754.85	3.04	-16.43
1084	SLE RA 9	-47	18	3317	-749.21	3.01	-16.22
1084	SLE RA 10	-49	24	3477	-785.17	3.16	-17.03
1084	SLE RA 11	-51	13	3586	-807.23	3.27	-17.68
1084	SLE RA 12	-50	20	3557	-801.6	3.24	-17.46
1084	SLE RA 13	-49	24	3517	-793.64	3.2	-17.2
1084	SLE RA 14	-51	13	3627	-815.71	3.32	-17.85
1084	SLE RA 15	-51	20	3597	-810.07	3.29	-17.63
1084	SLE RA 16	-51	13	3607	-811.51	3.3	-17.72
1084	SLE RA 17	-50	19	3577	-805.87	3.27	-17.51
1084	SLE RA 18	-52	14	3638	-818.84	3.32	-17.95
1084	SLE RA 19	-51	20	3608	-813.21	3.29	-17.73
1084	SLE RA 20	-52	13	3678	-827.32	3.36	-18.11
1084	SLE RA 21	-51	20	3648	-821.68	3.33	-17.89
1084	SLE FR 1	-46	12	3266	-737.9	2.96	-16.1
1084	SLE FR 2	-46	14	3256	-736.02	2.95	-16.03
1084	SLE FR 3	-46	12	3282	-741.29	2.98	-16.17
1084	SLE FR 4	-48	15	3368	-760.31	3.06	-16.58
1084	SLE FR 5	-48	12	3394	-765.57	3.08	-16.72
1084	SLE FR 6	-49	13	3452	-778.37	3.14	-17.02
1084	SLE QP 1	-46	12	3266	-737.9	2.96	-16.1
1084	SLE QP 2	-48	12	3378	-762.18	3.07	-16.65
1084	SLD 1	354	167	3239	-745.98	3.78	123.94
1084	SLD 2	279	132	3283	-754.03	3.92	97.82
1084	SLD 3	326	-34	4310	-949.63	4.86	114.27
1084	SLD 4	251	-68	4354	-957.68	5.01	88.14
1084	SLD 5	127	369	1704	-447.06	1.61	44.69
1084	SLD 6	79	347	1732	-452.25	1.7	27.86
1084	SLD 7	35	-300	5274	-1125.91	5.23	12.45
1084	SLD 8	-13	-322	5303	-1131.09	5.32	-4.38
1084	SLD 9	-83	347	1452	-393.28	0.82	-28.93
1084	SLD 10	-131	325	1481	-398.46	0.91	-45.76
1084	SLD 11	-175	-322	5023	-1072.12	4.43	-61.17
1084	SLD 12	-223	-344	5052	-1077.3	4.53	-78
1084	SLD 13	-347	93	2401	-566.69	1.13	-121.45
1084	SLD 14	-422	59	2445	-574.74	1.28	-147.58
1084	SLD 15	-375	-108	3473	-770.34	2.21	-131.12
1084	SLD 16	-449	-142	3516	-778.39	2.36	-157.25
1084	SLV 1	583	269	3082	-721.94	4.09	204.4
1084	SLV 2	465	214	3151	-734.62	4.32	163.21
1084	SLV 3	536	-74	4910	-1069.4	5.94	187.91
1084	SLV 4	418	-128	4979	-1082.09	6.17	146.72
1084	SLV 5	235	619	504	-220.76	0.52	82.35
1084	SLV 6	155	582	550	-229.3	0.68	54.63
1084	SLV 7	78	-523	6597	-1378.96	6.69	27.39
1084	SLV 8	-1	-559	6644	-1387.51	6.85	-0.34
1084	SLV 9	-94	584	112	-136.86	-0.71	-32.97
1084	SLV 10	-174	547	158	-145.41	-0.56	-60.7
1084	SLV 11	-251	-557	6205	-1295.07	5.46	-87.94
1084	SLV 12	-331	-594	6252	-1303.61	5.61	-115.66
1084	SLV 13	-514	153	1776	-442.28	-0.04	-180.03
1084	SLV 14	-632	99	1845	-454.97	0.19	-221.22
1084	SLV 15	-561	-189	3604	-789.74	1.81	-196.52
1084	SLV 16	-679	-244	3673	-802.43	2.05	-237.7
1084	SLV FO 1	647	294	3053	-717.91	4.19	226.5
1084	SLV FO 2	517	234	3129	-731.87	4.45	181.2
1084	SLV FO 3	595	-82	5063	-1100.12	6.23	208.36
1084	SLV FO 4	465	-142	5140	-1114.08	6.48	163.06
1084	SLV FO 5	263	679	216	-166.62	0.27	92.26
1084	SLV FO 6	176	639	267	-176.01	0.44	61.76
1084	SLV FO 7	91	-576	6919	-1440.64	7.06	31.8
1084	SLV FO 8	3	-616	6970	-1450.04	7.23	1.3
1084	SLV FO 9	-99	641	-215	-74.33	-1.09	-34.61
1084	SLV FO 10	-186	601	-164	-83.73	-0.92	-65.11
1084	SLV FO 11	-272	-614	6488	-1348.36	5.69	-95.06
1084	SLV FO 12	-359	-655	6539	-1357.75	5.87	-125.56
1084	SLV FO 13	-561	167	1616	-410.29	-0.35	-196.37
1084	SLV FO 14	-691	107	1692	-424.25	-0.09	-241.67
1084	SLV FO 15	-613	-210	3627	-792.5	1.69	-214.51
1084	SLV FO 16	-742	-269	3703	-806.46	1.94	-259.81
1084	CRTFP Ux+	0	0	0	0	0	0
1084	CRTFP Ux-	0	0	0	0	0	0
1084	CRTFP Uy+	0	0	0	0	0	0
1084	CRTFP Uy-	0	0	0	0	0	0
1085	SLU 1	-42	15	3040	-661.07	1.5	-14.73
1085	SLU 2	-41	31	2967	-647.99	1.46	-14.22
1085	SLU 3	-44	15	3127	-678.69	1.55	-15.14
1085	SLU 4	-43	25	3084	-670.84	1.53	-14.83
1085	SLU 5	-42	31	3026	-659.76	1.5	-14.45
1085	SLU 6	-44	15	3186	-690.46	1.59	-15.38
1085	SLU 7	-43	25	3142	-682.61	1.56	-15.07
1085	SLU 8	-44	15	3157	-684.62	1.57	-15.2
1085	SLU 9	-43	25	3114	-676.77	1.55	-14.89
1085	SLU 10	-46	33	3347	-727	1.66	-16.09
1085	SLU 11	-49	17	3508	-757.7	1.75	-17.02
1085	SLU 12	-48	27	3464	-749.85	1.73	-16.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1085	SLU 13	-47	33	3406	-738.77	1.7	-16.33
1085	SLU 14	-50	17	3566	-769.47	1.79	-17.26
1085	SLU 15	-49	27	3523	-761.62	1.76	-16.95
1085	SLU 16	-49	17	3537	-763.63	1.77	-17.08
1085	SLU 17	-48	27	3494	-755.78	1.75	-16.77
1085	SLU 18	-50	18	3583	-773.95	1.79	-17.41
1085	SLU 19	-49	28	3539	-766.1	1.76	-17.1
1085	SLU 20	-51	18	3642	-785.72	1.82	-17.65
1085	SLU 21	-50	28	3598	-777.87	1.8	-17.34
1085	SLU 22	-50	17	3559	-767.68	1.78	-17.35
1085	SLU 23	-48	34	3487	-754.59	1.73	-16.83
1085	SLU 24	-51	17	3647	-785.29	1.83	-17.76
1085	SLU 25	-50	27	3603	-777.44	1.8	-17.45
1085	SLU 26	-49	34	3545	-766.36	1.77	-17.07
1085	SLU 27	-52	17	3705	-797.06	1.86	-18
1085	SLU 28	-51	27	3662	-789.21	1.83	-17.69
1085	SLU 29	-51	17	3677	-791.22	1.84	-17.82
1085	SLU 30	-50	27	3633	-783.37	1.82	-17.51
1085	SLU 31	-54	36	3867	-833.6	1.93	-18.71
1085	SLU 32	-56	19	4027	-864.3	2.02	-19.64
1085	SLU 33	-56	29	3984	-856.45	2	-19.33
1085	SLU 34	-55	36	3926	-845.37	1.97	-18.94
1085	SLU 35	-57	19	4086	-876.07	2.06	-19.87
1085	SLU 36	-56	29	4042	-868.22	2.03	-19.56
1085	SLU 37	-57	19	4057	-870.23	2.04	-19.7
1085	SLU 38	-56	29	4013	-862.38	2.02	-19.39
1085	SLU 39	-58	20	4102	-880.55	2.06	-20.03
1085	SLU 40	-57	30	4059	-872.7	2.03	-19.72
1085	SLU 41	-58	20	4161	-892.32	2.09	-20.26
1085	SLU 42	-57	30	4118	-884.47	2.07	-19.96
1085	SLU 43	-53	18	3773	-822.85	1.86	-18.25
1085	SLU 44	-51	35	3701	-809.76	1.82	-17.74
1085	SLU 45	-54	18	3861	-840.46	1.91	-18.67
1085	SLU 46	-53	28	3817	-832.61	1.89	-18.36
1085	SLU 47	-52	35	3760	-821.53	1.86	-17.97
1085	SLU 48	-54	18	3920	-852.23	1.95	-18.9
1085	SLU 49	-54	28	3876	-844.38	1.92	-18.59
1085	SLU 50	-54	18	3891	-846.39	1.93	-18.72
1085	SLU 51	-53	28	3847	-838.54	1.91	-18.41
1085	SLU 52	-56	37	4081	-888.77	2.02	-19.61
1085	SLU 53	-59	21	4241	-919.47	2.11	-20.54
1085	SLU 54	-58	30	4198	-911.62	2.09	-20.23
1085	SLU 55	-57	37	4140	-900.55	2.06	-19.85
1085	SLU 56	-60	21	4300	-931.25	2.15	-20.78
1085	SLU 57	-59	30	4257	-923.39	2.12	-20.47
1085	SLU 58	-59	20	4271	-925.4	2.13	-20.6
1085	SLU 59	-58	30	4228	-917.55	2.11	-20.29
1085	SLU 60	-60	21	4317	-935.72	2.15	-20.93
1085	SLU 61	-59	31	4273	-927.87	2.12	-20.63
1085	SLU 62	-61	21	4375	-947.49	2.18	-21.17
1085	SLU 63	-60	31	4332	-939.64	2.16	-20.86
1085	SLU 64	-60	21	4293	-929.45	2.13	-20.87
1085	SLU 65	-59	37	4220	-916.36	2.09	-20.36
1085	SLU 66	-61	21	4380	-947.06	2.18	-21.28
1085	SLU 67	-60	31	4337	-939.21	2.16	-20.97
1085	SLU 68	-59	37	4279	-928.14	2.13	-20.59
1085	SLU 69	-62	21	4439	-958.84	2.22	-21.52
1085	SLU 70	-61	31	4396	-950.98	2.19	-21.21
1085	SLU 71	-61	21	4410	-952.99	2.2	-21.34
1085	SLU 72	-61	31	4367	-945.14	2.18	-21.03
1085	SLU 73	-64	39	4601	-995.38	2.29	-22.23
1085	SLU 74	-67	23	4761	-1026.07	2.38	-23.16
1085	SLU 75	-66	33	4717	-1018.22	2.36	-22.85
1085	SLU 76	-65	39	4659	-1007.15	2.33	-22.47
1085	SLU 77	-67	23	4820	-1037.85	2.42	-23.4
1085	SLU 78	-66	33	4776	-1030	2.39	-23.09
1085	SLU 79	-67	23	4791	-1032.01	2.4	-23.22
1085	SLU 80	-66	33	4747	-1024.15	2.38	-22.91
1085	SLU 81	-68	24	4836	-1042.32	2.42	-23.55
1085	SLU 82	-67	34	4793	-1034.47	2.39	-23.24
1085	SLU 83	-68	24	4895	-1054.1	2.45	-23.79
1085	SLU 84	-68	34	4851	-1046.24	2.43	-23.48
1085	SLE RA 1	-45	15	3188	-691.53	1.58	-15.48
1085	SLE RA 2	-44	26	3140	-682.81	1.56	-15.14
1085	SLE RA 3	-45	15	3246	-703.28	1.62	-15.76
1085	SLE RA 4	-45	22	3217	-698.04	1.6	-15.55
1085	SLE RA 5	-44	26	3179	-690.66	1.58	-15.29
1085	SLE RA 6	-46	15	3286	-711.12	1.64	-15.91
1085	SLE RA 7	-45	22	3257	-705.89	1.62	-15.71
1085	SLE RA 8	-45	15	3266	-707.23	1.63	-15.79
1085	SLE RA 9	-45	22	3237	-701.99	1.61	-15.59
1085	SLE RA 10	-47	28	3393	-735.48	1.69	-16.39
1085	SLE RA 11	-49	17	3500	-755.95	1.75	-17.01
1085	SLE RA 12	-48	23	3471	-750.71	1.73	-16.8
1085	SLE RA 13	-48	28	3432	-743.33	1.71	-16.54
1085	SLE RA 14	-49	17	3539	-763.8	1.77	-17.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1085	SLE RA 15	-49	23	3510	-758.56	1.75	-16.96
1085	SLE RA 16	-49	17	3520	-759.9	1.76	-17.04
1085	SLE RA 17	-48	23	3491	-754.67	1.74	-16.84
1085	SLE RA 18	-50	17	3550	-766.78	1.77	-17.27
1085	SLE RA 19	-49	24	3521	-761.55	1.75	-17.06
1085	SLE RA 20	-50	17	3589	-774.63	1.79	-17.42
1085	SLE RA 21	-50	24	3560	-769.39	1.78	-17.22
1085	SLE FR 1	-45	15	3188	-691.53	1.58	-15.48
1085	SLE FR 2	-44	18	3178	-689.79	1.58	-15.41
1085	SLE FR 3	-45	15	3204	-694.67	1.59	-15.54
1085	SLE FR 4	-46	18	3287	-712.36	1.63	-15.95
1085	SLE FR 5	-46	16	3312	-717.25	1.65	-16.08
1085	SLE FR 6	-47	16	3369	-729.16	1.68	-16.37
1085	SLE QP 1	-45	15	3188	-691.53	1.58	-15.48
1085	SLE QP 2	-46	16	3297	-714.11	1.64	-16.02
1085	SLD 1	356	166	3133	-690.04	2.4	124.73
1085	SLD 2	281	134	3172	-696.6	2.52	98.62
1085	SLD 3	329	-35	4175	-878.93	2.99	115.4
1085	SLD 4	255	-68	4214	-885.5	3.12	89.3
1085	SLD 5	128	372	1660	-419.26	0.94	44.84
1085	SLD 6	79	352	1685	-423.49	1.02	28.03
1085	SLD 7	39	-300	5134	-1048.92	2.93	13.76
1085	SLD 8	-9	-320	5160	-1053.15	3.01	-3.05
1085	SLD 9	-83	352	1434	-375.06	0.27	-28.98
1085	SLD 10	-131	332	1459	-379.29	0.35	-45.79
1085	SLD 11	-172	-320	4908	-1004.72	2.26	-60.06
1085	SLD 12	-220	-340	4933	-1008.95	2.34	-76.87
1085	SLD 13	-347	100	2379	-542.71	0.16	-121.33
1085	SLD 14	-421	67	2418	-549.28	0.28	-147.44
1085	SLD 15	-373	-102	3421	-731.61	0.76	-130.66
1085	SLD 16	-448	-134	3461	-738.18	0.88	-156.76
1085	SLV 1	586	266	2964	-662.7	2.78	205.23
1085	SLV 2	468	215	3026	-673.05	2.97	164.08
1085	SLV 3	540	-78	4743	-984.98	3.79	189.34
1085	SLV 4	423	-129	4805	-995.33	3.99	148.19
1085	SLV 5	234	622	488	-207.95	0.4	82.14
1085	SLV 6	155	588	529	-214.92	0.53	54.44
1085	SLV 7	83	-525	6417	-1282.24	3.8	29.16
1085	SLV 8	4	-559	6458	-1289.2	3.93	1.46
1085	SLV 9	-96	591	135	-139.01	-0.65	-33.49
1085	SLV 10	-175	557	177	-145.98	-0.52	-61.2
1085	SLV 11	-247	-556	6064	-1213.29	2.75	-86.47
1085	SLV 12	-326	-590	6106	-1220.26	2.88	-114.17
1085	SLV 13	-515	161	1788	-432.88	-0.71	-180.22
1085	SLV 14	-633	110	1850	-443.23	-0.52	-221.37
1085	SLV 15	-560	-183	3567	-755.17	0.31	-196.12
1085	SLV 16	-678	-234	3629	-765.52	0.5	-237.26
1085	SLV FO 1	649	291	2931	-657.56	2.89	227.36
1085	SLV FO 2	519	235	2999	-668.94	3.1	182.09
1085	SLV FO 3	599	-88	4888	-1012.07	4.01	209.87
1085	SLV FO 4	469	-144	4956	-1023.45	4.22	164.61
1085	SLV FO 5	262	683	207	-157.34	0.27	91.96
1085	SLV FO 6	175	645	253	-165	0.42	61.48
1085	SLV FO 7	96	-579	6729	-1339.05	4.01	33.68
1085	SLV FO 8	9	-616	6775	-1346.71	4.15	3.21
1085	SLV FO 9	-101	648	-181	-81.5	-0.88	-35.24
1085	SLV FO 10	-188	611	-135	-89.17	-0.73	-65.72
1085	SLV FO 11	-267	-613	6341	-1263.21	2.86	-93.52
1085	SLV FO 12	-354	-651	6387	-1270.88	3	-123.99
1085	SLV FO 13	-562	176	1638	-404.76	-0.95	-196.64
1085	SLV FO 14	-691	120	1706	-416.15	-0.73	-241.91
1085	SLV FO 15	-611	-203	3594	-759.27	0.18	-214.13
1085	SLV FO 16	-741	-259	3662	-770.66	0.39	-259.39
1085	CRTFP Ux+	0	0	0	0	0	0
1085	CRTFP Ux-	0	0	0	0	0	0
1085	CRTFP Uy+	0	0	0	0	0	0
1085	CRTFP Uy-	0	0	0	0	0	0
1086	SLU 1	-41	18	3009	-649.21	0.28	-14.13
1086	SLU 2	-39	35	2937	-636.34	0.28	-13.64
1086	SLU 3	-42	19	3096	-666.43	0.3	-14.52
1086	SLU 4	-41	29	3053	-658.7	0.29	-14.23
1086	SLU 5	-40	35	2995	-647.84	0.28	-13.86
1086	SLU 6	-42	19	3154	-677.93	0.3	-14.74
1086	SLU 7	-42	29	3111	-670.2	0.3	-14.45
1086	SLU 8	-42	18	3125	-672.21	0.3	-14.57
1086	SLU 9	-41	28	3082	-664.49	0.3	-14.28
1086	SLU 10	-44	37	3314	-713.82	0.3	-15.46
1086	SLU 11	-47	21	3472	-743.91	0.32	-16.33
1086	SLU 12	-46	31	3429	-736.18	0.32	-16.04
1086	SLU 13	-45	37	3372	-725.32	0.31	-15.68
1086	SLU 14	-48	21	3530	-755.41	0.33	-16.55
1086	SLU 15	-47	31	3487	-747.68	0.32	-16.26
1086	SLU 16	-47	21	3502	-749.7	0.33	-16.38
1086	SLU 17	-46	31	3459	-741.97	0.32	-16.09
1086	SLU 18	-48	22	3547	-759.9	0.32	-16.72
1086	SLU 19	-47	32	3504	-752.18	0.32	-16.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1086	SLU 20	-49	22	3605	-771.4	0.33	-16.94
1086	SLU 21	-48	32	3562	-763.68	0.32	-16.65
1086	SLU 22	-48	21	3523	-753.79	0.32	-16.65
1086	SLU 23	-47	38	3452	-740.91	0.31	-16.16
1086	SLU 24	-49	21	3610	-771	0.33	-17.04
1086	SLU 25	-48	31	3567	-763.28	0.33	-16.75
1086	SLU 26	-47	38	3510	-752.41	0.32	-16.38
1086	SLU 27	-50	21	3668	-782.5	0.34	-17.26
1086	SLU 28	-49	31	3625	-774.78	0.34	-16.97
1086	SLU 29	-49	21	3639	-776.79	0.34	-17.09
1086	SLU 30	-48	31	3596	-769.06	0.33	-16.8
1086	SLU 31	-52	40	3828	-818.39	0.34	-17.98
1086	SLU 32	-54	24	3986	-848.48	0.36	-18.85
1086	SLU 33	-53	34	3943	-840.76	0.35	-18.56
1086	SLU 34	-52	40	3886	-829.89	0.35	-18.2
1086	SLU 35	-55	24	4044	-859.98	0.37	-19.07
1086	SLU 36	-54	34	4001	-852.26	0.36	-18.78
1086	SLU 37	-54	23	4016	-854.27	0.36	-18.9
1086	SLU 38	-54	33	3973	-846.54	0.36	-18.61
1086	SLU 39	-55	24	4061	-864.47	0.36	-19.24
1086	SLU 40	-55	35	4018	-856.75	0.35	-18.95
1086	SLU 41	-56	24	4119	-875.97	0.37	-19.46
1086	SLU 42	-55	34	4076	-868.25	0.36	-19.17
1086	SLU 43	-50	23	3735	-808.12	0.36	-17.5
1086	SLU 44	-49	40	3664	-795.25	0.35	-17.02
1086	SLU 45	-52	23	3822	-825.34	0.37	-17.89
1086	SLU 46	-51	33	3779	-817.61	0.36	-17.6
1086	SLU 47	-50	40	3722	-806.75	0.36	-17.24
1086	SLU 48	-52	23	3880	-836.84	0.38	-18.11
1086	SLU 49	-51	33	3837	-829.11	0.37	-17.82
1086	SLU 50	-52	23	3851	-831.13	0.37	-17.94
1086	SLU 51	-51	33	3808	-823.4	0.37	-17.65
1086	SLU 52	-54	42	4040	-872.73	0.37	-18.83
1086	SLU 53	-57	25	4199	-902.82	0.39	-19.71
1086	SLU 54	-56	35	4156	-895.1	0.39	-19.42
1086	SLU 55	-55	42	4098	-884.23	0.38	-19.05
1086	SLU 56	-57	25	4257	-914.32	0.4	-19.93
1086	SLU 57	-57	35	4214	-906.6	0.4	-19.63
1086	SLU 58	-57	25	4228	-908.61	0.4	-19.76
1086	SLU 59	-56	35	4185	-900.88	0.39	-19.46
1086	SLU 60	-58	26	4273	-918.81	0.39	-20.09
1086	SLU 61	-57	36	4230	-911.09	0.39	-19.8
1086	SLU 62	-58	26	4331	-930.31	0.4	-20.31
1086	SLU 63	-58	36	4288	-922.59	0.4	-20.02
1086	SLU 64	-58	26	4250	-912.7	0.39	-20.03
1086	SLU 65	-56	42	4178	-899.82	0.39	-19.54
1086	SLU 66	-59	26	4336	-929.91	0.41	-20.42
1086	SLU 67	-58	36	4293	-922.19	0.4	-20.12
1086	SLU 68	-57	42	4236	-911.32	0.39	-19.76
1086	SLU 69	-59	26	4394	-941.41	0.41	-20.64
1086	SLU 70	-59	36	4351	-933.69	0.41	-20.34
1086	SLU 71	-59	26	4366	-935.7	0.41	-20.46
1086	SLU 72	-58	36	4323	-927.97	0.41	-20.17
1086	SLU 73	-61	45	4555	-977.3	0.41	-21.35
1086	SLU 74	-64	28	4713	-1007.39	0.43	-22.23
1086	SLU 75	-63	38	4670	-999.67	0.43	-21.94
1086	SLU 76	-62	45	4613	-988.8	0.42	-21.57
1086	SLU 77	-65	28	4771	-1018.89	0.44	-22.45
1086	SLU 78	-64	38	4728	-1011.17	0.43	-22.16
1086	SLU 79	-64	28	4742	-1013.18	0.44	-22.28
1086	SLU 80	-63	38	4699	-1005.45	0.43	-21.99
1086	SLU 81	-65	29	4788	-1023.38	0.43	-22.62
1086	SLU 82	-64	39	4745	-1015.66	0.43	-22.32
1086	SLU 83	-66	29	4846	-1034.88	0.44	-22.83
1086	SLU 84	-65	39	4803	-1027.16	0.43	-22.54
1086	SLE RA 1	-43	19	3156	-679.09	0.29	-14.85
1086	SLE RA 2	-42	30	3108	-670.51	0.29	-14.53
1086	SLE RA 3	-43	19	3214	-690.57	0.3	-15.11
1086	SLE RA 4	-43	26	3185	-685.42	0.3	-14.92
1086	SLE RA 5	-42	30	3147	-678.17	0.29	-14.67
1086	SLE RA 6	-44	19	3252	-698.24	0.31	-15.26
1086	SLE RA 7	-43	26	3224	-693.08	0.3	-15.06
1086	SLE RA 8	-44	19	3233	-694.43	0.31	-15.14
1086	SLE RA 9	-43	26	3205	-689.28	0.3	-14.95
1086	SLE RA 10	-45	32	3359	-722.16	0.31	-15.73
1086	SLE RA 11	-47	21	3465	-742.22	0.32	-16.32
1086	SLE RA 12	-46	28	3436	-737.07	0.32	-16.12
1086	SLE RA 13	-46	32	3398	-729.83	0.31	-15.88
1086	SLE RA 14	-47	21	3503	-749.89	0.33	-16.47
1086	SLE RA 15	-47	28	3475	-744.74	0.32	-16.27
1086	SLE RA 16	-47	21	3484	-746.08	0.32	-16.35
1086	SLE RA 17	-46	27	3456	-740.93	0.32	-16.16
1086	SLE RA 18	-48	21	3515	-752.88	0.32	-16.58
1086	SLE RA 19	-47	28	3486	-747.73	0.32	-16.38
1086	SLE RA 20	-48	21	3553	-760.55	0.33	-16.72
1086	SLE RA 21	-48	28	3525	-755.4	0.32	-16.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1086	SLE FR 1	-43	19	3156	-679.09	0.29	-14.85
1086	SLE FR 2	-43	21	3146	-677.37	0.29	-14.78
1086	SLE FR 3	-43	19	3171	-682.16	0.3	-14.91
1086	SLE FR 4	-44	22	3254	-699.51	0.3	-15.3
1086	SLE FR 5	-44	20	3279	-704.3	0.3	-15.43
1086	SLE FR 6	-45	20	3335	-715.99	0.31	-15.71
1086	SLE QP 1	-43	19	3156	-679.09	0.29	-14.85
1086	SLE QP 2	-44	20	3264	-701.23	0.3	-15.37
1086	SLD 1	358	167	3073	-667.88	1.11	125.43
1086	SLD 2	283	137	3108	-673.53	1.21	99.36
1086	SLD 3	332	-37	4103	-853.4	1.26	116.48
1086	SLD 4	258	-67	4138	-859.04	1.36	90.41
1086	SLD 5	128	378	1639	-408.89	0.3	44.93
1086	SLD 6	80	359	1661	-412.52	0.37	28.14
1086	SLD 7	43	-301	5071	-1027.27	0.8	15.1
1086	SLD 8	-5	-320	5094	-1030.91	0.86	-1.69
1086	SLD 9	-84	360	1433	-371.55	-0.26	-29.05
1086	SLD 10	-132	340	1456	-375.18	-0.19	-45.83
1086	SLD 11	-168	-319	4866	-989.93	0.24	-58.87
1086	SLD 12	-216	-338	4889	-993.57	0.3	-75.66
1086	SLD 13	-346	107	2389	-543.41	-0.75	-121.15
1086	SLD 14	-421	76	2425	-549.06	-0.65	-147.21
1086	SLD 15	-372	-97	3419	-728.93	-0.6	-130.09
1086	SLD 16	-446	-127	3454	-734.58	-0.5	-156.16
1086	SLV 1	588	265	2890	-635.62	1.55	205.93
1086	SLV 2	470	217	2946	-644.52	1.71	164.84
1086	SLV 3	544	-83	4648	-952.14	1.8	190.68
1086	SLV 4	427	-130	4703	-961.04	1.96	149.59
1086	SLV 5	233	629	476	-199.83	0.26	81.82
1086	SLV 6	154	597	514	-205.83	0.37	54.16
1086	SLV 7	89	-529	6333	-1254.89	1.1	30.98
1086	SLV 8	10	-561	6371	-1260.88	1.21	3.32
1086	SLV 9	-98	601	156	-141.58	-0.61	-34.05
1086	SLV 10	-177	569	194	-147.57	-0.5	-61.72
1086	SLV 11	-242	-557	6013	-1196.63	0.23	-84.89
1086	SLV 12	-321	-589	6051	-1202.62	0.34	-112.56
1086	SLV 13	-515	170	1824	-441.42	-1.35	-180.32
1086	SLV 14	-633	122	1880	-450.32	-1.2	-221.41
1086	SLV 15	-558	-178	3581	-757.94	-1.1	-195.57
1086	SLV 16	-676	-225	3637	-766.84	-0.94	-236.66
1086	SLV FO 1	651	289	2853	-629.06	1.67	228.06
1086	SLV FO 2	521	237	2915	-638.85	1.85	182.86
1086	SLV FO 3	603	-93	4786	-977.23	1.95	211.28
1086	SLV FO 4	474	-145	4847	-987.02	2.12	166.08
1086	SLV FO 5	261	690	197	-149.7	0.26	91.54
1086	SLV FO 6	173	655	239	-156.29	0.38	61.11
1086	SLV FO 7	102	-584	6640	-1310.26	1.18	35.62
1086	SLV FO 8	15	-619	6682	-1316.85	1.3	5.19
1086	SLV FO 9	-103	659	-155	-85.61	-0.7	-35.92
1086	SLV FO 10	-190	623	-113	-92.2	-0.58	-66.35
1086	SLV FO 11	-262	-615	6288	-1246.17	0.23	-91.84
1086	SLV FO 12	-349	-650	6330	-1252.76	0.34	-122.27
1086	SLV FO 13	-562	185	1680	-415.44	-1.52	-196.82
1086	SLV FO 14	-692	132	1741	-425.23	-1.35	-242.02
1086	SLV FO 15	-610	-197	3613	-763.61	-1.24	-213.59
1086	SLV FO 16	-739	-250	3674	-773.4	-1.07	-258.79
1086	CRTFP Ux+	0	0	0	0	0	0
1086	CRTFP Ux-	0	0	0	0	0	0
1086	CRTFP Uy+	0	0	0	0	0	0
1086	CRTFP Uy-	0	0	0	0	0	0
1087	SLU 1	-39	22	3018	-666.36	-0.75	-13.52
1087	SLU 2	-38	39	2946	-652.99	-0.74	-13.07
1087	SLU 3	-40	22	3104	-684.07	-0.78	-13.89
1087	SLU 4	-39	32	3061	-676.05	-0.76	-13.62
1087	SLU 5	-38	39	3004	-664.82	-0.75	-13.27
1087	SLU 6	-41	22	3163	-695.9	-0.79	-14.09
1087	SLU 7	-40	32	3119	-687.87	-0.78	-13.82
1087	SLU 8	-40	22	3134	-690.01	-0.78	-13.93
1087	SLU 9	-39	32	3091	-681.99	-0.77	-13.66
1087	SLU 10	-43	41	3324	-732.95	-0.86	-14.81
1087	SLU 11	-45	25	3483	-764.03	-0.9	-15.64
1087	SLU 12	-44	35	3440	-756	-0.89	-15.37
1087	SLU 13	-43	41	3382	-744.77	-0.87	-15.02
1087	SLU 14	-46	25	3541	-775.85	-0.91	-15.84
1087	SLU 15	-45	35	3498	-767.83	-0.9	-15.57
1087	SLU 16	-45	24	3512	-769.97	-0.9	-15.68
1087	SLU 17	-44	35	3469	-761.95	-0.89	-15.4
1087	SLU 18	-46	26	3558	-780.58	-0.93	-16.02
1087	SLU 19	-45	36	3515	-772.56	-0.92	-15.75
1087	SLU 20	-47	26	3616	-792.41	-0.94	-16.22
1087	SLU 21	-46	36	3573	-784.39	-0.93	-15.95
1087	SLU 22	-46	25	3534	-774.32	-0.92	-15.95
1087	SLU 23	-45	42	3462	-760.95	-0.9	-15.49
1087	SLU 24	-47	25	3621	-792.03	-0.94	-16.31
1087	SLU 25	-46	36	3578	-784.01	-0.93	-16.04
1087	SLU 26	-45	42	3520	-772.77	-0.91	-15.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1087	SLU 27	-48	25	3679	-803.85	-0.95	-16.52
1087	SLU 28	-47	36	3636	-795.83	-0.94	-16.24
1087	SLU 29	-47	25	3650	-797.97	-0.94	-16.35
1087	SLU 30	-46	35	3607	-789.95	-0.93	-16.08
1087	SLU 31	-50	45	3841	-840.9	-1.02	-17.24
1087	SLU 32	-52	28	3999	-871.98	-1.06	-18.06
1087	SLU 33	-51	38	3956	-863.96	-1.05	-17.79
1087	SLU 34	-50	45	3899	-852.73	-1.03	-17.44
1087	SLU 35	-53	28	4057	-883.81	-1.07	-18.27
1087	SLU 36	-52	38	4014	-875.79	-1.06	-17.99
1087	SLU 37	-52	28	4029	-877.93	-1.06	-18.1
1087	SLU 38	-51	38	3986	-869.9	-1.05	-17.83
1087	SLU 39	-53	29	4075	-888.54	-1.09	-18.44
1087	SLU 40	-52	39	4031	-880.52	-1.08	-18.17
1087	SLU 41	-54	29	4133	-900.37	-1.1	-18.65
1087	SLU 42	-53	39	4090	-892.34	-1.09	-18.38
1087	SLU 43	-48	27	3746	-829.25	-0.93	-16.75
1087	SLU 44	-47	44	3674	-815.88	-0.91	-16.29
1087	SLU 45	-49	28	3833	-846.96	-0.95	-17.11
1087	SLU 46	-49	38	3790	-838.94	-0.94	-16.84
1087	SLU 47	-48	44	3732	-827.71	-0.92	-16.49
1087	SLU 48	-50	28	3891	-858.79	-0.96	-17.32
1087	SLU 49	-49	38	3848	-850.77	-0.95	-17.04
1087	SLU 50	-49	27	3862	-852.91	-0.95	-17.15
1087	SLU 51	-49	38	3819	-844.88	-0.94	-16.88
1087	SLU 52	-52	47	4052	-895.84	-1.03	-18.04
1087	SLU 53	-54	30	4211	-926.92	-1.07	-18.86
1087	SLU 54	-54	40	4168	-918.9	-1.06	-18.59
1087	SLU 55	-53	47	4110	-907.67	-1.04	-18.24
1087	SLU 56	-55	30	4269	-938.75	-1.08	-19.07
1087	SLU 57	-54	40	4226	-930.73	-1.07	-18.79
1087	SLU 58	-54	30	4240	-932.86	-1.07	-18.9
1087	SLU 59	-54	40	4197	-924.84	-1.06	-18.63
1087	SLU 60	-55	31	4286	-943.48	-1.1	-19.24
1087	SLU 61	-55	41	4243	-935.45	-1.09	-18.97
1087	SLU 62	-56	31	4344	-955.3	-1.11	-19.45
1087	SLU 63	-55	41	4301	-947.28	-1.1	-19.18
1087	SLU 64	-55	31	4262	-937.21	-1.09	-19.17
1087	SLU 65	-54	48	4191	-923.84	-1.07	-18.71
1087	SLU 66	-56	31	4349	-954.92	-1.11	-19.54
1087	SLU 67	-55	41	4306	-946.9	-1.1	-19.27
1087	SLU 68	-54	48	4249	-935.67	-1.08	-18.92
1087	SLU 69	-57	31	4407	-966.75	-1.12	-19.74
1087	SLU 70	-56	41	4364	-958.73	-1.11	-19.47
1087	SLU 71	-56	31	4379	-960.86	-1.11	-19.58
1087	SLU 72	-56	41	4336	-952.84	-1.1	-19.31
1087	SLU 73	-59	50	4569	-1003.8	-1.19	-20.46
1087	SLU 74	-61	33	4727	-1034.88	-1.23	-21.29
1087	SLU 75	-60	44	4684	-1026.86	-1.22	-21.02
1087	SLU 76	-59	50	4627	-1015.62	-1.2	-20.67
1087	SLU 77	-62	33	4786	-1046.71	-1.24	-21.49
1087	SLU 78	-61	44	4742	-1038.68	-1.23	-21.22
1087	SLU 79	-61	33	4757	-1040.82	-1.23	-21.33
1087	SLU 80	-61	43	4714	-1032.8	-1.22	-21.05
1087	SLU 81	-62	34	4803	-1051.43	-1.26	-21.67
1087	SLU 82	-62	44	4760	-1043.41	-1.25	-21.4
1087	SLU 83	-63	34	4861	-1063.26	-1.27	-21.87
1087	SLU 84	-62	44	4818	-1055.24	-1.26	-21.6
1087	SLE RA 1	-41	23	3165	-697.2	-0.8	-14.21
1087	SLE RA 2	-40	34	3117	-688.29	-0.79	-13.91
1087	SLE RA 3	-42	23	3223	-709.01	-0.81	-14.46
1087	SLE RA 4	-41	30	3194	-703.66	-0.81	-14.28
1087	SLE RA 5	-40	34	3156	-696.18	-0.8	-14.05
1087	SLE RA 6	-42	23	3262	-716.9	-0.82	-14.6
1087	SLE RA 7	-41	30	3233	-711.55	-0.82	-14.41
1087	SLE RA 8	-42	23	3243	-712.97	-0.82	-14.49
1087	SLE RA 9	-41	30	3214	-707.63	-0.81	-14.3
1087	SLE RA 10	-43	36	3370	-741.6	-0.87	-15.08
1087	SLE RA 11	-45	25	3475	-762.32	-0.9	-15.63
1087	SLE RA 12	-44	32	3447	-756.97	-0.89	-15.44
1087	SLE RA 13	-44	36	3408	-749.48	-0.88	-15.21
1087	SLE RA 14	-45	25	3514	-770.2	-0.9	-15.76
1087	SLE RA 15	-45	32	3485	-764.85	-0.9	-15.58
1087	SLE RA 16	-45	25	3495	-766.28	-0.9	-15.65
1087	SLE RA 17	-45	31	3466	-760.93	-0.89	-15.47
1087	SLE RA 18	-46	25	3525	-773.35	-0.92	-15.88
1087	SLE RA 19	-45	32	3497	-768.01	-0.91	-15.7
1087	SLE RA 20	-46	25	3564	-781.24	-0.92	-16.02
1087	SLE RA 21	-46	32	3536	-775.89	-0.92	-15.83
1087	SLE FR 1	-41	23	3165	-697.2	-0.8	-14.21
1087	SLE FR 2	-41	25	3156	-695.42	-0.8	-14.15
1087	SLE FR 3	-41	23	3181	-700.36	-0.8	-14.27
1087	SLE FR 4	-42	26	3264	-718.27	-0.83	-14.65
1087	SLE FR 5	-43	24	3289	-723.2	-0.84	-14.77
1087	SLE FR 6	-43	24	3345	-735.28	-0.86	-15.05
1087	SLE QP 1	-41	23	3165	-697.2	-0.8	-14.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1087	SLE QP 2	-42	24	3273	-720.05	-0.84	-14.71
1087	SLD 1	359	169	3054	-676.5	0.02	126.04
1087	SLD 2	285	140	3087	-681.68	0.1	100.02
1087	SLD 3	335	-38	4086	-868.72	-0.22	117.49
1087	SLD 4	261	-66	4118	-873.89	-0.14	91.47
1087	SLD 5	128	385	1638	-414.57	-0.22	44.95
1087	SLD 6	80	367	1658	-417.9	-0.17	28.19
1087	SLD 7	47	-303	5076	-1055.28	-1.04	16.47
1087	SLD 8	-1	-322	5097	-1058.62	-0.98	-0.29
1087	SLD 9	-84	369	1450	-381.48	-0.69	-29.14
1087	SLD 10	-132	351	1471	-384.82	-0.63	-45.89
1087	SLD 11	-164	-320	4888	-1022.19	-1.5	-57.62
1087	SLD 12	-212	-338	4909	-1025.53	-1.45	-74.37
1087	SLD 13	-346	113	2428	-566.21	-1.53	-120.9
1087	SLD 14	-420	85	2461	-571.38	-1.45	-146.92
1087	SLD 15	-370	-93	3460	-758.42	-1.77	-129.44
1087	SLD 16	-444	-121	3492	-763.6	-1.69	-155.46
1087	SLV 1	589	266	2856	-638.07	0.52	206.48
1087	SLV 2	472	221	2907	-646.22	0.64	165.46
1087	SLV 3	548	-87	4616	-966.02	0.1	191.92
1087	SLV 4	431	-131	4667	-974.17	0.22	150.9
1087	SLV 5	231	639	469	-196.54	0.18	81.38
1087	SLV 6	152	609	503	-202.03	0.26	53.76
1087	SLV 7	94	-536	6337	-1289.71	-1.21	32.85
1087	SLV 8	15	-566	6371	-1295.2	-1.13	5.24
1087	SLV 9	-100	613	176	-144.9	-0.54	-34.67
1087	SLV 10	-179	583	210	-150.39	-0.46	-62.28
1087	SLV 11	-237	-562	6044	-1238.07	-1.93	-83.19
1087	SLV 12	-316	-592	6078	-1243.56	-1.85	-110.8
1087	SLV 13	-515	179	1879	-465.92	-1.9	-180.33
1087	SLV 14	-633	134	1930	-474.08	-1.77	-221.35
1087	SLV 15	-556	-174	3640	-793.88	-2.31	-194.89
1087	SLV 16	-674	-218	3691	-802.03	-2.19	-235.9
1087	SLV FO 1	652	290	2814	-629.87	0.65	228.6
1087	SLV FO 2	523	241	2870	-638.84	0.79	183.48
1087	SLV FO 3	607	-98	4751	-990.62	0.19	212.58
1087	SLV FO 4	478	-147	4807	-999.59	0.33	167.47
1087	SLV FO 5	259	700	188	-144.19	0.28	90.99
1087	SLV FO 6	172	667	226	-150.23	0.37	60.61
1087	SLV FO 7	108	-592	6643	-1346.68	-1.25	37.61
1087	SLV FO 8	21	-625	6681	-1352.72	-1.15	7.23
1087	SLV FO 9	-106	672	-134	-87.38	-0.52	-36.66
1087	SLV FO 10	-193	639	-96	-93.42	-0.42	-67.03
1087	SLV FO 11	-257	-620	6321	-1289.87	-2.04	-90.04
1087	SLV FO 12	-343	-653	6358	-1295.91	-1.95	-120.41
1087	SLV FO 13	-563	194	1740	-440.51	-2	-196.89
1087	SLV FO 14	-692	145	1796	-449.48	-1.86	-242.01
1087	SLV FO 15	-608	-193	3676	-801.26	-2.46	-212.91
1087	SLV FO 16	-737	-243	3732	-810.23	-2.32	-258.02
1087	CRTFP Ux+	0	0	0	0	0	0
1087	CRTFP Ux-	0	0	0	0	0	0
1087	CRTFP Uy+	0	0	0	0	0	0
1087	CRTFP Uy-	0	0	0	0	0	0
1088	SLU 1	-37	25	3057	-707.37	-1.51	-12.91
1088	SLU 2	-36	43	2985	-692.94	-1.47	-12.49
1088	SLU 3	-38	26	3145	-726.31	-1.55	-13.26
1088	SLU 4	-37	36	3102	-717.65	-1.53	-13
1088	SLU 5	-37	43	3044	-705.58	-1.5	-12.68
1088	SLU 6	-39	26	3204	-738.95	-1.58	-13.45
1088	SLU 7	-38	36	3161	-730.29	-1.56	-13.19
1088	SLU 8	-38	26	3175	-732.66	-1.57	-13.29
1088	SLU 9	-38	36	3132	-724	-1.54	-13.03
1088	SLU 10	-41	45	3369	-778.66	-1.7	-14.18
1088	SLU 11	-43	28	3530	-812.03	-1.78	-14.94
1088	SLU 12	-42	39	3486	-803.37	-1.76	-14.69
1088	SLU 13	-41	45	3428	-791.3	-1.73	-14.36
1088	SLU 14	-44	28	3589	-824.67	-1.81	-15.13
1088	SLU 15	-43	39	3545	-816.01	-1.79	-14.88
1088	SLU 16	-43	28	3560	-818.38	-1.79	-14.97
1088	SLU 17	-42	38	3516	-809.72	-1.77	-14.72
1088	SLU 18	-44	29	3607	-829.83	-1.83	-15.32
1088	SLU 19	-43	39	3563	-821.17	-1.81	-15.07
1088	SLU 20	-45	29	3665	-842.47	-1.86	-15.51
1088	SLU 21	-44	40	3622	-833.81	-1.84	-15.26
1088	SLU 22	-44	29	3582	-823.15	-1.81	-15.24
1088	SLU 23	-43	46	3509	-808.72	-1.77	-14.82
1088	SLU 24	-45	29	3670	-842.09	-1.86	-15.59
1088	SLU 25	-44	40	3626	-833.44	-1.83	-15.33
1088	SLU 26	-43	46	3568	-821.37	-1.8	-15.01
1088	SLU 27	-45	29	3729	-854.74	-1.89	-15.78
1088	SLU 28	-45	40	3685	-846.08	-1.86	-15.52
1088	SLU 29	-45	29	3700	-848.44	-1.87	-15.62
1088	SLU 30	-44	40	3656	-839.78	-1.85	-15.36
1088	SLU 31	-48	49	3894	-894.44	-2	-16.51
1088	SLU 32	-50	32	4054	-927.82	-2.08	-17.27
1088	SLU 33	-49	42	4011	-919.16	-2.06	-17.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1088	SLU 34	-48	49	3952	-907.09	-2.03	-16.69
1088	SLU 35	-50	32	4113	-940.46	-2.11	-17.46
1088	SLU 36	-50	42	4070	-931.8	-2.09	-17.21
1088	SLU 37	-50	32	4084	-934.16	-2.1	-17.3
1088	SLU 38	-49	42	4040	-925.5	-2.07	-17.05
1088	SLU 39	-51	33	4131	-945.61	-2.14	-17.65
1088	SLU 40	-50	43	4087	-936.95	-2.11	-17.4
1088	SLU 41	-51	33	4190	-958.26	-2.17	-17.84
1088	SLU 42	-51	43	4146	-949.6	-2.14	-17.59
1088	SLU 43	-46	32	3795	-879.88	-1.86	-15.99
1088	SLU 44	-45	49	3722	-865.45	-1.82	-15.56
1088	SLU 45	-47	32	3883	-898.82	-1.9	-16.33
1088	SLU 46	-46	43	3839	-890.16	-1.88	-16.08
1088	SLU 47	-45	49	3781	-878.09	-1.85	-15.75
1088	SLU 48	-48	32	3942	-911.47	-1.93	-16.52
1088	SLU 49	-47	43	3898	-902.81	-1.91	-16.27
1088	SLU 50	-47	32	3913	-905.17	-1.91	-16.36
1088	SLU 51	-46	42	3869	-896.51	-1.89	-16.11
1088	SLU 52	-50	52	4106	-951.17	-2.05	-17.25
1088	SLU 53	-52	35	4267	-984.54	-2.13	-18.02
1088	SLU 54	-51	45	4223	-975.88	-2.11	-17.77
1088	SLU 55	-50	52	4165	-963.81	-2.07	-17.44
1088	SLU 56	-52	35	4326	-997.19	-2.16	-18.21
1088	SLU 57	-52	45	4282	-988.53	-2.13	-17.95
1088	SLU 58	-52	34	4297	-990.89	-2.14	-18.05
1088	SLU 59	-51	45	4253	-982.23	-2.12	-17.8
1088	SLU 60	-53	36	4344	-1002.34	-2.18	-18.4
1088	SLU 61	-52	46	4300	-993.68	-2.16	-18.14
1088	SLU 62	-53	36	4403	-1014.98	-2.21	-18.58
1088	SLU 63	-53	46	4359	-1006.32	-2.19	-18.33
1088	SLU 64	-53	35	4319	-995.67	-2.16	-18.32
1088	SLU 65	-52	53	4247	-981.23	-2.12	-17.89
1088	SLU 66	-54	36	4407	-1014.61	-2.2	-18.66
1088	SLU 67	-53	46	4364	-1005.95	-2.18	-18.41
1088	SLU 68	-52	53	4306	-993.88	-2.15	-18.08
1088	SLU 69	-54	36	4466	-1027.25	-2.23	-18.85
1088	SLU 70	-54	46	4423	-1018.59	-2.21	-18.6
1088	SLU 71	-54	36	4437	-1020.95	-2.22	-18.69
1088	SLU 72	-53	46	4394	-1012.29	-2.2	-18.44
1088	SLU 73	-56	55	4631	-1066.95	-2.35	-19.58
1088	SLU 74	-59	38	4792	-1100.33	-2.43	-20.35
1088	SLU 75	-58	49	4748	-1091.67	-2.41	-20.1
1088	SLU 76	-57	55	4690	-1079.6	-2.38	-19.77
1088	SLU 77	-59	38	4851	-1112.97	-2.46	-20.54
1088	SLU 78	-58	49	4807	-1104.31	-2.44	-20.28
1088	SLU 79	-59	38	4822	-1106.67	-2.45	-20.38
1088	SLU 80	-58	48	4778	-1098.02	-2.42	-20.13
1088	SLU 81	-60	39	4869	-1118.12	-2.48	-20.73
1088	SLU 82	-59	50	4825	-1109.47	-2.46	-20.47
1088	SLU 83	-60	39	4927	-1130.77	-2.51	-20.91
1088	SLU 84	-59	50	4884	-1122.11	-2.49	-20.66
1088	SLE RA 1	-39	26	3207	-740.45	-1.59	-13.58
1088	SLE RA 2	-38	38	3159	-730.83	-1.57	-13.3
1088	SLE RA 3	-40	27	3266	-753.08	-1.62	-13.81
1088	SLE RA 4	-39	34	3237	-747.3	-1.61	-13.64
1088	SLE RA 5	-39	38	3198	-739.26	-1.59	-13.42
1088	SLE RA 6	-40	27	3305	-761.51	-1.64	-13.93
1088	SLE RA 7	-40	34	3276	-755.73	-1.63	-13.76
1088	SLE RA 8	-40	27	3286	-757.31	-1.63	-13.83
1088	SLE RA 9	-39	33	3257	-751.54	-1.62	-13.66
1088	SLE RA 10	-42	40	3415	-787.98	-1.72	-14.42
1088	SLE RA 11	-43	28	3522	-810.22	-1.78	-14.93
1088	SLE RA 12	-42	35	3493	-804.45	-1.76	-14.76
1088	SLE RA 13	-42	40	3454	-796.4	-1.74	-14.55
1088	SLE RA 14	-43	28	3561	-818.65	-1.8	-15.06
1088	SLE RA 15	-43	35	3532	-812.88	-1.78	-14.89
1088	SLE RA 16	-43	28	3542	-814.46	-1.79	-14.95
1088	SLE RA 17	-43	35	3513	-808.68	-1.77	-14.78
1088	SLE RA 18	-44	29	3573	-822.09	-1.81	-15.18
1088	SLE RA 19	-43	36	3544	-816.32	-1.8	-15.01
1088	SLE RA 20	-44	29	3613	-830.52	-1.83	-15.31
1088	SLE RA 21	-44	36	3584	-824.74	-1.82	-15.14
1088	SLE FR 1	-39	26	3207	-740.45	-1.59	-13.58
1088	SLE FR 2	-39	29	3198	-738.53	-1.59	-13.52
1088	SLE FR 3	-39	26	3223	-743.82	-1.6	-13.63
1088	SLE FR 4	-40	30	3307	-763.02	-1.65	-14
1088	SLE FR 5	-41	27	3333	-768.31	-1.67	-14.11
1088	SLE FR 6	-41	28	3390	-781.27	-1.7	-14.38
1088	SLE QP 1	-39	26	3207	-740.45	-1.59	-13.58
1088	SLE QP 2	-40	27	3317	-764.94	-1.66	-14.06
1088	SLD 1	361	171	3069	-710.87	-0.78	126.55
1088	SLD 2	287	145	3098	-715.89	-0.71	100.59
1088	SLD 3	338	-39	4114	-917.91	-1.3	118.44
1088	SLD 4	264	-65	4143	-922.93	-1.24	92.48
1088	SLD 5	127	393	1653	-433.85	-0.61	44.89
1088	SLD 6	80	376	1672	-437.08	-0.57	28.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1088	SLD 7	51	-307	5136	-1123.98	-2.36	17.86
1088	SLD 8	3	-324	5155	-1127.21	-2.32	1.14
1088	SLD 9	-84	378	1479	-402.67	-1	-29.26
1088	SLD 10	-132	361	1498	-405.91	-0.96	-45.98
1088	SLD 11	-161	-322	4963	-1092.8	-2.75	-56.29
1088	SLD 12	-208	-339	4982	-1096.03	-2.71	-73
1088	SLD 13	-345	120	2491	-606.95	-2.08	-120.6
1088	SLD 14	-419	93	2521	-611.97	-2.02	-146.56
1088	SLD 15	-368	-90	3536	-813.99	-2.6	-128.71
1088	SLD 16	-442	-117	3566	-819.01	-2.54	-154.67
1088	SLV 1	590	268	2853	-665.48	-0.25	206.87
1088	SLV 2	473	226	2900	-673.39	-0.15	165.96
1088	SLV 3	551	-91	4636	-1018.74	-1.14	193.06
1088	SLV 4	434	-132	4683	-1026.65	-1.04	152.15
1088	SLV 5	230	650	464	-197.85	0.1	80.8
1088	SLV 6	151	622	496	-203.18	0.17	53.26
1088	SLV 7	100	-544	6409	-1375.38	-2.88	34.77
1088	SLV 8	21	-572	6441	-1380.71	-2.81	7.22
1088	SLV 9	-102	626	194	-149.17	-0.51	-35.34
1088	SLV 10	-181	598	226	-154.5	-0.44	-62.89
1088	SLV 11	-232	-568	6138	-1326.71	-3.49	-81.37
1088	SLV 12	-311	-596	6170	-1332.03	-3.42	-108.92
1088	SLV 13	-515	187	1951	-503.23	-2.28	-180.26
1088	SLV 14	-632	145	1998	-511.14	-2.18	-221.18
1088	SLV 15	-554	-171	3735	-856.49	-3.17	-194.07
1088	SLV 16	-671	-213	3782	-864.4	-3.07	-234.99
1088	SLV FO 1	653	292	2806	-655.54	-0.11	228.97
1088	SLV FO 2	525	246	2858	-664.24	0.01	183.96
1088	SLV FO 3	610	-103	4768	-1044.12	-1.09	213.78
1088	SLV FO 4	482	-148	4820	-1052.82	-0.98	168.77
1088	SLV FO 5	257	713	179	-141.14	0.28	90.29
1088	SLV FO 6	170	682	214	-147	0.35	59.99
1088	SLV FO 7	114	-601	6718	-1436.43	-3	39.65
1088	SLV FO 8	27	-632	6753	-1442.28	-2.93	9.35
1088	SLV FO 9	-108	686	-118	-87.6	-0.39	-37.47
1088	SLV FO 10	-195	655	-84	-93.46	-0.32	-67.77
1088	SLV FO 11	-251	-627	6420	-1382.88	-3.67	-88.11
1088	SLV FO 12	-338	-658	6455	-1388.74	-3.6	-118.41
1088	SLV FO 13	-563	203	1815	-477.06	-2.34	-196.88
1088	SLV FO 14	-691	157	1866	-485.76	-2.23	-241.89
1088	SLV FO 15	-605	-191	3776	-865.64	-3.32	-212.08
1088	SLV FO 16	-734	-237	3828	-874.35	-3.21	-257.08
1088	CRTFP Ux+	0	0	0	0	0	0
1088	CRTFP Ux-	0	0	0	0	0	0
1088	CRTFP Uy+	0	0	0	0	0	0
1088	CRTFP Uy-	0	0	0	0	0	0
1089	SLU 1	-35	29	3116	-765.37	-1.85	-12.3
1089	SLU 2	-34	46	3042	-749.49	-1.8	-11.91
1089	SLU 3	-36	29	3206	-786.07	-1.9	-12.62
1089	SLU 4	-36	40	3162	-776.54	-1.88	-12.39
1089	SLU 5	-35	46	3102	-763.3	-1.84	-12.09
1089	SLU 6	-37	29	3266	-799.88	-1.94	-12.79
1089	SLU 7	-36	40	3222	-790.35	-1.91	-12.56
1089	SLU 8	-36	29	3236	-792.99	-1.92	-12.64
1089	SLU 9	-36	39	3192	-783.47	-1.89	-12.41
1089	SLU 10	-39	49	3435	-843.31	-2.08	-13.54
1089	SLU 11	-41	32	3599	-879.88	-2.18	-14.25
1089	SLU 12	-40	42	3555	-870.36	-2.15	-14.02
1089	SLU 13	-39	49	3495	-857.12	-2.11	-13.71
1089	SLU 14	-41	32	3659	-893.7	-2.22	-14.42
1089	SLU 15	-41	42	3615	-884.17	-2.19	-14.19
1089	SLU 16	-41	31	3630	-886.81	-2.2	-14.27
1089	SLU 17	-40	42	3585	-877.28	-2.17	-14.04
1089	SLU 18	-42	32	3678	-899.39	-2.24	-14.62
1089	SLU 19	-41	43	3634	-889.86	-2.21	-14.39
1089	SLU 20	-43	33	3738	-913.21	-2.28	-14.79
1089	SLU 21	-42	43	3694	-903.68	-2.25	-14.56
1089	SLU 22	-42	33	3653	-892.13	-2.22	-14.54
1089	SLU 23	-41	50	3579	-876.25	-2.17	-14.15
1089	SLU 24	-43	33	3743	-912.83	-2.27	-14.86
1089	SLU 25	-42	44	3698	-903.3	-2.24	-14.63
1089	SLU 26	-41	50	3639	-890.06	-2.21	-14.32
1089	SLU 27	-43	33	3803	-926.64	-2.31	-15.03
1089	SLU 28	-43	44	3758	-917.11	-2.28	-14.8
1089	SLU 29	-43	33	3773	-919.76	-2.29	-14.88
1089	SLU 30	-42	43	3728	-910.23	-2.26	-14.65
1089	SLU 31	-45	53	3972	-970.07	-2.45	-15.78
1089	SLU 32	-47	36	4136	-1006.64	-2.55	-16.48
1089	SLU 33	-47	46	4091	-997.12	-2.52	-16.25
1089	SLU 34	-46	53	4032	-983.88	-2.48	-15.95
1089	SLU 35	-48	36	4196	-1020.46	-2.58	-16.65
1089	SLU 36	-47	46	4151	-1010.93	-2.56	-16.42
1089	SLU 37	-47	35	4166	-1013.57	-2.57	-16.5
1089	SLU 38	-47	46	4121	-1004.05	-2.54	-16.27
1089	SLU 39	-48	36	4214	-1026.15	-2.61	-16.86
1089	SLU 40	-48	47	4170	-1016.63	-2.58	-16.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1089	SLU 41	-49	37	4275	-1039.97	-2.65	-17.03
1089	SLU 42	-48	47	4230	-1030.44	-2.62	-16.8
1089	SLU 43	-44	36	3867	-951.52	-2.28	-15.22
1089	SLU 44	-43	54	3793	-935.64	-2.23	-14.84
1089	SLU 45	-45	36	3957	-972.22	-2.33	-15.55
1089	SLU 46	-44	47	3913	-962.69	-2.31	-15.32
1089	SLU 47	-43	54	3853	-949.45	-2.27	-15.01
1089	SLU 48	-45	36	4017	-986.03	-2.37	-15.72
1089	SLU 49	-45	47	3973	-976.5	-2.34	-15.49
1089	SLU 50	-45	36	3988	-979.14	-2.35	-15.57
1089	SLU 51	-44	47	3943	-969.62	-2.32	-15.33
1089	SLU 52	-47	56	4186	-1029.46	-2.51	-16.46
1089	SLU 53	-49	39	4350	-1066.03	-2.61	-17.17
1089	SLU 54	-49	50	4306	-1056.5	-2.58	-16.94
1089	SLU 55	-48	56	4246	-1043.27	-2.54	-16.63
1089	SLU 56	-50	39	4410	-1079.85	-2.65	-17.34
1089	SLU 57	-49	50	4366	-1070.32	-2.62	-17.11
1089	SLU 58	-49	39	4381	-1072.96	-2.63	-17.19
1089	SLU 59	-49	49	4336	-1063.43	-2.6	-16.96
1089	SLU 60	-50	40	4429	-1085.54	-2.67	-17.54
1089	SLU 61	-50	50	4385	-1076.01	-2.64	-17.31
1089	SLU 62	-51	40	4489	-1099.35	-2.71	-17.71
1089	SLU 63	-50	50	4445	-1089.83	-2.68	-17.48
1089	SLU 64	-50	40	4404	-1078.28	-2.65	-17.46
1089	SLU 65	-49	58	4330	-1062.4	-2.6	-17.07
1089	SLU 66	-51	40	4494	-1098.98	-2.7	-17.78
1089	SLU 67	-51	51	4449	-1089.45	-2.67	-17.55
1089	SLU 68	-50	58	4390	-1076.21	-2.64	-17.25
1089	SLU 69	-52	40	4554	-1112.79	-2.74	-17.95
1089	SLU 70	-51	51	4509	-1103.26	-2.71	-17.72
1089	SLU 71	-51	40	4524	-1105.91	-2.72	-17.8
1089	SLU 72	-51	51	4479	-1096.38	-2.69	-17.57
1089	SLU 73	-54	60	4723	-1156.22	-2.87	-18.7
1089	SLU 74	-56	43	4887	-1192.79	-2.98	-19.41
1089	SLU 75	-55	54	4842	-1183.27	-2.95	-19.18
1089	SLU 76	-54	60	4783	-1170.03	-2.91	-18.87
1089	SLU 77	-56	43	4947	-1206.61	-3.01	-19.58
1089	SLU 78	-56	54	4902	-1197.08	-2.98	-19.35
1089	SLU 79	-56	43	4917	-1199.72	-2.99	-19.43
1089	SLU 80	-55	53	4872	-1190.19	-2.97	-19.19
1089	SLU 81	-57	44	4966	-1212.3	-3.04	-19.78
1089	SLU 82	-56	54	4921	-1202.78	-3.01	-19.55
1089	SLU 83	-57	44	5026	-1226.12	-3.08	-19.95
1089	SLU 84	-57	54	4981	-1216.59	-3.05	-19.72
1089	SLE RA 1	-37	30	3270	-801.59	-1.95	-12.94
1089	SLE RA 2	-37	42	3220	-791	-1.92	-12.68
1089	SLE RA 3	-38	30	3330	-815.38	-1.99	-13.15
1089	SLE RA 4	-37	37	3300	-809.03	-1.97	-13
1089	SLE RA 5	-37	42	3260	-800.21	-1.95	-12.8
1089	SLE RA 6	-38	30	3370	-824.59	-2.02	-13.27
1089	SLE RA 7	-38	37	3340	-818.24	-2	-13.11
1089	SLE RA 8	-38	30	3350	-820	-2	-13.17
1089	SLE RA 9	-37	37	3320	-813.65	-1.98	-13.01
1089	SLE RA 10	-40	43	3482	-853.54	-2.11	-13.76
1089	SLE RA 11	-41	32	3592	-877.93	-2.17	-14.24
1089	SLE RA 12	-41	39	3562	-871.58	-2.16	-14.08
1089	SLE RA 13	-40	43	3522	-862.75	-2.13	-13.88
1089	SLE RA 14	-41	32	3632	-887.14	-2.2	-14.35
1089	SLE RA 15	-41	39	3602	-880.79	-2.18	-14.2
1089	SLE RA 16	-41	32	3612	-882.55	-2.19	-14.25
1089	SLE RA 17	-41	39	3582	-876.2	-2.17	-14.1
1089	SLE RA 18	-42	32	3644	-890.94	-2.22	-14.49
1089	SLE RA 19	-41	39	3614	-884.58	-2.2	-14.33
1089	SLE RA 20	-42	32	3684	-900.14	-2.24	-14.6
1089	SLE RA 21	-42	39	3654	-893.79	-2.22	-14.45
1089	SLE FR 1	-37	30	3270	-801.59	-1.95	-12.94
1089	SLE FR 2	-37	32	3260	-799.47	-1.95	-12.89
1089	SLE FR 3	-37	30	3286	-805.27	-1.96	-12.98
1089	SLE FR 4	-38	33	3372	-826.27	-2.03	-13.35
1089	SLE FR 5	-39	31	3398	-832.07	-2.04	-13.45
1089	SLE FR 6	-39	31	3457	-846.26	-2.09	-13.71
1089	SLE QP 1	-37	30	3270	-801.59	-1.95	-12.94
1089	SLE QP 2	-39	31	3382	-828.39	-2.03	-13.4
1089	SLD 1	362	174	3104	-764.08	-1.16	126.97
1089	SLD 2	288	149	3131	-769.14	-1.1	101.09
1089	SLD 3	341	-40	4169	-991.56	-1.81	119.33
1089	SLD 4	267	-65	4197	-996.62	-1.76	93.45
1089	SLD 5	127	401	1677	-463.22	-0.78	44.75
1089	SLD 6	79	386	1695	-466.48	-0.75	28.08
1089	SLD 7	55	-310	5230	-1221.48	-2.97	19.28
1089	SLD 8	8	-326	5248	-1224.73	-2.94	2.62
1089	SLD 9	-85	387	1516	-432.05	-1.13	-29.42
1089	SLD 10	-132	371	1534	-435.3	-1.09	-46.09
1089	SLD 11	-157	-324	5069	-1190.3	-3.32	-54.88
1089	SLD 12	-204	-340	5087	-1193.56	-3.28	-71.55
1089	SLD 13	-344	126	2567	-660.16	-2.3	-120.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1089	SLD 14	-418	101	2595	-665.22	-2.25	-146.14
1089	SLD 15	-365	-88	3633	-887.64	-2.96	-127.89
1089	SLD 16	-439	-112	3660	-892.7	-2.91	-153.78
1089	SLV 1	591	270	2870	-711.48	-0.62	207.12
1089	SLV 2	474	231	2914	-719.46	-0.54	166.32
1089	SLV 3	554	-94	4688	-1099.63	-1.74	194.12
1089	SLV 4	438	-133	4732	-1107.6	-1.65	153.32
1089	SLV 5	228	662	462	-203.14	0.07	80.09
1089	SLV 6	149	636	491	-208.51	0.13	52.63
1089	SLV 7	105	-552	6524	-1496.96	-3.66	36.74
1089	SLV 8	27	-578	6554	-1502.33	-3.6	9.28
1089	SLV 9	-104	639	211	-154.45	-0.46	-36.08
1089	SLV 10	-183	613	240	-159.82	-0.41	-63.55
1089	SLV 11	-226	-575	6273	-1448.27	-4.2	-79.43
1089	SLV 12	-305	-601	6302	-1453.64	-4.14	-106.9
1089	SLV 13	-515	194	2032	-549.18	-2.41	-180.13
1089	SLV 14	-632	156	2076	-557.15	-2.33	-220.92
1089	SLV 15	-551	-170	3851	-937.33	-3.53	-193.13
1089	SLV 16	-668	-209	3894	-945.3	-3.45	-233.93
1089	SLV FO 1	654	294	2818	-699.79	-0.48	229.18
1089	SLV FO 2	526	251	2867	-708.56	-0.39	184.3
1089	SLV FO 3	614	-107	4819	-1126.75	-1.71	214.87
1089	SLV FO 4	485	-149	4867	-1135.52	-1.62	169.99
1089	SLV FO 5	255	725	170	-140.62	0.28	89.44
1089	SLV FO 6	168	696	202	-146.52	0.35	59.23
1089	SLV FO 7	120	-610	6838	-1563.82	-3.82	41.76
1089	SLV FO 8	33	-639	6871	-1569.72	-3.76	11.55
1089	SLV FO 9	-110	700	-107	-87.06	-0.31	-38.35
1089	SLV FO 10	-197	671	-74	-92.96	-0.25	-68.56
1089	SLV FO 11	-245	-635	6562	-1510.26	-4.41	-86.03
1089	SLV FO 12	-332	-664	6594	-1516.16	-4.35	-116.25
1089	SLV FO 13	-562	211	1897	-521.26	-2.45	-196.8
1089	SLV FO 14	-691	168	1945	-530.03	-2.36	-241.68
1089	SLV FO 15	-603	-190	3897	-948.22	-3.68	-211.1
1089	SLV FO 16	-731	-233	3946	-956.99	-3.59	-255.98
1089	CRTFP Ux+	0	0	0	0	0	0
1089	CRTFP Ux-	0	0	0	0	0	0
1089	CRTFP Uy+	0	0	0	0	0	0
1089	CRTFP Uy-	0	0	0	0	0	0
1090	SLU 1	-34	32	3178	-831.85	-1.62	-11.67
1090	SLU 2	-33	49	3102	-814.36	-1.58	-11.32
1090	SLU 3	-34	32	3269	-854.58	-1.67	-11.97
1090	SLU 4	-34	43	3224	-844.08	-1.65	-11.76
1090	SLU 5	-33	50	3163	-829.52	-1.61	-11.48
1090	SLU 6	-35	32	3331	-869.74	-1.7	-12.12
1090	SLU 7	-34	43	3285	-859.24	-1.68	-11.92
1090	SLU 8	-34	32	3300	-862.18	-1.69	-11.98
1090	SLU 9	-34	43	3255	-851.68	-1.66	-11.77
1090	SLU 10	-37	52	3504	-917.41	-1.82	-12.88
1090	SLU 11	-39	35	3672	-957.63	-1.91	-13.53
1090	SLU 12	-38	45	3626	-947.13	-1.89	-13.32
1090	SLU 13	-37	52	3565	-932.57	-1.86	-13.04
1090	SLU 14	-39	35	3733	-972.79	-1.95	-13.68
1090	SLU 15	-39	46	3687	-962.3	-1.92	-13.48
1090	SLU 16	-39	35	3703	-965.23	-1.93	-13.54
1090	SLU 17	-38	45	3657	-954.73	-1.91	-13.33
1090	SLU 18	-40	35	3753	-979.07	-1.97	-13.9
1090	SLU 19	-39	46	3707	-968.57	-1.94	-13.69
1090	SLU 20	-40	36	3814	-994.23	-2	-14.05
1090	SLU 21	-40	46	3768	-983.74	-1.98	-13.85
1090	SLU 22	-40	36	3726	-971.12	-1.95	-13.81
1090	SLU 23	-39	54	3650	-953.63	-1.9	-13.46
1090	SLU 24	-41	36	3818	-993.85	-2	-14.11
1090	SLU 25	-40	47	3772	-983.35	-1.97	-13.9
1090	SLU 26	-39	54	3712	-968.79	-1.94	-13.62
1090	SLU 27	-41	36	3879	-1009.01	-2.03	-14.26
1090	SLU 28	-40	47	3834	-998.52	-2	-14.06
1090	SLU 29	-41	36	3849	-1001.45	-2.01	-14.12
1090	SLU 30	-40	47	3803	-990.95	-1.99	-13.91
1090	SLU 31	-43	56	4053	-1056.68	-2.15	-15.03
1090	SLU 32	-45	39	4220	-1096.9	-2.24	-15.67
1090	SLU 33	-44	50	4175	-1086.4	-2.21	-15.46
1090	SLU 34	-44	56	4114	-1071.84	-2.18	-15.18
1090	SLU 35	-45	39	4282	-1112.07	-2.27	-15.82
1090	SLU 36	-45	50	4236	-1101.57	-2.25	-15.62
1090	SLU 37	-45	39	4251	-1104.5	-2.25	-15.68
1090	SLU 38	-44	49	4206	-1094.01	-2.23	-15.47
1090	SLU 39	-46	40	4301	-1118.34	-2.29	-16.04
1090	SLU 40	-45	50	4256	-1107.84	-2.27	-15.83
1090	SLU 41	-47	40	4362	-1133.51	-2.33	-16.19
1090	SLU 42	-46	51	4317	-1123.01	-2.3	-15.99
1090	SLU 43	-42	40	3943	-1033.65	-2	-14.43
1090	SLU 44	-41	57	3867	-1016.16	-1.96	-14.09
1090	SLU 45	-42	40	4035	-1056.38	-2.05	-14.73
1090	SLU 46	-42	51	3989	-1045.88	-2.02	-14.53
1090	SLU 47	-41	58	3928	-1031.32	-1.99	-14.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1090	SLU 48	-43	40	4096	-1071.54	-2.08	-14.89
1090	SLU 49	-42	51	4050	-1061.05	-2.05	-14.68
1090	SLU 50	-42	40	4066	-1063.98	-2.06	-14.74
1090	SLU 51	-42	51	4020	-1053.49	-2.04	-14.54
1090	SLU 52	-45	60	4269	-1119.21	-2.2	-15.65
1090	SLU 53	-47	43	4437	-1159.43	-2.29	-16.3
1090	SLU 54	-46	53	4391	-1148.94	-2.27	-16.09
1090	SLU 55	-45	60	4331	-1134.38	-2.23	-15.81
1090	SLU 56	-47	43	4498	-1174.6	-2.32	-16.45
1090	SLU 57	-47	54	4453	-1164.1	-2.3	-16.24
1090	SLU 58	-47	43	4468	-1167.04	-2.31	-16.3
1090	SLU 59	-46	53	4422	-1156.54	-2.28	-16.1
1090	SLU 60	-48	43	4518	-1180.87	-2.35	-16.66
1090	SLU 61	-47	54	4472	-1170.38	-2.32	-16.46
1090	SLU 62	-48	44	4579	-1196.04	-2.38	-16.82
1090	SLU 63	-48	54	4533	-1185.54	-2.35	-16.61
1090	SLU 64	-48	44	4492	-1172.93	-2.32	-16.57
1090	SLU 65	-47	62	4416	-1155.43	-2.28	-16.23
1090	SLU 66	-49	44	4583	-1195.65	-2.37	-16.87
1090	SLU 67	-48	55	4538	-1185.16	-2.35	-16.67
1090	SLU 68	-47	62	4477	-1170.6	-2.31	-16.38
1090	SLU 69	-49	44	4644	-1210.82	-2.4	-17.03
1090	SLU 70	-48	55	4599	-1200.32	-2.38	-16.82
1090	SLU 71	-49	44	4614	-1203.25	-2.39	-16.88
1090	SLU 72	-48	55	4569	-1192.76	-2.36	-16.68
1090	SLU 73	-51	64	4818	-1258.49	-2.52	-17.79
1090	SLU 74	-53	47	4985	-1298.71	-2.61	-18.44
1090	SLU 75	-52	58	4940	-1288.21	-2.59	-18.23
1090	SLU 76	-52	65	4879	-1273.65	-2.56	-17.95
1090	SLU 77	-53	47	5047	-1313.87	-2.65	-18.59
1090	SLU 78	-53	58	5001	-1303.37	-2.62	-18.38
1090	SLU 79	-53	47	5016	-1306.31	-2.63	-18.44
1090	SLU 80	-52	57	4971	-1295.81	-2.61	-18.24
1090	SLU 81	-54	48	5066	-1320.15	-2.67	-18.81
1090	SLU 82	-53	58	5021	-1309.65	-2.64	-18.6
1090	SLU 83	-54	48	5128	-1335.31	-2.7	-18.96
1090	SLU 84	-54	59	5082	-1324.81	-2.68	-18.75
1090	SLE RA 1	-35	33	3335	-871.64	-1.72	-12.28
1090	SLE RA 2	-35	45	3284	-859.98	-1.69	-12.05
1090	SLE RA 3	-36	33	3396	-886.79	-1.75	-12.48
1090	SLE RA 4	-35	40	3365	-879.79	-1.73	-12.34
1090	SLE RA 5	-35	45	3325	-870.09	-1.71	-12.15
1090	SLE RA 6	-36	33	3436	-896.9	-1.77	-12.58
1090	SLE RA 7	-36	40	3406	-889.9	-1.75	-12.44
1090	SLE RA 8	-36	33	3416	-891.86	-1.76	-12.48
1090	SLE RA 9	-36	40	3386	-884.86	-1.74	-12.35
1090	SLE RA 10	-38	47	3552	-928.68	-1.85	-13.09
1090	SLE RA 11	-39	35	3664	-955.5	-1.91	-13.52
1090	SLE RA 12	-38	42	3633	-948.5	-1.89	-13.38
1090	SLE RA 13	-38	47	3593	-938.79	-1.87	-13.19
1090	SLE RA 14	-39	35	3705	-965.6	-1.93	-13.62
1090	SLE RA 15	-39	42	3674	-958.61	-1.91	-13.49
1090	SLE RA 16	-39	35	3684	-960.56	-1.92	-13.53
1090	SLE RA 17	-38	42	3654	-953.57	-1.9	-13.39
1090	SLE RA 18	-40	35	3718	-969.79	-1.95	-13.77
1090	SLE RA 19	-39	43	3687	-962.79	-1.93	-13.63
1090	SLE RA 20	-40	35	3759	-979.9	-1.97	-13.87
1090	SLE RA 21	-39	43	3728	-972.9	-1.95	-13.73
1090	SLE FR 1	-35	33	3335	-871.64	-1.72	-12.28
1090	SLE FR 2	-35	35	3324	-869.31	-1.71	-12.23
1090	SLE FR 3	-35	33	3351	-875.69	-1.72	-12.32
1090	SLE FR 4	-36	36	3439	-898.75	-1.78	-12.68
1090	SLE FR 5	-37	34	3466	-905.13	-1.79	-12.77
1090	SLE FR 6	-37	34	3526	-920.72	-1.83	-13.02
1090	SLE QP 1	-35	33	3335	-871.64	-1.72	-12.28
1090	SLE QP 2	-37	34	3449	-901.09	-1.78	-12.73
1090	SLD 1	363	175	3142	-827.41	-0.97	127.32
1090	SLD 2	290	153	3168	-832.6	-0.92	101.53
1090	SLD 3	343	-41	4230	-1077.9	-1.55	120.19
1090	SLD 4	269	-63	4256	-1083.08	-1.51	94.4
1090	SLD 5	127	408	1703	-498.2	-0.66	44.54
1090	SLD 6	79	393	1720	-501.54	-0.63	27.93
1090	SLD 7	59	-313	5329	-1333.13	-2.61	20.78
1090	SLD 8	12	-327	5345	-1336.47	-2.58	4.16
1090	SLD 9	-85	395	1553	-465.7	-0.99	-29.62
1090	SLD 10	-133	380	1570	-469.04	-0.96	-46.23
1090	SLD 11	-152	-326	5179	-1300.64	-2.94	-53.38
1090	SLD 12	-200	-341	5196	-1303.98	-2.91	-69.99
1090	SLD 13	-343	131	2643	-719.09	-2.06	-119.85
1090	SLD 14	-416	108	2669	-724.28	-2.02	-145.65
1090	SLD 15	-363	-86	3731	-969.57	-2.65	-126.98
1090	SLD 16	-437	-108	3757	-974.76	-2.6	-152.77
1090	SLV 1	592	271	2891	-767.9	-0.47	207.25
1090	SLV 2	475	236	2932	-776.07	-0.39	166.59
1090	SLV 3	557	-98	4747	-1195.32	-1.47	195.12
1090	SLV 4	441	-133	4788	-1203.49	-1.39	154.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1090	SLV 5	226	671	459	-211.36	0.11	79.25
1090	SLV 6	147	647	487	-216.86	0.16	51.87
1090	SLV 7	111	-558	6646	-1636.08	-3.22	38.82
1090	SLV 8	33	-582	6674	-1641.58	-3.17	11.45
1090	SLV 9	-106	650	225	-160.59	-0.4	-36.9
1090	SLV 10	-184	626	253	-166.09	-0.35	-64.27
1090	SLV 11	-221	-580	6412	-1585.31	-3.73	-77.33
1090	SLV 12	-299	-603	6440	-1590.82	-3.68	-104.7
1090	SLV 13	-514	200	2111	-598.68	-2.18	-179.91
1090	SLV 14	-631	165	2152	-606.85	-2.1	-220.57
1090	SLV 15	-549	-168	3967	-1026.1	-3.18	-192.04
1090	SLV 16	-665	-204	4008	-1034.27	-3.1	-232.7
1090	SLV FO 1	655	295	2835	-754.58	-0.33	229.25
1090	SLV FO 2	527	256	2880	-763.57	-0.25	184.52
1090	SLV FO 3	617	-111	4876	-1224.74	-1.43	215.91
1090	SLV FO 4	489	-150	4922	-1233.73	-1.35	171.18
1090	SLV FO 5	252	734	160	-142.38	0.3	88.45
1090	SLV FO 6	166	708	191	-148.44	0.36	58.34
1090	SLV FO 7	126	-618	6966	-1709.58	-3.36	43.98
1090	SLV FO 8	40	-644	6996	-1715.63	-3.31	13.87
1090	SLV FO 9	-113	711	-97	-86.54	-0.26	-39.32
1090	SLV FO 10	-199	685	-67	-92.59	-0.21	-69.43
1090	SLV FO 11	-239	-641	6708	-1653.74	-3.93	-83.79
1090	SLV FO 12	-325	-667	6739	-1659.79	-3.87	-113.9
1090	SLV FO 13	-562	217	1977	-568.44	-2.22	-196.63
1090	SLV FO 14	-690	178	2022	-577.43	-2.14	-241.36
1090	SLV FO 15	-600	-189	4019	-1038.6	-3.32	-209.97
1090	SLV FO 16	-728	-228	4064	-1047.59	-3.24	-254.7
1090	CRTFP Ux+	0	0	0	0	0	0
1090	CRTFP Ux-	0	0	0	0	0	0
1090	CRTFP Uy+	0	0	0	0	0	0
1090	CRTFP Uy-	0	0	0	0	0	0
1091	SLU 1	-28	30	2879	-802.72	53.07	-10.42
1091	SLU 2	-27	46	2811	-785.69	51.8	-10.45
1091	SLU 3	-29	31	2963	-824.84	54.6	-10.67
1091	SLU 4	-28	40	2921	-814.63	53.84	-10.69
1091	SLU 5	-28	46	2866	-800.46	52.83	-10.57
1091	SLU 6	-29	31	3018	-839.61	55.62	-10.8
1091	SLU 7	-29	40	2977	-829.39	54.86	-10.81
1091	SLU 8	-29	30	2991	-832.24	55.12	-10.66
1091	SLU 9	-28	40	2949	-822.03	54.36	-10.68
1091	SLU 10	-31	49	3176	-885.97	58.52	-11.83
1091	SLU 11	-33	33	3328	-925.12	61.32	-12.05
1091	SLU 12	-32	43	3287	-914.91	60.56	-12.07
1091	SLU 13	-32	49	3232	-900.74	59.55	-11.95
1091	SLU 14	-33	33	3384	-939.89	62.34	-12.18
1091	SLU 15	-33	43	3342	-929.67	61.58	-12.19
1091	SLU 16	-33	33	3356	-932.52	61.84	-12.05
1091	SLU 17	-32	42	3315	-922.31	61.08	-12.06
1091	SLU 18	-34	34	3402	-945.97	62.67	-12.39
1091	SLU 19	-33	43	3360	-935.76	61.91	-12.41
1091	SLU 20	-34	34	3457	-960.74	63.69	-12.51
1091	SLU 21	-34	43	3416	-950.52	62.93	-12.53
1091	SLU 22	-33	34	3378	-938.24	62.23	-12.32
1091	SLU 23	-33	50	3309	-921.22	60.97	-12.35
1091	SLU 24	-34	35	3461	-960.37	63.76	-12.57
1091	SLU 25	-34	44	3419	-950.16	63	-12.59
1091	SLU 26	-33	50	3364	-935.98	61.99	-12.47
1091	SLU 27	-35	35	3516	-975.14	64.79	-12.7
1091	SLU 28	-34	44	3475	-964.92	64.03	-12.71
1091	SLU 29	-34	34	3489	-967.77	64.28	-12.57
1091	SLU 30	-34	44	3447	-957.56	63.52	-12.58
1091	SLU 31	-37	53	3674	-1021.5	67.69	-13.73
1091	SLU 32	-38	37	3826	-1060.65	70.48	-13.96
1091	SLU 33	-38	47	3785	-1050.44	69.72	-13.97
1091	SLU 34	-37	53	3730	-1036.26	68.71	-13.85
1091	SLU 35	-38	37	3882	-1075.42	71.51	-14.08
1091	SLU 36	-38	47	3840	-1065.2	70.75	-14.1
1091	SLU 37	-38	37	3854	-1068.05	71	-13.95
1091	SLU 38	-38	46	3813	-1057.84	70.24	-13.96
1091	SLU 39	-39	38	3900	-1081.5	71.83	-14.29
1091	SLU 40	-38	47	3858	-1071.29	71.07	-14.31
1091	SLU 41	-39	38	3955	-1096.26	72.86	-14.42
1091	SLU 42	-39	47	3914	-1086.05	72.1	-14.43
1091	SLU 43	-35	38	3573	-997.06	65.85	-12.89
1091	SLU 44	-34	54	3504	-980.04	64.58	-12.92
1091	SLU 45	-36	38	3656	-1019.19	67.38	-13.14
1091	SLU 46	-35	48	3614	-1008.98	66.62	-13.16
1091	SLU 47	-35	54	3559	-994.8	65.61	-13.04
1091	SLU 48	-36	38	3711	-1033.96	68.4	-13.27
1091	SLU 49	-36	48	3670	-1023.74	67.64	-13.29
1091	SLU 50	-36	38	3684	-1026.59	67.9	-13.14
1091	SLU 51	-35	48	3642	-1016.38	67.14	-13.15
1091	SLU 52	-38	56	3869	-1080.32	71.3	-14.3
1091	SLU 53	-39	41	4021	-1119.47	74.1	-14.53
1091	SLU 54	-39	50	3980	-1109.26	73.34	-14.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1091	SLU 55	-38	56	3925	-1095.08	72.33	-14.42
1091	SLU 56	-40	41	4077	-1134.24	75.12	-14.65
1091	SLU 57	-39	50	4035	-1124.02	74.36	-14.67
1091	SLU 58	-39	40	4049	-1126.87	74.62	-14.52
1091	SLU 59	-39	50	4008	-1116.66	73.86	-14.54
1091	SLU 60	-40	41	4095	-1140.32	75.45	-14.86
1091	SLU 61	-40	51	4053	-1130.11	74.69	-14.88
1091	SLU 62	-41	41	4150	-1155.08	76.47	-14.99
1091	SLU 63	-40	51	4109	-1144.87	75.71	-15
1091	SLU 64	-40	42	4071	-1132.59	75.01	-14.79
1091	SLU 65	-39	58	4002	-1115.57	73.75	-14.82
1091	SLU 66	-41	42	4154	-1154.72	76.54	-15.05
1091	SLU 67	-40	52	4112	-1144.51	75.78	-15.06
1091	SLU 68	-40	58	4057	-1130.33	74.77	-14.94
1091	SLU 69	-41	42	4209	-1169.48	77.57	-15.17
1091	SLU 70	-41	52	4168	-1159.27	76.81	-15.19
1091	SLU 71	-41	42	4182	-1162.12	77.06	-15.04
1091	SLU 72	-40	52	4140	-1151.91	76.3	-15.06
1091	SLU 73	-43	60	4367	-1215.85	80.47	-16.2
1091	SLU 74	-45	45	4519	-1255	83.26	-16.43
1091	SLU 75	-44	54	4478	-1244.79	82.5	-16.45
1091	SLU 76	-44	60	4423	-1230.61	81.49	-16.33
1091	SLU 77	-45	45	4575	-1269.76	84.29	-16.55
1091	SLU 78	-45	54	4533	-1259.55	83.53	-16.57
1091	SLU 79	-45	44	4547	-1262.4	83.78	-16.42
1091	SLU 80	-44	54	4506	-1252.19	83.02	-16.44
1091	SLU 81	-46	45	4593	-1275.85	84.61	-16.77
1091	SLU 82	-45	55	4552	-1265.63	83.85	-16.78
1091	SLU 83	-46	45	4648	-1290.61	85.64	-16.89
1091	SLU 84	-45	55	4607	-1280.4	84.88	-16.91
1091	SLE RA 1	-30	31	3022	-841.44	55.69	-10.96
1091	SLE RA 2	-29	42	2976	-830.09	54.84	-10.98
1091	SLE RA 3	-30	32	3077	-856.19	56.71	-11.13
1091	SLE RA 4	-30	38	3050	-849.38	56.2	-11.14
1091	SLE RA 5	-29	42	3013	-839.93	55.53	-11.06
1091	SLE RA 6	-30	32	3114	-866.03	57.39	-11.21
1091	SLE RA 7	-30	38	3087	-859.22	56.88	-11.22
1091	SLE RA 8	-30	31	3096	-861.12	57.05	-11.13
1091	SLE RA 9	-30	38	3068	-854.31	56.55	-11.14
1091	SLE RA 10	-32	44	3220	-896.94	59.32	-11.9
1091	SLE RA 11	-33	33	3321	-923.04	61.19	-12.05
1091	SLE RA 12	-32	40	3293	-916.23	60.68	-12.06
1091	SLE RA 13	-32	44	3257	-906.79	60.01	-11.98
1091	SLE RA 14	-33	33	3358	-932.89	61.87	-12.13
1091	SLE RA 15	-33	40	3330	-926.08	61.36	-12.15
1091	SLE RA 16	-33	33	3340	-927.98	61.53	-12.05
1091	SLE RA 17	-32	39	3312	-921.17	61.03	-12.06
1091	SLE RA 18	-33	34	3370	-936.94	62.09	-12.28
1091	SLE RA 19	-33	40	3342	-930.13	61.58	-12.29
1091	SLE RA 20	-34	34	3407	-946.78	62.77	-12.36
1091	SLE RA 21	-33	40	3379	-939.98	62.26	-12.37
1091	SLE FR 1	-30	31	3022	-841.44	55.69	-10.96
1091	SLE FR 2	-30	33	3013	-839.17	55.52	-10.96
1091	SLE FR 3	-30	31	3037	-845.37	55.96	-10.99
1091	SLE FR 4	-31	34	3117	-867.82	57.44	-11.36
1091	SLE FR 5	-31	32	3141	-874.03	57.88	-11.39
1091	SLE FR 6	-32	32	3196	-889.19	58.89	-11.62
1091	SLE QP 1	-30	31	3022	-841.44	55.69	-10.96
1091	SLE QP 2	-31	32	3126	-870.09	57.61	-11.35
1091	SLD 1	326	157	2830	-797.27	52.58	108.94
1091	SLD 2	260	139	2851	-802.06	53.02	86.26
1091	SLD 3	310	-38	3816	-1041.1	70.74	111.92
1091	SLD 4	244	-56	3838	-1045.89	71.18	89.25
1091	SLD 5	113	367	1537	-477.61	28.48	24.1
1091	SLD 6	71	356	1552	-480.7	28.77	9.5
1091	SLD 7	57	-281	4825	-1290.37	89.01	34.06
1091	SLD 8	15	-293	4840	-1293.46	89.3	19.45
1091	SLD 9	-76	356	1413	-446.72	25.92	-42.16
1091	SLD 10	-119	345	1427	-449.81	26.21	-56.77
1091	SLD 11	-132	-292	4701	-1259.48	86.45	-32.21
1091	SLD 12	-175	-304	4715	-1262.57	86.74	-46.81
1091	SLD 13	-305	120	2415	-694.29	44.04	-111.96
1091	SLD 14	-371	102	2437	-699.08	44.48	-134.63
1091	SLD 15	-322	-75	3401	-938.12	62.2	-108.97
1091	SLD 16	-388	-93	3423	-942.91	62.64	-131.65
1091	SLV 1	530	241	2591	-738.71	48.43	177.03
1091	SLV 2	426	213	2626	-746.26	49.13	141.29
1091	SLV 3	501	-90	4275	-1154.79	79.42	181.99
1091	SLV 4	398	-119	4309	-1162.34	80.12	146.25
1091	SLV 5	200	603	406	-198.21	7.72	44.32
1091	SLV 6	130	584	430	-203.3	8.19	20.26
1091	SLV 7	105	-503	6017	-1585.14	111.02	60.83
1091	SLV 8	35	-522	6041	-1590.23	111.5	36.77
1091	SLV 9	-97	586	212	-149.95	3.72	-59.48
1091	SLV 10	-166	566	235	-155.03	4.19	-83.54
1091	SLV 11	-192	-520	5823	-1536.88	107.03	-42.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1091	SLV 12	-262	-539	5846	-1541.96	107.5	-67.03
1091	SLV 13	-459	183	1943	-577.84	35.1	-168.96
1091	SLV 14	-563	154	1978	-585.39	35.8	-204.7
1091	SLV 15	-488	-149	3627	-993.92	66.09	-164
1091	SLV 16	-592	-177	3661	-1001.47	66.79	-199.74
1091	SLV FO 1	586	262	2538	-725.57	47.51	195.87
1091	SLV FO 2	472	231	2576	-733.88	48.28	156.56
1091	SLV FO 3	555	-103	4389	-1183.26	81.6	201.32
1091	SLV FO 4	440	-134	4428	-1191.57	82.37	162.01
1091	SLV FO 5	223	660	134	-131.03	2.73	49.89
1091	SLV FO 6	146	639	160	-136.62	3.25	23.42
1091	SLV FO 7	118	-556	6306	-1656.65	116.37	68.05
1091	SLV FO 8	41	-577	6332	-1662.24	116.88	41.58
1091	SLV FO 9	-103	641	-80	-77.94	-1.67	-64.29
1091	SLV FO 10	-180	620	-54	-83.53	-1.15	-90.76
1091	SLV FO 11	-208	-575	6093	-1603.56	111.97	-46.13
1091	SLV FO 12	-285	-596	6118	-1609.15	112.49	-72.6
1091	SLV FO 13	-502	198	1825	-548.61	32.85	-184.72
1091	SLV FO 14	-616	167	1863	-556.92	33.62	-224.03
1091	SLV FO 15	-534	-167	3677	-1006.3	66.94	-179.27
1091	SLV FO 16	-648	-198	3715	-1014.6	67.71	-218.58
1091	CRTFP Ux+	0	0	0	0	0	0
1091	CRTFP Ux-	0	0	0	0	0	0
1091	CRTFP Uy+	0	0	0	0	0	0
1091	CRTFP Uy-	0	0	0	0	0	0
1093	SLU 1	-119	139	13463	-4418.08	-945.76	-32.21
1093	SLU 2	-116	214	13140	-4318.42	-924.42	-25.46
1093	SLU 3	-122	141	13851	-4543.07	-972.5	-33.04
1093	SLU 4	-120	186	13657	-4483.27	-959.7	-28.99
1093	SLU 5	-117	214	13400	-4401.9	-942.27	-25.89
1093	SLU 6	-123	141	14110	-4626.54	-990.35	-33.47
1093	SLU 7	-121	186	13917	-4566.75	-977.55	-29.42
1093	SLU 8	-122	140	13982	-4585.03	-981.47	-33.07
1093	SLU 9	-120	185	13788	-4525.24	-968.66	-29.02
1093	SLU 10	-132	224	14851	-4877.26	-1044.55	-30.64
1093	SLU 11	-138	151	15561	-5101.9	-1092.62	-38.23
1093	SLU 12	-136	196	15368	-5042.11	-1079.82	-34.18
1093	SLU 13	-133	224	15111	-4960.74	-1062.4	-31.07
1093	SLU 14	-140	152	15821	-5185.38	-1110.48	-38.66
1093	SLU 15	-138	196	15628	-5125.58	-1097.67	-34.61
1093	SLU 16	-138	150	15692	-5143.87	-1101.59	-38.25
1093	SLU 17	-136	195	15499	-5084.07	-1088.79	-34.2
1093	SLU 18	-142	153	15907	-5216.42	-1117.37	-39.61
1093	SLU 19	-140	198	15713	-5156.62	-1104.56	-35.56
1093	SLU 20	-144	154	16166	-5299.89	-1135.22	-40.04
1093	SLU 21	-142	199	15973	-5240.1	-1122.41	-35.99
1093	SLU 22	-141	157	15794	-5176.1	-1108.44	-38.76
1093	SLU 23	-138	232	15471	-5076.44	-1087.1	-32.01
1093	SLU 24	-144	159	16182	-5301.08	-1135.18	-39.6
1093	SLU 25	-142	204	15988	-5241.29	-1122.38	-35.55
1093	SLU 26	-139	232	15731	-5159.91	-1104.96	-32.44
1093	SLU 27	-146	160	16441	-5384.56	-1153.04	-40.03
1093	SLU 28	-144	205	16248	-5324.76	-1140.23	-35.98
1093	SLU 29	-144	158	16313	-5343.05	-1144.15	-39.62
1093	SLU 30	-142	203	16119	-5283.25	-1131.35	-35.57
1093	SLU 31	-154	242	17182	-5635.27	-1207.23	-37.2
1093	SLU 32	-161	169	17892	-5859.92	-1255.31	-44.79
1093	SLU 33	-159	214	17699	-5800.12	-1242.5	-40.74
1093	SLU 34	-156	242	17442	-5718.75	-1225.08	-37.63
1093	SLU 35	-162	170	18152	-5943.39	-1273.16	-45.22
1093	SLU 36	-160	215	17959	-5883.6	-1260.36	-41.17
1093	SLU 37	-160	168	18023	-5901.88	-1264.27	-44.81
1093	SLU 38	-158	213	17830	-5842.09	-1251.47	-40.76
1093	SLU 39	-165	172	18238	-5974.43	-1280.05	-46.17
1093	SLU 40	-163	216	18044	-5914.64	-1267.24	-42.12
1093	SLU 41	-166	172	18497	-6057.91	-1297.9	-46.6
1093	SLU 42	-164	217	18304	-5998.11	-1285.1	-42.55
1093	SLU 43	-147	174	16702	-5483.61	-1173.71	-39.62
1093	SLU 44	-144	249	16380	-5383.96	-1152.37	-32.87
1093	SLU 45	-150	176	17090	-5608.6	-1200.45	-40.46
1093	SLU 46	-148	221	16897	-5548.81	-1187.65	-36.41
1093	SLU 47	-145	249	16639	-5467.43	-1170.23	-33.3
1093	SLU 48	-151	177	17350	-5692.08	-1218.3	-40.89
1093	SLU 49	-149	222	17156	-5632.28	-1205.5	-36.84
1093	SLU 50	-150	175	17221	-5650.56	-1209.42	-40.48
1093	SLU 51	-148	220	17028	-5590.77	-1196.61	-36.43
1093	SLU 52	-160	259	18091	-5942.79	-1272.5	-38.05
1093	SLU 53	-166	186	18801	-6167.44	-1320.58	-45.64
1093	SLU 54	-164	231	18608	-6107.64	-1307.77	-41.59
1093	SLU 55	-162	260	18350	-6026.27	-1290.35	-38.48
1093	SLU 56	-168	187	19060	-6250.91	-1338.43	-46.07
1093	SLU 57	-166	232	18867	-6191.12	-1325.63	-42.02
1093	SLU 58	-166	185	18932	-6209.4	-1329.54	-45.66
1093	SLU 59	-164	230	18739	-6149.61	-1316.74	-41.61
1093	SLU 60	-171	189	19146	-6281.95	-1345.32	-47.03
1093	SLU 61	-169	234	18953	-6222.16	-1332.51	-42.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1093	SLU 62	-172	189	19406	-6365.43	-1363.17	-47.46
1093	SLU 63	-170	234	19212	-6305.63	-1350.37	-43.41
1093	SLU 64	-169	192	19033	-6241.63	-1336.39	-46.18
1093	SLU 65	-166	267	18711	-6141.97	-1315.06	-39.43
1093	SLU 66	-172	195	19421	-6366.61	-1363.13	-47.01
1093	SLU 67	-170	239	19228	-6306.82	-1350.33	-42.96
1093	SLU 68	-168	268	18970	-6225.45	-1332.91	-39.86
1093	SLU 69	-174	195	19681	-6450.09	-1380.99	-47.44
1093	SLU 70	-172	240	19487	-6390.3	-1368.18	-43.39
1093	SLU 71	-172	193	19552	-6408.58	-1372.1	-47.04
1093	SLU 72	-170	238	19359	-6348.79	-1359.3	-42.99
1093	SLU 73	-183	277	20422	-6700.81	-1435.18	-44.61
1093	SLU 74	-189	205	21132	-6925.45	-1483.26	-52.2
1093	SLU 75	-187	250	20939	-6865.66	-1470.46	-48.15
1093	SLU 76	-184	278	20681	-6784.28	-1453.03	-45.04
1093	SLU 77	-190	205	21391	-7008.93	-1501.11	-52.63
1093	SLU 78	-188	250	21198	-6949.13	-1488.31	-48.58
1093	SLU 79	-188	203	21263	-6967.41	-1492.22	-52.22
1093	SLU 80	-186	248	21070	-6907.62	-1479.42	-48.17
1093	SLU 81	-193	207	21477	-7039.97	-1508	-53.59
1093	SLU 82	-191	252	21284	-6980.17	-1495.2	-49.53
1093	SLU 83	-194	207	21737	-7123.44	-1525.85	-54.01
1093	SLU 84	-192	252	21543	-7063.65	-1513.05	-49.96
1093	SLE RA 1	-125	144	14129	-4634.66	-992.24	-34.08
1093	SLE RA 2	-123	194	13914	-4568.22	-978.01	-29.58
1093	SLE RA 3	-127	145	14387	-4717.98	-1010.07	-34.64
1093	SLE RA 4	-126	175	14258	-4678.12	-1001.53	-31.94
1093	SLE RA 5	-124	194	14087	-4623.87	-989.92	-29.87
1093	SLE RA 6	-128	146	14560	-4773.63	-1021.97	-34.92
1093	SLE RA 7	-127	176	14431	-4733.77	-1013.43	-32.22
1093	SLE RA 8	-127	145	14475	-4745.96	-1016.04	-34.65
1093	SLE RA 9	-126	175	14346	-4706.09	-1007.51	-31.95
1093	SLE RA 10	-134	201	15054	-4940.78	-1058.1	-33.04
1093	SLE RA 11	-138	152	15528	-5090.54	-1090.15	-38.09
1093	SLE RA 12	-137	182	15399	-5050.67	-1081.62	-35.39
1093	SLE RA 13	-135	201	15227	-4996.43	-1070	-33.32
1093	SLE RA 14	-139	152	15701	-5146.19	-1102.05	-38.38
1093	SLE RA 15	-138	182	15572	-5106.32	-1093.52	-35.68
1093	SLE RA 16	-138	151	15615	-5118.51	-1096.13	-38.11
1093	SLE RA 17	-137	181	15486	-5078.65	-1087.59	-35.41
1093	SLE RA 18	-141	154	15758	-5166.88	-1106.64	-39.02
1093	SLE RA 19	-140	184	15629	-5127.02	-1098.11	-36.32
1093	SLE RA 20	-142	154	15931	-5222.53	-1118.55	-39.3
1093	SLE RA 21	-141	184	15802	-5182.67	-1110.01	-36.6
1093	SLE FR 1	-125	144	14129	-4634.66	-992.24	-34.08
1093	SLE FR 2	-125	154	14086	-4621.37	-989.4	-33.18
1093	SLE FR 3	-126	144	14198	-4656.92	-997	-34.2
1093	SLE FR 4	-130	157	14574	-4781.04	-1023.72	-34.66
1093	SLE FR 5	-130	147	14687	-4816.58	-1031.32	-35.68
1093	SLE FR 6	-133	149	14943	-4900.77	-1049.44	-36.55
1093	SLE QP 1	-125	144	14129	-4634.66	-992.24	-34.08
1093	SLE QP 2	-130	147	14617	-4794.32	-1026.56	-35.56
1093	SLD 1	1532	708	13124	-4341.35	-909.41	585.81
1093	SLD 2	1227	640	13218	-4368.5	-913.39	476.07
1093	SLD 3	1458	-199	17742	-5770.32	-1215.56	493.73
1093	SLD 4	1153	-267	17835	-5797.47	-1219.55	383.99
1093	SLD 5	533	1702	7150	-2486.49	-526.39	309.38
1093	SLD 6	337	1658	7210	-2503.97	-528.96	238.71
1093	SLD 7	286	-1320	22542	-7249.73	-1546.91	2.45
1093	SLD 8	90	-1365	22602	-7267.21	-1549.48	-68.22
1093	SLD 9	-350	1658	6633	-2321.44	-503.65	-2.9
1093	SLD 10	-547	1614	6693	-2338.92	-506.21	-73.57
1093	SLD 11	-597	-1365	22025	-7084.68	-1524.16	-309.83
1093	SLD 12	-794	-1409	22084	-7102.16	-1526.73	-380.5
1093	SLD 13	-1413	561	11400	-3791.18	-833.58	-455.12
1093	SLD 14	-1718	493	11493	-3818.32	-837.56	-564.86
1093	SLD 15	-1487	-346	16017	-5220.15	-1139.73	-547.19
1093	SLD 16	-1792	-414	16110	-5247.3	-1143.72	-656.94
1093	SLV 1	2480	1092	11952	-3983.6	-821.74	944.78
1093	SLV 2	1999	984	12099	-4026.39	-828.02	771.79
1093	SLV 3	2354	-455	19832	-6422.19	-1344.2	787.59
1093	SLV 4	1873	-563	19979	-6464.98	-1350.49	614.61
1093	SLV 5	933	2796	1839	-844.6	-171.54	529.22
1093	SLV 6	610	2724	1938	-873.41	-175.76	412.77
1093	SLV 7	514	-2359	28106	-8973.22	-1913.09	5.26
1093	SLV 8	190	-2432	28205	-9002.02	-1917.32	-111.19
1093	SLV 9	-450	2726	1030	-586.62	-135.81	40.07
1093	SLV 10	-774	2653	1129	-615.43	-140.04	-76.39
1093	SLV 11	-870	-2430	27297	-8715.24	-1877.36	-483.89
1093	SLV 12	-1194	-2502	27396	-8744.04	-1881.59	-600.34
1093	SLV 13	-2133	857	9256	-3123.67	-702.64	-685.73
1093	SLV 14	-2614	749	9403	-3166.46	-708.92	-858.71
1093	SLV 15	-2259	-690	17136	-5562.25	-1225.1	-842.92
1093	SLV 16	-2740	-798	17282	-5605.04	-1231.39	-1015.9
1093	SLV FO 1	2741	1186	11686	-3902.53	-801.25	1042.81
1093	SLV FO 2	2212	1067	11847	-3949.6	-808.16	852.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1093	SLV FO 3	2602	-515	20354	-6584.97	-1375.97	869.9
1093	SLV FO 4	2073	-634	20515	-6632.04	-1382.88	679.62
1093	SLV FO 5	1040	3061	561	-449.63	-86.03	585.7
1093	SLV FO 6	684	2981	670	-481.32	-90.69	457.6
1093	SLV FO 7	578	-2610	29455	-9391.11	-2001.74	9.35
1093	SLV FO 8	222	-2690	29563	-9422.79	-2006.39	-118.76
1093	SLV FO 9	-482	2984	-328	-165.85	-46.73	47.63
1093	SLV FO 10	-839	2904	-220	-197.54	-51.38	-80.47
1093	SLV FO 11	-944	-2688	28565	-9107.33	-1962.44	-528.72
1093	SLV FO 12	-1300	-2767	28673	-9139.01	-1967.09	-656.82
1093	SLV FO 13	-2333	928	8720	-2956.61	-670.25	-750.75
1093	SLV FO 14	-2863	809	8881	-3003.67	-677.16	-941.03
1093	SLV FO 15	-2472	-774	17388	-5639.05	-1244.96	-923.65
1093	SLV FO 16	-3001	-892	17549	-5686.11	-1251.87	-1113.93
1093	CRTFP Ux+	0	0	0	0	0	0
1093	CRTFP Ux-	0	0	0	0	0	0
1093	CRTFP Uy+	0	0	0	-0.02	0	0
1093	CRTFP Uy-	0	0	0	0.02	0	0
1095	SLU 1	-28	33	3266	-888.67	-58.47	-9.15
1095	SLU 2	-27	51	3187	-869.64	-57.08	-8.59
1095	SLU 3	-28	33	3360	-913.11	-60.15	-9.37
1095	SLU 4	-28	44	3313	-901.69	-59.31	-9.03
1095	SLU 5	-27	51	3250	-885.94	-58.2	-8.69
1095	SLU 6	-29	33	3422	-929.41	-61.27	-9.46
1095	SLU 7	-28	44	3376	-917.99	-60.44	-9.13
1095	SLU 8	-28	33	3391	-921.27	-60.72	-9.34
1095	SLU 9	-28	44	3344	-909.85	-59.88	-9.01
1095	SLU 10	-31	53	3602	-980.12	-64.49	-9.94
1095	SLU 11	-32	35	3774	-1023.6	-67.56	-10.71
1095	SLU 12	-32	46	3727	-1012.18	-66.72	-10.38
1095	SLU 13	-31	53	3665	-996.43	-65.61	-10.03
1095	SLU 14	-33	35	3837	-1039.9	-68.68	-10.81
1095	SLU 15	-32	46	3790	-1028.48	-67.84	-10.47
1095	SLU 16	-32	35	3806	-1031.76	-68.13	-10.69
1095	SLU 17	-32	46	3759	-1020.34	-67.29	-10.35
1095	SLU 18	-33	36	3858	-1046.51	-69.06	-11.07
1095	SLU 19	-33	47	3811	-1035.09	-68.22	-10.74
1095	SLU 20	-34	36	3921	-1062.81	-70.18	-11.17
1095	SLU 21	-33	47	3874	-1051.39	-69.34	-10.83
1095	SLU 22	-33	37	3830	-1038.2	-68.56	-10.95
1095	SLU 23	-32	55	3752	-1019.17	-67.16	-10.39
1095	SLU 24	-34	37	3924	-1062.64	-70.23	-11.16
1095	SLU 25	-33	48	3878	-1051.22	-69.4	-10.83
1095	SLU 26	-33	55	3815	-1035.47	-68.28	-10.49
1095	SLU 27	-34	37	3987	-1078.94	-71.36	-11.26
1095	SLU 28	-34	48	3940	-1067.52	-70.52	-10.93
1095	SLU 29	-34	37	3956	-1070.8	-70.8	-11.14
1095	SLU 30	-33	48	3909	-1059.38	-69.96	-10.81
1095	SLU 31	-36	57	4167	-1129.65	-74.57	-11.74
1095	SLU 32	-38	40	4339	-1173.13	-77.64	-12.51
1095	SLU 33	-37	50	4292	-1161.71	-76.8	-12.18
1095	SLU 34	-37	57	4230	-1145.96	-75.69	-11.83
1095	SLU 35	-38	40	4402	-1189.43	-78.76	-12.61
1095	SLU 36	-37	51	4355	-1178.01	-77.93	-12.27
1095	SLU 37	-37	39	4371	-1181.29	-78.21	-12.49
1095	SLU 38	-37	50	4324	-1169.87	-77.37	-12.15
1095	SLU 39	-39	40	4423	-1196.04	-79.14	-12.87
1095	SLU 40	-38	51	4376	-1184.62	-78.3	-12.53
1095	SLU 41	-39	40	4486	-1212.34	-80.26	-12.97
1095	SLU 42	-38	51	4439	-1200.92	-79.42	-12.63
1095	SLU 43	-34	41	4052	-1104	-72.56	-11.28
1095	SLU 44	-33	59	3974	-1084.97	-71.16	-10.72
1095	SLU 45	-35	42	4146	-1128.44	-74.24	-11.5
1095	SLU 46	-34	52	4099	-1117.02	-73.4	-11.16
1095	SLU 47	-34	59	4036	-1101.27	-72.29	-10.82
1095	SLU 48	-35	42	4208	-1144.74	-75.36	-11.59
1095	SLU 49	-35	53	4162	-1133.32	-74.52	-11.26
1095	SLU 50	-35	41	4177	-1136.6	-74.8	-11.47
1095	SLU 51	-34	52	4130	-1125.18	-73.97	-11.14
1095	SLU 52	-37	61	4388	-1195.46	-78.57	-12.07
1095	SLU 53	-39	44	4560	-1238.93	-81.64	-12.84
1095	SLU 54	-38	55	4513	-1227.51	-80.81	-12.51
1095	SLU 55	-38	61	4451	-1211.76	-79.69	-12.16
1095	SLU 56	-39	44	4623	-1255.23	-82.77	-12.94
1095	SLU 57	-39	55	4576	-1243.81	-81.93	-12.6
1095	SLU 58	-39	43	4592	-1247.09	-82.21	-12.82
1095	SLU 59	-38	54	4545	-1235.67	-81.37	-12.48
1095	SLU 60	-40	44	4644	-1261.84	-83.14	-13.2
1095	SLU 61	-39	55	4597	-1250.42	-82.3	-12.87
1095	SLU 62	-40	44	4707	-1278.14	-84.26	-13.3
1095	SLU 63	-40	55	4660	-1266.72	-83.43	-12.96
1095	SLU 64	-39	45	4616	-1253.53	-82.64	-13.08
1095	SLU 65	-39	63	4538	-1234.5	-81.25	-12.52
1095	SLU 66	-40	46	4710	-1277.97	-84.32	-13.29
1095	SLU 67	-40	57	4664	-1266.55	-83.48	-12.96
1095	SLU 68	-39	64	4601	-1250.8	-82.37	-12.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1095	SLU 69	-40	46	4773	-1294.27	-85.44	-13.39
1095	SLU 70	-40	57	4726	-1282.85	-84.6	-13.06
1095	SLU 71	-40	45	4742	-1286.13	-84.89	-13.27
1095	SLU 72	-40	56	4695	-1274.71	-84.05	-12.93
1095	SLU 73	-43	66	4953	-1344.99	-88.65	-13.86
1095	SLU 74	-44	48	5125	-1388.46	-91.73	-14.64
1095	SLU 75	-44	59	5078	-1377.04	-90.89	-14.3
1095	SLU 76	-43	66	5016	-1361.29	-89.77	-13.96
1095	SLU 77	-44	48	5188	-1404.76	-92.85	-14.73
1095	SLU 78	-44	59	5141	-1393.34	-92.01	-14.4
1095	SLU 79	-44	48	5157	-1396.62	-92.29	-14.61
1095	SLU 80	-44	58	5110	-1385.2	-91.46	-14.28
1095	SLU 81	-45	48	5209	-1411.37	-93.22	-15
1095	SLU 82	-45	59	5162	-1399.95	-92.39	-14.66
1095	SLU 83	-45	48	5272	-1427.67	-94.34	-15.09
1095	SLU 84	-45	59	5225	-1416.25	-93.51	-14.76
1095	SLE RA 1	-29	34	3427	-931.39	-61.35	-9.66
1095	SLE RA 2	-29	46	3375	-918.7	-60.42	-9.29
1095	SLE RA 3	-30	34	3490	-947.68	-62.47	-9.81
1095	SLE RA 4	-29	41	3458	-940.07	-61.91	-9.59
1095	SLE RA 5	-29	46	3417	-929.57	-61.17	-9.36
1095	SLE RA 6	-30	34	3532	-958.55	-63.22	-9.87
1095	SLE RA 7	-30	42	3500	-950.94	-62.66	-9.65
1095	SLE RA 8	-30	34	3511	-953.13	-62.85	-9.79
1095	SLE RA 9	-29	41	3480	-945.51	-62.29	-9.57
1095	SLE RA 10	-31	47	3651	-992.36	-65.36	-10.19
1095	SLE RA 11	-32	36	3766	-1021.34	-67.41	-10.71
1095	SLE RA 12	-32	43	3735	-1013.73	-66.85	-10.48
1095	SLE RA 13	-32	48	3693	-1003.23	-66.11	-10.25
1095	SLE RA 14	-32	36	3808	-1032.21	-68.16	-10.77
1095	SLE RA 15	-32	43	3777	-1024.6	-67.6	-10.55
1095	SLE RA 16	-32	35	3787	-1026.79	-67.79	-10.69
1095	SLE RA 17	-32	43	3756	-1019.17	-67.23	-10.47
1095	SLE RA 18	-33	36	3822	-1036.62	-68.41	-10.95
1095	SLE RA 19	-33	43	3791	-1029.01	-67.85	-10.72
1095	SLE RA 20	-33	36	3864	-1047.49	-69.16	-11.01
1095	SLE RA 21	-33	43	3833	-1039.87	-68.6	-10.79
1095	SLE FR 1	-29	34	3427	-931.39	-61.35	-9.66
1095	SLE FR 2	-29	36	3417	-928.85	-61.17	-9.59
1095	SLE FR 3	-29	34	3444	-935.74	-61.65	-9.69
1095	SLE FR 4	-30	37	3535	-960.42	-63.28	-9.97
1095	SLE FR 5	-30	35	3562	-967.31	-63.77	-10.07
1095	SLE FR 6	-31	35	3624	-984.01	-64.88	-10.3
1095	SLE QP 1	-29	34	3427	-931.39	-61.35	-9.66
1095	SLE QP 2	-30	34	3545	-962.96	-63.47	-10.05
1095	SLD 1	381	168	3162	-879.36	-55.95	135.95
1095	SLD 2	305	154	3183	-884.24	-56.26	109.21
1095	SLD 3	365	-53	4282	-1151.84	-75.97	126.47
1095	SLD 4	289	-67	4302	-1156.73	-76.28	99.72
1095	SLD 5	131	411	1729	-523.77	-30.79	52.74
1095	SLD 6	82	402	1742	-526.92	-30.99	35.51
1095	SLD 7	76	-324	5461	-1432.05	-97.54	21.12
1095	SLD 8	27	-332	5474	-1435.2	-97.74	3.9
1095	SLD 9	-88	401	1617	-490.72	-29.2	-24
1095	SLD 10	-137	393	1630	-493.87	-29.4	-41.22
1095	SLD 11	-143	-333	5348	-1399	-95.95	-55.61
1095	SLD 12	-192	-342	5362	-1402.15	-96.15	-72.83
1095	SLD 13	-350	136	2788	-769.19	-50.66	-119.82
1095	SLD 14	-425	122	2809	-774.08	-50.97	-146.57
1095	SLD 15	-366	-85	3908	-1041.68	-70.69	-129.31
1095	SLD 16	-442	-99	3929	-1046.56	-71	-156.05
1095	SLV 1	616	259	2866	-812.68	-50.29	219.43
1095	SLV 2	496	237	2899	-820.38	-50.77	177.27
1095	SLV 3	588	-117	4777	-1277.66	-84.46	203.26
1095	SLV 4	468	-139	4809	-1285.37	-84.95	161.1
1095	SLV 5	228	676	438	-211.21	-7.59	91.18
1095	SLV 6	148	661	460	-216.4	-7.92	62.8
1095	SLV 7	135	-577	6806	-1761.16	-121.5	37.29
1095	SLV 8	54	-591	6828	-1766.35	-121.83	8.91
1095	SLV 9	-115	660	263	-159.57	-5.11	-29.01
1095	SLV 10	-196	646	285	-164.76	-5.44	-57.39
1095	SLV 11	-208	-592	6631	-1709.52	-119.02	-82.9
1095	SLV 12	-289	-607	6653	-1714.71	-119.35	-111.28
1095	SLV 13	-529	208	2281	-640.55	-41.99	-181.2
1095	SLV 14	-649	186	2314	-648.26	-42.48	-223.36
1095	SLV 15	-557	-168	4192	-1105.54	-76.17	-197.37
1095	SLV 16	-677	-190	4224	-1113.24	-76.66	-239.53
1095	SLV FO 1	681	281	2798	-797.65	-48.97	242.38
1095	SLV FO 2	549	257	2834	-806.12	-49.51	196
1095	SLV FO 3	650	-132	4900	-1309.13	-86.56	224.59
1095	SLV FO 4	518	-156	4936	-1317.61	-87.1	178.22
1095	SLV FO 5	254	740	127	-136.03	-2.01	101.31
1095	SLV FO 6	166	724	152	-141.74	-2.37	70.09
1095	SLV FO 7	152	-638	7132	-1840.98	-127.31	42.02
1095	SLV FO 8	63	-654	7157	-1846.69	-127.67	10.8
1095	SLV FO 9	-124	723	-66	-79.23	0.73	-30.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1095	SLV FO 10	-212	707	-42	-84.94	0.37	-62.12
1095	SLV FO 11	-226	-655	6939	-1784.18	-124.57	-90.18
1095	SLV FO 12	-315	-671	6964	-1789.89	-124.93	-121.4
1095	SLV FO 13	-579	225	2155	-608.31	-39.85	-198.31
1095	SLV FO 14	-710	201	2191	-616.79	-40.38	-244.69
1095	SLV FO 15	-610	-188	4256	-1119.8	-77.44	-216.1
1095	SLV FO 16	-741	-212	4292	-1128.27	-77.97	-262.47
1095	CRTFP Ux+	0	0	0	0	0	0
1095	CRTFP Ux-	0	0	0	0	0	0
1095	CRTFP Uy+	0	0	0	0	0	0
1095	CRTFP Uy-	0	0	0	0	0	0
1096	SLU 1	-28	33	3492	-871.79	4.1	-9.84
1096	SLU 2	-27	53	3408	-853.13	4	-9.66
1096	SLU 3	-29	34	3592	-895.47	4.23	-10.06
1096	SLU 4	-28	46	3542	-884.27	4.17	-9.95
1096	SLU 5	-28	53	3475	-868.92	4.08	-9.74
1096	SLU 6	-29	34	3659	-911.26	4.31	-10.14
1096	SLU 7	-28	46	3609	-900.06	4.25	-10.03
1096	SLU 8	-28	34	3626	-903.37	4.27	-10.01
1096	SLU 9	-28	45	3576	-892.18	4.21	-9.9
1096	SLU 10	-31	55	3851	-960.02	4.56	-11.11
1096	SLU 11	-33	36	4035	-1002.36	4.79	-11.51
1096	SLU 12	-32	48	3985	-991.16	4.73	-11.4
1096	SLU 13	-32	55	3918	-975.81	4.64	-11.19
1096	SLU 14	-33	36	4102	-1018.15	4.87	-11.59
1096	SLU 15	-33	48	4052	-1006.95	4.81	-11.48
1096	SLU 16	-32	35	4068	-1010.26	4.83	-11.46
1096	SLU 17	-32	47	4018	-999.07	4.77	-11.35
1096	SLU 18	-34	36	4124	-1024.49	4.9	-11.92
1096	SLU 19	-33	48	4074	-1013.29	4.84	-11.81
1096	SLU 20	-34	36	4191	-1040.28	4.99	-12
1096	SLU 21	-34	48	4141	-1029.09	4.93	-11.89
1096	SLU 22	-33	38	4094	-1016.61	4.88	-11.79
1096	SLU 23	-33	57	4011	-997.95	4.77	-11.61
1096	SLU 24	-34	38	4194	-1040.29	5	-12.01
1096	SLU 25	-34	50	4144	-1029.09	4.94	-11.9
1096	SLU 26	-33	57	4078	-1013.74	4.86	-11.69
1096	SLU 27	-34	38	4261	-1056.08	5.09	-12.09
1096	SLU 28	-34	50	4211	-1044.88	5.02	-11.98
1096	SLU 29	-34	38	4228	-1048.19	5.04	-11.96
1096	SLU 30	-34	49	4178	-1037	4.98	-11.85
1096	SLU 31	-37	59	4453	-1104.84	5.33	-13.06
1096	SLU 32	-38	40	4637	-1147.18	5.56	-13.46
1096	SLU 33	-38	52	4587	-1135.98	5.5	-13.35
1096	SLU 34	-37	59	4520	-1120.63	5.42	-13.14
1096	SLU 35	-38	40	4704	-1162.97	5.65	-13.54
1096	SLU 36	-38	52	4654	-1151.77	5.58	-13.43
1096	SLU 37	-38	40	4671	-1155.08	5.61	-13.41
1096	SLU 38	-38	51	4621	-1143.89	5.54	-13.3
1096	SLU 39	-39	40	4726	-1169.31	5.68	-13.87
1096	SLU 40	-39	52	4676	-1158.12	5.61	-13.75
1096	SLU 41	-40	40	4793	-1185.1	5.76	-13.95
1096	SLU 42	-39	52	4743	-1173.91	5.7	-13.84
1096	SLU 43	-34	42	4333	-1083.67	5.07	-12.13
1096	SLU 44	-34	62	4249	-1065.01	4.96	-11.94
1096	SLU 45	-35	43	4433	-1107.35	5.19	-12.34
1096	SLU 46	-35	54	4383	-1096.15	5.13	-12.23
1096	SLU 47	-34	62	4317	-1080.8	5.05	-12.02
1096	SLU 48	-35	43	4500	-1123.14	5.28	-12.43
1096	SLU 49	-35	54	4450	-1111.95	5.22	-12.31
1096	SLU 50	-35	42	4467	-1115.26	5.24	-12.29
1096	SLU 51	-35	54	4417	-1104.06	5.17	-12.18
1096	SLU 52	-38	64	4692	-1171.9	5.52	-13.39
1096	SLU 53	-39	44	4876	-1214.24	5.75	-13.79
1096	SLU 54	-39	56	4826	-1203.04	5.69	-13.68
1096	SLU 55	-38	64	4759	-1187.7	5.61	-13.48
1096	SLU 56	-39	45	4943	-1230.03	5.84	-13.88
1096	SLU 57	-39	56	4893	-1218.84	5.78	-13.77
1096	SLU 58	-39	44	4909	-1222.15	5.8	-13.75
1096	SLU 59	-39	56	4859	-1210.95	5.74	-13.63
1096	SLU 60	-40	45	4965	-1236.37	5.87	-14.2
1096	SLU 61	-40	56	4915	-1225.18	5.81	-14.09
1096	SLU 62	-40	45	5032	-1252.16	5.95	-14.28
1096	SLU 63	-40	57	4982	-1240.97	5.89	-14.17
1096	SLU 64	-40	46	4935	-1228.49	5.84	-14.08
1096	SLU 65	-39	66	4852	-1209.83	5.74	-13.89
1096	SLU 66	-41	47	5035	-1252.17	5.97	-14.29
1096	SLU 67	-40	58	4985	-1240.98	5.91	-14.18
1096	SLU 68	-40	66	4919	-1225.63	5.82	-13.97
1096	SLU 69	-41	47	5103	-1267.96	6.05	-14.37
1096	SLU 70	-40	59	5052	-1256.77	5.99	-14.26
1096	SLU 71	-40	46	5069	-1260.08	6.01	-14.24
1096	SLU 72	-40	58	5019	-1248.88	5.95	-14.13
1096	SLU 73	-43	68	5294	-1316.73	6.3	-15.34
1096	SLU 74	-45	49	5478	-1359.06	6.53	-15.74
1096	SLU 75	-44	60	5428	-1347.87	6.47	-15.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1096	SLU 76	-44	68	5361	-1332.52	6.38	-15.42
1096	SLU 77	-45	49	5545	-1374.85	6.61	-15.83
1096	SLU 78	-45	60	5495	-1363.66	6.55	-15.72
1096	SLU 79	-44	48	5512	-1366.97	6.57	-15.69
1096	SLU 80	-44	60	5462	-1355.77	6.51	-15.58
1096	SLU 81	-46	49	5567	-1381.19	6.64	-16.15
1096	SLU 82	-45	61	5517	-1370	6.58	-16.04
1096	SLU 83	-46	49	5634	-1396.99	6.73	-16.23
1096	SLU 84	-46	61	5584	-1385.79	6.66	-16.12
1096	SLE RA 1	-29	35	3664	-913.17	4.32	-10.4
1096	SLE RA 2	-29	48	3608	-900.73	4.25	-10.28
1096	SLE RA 3	-30	35	3731	-928.95	4.41	-10.54
1096	SLE RA 4	-30	43	3697	-921.49	4.37	-10.47
1096	SLE RA 5	-29	48	3653	-911.25	4.31	-10.33
1096	SLE RA 6	-30	35	3775	-939.48	4.46	-10.6
1096	SLE RA 7	-30	43	3742	-932.02	4.42	-10.52
1096	SLE RA 8	-30	35	3753	-934.22	4.44	-10.51
1096	SLE RA 9	-30	43	3720	-926.76	4.39	-10.44
1096	SLE RA 10	-32	49	3903	-971.99	4.63	-11.24
1096	SLE RA 11	-33	36	4026	-1000.21	4.78	-11.51
1096	SLE RA 12	-32	44	3992	-992.75	4.74	-11.44
1096	SLE RA 13	-32	49	3948	-982.52	4.68	-11.3
1096	SLE RA 14	-33	36	4070	-1010.74	4.84	-11.57
1096	SLE RA 15	-33	44	4037	-1003.28	4.8	-11.49
1096	SLE RA 16	-33	36	4048	-1005.48	4.81	-11.48
1096	SLE RA 17	-32	44	4015	-998.02	4.77	-11.4
1096	SLE RA 18	-33	36	4085	-1014.97	4.86	-11.78
1096	SLE RA 19	-33	44	4052	-1007.5	4.82	-11.71
1096	SLE RA 20	-34	36	4130	-1025.49	4.91	-11.84
1096	SLE RA 21	-33	44	4097	-1018.03	4.87	-11.76
1096	SLE FR 1	-29	35	3664	-913.17	4.32	-10.4
1096	SLE FR 2	-29	37	3653	-910.68	4.31	-10.37
1096	SLE FR 3	-30	35	3682	-917.38	4.35	-10.42
1096	SLE FR 4	-31	38	3779	-941.22	4.47	-10.79
1096	SLE FR 5	-31	35	3808	-947.92	4.51	-10.84
1096	SLE FR 6	-31	36	3875	-964.07	4.59	-11.09
1096	SLE QP 1	-29	35	3664	-913.17	4.32	-10.4
1096	SLE QP 2	-31	35	3790	-943.71	4.48	-10.81
1096	SLD 1	423	175	3354	-860.1	4.96	147.72
1096	SLD 2	339	163	3374	-864.54	5.07	118.54
1096	SLD 3	406	-62	4550	-1126.97	6.42	142.12
1096	SLD 4	323	-74	4570	-1131.4	6.53	112.94
1096	SLD 5	145	439	1842	-513.12	2.4	50.26
1096	SLD 6	91	431	1855	-515.97	2.47	31.47
1096	SLD 7	90	-352	5829	-1402.67	7.26	31.59
1096	SLD 8	36	-360	5841	-1405.52	7.33	12.8
1096	SLD 9	-97	430	1739	-481.89	1.64	-34.42
1096	SLD 10	-151	422	1752	-484.75	1.71	-53.21
1096	SLD 11	-152	-361	5725	-1371.44	6.5	-53.1
1096	SLD 12	-206	-369	5738	-1374.3	6.57	-71.89
1096	SLD 13	-384	145	3011	-756.01	2.44	-134.57
1096	SLD 14	-468	132	3030	-760.45	2.55	-163.74
1096	SLD 15	-400	-93	4206	-1022.88	3.9	-140.17
1096	SLD 16	-484	-105	4226	-1027.31	4.01	-169.35
1096	SLV 1	681	272	3024	-793.84	5.11	237.98
1096	SLV 2	549	252	3055	-800.83	5.29	191.99
1096	SLV 3	653	-133	5064	-1249.23	7.6	228.51
1096	SLV 4	521	-152	5096	-1256.22	7.78	182.52
1096	SLV 5	250	723	459	-206.76	0.87	86.77
1096	SLV 6	161	710	480	-211.47	0.98	55.81
1096	SLV 7	157	-625	7262	-1724.74	9.16	55.21
1096	SLV 8	68	-638	7283	-1729.45	9.28	24.24
1096	SLV 9	-129	708	298	-157.97	-0.31	-45.87
1096	SLV 10	-218	696	319	-162.67	-0.19	-76.83
1096	SLV 11	-222	-640	7100	-1675.95	7.98	-77.43
1096	SLV 12	-311	-653	7121	-1680.65	8.1	-108.4
1096	SLV 13	-582	222	2485	-631.19	1.19	-204.15
1096	SLV 14	-714	203	2516	-638.18	1.36	-250.14
1096	SLV 15	-610	-182	4526	-1086.58	3.68	-213.62
1096	SLV 16	-742	-201	4557	-1093.57	3.85	-259.61
1096	SLV FO 1	752	295	2947	-778.85	5.18	262.86
1096	SLV FO 2	607	274	2981	-786.54	5.37	212.27
1096	SLV FO 3	721	-150	5192	-1279.79	7.91	252.45
1096	SLV FO 4	576	-171	5226	-1287.47	8.1	201.86
1096	SLV FO 5	278	792	126	-133.07	0.51	96.53
1096	SLV FO 6	180	778	149	-138.24	0.63	62.47
1096	SLV FO 7	175	-691	7609	-1802.84	9.63	61.81
1096	SLV FO 8	78	-706	7632	-1808.02	9.76	27.75
1096	SLV FO 9	-139	776	-51	-79.39	-0.79	-49.38
1096	SLV FO 10	-237	762	-28	-84.57	-0.66	-83.44
1096	SLV FO 11	-242	-708	7431	-1749.17	8.33	-84.1
1096	SLV FO 12	-339	-722	7454	-1754.35	8.46	-118.16
1096	SLV FO 13	-638	241	2354	-599.94	0.86	-223.48
1096	SLV FO 14	-783	220	2389	-607.63	1.05	-274.08
1096	SLV FO 15	-668	-204	4599	-1100.87	3.6	-233.9
1096	SLV FO 16	-813	-225	4633	-1108.56	3.79	-284.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1096	CRTFP Ux+	0	0	0	0	0	0
1096	CRTFP Ux-	0	0	0	0	0	0
1096	CRTFP Uy+	0	0	0	0	0	0
1096	CRTFP Uy-	0	0	0	0	0	0
1097	SLU 1	-25	32	3365	-767.67	4.17	-8.94
1097	SLU 2	-25	51	3285	-751.34	4.06	-8.81
1097	SLU 3	-26	32	3461	-788.2	4.29	-9.13
1097	SLU 4	-26	44	3413	-778.4	4.23	-9.04
1097	SLU 5	-25	51	3349	-765.04	4.15	-8.86
1097	SLU 6	-26	32	3526	-801.89	4.38	-9.18
1097	SLU 7	-26	44	3478	-792.1	4.32	-9.1
1097	SLU 8	-26	32	3494	-795.05	4.34	-9.06
1097	SLU 9	-26	43	3446	-785.26	4.27	-8.98
1097	SLU 10	-29	52	3710	-843.84	4.63	-10.19
1097	SLU 11	-30	34	3886	-880.69	4.86	-10.51
1097	SLU 12	-30	45	3838	-870.9	4.8	-10.43
1097	SLU 13	-29	52	3774	-857.53	4.72	-10.25
1097	SLU 14	-30	34	3951	-894.39	4.95	-10.57
1097	SLU 15	-30	45	3903	-884.59	4.89	-10.48
1097	SLU 16	-30	34	3919	-887.55	4.91	-10.44
1097	SLU 17	-29	45	3871	-877.75	4.84	-10.36
1097	SLU 18	-31	34	3972	-899.8	4.98	-10.92
1097	SLU 19	-31	45	3924	-890.01	4.92	-10.84
1097	SLU 20	-31	34	4037	-913.5	5.07	-10.98
1097	SLU 21	-31	45	3989	-903.7	5	-10.89
1097	SLU 22	-31	36	3943	-893.07	4.95	-10.78
1097	SLU 23	-30	55	3863	-876.74	4.85	-10.64
1097	SLU 24	-31	36	4040	-913.6	5.08	-10.96
1097	SLU 25	-31	47	3992	-903.8	5.02	-10.88
1097	SLU 26	-30	55	3928	-890.44	4.93	-10.7
1097	SLU 27	-31	36	4104	-927.29	5.17	-11.02
1097	SLU 28	-31	48	4056	-917.5	5.1	-10.94
1097	SLU 29	-31	36	4072	-920.45	5.12	-10.89
1097	SLU 30	-31	47	4024	-910.66	5.06	-10.81
1097	SLU 31	-34	56	4288	-969.24	5.42	-12.03
1097	SLU 32	-35	38	4465	-1006.09	5.65	-12.34
1097	SLU 33	-35	49	4417	-996.3	5.59	-12.26
1097	SLU 34	-34	56	4353	-982.93	5.5	-12.08
1097	SLU 35	-35	38	4529	-1019.79	5.74	-12.4
1097	SLU 36	-35	49	4481	-1009.99	5.67	-12.32
1097	SLU 37	-35	37	4497	-1012.95	5.69	-12.28
1097	SLU 38	-35	49	4449	-1003.15	5.63	-12.2
1097	SLU 39	-36	38	4551	-1025.2	5.77	-12.75
1097	SLU 40	-36	49	4503	-1015.41	5.7	-12.67
1097	SLU 41	-36	38	4615	-1038.9	5.85	-12.81
1097	SLU 42	-36	49	4567	-1029.1	5.79	-12.73
1097	SLU 43	-31	40	4176	-954.97	5.14	-11
1097	SLU 44	-31	59	4096	-938.65	5.04	-10.86
1097	SLU 45	-32	41	4273	-975.5	5.27	-11.18
1097	SLU 46	-32	52	4224	-965.71	5.21	-11.1
1097	SLU 47	-31	59	4160	-952.34	5.13	-10.92
1097	SLU 48	-32	41	4337	-989.2	5.36	-11.24
1097	SLU 49	-32	52	4289	-979.4	5.3	-11.15
1097	SLU 50	-32	40	4305	-982.36	5.32	-11.11
1097	SLU 51	-31	52	4257	-972.56	5.25	-11.03
1097	SLU 52	-35	61	4521	-1031.15	5.61	-12.24
1097	SLU 53	-36	42	4698	-1068	5.84	-12.56
1097	SLU 54	-36	54	4650	-1058.21	5.78	-12.48
1097	SLU 55	-35	61	4586	-1044.84	5.7	-12.3
1097	SLU 56	-36	42	4762	-1081.69	5.93	-12.62
1097	SLU 57	-36	54	4714	-1071.9	5.87	-12.54
1097	SLU 58	-36	42	4730	-1074.85	5.89	-12.49
1097	SLU 59	-35	53	4682	-1065.06	5.82	-12.41
1097	SLU 60	-37	42	4783	-1087.11	5.96	-12.97
1097	SLU 61	-37	54	4735	-1077.32	5.9	-12.89
1097	SLU 62	-37	42	4848	-1100.8	6.05	-13.03
1097	SLU 63	-37	54	4800	-1091.01	5.98	-12.95
1097	SLU 64	-37	44	4755	-1080.37	5.93	-12.83
1097	SLU 65	-36	63	4674	-1064.05	5.83	-12.7
1097	SLU 66	-37	44	4851	-1100.9	6.06	-13.01
1097	SLU 67	-37	56	4803	-1091.11	6	-12.93
1097	SLU 68	-36	63	4739	-1077.74	5.91	-12.75
1097	SLU 69	-37	44	4915	-1114.59	6.15	-13.07
1097	SLU 70	-37	56	4867	-1104.8	6.08	-12.99
1097	SLU 71	-37	44	4883	-1107.76	6.1	-12.95
1097	SLU 72	-37	55	4835	-1097.96	6.04	-12.87
1097	SLU 73	-40	64	5100	-1156.55	6.4	-14.08
1097	SLU 74	-41	46	5276	-1193.4	6.63	-14.4
1097	SLU 75	-41	57	5228	-1183.61	6.57	-14.32
1097	SLU 76	-40	64	5164	-1170.24	6.48	-14.14
1097	SLU 77	-41	46	5341	-1207.09	6.72	-14.46
1097	SLU 78	-41	57	5292	-1197.3	6.65	-14.37
1097	SLU 79	-41	45	5309	-1200.25	6.67	-14.33
1097	SLU 80	-41	57	5260	-1190.46	6.61	-14.25
1097	SLU 81	-42	46	5362	-1212.51	6.75	-14.81
1097	SLU 82	-42	57	5314	-1202.72	6.68	-14.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1097	SLU 83	-42	46	5426	-1226.2	6.83	-14.87
1097	SLU 84	-42	57	5378	-1216.41	6.77	-14.78
1097	SLE RA 1	-27	33	3530	-803.49	4.39	-9.47
1097	SLE RA 2	-27	46	3477	-792.61	4.32	-9.38
1097	SLE RA 3	-27	33	3595	-817.18	4.48	-9.59
1097	SLE RA 4	-27	41	3562	-810.65	4.43	-9.53
1097	SLE RA 5	-27	46	3520	-801.74	4.38	-9.42
1097	SLE RA 6	-27	33	3637	-826.31	4.53	-9.63
1097	SLE RA 7	-27	41	3605	-819.78	4.49	-9.57
1097	SLE RA 8	-27	33	3616	-821.75	4.5	-9.54
1097	SLE RA 9	-27	41	3584	-815.22	4.46	-9.49
1097	SLE RA 10	-29	47	3760	-854.28	4.7	-10.3
1097	SLE RA 11	-30	34	3878	-878.85	4.86	-10.51
1097	SLE RA 12	-30	42	3846	-872.32	4.81	-10.46
1097	SLE RA 13	-29	47	3803	-863.41	4.76	-10.34
1097	SLE RA 14	-30	34	3921	-887.97	4.91	-10.55
1097	SLE RA 15	-30	42	3889	-881.45	4.87	-10.5
1097	SLE RA 16	-30	34	3900	-883.42	4.88	-10.47
1097	SLE RA 17	-30	42	3868	-876.89	4.84	-10.41
1097	SLE RA 18	-31	34	3935	-891.59	4.93	-10.78
1097	SLE RA 19	-31	42	3903	-885.06	4.89	-10.73
1097	SLE RA 20	-31	34	3978	-900.71	4.99	-10.82
1097	SLE RA 21	-31	42	3946	-894.19	4.95	-10.77
1097	SLE FR 1	-27	33	3530	-803.49	4.39	-9.47
1097	SLE FR 2	-27	35	3520	-801.32	4.38	-9.45
1097	SLE FR 3	-27	33	3547	-807.15	4.41	-9.48
1097	SLE FR 4	-28	36	3641	-827.75	4.54	-9.84
1097	SLE FR 5	-28	33	3669	-833.57	4.58	-9.88
1097	SLE FR 6	-29	34	3733	-847.54	4.66	-10.13
1097	SLE QP 1	-27	33	3530	-803.49	4.39	-9.47
1097	SLE QP 2	-28	33	3652	-829.92	4.55	-9.86
1097	SLD 1	425	166	3203	-753.48	5.07	148.59
1097	SLD 2	341	157	3219	-756.82	5.18	119.4
1097	SLD 3	410	-64	4353	-986.92	6.53	143.56
1097	SLD 4	326	-73	4370	-990.27	6.64	114.38
1097	SLD 5	145	424	1769	-452.36	2.47	50.31
1097	SLD 6	91	418	1779	-454.51	2.54	31.52
1097	SLD 7	95	-343	5605	-1230.5	7.35	33.56
1097	SLD 8	41	-349	5616	-1232.66	7.42	14.77
1097	SLD 9	-97	416	1688	-427.19	1.69	-34.49
1097	SLD 10	-151	410	1698	-429.34	1.76	-53.29
1097	SLD 11	-147	-351	5524	-1205.33	6.57	-51.24
1097	SLD 12	-201	-357	5535	-1207.49	6.64	-70.04
1097	SLD 13	-383	140	2934	-669.58	2.46	-134.1
1097	SLD 14	-466	131	2950	-672.93	2.58	-163.29
1097	SLD 15	-398	-90	4084	-903.02	3.93	-139.13
1097	SLD 16	-481	-100	4101	-906.37	4.04	-168.31
1097	SLV 1	683	258	2868	-693.67	5.25	238.75
1097	SLV 2	551	243	2894	-698.95	5.42	192.75
1097	SLV 3	658	-134	4832	-1092.03	7.74	230.29
1097	SLV 4	526	-149	4858	-1097.31	7.92	184.29
1097	SLV 5	248	699	433	-183.89	0.94	86.15
1097	SLV 6	159	689	450	-187.44	1.06	55.18
1097	SLV 7	164	-610	6980	-1511.75	9.27	57.93
1097	SLV 8	75	-620	6997	-1515.3	9.39	26.96
1097	SLV 9	-132	686	306	-144.55	-0.28	-46.68
1097	SLV 10	-220	676	323	-148.1	-0.16	-77.65
1097	SLV 11	-215	-622	6853	-1472.41	8.05	-74.9
1097	SLV 12	-304	-632	6871	-1475.96	8.17	-105.87
1097	SLV 13	-582	216	2445	-562.54	1.18	-204.01
1097	SLV 14	-714	201	2471	-567.81	1.36	-250.01
1097	SLV 15	-607	-177	4409	-960.89	3.68	-212.48
1097	SLV 16	-739	-192	4435	-966.17	3.86	-258.48
1097	SLV FO 1	754	281	2790	-680.05	5.31	263.62
1097	SLV FO 2	609	264	2818	-685.85	5.51	213.01
1097	SLV FO 3	726	-151	4950	-1118.24	8.06	254.3
1097	SLV FO 4	581	-167	4979	-1124.05	8.26	203.7
1097	SLV FO 5	276	766	111	-119.29	0.58	95.75
1097	SLV FO 6	178	755	130	-123.19	0.71	61.68
1097	SLV FO 7	183	-674	7313	-1579.93	9.74	64.71
1097	SLV FO 8	86	-685	7332	-1583.84	9.87	30.64
1097	SLV FO 9	-142	752	-29	-76.01	-0.76	-50.36
1097	SLV FO 10	-239	741	-10	-79.92	-0.63	-84.43
1097	SLV FO 11	-234	-688	7173	-1536.65	8.4	-81.41
1097	SLV FO 12	-332	-699	7192	-1540.56	8.53	-115.47
1097	SLV FO 13	-638	234	2325	-535.8	0.85	-223.43
1097	SLV FO 14	-782	218	2353	-541.6	1.04	-274.03
1097	SLV FO 15	-665	-198	4485	-973.99	3.59	-232.74
1097	SLV FO 16	-810	-214	4514	-979.79	3.79	-283.34
1097	CRTFP Ux+	0	0	0	0	0	0
1097	CRTFP Ux-	0	0	0	0	0	0
1097	CRTFP Uy+	0	0	0	0	0	0
1097	CRTFP Uy-	0	0	0	0	0	0
1098	SLU 1	-23	32	3248	-679.23	3.52	-8.06
1098	SLU 2	-23	50	3170	-664.92	3.43	-7.97
1098	SLU 3	-24	32	3340	-697.1	3.62	-8.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1098	SLU 4	-23	43	3294	-688.51	3.57	-8.15
1098	SLU 5	-23	50	3232	-676.83	3.5	-8
1098	SLU 6	-24	32	3403	-709.01	3.7	-8.24
1098	SLU 7	-23	44	3356	-700.42	3.64	-8.19
1098	SLU 8	-23	32	3372	-703.06	3.66	-8.13
1098	SLU 9	-23	43	3325	-694.47	3.61	-8.07
1098	SLU 10	-27	52	3579	-745.23	3.91	-9.29
1098	SLU 11	-27	34	3749	-777.41	4.1	-9.53
1098	SLU 12	-27	45	3703	-768.82	4.05	-9.47
1098	SLU 13	-27	52	3642	-757.15	3.98	-9.32
1098	SLU 14	-27	34	3812	-789.33	4.18	-9.56
1098	SLU 15	-27	45	3765	-780.74	4.12	-9.5
1098	SLU 16	-27	33	3781	-783.38	4.14	-9.44
1098	SLU 17	-27	44	3734	-774.79	4.09	-9.39
1098	SLU 18	-28	34	3832	-793.97	4.2	-9.94
1098	SLU 19	-28	45	3786	-785.38	4.15	-9.89
1098	SLU 20	-29	34	3894	-805.89	4.27	-9.97
1098	SLU 21	-28	45	3848	-797.3	4.22	-9.92
1098	SLU 22	-28	35	3804	-788.13	4.18	-9.79
1098	SLU 23	-28	54	3727	-773.81	4.1	-9.7
1098	SLU 24	-28	36	3897	-805.99	4.29	-9.93
1098	SLU 25	-28	47	3850	-797.4	4.24	-9.88
1098	SLU 26	-28	54	3789	-785.73	4.17	-9.73
1098	SLU 27	-29	36	3959	-817.91	4.36	-9.97
1098	SLU 28	-28	47	3912	-809.32	4.31	-9.91
1098	SLU 29	-28	35	3928	-811.96	4.32	-9.85
1098	SLU 30	-28	47	3882	-803.37	4.27	-9.8
1098	SLU 31	-31	55	4136	-854.13	4.57	-11.01
1098	SLU 32	-32	37	4306	-886.31	4.77	-11.25
1098	SLU 33	-32	48	4259	-877.72	4.72	-11.2
1098	SLU 34	-32	55	4198	-866.05	4.65	-11.05
1098	SLU 35	-32	37	4368	-898.23	4.84	-11.28
1098	SLU 36	-32	48	4321	-889.64	4.79	-11.23
1098	SLU 37	-32	37	4337	-892.28	4.8	-11.17
1098	SLU 38	-32	48	4291	-883.69	4.75	-11.11
1098	SLU 39	-33	37	4388	-902.87	4.87	-11.67
1098	SLU 40	-33	48	4342	-894.28	4.81	-11.61
1098	SLU 41	-33	37	4450	-914.78	4.94	-11.7
1098	SLU 42	-33	48	4404	-906.19	4.89	-11.65
1098	SLU 43	-28	40	4031	-845.67	4.34	-9.89
1098	SLU 44	-28	59	3954	-831.35	4.26	-9.8
1098	SLU 45	-29	41	4124	-863.53	4.45	-10.03
1098	SLU 46	-29	52	4078	-854.94	4.4	-9.98
1098	SLU 47	-28	59	4016	-843.27	4.33	-9.83
1098	SLU 48	-29	41	4186	-875.45	4.52	-10.07
1098	SLU 49	-29	52	4140	-866.86	4.47	-10.01
1098	SLU 50	-29	40	4155	-869.5	4.49	-9.95
1098	SLU 51	-28	51	4109	-860.91	4.43	-9.9
1098	SLU 52	-32	60	4363	-911.67	4.74	-11.11
1098	SLU 53	-33	42	4533	-943.85	4.93	-11.35
1098	SLU 54	-32	53	4487	-935.26	4.88	-11.3
1098	SLU 55	-32	60	4425	-923.58	4.81	-11.15
1098	SLU 56	-33	42	4595	-955.76	5	-11.38
1098	SLU 57	-32	53	4549	-947.17	4.95	-11.33
1098	SLU 58	-32	42	4564	-949.81	4.97	-11.27
1098	SLU 59	-32	53	4518	-941.22	4.91	-11.21
1098	SLU 60	-34	42	4616	-960.41	5.03	-11.77
1098	SLU 61	-34	53	4569	-951.82	4.98	-11.71
1098	SLU 62	-34	42	4678	-972.32	5.1	-11.8
1098	SLU 63	-34	53	4631	-963.73	5.05	-11.75
1098	SLU 64	-33	44	4587	-954.56	5.01	-11.61
1098	SLU 65	-33	62	4510	-940.25	4.92	-11.52
1098	SLU 66	-34	44	4680	-972.43	5.12	-11.76
1098	SLU 67	-33	55	4634	-963.84	5.06	-11.71
1098	SLU 68	-33	62	4572	-952.16	4.99	-11.55
1098	SLU 69	-34	44	4742	-984.34	5.19	-11.79
1098	SLU 70	-34	55	4696	-975.75	5.14	-11.74
1098	SLU 71	-33	44	4712	-978.39	5.15	-11.68
1098	SLU 72	-33	55	4665	-969.8	5.1	-11.62
1098	SLU 73	-37	63	4919	-1020.56	5.4	-12.84
1098	SLU 74	-37	45	5089	-1052.75	5.6	-13.08
1098	SLU 75	-37	57	5043	-1044.16	5.54	-13.02
1098	SLU 76	-37	63	4981	-1032.48	5.47	-12.87
1098	SLU 77	-38	46	5151	-1064.66	5.67	-13.11
1098	SLU 78	-37	57	5105	-1056.07	5.62	-13.06
1098	SLU 79	-37	45	5121	-1058.71	5.63	-12.99
1098	SLU 80	-37	56	5074	-1050.12	5.58	-12.94
1098	SLU 81	-39	45	5172	-1069.3	5.69	-13.49
1098	SLU 82	-38	57	5125	-1060.71	5.64	-13.44
1098	SLU 83	-39	46	5234	-1081.22	5.77	-13.53
1098	SLU 84	-39	57	5188	-1072.63	5.71	-13.47
1098	SLE RA 1	-24	33	3407	-710.35	3.71	-8.55
1098	SLE RA 2	-24	45	3355	-700.8	3.65	-8.49
1098	SLE RA 3	-25	33	3468	-722.26	3.78	-8.65
1098	SLE RA 4	-25	41	3438	-716.53	3.74	-8.62
1098	SLE RA 5	-24	45	3396	-708.75	3.7	-8.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1098	SLE RA 6	-25	33	3510	-730.2	3.83	-8.67
1098	SLE RA 7	-25	41	3479	-724.47	3.79	-8.64
1098	SLE RA 8	-25	33	3489	-726.23	3.8	-8.6
1098	SLE RA 9	-24	40	3458	-720.51	3.77	-8.56
1098	SLE RA 10	-27	46	3628	-754.35	3.97	-9.37
1098	SLE RA 11	-27	34	3741	-775.8	4.1	-9.53
1098	SLE RA 12	-27	41	3710	-770.07	4.06	-9.49
1098	SLE RA 13	-27	46	3669	-762.29	4.02	-9.39
1098	SLE RA 14	-27	34	3783	-783.74	4.15	-9.55
1098	SLE RA 15	-27	41	3752	-778.02	4.11	-9.52
1098	SLE RA 16	-27	34	3762	-779.78	4.12	-9.47
1098	SLE RA 17	-27	41	3731	-774.05	4.09	-9.44
1098	SLE RA 18	-28	34	3796	-786.84	4.16	-9.81
1098	SLE RA 19	-28	41	3765	-781.11	4.13	-9.77
1098	SLE RA 20	-28	34	3838	-794.78	4.21	-9.83
1098	SLE RA 21	-28	41	3807	-789.06	4.18	-9.79
1098	SLE FR 1	-24	33	3407	-710.35	3.71	-8.55
1098	SLE FR 2	-24	35	3396	-708.44	3.7	-8.54
1098	SLE FR 3	-25	33	3423	-713.52	3.73	-8.56
1098	SLE FR 4	-26	36	3513	-731.39	3.83	-8.92
1098	SLE FR 5	-26	33	3540	-736.47	3.86	-8.94
1098	SLE FR 6	-26	33	3601	-748.59	3.93	-9.18
1098	SLE QP 1	-24	33	3407	-710.35	3.71	-8.55
1098	SLE QP 2	-26	33	3523	-733.29	3.84	-8.93
1098	SLD 1	414	160	3059	-660.63	4.5	144.87
1098	SLD 2	330	152	3072	-662.92	4.61	115.69
1098	SLD 3	427	-64	4170	-865.58	5.69	149.38
1098	SLD 4	343	-71	4183	-867.87	5.81	120.2
1098	SLD 5	100	411	1698	-400.28	2.2	35.38
1098	SLD 6	46	406	1706	-401.75	2.28	16.59
1098	SLD 7	145	-333	5399	-1083.41	6.19	50.43
1098	SLD 8	91	-338	5407	-1084.89	6.27	31.64
1098	SLD 9	-142	404	1640	-381.7	1.42	-49.5
1098	SLD 10	-196	399	1648	-383.18	1.49	-68.29
1098	SLD 11	-98	-340	5340	-1064.84	5.41	-34.45
1098	SLD 12	-151	-344	5349	-1066.31	5.48	-53.24
1098	SLD 13	-395	137	2864	-598.72	1.88	-138.06
1098	SLD 14	-478	130	2877	-601.01	1.99	-167.24
1098	SLD 15	-381	-86	3975	-803.67	3.08	-133.55
1098	SLD 16	-465	-93	3987	-805.96	3.19	-162.72
1098	SLV 1	662	248	2720	-605.06	4.77	231.85
1098	SLV 2	530	236	2741	-608.67	4.95	185.85
1098	SLV 3	685	-133	4615	-954.78	6.81	239.42
1098	SLV 4	553	-145	4636	-958.39	6.99	193.42
1098	SLV 5	171	677	405	-163.75	0.99	60.4
1098	SLV 6	82	669	419	-166.18	1.11	29.44
1098	SLV 7	246	-592	6721	-1329.47	7.8	85.64
1098	SLV 8	157	-599	6735	-1331.9	7.92	54.68
1098	SLV 9	-209	666	312	-134.69	-0.23	-72.53
1098	SLV 10	-297	658	326	-137.12	-0.11	-103.5
1098	SLV 11	-134	-603	6628	-1300.41	6.57	-47.3
1098	SLV 12	-222	-610	6642	-1302.84	6.7	-78.26
1098	SLV 13	-604	211	2411	-508.2	0.69	-211.28
1098	SLV 14	-736	199	2432	-511.81	0.87	-257.28
1098	SLV 15	-581	-170	4306	-857.92	2.73	-203.71
1098	SLV 16	-713	-181	4326	-861.53	2.91	-249.71
1098	SLV FO 1	731	269	2640	-592.24	4.87	255.93
1098	SLV FO 2	586	256	2663	-596.21	5.06	205.33
1098	SLV FO 3	756	-150	4724	-976.93	7.11	264.25
1098	SLV FO 4	611	-162	4747	-980.9	7.31	213.66
1098	SLV FO 5	191	741	93	-106.79	0.71	67.34
1098	SLV FO 6	93	733	108	-109.47	0.84	33.28
1098	SLV FO 7	273	-654	7041	-1389.09	8.19	95.1
1098	SLV FO 8	176	-663	7056	-1391.76	8.33	61.04
1098	SLV FO 9	-227	729	-9	-74.83	-0.64	-78.9
1098	SLV FO 10	-324	721	6	-77.5	-0.51	-112.96
1098	SLV FO 11	-144	-666	6939	-1357.12	6.85	-51.14
1098	SLV FO 12	-242	-675	6954	-1359.8	6.98	-85.2
1098	SLV FO 13	-662	229	2300	-485.69	0.38	-231.52
1098	SLV FO 14	-807	216	2323	-489.66	0.58	-282.11
1098	SLV FO 15	-637	-190	4384	-870.38	2.62	-223.19
1098	SLV FO 16	-782	-203	4407	-874.35	2.82	-273.78
1098	CRTFP Ux+	0	0	0	0	0	0
1098	CRTFP Ux-	0	0	0	0	0	0
1098	CRTFP Uy+	0	0	0	0	0	0
1098	CRTFP Uy-	0	0	0	0	0	0
1099	SLU 1	-21	33	3157	-614.7	2.42	-7.17
1099	SLU 2	-20	51	3082	-601.82	2.37	-7.12
1099	SLU 3	-21	34	3247	-630.62	2.5	-7.28
1099	SLU 4	-21	44	3202	-622.89	2.46	-7.26
1099	SLU 5	-20	51	3142	-612.44	2.42	-7.13
1099	SLU 6	-21	34	3307	-641.25	2.54	-7.29
1099	SLU 7	-21	44	3262	-633.52	2.51	-7.26
1099	SLU 8	-21	33	3278	-635.95	2.52	-7.18
1099	SLU 9	-21	44	3233	-628.22	2.49	-7.16
1099	SLU 10	-24	52	3479	-673.32	2.69	-8.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1099	SLU 11	-25	35	3644	-702.13	2.82	-8.54
1099	SLU 12	-24	46	3599	-694.4	2.79	-8.51
1099	SLU 13	-24	52	3539	-683.95	2.74	-8.38
1099	SLU 14	-25	35	3704	-712.75	2.87	-8.54
1099	SLU 15	-24	46	3659	-705.02	2.84	-8.52
1099	SLU 16	-24	35	3674	-707.45	2.85	-8.44
1099	SLU 17	-24	45	3629	-699.73	2.81	-8.41
1099	SLU 18	-26	35	3724	-716.85	2.89	-8.96
1099	SLU 19	-26	46	3679	-709.12	2.86	-8.93
1099	SLU 20	-26	35	3784	-727.47	2.94	-8.96
1099	SLU 21	-26	46	3739	-719.75	2.9	-8.94
1099	SLU 22	-25	36	3696	-711.59	2.88	-8.78
1099	SLU 23	-25	54	3621	-698.71	2.82	-8.74
1099	SLU 24	-26	37	3786	-727.51	2.95	-8.9
1099	SLU 25	-25	48	3741	-719.78	2.92	-8.87
1099	SLU 26	-25	55	3681	-709.33	2.87	-8.74
1099	SLU 27	-26	37	3847	-738.14	3	-8.9
1099	SLU 28	-26	48	3802	-730.41	2.97	-8.88
1099	SLU 29	-25	37	3817	-732.84	2.97	-8.8
1099	SLU 30	-25	47	3772	-725.11	2.94	-8.77
1099	SLU 31	-29	56	4018	-770.21	3.15	-9.99
1099	SLU 32	-29	38	4183	-799.02	3.28	-10.15
1099	SLU 33	-29	49	4138	-791.29	3.24	-10.12
1099	SLU 34	-29	56	4078	-780.84	3.2	-9.99
1099	SLU 35	-29	38	4243	-809.64	3.33	-10.16
1099	SLU 36	-29	49	4198	-801.91	3.29	-10.13
1099	SLU 37	-29	38	4214	-804.34	3.3	-10.05
1099	SLU 38	-29	49	4168	-796.62	3.27	-10.02
1099	SLU 39	-30	38	4263	-813.74	3.34	-10.57
1099	SLU 40	-30	49	4218	-806.01	3.31	-10.54
1099	SLU 41	-30	38	4323	-824.36	3.39	-10.58
1099	SLU 42	-30	49	4278	-816.64	3.36	-10.55
1099	SLU 43	-25	42	3919	-765.89	2.99	-8.77
1099	SLU 44	-25	60	3844	-753.01	2.94	-8.72
1099	SLU 45	-26	42	4009	-781.81	3.07	-8.88
1099	SLU 46	-25	53	3964	-774.08	3.03	-8.85
1099	SLU 47	-25	60	3905	-763.63	2.99	-8.73
1099	SLU 48	-26	42	4070	-792.44	3.11	-8.89
1099	SLU 49	-26	53	4025	-784.71	3.08	-8.86
1099	SLU 50	-25	42	4040	-787.14	3.09	-8.78
1099	SLU 51	-25	53	3995	-779.41	3.06	-8.75
1099	SLU 52	-29	61	4241	-824.51	3.26	-9.97
1099	SLU 53	-29	44	4406	-853.32	3.39	-10.13
1099	SLU 54	-29	54	4361	-845.59	3.36	-10.11
1099	SLU 55	-29	61	4301	-835.14	3.31	-9.98
1099	SLU 56	-29	44	4466	-863.94	3.44	-10.14
1099	SLU 57	-29	54	4421	-856.21	3.41	-10.11
1099	SLU 58	-29	43	4437	-858.64	3.42	-10.03
1099	SLU 59	-29	54	4392	-850.92	3.38	-10.01
1099	SLU 60	-30	44	4486	-868.04	3.46	-10.56
1099	SLU 61	-30	54	4441	-860.31	3.43	-10.53
1099	SLU 62	-30	44	4546	-878.66	3.51	-10.56
1099	SLU 63	-30	54	4501	-870.94	3.47	-10.53
1099	SLU 64	-30	45	4459	-862.78	3.45	-10.38
1099	SLU 65	-30	63	4384	-849.9	3.39	-10.33
1099	SLU 66	-30	46	4549	-878.7	3.52	-10.5
1099	SLU 67	-30	57	4504	-870.97	3.49	-10.47
1099	SLU 68	-30	63	4444	-860.52	3.44	-10.34
1099	SLU 69	-30	46	4609	-889.33	3.57	-10.5
1099	SLU 70	-30	57	4564	-881.6	3.54	-10.47
1099	SLU 71	-30	45	4579	-884.03	3.55	-10.39
1099	SLU 72	-30	56	4534	-876.3	3.51	-10.37
1099	SLU 73	-33	64	4780	-921.4	3.72	-11.59
1099	SLU 74	-34	47	4945	-950.21	3.85	-11.75
1099	SLU 75	-34	58	4900	-942.48	3.82	-11.72
1099	SLU 76	-33	64	4840	-932.03	3.77	-11.59
1099	SLU 77	-34	47	5006	-960.83	3.9	-11.75
1099	SLU 78	-34	58	4961	-953.1	3.86	-11.73
1099	SLU 79	-34	47	4976	-955.53	3.87	-11.65
1099	SLU 80	-33	57	4931	-947.81	3.84	-11.62
1099	SLU 81	-35	47	5025	-964.93	3.92	-12.17
1099	SLU 82	-35	58	4980	-957.2	3.88	-12.14
1099	SLU 83	-35	47	5086	-975.55	3.96	-12.18
1099	SLU 84	-35	58	5041	-967.83	3.93	-12.15
1099	SLE RA 1	-22	34	3311	-642.38	2.55	-7.63
1099	SLE RA 2	-22	46	3261	-633.8	2.52	-7.6
1099	SLE RA 3	-22	34	3371	-653	2.6	-7.71
1099	SLE RA 4	-22	42	3341	-647.84	2.58	-7.69
1099	SLE RA 5	-22	46	3301	-640.88	2.55	-7.6
1099	SLE RA 6	-22	34	3411	-660.08	2.63	-7.71
1099	SLE RA 7	-22	42	3381	-654.93	2.61	-7.69
1099	SLE RA 8	-22	34	3392	-656.55	2.62	-7.64
1099	SLE RA 9	-22	41	3361	-651.4	2.6	-7.62
1099	SLE RA 10	-24	47	3526	-681.47	2.73	-8.43
1099	SLE RA 11	-25	35	3636	-700.67	2.82	-8.54
1099	SLE RA 12	-25	42	3606	-695.51	2.8	-8.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1099	SLE RA 13	-24	47	3566	-688.55	2.77	-8.44
1099	SLE RA 14	-25	35	3676	-707.75	2.85	-8.55
1099	SLE RA 15	-25	42	3646	-702.6	2.83	-8.53
1099	SLE RA 16	-24	35	3656	-704.22	2.83	-8.47
1099	SLE RA 17	-24	42	3626	-699.07	2.81	-8.46
1099	SLE RA 18	-25	35	3689	-710.48	2.86	-8.82
1099	SLE RA 19	-25	42	3659	-705.33	2.84	-8.8
1099	SLE RA 20	-25	35	3729	-717.56	2.9	-8.83
1099	SLE RA 21	-25	42	3699	-712.41	2.87	-8.81
1099	SLE FR 1	-22	34	3311	-642.38	2.55	-7.63
1099	SLE FR 2	-22	36	3301	-640.66	2.55	-7.62
1099	SLE FR 3	-22	34	3327	-645.21	2.57	-7.63
1099	SLE FR 4	-23	37	3415	-661.09	2.64	-7.98
1099	SLE FR 5	-23	34	3441	-665.64	2.66	-7.99
1099	SLE FR 6	-24	35	3500	-676.43	2.71	-8.23
1099	SLE QP 1	-22	34	3311	-642.38	2.55	-7.63
1099	SLE QP 2	-23	34	3425	-662.81	2.65	-7.99
1099	SLD 1	417	155	2943	-589.11	3.51	146.05
1099	SLD 2	333	150	2953	-590.45	3.62	116.89
1099	SLD 3	429	-62	4024	-773.75	4.27	150.11
1099	SLD 4	345	-67	4033	-775.08	4.38	120.95
1099	SLD 5	105	401	1640	-360.45	1.74	37.08
1099	SLD 6	51	397	1646	-361.31	1.81	18.31
1099	SLD 7	145	-323	5242	-975.89	4.26	50.61
1099	SLD 8	91	-326	5248	-976.75	4.33	31.83
1099	SLD 9	-137	395	1601	-348.87	0.96	-47.81
1099	SLD 10	-191	392	1608	-349.73	1.03	-66.58
1099	SLD 11	-97	-329	5203	-964.32	3.48	-34.28
1099	SLD 12	-151	-332	5209	-965.18	3.55	-53.06
1099	SLD 13	-391	136	2816	-550.54	0.91	-136.93
1099	SLD 14	-475	131	2825	-551.88	1.02	-166.08
1099	SLD 15	-379	-81	3896	-735.17	1.67	-132.87
1099	SLD 16	-463	-86	3906	-736.51	1.78	-162.03
1099	SLV 1	666	239	2598	-534.51	3.94	233.21
1099	SLV 2	534	231	2613	-536.62	4.12	187.25
1099	SLV 3	686	-131	4442	-849.57	5.23	239.98
1099	SLV 4	554	-139	4457	-851.68	5.41	194.02
1099	SLV 5	178	659	377	-146.09	1.04	62.68
1099	SLV 6	89	653	387	-147.51	1.16	31.74
1099	SLV 7	245	-575	6524	-1196.29	5.35	85.24
1099	SLV 8	156	-581	6534	-1197.7	5.47	54.3
1099	SLV 9	-202	649	315	-127.92	-0.17	-70.28
1099	SLV 10	-291	644	325	-129.33	-0.05	-101.22
1099	SLV 11	-135	-584	6462	-1178.12	4.13	-47.72
1099	SLV 12	-224	-590	6472	-1179.53	4.25	-78.66
1099	SLV 13	-600	208	2392	-473.94	-0.12	-210
1099	SLV 14	-732	200	2407	-476.05	0.06	-255.96
1099	SLV 15	-580	-162	4236	-789	1.17	-203.23
1099	SLV 16	-712	-171	4251	-791.11	1.35	-249.19
1099	SLV FO 1	735	260	2516	-521.68	4.07	257.33
1099	SLV FO 2	590	251	2532	-524	4.27	206.78
1099	SLV FO 3	757	-147	4544	-868.25	5.49	264.78
1099	SLV FO 4	612	-156	4561	-870.57	5.68	214.22
1099	SLV FO 5	198	721	72	-94.42	0.88	69.75
1099	SLV FO 6	101	715	84	-95.98	1.02	35.71
1099	SLV FO 7	271	-636	6834	-1249.64	5.61	94.57
1099	SLV FO 8	174	-642	6845	-1251.19	5.75	60.53
1099	SLV FO 9	-220	711	4	-74.43	-0.45	-76.51
1099	SLV FO 10	-317	705	15	-75.99	-0.32	-110.54
1099	SLV FO 11	-147	-646	6766	-1229.65	4.28	-51.69
1099	SLV FO 12	-244	-653	6777	-1231.21	4.41	-85.73
1099	SLV FO 13	-658	225	2288	-455.06	-0.39	-230.2
1099	SLV FO 14	-803	216	2305	-457.37	-0.2	-280.75
1099	SLV FO 15	-636	-182	4317	-801.62	1.03	-222.75
1099	SLV FO 16	-781	-191	4333	-803.94	1.22	-273.31
1099	CRTFP Ux+	0	0	0	0	0	0
1099	CRTFP Ux-	0	0	0	0	0	0
1099	CRTFP Uy+	0	0	0	0	0	0
1099	CRTFP Uy-	0	0	0	0	0	0
1100	SLU 1	-18	35	3104	-579.23	1.08	-6.27
1100	SLU 2	-18	53	3030	-567.07	1.06	-6.26
1100	SLU 3	-18	36	3192	-594.09	1.11	-6.35
1100	SLU 4	-18	46	3148	-586.8	1.1	-6.34
1100	SLU 5	-18	53	3089	-577	1.08	-6.24
1100	SLU 6	-18	36	3252	-604.02	1.13	-6.33
1100	SLU 7	-18	46	3207	-596.72	1.12	-6.33
1100	SLU 8	-18	35	3222	-599.08	1.12	-6.23
1100	SLU 9	-18	46	3178	-591.79	1.11	-6.23
1100	SLU 10	-22	54	3420	-633.85	1.2	-7.45
1100	SLU 11	-22	37	3582	-660.87	1.25	-7.53
1100	SLU 12	-22	48	3538	-653.57	1.24	-7.53
1100	SLU 13	-21	54	3479	-643.78	1.22	-7.43
1100	SLU 14	-22	37	3641	-670.8	1.27	-7.51
1100	SLU 15	-22	48	3597	-663.5	1.26	-7.51
1100	SLU 16	-21	37	3612	-665.86	1.26	-7.42
1100	SLU 17	-21	47	3568	-658.56	1.25	-7.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1100	SLU 18	-23	37	3660	-674.63	1.28	-7.96
1100	SLU 19	-23	48	3616	-667.33	1.27	-7.96
1100	SLU 20	-23	37	3720	-684.55	1.3	-7.94
1100	SLU 21	-23	48	3675	-677.26	1.29	-7.94
1100	SLU 22	-22	39	3633	-669.59	1.28	-7.77
1100	SLU 23	-22	56	3559	-657.43	1.26	-7.76
1100	SLU 24	-23	39	3721	-684.45	1.31	-7.85
1100	SLU 25	-23	50	3677	-677.16	1.3	-7.84
1100	SLU 26	-22	56	3618	-667.36	1.28	-7.74
1100	SLU 27	-23	39	3781	-694.38	1.33	-7.83
1100	SLU 28	-23	50	3736	-687.08	1.32	-7.82
1100	SLU 29	-22	39	3751	-689.44	1.32	-7.73
1100	SLU 30	-22	49	3707	-682.15	1.31	-7.72
1100	SLU 31	-26	58	3949	-724.21	1.4	-8.94
1100	SLU 32	-26	41	4111	-751.23	1.45	-9.03
1100	SLU 33	-26	51	4067	-743.93	1.44	-9.03
1100	SLU 34	-26	58	4008	-734.14	1.42	-8.93
1100	SLU 35	-26	41	4170	-761.15	1.47	-9.01
1100	SLU 36	-26	51	4126	-753.86	1.46	-9.01
1100	SLU 37	-26	40	4141	-756.22	1.46	-8.91
1100	SLU 38	-26	51	4097	-748.92	1.45	-8.91
1100	SLU 39	-27	41	4190	-764.99	1.48	-9.46
1100	SLU 40	-27	51	4145	-757.69	1.47	-9.46
1100	SLU 41	-27	41	4249	-774.91	1.5	-9.44
1100	SLU 42	-27	51	4204	-767.62	1.49	-9.44
1100	SLU 43	-22	45	3854	-722.02	1.34	-7.63
1100	SLU 44	-22	62	3780	-709.86	1.32	-7.63
1100	SLU 45	-22	45	3942	-736.88	1.37	-7.72
1100	SLU 46	-22	56	3898	-729.59	1.36	-7.71
1100	SLU 47	-22	62	3839	-719.79	1.34	-7.61
1100	SLU 48	-22	45	4001	-746.81	1.39	-7.7
1100	SLU 49	-22	56	3957	-739.51	1.38	-7.69
1100	SLU 50	-22	45	3972	-741.87	1.38	-7.6
1100	SLU 51	-22	55	3928	-734.58	1.37	-7.59
1100	SLU 52	-25	64	4169	-776.64	1.46	-8.81
1100	SLU 53	-26	47	4332	-803.66	1.51	-8.9
1100	SLU 54	-26	57	4287	-796.36	1.5	-8.9
1100	SLU 55	-25	64	4228	-786.56	1.48	-8.8
1100	SLU 56	-26	47	4391	-813.58	1.53	-8.88
1100	SLU 57	-26	57	4347	-806.29	1.52	-8.88
1100	SLU 58	-25	46	4362	-808.65	1.52	-8.78
1100	SLU 59	-25	57	4317	-801.35	1.51	-8.78
1100	SLU 60	-27	47	4410	-817.42	1.54	-9.33
1100	SLU 61	-27	57	4366	-810.12	1.53	-9.32
1100	SLU 62	-27	47	4469	-827.34	1.56	-9.31
1100	SLU 63	-27	57	4425	-820.05	1.54	-9.31
1100	SLU 64	-26	48	4383	-812.38	1.54	-9.13
1100	SLU 65	-26	66	4309	-800.22	1.52	-9.13
1100	SLU 66	-27	49	4471	-827.24	1.57	-9.21
1100	SLU 67	-27	59	4427	-819.94	1.56	-9.21
1100	SLU 68	-26	66	4368	-810.15	1.54	-9.11
1100	SLU 69	-27	49	4530	-837.17	1.59	-9.19
1100	SLU 70	-27	59	4486	-829.87	1.58	-9.19
1100	SLU 71	-26	48	4501	-832.23	1.58	-9.1
1100	SLU 72	-26	59	4457	-824.94	1.57	-9.09
1100	SLU 73	-30	67	4698	-867	1.66	-10.31
1100	SLU 74	-30	50	4861	-894.02	1.71	-10.4
1100	SLU 75	-30	61	4816	-886.72	1.7	-10.39
1100	SLU 76	-30	67	4758	-876.92	1.68	-10.29
1100	SLU 77	-30	50	4920	-903.94	1.73	-10.38
1100	SLU 78	-30	61	4876	-896.65	1.72	-10.38
1100	SLU 79	-30	50	4891	-899.01	1.72	-10.28
1100	SLU 80	-30	60	4846	-891.71	1.71	-10.28
1100	SLU 81	-31	50	4939	-907.78	1.74	-10.83
1100	SLU 82	-31	61	4895	-900.48	1.73	-10.82
1100	SLU 83	-31	50	4999	-917.7	1.76	-10.81
1100	SLU 84	-31	61	4954	-910.41	1.74	-10.8
1100	SLE RA 1	-19	36	3255	-605.05	1.14	-6.7
1100	SLE RA 2	-19	48	3206	-596.94	1.13	-6.69
1100	SLE RA 3	-20	37	3314	-614.96	1.16	-6.75
1100	SLE RA 4	-20	44	3284	-610.09	1.15	-6.75
1100	SLE RA 5	-19	48	3245	-603.56	1.14	-6.68
1100	SLE RA 6	-19	37	3353	-621.57	1.17	-6.74
1100	SLE RA 7	-19	44	3324	-616.71	1.17	-6.73
1100	SLE RA 8	-19	36	3334	-618.28	1.17	-6.67
1100	SLE RA 9	-19	43	3304	-613.42	1.16	-6.67
1100	SLE RA 10	-22	49	3465	-641.46	1.22	-7.48
1100	SLE RA 11	-22	38	3574	-659.47	1.25	-7.54
1100	SLE RA 12	-22	45	3544	-654.61	1.24	-7.54
1100	SLE RA 13	-22	49	3505	-648.08	1.23	-7.47
1100	SLE RA 14	-22	38	3613	-666.09	1.26	-7.53
1100	SLE RA 15	-22	45	3584	-661.23	1.26	-7.52
1100	SLE RA 16	-22	37	3594	-662.8	1.26	-7.46
1100	SLE RA 17	-22	44	3564	-657.94	1.25	-7.46
1100	SLE RA 18	-23	38	3626	-668.65	1.27	-7.82
1100	SLE RA 19	-23	45	3597	-663.78	1.26	-7.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1100	SLE RA 20	-23	38	3666	-675.26	1.28	-7.81
1100	SLE RA 21	-23	45	3636	-670.4	1.28	-7.81
1100	SLE FR 1	-19	36	3255	-605.05	1.14	-6.7
1100	SLE FR 2	-19	39	3245	-603.43	1.14	-6.69
1100	SLE FR 3	-19	36	3271	-607.7	1.14	-6.69
1100	SLE FR 4	-20	39	3356	-622.51	1.18	-7.03
1100	SLE FR 5	-20	37	3382	-626.78	1.18	-7.03
1100	SLE FR 6	-21	37	3441	-636.85	1.21	-7.26
1100	SLE QP 1	-19	36	3255	-605.05	1.14	-6.7
1100	SLE QP 2	-20	37	3366	-624.13	1.18	-7.03
1100	SLD 1	420	153	2788	-544.39	2.31	147.11
1100	SLD 2	337	149	2794	-544.9	2.42	117.99
1100	SLD 3	431	-60	3854	-718.99	2.53	150.77
1100	SLD 4	347	-63	3860	-719.5	2.64	121.65
1100	SLD 5	110	395	1576	-335.31	1.16	38.67
1100	SLD 6	56	392	1580	-335.64	1.23	19.92
1100	SLD 7	145	-314	5128	-917.31	1.9	50.86
1100	SLD 8	92	-317	5132	-917.64	1.98	32.11
1100	SLD 9	-132	390	1601	-330.62	0.38	-46.18
1100	SLD 10	-186	388	1605	-330.95	0.45	-64.93
1100	SLD 11	-97	-319	5153	-912.62	1.13	-33.99
1100	SLD 12	-151	-321	5157	-912.95	1.2	-52.74
1100	SLD 13	-388	137	2873	-528.76	-0.29	-135.72
1100	SLD 14	-471	133	2879	-529.27	-0.17	-164.84
1100	SLD 15	-377	-76	3938	-703.36	-0.06	-132.06
1100	SLD 16	-461	-80	3945	-703.87	0.05	-161.18
1100	SLV 1	669	234	2381	-487.42	2.93	234.37
1100	SLV 2	538	229	2390	-488.22	3.1	188.47
1100	SLV 3	687	-128	4199	-785.36	3.31	240.43
1100	SLV 4	556	-134	4209	-786.16	3.48	194.53
1100	SLV 5	184	647	311	-131.09	1.09	64.77
1100	SLV 6	96	643	317	-131.63	1.21	33.87
1100	SLV 7	243	-562	6373	-1124.22	2.36	84.96
1100	SLV 8	155	-566	6379	-1124.77	2.48	54.06
1100	SLV 9	-195	639	354	-123.49	-0.12	-68.13
1100	SLV 10	-284	635	360	-124.03	0	-99.03
1100	SLV 11	-136	-570	6416	-1116.63	1.15	-47.93
1100	SLV 12	-225	-574	6422	-1117.17	1.26	-78.83
1100	SLV 13	-596	207	2524	-462.09	-1.12	-208.6
1100	SLV 14	-728	201	2534	-462.9	-0.95	-254.5
1100	SLV 15	-579	-156	4342	-760.04	-0.74	-202.54
1100	SLV 16	-710	-161	4352	-760.84	-0.57	-248.44
1100	SLV FO 1	738	254	2282	-473.74	3.1	258.51
1100	SLV FO 2	594	248	2293	-474.63	3.29	208.02
1100	SLV FO 3	758	-145	4282	-801.48	3.52	265.18
1100	SLV FO 4	613	-151	4293	-802.37	3.71	214.69
1100	SLV FO 5	205	708	5	-81.78	1.09	71.95
1100	SLV FO 6	107	704	12	-82.38	1.21	37.96
1100	SLV FO 7	270	-622	6673	-1174.23	2.48	94.16
1100	SLV FO 8	172	-626	6680	-1174.83	2.61	60.17
1100	SLV FO 9	-213	699	52	-73.43	-0.25	-74.23
1100	SLV FO 10	-310	695	59	-74.02	-0.12	-108.22
1100	SLV FO 11	-148	-631	6721	-1165.88	1.14	-52.02
1100	SLV FO 12	-245	-635	6728	-1166.47	1.27	-86.01
1100	SLV FO 13	-654	224	2440	-445.89	-1.35	-228.76
1100	SLV FO 14	-798	218	2450	-446.78	-1.16	-279.24
1100	SLV FO 15	-634	-175	4440	-773.63	-0.93	-222.09
1100	SLV FO 16	-779	-181	4451	-774.51	-0.74	-272.58
1100	CRTFP Ux+	0	0	0	0	0	0
1100	CRTFP Ux-	0	0	0	0	0	0
1100	CRTFP Uy+	0	0	0	0	0	0
1100	CRTFP Uy-	0	0	0	0	0	0
1101	SLU 1	-16	38	3093	-575.55	-0.35	-5.36
1101	SLU 2	-16	55	3019	-563.31	-0.32	-5.39
1101	SLU 3	-16	39	3181	-590.31	-0.36	-5.41
1101	SLU 4	-16	49	3136	-582.97	-0.35	-5.43
1101	SLU 5	-16	56	3078	-573.18	-0.33	-5.35
1101	SLU 6	-16	39	3240	-600.18	-0.37	-5.36
1101	SLU 7	-16	49	3196	-592.84	-0.36	-5.38
1101	SLU 8	-15	38	3211	-595.29	-0.37	-5.27
1101	SLU 9	-15	49	3166	-587.95	-0.35	-5.29
1101	SLU 10	-19	57	3407	-629.82	-0.39	-6.51
1101	SLU 11	-19	40	3569	-656.82	-0.42	-6.52
1101	SLU 12	-19	51	3525	-649.47	-0.41	-6.54
1101	SLU 13	-19	57	3466	-639.69	-0.4	-6.47
1101	SLU 14	-19	40	3629	-666.69	-0.43	-6.48
1101	SLU 15	-19	51	3584	-659.35	-0.42	-6.5
1101	SLU 16	-19	40	3599	-661.8	-0.43	-6.39
1101	SLU 17	-19	50	3555	-654.46	-0.42	-6.41
1101	SLU 18	-20	40	3648	-670.56	-0.43	-6.96
1101	SLU 19	-20	51	3603	-663.22	-0.42	-6.98
1101	SLU 20	-20	40	3707	-680.43	-0.45	-6.91
1101	SLU 21	-20	51	3662	-673.09	-0.43	-6.93
1101	SLU 22	-20	42	3620	-665.37	-0.42	-6.74
1101	SLU 23	-20	59	3546	-653.13	-0.4	-6.77
1101	SLU 24	-20	42	3708	-680.13	-0.43	-6.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1101	SLU 25	-20	53	3664	-672.79	-0.42	-6.81
1101	SLU 26	-20	59	3605	-663	-0.41	-6.73
1101	SLU 27	-20	42	3767	-690	-0.44	-6.74
1101	SLU 28	-20	53	3723	-682.66	-0.43	-6.76
1101	SLU 29	-19	42	3738	-685.11	-0.44	-6.65
1101	SLU 30	-19	52	3694	-677.77	-0.43	-6.67
1101	SLU 31	-23	61	3934	-719.64	-0.46	-7.89
1101	SLU 32	-23	44	4097	-746.64	-0.5	-7.9
1101	SLU 33	-23	54	4052	-739.29	-0.48	-7.92
1101	SLU 34	-23	61	3993	-729.51	-0.47	-7.85
1101	SLU 35	-23	44	4156	-756.51	-0.51	-7.86
1101	SLU 36	-23	54	4111	-749.17	-0.49	-7.88
1101	SLU 37	-23	43	4127	-751.62	-0.5	-7.77
1101	SLU 38	-23	54	4082	-744.28	-0.49	-7.79
1101	SLU 39	-24	44	4175	-760.38	-0.51	-8.34
1101	SLU 40	-24	54	4131	-753.04	-0.49	-8.36
1101	SLU 41	-24	44	4234	-770.25	-0.52	-8.29
1101	SLU 42	-24	54	4190	-762.91	-0.5	-8.31
1101	SLU 43	-19	48	3840	-717.42	-0.42	-6.49
1101	SLU 44	-19	66	3766	-705.18	-0.4	-6.53
1101	SLU 45	-19	49	3928	-732.18	-0.44	-6.54
1101	SLU 46	-19	59	3883	-724.84	-0.43	-6.56
1101	SLU 47	-19	66	3825	-715.05	-0.41	-6.48
1101	SLU 48	-19	49	3987	-742.05	-0.45	-6.49
1101	SLU 49	-19	59	3943	-734.71	-0.44	-6.52
1101	SLU 50	-19	49	3958	-737.16	-0.45	-6.4
1101	SLU 51	-19	59	3913	-729.82	-0.43	-6.42
1101	SLU 52	-22	67	4154	-771.69	-0.46	-7.65
1101	SLU 53	-22	50	4316	-798.68	-0.5	-7.66
1101	SLU 54	-22	61	4272	-791.34	-0.49	-7.68
1101	SLU 55	-22	67	4213	-781.56	-0.48	-7.6
1101	SLU 56	-22	51	4376	-808.56	-0.51	-7.61
1101	SLU 57	-22	61	4331	-801.22	-0.5	-7.63
1101	SLU 58	-22	50	4346	-803.67	-0.51	-7.52
1101	SLU 59	-22	60	4302	-796.33	-0.5	-7.54
1101	SLU 60	-24	50	4395	-812.43	-0.51	-8.09
1101	SLU 61	-24	61	4350	-805.08	-0.5	-8.11
1101	SLU 62	-23	51	4454	-822.3	-0.52	-8.05
1101	SLU 63	-23	61	4409	-814.96	-0.51	-8.07
1101	SLU 64	-23	52	4367	-807.24	-0.5	-7.87
1101	SLU 65	-23	69	4293	-795	-0.48	-7.91
1101	SLU 66	-23	52	4455	-822	-0.51	-7.92
1101	SLU 67	-23	63	4411	-814.66	-0.5	-7.94
1101	SLU 68	-23	69	4352	-804.87	-0.49	-7.86
1101	SLU 69	-23	53	4514	-831.87	-0.52	-7.88
1101	SLU 70	-23	63	4470	-824.53	-0.51	-7.9
1101	SLU 71	-23	52	4485	-826.98	-0.52	-7.78
1101	SLU 72	-23	63	4441	-819.64	-0.51	-7.81
1101	SLU 73	-26	71	4681	-861.51	-0.54	-9.03
1101	SLU 74	-26	54	4844	-888.5	-0.57	-9.04
1101	SLU 75	-26	64	4799	-881.16	-0.56	-9.06
1101	SLU 76	-26	71	4740	-871.38	-0.55	-8.98
1101	SLU 77	-26	54	4903	-898.38	-0.59	-8.99
1101	SLU 78	-26	65	4858	-891.04	-0.57	-9.01
1101	SLU 79	-26	54	4874	-893.49	-0.58	-8.9
1101	SLU 80	-26	64	4829	-886.15	-0.57	-8.92
1101	SLU 81	-27	54	4922	-902.25	-0.59	-9.47
1101	SLU 82	-28	64	4878	-894.9	-0.57	-9.49
1101	SLU 83	-27	54	4981	-912.12	-0.6	-9.43
1101	SLU 84	-27	65	4937	-904.78	-0.58	-9.45
1101	SLE RA 1	-17	39	3243	-601.21	-0.37	-5.75
1101	SLE RA 2	-17	51	3194	-593.05	-0.35	-5.78
1101	SLE RA 3	-17	40	3302	-611.05	-0.38	-5.78
1101	SLE RA 4	-17	46	3273	-606.16	-0.37	-5.8
1101	SLE RA 5	-17	51	3233	-599.64	-0.36	-5.75
1101	SLE RA 6	-17	40	3342	-617.63	-0.38	-5.75
1101	SLE RA 7	-17	47	3312	-612.74	-0.37	-5.77
1101	SLE RA 8	-17	39	3322	-614.37	-0.38	-5.69
1101	SLE RA 9	-17	46	3292	-609.48	-0.37	-5.71
1101	SLE RA 10	-19	52	3453	-637.39	-0.39	-6.52
1101	SLE RA 11	-19	41	3561	-655.39	-0.42	-6.53
1101	SLE RA 12	-19	47	3532	-650.5	-0.41	-6.54
1101	SLE RA 13	-19	52	3492	-643.97	-0.4	-6.49
1101	SLE RA 14	-19	41	3601	-661.97	-0.43	-6.5
1101	SLE RA 15	-19	48	3571	-657.08	-0.42	-6.51
1101	SLE RA 16	-19	40	3581	-658.71	-0.42	-6.44
1101	SLE RA 17	-19	47	3551	-653.82	-0.41	-6.45
1101	SLE RA 18	-20	41	3613	-664.55	-0.43	-6.82
1101	SLE RA 19	-20	48	3584	-659.66	-0.42	-6.83
1101	SLE RA 20	-20	41	3653	-671.13	-0.43	-6.79
1101	SLE RA 21	-20	48	3623	-666.24	-0.42	-6.8
1101	SLE FR 1	-17	39	3243	-601.21	-0.37	-5.75
1101	SLE FR 2	-17	41	3233	-599.58	-0.36	-5.76
1101	SLE FR 3	-17	39	3259	-603.84	-0.37	-5.74
1101	SLE FR 4	-18	42	3344	-618.58	-0.38	-6.08
1101	SLE FR 5	-18	40	3370	-622.84	-0.39	-6.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1101	SLE FR 6	-18	40	3428	-632.88	-0.4	-6.29
1101	SLE QP 1	-17	39	3243	-601.21	-0.37	-5.75
1101	SLE QP 2	-18	40	3354	-620.21	-0.38	-6.07
1101	SLD 1	423	153	2768	-523.44	1.04	148.03
1101	SLD 2	339	151	2771	-523.22	1.15	118.97
1101	SLD 3	432	-58	3836	-699.35	0.7	151.35
1101	SLD 4	349	-59	3838	-699.13	0.81	122.29
1101	SLD 5	114	393	1559	-324.42	0.54	40.13
1101	SLD 6	61	392	1561	-324.27	0.61	21.42
1101	SLD 7	146	-309	5117	-910.79	-0.6	51.18
1101	SLD 8	92	-310	5119	-910.65	-0.53	32.46
1101	SLD 9	-128	389	1590	-329.77	-0.24	-44.61
1101	SLD 10	-181	388	1591	-329.63	-0.17	-63.32
1101	SLD 11	-96	-313	5148	-916.15	-1.38	-33.56
1101	SLD 12	-150	-314	5150	-916.01	-1.31	-52.28
1101	SLD 13	-384	138	2870	-541.29	-1.58	-134.43
1101	SLD 14	-468	137	2873	-541.07	-1.47	-163.49
1101	SLD 15	-375	-72	3938	-717.21	-1.92	-131.12
1101	SLD 16	-458	-74	3941	-716.98	-1.81	-160.18
1101	SLV 1	672	233	2357	-455.92	1.87	235.31
1101	SLV 2	541	230	2361	-455.57	2.03	189.5
1101	SLV 3	688	-126	4178	-756.11	1.28	240.76
1101	SLV 4	557	-129	4183	-755.76	1.45	194.95
1101	SLV 5	190	642	291	-115.7	1.15	66.63
1101	SLV 6	102	641	294	-115.46	1.26	35.79
1101	SLV 7	242	-554	6364	-1116.34	-0.8	84.78
1101	SLV 8	154	-556	6367	-1116.1	-0.69	53.94
1101	SLV 9	-189	635	342	-124.32	-0.08	-66.09
1101	SLV 10	-278	633	345	-124.09	0.03	-96.93
1101	SLV 11	-137	-562	6414	-1124.96	-2.03	-47.94
1101	SLV 12	-225	-563	6417	-1124.72	-1.91	-78.78
1101	SLV 13	-592	208	2526	-484.66	-2.22	-207.09
1101	SLV 14	-723	205	2530	-484.31	-2.05	-252.9
1101	SLV 15	-576	-151	4348	-784.85	-2.8	-201.65
1101	SLV 16	-707	-154	4352	-784.5	-2.63	-247.46
1101	SLV FO 1	741	252	2257	-439.49	2.09	259.45
1101	SLV FO 2	597	249	2262	-439.11	2.28	209.06
1101	SLV FO 3	758	-143	4261	-769.7	1.45	265.44
1101	SLV FO 4	614	-146	4266	-769.32	1.63	215.05
1101	SLV FO 5	211	703	-15	-65.25	1.3	73.9
1101	SLV FO 6	114	701	-12	-64.99	1.42	39.98
1101	SLV FO 7	268	-613	6665	-1165.95	-0.85	93.87
1101	SLV FO 8	171	-615	6668	-1165.69	-0.72	59.94
1101	SLV FO 9	-206	694	41	-74.74	-0.05	-72.09
1101	SLV FO 10	-304	693	44	-74.47	0.08	-106.01
1101	SLV FO 11	-149	-622	6720	-1175.43	-2.19	-52.13
1101	SLV FO 12	-246	-623	6724	-1175.17	-2.07	-86.05
1101	SLV FO 13	-649	225	2443	-471.11	-2.4	-227.19
1101	SLV FO 14	-794	222	2448	-470.72	-2.22	-277.58
1101	SLV FO 15	-632	-170	4447	-801.32	-3.05	-221.2
1101	SLV FO 16	-776	-173	4452	-800.93	-2.86	-271.6
1101	CRTFP Ux+	0	0	0	0	0	0
1101	CRTFP Ux-	0	0	0	0	0	0
1101	CRTFP Uy+	0	0	0	0	0	0
1101	CRTFP Uy-	0	0	0	0	0	0
1102	SLU 1	-13	41	3124	-603.85	-1.72	-4.45
1102	SLU 2	-13	59	3049	-590.74	-1.66	-4.52
1102	SLU 3	-13	42	3213	-619.48	-1.77	-4.46
1102	SLU 4	-13	52	3168	-611.62	-1.74	-4.51
1102	SLU 5	-13	59	3109	-601.21	-1.7	-4.45
1102	SLU 6	-13	42	3273	-629.95	-1.81	-4.39
1102	SLU 7	-13	53	3228	-622.09	-1.78	-4.44
1102	SLU 8	-13	42	3244	-624.79	-1.8	-4.31
1102	SLU 9	-13	52	3199	-616.93	-1.76	-4.35
1102	SLU 10	-16	61	3442	-661.46	-1.91	-5.58
1102	SLU 11	-16	44	3607	-690.19	-2.03	-5.51
1102	SLU 12	-16	54	3562	-682.33	-1.99	-5.56
1102	SLU 13	-16	61	3502	-671.92	-1.95	-5.51
1102	SLU 14	-16	44	3667	-700.66	-2.07	-5.44
1102	SLU 15	-16	54	3621	-692.8	-2.03	-5.49
1102	SLU 16	-16	44	3637	-695.5	-2.05	-5.36
1102	SLU 17	-16	54	3592	-687.64	-2.01	-5.41
1102	SLU 18	-17	44	3686	-704.86	-2.08	-5.95
1102	SLU 19	-18	54	3641	-697	-2.04	-6
1102	SLU 20	-17	44	3746	-715.33	-2.12	-5.88
1102	SLU 21	-17	55	3701	-707.47	-2.08	-5.93
1102	SLU 22	-17	45	3658	-699.15	-2.05	-5.71
1102	SLU 23	-17	63	3582	-686.04	-1.99	-5.79
1102	SLU 24	-17	46	3747	-714.78	-2.11	-5.73
1102	SLU 25	-17	56	3702	-706.92	-2.07	-5.77
1102	SLU 26	-17	63	3642	-696.51	-2.03	-5.72
1102	SLU 27	-17	46	3807	-725.25	-2.15	-5.65
1102	SLU 28	-17	56	3762	-717.39	-2.11	-5.7
1102	SLU 29	-16	46	3777	-720.09	-2.13	-5.57
1102	SLU 30	-16	56	3732	-712.23	-2.09	-5.62
1102	SLU 31	-20	64	3976	-756.75	-2.24	-6.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1102	SLU 32	-20	48	4140	-785.49	-2.36	-6.78
1102	SLU 33	-20	58	4095	-777.63	-2.32	-6.82
1102	SLU 34	-20	65	4035	-767.22	-2.28	-6.77
1102	SLU 35	-20	48	4200	-795.96	-2.4	-6.71
1102	SLU 36	-20	58	4155	-788.1	-2.36	-6.75
1102	SLU 37	-19	47	4171	-790.8	-2.38	-6.63
1102	SLU 38	-19	58	4125	-782.94	-2.35	-6.67
1102	SLU 39	-21	48	4219	-800.16	-2.41	-7.22
1102	SLU 40	-21	58	4174	-792.3	-2.38	-7.26
1102	SLU 41	-21	48	4279	-810.63	-2.45	-7.15
1102	SLU 42	-21	58	4234	-802.77	-2.42	-7.19
1102	SLU 43	-16	53	3878	-752.33	-2.12	-5.35
1102	SLU 44	-16	70	3803	-739.22	-2.06	-5.43
1102	SLU 45	-16	53	3968	-767.96	-2.18	-5.36
1102	SLU 46	-16	64	3923	-760.1	-2.14	-5.41
1102	SLU 47	-16	70	3863	-749.69	-2.1	-5.35
1102	SLU 48	-16	53	4028	-778.43	-2.22	-5.29
1102	SLU 49	-16	64	3982	-770.57	-2.18	-5.34
1102	SLU 50	-15	53	3998	-773.27	-2.2	-5.21
1102	SLU 51	-15	63	3953	-765.41	-2.16	-5.25
1102	SLU 52	-19	72	4197	-809.94	-2.31	-6.48
1102	SLU 53	-19	55	4361	-838.67	-2.43	-6.42
1102	SLU 54	-19	65	4316	-830.81	-2.39	-6.46
1102	SLU 55	-19	72	4256	-820.41	-2.35	-6.41
1102	SLU 56	-19	55	4421	-849.14	-2.47	-6.35
1102	SLU 57	-19	66	4376	-841.28	-2.43	-6.39
1102	SLU 58	-18	55	4392	-843.98	-2.45	-6.26
1102	SLU 59	-18	65	4346	-836.12	-2.41	-6.31
1102	SLU 60	-20	55	4440	-853.34	-2.48	-6.86
1102	SLU 61	-20	66	4395	-845.48	-2.44	-6.9
1102	SLU 62	-20	55	4500	-863.81	-2.52	-6.79
1102	SLU 63	-20	66	4455	-855.95	-2.48	-6.83
1102	SLU 64	-19	56	4412	-847.63	-2.45	-6.62
1102	SLU 65	-20	74	4337	-834.52	-2.39	-6.69
1102	SLU 66	-19	57	4501	-863.26	-2.51	-6.63
1102	SLU 67	-20	67	4456	-855.4	-2.47	-6.67
1102	SLU 68	-19	74	4396	-844.99	-2.43	-6.62
1102	SLU 69	-19	57	4561	-873.73	-2.55	-6.56
1102	SLU 70	-19	68	4516	-865.87	-2.51	-6.6
1102	SLU 71	-19	57	4532	-868.57	-2.53	-6.47
1102	SLU 72	-19	67	4486	-860.71	-2.49	-6.52
1102	SLU 73	-23	76	4730	-905.24	-2.64	-7.74
1102	SLU 74	-22	59	4895	-933.97	-2.76	-7.68
1102	SLU 75	-23	69	4849	-926.11	-2.73	-7.72
1102	SLU 76	-22	76	4790	-915.7	-2.68	-7.67
1102	SLU 77	-22	59	4954	-944.44	-2.8	-7.61
1102	SLU 78	-22	69	4909	-936.58	-2.77	-7.65
1102	SLU 79	-22	59	4925	-939.28	-2.78	-7.53
1102	SLU 80	-22	69	4880	-931.42	-2.75	-7.57
1102	SLU 81	-24	59	4974	-948.64	-2.81	-8.12
1102	SLU 82	-24	69	4929	-940.78	-2.78	-8.16
1102	SLU 83	-24	59	5034	-959.11	-2.85	-8.05
1102	SLU 84	-24	70	4988	-951.25	-2.82	-8.09
1102	SLE RA 1	-14	43	3277	-631.08	-1.81	-4.81
1102	SLE RA 2	-14	54	3226	-622.34	-1.77	-4.86
1102	SLE RA 3	-14	43	3336	-641.5	-1.85	-4.82
1102	SLE RA 4	-14	50	3306	-636.26	-1.83	-4.85
1102	SLE RA 5	-14	54	3266	-629.32	-1.8	-4.81
1102	SLE RA 6	-14	43	3376	-648.48	-1.88	-4.77
1102	SLE RA 7	-14	50	3346	-643.24	-1.85	-4.8
1102	SLE RA 8	-14	43	3356	-645.04	-1.86	-4.72
1102	SLE RA 9	-14	50	3326	-639.8	-1.84	-4.75
1102	SLE RA 10	-16	55	3489	-669.48	-1.94	-5.56
1102	SLE RA 11	-16	44	3598	-688.64	-2.02	-5.52
1102	SLE RA 12	-16	51	3568	-683.4	-2	-5.55
1102	SLE RA 13	-16	55	3528	-676.46	-1.97	-5.51
1102	SLE RA 14	-16	44	3638	-695.62	-2.05	-5.47
1102	SLE RA 15	-16	51	3608	-690.38	-2.02	-5.5
1102	SLE RA 16	-16	44	3619	-692.18	-2.03	-5.42
1102	SLE RA 17	-16	51	3588	-686.94	-2.01	-5.45
1102	SLE RA 18	-17	44	3651	-698.42	-2.05	-5.81
1102	SLE RA 19	-17	51	3621	-693.18	-2.03	-5.84
1102	SLE RA 20	-17	44	3691	-705.4	-2.08	-5.77
1102	SLE RA 21	-17	51	3661	-700.16	-2.06	-5.8
1102	SLE FR 1	-14	43	3277	-631.08	-1.81	-4.81
1102	SLE FR 2	-14	45	3266	-629.33	-1.8	-4.82
1102	SLE FR 3	-14	43	3292	-633.87	-1.82	-4.79
1102	SLE FR 4	-15	45	3379	-649.53	-1.88	-5.12
1102	SLE FR 5	-15	43	3405	-654.07	-1.89	-5.09
1102	SLE FR 6	-16	43	3464	-664.75	-1.93	-5.31
1102	SLE QP 1	-14	43	3277	-631.08	-1.81	-4.81
1102	SLE QP 2	-15	43	3389	-651.28	-1.88	-5.11
1102	SLD 1	425	155	2765	-536.21	-0.16	148.81
1102	SLD 2	342	155	2764	-535.29	-0.06	119.82
1102	SLD 3	434	-55	3851	-724.75	-1.03	151.85
1102	SLD 4	351	-55	3850	-723.84	-0.93	122.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1102	SLD 5	118	396	1555	-330.96	-0.07	41.44
1102	SLD 6	65	396	1555	-330.37	0	22.77
1102	SLD 7	147	-306	5174	-959.44	-2.97	51.57
1102	SLD 8	94	-305	5174	-958.85	-2.9	32.9
1102	SLD 9	-123	391	1604	-343.71	-0.87	-43.13
1102	SLD 10	-177	392	1603	-343.12	-0.8	-61.8
1102	SLD 11	-95	-310	5223	-972.19	-3.77	-33
1102	SLD 12	-148	-309	5223	-971.6	-3.7	-51.66
1102	SLD 13	-381	141	2928	-578.72	-2.84	-133.08
1102	SLD 14	-464	142	2927	-577.81	-2.74	-162.07
1102	SLD 15	-372	-69	4014	-767.27	-3.71	-130.04
1102	SLD 16	-455	-69	4013	-766.35	-3.61	-159.03
1102	SLV 1	674	234	2332	-457.74	0.87	236.01
1102	SLV 2	543	235	2331	-456.3	1.03	190.32
1102	SLV 3	688	-125	4185	-779.5	-0.62	240.96
1102	SLV 4	557	-124	4185	-778.05	-0.46	195.27
1102	SLV 5	195	644	261	-105.49	1.16	68.25
1102	SLV 6	107	645	261	-104.52	1.27	37.49
1102	SLV 7	242	-552	6439	-1178.01	-3.79	84.74
1102	SLV 8	154	-551	6438	-1177.04	-3.68	53.98
1102	SLV 9	-184	637	340	-125.52	-0.09	-64.2
1102	SLV 10	-272	638	339	-124.55	0.02	-94.96
1102	SLV 11	-137	-559	6517	-1198.04	-5.04	-47.71
1102	SLV 12	-225	-558	6517	-1197.07	-4.93	-78.47
1102	SLV 13	-587	210	2593	-524.51	-3.31	-205.49
1102	SLV 14	-718	211	2593	-523.06	-3.15	-251.18
1102	SLV 15	-573	-149	4446	-846.26	-4.8	-200.54
1102	SLV 16	-704	-148	4446	-844.82	-4.63	-246.24
1102	SLV FO 1	743	253	2226	-438.38	1.14	260.12
1102	SLV FO 2	599	254	2226	-436.8	1.32	209.86
1102	SLV FO 3	759	-142	4265	-792.32	-0.49	265.57
1102	SLV FO 4	615	-141	4264	-790.73	-0.32	215.3
1102	SLV FO 5	216	704	-52	-50.91	1.47	75.58
1102	SLV FO 6	119	705	-52	-49.84	1.59	41.75
1102	SLV FO 7	267	-611	6744	-1230.69	-3.98	93.72
1102	SLV FO 8	171	-610	6743	-1229.62	-3.86	59.89
1102	SLV FO 9	-200	697	35	-72.94	0.09	-70.11
1102	SLV FO 10	-297	697	34	-71.87	0.21	-103.95
1102	SLV FO 11	-149	-619	6830	-1252.72	-5.36	-51.97
1102	SLV FO 12	-246	-618	6829	-1251.65	-5.24	-85.81
1102	SLV FO 13	-645	227	2514	-511.83	-3.45	-225.53
1102	SLV FO 14	-789	228	2513	-510.24	-3.27	-275.79
1102	SLV FO 15	-629	-168	4552	-865.76	-5.09	-220.09
1102	SLV FO 16	-773	-167	4551	-864.18	-4.91	-270.35
1102	CRTFP Ux+	0	0	0	0	0	0
1102	CRTFP Ux-	0	0	0	0	0	0
1102	CRTFP Uy+	0	0	0	0	0	0
1102	CRTFP Uy-	0	0	0	0	0	0
1103	SLU 1	-11	45	3194	-662.52	-2.88	-3.55
1103	SLU 2	-11	63	3117	-647.82	-2.79	-3.66
1103	SLU 3	-10	46	3286	-679.96	-2.97	-3.52
1103	SLU 4	-11	57	3239	-671.14	-2.92	-3.59
1103	SLU 5	-11	63	3178	-659.51	-2.85	-3.56
1103	SLU 6	-10	46	3347	-691.64	-3.03	-3.43
1103	SLU 7	-10	57	3301	-682.83	-2.98	-3.5
1103	SLU 8	-10	46	3317	-685.9	-3	-3.35
1103	SLU 9	-10	56	3271	-677.08	-2.95	-3.42
1103	SLU 10	-14	65	3520	-726.98	-3.2	-4.65
1103	SLU 11	-13	48	3689	-759.11	-3.38	-4.51
1103	SLU 12	-14	59	3643	-750.29	-3.33	-4.58
1103	SLU 13	-13	65	3582	-738.67	-3.26	-4.55
1103	SLU 14	-13	48	3751	-770.8	-3.45	-4.42
1103	SLU 15	-13	59	3704	-761.98	-3.39	-4.48
1103	SLU 16	-13	48	3721	-765.06	-3.42	-4.34
1103	SLU 17	-13	58	3674	-756.24	-3.36	-4.41
1103	SLU 18	-15	49	3771	-775.61	-3.46	-4.96
1103	SLU 19	-15	59	3724	-766.79	-3.41	-5.03
1103	SLU 20	-14	49	3832	-787.3	-3.53	-4.86
1103	SLU 21	-15	59	3786	-778.48	-3.48	-4.93
1103	SLU 22	-14	50	3741	-769.01	-3.43	-4.69
1103	SLU 23	-14	67	3664	-754.31	-3.34	-4.81
1103	SLU 24	-14	50	3833	-786.44	-3.52	-4.67
1103	SLU 25	-14	61	3786	-777.62	-3.47	-4.74
1103	SLU 26	-14	67	3725	-766	-3.4	-4.71
1103	SLU 27	-14	50	3894	-798.13	-3.58	-4.58
1103	SLU 28	-14	61	3848	-789.31	-3.53	-4.64
1103	SLU 29	-13	50	3864	-792.39	-3.55	-4.5
1103	SLU 30	-14	60	3817	-783.57	-3.5	-4.57
1103	SLU 31	-17	69	4067	-833.47	-3.75	-5.79
1103	SLU 32	-17	52	4236	-865.6	-3.93	-5.66
1103	SLU 33	-17	63	4190	-856.78	-3.88	-5.73
1103	SLU 34	-17	69	4128	-845.16	-3.81	-5.7
1103	SLU 35	-16	53	4298	-877.29	-4	-5.56
1103	SLU 36	-17	63	4251	-868.47	-3.94	-5.63
1103	SLU 37	-16	52	4267	-871.55	-3.97	-5.49
1103	SLU 38	-16	63	4221	-862.73	-3.91	-5.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1103	SLU 39	-18	53	4318	-882.09	-4.02	-6.11
1103	SLU 40	-18	63	4271	-873.27	-3.96	-6.17
1103	SLU 41	-18	53	4379	-893.78	-4.08	-6.01
1103	SLU 42	-18	63	4332	-884.96	-4.03	-6.08
1103	SLU 43	-13	58	3965	-824.77	-3.55	-4.22
1103	SLU 44	-13	75	3887	-810.07	-3.46	-4.33
1103	SLU 45	-12	58	4057	-842.2	-3.64	-4.19
1103	SLU 46	-13	69	4010	-833.38	-3.59	-4.26
1103	SLU 47	-13	75	3949	-821.76	-3.52	-4.23
1103	SLU 48	-12	58	4118	-853.89	-3.71	-4.1
1103	SLU 49	-12	69	4072	-845.07	-3.65	-4.17
1103	SLU 50	-12	58	4088	-848.15	-3.68	-4.02
1103	SLU 51	-12	68	4041	-839.33	-3.62	-4.09
1103	SLU 52	-16	77	4291	-889.23	-3.87	-5.32
1103	SLU 53	-15	60	4460	-921.36	-4.06	-5.18
1103	SLU 54	-16	71	4414	-912.54	-4	-5.25
1103	SLU 55	-15	77	4352	-900.92	-3.94	-5.22
1103	SLU 56	-15	61	4522	-933.05	-4.12	-5.09
1103	SLU 57	-15	71	4475	-924.23	-4.07	-5.15
1103	SLU 58	-15	60	4491	-927.31	-4.09	-5.01
1103	SLU 59	-15	71	4445	-918.49	-4.04	-5.08
1103	SLU 60	-17	61	4541	-937.86	-4.14	-5.63
1103	SLU 61	-17	71	4495	-929.04	-4.09	-5.7
1103	SLU 62	-16	61	4603	-949.54	-4.2	-5.53
1103	SLU 63	-17	71	4556	-940.72	-4.15	-5.6
1103	SLU 64	-16	62	4512	-931.26	-4.1	-5.37
1103	SLU 65	-16	79	4434	-916.56	-4.01	-5.48
1103	SLU 66	-16	62	4604	-948.69	-4.19	-5.34
1103	SLU 67	-16	73	4557	-939.87	-4.14	-5.41
1103	SLU 68	-16	79	4496	-928.25	-4.07	-5.38
1103	SLU 69	-16	63	4665	-960.38	-4.26	-5.25
1103	SLU 70	-16	73	4618	-951.56	-4.2	-5.31
1103	SLU 71	-15	62	4635	-954.64	-4.23	-5.17
1103	SLU 72	-16	72	4588	-945.82	-4.17	-5.24
1103	SLU 73	-19	81	4838	-995.72	-4.42	-6.47
1103	SLU 74	-19	65	5007	-1027.85	-4.61	-6.33
1103	SLU 75	-19	75	4960	-1019.03	-4.55	-6.4
1103	SLU 76	-19	82	4899	-1007.41	-4.49	-6.37
1103	SLU 77	-18	65	5068	-1039.54	-4.67	-6.23
1103	SLU 78	-19	75	5022	-1030.72	-4.62	-6.3
1103	SLU 79	-18	64	5038	-1033.79	-4.64	-6.16
1103	SLU 80	-18	75	4992	-1024.97	-4.59	-6.23
1103	SLU 81	-20	65	5088	-1044.34	-4.69	-6.78
1103	SLU 82	-20	75	5042	-1035.52	-4.64	-6.84
1103	SLU 83	-20	65	5150	-1056.03	-4.75	-6.68
1103	SLU 84	-20	76	5103	-1047.21	-4.7	-6.75
1103	SLE RA 1	-11	47	3350	-692.95	-3.03	-3.87
1103	SLE RA 2	-12	58	3299	-683.15	-2.97	-3.95
1103	SLE RA 3	-11	47	3412	-704.57	-3.1	-3.86
1103	SLE RA 4	-12	54	3381	-698.69	-3.06	-3.9
1103	SLE RA 5	-12	58	3340	-690.94	-3.02	-3.89
1103	SLE RA 6	-11	47	3453	-712.36	-3.14	-3.8
1103	SLE RA 7	-11	54	3422	-706.48	-3.1	-3.84
1103	SLE RA 8	-11	47	3432	-708.53	-3.12	-3.75
1103	SLE RA 9	-11	54	3401	-702.65	-3.08	-3.79
1103	SLE RA 10	-14	60	3568	-735.92	-3.25	-4.61
1103	SLE RA 11	-13	49	3681	-757.34	-3.37	-4.52
1103	SLE RA 12	-13	55	3650	-751.46	-3.33	-4.56
1103	SLE RA 13	-13	60	3609	-743.71	-3.29	-4.54
1103	SLE RA 14	-13	49	3722	-765.13	-3.41	-4.45
1103	SLE RA 15	-13	56	3690	-759.25	-3.38	-4.5
1103	SLE RA 16	-13	48	3701	-761.31	-3.39	-4.4
1103	SLE RA 17	-13	55	3670	-755.43	-3.36	-4.45
1103	SLE RA 18	-14	49	3735	-768.34	-3.43	-4.82
1103	SLE RA 19	-14	56	3704	-762.46	-3.39	-4.86
1103	SLE RA 20	-14	49	3776	-776.13	-3.47	-4.75
1103	SLE RA 21	-14	56	3745	-770.25	-3.43	-4.8
1103	SLE FR 1	-11	47	3350	-692.95	-3.03	-3.87
1103	SLE FR 2	-12	49	3340	-690.99	-3.02	-3.89
1103	SLE FR 3	-11	47	3367	-696.07	-3.05	-3.85
1103	SLE FR 4	-12	50	3455	-713.61	-3.14	-4.17
1103	SLE FR 5	-12	47	3482	-718.68	-3.17	-4.13
1103	SLE FR 6	-13	48	3543	-730.64	-3.23	-4.34
1103	SLE QP 1	-11	47	3350	-692.95	-3.03	-3.87
1103	SLE QP 2	-12	47	3466	-715.57	-3.15	-4.16
1103	SLD 1	427	159	2789	-576.36	-1.17	149.43
1103	SLD 2	344	162	2786	-574.75	-1.08	120.53
1103	SLD 3	435	-53	3908	-787.94	-2.47	152.27
1103	SLD 4	352	-50	3905	-786.34	-2.37	123.37
1103	SLD 5	121	402	1566	-353.17	-0.61	42.57
1103	SLD 6	68	404	1564	-352.14	-0.55	23.96
1103	SLD 7	148	-305	5296	-1058.46	-4.93	52.06
1103	SLD 8	95	-303	5294	-1057.43	-4.87	33.45
1103	SLD 9	-120	398	1638	-373.7	-1.43	-41.76
1103	SLD 10	-173	400	1635	-372.67	-1.37	-60.37
1103	SLD 11	-93	-310	5367	-1079	-5.76	-32.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1103	SLD 12	-146	-308	5365	-1077.96	-5.69	-50.89
1103	SLD 13	-377	144	3027	-644.79	-3.93	-131.69
1103	SLD 14	-459	147	3023	-643.19	-3.83	-160.58
1103	SLD 15	-369	-68	4146	-856.38	-5.22	-128.84
1103	SLD 16	-451	-65	4142	-854.78	-5.13	-157.74
1103	SLV 1	676	238	2326	-482.73	0.03	236.46
1103	SLV 2	545	243	2320	-480.2	0.18	190.91
1103	SLV 3	689	-124	4235	-843.82	-2.19	241.05
1103	SLV 4	558	-119	4230	-841.29	-2.03	195.5
1103	SLV 5	199	652	228	-98.53	1.13	69.57
1103	SLV 6	111	656	225	-96.83	1.23	38.91
1103	SLV 7	242	-554	6594	-1302.17	-6.25	84.86
1103	SLV 8	154	-550	6590	-1300.47	-6.14	54.2
1103	SLV 9	-179	645	341	-130.66	-0.16	-62.51
1103	SLV 10	-267	648	338	-128.96	-0.05	-93.18
1103	SLV 11	-135	-561	6707	-1334.31	-7.53	-47.22
1103	SLV 12	-223	-558	6703	-1332.6	-7.43	-77.88
1103	SLV 13	-583	213	2702	-589.84	-4.27	-203.82
1103	SLV 14	-713	218	2696	-587.31	-4.11	-249.37
1103	SLV 15	-570	-149	4611	-950.93	-6.48	-199.23
1103	SLV 16	-700	-144	4606	-948.4	-6.33	-244.78
1103	SLV FO 1	744	257	2212	-459.44	0.34	260.53
1103	SLV FO 2	601	263	2206	-456.66	0.51	210.42
1103	SLV FO 3	759	-141	4312	-856.65	-2.09	265.57
1103	SLV FO 4	615	-135	4306	-853.86	-1.92	215.47
1103	SLV FO 5	220	713	-95	-36.83	1.56	76.94
1103	SLV FO 6	123	716	-99	-34.95	1.67	43.21
1103	SLV FO 7	267	-614	6907	-1360.83	-6.56	93.77
1103	SLV FO 8	171	-610	6903	-1358.96	-6.44	60.04
1103	SLV FO 9	-195	705	29	-72.17	0.14	-68.35
1103	SLV FO 10	-292	708	25	-70.3	0.26	-102.08
1103	SLV FO 11	-148	-622	7031	-1396.18	-7.97	-51.53
1103	SLV FO 12	-244	-618	7027	-1394.3	-7.86	-85.26
1103	SLV FO 13	-640	230	2625	-577.27	-4.38	-223.78
1103	SLV FO 14	-783	235	2619	-574.48	-4.21	-273.89
1103	SLV FO 15	-625	-168	4726	-974.47	-6.81	-218.73
1103	SLV FO 16	-769	-163	4720	-971.69	-6.65	-268.84
1103	CRTFP Ux+	0	0	0	0	0	0
1103	CRTFP Ux-	0	0	0	0	0	0
1103	CRTFP Uy+	0	0	0	0	0	0
1103	CRTFP Uy-	0	0	0	0	0	0
1104	SLU 1	-8	50	3294	-747.11	-3.62	-2.64
1104	SLU 2	-8	68	3213	-730.25	-3.52	-2.79
1104	SLU 3	-8	51	3388	-767.14	-3.74	-2.58
1104	SLU 4	-8	61	3340	-757.02	-3.68	-2.67
1104	SLU 5	-8	68	3277	-743.69	-3.6	-2.67
1104	SLU 6	-7	51	3452	-780.58	-3.82	-2.46
1104	SLU 7	-8	61	3404	-770.46	-3.76	-2.55
1104	SLU 8	-7	50	3421	-773.99	-3.78	-2.39
1104	SLU 9	-8	61	3372	-763.87	-3.72	-2.49
1104	SLU 10	-11	70	3631	-821.45	-4.03	-3.71
1104	SLU 11	-11	53	3806	-858.33	-4.25	-3.5
1104	SLU 12	-11	64	3758	-848.22	-4.19	-3.6
1104	SLU 13	-11	71	3694	-834.89	-4.11	-3.59
1104	SLU 14	-10	54	3870	-871.77	-4.33	-3.38
1104	SLU 15	-10	64	3821	-861.66	-4.27	-3.47
1104	SLU 16	-10	53	3838	-865.19	-4.29	-3.32
1104	SLU 17	-10	64	3790	-855.07	-4.23	-3.41
1104	SLU 18	-12	54	3890	-877.39	-4.35	-3.96
1104	SLU 19	-12	65	3842	-867.28	-4.29	-4.05
1104	SLU 20	-11	54	3954	-890.83	-4.43	-3.83
1104	SLU 21	-12	65	3905	-880.72	-4.37	-3.93
1104	SLU 22	-11	55	3859	-869.61	-4.31	-3.67
1104	SLU 23	-11	72	3779	-852.75	-4.2	-3.82
1104	SLU 24	-11	55	3954	-889.64	-4.43	-3.61
1104	SLU 25	-11	66	3906	-879.52	-4.36	-3.71
1104	SLU 26	-11	72	3842	-866.19	-4.28	-3.7
1104	SLU 27	-10	55	4018	-903.08	-4.51	-3.49
1104	SLU 28	-11	66	3970	-892.96	-4.44	-3.58
1104	SLU 29	-10	55	3987	-896.49	-4.47	-3.43
1104	SLU 30	-11	65	3938	-886.37	-4.41	-3.52
1104	SLU 31	-14	75	4196	-943.95	-4.71	-4.74
1104	SLU 32	-14	58	4372	-980.84	-4.94	-4.54
1104	SLU 33	-14	69	4324	-970.72	-4.87	-4.63
1104	SLU 34	-14	75	4260	-957.39	-4.79	-4.62
1104	SLU 35	-13	58	4436	-994.28	-5.02	-4.41
1104	SLU 36	-13	69	4387	-984.16	-4.95	-4.51
1104	SLU 37	-13	58	4404	-987.69	-4.98	-4.35
1104	SLU 38	-13	68	4356	-977.57	-4.92	-4.44
1104	SLU 39	-15	59	4456	-999.89	-5.04	-4.99
1104	SLU 40	-15	69	4408	-989.78	-4.98	-5.08
1104	SLU 41	-15	59	4520	-1013.33	-5.12	-4.87
1104	SLU 42	-15	69	4471	-1003.22	-5.06	-4.96
1104	SLU 43	-9	63	4088	-929.24	-4.47	-3.08
1104	SLU 44	-10	81	4007	-912.38	-4.37	-3.23
1104	SLU 45	-9	64	4183	-949.27	-4.59	-3.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1104	SLU 46	-9	75	4134	-939.15	-4.53	-3.11
1104	SLU 47	-9	81	4071	-925.82	-4.45	-3.11
1104	SLU 48	-9	64	4246	-962.71	-4.67	-2.9
1104	SLU 49	-9	75	4198	-952.59	-4.61	-2.99
1104	SLU 50	-9	64	4215	-956.12	-4.63	-2.83
1104	SLU 51	-9	74	4167	-946.01	-4.57	-2.92
1104	SLU 52	-13	84	4425	-1003.58	-4.88	-4.15
1104	SLU 53	-12	67	4600	-1040.47	-5.1	-3.94
1104	SLU 54	-12	77	4552	-1030.35	-5.04	-4.03
1104	SLU 55	-12	84	4488	-1017.02	-4.96	-4.03
1104	SLU 56	-12	67	4664	-1053.91	-5.18	-3.82
1104	SLU 57	-12	78	4615	-1043.79	-5.12	-3.91
1104	SLU 58	-11	66	4633	-1047.32	-5.15	-3.75
1104	SLU 59	-12	77	4584	-1037.2	-5.08	-3.85
1104	SLU 60	-13	67	4684	-1059.53	-5.2	-4.39
1104	SLU 61	-13	78	4636	-1049.41	-5.14	-4.48
1104	SLU 62	-13	67	4748	-1072.97	-5.28	-4.27
1104	SLU 63	-13	78	4700	-1062.85	-5.22	-4.36
1104	SLU 64	-12	68	4653	-1051.74	-5.16	-4.11
1104	SLU 65	-13	86	4573	-1034.88	-5.05	-4.26
1104	SLU 66	-12	69	4748	-1071.77	-5.28	-4.05
1104	SLU 67	-12	79	4700	-1061.65	-5.21	-4.14
1104	SLU 68	-12	86	4637	-1048.32	-5.13	-4.14
1104	SLU 69	-12	69	4812	-1085.21	-5.36	-3.93
1104	SLU 70	-12	79	4764	-1075.09	-5.29	-4.02
1104	SLU 71	-12	68	4781	-1078.62	-5.32	-3.86
1104	SLU 72	-12	79	4732	-1068.51	-5.26	-3.95
1104	SLU 73	-16	88	4991	-1126.08	-5.57	-5.18
1104	SLU 74	-15	71	5166	-1162.97	-5.79	-4.97
1104	SLU 75	-15	82	5118	-1152.85	-5.73	-5.07
1104	SLU 76	-15	89	5054	-1139.52	-5.65	-5.06
1104	SLU 77	-15	72	5230	-1176.41	-5.87	-4.85
1104	SLU 78	-15	82	5181	-1166.29	-5.81	-4.94
1104	SLU 79	-14	71	5198	-1169.82	-5.83	-4.79
1104	SLU 80	-15	82	5150	-1159.71	-5.77	-4.88
1104	SLU 81	-16	72	5250	-1182.03	-5.89	-5.43
1104	SLU 82	-16	83	5202	-1171.91	-5.83	-5.52
1104	SLU 83	-16	72	5314	-1195.47	-5.97	-5.3
1104	SLU 84	-16	83	5265	-1185.35	-5.91	-5.39
1104	SLE RA 1	-9	51	3455	-782.11	-3.82	-2.93
1104	SLE RA 2	-9	63	3402	-770.87	-3.75	-3.03
1104	SLE RA 3	-9	52	3518	-795.46	-3.9	-2.9
1104	SLE RA 4	-9	59	3486	-788.72	-3.85	-2.96
1104	SLE RA 5	-9	63	3444	-779.83	-3.8	-2.95
1104	SLE RA 6	-9	52	3561	-804.42	-3.95	-2.81
1104	SLE RA 7	-9	59	3529	-797.68	-3.91	-2.88
1104	SLE RA 8	-8	51	3540	-800.03	-3.93	-2.77
1104	SLE RA 9	-9	58	3508	-793.29	-3.88	-2.83
1104	SLE RA 10	-11	65	3680	-831.67	-4.09	-3.65
1104	SLE RA 11	-11	54	3797	-856.26	-4.24	-3.51
1104	SLE RA 12	-11	61	3765	-849.52	-4.2	-3.57
1104	SLE RA 13	-11	65	3722	-840.63	-4.14	-3.57
1104	SLE RA 14	-10	54	3839	-865.22	-4.29	-3.43
1104	SLE RA 15	-10	61	3807	-858.48	-4.25	-3.49
1104	SLE RA 16	-10	53	3818	-860.83	-4.27	-3.38
1104	SLE RA 17	-10	60	3786	-854.08	-4.22	-3.45
1104	SLE RA 18	-11	54	3853	-868.97	-4.31	-3.81
1104	SLE RA 19	-12	61	3821	-862.22	-4.26	-3.87
1104	SLE RA 20	-11	54	3895	-877.93	-4.36	-3.73
1104	SLE RA 21	-11	61	3863	-871.18	-4.32	-3.79
1104	SLE FR 1	-9	51	3455	-782.11	-3.82	-2.93
1104	SLE FR 2	-9	54	3444	-779.86	-3.8	-2.95
1104	SLE FR 3	-9	51	3472	-785.69	-3.84	-2.9
1104	SLE FR 4	-10	54	3564	-805.92	-3.95	-3.22
1104	SLE FR 5	-10	52	3592	-811.75	-3.99	-3.16
1104	SLE FR 6	-10	53	3654	-825.54	-4.06	-3.37
1104	SLE QP 1	-9	51	3455	-782.11	-3.82	-2.93
1104	SLE QP 2	-10	52	3575	-808.17	-3.96	-3.2
1104	SLD 1	428	165	2837	-640.8	-1.83	149.9
1104	SLD 2	346	171	2831	-638.53	-1.75	121.11
1104	SLD 3	436	-50	4000	-883.61	-3.37	152.65
1104	SLD 4	353	-44	3993	-881.34	-3.28	123.86
1104	SLD 5	124	411	1592	-390.09	-1.01	43.52
1104	SLD 6	71	415	1588	-388.63	-0.96	24.98
1104	SLD 7	150	-306	5466	-1199.45	-6.13	52.67
1104	SLD 8	97	-302	5462	-1197.98	-6.07	34.13
1104	SLD 9	-116	406	1687	-418.35	-1.86	-40.52
1104	SLD 10	-169	410	1683	-416.89	-1.8	-59.06
1104	SLD 11	-90	-311	5561	-1227.7	-6.97	-31.37
1104	SLD 12	-143	-307	5557	-1226.24	-6.92	-49.91
1104	SLD 13	-373	148	3156	-735	-4.65	-130.25
1104	SLD 14	-455	154	3150	-732.73	-4.56	-159.04
1104	SLD 15	-365	-67	4318	-977.8	-6.18	-127.5
1104	SLD 16	-447	-61	4312	-975.53	-6.09	-156.29
1104	SLV 1	676	245	2337	-529.12	-0.53	236.68
1104	SLV 2	546	255	2328	-525.55	-0.39	191.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1104	SLV 3	689	-122	4321	-943.5	-3.15	241.08
1104	SLV 4	559	-112	4311	-939.92	-3.01	195.7
1104	SLV 5	201	665	197	-96.65	1.01	70.57
1104	SLV 6	114	671	190	-94.24	1.11	40.01
1104	SLV 7	243	-558	6809	-1477.91	-7.72	85.22
1104	SLV 8	156	-552	6802	-1475.5	-7.63	54.67
1104	SLV 9	-175	656	347	-140.83	-0.3	-61.07
1104	SLV 10	-262	662	340	-138.42	-0.21	-91.62
1104	SLV 11	-133	-567	6959	-1522.1	-9.04	-46.41
1104	SLV 12	-221	-561	6952	-1519.69	-8.94	-76.96
1104	SLV 13	-578	216	2838	-676.41	-4.92	-202.09
1104	SLV 14	-708	226	2828	-672.83	-4.78	-247.47
1104	SLV 15	-565	-151	4822	-1090.79	-7.54	-197.69
1104	SLV 16	-696	-141	4812	-1087.21	-7.4	-243.07
1104	SLV FO 1	745	265	2214	-501.22	-0.19	260.67
1104	SLV FO 2	602	275	2203	-497.28	-0.03	210.75
1104	SLV FO 3	759	-139	4395	-957.04	-3.07	265.5
1104	SLV FO 4	616	-129	4385	-953.1	-2.92	215.59
1104	SLV FO 5	223	726	-141	-25.49	1.51	77.94
1104	SLV FO 6	126	733	-148	-22.84	1.62	44.33
1104	SLV FO 7	269	-619	7132	-1544.89	-8.1	94.07
1104	SLV FO 8	172	-612	7125	-1542.24	-7.99	60.46
1104	SLV FO 9	-191	717	24	-74.1	0.06	-66.85
1104	SLV FO 10	-288	723	17	-71.45	0.17	-100.46
1104	SLV FO 11	-145	-629	7297	-1593.49	-9.54	-50.73
1104	SLV FO 12	-242	-622	7290	-1590.84	-9.44	-84.33
1104	SLV FO 13	-635	233	2764	-663.23	-5.01	-221.98
1104	SLV FO 14	-778	243	2754	-659.3	-4.86	-271.9
1104	SLV FO 15	-621	-171	4946	-1119.05	-7.9	-217.14
1104	SLV FO 16	-764	-161	4936	-1115.12	-7.74	-267.06
1104	CRTFP Ux+	0	0	0	0	0	0
1104	CRTFP Ux-	0	0	0	0	0	0
1104	CRTFP Uy+	0	0	0	0	0	0
1104	CRTFP Uy-	0	0	0	0	0	0
1105	SLU 1	-5	55	3406	-850.66	-3.7	-1.7
1105	SLU 2	-6	73	3322	-831.31	-3.6	-1.9
1105	SLU 3	-5	56	3505	-873.87	-3.82	-1.61
1105	SLU 4	-5	66	3454	-862.27	-3.76	-1.73
1105	SLU 5	-5	73	3388	-846.9	-3.68	-1.75
1105	SLU 6	-5	56	3571	-889.46	-3.9	-1.46
1105	SLU 7	-5	67	3520	-877.85	-3.84	-1.58
1105	SLU 8	-4	55	3538	-881.83	-3.86	-1.4
1105	SLU 9	-5	66	3488	-870.22	-3.8	-1.52
1105	SLU 10	-8	76	3756	-937.11	-4.11	-2.75
1105	SLU 11	-8	59	3938	-979.67	-4.33	-2.46
1105	SLU 12	-8	70	3888	-968.07	-4.27	-2.58
1105	SLU 13	-8	77	3822	-952.7	-4.19	-2.6
1105	SLU 14	-7	59	4004	-995.26	-4.41	-2.32
1105	SLU 15	-8	70	3954	-983.65	-4.35	-2.43
1105	SLU 16	-7	59	3972	-987.62	-4.38	-2.26
1105	SLU 17	-7	70	3921	-976.02	-4.32	-2.37
1105	SLU 18	-9	60	4025	-1001.8	-4.43	-2.92
1105	SLU 19	-9	71	3975	-990.19	-4.37	-3.04
1105	SLU 20	-9	60	4091	-1017.38	-4.51	-2.77
1105	SLU 21	-9	71	4041	-1005.78	-4.45	-2.89
1105	SLU 22	-8	60	3993	-992.62	-4.39	-2.61
1105	SLU 23	-9	78	3909	-973.28	-4.29	-2.81
1105	SLU 24	-8	61	4092	-1015.84	-4.51	-2.52
1105	SLU 25	-8	72	4041	-1004.23	-4.45	-2.64
1105	SLU 26	-8	78	3975	-988.87	-4.37	-2.66
1105	SLU 27	-7	61	4158	-1031.42	-4.59	-2.37
1105	SLU 28	-8	72	4107	-1019.82	-4.53	-2.49
1105	SLU 29	-7	61	4125	-1023.79	-4.56	-2.31
1105	SLU 30	-8	71	4075	-1012.19	-4.49	-2.43
1105	SLU 31	-11	82	4343	-1079.08	-4.8	-3.66
1105	SLU 32	-10	65	4525	-1121.64	-5.02	-3.37
1105	SLU 33	-11	75	4475	-1110.03	-4.96	-3.49
1105	SLU 34	-11	82	4409	-1094.67	-4.88	-3.51
1105	SLU 35	-10	65	4591	-1137.22	-5.11	-3.23
1105	SLU 36	-10	75	4541	-1125.62	-5.04	-3.34
1105	SLU 37	-10	64	4559	-1129.59	-5.07	-3.17
1105	SLU 38	-10	75	4508	-1117.99	-5.01	-3.28
1105	SLU 39	-12	65	4612	-1143.76	-5.12	-3.83
1105	SLU 40	-12	76	4562	-1132.16	-5.06	-3.95
1105	SLU 41	-11	65	4678	-1159.35	-5.21	-3.68
1105	SLU 42	-12	76	4628	-1147.74	-5.14	-3.8
1105	SLU 43	-6	69	4227	-1057.18	-4.57	-1.9
1105	SLU 44	-7	87	4143	-1037.84	-4.47	-2.09
1105	SLU 45	-6	70	4325	-1080.39	-4.69	-1.81
1105	SLU 46	-6	81	4275	-1068.79	-4.63	-1.93
1105	SLU 47	-6	88	4209	-1053.42	-4.55	-1.95
1105	SLU 48	-5	70	4391	-1095.98	-4.78	-1.66
1105	SLU 49	-6	81	4341	-1084.37	-4.71	-1.78
1105	SLU 50	-5	70	4359	-1088.35	-4.74	-1.6
1105	SLU 51	-6	81	4309	-1076.74	-4.68	-1.72
1105	SLU 52	-9	91	4576	-1143.63	-4.98	-2.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1105	SLU 53	-8	74	4758	-1186.19	-5.21	-2.66
1105	SLU 54	-9	85	4708	-1174.59	-5.15	-2.78
1105	SLU 55	-9	91	4642	-1159.22	-5.07	-2.8
1105	SLU 56	-8	74	4825	-1201.78	-5.29	-2.51
1105	SLU 57	-8	85	4774	-1190.17	-5.23	-2.63
1105	SLU 58	-8	73	4792	-1194.15	-5.25	-2.46
1105	SLU 59	-8	84	4742	-1182.54	-5.19	-2.57
1105	SLU 60	-10	75	4846	-1208.32	-5.31	-3.12
1105	SLU 61	-10	85	4795	-1196.71	-5.25	-3.23
1105	SLU 62	-9	75	4912	-1223.9	-5.39	-2.97
1105	SLU 63	-10	86	4861	-1212.3	-5.33	-3.09
1105	SLU 64	-9	75	4814	-1199.14	-5.27	-2.81
1105	SLU 65	-9	93	4730	-1179.8	-5.16	-3
1105	SLU 66	-8	76	4912	-1222.36	-5.38	-2.72
1105	SLU 67	-9	86	4862	-1210.76	-5.32	-2.84
1105	SLU 68	-9	93	4796	-1195.39	-5.24	-2.86
1105	SLU 69	-8	76	4978	-1237.95	-5.47	-2.57
1105	SLU 70	-8	86	4928	-1226.34	-5.41	-2.69
1105	SLU 71	-8	75	4946	-1230.32	-5.43	-2.51
1105	SLU 72	-8	86	4896	-1218.71	-5.37	-2.63
1105	SLU 73	-12	96	5163	-1285.6	-5.68	-3.86
1105	SLU 74	-11	79	5345	-1328.16	-5.9	-3.57
1105	SLU 75	-11	90	5295	-1316.55	-5.84	-3.69
1105	SLU 76	-11	97	5229	-1301.19	-5.76	-3.71
1105	SLU 77	-11	79	5412	-1343.74	-5.98	-3.42
1105	SLU 78	-11	90	5361	-1332.14	-5.92	-3.54
1105	SLU 79	-10	79	5379	-1336.11	-5.94	-3.37
1105	SLU 80	-11	90	5329	-1324.51	-5.88	-3.48
1105	SLU 81	-12	80	5433	-1350.28	-6	-4.03
1105	SLU 82	-13	91	5382	-1338.68	-5.94	-4.14
1105	SLU 83	-12	80	5499	-1365.87	-6.08	-3.88
1105	SLU 84	-12	91	5448	-1354.27	-6.02	-4
1105	SLE RA 1	-6	56	3574	-891.22	-3.9	-1.96
1105	SLE RA 2	-6	68	3518	-878.32	-3.83	-2.09
1105	SLE RA 3	-6	57	3639	-906.69	-3.98	-1.9
1105	SLE RA 4	-6	64	3606	-898.96	-3.94	-1.98
1105	SLE RA 5	-6	68	3562	-888.71	-3.88	-1.99
1105	SLE RA 6	-6	57	3683	-917.08	-4.03	-1.8
1105	SLE RA 7	-6	64	3650	-909.35	-3.99	-1.88
1105	SLE RA 8	-6	57	3662	-912	-4.01	-1.76
1105	SLE RA 9	-6	64	3628	-904.26	-3.97	-1.84
1105	SLE RA 10	-8	71	3807	-948.86	-4.17	-2.66
1105	SLE RA 11	-8	59	3928	-977.23	-4.32	-2.47
1105	SLE RA 12	-8	66	3895	-969.49	-4.28	-2.55
1105	SLE RA 13	-8	71	3851	-959.25	-4.23	-2.56
1105	SLE RA 14	-7	59	3972	-987.62	-4.37	-2.37
1105	SLE RA 15	-8	67	3939	-979.88	-4.33	-2.45
1105	SLE RA 16	-7	59	3951	-982.53	-4.35	-2.33
1105	SLE RA 17	-7	66	3917	-974.79	-4.31	-2.41
1105	SLE RA 18	-8	60	3986	-991.98	-4.39	-2.77
1105	SLE RA 19	-9	67	3953	-984.24	-4.35	-2.85
1105	SLE RA 20	-8	60	4030	-1002.37	-4.44	-2.67
1105	SLE RA 21	-8	67	3997	-994.63	-4.4	-2.75
1105	SLE FR 1	-6	56	3574	-891.22	-3.9	-1.96
1105	SLE FR 2	-6	59	3563	-888.64	-3.88	-1.99
1105	SLE FR 3	-6	56	3591	-895.37	-3.92	-1.92
1105	SLE FR 4	-7	60	3686	-918.87	-4.03	-2.23
1105	SLE FR 5	-7	57	3715	-925.6	-4.07	-2.16
1105	SLE FR 6	-7	58	3780	-941.6	-4.14	-2.37
1105	SLE QP 1	-6	56	3574	-891.22	-3.9	-1.96
1105	SLE QP 2	-7	57	3698	-921.45	-4.04	-2.2
1105	SLD 1	429	150	2897	-723.56	-1.94	150.26
1105	SLD 2	347	160	2888	-720.75	-1.86	121.59
1105	SLD 3	437	-68	4105	-1002.33	-3.42	153.02
1105	SLD 4	355	-59	4097	-999.52	-3.34	124.35
1105	SLD 5	126	415	1626	-439.77	-1.18	44.28
1105	SLD 6	73	421	1620	-437.96	-1.14	25.82
1105	SLD 7	153	-313	5654	-1368.99	-6.11	53.48
1105	SLD 8	100	-307	5649	-1367.18	-6.06	35.02
1105	SLD 9	-113	422	1746	-475.71	-2.03	-39.42
1105	SLD 10	-166	428	1741	-473.9	-1.98	-57.89
1105	SLD 11	-87	-307	5775	-1404.93	-6.95	-30.23
1105	SLD 12	-140	-300	5769	-1403.12	-6.9	-48.69
1105	SLD 13	-369	173	3298	-843.37	-4.75	-128.76
1105	SLD 14	-451	183	3290	-840.56	-4.67	-157.43
1105	SLD 15	-361	-45	4507	-1122.14	-6.23	-126
1105	SLD 16	-443	-36	4498	-1119.33	-6.15	-154.67
1105	SLV 1	676	218	2358	-592.15	-0.65	236.68
1105	SLV 2	547	233	2345	-587.72	-0.53	191.49
1105	SLV 3	689	-155	4421	-1067.91	-3.17	241.09
1105	SLV 4	559	-140	4407	-1063.48	-3.05	195.9
1105	SLV 5	203	668	170	-101.91	0.78	71.2
1105	SLV 6	116	678	161	-98.93	0.86	40.78
1105	SLV 7	245	-574	7045	-1687.78	-7.63	85.91
1105	SLV 8	158	-564	7036	-1684.8	-7.55	55.49
1105	SLV 9	-172	679	359	-158.09	-0.54	-59.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1105	SLV 10	-259	689	350	-155.11	-0.46	-90.32
1105	SLV 11	-129	-564	7234	-1743.96	-8.95	-45.19
1105	SLV 12	-217	-553	7225	-1740.98	-8.87	-75.61
1105	SLV 13	-573	255	2988	-779.41	-5.04	-200.31
1105	SLV 14	-703	270	2974	-774.98	-4.92	-245.5
1105	SLV 15	-560	-118	5050	-1255.17	-7.56	-195.9
1105	SLV 16	-690	-103	5037	-1250.74	-7.44	-241.09
1105	SLV FO 1	745	234	2224	-559.22	-0.31	260.57
1105	SLV FO 2	602	251	2209	-554.35	-0.18	210.86
1105	SLV FO 3	759	-176	4493	-1082.55	-3.08	265.42
1105	SLV FO 4	616	-159	4478	-1077.69	-2.95	215.71
1105	SLV FO 5	224	729	-183	-19.96	1.26	78.54
1105	SLV FO 6	128	740	-193	-16.68	1.35	45.07
1105	SLV FO 7	271	-638	7380	-1764.41	-7.99	94.72
1105	SLV FO 8	175	-627	7370	-1761.14	-7.9	61.26
1105	SLV FO 9	-188	741	25	-81.75	-0.19	-65.67
1105	SLV FO 10	-284	752	15	-78.48	-0.1	-99.13
1105	SLV FO 11	-142	-626	7588	-1826.21	-9.44	-49.48
1105	SLV FO 12	-238	-614	7578	-1822.93	-9.35	-82.95
1105	SLV FO 13	-630	274	2917	-765.21	-5.13	-220.12
1105	SLV FO 14	-772	291	2902	-760.34	-5	-269.83
1105	SLV FO 15	-616	-136	5186	-1288.54	-7.91	-215.27
1105	SLV FO 16	-758	-119	5171	-1283.67	-7.78	-264.98
1105	CRTFP Ux+	0	0	0	0	0	0
1105	CRTFP Ux-	0	0	0	0	0	0
1105	CRTFP Uy+	0	0	0	0	0	0
1105	CRTFP Uy-	0	0	0	0	0	0
1106	SLU 1	-2	56	3288	-903.53	38.47	-1.36
1106	SLU 2	-3	73	3207	-883.09	37.52	-1.8
1106	SLU 3	-2	56	3384	-928.58	39.57	-1.25
1106	SLU 4	-2	67	3335	-916.31	39	-1.51
1106	SLU 5	-2	73	3271	-899.9	38.26	-1.64
1106	SLU 6	-1	57	3448	-945.39	40.32	-1.09
1106	SLU 7	-2	67	3399	-933.12	39.75	-1.35
1106	SLU 8	-1	56	3416	-937.16	39.95	-1.04
1106	SLU 9	-2	66	3368	-924.89	39.38	-1.3
1106	SLU 10	-5	77	3626	-997.03	42.41	-2.58
1106	SLU 11	-4	60	3803	-1042.52	44.47	-2.03
1106	SLU 12	-4	71	3754	-1030.26	43.9	-2.29
1106	SLU 13	-5	77	3691	-1013.85	43.15	-2.41
1106	SLU 14	-4	61	3867	-1059.34	45.21	-1.87
1106	SLU 15	-4	71	3818	-1047.07	44.64	-2.13
1106	SLU 16	-3	60	3836	-1051.1	44.84	-1.81
1106	SLU 17	-4	70	3787	-1038.84	44.27	-2.08
1106	SLU 18	-5	61	3887	-1066.31	45.45	-2.47
1106	SLU 19	-6	72	3838	-1054.05	44.88	-2.73
1106	SLU 20	-5	62	3951	-1083.12	46.2	-2.31
1106	SLU 21	-5	72	3903	-1070.86	45.63	-2.57
1106	SLU 22	-4	61	3856	-1056.33	45.09	-2.16
1106	SLU 23	-5	78	3775	-1035.89	44.14	-2.6
1106	SLU 24	-4	62	3951	-1081.38	46.2	-2.05
1106	SLU 25	-4	72	3903	-1069.11	45.63	-2.32
1106	SLU 26	-5	79	3839	-1052.7	44.88	-2.44
1106	SLU 27	-4	62	4016	-1098.19	46.94	-1.89
1106	SLU 28	-4	73	3967	-1085.92	46.37	-2.15
1106	SLU 29	-3	62	3984	-1089.96	46.58	-1.84
1106	SLU 30	-4	72	3936	-1077.69	46.01	-2.1
1106	SLU 31	-7	83	4194	-1149.83	49.03	-3.38
1106	SLU 32	-6	66	4371	-1195.32	51.09	-2.83
1106	SLU 33	-7	76	4322	-1183.06	50.52	-3.09
1106	SLU 34	-7	83	4258	-1166.65	49.78	-3.21
1106	SLU 35	-6	66	4435	-1212.14	51.83	-2.67
1106	SLU 36	-6	77	4386	-1199.87	51.26	-2.93
1106	SLU 37	-6	66	4403	-1203.9	51.47	-2.61
1106	SLU 38	-6	76	4355	-1191.64	50.9	-2.88
1106	SLU 39	-7	67	4455	-1219.11	52.08	-3.27
1106	SLU 40	-8	77	4406	-1206.85	51.51	-3.53
1106	SLU 41	-7	67	4519	-1235.92	52.82	-3.11
1106	SLU 42	-7	78	4470	-1223.66	52.25	-3.37
1106	SLU 43	-2	70	4080	-1122.21	47.73	-1.49
1106	SLU 44	-3	87	3999	-1101.76	46.79	-1.93
1106	SLU 45	-2	71	4176	-1147.25	48.84	-1.38
1106	SLU 46	-2	81	4127	-1134.98	48.27	-1.65
1106	SLU 47	-2	88	4063	-1118.57	47.53	-1.77
1106	SLU 48	-1	71	4240	-1164.06	49.58	-1.22
1106	SLU 49	-2	81	4191	-1151.8	49.02	-1.49
1106	SLU 50	-1	71	4208	-1155.83	49.22	-1.17
1106	SLU 51	-2	81	4160	-1143.56	48.65	-1.43
1106	SLU 52	-5	91	4418	-1215.71	51.68	-2.71
1106	SLU 53	-4	75	4595	-1261.2	53.73	-2.16
1106	SLU 54	-4	85	4546	-1248.93	53.16	-2.43
1106	SLU 55	-4	92	4482	-1232.52	52.42	-2.55
1106	SLU 56	-3	75	4659	-1278.01	54.48	-2
1106	SLU 57	-4	86	4610	-1265.74	53.91	-2.26
1106	SLU 58	-3	75	4627	-1269.77	54.11	-1.95
1106	SLU 59	-4	85	4579	-1257.51	53.54	-2.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1106	SLU 60	-5	76	4679	-1284.98	54.72	-2.6
1106	SLU 61	-6	86	4630	-1272.72	54.15	-2.87
1106	SLU 62	-5	76	4743	-1301.8	55.47	-2.44
1106	SLU 63	-5	87	4694	-1289.53	54.9	-2.7
1106	SLU 64	-4	76	4648	-1275	54.36	-2.29
1106	SLU 65	-5	93	4567	-1254.56	53.41	-2.73
1106	SLU 66	-4	77	4743	-1300.05	55.47	-2.19
1106	SLU 67	-4	87	4695	-1287.78	54.9	-2.45
1106	SLU 68	-4	93	4631	-1271.37	54.15	-2.57
1106	SLU 69	-3	77	4807	-1316.86	56.21	-2.02
1106	SLU 70	-4	87	4759	-1304.6	55.64	-2.29
1106	SLU 71	-3	76	4776	-1308.63	55.84	-1.97
1106	SLU 72	-4	87	4727	-1296.36	55.28	-2.23
1106	SLU 73	-7	97	4986	-1368.51	58.3	-3.51
1106	SLU 74	-6	81	5162	-1414	60.36	-2.96
1106	SLU 75	-6	91	5114	-1401.73	59.79	-3.23
1106	SLU 76	-7	97	5050	-1385.32	59.04	-3.35
1106	SLU 77	-6	81	5227	-1430.81	61.1	-2.8
1106	SLU 78	-6	91	5178	-1418.54	60.53	-3.06
1106	SLU 79	-5	81	5195	-1422.57	60.74	-2.75
1106	SLU 80	-6	91	5147	-1410.31	60.17	-3.01
1106	SLU 81	-7	82	5247	-1437.78	61.35	-3.4
1106	SLU 82	-8	92	5198	-1425.52	60.78	-3.67
1106	SLU 83	-7	82	5311	-1454.6	62.09	-3.24
1106	SLU 84	-7	92	5262	-1442.33	61.52	-3.51
1106	SLE RA 1	-3	57	3450	-947.19	40.36	-1.59
1106	SLE RA 2	-3	69	3396	-933.56	39.73	-1.88
1106	SLE RA 3	-3	58	3514	-963.89	41.1	-1.52
1106	SLE RA 4	-3	65	3482	-955.71	40.72	-1.69
1106	SLE RA 5	-3	69	3439	-944.77	40.22	-1.77
1106	SLE RA 6	-2	58	3557	-975.1	41.59	-1.41
1106	SLE RA 7	-3	65	3524	-966.92	41.21	-1.58
1106	SLE RA 8	-2	57	3536	-969.61	41.35	-1.37
1106	SLE RA 9	-2	64	3504	-961.43	40.97	-1.55
1106	SLE RA 10	-5	71	3676	-1009.52	42.99	-2.4
1106	SLE RA 11	-4	60	3794	-1039.85	44.36	-2.03
1106	SLE RA 12	-4	67	3761	-1031.67	43.98	-2.21
1106	SLE RA 13	-4	71	3719	-1020.73	43.48	-2.29
1106	SLE RA 14	-4	61	3836	-1051.06	44.85	-1.93
1106	SLE RA 15	-4	67	3804	-1042.88	44.47	-2.1
1106	SLE RA 16	-4	60	3815	-1045.57	44.61	-1.89
1106	SLE RA 17	-4	67	3783	-1037.39	44.23	-2.07
1106	SLE RA 18	-5	61	3850	-1055.71	45.02	-2.33
1106	SLE RA 19	-5	68	3817	-1047.53	44.64	-2.5
1106	SLE RA 20	-5	61	3892	-1066.92	45.51	-2.22
1106	SLE RA 21	-5	68	3860	-1058.74	45.13	-2.4
1106	SLE FR 1	-3	57	3450	-947.19	40.36	-1.59
1106	SLE FR 2	-3	59	3440	-944.46	40.23	-1.65
1106	SLE FR 3	-3	57	3468	-951.67	40.56	-1.54
1106	SLE FR 4	-4	61	3559	-977.02	41.63	-1.87
1106	SLE FR 5	-3	58	3587	-984.23	41.95	-1.77
1106	SLE FR 6	-4	59	3650	-1001.45	42.69	-1.96
1106	SLE QP 1	-3	57	3450	-947.19	40.36	-1.59
1106	SLE QP 2	-3	58	3570	-979.75	41.76	-1.81
1106	SLD 1	404	141	2765	-765.61	33.24	139.93
1106	SLD 2	327	154	2755	-762.76	33.17	112.96
1106	SLD 3	412	-67	3934	-1060.76	46.92	144.32
1106	SLD 4	335	-54	3924	-1057.91	46.84	117.35
1106	SLD 5	120	396	1557	-468.35	18.48	38.69
1106	SLD 6	70	405	1551	-466.51	18.43	21.32
1106	SLD 7	146	-297	5454	-1452.19	64.06	53.33
1106	SLD 8	97	-288	5448	-1450.36	64.01	35.96
1106	SLD 9	-104	405	1692	-509.14	19.5	-39.58
1106	SLD 10	-153	413	1686	-507.3	19.45	-56.95
1106	SLD 11	-77	-288	5590	-1492.99	65.08	-24.94
1106	SLD 12	-127	-279	5583	-1491.15	65.04	-42.31
1106	SLD 13	-342	170	3216	-901.58	36.67	-120.97
1106	SLD 14	-419	183	3206	-898.73	36.59	-147.94
1106	SLD 15	-334	-37	4386	-1196.74	50.34	-116.58
1106	SLD 16	-411	-24	4376	-1193.88	50.27	-143.55
1106	SLV 1	635	202	2227	-623.88	27.45	220.11
1106	SLV 2	513	223	2211	-619.38	27.33	177.6
1106	SLV 3	648	-152	4222	-1127.62	50.79	227.39
1106	SLV 4	526	-132	4207	-1123.12	50.67	184.88
1106	SLV 5	191	635	144	-109.82	2.09	61.66
1106	SLV 6	110	649	133	-106.79	2.01	33.04
1106	SLV 7	234	-546	6795	-1788.95	79.88	85.93
1106	SLV 8	152	-532	6785	-1785.92	79.8	57.31
1106	SLV 9	-159	649	356	-173.57	3.71	-60.93
1106	SLV 10	-241	663	345	-170.54	3.63	-89.55
1106	SLV 11	-117	-532	7007	-1852.7	81.5	-36.66
1106	SLV 12	-198	-518	6997	-1849.67	81.42	-65.28
1106	SLV 13	-533	248	2934	-836.38	32.84	-188.5
1106	SLV 14	-654	269	2918	-831.88	32.72	-231.01
1106	SLV 15	-520	-106	4929	-1340.12	56.18	-181.22
1106	SLV 16	-642	-85	4914	-1335.62	56.06	-223.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1106	SLV FO 1	699	217	2092	-588.29	26.02	242.3
1106	SLV FO 2	565	239	2075	-583.34	25.89	195.54
1106	SLV FO 3	713	-173	4287	-1142.4	51.69	250.31
1106	SLV FO 4	579	-150	4270	-1137.45	51.56	203.55
1106	SLV FO 5	211	693	-199	-22.83	-1.88	68
1106	SLV FO 6	121	708	-211	-19.49	-1.97	36.52
1106	SLV FO 7	257	-606	7118	-1869.87	83.7	94.7
1106	SLV FO 8	168	-591	7106	-1866.54	83.61	63.22
1106	SLV FO 9	-174	708	34	-92.95	-0.1	-66.84
1106	SLV FO 10	-264	723	23	-89.62	-0.19	-98.32
1106	SLV FO 11	-128	-591	7351	-1940	85.48	-40.14
1106	SLV FO 12	-218	-576	7340	-1936.67	85.39	-71.62
1106	SLV FO 13	-586	267	2870	-822.04	31.95	-207.17
1106	SLV FO 14	-719	290	2853	-817.09	31.82	-253.93
1106	SLV FO 15	-572	-123	5065	-1376.15	57.62	-199.16
1106	SLV FO 16	-706	-100	5048	-1371.2	57.49	-245.92
1106	CRTFP Ux+	0	0	0	0	0	0
1106	CRTFP Ux-	0	0	0	0	0	0
1106	CRTFP Uy+	0	0	0	0	0	0
1106	CRTFP Uy-	0	0	0	0	0	0
1108	SLU 1	3	160	9556	-2210.76	-17.81	0.82
1108	SLU 2	1	208	9316	-2158.69	-17.72	0.29
1108	SLU 3	4	162	9836	-2274.15	-18.44	1.13
1108	SLU 4	3	191	9692	-2242.91	-18.39	0.82
1108	SLU 5	2	209	9504	-2201.25	-18.17	0.68
1108	SLU 6	6	163	10024	-2316.71	-18.89	1.52
1108	SLU 7	5	192	9880	-2285.47	-18.84	1.2
1108	SLU 8	6	161	9932	-2295.88	-18.7	1.6
1108	SLU 9	5	190	9788	-2264.64	-18.65	1.28
1108	SLU 10	-5	221	10533	-2440.36	-19.41	-0.9
1108	SLU 11	-1	175	11053	-2555.82	-20.13	-0.06
1108	SLU 12	-2	204	10909	-2524.58	-20.08	-0.38
1108	SLU 13	-3	222	10721	-2482.93	-19.85	-0.52
1108	SLU 14	0	176	11241	-2598.38	-20.57	0.32
1108	SLU 15	-1	205	11097	-2567.14	-20.52	0.01
1108	SLU 16	1	174	11149	-2577.55	-20.38	0.4
1108	SLU 17	-1	203	11005	-2546.31	-20.33	0.08
1108	SLU 18	-5	179	11294	-2613.15	-20.21	-0.89
1108	SLU 19	-6	207	11151	-2581.91	-20.16	-1.21
1108	SLU 20	-3	179	11482	-2655.71	-20.66	-0.5
1108	SLU 21	-4	208	11339	-2624.47	-20.61	-0.82
1108	SLU 22	-2	178	11208	-2590.6	-20.24	-0.27
1108	SLU 23	-4	226	10969	-2538.53	-20.15	-0.81
1108	SLU 24	-1	180	11488	-2653.99	-20.87	0.04
1108	SLU 25	-2	209	11345	-2622.75	-20.82	-0.28
1108	SLU 26	-2	226	11157	-2581.1	-20.6	-0.42
1108	SLU 27	1	180	11676	-2696.55	-21.32	0.42
1108	SLU 28	0	209	11533	-2665.32	-21.27	0.1
1108	SLU 29	1	179	11584	-2675.72	-21.13	0.5
1108	SLU 30	0	208	11441	-2644.49	-21.08	0.18
1108	SLU 31	-9	239	12186	-2820.21	-21.84	-2
1108	SLU 32	-6	193	12705	-2935.67	-22.56	-1.16
1108	SLU 33	-7	222	12562	-2904.43	-22.51	-1.48
1108	SLU 34	-8	239	12374	-2862.77	-22.28	-1.62
1108	SLU 35	-4	194	12893	-2978.23	-23	-0.77
1108	SLU 36	-6	222	12750	-2946.99	-22.95	-1.09
1108	SLU 37	-4	192	12802	-2957.4	-22.81	-0.7
1108	SLU 38	-5	221	12658	-2926.16	-22.76	-1.02
1108	SLU 39	-9	196	12947	-2992.99	-22.65	-1.99
1108	SLU 40	-11	225	12803	-2961.75	-22.59	-2.3
1108	SLU 41	-8	197	13135	-3035.55	-23.09	-1.6
1108	SLU 42	-9	226	12991	-3004.31	-23.04	-1.92
1108	SLU 43	6	202	11856	-2743.75	-22.32	1.45
1108	SLU 44	3	250	11616	-2691.69	-22.23	0.92
1108	SLU 45	7	204	12136	-2807.14	-22.95	1.76
1108	SLU 46	6	233	11992	-2775.9	-22.9	1.44
1108	SLU 47	5	251	11805	-2734.25	-22.68	1.3
1108	SLU 48	8	205	12324	-2849.71	-23.4	2.14
1108	SLU 49	7	234	12180	-2818.47	-23.35	1.83
1108	SLU 50	9	203	12232	-2828.88	-23.21	2.22
1108	SLU 51	7	232	12088	-2797.64	-23.16	1.9
1108	SLU 52	-2	263	12833	-2973.36	-23.92	-0.28
1108	SLU 53	2	217	13353	-3088.82	-24.64	0.56
1108	SLU 54	0	246	13209	-3057.58	-24.58	0.24
1108	SLU 55	0	264	13022	-3015.92	-24.36	0.11
1108	SLU 56	3	218	13541	-3131.38	-25.08	0.95
1108	SLU 57	2	247	13397	-3100.14	-25.03	0.63
1108	SLU 58	3	216	13449	-3110.55	-24.89	1.02
1108	SLU 59	2	245	13305	-3079.31	-24.84	0.7
1108	SLU 60	-2	221	13594	-3146.14	-24.72	-0.26
1108	SLU 61	-3	249	13451	-3114.9	-24.67	-0.58
1108	SLU 62	0	221	13783	-3188.7	-25.17	0.12
1108	SLU 63	-2	250	13639	-3157.46	-25.12	-0.2
1108	SLU 64	1	220	13508	-3123.59	-24.75	0.35
1108	SLU 65	-1	268	13269	-3071.53	-24.66	-0.18
1108	SLU 66	2	222	13788	-3186.99	-25.38	0.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1108	SLU 67	1	251	13645	-3155.75	-25.33	0.34
1108	SLU 68	0	268	13457	-3114.09	-25.11	0.2
1108	SLU 69	4	222	13976	-3229.55	-25.83	1.05
1108	SLU 70	2	251	13833	-3198.31	-25.78	0.73
1108	SLU 71	4	221	13885	-3208.72	-25.64	1.12
1108	SLU 72	3	250	13741	-3177.48	-25.59	0.8
1108	SLU 73	-7	281	14486	-3353.2	-26.35	-1.38
1108	SLU 74	-3	235	15005	-3468.66	-27.07	-0.54
1108	SLU 75	-5	264	14862	-3437.42	-27.02	-0.86
1108	SLU 76	-5	281	14674	-3395.76	-26.79	-0.99
1108	SLU 77	-2	235	15193	-3511.22	-27.51	-0.15
1108	SLU 78	-3	264	15050	-3479.98	-27.46	-0.47
1108	SLU 79	-1	234	15102	-3490.39	-27.32	-0.08
1108	SLU 80	-3	263	14958	-3459.15	-27.27	-0.39
1108	SLU 81	-7	238	15247	-3525.98	-27.15	-1.36
1108	SLU 82	-8	267	15103	-3494.75	-27.1	-1.68
1108	SLU 83	-5	239	15435	-3568.55	-27.6	-0.98
1108	SLU 84	-7	268	15291	-3537.31	-27.55	-1.29
1108	SLE RA 1	2	165	10028	-2319.28	-18.5	0.51
1108	SLE RA 2	0	197	9868	-2284.57	-18.45	0.16
1108	SLE RA 3	3	166	10214	-2361.54	-18.92	0.72
1108	SLE RA 4	2	186	10119	-2340.72	-18.89	0.5
1108	SLE RA 5	1	197	9994	-2312.95	-18.74	0.41
1108	SLE RA 6	4	167	10340	-2389.92	-19.22	0.97
1108	SLE RA 7	3	186	10244	-2369.09	-19.19	0.76
1108	SLE RA 8	4	166	10279	-2376.03	-19.1	1.02
1108	SLE RA 9	3	185	10183	-2355.21	-19.06	0.81
1108	SLE RA 10	-3	206	10680	-2472.35	-19.57	-0.64
1108	SLE RA 11	-1	175	11026	-2549.33	-20.05	-0.08
1108	SLE RA 12	-2	194	10930	-2528.5	-20.01	-0.29
1108	SLE RA 13	-2	206	10805	-2500.73	-19.87	-0.39
1108	SLE RA 14	0	176	11151	-2577.7	-20.34	0.18
1108	SLE RA 15	-1	195	11056	-2556.88	-20.31	-0.04
1108	SLE RA 16	0	175	11090	-2563.81	-20.22	0.23
1108	SLE RA 17	-1	194	10994	-2542.99	-20.19	0.01
1108	SLE RA 18	-3	177	11187	-2587.54	-20.11	-0.63
1108	SLE RA 19	-4	197	11091	-2566.72	-20.07	-0.84
1108	SLE RA 20	-2	178	11312	-2615.92	-20.4	-0.37
1108	SLE RA 21	-3	197	11217	-2595.09	-20.37	-0.59
1108	SLE FR 1	2	165	10028	-2319.28	-18.5	0.51
1108	SLE FR 2	1	171	9996	-2312.34	-18.49	0.44
1108	SLE FR 3	2	165	10078	-2330.63	-18.62	0.61
1108	SLE FR 4	0	175	10344	-2392.82	-18.97	0.1
1108	SLE FR 5	1	169	10426	-2411.11	-19.1	0.27
1108	SLE FR 6	-1	171	10607	-2453.41	-19.3	-0.06
1108	SLE QP 1	2	165	10028	-2319.28	-18.5	0.51
1108	SLE QP 2	0	169	10376	-2399.76	-18.98	0.17
1108	SLD 1	1136	377	7917	-1851.94	5.15	282.93
1108	SLD 2	919	429	7883	-1845.22	5.72	230.29
1108	SLD 3	1161	-207	11371	-2604.47	3.26	288.84
1108	SLD 4	943	-156	11338	-2597.76	3.83	236.2
1108	SLD 5	341	1108	4404	-1095.22	-8.98	85.08
1108	SLD 6	201	1142	4382	-1090.9	-8.61	51.19
1108	SLD 7	423	-839	15920	-3603.68	-15.27	104.79
1108	SLD 8	283	-806	15898	-3599.35	-14.91	70.89
1108	SLD 9	-283	1143	4853	-1200.17	-23.06	-70.55
1108	SLD 10	-423	1176	4832	-1195.84	-22.69	-104.45
1108	SLD 11	-201	-804	16369	-3708.63	-29.35	-50.85
1108	SLD 12	-341	-771	16347	-3704.3	-28.99	-84.75
1108	SLD 13	-943	493	9414	-2201.76	-41.79	-235.86
1108	SLD 14	-1161	545	9380	-2195.05	-41.22	-288.5
1108	SLD 15	-918	-91	12868	-2954.3	-43.68	-229.95
1108	SLD 16	-1136	-40	12835	-2947.58	-43.11	-282.59
1108	SLV 1	1780	535	6282	-1489.28	18.79	443.13
1108	SLV 2	1437	617	6229	-1478.69	19.69	360.16
1108	SLV 3	1820	-461	12178	-2773.67	15.57	452.7
1108	SLV 4	1477	-379	12125	-2763.08	16.47	369.73
1108	SLV 5	538	1775	215	-180.59	-2.93	134.03
1108	SLV 6	307	1829	179	-173.47	-2.33	78.17
1108	SLV 7	671	-1546	19869	-4461.91	-13.67	165.92
1108	SLV 8	440	-1492	19833	-4454.78	-13.07	110.06
1108	SLV 9	-439	1829	918	-344.74	-24.9	-109.73
1108	SLV 10	-670	1884	882	-337.61	-24.29	-165.58
1108	SLV 11	-306	-1492	20572	-4626.06	-35.64	-77.84
1108	SLV 12	-537	-1437	20536	-4618.93	-35.04	-133.69
1108	SLV 13	-1476	717	8626	-2036.44	-54.43	-369.39
1108	SLV 14	-1820	798	8573	-2025.85	-53.54	-452.36
1108	SLV 15	-1437	-279	14522	-3320.83	-57.65	-359.82
1108	SLV 16	-1780	-198	14469	-3310.24	-56.76	-442.79
1108	SLV FO 1	1958	572	5873	-1398.23	22.57	487.42
1108	SLV FO 2	1581	662	5814	-1386.58	23.56	396.16
1108	SLV FO 3	2002	-524	12358	-2811.06	19.03	497.95
1108	SLV FO 4	1624	-434	12300	-2799.42	20.01	406.68
1108	SLV FO 5	591	1935	-801	41.32	-1.32	147.42
1108	SLV FO 6	337	1996	-841	49.16	-0.66	85.97
1108	SLV FO 7	738	-1718	20818	-4668.12	-13.14	182.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1108	SLV FO 8	484	-1658	20779	-4660.28	-12.48	121.05
1108	SLV FO 9	-483	1995	-28	-139.24	-25.49	-120.71
1108	SLV FO 10	-738	2055	-67	-131.4	-24.83	-182.16
1108	SLV FO 11	-337	-1658	21592	-4848.69	-37.3	-85.64
1108	SLV FO 12	-591	-1598	21553	-4840.84	-36.64	-147.08
1108	SLV FO 13	-1624	772	8451	-2000.11	-57.98	-406.35
1108	SLV FO 14	-2002	861	8393	-1988.46	-56.99	-497.61
1108	SLV FO 15	-1580	-324	14937	-3412.94	-61.52	-395.82
1108	SLV FO 16	-1958	-235	14879	-3401.29	-60.54	-487.09
1108	CRTFP Ux+	0	0	0	0	0	0
1108	CRTFP Ux-	0	0	0	0	0	0
1108	CRTFP Uy+	0	0	0	-0.01	0	0
1108	CRTFP Uy-	0	0	0	0.01	0	0
1110	SLU 1	4	55	3333	-935.18	-39.99	2.05
1110	SLU 2	3	72	3252	-914.67	-39.02	1.95
1110	SLU 3	5	56	3430	-961.26	-41.15	2.25
1110	SLU 4	4	66	3381	-948.96	-40.58	2.19
1110	SLU 5	4	72	3317	-932.17	-39.81	2.17
1110	SLU 6	6	56	3495	-978.76	-41.94	2.47
1110	SLU 7	5	66	3447	-966.45	-41.36	2.41
1110	SLU 8	6	55	3464	-970.18	-41.56	2.5
1110	SLU 9	5	66	3415	-957.87	-40.98	2.43
1110	SLU 10	2	77	3675	-1032.71	-44.04	1.47
1110	SLU 11	3	60	3853	-1079.3	-46.17	1.77
1110	SLU 12	3	71	3805	-1067	-45.59	1.7
1110	SLU 13	3	77	3740	-1050.21	-44.83	1.69
1110	SLU 14	4	61	3919	-1096.8	-46.96	1.99
1110	SLU 15	3	71	3870	-1084.5	-46.38	1.92
1110	SLU 16	4	60	3887	-1088.22	-46.57	2.01
1110	SLU 17	4	70	3838	-1075.92	-46	1.95
1110	SLU 18	2	62	3938	-1103.81	-47.16	1.36
1110	SLU 19	2	72	3889	-1091.51	-46.58	1.3
1110	SLU 20	3	62	4003	-1121.31	-47.94	1.58
1110	SLU 21	2	72	3954	-1109.01	-47.36	1.52
1110	SLU 22	3	61	3907	-1093.42	-46.8	1.69
1110	SLU 23	2	78	3825	-1072.91	-45.84	1.58
1110	SLU 24	4	62	4004	-1119.5	-47.97	1.89
1110	SLU 25	3	72	3955	-1107.19	-47.39	1.82
1110	SLU 26	3	79	3891	-1090.41	-46.62	1.8
1110	SLU 27	4	62	4069	-1137	-48.75	2.11
1110	SLU 28	4	72	4020	-1124.69	-48.17	2.04
1110	SLU 29	4	62	4037	-1128.42	-48.37	2.13
1110	SLU 30	4	72	3988	-1116.11	-47.79	2.07
1110	SLU 31	1	83	4249	-1190.95	-50.85	1.1
1110	SLU 32	2	67	4427	-1237.54	-52.98	1.4
1110	SLU 33	2	77	4378	-1225.24	-52.4	1.34
1110	SLU 34	1	83	4314	-1208.45	-51.64	1.32
1110	SLU 35	3	67	4492	-1255.04	-53.77	1.62
1110	SLU 36	2	77	4443	-1242.74	-53.19	1.56
1110	SLU 37	3	66	4460	-1246.46	-53.39	1.65
1110	SLU 38	2	77	4412	-1234.16	-52.81	1.58
1110	SLU 39	1	68	4511	-1262.05	-53.97	1
1110	SLU 40	0	78	4462	-1249.75	-53.39	0.93
1110	SLU 41	2	68	4577	-1279.55	-54.75	1.22
1110	SLU 42	1	79	4528	-1267.25	-54.17	1.15
1110	SLU 43	6	69	4136	-1161.48	-49.65	2.8
1110	SLU 44	5	86	4055	-1140.97	-48.69	2.69
1110	SLU 45	7	70	4233	-1187.56	-50.81	2.99
1110	SLU 46	6	80	4185	-1175.26	-50.24	2.93
1110	SLU 47	6	87	4120	-1158.47	-49.47	2.91
1110	SLU 48	7	70	4299	-1205.06	-51.6	3.21
1110	SLU 49	7	80	4250	-1192.76	-51.02	3.15
1110	SLU 50	7	70	4267	-1196.48	-51.22	3.24
1110	SLU 51	7	80	4218	-1184.18	-50.64	3.17
1110	SLU 52	4	91	4478	-1259.01	-53.7	2.21
1110	SLU 53	5	75	4657	-1305.6	-55.83	2.51
1110	SLU 54	5	85	4608	-1293.3	-55.25	2.44
1110	SLU 55	4	91	4543	-1276.51	-54.49	2.43
1110	SLU 56	6	75	4722	-1323.1	-56.62	2.73
1110	SLU 57	5	85	4673	-1310.8	-56.04	2.66
1110	SLU 58	6	74	4690	-1314.52	-56.24	2.75
1110	SLU 59	5	85	4641	-1302.22	-55.66	2.69
1110	SLU 60	4	76	4741	-1330.12	-56.82	2.1
1110	SLU 61	3	86	4692	-1317.81	-56.24	2.04
1110	SLU 62	4	76	4806	-1347.61	-57.6	2.32
1110	SLU 63	4	87	4757	-1335.31	-57.02	2.26
1110	SLU 64	5	75	4710	-1319.72	-56.46	2.43
1110	SLU 65	4	93	4629	-1299.21	-55.5	2.33
1110	SLU 66	5	76	4807	-1345.8	-57.63	2.63
1110	SLU 67	5	87	4758	-1333.5	-57.05	2.56
1110	SLU 68	5	93	4694	-1316.71	-56.28	2.55
1110	SLU 69	6	76	4872	-1363.3	-58.41	2.85
1110	SLU 70	5	87	4824	-1351	-57.83	2.78
1110	SLU 71	6	76	4841	-1354.72	-58.03	2.87
1110	SLU 72	6	86	4792	-1342.42	-57.45	2.81
1110	SLU 73	2	98	5052	-1417.25	-60.51	1.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1110	SLU 74	4	81	5230	-1463.84	-62.64	2.14
1110	SLU 75	3	91	5181	-1451.54	-62.07	2.08
1110	SLU 76	3	98	5117	-1434.75	-61.3	2.06
1110	SLU 77	4	81	5296	-1481.34	-63.43	2.36
1110	SLU 78	4	92	5247	-1469.04	-62.85	2.3
1110	SLU 79	5	81	5264	-1472.76	-63.05	2.39
1110	SLU 80	4	91	5215	-1460.46	-62.47	2.32
1110	SLU 81	3	82	5315	-1488.35	-63.63	1.74
1110	SLU 82	2	93	5266	-1476.05	-63.05	1.68
1110	SLU 83	3	83	5380	-1505.85	-64.41	1.96
1110	SLU 84	3	93	5331	-1493.55	-63.84	1.9
1110	SLE RA 1	4	57	3497	-980.39	-41.94	1.95
1110	SLE RA 2	3	68	3443	-966.72	-41.29	1.88
1110	SLE RA 3	4	57	3562	-997.78	-42.71	2.08
1110	SLE RA 4	4	64	3529	-989.58	-42.33	2.04
1110	SLE RA 5	4	68	3486	-978.39	-41.82	2.03
1110	SLE RA 6	5	57	3605	-1009.45	-43.23	2.23
1110	SLE RA 7	4	64	3573	-1001.24	-42.85	2.19
1110	SLE RA 8	5	57	3584	-1003.73	-42.98	2.24
1110	SLE RA 9	4	64	3551	-995.52	-42.6	2.2
1110	SLE RA 10	2	71	3725	-1045.41	-44.64	1.56
1110	SLE RA 11	3	60	3844	-1076.47	-46.06	1.76
1110	SLE RA 12	3	67	3811	-1068.27	-45.67	1.72
1110	SLE RA 13	3	72	3768	-1057.08	-45.16	1.7
1110	SLE RA 14	4	61	3887	-1088.14	-46.58	1.9
1110	SLE RA 15	3	67	3855	-1079.94	-46.19	1.86
1110	SLE RA 16	4	60	3866	-1082.42	-46.33	1.92
1110	SLE RA 17	3	67	3834	-1074.22	-45.94	1.88
1110	SLE RA 18	3	61	3900	-1092.81	-46.71	1.49
1110	SLE RA 19	2	68	3867	-1084.61	-46.33	1.45
1110	SLE RA 20	3	61	3944	-1104.48	-47.24	1.64
1110	SLE RA 21	3	68	3911	-1096.28	-46.85	1.59
1110	SLE FR 1	4	57	3497	-980.39	-41.94	1.95
1110	SLE FR 2	4	59	3486	-977.66	-41.81	1.94
1110	SLE FR 3	4	57	3514	-985.06	-42.14	2.01
1110	SLE FR 4	3	60	3607	-1011.39	-43.24	1.8
1110	SLE FR 5	4	58	3635	-1018.79	-43.58	1.87
1110	SLE FR 6	3	59	3699	-1036.6	-44.32	1.72
1110	SLE QP 1	4	57	3497	-980.39	-41.94	1.95
1110	SLE QP 2	4	58	3618	-1014.12	-43.37	1.81
1110	SLD 1	408	125	2742	-789.77	-32.06	143.38
1110	SLD 2	331	148	2730	-787.52	-31.88	116.87
1110	SLD 3	418	-85	3918	-1086.68	-46.02	145.95
1110	SLD 4	341	-62	3906	-1084.43	-45.83	119.44
1110	SLD 5	124	392	1574	-496.9	-18.84	44.95
1110	SLD 6	74	407	1566	-495.45	-18.72	27.88
1110	SLD 7	156	-307	5494	-1486.58	-65.36	53.5
1110	SLD 8	106	-292	5486	-1485.13	-65.24	36.43
1110	SLD 9	-99	408	1750	-543.11	-21.5	-32.8
1110	SLD 10	-149	423	1742	-541.66	-21.37	-49.88
1110	SLD 11	-67	-291	5670	-1532.79	-68.01	-24.26
1110	SLD 12	-116	-276	5662	-1531.34	-67.89	-41.33
1110	SLD 13	-334	178	3330	-943.82	-40.9	-115.81
1110	SLD 14	-411	201	3318	-941.56	-40.72	-142.32
1110	SLD 15	-324	-32	4506	-1240.72	-54.86	-113.25
1110	SLD 16	-401	-8	4494	-1238.47	-54.67	-139.76
1110	SLV 1	638	177	2164	-642.21	-24.7	223.62
1110	SLV 2	516	214	2145	-638.66	-24.4	181.83
1110	SLV 3	653	-181	4171	-1148.93	-48.52	227.75
1110	SLV 4	532	-144	4152	-1145.38	-48.22	185.96
1110	SLV 5	192	629	141	-134.68	-1.69	69.89
1110	SLV 6	111	655	128	-132.29	-1.5	41.75
1110	SLV 7	245	-563	6832	-1823.76	-81.1	83.66
1110	SLV 8	163	-538	6818	-1821.37	-80.9	55.53
1110	SLV 9	-156	654	417	-206.88	-5.84	-51.9
1110	SLV 10	-238	679	404	-204.49	-5.64	-80.03
1110	SLV 11	-104	-538	7108	-1895.95	-85.24	-38.13
1110	SLV 12	-185	-513	7094	-1893.56	-85.04	-66.26
1110	SLV 13	-525	260	3084	-882.86	-38.51	-182.34
1110	SLV 14	-646	297	3065	-879.31	-38.22	-224.13
1110	SLV 15	-509	-98	5091	-1389.58	-62.33	-178.21
1110	SLV 16	-631	-61	5072	-1386.03	-62.04	-220
1110	SLV FO 1	701	189	2019	-605.02	-22.83	245.8
1110	SLV FO 2	568	230	1997	-601.11	-22.51	199.83
1110	SLV FO 3	718	-205	4226	-1162.41	-49.03	250.35
1110	SLV FO 4	585	-164	4205	-1158.51	-48.71	204.38
1110	SLV FO 5	211	686	-206	-46.73	2.47	76.69
1110	SLV FO 6	122	714	-221	-44.11	2.69	45.75
1110	SLV FO 7	269	-625	7153	-1904.72	-84.87	91.84
1110	SLV FO 8	179	-598	7139	-1902.09	-84.65	60.9
1110	SLV FO 9	-172	714	97	-126.15	-2.09	-57.27
1110	SLV FO 10	-262	742	83	-123.52	-1.87	-88.22
1110	SLV FO 11	-114	-598	7456	-1984.14	-89.43	-42.12
1110	SLV FO 12	-204	-570	7442	-1981.51	-89.21	-73.07
1110	SLV FO 13	-578	280	3031	-869.74	-38.03	-200.75
1110	SLV FO 14	-711	321	3009	-865.83	-37.7	-246.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1110	SLV FO 15	-560	-114	5238	-1427.13	-64.23	-196.21
1110	SLV FO 16	-694	-73	5217	-1423.23	-63.91	-242.18
1110	CRTFP Ux+	0	0	0	0	0	0
1110	CRTFP Ux-	0	0	0	0	0	0
1110	CRTFP Uy+	0	0	0	0	0	0
1110	CRTFP Uy-	0	0	0	0	0	0
1111	SLU 1	8	52	3483	-906.21	2.86	2.39
1111	SLU 2	6	70	3398	-886.62	2.78	2
1111	SLU 3	8	53	3584	-931.26	2.94	2.62
1111	SLU 4	8	64	3533	-919.5	2.9	2.39
1111	SLU 5	7	70	3466	-903.43	2.83	2.26
1111	SLU 6	9	53	3652	-948.07	3	2.88
1111	SLU 7	8	64	3601	-936.32	2.95	2.64
1111	SLU 8	9	52	3619	-939.85	2.97	2.9
1111	SLU 9	8	63	3568	-928.09	2.92	2.67
1111	SLU 10	5	75	3838	-999.69	3.24	1.5
1111	SLU 11	7	57	4024	-1044.32	3.4	2.12
1111	SLU 12	6	68	3973	-1032.57	3.35	1.88
1111	SLU 13	6	75	3906	-1016.5	3.29	1.76
1111	SLU 14	8	58	4092	-1061.14	3.46	2.37
1111	SLU 15	7	69	4041	-1049.38	3.41	2.14
1111	SLU 16	8	57	4059	-1052.91	3.43	2.4
1111	SLU 17	7	68	4008	-1041.16	3.38	2.17
1111	SLU 18	6	59	4111	-1067.74	3.51	1.67
1111	SLU 19	5	70	4060	-1055.98	3.46	1.44
1111	SLU 20	6	59	4179	-1084.55	3.57	1.93
1111	SLU 21	6	70	4128	-1072.8	3.52	1.7
1111	SLU 22	7	58	4079	-1057.81	3.46	2.04
1111	SLU 23	6	76	3994	-1038.21	3.38	1.65
1111	SLU 24	7	59	4180	-1082.85	3.55	2.27
1111	SLU 25	7	70	4130	-1071.09	3.5	2.04
1111	SLU 26	6	76	4063	-1055.03	3.44	1.91
1111	SLU 27	8	59	4249	-1099.67	3.6	2.53
1111	SLU 28	7	70	4198	-1087.91	3.55	2.29
1111	SLU 29	8	58	4215	-1091.44	3.57	2.55
1111	SLU 30	7	69	4165	-1079.68	3.52	2.32
1111	SLU 31	4	81	4434	-1151.28	3.84	1.15
1111	SLU 32	6	64	4620	-1195.92	4	1.77
1111	SLU 33	5	74	4569	-1184.16	3.96	1.53
1111	SLU 34	5	81	4502	-1168.1	3.89	1.41
1111	SLU 35	7	64	4688	-1212.73	4.06	2.02
1111	SLU 36	6	75	4637	-1200.98	4.01	1.79
1111	SLU 37	7	63	4655	-1204.51	4.03	2.05
1111	SLU 38	6	74	4604	-1192.75	3.98	1.82
1111	SLU 39	5	65	4707	-1219.33	4.11	1.32
1111	SLU 40	4	76	4656	-1207.58	4.07	1.09
1111	SLU 41	5	65	4775	-1236.15	4.17	1.58
1111	SLU 42	5	76	4724	-1224.39	4.12	1.35
1111	SLU 43	10	66	4323	-1126.1	3.51	3.23
1111	SLU 44	9	84	4238	-1106.51	3.43	2.84
1111	SLU 45	11	66	4424	-1151.14	3.6	3.45
1111	SLU 46	10	77	4373	-1139.39	3.55	3.22
1111	SLU 47	10	84	4306	-1123.32	3.48	3.1
1111	SLU 48	12	66	4492	-1167.96	3.65	3.71
1111	SLU 49	11	77	4442	-1156.2	3.6	3.48
1111	SLU 50	12	66	4459	-1159.73	3.62	3.74
1111	SLU 51	11	77	4408	-1147.98	3.57	3.51
1111	SLU 52	8	89	4678	-1219.57	3.89	2.34
1111	SLU 53	9	71	4864	-1264.21	4.05	2.95
1111	SLU 54	9	82	4813	-1252.46	4.01	2.72
1111	SLU 55	8	89	4746	-1236.39	3.94	2.59
1111	SLU 56	10	71	4932	-1281.03	4.11	3.21
1111	SLU 57	9	82	4881	-1269.27	4.06	2.98
1111	SLU 58	10	71	4899	-1272.8	4.08	3.24
1111	SLU 59	10	82	4848	-1261.04	4.03	3
1111	SLU 60	8	72	4951	-1287.63	4.16	2.51
1111	SLU 61	7	83	4900	-1275.87	4.12	2.27
1111	SLU 62	9	73	5019	-1304.44	4.22	2.76
1111	SLU 63	8	83	4968	-1292.69	4.17	2.53
1111	SLU 64	9	72	4919	-1277.7	4.11	2.88
1111	SLU 65	8	90	4835	-1258.1	4.03	2.49
1111	SLU 66	10	72	5021	-1302.74	4.2	3.11
1111	SLU 67	9	83	4970	-1290.98	4.15	2.87
1111	SLU 68	9	90	4903	-1274.92	4.09	2.75
1111	SLU 69	11	72	5089	-1319.56	4.25	3.36
1111	SLU 70	10	83	5038	-1307.8	4.2	3.13
1111	SLU 71	11	72	5056	-1311.33	4.22	3.39
1111	SLU 72	10	83	5005	-1299.57	4.17	3.16
1111	SLU 73	7	95	5274	-1371.17	4.49	1.99
1111	SLU 74	8	77	5460	-1415.81	4.66	2.6
1111	SLU 75	8	88	5409	-1404.05	4.61	2.37
1111	SLU 76	7	95	5342	-1387.98	4.54	2.24
1111	SLU 77	9	77	5528	-1432.62	4.71	2.86
1111	SLU 78	9	88	5478	-1420.87	4.66	2.63
1111	SLU 79	9	77	5495	-1424.4	4.68	2.89
1111	SLU 80	9	88	5445	-1412.64	4.63	2.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1111	SLU 81	7	78	5547	-1439.22	4.77	2.16
1111	SLU 82	7	89	5496	-1427.46	4.72	1.93
1111	SLU 83	8	79	5615	-1456.04	4.82	2.42
1111	SLU 84	7	90	5565	-1444.28	4.77	2.18
1111	SLE RA 1	7	54	3653	-949.53	3.03	2.29
1111	SLE RA 2	7	66	3596	-936.46	2.98	2.03
1111	SLE RA 3	8	54	3721	-966.22	3.09	2.44
1111	SLE RA 4	7	61	3687	-958.38	3.06	2.29
1111	SLE RA 5	7	66	3642	-947.67	3.01	2.2
1111	SLE RA 6	8	54	3766	-977.43	3.12	2.61
1111	SLE RA 7	8	62	3732	-969.59	3.09	2.46
1111	SLE RA 8	8	54	3744	-971.95	3.1	2.63
1111	SLE RA 9	8	61	3710	-964.11	3.07	2.48
1111	SLE RA 10	6	69	3890	-1011.84	3.28	1.7
1111	SLE RA 11	7	57	4014	-1041.6	3.39	2.11
1111	SLE RA 12	6	65	3980	-1033.76	3.36	1.95
1111	SLE RA 13	6	69	3935	-1023.05	3.32	1.87
1111	SLE RA 14	7	57	4059	-1052.81	3.43	2.28
1111	SLE RA 15	7	65	4025	-1044.97	3.4	2.12
1111	SLE RA 16	7	57	4037	-1047.33	3.41	2.3
1111	SLE RA 17	7	64	4003	-1039.49	3.38	2.14
1111	SLE RA 18	6	58	4072	-1057.21	3.47	1.81
1111	SLE RA 19	6	66	4038	-1049.37	3.43	1.66
1111	SLE RA 20	6	58	4117	-1068.42	3.5	1.98
1111	SLE RA 21	6	66	4083	-1060.58	3.47	1.83
1111	SLE FR 1	7	54	3653	-949.53	3.03	2.29
1111	SLE FR 2	7	56	3642	-946.91	3.02	2.24
1111	SLE FR 3	7	54	3671	-954.01	3.05	2.36
1111	SLE FR 4	7	58	3767	-979.22	3.15	2.09
1111	SLE FR 5	7	55	3797	-986.31	3.18	2.21
1111	SLE FR 6	7	56	3862	-1003.37	3.25	2.05
1111	SLE QP 1	7	54	3653	-949.53	3.03	2.29
1111	SLE QP 2	7	55	3779	-981.83	3.16	2.15
1111	SLD 1	437	121	2835	-765.4	3.37	152.76
1111	SLD 2	355	150	2821	-762.94	3.42	124.11
1111	SLD 3	449	-102	4060	-1049.11	4.5	156.81
1111	SLD 4	367	-72	4045	-1046.64	4.56	128.16
1111	SLD 5	133	407	1642	-487.03	1.49	46.12
1111	SLD 6	80	426	1632	-485.45	1.53	27.66
1111	SLD 7	171	-334	5722	-1432.73	5.28	59.61
1111	SLD 8	118	-315	5712	-1431.14	5.32	41.16
1111	SLD 9	-104	426	1845	-532.52	1.01	-36.87
1111	SLD 10	-157	444	1835	-530.94	1.04	-55.32
1111	SLD 11	-66	-316	5925	-1478.21	4.8	-23.37
1111	SLD 12	-119	-297	5915	-1476.63	4.84	-41.82
1111	SLD 13	-353	183	3512	-917.02	1.76	-123.87
1111	SLD 14	-435	212	3498	-914.56	1.82	-152.52
1111	SLD 15	-341	-40	4736	-1200.72	2.9	-119.82
1111	SLD 16	-424	-10	4722	-1198.26	2.96	-148.47
1111	SLV 1	681	173	2216	-623.26	3.4	238.02
1111	SLV 2	552	219	2193	-619.38	3.49	192.85
1111	SLV 3	700	-206	4306	-1107.44	5.34	244.69
1111	SLV 4	570	-160	4283	-1103.57	5.43	199.53
1111	SLV 5	205	657	146	-140.64	0.27	71.21
1111	SLV 6	118	688	130	-138.03	0.33	40.81
1111	SLV 7	268	-607	7110	-1754.58	6.74	93.46
1111	SLV 8	180	-576	7094	-1751.97	6.8	63.05
1111	SLV 9	-167	686	463	-211.69	-0.48	-58.76
1111	SLV 10	-254	717	448	-209.08	-0.42	-89.17
1111	SLV 11	-104	-578	7427	-1825.63	5.99	-36.52
1111	SLV 12	-191	-547	7412	-1823.02	6.05	-66.92
1111	SLV 13	-557	270	3274	-860.09	0.89	-195.24
1111	SLV 14	-686	316	3252	-856.22	0.99	-240.4
1111	SLV 15	-538	-109	5364	-1344.28	2.83	-188.56
1111	SLV 16	-667	-63	5341	-1340.4	2.93	-233.72
1111	SLV FO 1	748	185	2060	-587.4	3.42	261.6
1111	SLV FO 2	606	236	2035	-583.14	3.52	211.93
1111	SLV FO 3	769	-232	4358	-1120.01	5.55	268.94
1111	SLV FO 4	627	-181	4333	-1115.74	5.66	219.27
1111	SLV FO 5	225	717	-218	-56.52	-0.02	78.12
1111	SLV FO 6	129	751	-235	-53.65	0.05	44.68
1111	SLV FO 7	294	-673	7443	-1831.86	7.1	102.59
1111	SLV FO 8	198	-639	7426	-1828.99	7.17	69.14
1111	SLV FO 9	-184	749	131	-134.67	-0.84	-64.85
1111	SLV FO 10	-280	783	114	-131.8	-0.77	-98.3
1111	SLV FO 11	-115	-641	7792	-1910.01	6.27	-40.38
1111	SLV FO 12	-211	-607	7775	-1907.14	6.34	-73.83
1111	SLV FO 13	-613	292	3224	-847.92	0.67	-214.97
1111	SLV FO 14	-755	342	3199	-843.65	0.77	-264.65
1111	SLV FO 15	-592	-125	5522	-1380.52	2.8	-207.63
1111	SLV FO 16	-735	-75	5497	-1376.26	2.9	-257.31
1111	CRTFP Ux+	0	0	0	0	0	0
1111	CRTFP Ux-	0	0	0	0	0	0
1111	CRTFP Uy+	0	0	0	0	0	0
1111	CRTFP Uy-	0	0	0	0	0	0
1112	SLU 1	10	44	3395	-820.67	2.81	3.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1112	SLU 2	9	62	3312	-803.17	2.74	2.89
1112	SLU 3	11	44	3493	-843.15	2.89	3.58
1112	SLU 4	10	55	3444	-832.65	2.85	3.32
1112	SLU 5	10	62	3379	-818.29	2.79	3.17
1112	SLU 6	12	44	3560	-858.28	2.95	3.86
1112	SLU 7	11	55	3511	-847.77	2.9	3.6
1112	SLU 8	12	44	3528	-850.92	2.91	3.88
1112	SLU 9	11	55	3478	-840.42	2.87	3.62
1112	SLU 10	8	66	3738	-904.09	3.19	2.46
1112	SLU 11	10	49	3919	-944.07	3.35	3.15
1112	SLU 12	9	60	3869	-933.57	3.3	2.89
1112	SLU 13	9	66	3804	-919.21	3.24	2.74
1112	SLU 14	11	49	3985	-959.19	3.4	3.44
1112	SLU 15	10	60	3936	-948.69	3.36	3.18
1112	SLU 16	11	48	3953	-951.83	3.37	3.46
1112	SLU 17	10	59	3904	-941.33	3.32	3.2
1112	SLU 18	9	50	4002	-964.84	3.46	2.71
1112	SLU 19	8	61	3953	-954.34	3.41	2.45
1112	SLU 20	9	50	4069	-979.96	3.51	2.99
1112	SLU 21	9	61	4020	-969.46	3.47	2.73
1112	SLU 22	10	49	3972	-956.05	3.4	3.09
1112	SLU 23	9	67	3890	-938.54	3.33	2.66
1112	SLU 24	10	50	4071	-978.53	3.49	3.35
1112	SLU 25	10	60	4022	-968.02	3.44	3.09
1112	SLU 26	9	67	3957	-953.67	3.38	2.94
1112	SLU 27	11	50	4138	-993.65	3.54	3.64
1112	SLU 28	11	60	4088	-983.15	3.5	3.38
1112	SLU 29	11	49	4106	-986.29	3.51	3.66
1112	SLU 30	11	60	4056	-975.79	3.47	3.4
1112	SLU 31	7	72	4316	-1039.46	3.79	2.24
1112	SLU 32	9	54	4497	-1079.44	3.94	2.93
1112	SLU 33	9	65	4447	-1068.94	3.9	2.67
1112	SLU 34	8	72	4382	-1054.58	3.84	2.52
1112	SLU 35	10	54	4563	-1094.56	3.99	3.21
1112	SLU 36	9	65	4514	-1084.06	3.95	2.95
1112	SLU 37	10	54	4531	-1087.21	3.96	3.23
1112	SLU 38	9	64	4482	-1076.7	3.92	2.97
1112	SLU 39	8	55	4580	-1100.21	4.05	2.49
1112	SLU 40	7	66	4531	-1089.71	4.01	2.23
1112	SLU 41	9	55	4647	-1115.33	4.11	2.77
1112	SLU 42	8	66	4598	-1104.83	4.06	2.51
1112	SLU 43	14	55	4215	-1020.46	3.45	4.39
1112	SLU 44	12	73	4132	-1002.96	3.38	3.96
1112	SLU 45	14	56	4314	-1042.94	3.53	4.65
1112	SLU 46	14	67	4264	-1032.44	3.49	4.39
1112	SLU 47	13	73	4199	-1018.08	3.43	4.24
1112	SLU 48	15	56	4380	-1058.06	3.58	4.93
1112	SLU 49	14	67	4331	-1047.56	3.54	4.67
1112	SLU 50	15	55	4348	-1050.71	3.55	4.95
1112	SLU 51	14	66	4299	-1040.21	3.51	4.69
1112	SLU 52	11	78	4558	-1103.88	3.83	3.53
1112	SLU 53	13	60	4739	-1143.86	3.99	4.22
1112	SLU 54	12	71	4690	-1133.36	3.94	3.97
1112	SLU 55	12	78	4625	-1119	3.88	3.81
1112	SLU 56	14	60	4806	-1158.98	4.04	4.51
1112	SLU 57	13	71	4756	-1148.48	3.99	4.25
1112	SLU 58	14	60	4773	-1151.62	4.01	4.53
1112	SLU 59	13	71	4724	-1141.12	3.96	4.27
1112	SLU 60	12	61	4823	-1164.63	4.1	3.78
1112	SLU 61	11	72	4773	-1154.12	4.05	3.52
1112	SLU 62	13	62	4889	-1179.75	4.15	4.06
1112	SLU 63	12	72	4840	-1169.25	4.11	3.81
1112	SLU 64	13	60	4793	-1155.84	4.04	4.17
1112	SLU 65	12	79	4710	-1138.33	3.97	3.73
1112	SLU 66	14	61	4891	-1178.31	4.13	4.43
1112	SLU 67	13	72	4842	-1167.81	4.08	4.17
1112	SLU 68	13	79	4777	-1153.46	4.02	4.02
1112	SLU 69	15	61	4958	-1193.44	4.18	4.71
1112	SLU 70	14	72	4909	-1182.94	4.14	4.45
1112	SLU 71	15	61	4926	-1186.08	4.15	4.73
1112	SLU 72	14	71	4876	-1175.58	4.1	4.47
1112	SLU 73	11	83	5136	-1239.25	4.42	3.31
1112	SLU 74	13	65	5317	-1279.23	4.58	4
1112	SLU 75	12	76	5268	-1268.73	4.54	3.74
1112	SLU 76	11	83	5203	-1254.37	4.48	3.59
1112	SLU 77	13	65	5384	-1294.35	4.63	4.28
1112	SLU 78	13	76	5334	-1283.85	4.59	4.02
1112	SLU 79	13	65	5351	-1286.99	4.6	4.3
1112	SLU 80	13	76	5302	-1276.49	4.56	4.05
1112	SLU 81	11	67	5401	-1300	4.69	3.56
1112	SLU 82	11	78	5351	-1289.5	4.65	3.3
1112	SLU 83	12	67	5467	-1315.12	4.74	3.84
1112	SLU 84	11	78	5418	-1304.62	4.7	3.58
1112	SLE RA 1	10	45	3560	-859.35	2.98	3.25
1112	SLE RA 2	9	57	3505	-847.68	2.93	2.97
1112	SLE RA 3	11	46	3626	-874.34	3.04	3.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1112	SLE RA 4	10	53	3593	-867.34	3.01	3.25
1112	SLE RA 5	10	57	3549	-857.77	2.97	3.15
1112	SLE RA 6	11	46	3670	-884.42	3.07	3.62
1112	SLE RA 7	11	53	3637	-877.42	3.04	3.44
1112	SLE RA 8	11	45	3648	-879.51	3.05	3.63
1112	SLE RA 9	11	53	3615	-872.51	3.02	3.46
1112	SLE RA 10	9	60	3789	-914.96	3.23	2.68
1112	SLE RA 11	10	49	3909	-941.61	3.34	3.14
1112	SLE RA 12	9	56	3876	-934.61	3.31	2.97
1112	SLE RA 13	9	60	3833	-925.04	3.27	2.87
1112	SLE RA 14	10	49	3954	-951.7	3.37	3.33
1112	SLE RA 15	10	56	3921	-944.69	3.34	3.16
1112	SLE RA 16	10	48	3932	-946.79	3.35	3.35
1112	SLE RA 17	10	56	3899	-939.79	3.32	3.17
1112	SLE RA 18	9	50	3965	-955.46	3.41	2.85
1112	SLE RA 19	9	57	3932	-948.46	3.38	2.68
1112	SLE RA 20	10	50	4009	-965.54	3.45	3.04
1112	SLE RA 21	9	57	3976	-958.54	3.42	2.86
1112	SLE FR 1	10	45	3560	-859.35	2.98	3.25
1112	SLE FR 2	10	48	3549	-857.02	2.97	3.2
1112	SLE FR 3	10	45	3577	-863.38	2.99	3.33
1112	SLE FR 4	10	49	3670	-885.85	3.1	3.07
1112	SLE FR 5	10	47	3699	-892.22	3.12	3.21
1112	SLE FR 6	10	47	3762	-907.41	3.2	3.05
1112	SLE QP 1	10	45	3560	-859.35	2.98	3.25
1112	SLE QP 2	10	47	3681	-888.18	3.11	3.13
1112	SLD 1	439	109	2732	-693.05	3.35	153.46
1112	SLD 2	357	141	2716	-690.03	3.43	124.72
1112	SLD 3	452	-111	3923	-946.58	4.39	157.97
1112	SLD 4	370	-79	3906	-943.56	4.48	129.23
1112	SLD 5	134	394	1594	-445.64	1.58	46.34
1112	SLD 6	80	414	1584	-443.7	1.63	27.83
1112	SLD 7	176	-340	5562	-1290.74	5.07	61.36
1112	SLD 8	123	-319	5551	-1288.8	5.12	42.85
1112	SLD 9	-103	413	1812	-487.57	1.1	-36.59
1112	SLD 10	-156	433	1801	-485.63	1.15	-55.1
1112	SLD 11	-61	-321	5779	-1332.67	4.59	-21.57
1112	SLD 12	-114	-300	5768	-1330.73	4.64	-40.08
1112	SLD 13	-350	172	3457	-832.81	1.74	-122.96
1112	SLD 14	-432	205	3440	-829.79	1.82	-151.71
1112	SLD 15	-337	-48	4647	-1086.34	2.79	-118.46
1112	SLD 16	-420	-16	4630	-1083.32	2.87	-147.2
1112	SLV 1	682	159	2112	-565.07	3.4	238.52
1112	SLV 2	552	210	2086	-560.31	3.54	193.22
1112	SLV 3	703	-216	4144	-997.74	5.19	245.99
1112	SLV 4	573	-165	4118	-992.98	5.32	200.69
1112	SLV 5	204	640	134	-135.93	0.46	70.88
1112	SLV 6	116	674	117	-132.73	0.55	40.37
1112	SLV 7	274	-611	6906	-1578.14	6.42	95.77
1112	SLV 8	187	-577	6888	-1574.94	6.51	65.27
1112	SLV 9	-167	670	474	-201.43	-0.29	-59.01
1112	SLV 10	-254	704	456	-198.22	-0.2	-89.51
1112	SLV 11	-97	-581	7246	-1643.64	5.66	-34.11
1112	SLV 12	-184	-547	7228	-1640.44	5.76	-64.61
1112	SLV 13	-554	259	3245	-783.39	0.89	-194.42
1112	SLV 14	-684	309	3219	-778.63	1.03	-239.73
1112	SLV 15	-533	-117	5276	-1216.06	2.68	-186.95
1112	SLV 16	-663	-66	5250	-1211.3	2.82	-232.26
1112	SLV FO 1	749	171	1956	-532.76	3.43	262.06
1112	SLV FO 2	607	226	1927	-527.53	3.58	212.23
1112	SLV FO 3	773	-242	4190	-1008.69	5.4	270.28
1112	SLV FO 4	630	-187	4161	-1003.46	5.55	220.44
1112	SLV FO 5	223	700	-220	-60.71	0.2	77.65
1112	SLV FO 6	127	737	-240	-57.18	0.3	44.1
1112	SLV FO 7	300	-677	7229	-1647.14	6.75	105.04
1112	SLV FO 8	204	-639	7209	-1643.62	6.85	71.49
1112	SLV FO 9	-185	733	153	-132.75	-0.63	-65.22
1112	SLV FO 10	-281	770	134	-129.23	-0.53	-98.77
1112	SLV FO 11	-108	-644	7602	-1719.19	5.92	-37.83
1112	SLV FO 12	-204	-607	7583	-1715.66	6.02	-71.39
1112	SLV FO 13	-610	280	3201	-772.91	0.67	-214.18
1112	SLV FO 14	-753	336	3172	-767.68	0.82	-264.02
1112	SLV FO 15	-587	-133	5436	-1248.84	2.64	-205.96
1112	SLV FO 16	-730	-77	5407	-1243.61	2.79	-255.8
1112	CRTFP Ux+	0	0	0	0	0	0
1112	CRTFP Ux-	0	0	0	0	0	0
1112	CRTFP Uy+	0	0	0	0	0	0
1112	CRTFP Uy-	0	0	0	0	0	0
1113	SLU 1	13	35	3323	-755.42	1.81	4.26
1113	SLU 2	12	53	3243	-739.43	1.77	3.78
1113	SLU 3	14	36	3420	-776	1.86	4.55
1113	SLU 4	13	47	3372	-766.41	1.83	4.26
1113	SLU 5	12	53	3308	-753.33	1.8	4.09
1113	SLU 6	15	36	3485	-789.89	1.89	4.86
1113	SLU 7	14	47	3437	-780.3	1.86	4.57
1113	SLU 8	15	35	3454	-783.21	1.87	4.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1113	SLU 9	14	46	3405	-773.62	1.84	4.59
1113	SLU 10	11	57	3656	-830.96	2.08	3.44
1113	SLU 11	13	40	3834	-867.53	2.18	4.21
1113	SLU 12	12	50	3785	-857.94	2.15	3.92
1113	SLU 13	12	57	3722	-844.86	2.11	3.75
1113	SLU 14	14	40	3899	-881.42	2.2	4.51
1113	SLU 15	13	50	3850	-871.83	2.18	4.23
1113	SLU 16	14	39	3867	-874.74	2.18	4.53
1113	SLU 17	13	50	3819	-865.15	2.16	4.25
1113	SLU 18	12	41	3914	-886.17	2.26	3.77
1113	SLU 19	11	52	3866	-876.58	2.23	3.48
1113	SLU 20	13	41	3979	-900.07	2.29	4.08
1113	SLU 21	12	52	3931	-890.48	2.26	3.79
1113	SLU 22	13	40	3886	-878.34	2.21	4.16
1113	SLU 23	11	58	3805	-862.35	2.17	3.69
1113	SLU 24	14	40	3982	-898.92	2.27	4.46
1113	SLU 25	13	51	3934	-889.33	2.24	4.17
1113	SLU 26	12	58	3870	-876.25	2.2	4
1113	SLU 27	14	40	4048	-912.81	2.29	4.76
1113	SLU 28	14	51	3999	-903.22	2.27	4.48
1113	SLU 29	15	40	4016	-906.13	2.27	4.78
1113	SLU 30	14	50	3968	-896.54	2.25	4.49
1113	SLU 31	11	61	4219	-953.88	2.49	3.35
1113	SLU 32	13	44	4396	-990.45	2.58	4.11
1113	SLU 33	12	55	4348	-980.86	2.56	3.83
1113	SLU 34	11	61	4284	-967.78	2.52	3.66
1113	SLU 35	14	44	4461	-1004.34	2.61	4.42
1113	SLU 36	13	55	4413	-994.75	2.58	4.14
1113	SLU 37	14	44	4430	-997.66	2.59	4.44
1113	SLU 38	13	54	4382	-988.07	2.56	4.15
1113	SLU 39	11	45	4477	-1009.09	2.66	3.68
1113	SLU 40	11	56	4428	-999.5	2.64	3.39
1113	SLU 41	12	45	4542	-1022.99	2.69	3.98
1113	SLU 42	12	56	4494	-1013.4	2.67	3.7
1113	SLU 43	17	45	4127	-939.9	2.21	5.56
1113	SLU 44	16	63	4047	-923.91	2.17	5.09
1113	SLU 45	18	45	4224	-960.48	2.26	5.86
1113	SLU 46	17	56	4176	-950.89	2.24	5.57
1113	SLU 47	16	62	4112	-937.81	2.2	5.4
1113	SLU 48	19	45	4289	-974.38	2.29	6.16
1113	SLU 49	18	56	4241	-964.78	2.27	5.88
1113	SLU 50	19	45	4258	-967.69	2.27	6.18
1113	SLU 51	18	55	4210	-958.1	2.25	5.89
1113	SLU 52	15	66	4460	-1015.44	2.49	4.75
1113	SLU 53	17	49	4638	-1052.01	2.58	5.52
1113	SLU 54	16	60	4589	-1042.42	2.55	5.23
1113	SLU 55	16	66	4526	-1029.34	2.51	5.06
1113	SLU 56	18	49	4703	-1065.91	2.61	5.82
1113	SLU 57	17	60	4655	-1056.31	2.58	5.54
1113	SLU 58	18	48	4671	-1059.22	2.59	5.84
1113	SLU 59	17	59	4623	-1049.63	2.56	5.55
1113	SLU 60	16	50	4718	-1070.66	2.66	5.08
1113	SLU 61	15	61	4670	-1061.07	2.64	4.79
1113	SLU 62	16	50	4783	-1084.55	2.69	5.38
1113	SLU 63	16	61	4735	-1074.96	2.67	5.1
1113	SLU 64	17	49	4690	-1062.82	2.62	5.47
1113	SLU 65	15	67	4609	-1046.83	2.58	5
1113	SLU 66	18	49	4786	-1083.4	2.67	5.76
1113	SLU 67	17	60	4738	-1073.81	2.64	5.48
1113	SLU 68	16	67	4675	-1060.73	2.61	5.31
1113	SLU 69	18	49	4852	-1097.3	2.7	6.07
1113	SLU 70	18	60	4803	-1087.7	2.67	5.79
1113	SLU 71	18	49	4820	-1090.61	2.68	6.09
1113	SLU 72	18	60	4772	-1081.02	2.65	5.8
1113	SLU 73	14	71	5023	-1138.36	2.89	4.66
1113	SLU 74	17	53	5200	-1174.93	2.98	5.42
1113	SLU 75	16	64	5152	-1165.34	2.96	5.14
1113	SLU 76	15	71	5088	-1152.26	2.92	4.96
1113	SLU 77	18	53	5265	-1188.82	3.01	5.73
1113	SLU 78	17	64	5217	-1179.23	2.99	5.45
1113	SLU 79	18	53	5234	-1182.14	2.99	5.75
1113	SLU 80	17	63	5186	-1172.55	2.97	5.46
1113	SLU 81	15	54	5281	-1193.58	3.07	4.98
1113	SLU 82	15	65	5232	-1183.98	3.04	4.7
1113	SLU 83	16	54	5346	-1207.47	3.1	5.29
1113	SLU 84	15	65	5298	-1197.88	3.07	5.01
1113	SLE RA 1	13	37	3484	-790.54	1.92	4.23
1113	SLE RA 2	12	49	3430	-779.88	1.9	3.91
1113	SLE RA 3	13	37	3548	-804.26	1.96	4.42
1113	SLE RA 4	13	44	3516	-797.86	1.94	4.23
1113	SLE RA 5	13	49	3474	-789.14	1.92	4.12
1113	SLE RA 6	14	37	3592	-813.52	1.98	4.63
1113	SLE RA 7	14	44	3560	-807.13	1.96	4.44
1113	SLE RA 8	14	37	3571	-809.07	1.96	4.64
1113	SLE RA 9	14	44	3539	-802.67	1.95	4.45
1113	SLE RA 10	11	51	3706	-840.9	2.11	3.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1113	SLE RA 11	13	39	3824	-865.28	2.17	4.2
1113	SLE RA 12	12	47	3792	-858.88	2.15	4.01
1113	SLE RA 13	12	51	3750	-850.16	2.13	3.89
1113	SLE RA 14	13	39	3868	-874.54	2.19	4.4
1113	SLE RA 15	13	47	3835	-868.15	2.17	4.21
1113	SLE RA 16	13	39	3847	-870.08	2.17	4.41
1113	SLE RA 17	13	46	3814	-863.69	2.16	4.22
1113	SLE RA 18	12	40	3878	-877.71	2.23	3.9
1113	SLE RA 19	11	48	3846	-871.31	2.21	3.71
1113	SLE RA 20	13	40	3921	-886.97	2.24	4.11
1113	SLE RA 21	12	47	3889	-880.58	2.23	3.92
1113	SLE FR 1	13	37	3484	-790.54	1.92	4.23
1113	SLE FR 2	13	39	3473	-788.41	1.92	4.17
1113	SLE FR 3	13	37	3501	-794.24	1.93	4.31
1113	SLE FR 4	12	40	3591	-814.56	2.01	4.07
1113	SLE FR 5	13	38	3619	-820.39	2.02	4.21
1113	SLE FR 6	12	39	3681	-834.12	2.07	4.07
1113	SLE QP 1	13	37	3484	-790.54	1.92	4.23
1113	SLE QP 2	13	38	3602	-816.69	2.01	4.13
1113	SLD 1	441	98	2642	-636.61	2.56	154.08
1113	SLD 2	358	132	2622	-632.46	2.69	125.26
1113	SLD 3	455	-120	3807	-868.24	3.17	159.05
1113	SLD 4	372	-86	3787	-864.08	3.29	130.23
1113	SLD 5	134	380	1551	-412.07	1.24	46.53
1113	SLD 6	81	402	1538	-409.4	1.32	27.98
1113	SLD 7	181	-346	5433	-1184.17	3.26	63.1
1113	SLD 8	128	-324	5420	-1181.5	3.34	44.54
1113	SLD 9	-102	399	1784	-451.88	0.69	-36.28
1113	SLD 10	-155	421	1771	-449.21	0.77	-54.84
1113	SLD 11	-56	-327	5666	-1223.98	2.71	-19.71
1113	SLD 12	-109	-304	5653	-1221.3	2.79	-38.27
1113	SLD 13	-347	161	3417	-769.29	0.74	-121.96
1113	SLD 14	-430	196	3398	-765.14	0.86	-150.78
1113	SLD 15	-333	-56	4582	-1000.92	1.34	-117
1113	SLD 16	-415	-22	4562	-996.77	1.47	-145.81
1113	SLV 1	683	147	2017	-518.69	2.83	238.88
1113	SLV 2	553	201	1986	-512.14	3.02	193.46
1113	SLV 3	706	-225	4005	-913.96	3.86	247.15
1113	SLV 4	576	-171	3974	-907.41	4.05	201.73
1113	SLV 5	203	624	117	-129.01	0.65	70.49
1113	SLV 6	115	660	96	-124.6	0.78	39.91
1113	SLV 7	280	-615	6744	-1446.59	4.11	98.06
1113	SLV 8	193	-578	6723	-1442.18	4.23	67.48
1113	SLV 9	-168	654	481	-191.2	-0.2	-59.22
1113	SLV 10	-255	690	460	-186.79	-0.08	-89.8
1113	SLV 11	-90	-585	7108	-1508.77	3.25	-31.64
1113	SLV 12	-177	-548	7087	-1504.37	3.38	-62.22
1113	SLV 13	-551	246	3230	-725.97	-0.02	-193.47
1113	SLV 14	-681	301	3199	-719.42	0.17	-238.89
1113	SLV 15	-528	-125	5218	-1121.24	1.01	-185.19
1113	SLV 16	-658	-71	5187	-1114.69	1.2	-230.62
1113	SLV FO 1	750	157	1859	-488.89	2.91	262.36
1113	SLV FO 2	607	217	1825	-481.68	3.12	212.39
1113	SLV FO 3	776	-251	4046	-923.69	4.05	271.46
1113	SLV FO 4	632	-191	4011	-916.49	4.26	221.49
1113	SLV FO 5	222	682	-231	-60.24	0.52	77.12
1113	SLV FO 6	125	722	-254	-55.4	0.66	43.48
1113	SLV FO 7	307	-680	7058	-1509.58	4.31	107.45
1113	SLV FO 8	211	-640	7035	-1504.73	4.46	73.82
1113	SLV FO 9	-186	715	169	-128.65	-0.43	-65.55
1113	SLV FO 10	-282	755	146	-123.8	-0.28	-99.19
1113	SLV FO 11	-100	-647	7458	-1577.98	3.37	-35.22
1113	SLV FO 12	-196	-607	7435	-1573.13	3.51	-68.86
1113	SLV FO 13	-607	267	3193	-716.89	-0.23	-213.23
1113	SLV FO 14	-750	327	3158	-709.69	-0.02	-263.19
1113	SLV FO 15	-582	-142	5379	-1151.69	0.91	-204.13
1113	SLV FO 16	-725	-82	5345	-1144.49	1.12	-254.09
1113	CRTFP Ux+	0	0	0	0	0	0
1113	CRTFP Ux-	0	0	0	0	0	0
1113	CRTFP Uy+	0	0	0	0	0	0
1113	CRTFP Uy-	0	0	0	0	0	0
1114	SLU 1	16	27	3292	-723.28	0.16	5.23
1114	SLU 2	14	45	3212	-707.91	0.17	4.72
1114	SLU 3	17	28	3388	-743.03	0.16	5.56
1114	SLU 4	16	38	3340	-733.8	0.16	5.25
1114	SLU 5	15	45	3277	-721.32	0.16	5.05
1114	SLU 6	18	28	3453	-756.44	0.15	5.89
1114	SLU 7	17	38	3405	-747.21	0.15	5.58
1114	SLU 8	18	27	3422	-750.1	0.15	5.9
1114	SLU 9	17	38	3374	-740.87	0.15	5.59
1114	SLU 10	14	48	3620	-794.62	0.25	4.47
1114	SLU 11	16	31	3796	-829.74	0.24	5.31
1114	SLU 12	15	42	3748	-820.52	0.25	5
1114	SLU 13	15	48	3685	-808.03	0.24	4.8
1114	SLU 14	17	31	3861	-843.15	0.24	5.64
1114	SLU 15	16	41	3813	-833.93	0.24	5.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1114	SLU 16	17	31	3830	-836.81	0.23	5.65
1114	SLU 17	16	41	3782	-827.59	0.23	5.34
1114	SLU 18	15	32	3874	-847.15	0.28	4.88
1114	SLU 19	14	43	3826	-837.93	0.29	4.57
1114	SLU 20	16	32	3939	-860.56	0.27	5.21
1114	SLU 21	15	43	3891	-851.34	0.28	4.9
1114	SLU 22	16	31	3847	-839.94	0.25	5.28
1114	SLU 23	14	49	3767	-824.56	0.26	4.77
1114	SLU 24	17	31	3943	-859.69	0.25	5.61
1114	SLU 25	16	42	3895	-850.46	0.26	5.3
1114	SLU 26	15	48	3832	-837.97	0.25	5.1
1114	SLU 27	18	31	4008	-873.1	0.24	5.94
1114	SLU 28	17	42	3960	-863.87	0.25	5.63
1114	SLU 29	18	31	3977	-866.76	0.24	5.95
1114	SLU 30	17	41	3929	-857.53	0.24	5.64
1114	SLU 31	14	52	4175	-911.27	0.34	4.52
1114	SLU 32	16	34	4350	-946.4	0.34	5.36
1114	SLU 33	15	45	4302	-937.17	0.34	5.05
1114	SLU 34	15	52	4240	-924.68	0.34	4.85
1114	SLU 35	17	34	4415	-959.81	0.33	5.69
1114	SLU 36	16	45	4367	-950.58	0.33	5.38
1114	SLU 37	17	34	4384	-953.47	0.32	5.7
1114	SLU 38	16	45	4336	-944.24	0.33	5.39
1114	SLU 39	15	36	4429	-963.81	0.38	4.93
1114	SLU 40	14	46	4381	-954.59	0.38	4.62
1114	SLU 41	16	35	4494	-977.22	0.37	5.26
1114	SLU 42	15	46	4446	-968	0.37	4.95
1114	SLU 43	20	35	4090	-900.27	0.18	6.78
1114	SLU 44	19	52	4010	-884.89	0.18	6.27
1114	SLU 45	21	35	4186	-920.02	0.18	7.11
1114	SLU 46	20	45	4138	-910.79	0.18	6.8
1114	SLU 47	20	52	4075	-898.3	0.18	6.6
1114	SLU 48	22	35	4251	-933.43	0.17	7.44
1114	SLU 49	21	45	4203	-924.2	0.17	7.13
1114	SLU 50	22	34	4220	-927.09	0.16	7.45
1114	SLU 51	21	45	4172	-917.86	0.17	7.14
1114	SLU 52	18	56	4417	-971.6	0.27	6.02
1114	SLU 53	21	38	4593	-1006.73	0.26	6.86
1114	SLU 54	20	49	4545	-997.5	0.26	6.55
1114	SLU 55	19	55	4482	-985.01	0.26	6.35
1114	SLU 56	22	38	4658	-1020.14	0.25	7.19
1114	SLU 57	21	49	4610	-1010.91	0.26	6.88
1114	SLU 58	22	38	4627	-1013.8	0.25	7.2
1114	SLU 59	21	48	4579	-1004.57	0.25	6.89
1114	SLU 60	19	39	4672	-1024.14	0.3	6.43
1114	SLU 61	18	50	4624	-1014.92	0.3	6.12
1114	SLU 62	20	39	4737	-1037.55	0.29	6.76
1114	SLU 63	19	50	4689	-1028.33	0.29	6.45
1114	SLU 64	21	38	4645	-1016.92	0.27	6.83
1114	SLU 65	19	56	4565	-1001.55	0.28	6.32
1114	SLU 66	21	38	4740	-1036.67	0.27	7.16
1114	SLU 67	21	49	4692	-1027.45	0.27	6.85
1114	SLU 68	20	56	4630	-1014.96	0.27	6.65
1114	SLU 69	22	38	4805	-1050.08	0.26	7.49
1114	SLU 70	22	49	4757	-1040.86	0.26	7.18
1114	SLU 71	22	38	4774	-1043.74	0.25	7.5
1114	SLU 72	22	48	4726	-1034.52	0.26	7.19
1114	SLU 73	18	59	4972	-1088.26	0.36	6.07
1114	SLU 74	21	41	5148	-1123.38	0.35	6.91
1114	SLU 75	20	52	5100	-1114.16	0.36	6.6
1114	SLU 76	19	59	5037	-1101.67	0.35	6.4
1114	SLU 77	22	41	5213	-1136.79	0.34	7.24
1114	SLU 78	21	52	5165	-1127.57	0.35	6.93
1114	SLU 79	22	41	5182	-1130.45	0.34	7.25
1114	SLU 80	21	52	5134	-1121.23	0.34	6.94
1114	SLU 81	20	43	5227	-1140.8	0.39	6.48
1114	SLU 82	19	53	5179	-1131.57	0.4	6.17
1114	SLU 83	21	43	5292	-1154.21	0.38	6.81
1114	SLU 84	20	53	5244	-1144.98	0.39	6.5
1114	SLE RA 1	16	28	3451	-756.61	0.19	5.25
1114	SLE RA 2	15	40	3398	-746.36	0.19	4.9
1114	SLE RA 3	16	29	3515	-769.78	0.19	5.46
1114	SLE RA 4	16	36	3483	-763.63	0.19	5.26
1114	SLE RA 5	15	40	3441	-755.3	0.19	5.12
1114	SLE RA 6	17	28	3558	-778.72	0.18	5.68
1114	SLE RA 7	16	36	3526	-772.57	0.18	5.48
1114	SLE RA 8	17	28	3537	-774.49	0.18	5.69
1114	SLE RA 9	16	35	3505	-768.34	0.18	5.48
1114	SLE RA 10	14	42	3669	-804.17	0.25	4.74
1114	SLE RA 11	16	31	3786	-827.58	0.24	5.3
1114	SLE RA 12	15	38	3754	-821.43	0.25	5.09
1114	SLE RA 13	15	42	3712	-813.11	0.24	4.96
1114	SLE RA 14	17	31	3830	-836.52	0.24	5.52
1114	SLE RA 15	16	38	3798	-830.37	0.24	5.31
1114	SLE RA 16	17	31	3809	-832.3	0.23	5.52
1114	SLE RA 17	16	38	3777	-826.15	0.24	5.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1114	SLE RA 18	15	32	3839	-839.19	0.27	5.01
1114	SLE RA 19	15	39	3807	-833.04	0.27	4.8
1114	SLE RA 20	16	32	3882	-848.13	0.26	5.23
1114	SLE RA 21	15	39	3850	-841.98	0.27	5.02
1114	SLE FR 1	16	28	3451	-756.61	0.19	5.25
1114	SLE FR 2	16	31	3440	-754.56	0.19	5.18
1114	SLE FR 3	16	28	3468	-760.19	0.19	5.33
1114	SLE FR 4	15	32	3557	-779.33	0.21	5.11
1114	SLE FR 5	16	29	3585	-784.96	0.21	5.26
1114	SLE FR 6	15	30	3645	-797.9	0.23	5.13
1114	SLE QP 1	16	28	3451	-756.61	0.19	5.25
1114	SLE QP 2	16	29	3567	-781.38	0.21	5.17
1114	SLD 1	442	87	2583	-606.24	1.28	154.62
1114	SLD 2	359	123	2559	-600.22	1.44	125.74
1114	SLD 3	458	-129	3739	-828.92	1.19	160.06
1114	SLD 4	375	-93	3715	-822.91	1.35	131.19
1114	SLD 5	134	368	1522	-392.13	0.64	46.71
1114	SLD 6	81	391	1507	-388.26	0.75	28.12
1114	SLD 7	186	-352	5377	-1134.42	0.34	64.86
1114	SLD 8	133	-329	5361	-1130.55	0.44	46.27
1114	SLD 9	-101	387	1773	-432.22	-0.02	-35.92
1114	SLD 10	-155	411	1758	-428.35	0.09	-54.52
1114	SLD 11	-50	-333	5627	-1174.51	-0.32	-17.77
1114	SLD 12	-103	-309	5612	-1170.64	-0.22	-36.37
1114	SLD 13	-344	152	3419	-739.86	-0.93	-120.84
1114	SLD 14	-426	188	3395	-733.85	-0.76	-149.71
1114	SLD 15	-328	-64	4575	-962.54	-1.02	-115.39
1114	SLD 16	-411	-28	4551	-956.53	-0.85	-144.27
1114	SLV 1	683	134	1946	-491.73	1.88	239.1
1114	SLV 2	553	192	1908	-482.25	2.14	193.59
1114	SLV 3	709	-234	3920	-871.72	1.73	248.2
1114	SLV 4	579	-177	3882	-862.25	1.98	202.68
1114	SLV 5	201	609	95	-119.93	0.9	70.05
1114	SLV 6	113	647	69	-113.55	1.08	39.41
1114	SLV 7	287	-619	6673	-1386.58	0.38	100.37
1114	SLV 8	199	-580	6648	-1380.2	0.56	69.73
1114	SLV 9	-168	639	487	-182.57	-0.13	-59.38
1114	SLV 10	-256	678	461	-176.19	0.04	-90.02
1114	SLV 11	-82	-589	7065	-1449.22	-0.65	-29.06
1114	SLV 12	-170	-550	7040	-1442.84	-0.48	-59.7
1114	SLV 13	-548	236	3253	-700.52	-1.56	-192.34
1114	SLV 14	-678	293	3215	-691.05	-1.3	-237.85
1114	SLV 15	-522	-133	5226	-1080.52	-1.71	-183.24
1114	SLV 16	-652	-75	5188	-1071.04	-1.46	-228.75
1114	SLV FO 1	750	145	1784	-462.76	2.05	262.49
1114	SLV FO 2	607	208	1742	-452.34	2.33	212.43
1114	SLV FO 3	778	-261	3955	-880.75	1.88	272.5
1114	SLV FO 4	635	-197	3913	-870.33	2.16	222.44
1114	SLV FO 5	220	667	-253	-53.79	0.97	76.54
1114	SLV FO 6	123	709	-281	-46.77	1.16	42.84
1114	SLV FO 7	314	-684	6984	-1447.1	0.4	109.89
1114	SLV FO 8	218	-641	6956	-1440.08	0.59	76.18
1114	SLV FO 9	-187	700	179	-122.69	-0.17	-65.84
1114	SLV FO 10	-283	743	150	-115.67	0.03	-99.54
1114	SLV FO 11	-92	-651	7415	-1516	-0.74	-32.49
1114	SLV FO 12	-189	-608	7387	-1508.98	-0.54	-66.19
1114	SLV FO 13	-604	256	3221	-692.44	-1.74	-212.09
1114	SLV FO 14	-747	319	3179	-682.01	-1.45	-262.15
1114	SLV FO 15	-576	-149	5392	-1110.43	-1.91	-202.08
1114	SLV FO 16	-719	-86	5350	-1100.01	-1.62	-252.15
1114	CRTFP Ux+	0	0	0	0	0	0
1114	CRTFP Ux-	0	0	0	0	0	0
1114	CRTFP Uy+	0	0	0	0	0	0
1114	CRTFP Uy-	0	0	0	0	0	0
1115	SLU 1	18	20	3318	-733.66	-1.9	6.24
1115	SLU 2	17	38	3237	-717.74	-1.84	5.69
1115	SLU 3	20	20	3415	-753.94	-1.97	6.6
1115	SLU 4	19	31	3366	-744.39	-1.93	6.27
1115	SLU 5	18	38	3303	-731.61	-1.89	6.05
1115	SLU 6	21	20	3481	-767.81	-2.03	6.96
1115	SLU 7	20	31	3432	-758.26	-1.99	6.63
1115	SLU 8	21	20	3450	-761.4	-2.01	6.96
1115	SLU 9	20	31	3401	-751.85	-1.97	6.63
1115	SLU 10	17	41	3646	-805.5	-2.04	5.54
1115	SLU 11	19	23	3824	-841.69	-2.18	6.46
1115	SLU 12	18	34	3776	-832.15	-2.14	6.12
1115	SLU 13	18	41	3712	-819.37	-2.1	5.9
1115	SLU 14	20	23	3890	-855.57	-2.23	6.82
1115	SLU 15	19	34	3841	-846.02	-2.19	6.48
1115	SLU 16	20	23	3859	-849.16	-2.22	6.82
1115	SLU 17	19	33	3810	-839.61	-2.18	6.48
1115	SLU 18	18	24	3903	-859.02	-2.2	6.03
1115	SLU 19	17	35	3854	-849.47	-2.16	5.7
1115	SLU 20	19	24	3968	-872.9	-2.25	6.39
1115	SLU 21	18	35	3920	-863.35	-2.21	6.06
1115	SLU 22	19	23	3876	-851.99	-2.2	6.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1115	SLU 23	18	40	3795	-836.08	-2.14	5.89
1115	SLU 24	20	23	3973	-872.28	-2.27	6.81
1115	SLU 25	19	33	3924	-862.73	-2.23	6.47
1115	SLU 26	19	40	3861	-849.95	-2.19	6.25
1115	SLU 27	21	23	4039	-886.15	-2.33	7.17
1115	SLU 28	20	33	3990	-876.6	-2.29	6.83
1115	SLU 29	21	23	4007	-879.74	-2.31	7.17
1115	SLU 30	20	33	3959	-870.19	-2.27	6.83
1115	SLU 31	17	43	4204	-923.84	-2.34	5.75
1115	SLU 32	20	26	4382	-960.03	-2.48	6.66
1115	SLU 33	19	36	4333	-950.48	-2.44	6.33
1115	SLU 34	18	43	4270	-937.71	-2.4	6.11
1115	SLU 35	21	26	4448	-973.91	-2.53	7.02
1115	SLU 36	20	36	4399	-964.36	-2.49	6.69
1115	SLU 37	21	25	4417	-967.5	-2.52	7.02
1115	SLU 38	20	36	4368	-957.95	-2.48	6.69
1115	SLU 39	19	27	4460	-977.36	-2.49	6.24
1115	SLU 40	18	37	4412	-967.81	-2.46	5.91
1115	SLU 41	20	27	4526	-991.24	-2.55	6.6
1115	SLU 42	19	37	4478	-981.69	-2.51	6.26
1115	SLU 43	24	25	4122	-913.18	-2.37	8.05
1115	SLU 44	22	43	4041	-897.26	-2.3	7.49
1115	SLU 45	25	26	4219	-933.46	-2.44	8.41
1115	SLU 46	24	36	4171	-923.91	-2.4	8.07
1115	SLU 47	23	43	4107	-911.14	-2.36	7.85
1115	SLU 48	26	25	4285	-947.33	-2.49	8.77
1115	SLU 49	25	36	4236	-937.78	-2.46	8.43
1115	SLU 50	26	25	4254	-940.92	-2.48	8.77
1115	SLU 51	25	36	4205	-931.37	-2.44	8.43
1115	SLU 52	22	46	4450	-985.02	-2.51	7.34
1115	SLU 53	24	28	4628	-1021.22	-2.65	8.26
1115	SLU 54	23	39	4580	-1011.67	-2.61	7.93
1115	SLU 55	23	46	4516	-998.89	-2.57	7.7
1115	SLU 56	25	28	4694	-1035.09	-2.7	8.62
1115	SLU 57	25	39	4646	-1025.54	-2.66	8.29
1115	SLU 58	25	28	4663	-1028.68	-2.69	8.62
1115	SLU 59	25	39	4615	-1019.13	-2.65	8.29
1115	SLU 60	23	29	4707	-1038.55	-2.66	7.84
1115	SLU 61	22	40	4658	-1029	-2.62	7.5
1115	SLU 62	24	29	4773	-1052.42	-2.72	8.2
1115	SLU 63	23	40	4724	-1042.87	-2.68	7.86
1115	SLU 64	24	28	4680	-1031.52	-2.67	8.25
1115	SLU 65	23	46	4599	-1015.6	-2.6	7.7
1115	SLU 66	25	28	4777	-1051.8	-2.74	8.61
1115	SLU 67	25	39	4728	-1042.25	-2.7	8.28
1115	SLU 68	24	45	4665	-1029.47	-2.66	8.05
1115	SLU 69	27	28	4843	-1065.67	-2.79	8.97
1115	SLU 70	26	38	4794	-1056.12	-2.76	8.64
1115	SLU 71	26	28	4812	-1059.26	-2.78	8.97
1115	SLU 72	26	38	4763	-1049.71	-2.74	8.64
1115	SLU 73	22	48	5008	-1103.36	-2.81	7.55
1115	SLU 74	25	31	5186	-1139.56	-2.94	8.46
1115	SLU 75	24	41	5137	-1130.01	-2.91	8.13
1115	SLU 76	24	48	5074	-1117.23	-2.87	7.91
1115	SLU 77	26	31	5252	-1153.43	-3	8.82
1115	SLU 78	25	41	5203	-1143.88	-2.96	8.49
1115	SLU 79	26	31	5221	-1147.02	-2.99	8.82
1115	SLU 80	25	41	5172	-1137.47	-2.95	8.49
1115	SLU 81	24	32	5264	-1156.89	-2.96	8.04
1115	SLU 82	23	43	5216	-1147.34	-2.92	7.71
1115	SLU 83	25	32	5330	-1170.76	-3.02	8.4
1115	SLU 84	24	42	5282	-1161.21	-2.98	8.07
1115	SLE RA 1	19	21	3477	-767.47	-1.99	6.3
1115	SLE RA 2	18	33	3423	-756.86	-1.94	5.93
1115	SLE RA 3	19	21	3542	-780.99	-2.03	6.54
1115	SLE RA 4	19	28	3510	-774.62	-2.01	6.32
1115	SLE RA 5	18	33	3467	-766.1	-1.98	6.17
1115	SLE RA 6	20	21	3586	-790.24	-2.07	6.78
1115	SLE RA 7	19	28	3554	-783.87	-2.04	6.56
1115	SLE RA 8	20	21	3565	-785.96	-2.06	6.78
1115	SLE RA 9	19	28	3533	-779.6	-2.04	6.56
1115	SLE RA 10	17	35	3696	-815.36	-2.08	5.83
1115	SLE RA 11	19	23	3815	-839.49	-2.17	6.44
1115	SLE RA 12	18	30	3782	-833.13	-2.14	6.22
1115	SLE RA 13	18	34	3740	-824.61	-2.12	6.07
1115	SLE RA 14	20	23	3859	-848.74	-2.21	6.68
1115	SLE RA 15	19	30	3826	-842.37	-2.18	6.46
1115	SLE RA 16	20	23	3838	-844.47	-2.2	6.68
1115	SLE RA 17	19	30	3806	-838.1	-2.17	6.46
1115	SLE RA 18	18	24	3867	-851.05	-2.18	6.16
1115	SLE RA 19	18	31	3835	-844.68	-2.16	5.94
1115	SLE RA 20	19	24	3911	-860.29	-2.22	6.4
1115	SLE RA 21	18	31	3879	-853.93	-2.19	6.18
1115	SLE FR 1	19	21	3477	-767.47	-1.99	6.3
1115	SLE FR 2	18	23	3466	-765.34	-1.98	6.23
1115	SLE FR 3	19	21	3495	-771.17	-2	6.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1115	SLE FR 4	18	24	3583	-790.42	-2.04	6.19
1115	SLE FR 5	19	22	3612	-796.24	-2.06	6.36
1115	SLE FR 6	18	22	3672	-809.26	-2.09	6.23
1115	SLE QP 1	19	21	3477	-767.47	-1.99	6.3
1115	SLE QP 2	19	22	3594	-792.54	-2.05	6.26
1115	SLD 1	443	76	2569	-609.67	-0.35	155.08
1115	SLD 2	360	114	2539	-600.87	-0.14	126.17
1115	SLD 3	460	-139	3740	-839.86	-1.27	161.02
1115	SLD 4	377	-101	3710	-831.06	-1.05	132.1
1115	SLD 5	135	358	1516	-390.06	-0.19	46.88
1115	SLD 6	81	382	1497	-384.4	-0.05	28.26
1115	SLD 7	191	-359	5419	-1157.38	-3.24	66.66
1115	SLD 8	138	-335	5400	-1151.71	-3.1	48.04
1115	SLD 9	-101	378	1789	-433.37	-0.99	-35.52
1115	SLD 10	-154	403	1769	-427.7	-0.85	-54.14
1115	SLD 11	-44	-339	5692	-1200.68	-4.04	-15.74
1115	SLD 12	-97	-314	5673	-1195.02	-3.91	-34.36
1115	SLD 13	-340	144	3478	-754.02	-3.04	-119.58
1115	SLD 14	-423	183	3448	-745.22	-2.82	-148.5
1115	SLD 15	-323	-71	4649	-984.21	-3.95	-113.65
1115	SLD 16	-406	-32	4619	-975.41	-3.74	-142.56
1115	SLV 1	683	122	1908	-490.26	0.66	239.18
1115	SLV 2	553	182	1861	-476.4	1	193.6
1115	SLV 3	712	-245	3907	-883.06	-0.9	249.12
1115	SLV 4	581	-185	3860	-869.19	-0.56	203.55
1115	SLV 5	199	597	66	-108.71	1.07	69.56
1115	SLV 6	111	638	34	-99.37	1.3	38.88
1115	SLV 7	294	-626	6728	-1418.02	-4.14	102.7
1115	SLV 8	206	-585	6696	-1408.68	-3.91	72.02
1115	SLV 9	-169	629	492	-176.4	-0.18	-59.5
1115	SLV 10	-257	670	460	-167.06	0.04	-90.18
1115	SLV 11	-74	-594	7154	-1485.71	-5.39	-26.36
1115	SLV 12	-162	-553	7123	-1476.37	-5.17	-57.04
1115	SLV 13	-544	229	3329	-715.89	-3.53	-191.03
1115	SLV 14	-675	289	3282	-702.02	-3.19	-236.6
1115	SLV 15	-516	-138	5328	-1108.69	-5.09	-181.08
1115	SLV 16	-646	-78	5281	-1094.82	-4.75	-226.66
1115	SLV FO 1	750	132	1739	-460.04	0.93	262.47
1115	SLV FO 2	606	198	1687	-444.78	1.31	212.34
1115	SLV FO 3	781	-272	3938	-892.11	-0.79	273.41
1115	SLV FO 4	637	-206	3886	-876.85	-0.41	223.28
1115	SLV FO 5	217	654	-287	-40.32	1.39	75.89
1115	SLV FO 6	121	699	-322	-30.05	1.64	42.14
1115	SLV FO 7	321	-691	7041	-1480.57	-4.35	112.35
1115	SLV FO 8	225	-646	7007	-1470.3	-4.09	78.6
1115	SLV FO 9	-188	690	182	-114.78	0	-66.08
1115	SLV FO 10	-284	734	147	-104.51	0.25	-99.83
1115	SLV FO 11	-84	-656	7510	-1555.03	-5.73	-29.62
1115	SLV FO 12	-180	-611	7476	-1544.76	-5.48	-63.37
1115	SLV FO 13	-600	249	3302	-708.23	-3.68	-210.76
1115	SLV FO 14	-744	316	3251	-692.97	-3.31	-260.89
1115	SLV FO 15	-569	-154	5501	-1140.3	-5.4	-199.82
1115	SLV FO 16	-713	-88	5449	-1125.04	-5.02	-249.95
1115	CRTFP Ux+	0	0	0	0	0	0
1115	CRTFP Ux-	0	0	0	0	0	0
1115	CRTFP Uy+	0	0	0	0	0	0
1115	CRTFP Uy-	0	0	0	0	0	0
1116	SLU 1	21	14	3410	-792.83	-4.18	7.29
1116	SLU 2	20	32	3326	-775.06	-4.05	6.7
1116	SLU 3	22	14	3510	-815.21	-4.32	7.69
1116	SLU 4	21	25	3459	-804.55	-4.24	7.33
1116	SLU 5	21	32	3394	-790.48	-4.15	7.08
1116	SLU 6	24	14	3578	-830.63	-4.43	8.08
1116	SLU 7	23	25	3528	-819.97	-4.35	7.72
1116	SLU 8	24	14	3546	-823.68	-4.39	8.07
1116	SLU 9	22	25	3496	-813.01	-4.31	7.71
1116	SLU 10	20	34	3746	-870.57	-4.57	6.66
1116	SLU 11	22	17	3930	-910.73	-4.85	7.65
1116	SLU 12	21	27	3880	-900.06	-4.77	7.29
1116	SLU 13	21	34	3814	-886	-4.68	7.04
1116	SLU 14	23	17	3998	-926.15	-4.95	8.04
1116	SLU 15	22	27	3948	-915.49	-4.88	7.68
1116	SLU 16	23	17	3967	-919.19	-4.92	8.03
1116	SLU 17	22	27	3916	-908.53	-4.84	7.67
1116	SLU 18	21	18	4010	-929.28	-4.93	7.24
1116	SLU 19	20	28	3960	-918.62	-4.85	6.88
1116	SLU 20	22	18	4078	-944.71	-5.03	7.63
1116	SLU 21	21	28	4028	-934.04	-4.96	7.27
1116	SLU 22	22	16	3983	-921.95	-4.91	7.66
1116	SLU 23	21	34	3899	-904.18	-4.78	7.06
1116	SLU 24	24	16	4083	-944.33	-5.05	8.06
1116	SLU 25	23	27	4033	-933.67	-4.98	7.7
1116	SLU 26	22	34	3967	-919.6	-4.89	7.45
1116	SLU 27	25	16	4151	-959.75	-5.16	8.44
1116	SLU 28	24	27	4101	-949.09	-5.08	8.09
1116	SLU 29	25	16	4120	-952.8	-5.12	8.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1116	SLU 30	24	27	4069	-942.13	-5.05	8.08
1116	SLU 31	21	36	4319	-999.69	-5.3	7.03
1116	SLU 32	23	19	4503	-1039.85	-5.58	8.02
1116	SLU 33	22	29	4453	-1029.18	-5.5	7.66
1116	SLU 34	22	36	4388	-1015.12	-5.41	7.41
1116	SLU 35	25	18	4572	-1055.27	-5.69	8.41
1116	SLU 36	24	29	4521	-1044.61	-5.61	8.05
1116	SLU 37	25	18	4540	-1048.31	-5.65	8.4
1116	SLU 38	24	29	4489	-1037.65	-5.57	8.04
1116	SLU 39	22	20	4583	-1058.4	-5.66	7.61
1116	SLU 40	21	30	4533	-1047.74	-5.58	7.25
1116	SLU 41	23	20	4652	-1073.83	-5.77	7.99
1116	SLU 42	22	30	4601	-1063.16	-5.69	7.64
1116	SLU 43	27	18	4236	-986.41	-5.18	9.35
1116	SLU 44	26	36	4152	-968.64	-5.05	8.76
1116	SLU 45	28	18	4336	-1008.79	-5.32	9.75
1116	SLU 46	27	29	4286	-998.13	-5.25	9.39
1116	SLU 47	27	36	4220	-984.06	-5.16	9.14
1116	SLU 48	30	18	4404	-1024.21	-5.43	10.14
1116	SLU 49	29	29	4354	-1013.55	-5.35	9.78
1116	SLU 50	30	18	4373	-1017.26	-5.39	10.13
1116	SLU 51	28	28	4322	-1006.59	-5.32	9.77
1116	SLU 52	26	38	4572	-1064.15	-5.57	8.72
1116	SLU 53	28	21	4756	-1104.31	-5.85	9.71
1116	SLU 54	27	31	4706	-1093.64	-5.77	9.35
1116	SLU 55	27	38	4641	-1079.58	-5.68	9.11
1116	SLU 56	29	20	4825	-1119.73	-5.96	10.1
1116	SLU 57	28	31	4774	-1109.06	-5.88	9.74
1116	SLU 58	29	20	4793	-1112.77	-5.92	10.09
1116	SLU 59	28	31	4743	-1102.11	-5.84	9.73
1116	SLU 60	27	22	4836	-1122.86	-5.93	9.3
1116	SLU 61	26	32	4786	-1112.2	-5.85	8.94
1116	SLU 62	28	21	4905	-1138.28	-6.04	9.69
1116	SLU 63	27	32	4854	-1127.62	-5.96	9.33
1116	SLU 64	28	20	4809	-1115.53	-5.91	9.72
1116	SLU 65	27	38	4725	-1097.76	-5.78	9.13
1116	SLU 66	30	20	4909	-1137.91	-6.06	10.12
1116	SLU 67	29	31	4859	-1127.24	-5.98	9.76
1116	SLU 68	28	37	4794	-1113.18	-5.89	9.51
1116	SLU 69	31	20	4978	-1153.33	-6.16	10.51
1116	SLU 70	30	30	4927	-1142.67	-6.08	10.15
1116	SLU 71	31	20	4946	-1146.38	-6.13	10.5
1116	SLU 72	30	30	4896	-1135.71	-6.05	10.14
1116	SLU 73	27	40	5146	-1193.27	-6.31	9.09
1116	SLU 74	29	22	5330	-1233.42	-6.58	10.08
1116	SLU 75	28	33	5279	-1222.76	-6.5	9.72
1116	SLU 76	28	40	5214	-1208.7	-6.41	9.47
1116	SLU 77	31	22	5398	-1248.85	-6.69	10.47
1116	SLU 78	30	33	5348	-1238.18	-6.61	10.11
1116	SLU 79	31	22	5366	-1241.89	-6.65	10.46
1116	SLU 80	30	33	5316	-1231.23	-6.57	10.1
1116	SLU 81	28	23	5410	-1251.98	-6.66	9.67
1116	SLU 82	27	34	5359	-1241.32	-6.58	9.31
1116	SLU 83	29	23	5478	-1267.4	-6.77	10.06
1116	SLU 84	28	34	5428	-1256.74	-6.69	9.7
1116	SLE RA 1	22	15	3573	-829.72	-4.39	7.4
1116	SLE RA 2	20	27	3517	-817.87	-4.3	7
1116	SLE RA 3	22	15	3640	-844.64	-4.48	7.66
1116	SLE RA 4	22	22	3607	-837.53	-4.43	7.42
1116	SLE RA 5	21	27	3563	-828.16	-4.37	7.26
1116	SLE RA 6	23	15	3686	-854.92	-4.55	7.92
1116	SLE RA 7	22	22	3652	-847.81	-4.5	7.68
1116	SLE RA 8	23	15	3665	-850.29	-4.53	7.91
1116	SLE RA 9	22	22	3631	-843.18	-4.48	7.67
1116	SLE RA 10	20	28	3798	-881.55	-4.65	6.97
1116	SLE RA 11	22	17	3920	-908.32	-4.83	7.64
1116	SLE RA 12	22	24	3887	-901.21	-4.78	7.4
1116	SLE RA 13	21	28	3843	-891.83	-4.72	7.23
1116	SLE RA 14	23	16	3966	-918.6	-4.9	7.89
1116	SLE RA 15	22	23	3932	-911.49	-4.85	7.66
1116	SLE RA 16	23	16	3945	-913.96	-4.88	7.89
1116	SLE RA 17	22	23	3911	-906.85	-4.83	7.65
1116	SLE RA 18	22	17	3974	-920.69	-4.89	7.36
1116	SLE RA 19	21	24	3940	-913.58	-4.83	7.12
1116	SLE RA 20	22	17	4019	-930.97	-4.96	7.62
1116	SLE RA 21	22	24	3986	-923.86	-4.91	7.38
1116	SLE FR 1	22	15	3573	-829.72	-4.39	7.4
1116	SLE FR 2	21	17	3562	-827.35	-4.37	7.32
1116	SLE FR 3	22	15	3592	-833.83	-4.41	7.5
1116	SLE FR 4	21	18	3682	-854.64	-4.52	7.31
1116	SLE FR 5	22	16	3712	-861.12	-4.56	7.49
1116	SLE FR 6	22	16	3773	-875.21	-4.64	7.38
1116	SLE QP 1	22	15	3573	-829.72	-4.39	7.4
1116	SLE QP 2	22	16	3693	-857.01	-4.54	7.39
1116	SLD 1	444	141	2607	-652.2	-2.14	155.47
1116	SLD 2	361	181	2570	-639.51	-1.87	126.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1116	SLD 3	463	-75	3819	-908.65	-3.98	161.92
1116	SLD 4	380	-35	3782	-895.96	-3.7	132.98
1116	SLD 5	135	373	1535	-408.81	-1.08	47.01
1116	SLD 6	81	399	1511	-400.63	-0.91	28.37
1116	SLD 7	196	-345	5576	-1263.64	-7.2	68.51
1116	SLD 8	143	-319	5552	-1255.46	-7.02	49.87
1116	SLD 9	-100	350	1834	-458.56	-2.05	-35.1
1116	SLD 10	-153	376	1810	-450.39	-1.88	-53.73
1116	SLD 11	-38	-367	5876	-1313.39	-8.16	-13.6
1116	SLD 12	-91	-341	5852	-1305.22	-7.99	-32.23
1116	SLD 13	-337	66	3605	-818.07	-5.37	-118.21
1116	SLD 14	-420	106	3568	-805.37	-5.1	-147.14
1116	SLD 15	-318	-149	4817	-1074.52	-7.2	-111.76
1116	SLD 16	-401	-109	4780	-1061.82	-6.93	-140.69
1116	SLV 1	683	226	1908	-518.55	-0.67	239.11
1116	SLV 2	552	289	1849	-498.54	-0.24	193.5
1116	SLV 3	714	-141	3977	-956.14	-3.8	249.94
1116	SLV 4	583	-78	3919	-936.13	-3.37	204.33
1116	SLV 5	197	624	30	-95.53	1.29	68.99
1116	SLV 6	109	666	-9	-82.06	1.58	38.28
1116	SLV 7	301	-600	6928	-1554.16	-9.14	105.09
1116	SLV 8	213	-557	6889	-1540.69	-8.85	74.38
1116	SLV 9	-170	589	498	-173.34	-0.22	-59.61
1116	SLV 10	-258	631	459	-159.86	0.07	-90.32
1116	SLV 11	-66	-635	7396	-1631.96	-10.65	-23.51
1116	SLV 12	-154	-592	7357	-1618.49	-10.37	-54.22
1116	SLV 13	-540	109	3468	-777.9	-5.7	-189.55
1116	SLV 14	-671	173	3409	-757.88	-5.28	-235.17
1116	SLV 15	-509	-258	5537	-1215.48	-8.84	-178.72
1116	SLV 16	-640	-195	5479	-1195.47	-8.41	-224.34
1116	SLV FO 1	749	247	1729	-484.71	-0.28	262.28
1116	SLV FO 2	605	317	1665	-462.69	0.19	212.11
1116	SLV FO 3	783	-157	4006	-966.05	-3.72	274.2
1116	SLV FO 4	640	-87	3941	-944.04	-3.25	224.02
1116	SLV FO 5	215	685	-336	-19.39	1.88	75.15
1116	SLV FO 6	118	732	-380	-4.57	2.19	41.37
1116	SLV FO 7	329	-662	7252	-1623.87	-9.6	114.86
1116	SLV FO 8	232	-615	7208	-1609.05	-9.28	81.08
1116	SLV FO 9	-189	646	179	-104.97	0.21	-66.31
1116	SLV FO 10	-285	693	135	-90.15	0.53	-100.09
1116	SLV FO 11	-75	-700	7767	-1709.46	-11.26	-26.6
1116	SLV FO 12	-172	-653	7723	-1694.64	-10.95	-60.38
1116	SLV FO 13	-596	119	3445	-769.99	-5.82	-209.25
1116	SLV FO 14	-740	188	3381	-747.97	-5.35	-259.42
1116	SLV FO 15	-562	-285	5722	-1251.33	-9.26	-197.33
1116	SLV FO 16	-706	-216	5657	-1229.32	-8.79	-247.51
1116	CRTFP Ux+	0	0	0	0	0	0
1116	CRTFP Ux-	0	0	0	0	0	0
1116	CRTFP Uy+	0	0	0	0	0	0
1116	CRTFP Uy-	0	0	0	0	0	0
1117	SLU 1	24	11	3571	-903.41	-6.46	8.37
1117	SLU 2	22	29	3482	-882.4	-6.27	7.73
1117	SLU 3	25	11	3676	-929.53	-6.68	8.81
1117	SLU 4	24	21	3623	-916.93	-6.56	8.42
1117	SLU 5	23	28	3554	-900.52	-6.42	8.15
1117	SLU 6	27	11	3749	-947.65	-6.84	9.22
1117	SLU 7	25	21	3695	-935.05	-6.72	8.84
1117	SLU 8	26	11	3715	-939.65	-6.78	9.2
1117	SLU 9	25	21	3662	-927.04	-6.66	8.82
1117	SLU 10	23	31	3923	-992.72	-7.11	7.81
1117	SLU 11	26	13	4117	-1039.85	-7.52	8.89
1117	SLU 12	25	23	4064	-1027.24	-7.41	8.5
1117	SLU 13	24	30	3995	-1010.84	-7.27	8.22
1117	SLU 14	27	13	4190	-1057.97	-7.68	9.3
1117	SLU 15	26	23	4136	-1045.36	-7.57	8.92
1117	SLU 16	27	13	4156	-1049.96	-7.62	9.28
1117	SLU 17	26	23	4103	-1037.36	-7.51	8.9
1117	SLU 18	24	14	4201	-1061	-7.67	8.48
1117	SLU 19	23	24	4147	-1048.4	-7.55	8.1
1117	SLU 20	26	14	4273	-1079.12	-7.83	8.9
1117	SLU 21	25	24	4220	-1066.52	-7.71	8.51
1117	SLU 22	26	12	4173	-1052.86	-7.62	8.91
1117	SLU 23	24	30	4084	-1031.85	-7.43	8.27
1117	SLU 24	27	12	4278	-1078.98	-7.84	9.35
1117	SLU 25	26	23	4225	-1066.38	-7.73	8.96
1117	SLU 26	25	30	4156	-1049.97	-7.59	8.69
1117	SLU 27	28	12	4351	-1097.1	-8	9.76
1117	SLU 28	27	23	4297	-1084.5	-7.89	9.38
1117	SLU 29	28	12	4317	-1089.1	-7.94	9.74
1117	SLU 30	27	22	4264	-1076.5	-7.83	9.36
1117	SLU 31	24	32	4525	-1142.17	-8.27	8.35
1117	SLU 32	27	14	4719	-1189.3	-8.69	9.43
1117	SLU 33	26	25	4666	-1176.7	-8.57	9.04
1117	SLU 34	25	32	4597	-1160.29	-8.43	8.77
1117	SLU 35	28	14	4792	-1207.42	-8.85	9.84
1117	SLU 36	27	25	4738	-1194.82	-8.73	9.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1117	SLU 37	28	14	4758	-1199.42	-8.79	9.82
1117	SLU 38	27	25	4705	-1186.81	-8.67	9.44
1117	SLU 39	26	15	4803	-1210.45	-8.83	9.03
1117	SLU 40	25	26	4749	-1197.85	-8.71	8.64
1117	SLU 41	27	15	4875	-1228.57	-8.99	9.44
1117	SLU 42	26	26	4822	-1215.97	-8.87	9.06
1117	SLU 43	31	14	4435	-1123.19	-8	10.7
1117	SLU 44	29	31	4347	-1102.18	-7.8	10.06
1117	SLU 45	32	14	4541	-1149.31	-8.22	11.13
1117	SLU 46	31	24	4488	-1136.71	-8.1	10.75
1117	SLU 47	30	31	4419	-1120.3	-7.96	10.47
1117	SLU 48	33	13	4613	-1167.43	-8.38	11.55
1117	SLU 49	32	24	4560	-1154.83	-8.26	11.16
1117	SLU 50	33	13	4580	-1159.43	-8.32	11.53
1117	SLU 51	32	24	4527	-1146.83	-8.2	11.14
1117	SLU 52	29	33	4788	-1212.5	-8.65	10.14
1117	SLU 53	32	16	4982	-1259.63	-9.06	11.21
1117	SLU 54	31	26	4929	-1247.03	-8.95	10.83
1117	SLU 55	30	33	4860	-1230.62	-8.81	10.55
1117	SLU 56	34	16	5054	-1277.75	-9.22	11.63
1117	SLU 57	32	26	5001	-1265.15	-9.1	11.24
1117	SLU 58	33	15	5021	-1269.75	-9.16	11.61
1117	SLU 59	32	26	4968	-1257.14	-9.05	11.22
1117	SLU 60	31	17	5065	-1280.78	-9.2	10.81
1117	SLU 61	30	27	5012	-1268.18	-9.09	10.43
1117	SLU 62	32	16	5138	-1298.9	-9.36	11.23
1117	SLU 63	31	27	5084	-1286.3	-9.25	10.84
1117	SLU 64	32	15	5037	-1272.64	-9.16	11.24
1117	SLU 65	31	33	4949	-1251.63	-8.97	10.6
1117	SLU 66	34	15	5143	-1298.76	-9.38	11.67
1117	SLU 67	33	26	5090	-1286.16	-9.27	11.29
1117	SLU 68	32	32	5021	-1269.76	-9.13	11.01
1117	SLU 69	35	15	5215	-1316.88	-9.54	12.09
1117	SLU 70	34	25	5162	-1304.28	-9.42	11.7
1117	SLU 71	35	15	5182	-1308.88	-9.48	12.07
1117	SLU 72	34	25	5129	-1296.28	-9.37	11.68
1117	SLU 73	31	35	5390	-1361.95	-9.81	10.68
1117	SLU 74	34	17	5584	-1409.08	-10.23	11.75
1117	SLU 75	33	28	5531	-1396.48	-10.11	11.37
1117	SLU 76	32	35	5462	-1380.07	-9.97	11.09
1117	SLU 77	35	17	5656	-1427.2	-10.39	12.17
1117	SLU 78	34	27	5603	-1414.6	-10.27	11.78
1117	SLU 79	35	17	5623	-1419.2	-10.33	12.15
1117	SLU 80	34	27	5570	-1406.59	-10.21	11.76
1117	SLU 81	33	18	5667	-1430.23	-10.37	11.35
1117	SLU 82	32	28	5614	-1417.63	-10.25	10.97
1117	SLU 83	34	18	5740	-1448.35	-10.53	11.77
1117	SLU 84	33	28	5686	-1435.75	-10.41	11.38
1117	SLE RA 1	25	11	3743	-946.11	-6.79	8.53
1117	SLE RA 2	23	23	3683	-932.1	-6.66	8.1
1117	SLE RA 3	25	11	3813	-963.52	-6.94	8.82
1117	SLE RA 4	25	18	3778	-955.12	-6.86	8.56
1117	SLE RA 5	24	23	3732	-944.18	-6.77	8.38
1117	SLE RA 6	26	11	3861	-975.6	-7.04	9.09
1117	SLE RA 7	25	18	3826	-967.2	-6.97	8.84
1117	SLE RA 8	26	11	3839	-970.27	-7.01	9.08
1117	SLE RA 9	25	18	3804	-961.87	-6.93	8.82
1117	SLE RA 10	24	24	3977	-1005.65	-7.23	8.15
1117	SLE RA 11	26	13	4107	-1037.07	-7.5	8.87
1117	SLE RA 12	25	20	4072	-1028.67	-7.42	8.61
1117	SLE RA 13	24	24	4026	-1017.73	-7.33	8.43
1117	SLE RA 14	26	12	4155	-1049.15	-7.61	9.14
1117	SLE RA 15	26	20	4120	-1040.75	-7.53	8.89
1117	SLE RA 16	26	12	4133	-1043.81	-7.57	9.13
1117	SLE RA 17	26	19	4098	-1035.41	-7.49	8.88
1117	SLE RA 18	25	13	4163	-1051.17	-7.6	8.6
1117	SLE RA 19	24	20	4127	-1042.77	-7.52	8.35
1117	SLE RA 20	26	13	4211	-1063.25	-7.7	8.88
1117	SLE RA 21	25	20	4175	-1054.85	-7.63	8.62
1117	SLE FR 1	25	11	3743	-946.11	-6.79	8.53
1117	SLE FR 2	24	14	3731	-943.31	-6.77	8.44
1117	SLE FR 3	25	11	3762	-950.94	-6.83	8.64
1117	SLE FR 4	24	14	3857	-974.83	-7.01	8.46
1117	SLE FR 5	25	12	3888	-982.46	-7.08	8.66
1117	SLE FR 6	25	12	3953	-998.64	-7.19	8.56
1117	SLE QP 1	25	11	3743	-946.11	-6.79	8.53
1117	SLE QP 2	25	12	3869	-977.63	-7.03	8.55
1117	SLD 1	445	140	2699	-735.93	-3.93	155.78
1117	SLD 2	362	182	2653	-718.15	-3.6	126.83
1117	SLD 3	465	-76	3981	-1038.25	-6.69	162.77
1117	SLD 4	382	-34	3935	-1020.47	-6.36	133.82
1117	SLD 5	135	371	1581	-449.66	-1.98	47.09
1117	SLD 6	81	398	1552	-438.21	-1.77	28.45
1117	SLD 7	202	-350	5854	-1457.38	-11.17	70.4
1117	SLD 8	148	-323	5825	-1445.93	-10.95	51.76
1117	SLD 9	-99	346	1913	-509.32	-3.11	-34.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1117	SLD 10	-152	374	1883	-497.87	-2.9	-53.3
1117	SLD 11	-32	-375	6185	-1517.04	-12.3	-11.35
1117	SLD 12	-85	-347	6156	-1505.59	-12.09	-29.99
1117	SLD 13	-333	58	3803	-934.79	-7.71	-116.72
1117	SLD 14	-416	100	3756	-917	-7.38	-145.68
1117	SLD 15	-313	-159	5084	-1237.1	-10.46	-109.73
1117	SLD 16	-396	-116	5038	-1219.32	-10.13	-138.68
1117	SLV 1	682	227	1949	-578.21	-1.99	238.9
1117	SLV 2	552	294	1876	-550.17	-1.47	193.27
1117	SLV 3	716	-142	4137	-1094.06	-6.7	250.67
1117	SLV 4	585	-75	4064	-1066.03	-6.18	205.03
1117	SLV 5	195	623	-12	-80.65	1.51	68.33
1117	SLV 6	107	668	-61	-61.78	1.86	37.61
1117	SLV 7	308	-606	7281	-1800.16	-14.16	107.54
1117	SLV 8	220	-561	7232	-1781.29	-13.81	76.82
1117	SLV 9	-170	585	505	-173.96	-0.26	-59.72
1117	SLV 10	-258	630	456	-155.09	0.09	-90.45
1117	SLV 11	-58	-645	7798	-1893.47	-15.93	-20.51
1117	SLV 12	-146	-600	7749	-1874.6	-15.58	-51.23
1117	SLV 13	-536	98	3673	-889.23	-7.89	-187.94
1117	SLV 14	-667	165	3600	-861.19	-7.37	-233.57
1117	SLV 15	-502	-270	5861	-1405.08	-12.6	-176.17
1117	SLV 16	-633	-204	5788	-1377.04	-12.07	-221.81
1117	SLV FO 1	748	249	1757	-538.26	-1.49	261.94
1117	SLV FO 2	604	322	1676	-507.43	-0.92	211.74
1117	SLV FO 3	785	-157	4163	-1105.7	-6.66	274.88
1117	SLV FO 4	641	-84	4083	-1074.87	-6.09	224.68
1117	SLV FO 5	212	685	-400	9.04	2.37	74.31
1117	SLV FO 6	115	734	-454	29.8	2.75	40.51
1117	SLV FO 7	336	-668	7622	-1882.42	-14.88	117.44
1117	SLV FO 8	239	-618	7568	-1861.66	-14.49	83.65
1117	SLV FO 9	-190	642	169	-93.59	0.42	-66.55
1117	SLV FO 10	-287	692	115	-72.83	0.81	-100.35
1117	SLV FO 11	-66	-710	8191	-1985.05	-16.82	-23.41
1117	SLV FO 12	-163	-661	8137	-1964.29	-16.44	-57.21
1117	SLV FO 13	-592	107	3654	-880.38	-7.98	-207.58
1117	SLV FO 14	-736	181	3574	-849.55	-7.41	-257.78
1117	SLV FO 15	-555	-299	6061	-1447.82	-13.15	-194.64
1117	SLV FO 16	-699	-225	5980	-1416.99	-12.58	-244.84
1117	CRTFP Ux+	0	0	0	0	0	0
1117	CRTFP Ux-	0	0	0	0	0	0
1117	CRTFP Uy+	0	0	0	0	0	0
1117	CRTFP Uy-	0	0	0	0	0	0
1118	SLU 1	27	10	3797	-1064.15	-8.49	9.48
1118	SLU 2	25	28	3702	-1038.61	-8.24	8.8
1118	SLU 3	28	10	3911	-1095.62	-8.78	9.96
1118	SLU 4	27	21	3853	-1080.29	-8.63	9.55
1118	SLU 5	26	28	3780	-1060.53	-8.45	9.24
1118	SLU 6	30	10	3989	-1117.54	-8.99	10.4
1118	SLU 7	28	21	3931	-1102.22	-8.83	9.99
1118	SLU 8	29	10	3953	-1108	-8.91	10.37
1118	SLU 9	28	21	3896	-1092.67	-8.75	9.96
1118	SLU 10	26	30	4173	-1170.54	-9.37	9
1118	SLU 11	29	12	4382	-1227.54	-9.91	10.16
1118	SLU 12	28	23	4324	-1212.22	-9.76	9.75
1118	SLU 13	27	30	4251	-1192.46	-9.58	9.44
1118	SLU 14	30	12	4460	-1249.47	-10.11	10.6
1118	SLU 15	29	23	4402	-1234.14	-9.96	10.19
1118	SLU 16	30	12	4424	-1239.92	-10.03	10.57
1118	SLU 17	29	23	4367	-1224.6	-9.88	10.16
1118	SLU 18	28	13	4470	-1252.62	-10.11	9.77
1118	SLU 19	27	24	4413	-1237.29	-9.95	9.36
1118	SLU 20	29	13	4548	-1274.54	-10.31	10.21
1118	SLU 21	28	24	4491	-1259.22	-10.16	9.8
1118	SLU 22	29	11	4441	-1243.18	-10.04	10.21
1118	SLU 23	27	29	4345	-1217.64	-9.79	9.52
1118	SLU 24	30	11	4554	-1274.65	-10.33	10.68
1118	SLU 25	29	22	4497	-1259.32	-10.18	10.27
1118	SLU 26	28	29	4423	-1239.56	-10	9.96
1118	SLU 27	32	11	4632	-1296.57	-10.54	11.12
1118	SLU 28	30	22	4575	-1281.25	-10.38	10.71
1118	SLU 29	32	11	4596	-1287.03	-10.46	11.09
1118	SLU 30	30	22	4539	-1271.7	-10.3	10.68
1118	SLU 31	28	31	4816	-1349.57	-10.92	9.72
1118	SLU 32	31	13	5025	-1406.57	-11.46	10.88
1118	SLU 33	30	24	4968	-1391.25	-11.31	10.47
1118	SLU 34	29	31	4894	-1371.49	-11.13	10.16
1118	SLU 35	32	13	5103	-1428.5	-11.66	11.32
1118	SLU 36	31	24	5046	-1413.17	-11.51	10.91
1118	SLU 37	32	13	5067	-1418.96	-11.59	11.29
1118	SLU 38	31	24	5010	-1403.63	-11.43	10.88
1118	SLU 39	30	14	5113	-1431.65	-11.66	10.49
1118	SLU 40	29	25	5056	-1416.32	-11.51	10.08
1118	SLU 41	31	14	5191	-1453.57	-11.86	10.94
1118	SLU 42	30	25	5134	-1438.25	-11.71	10.52
1118	SLU 43	34	13	4716	-1322.01	-10.51	12.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1118	SLU 44	32	31	4621	-1296.47	-10.26	11.4
1118	SLU 45	36	13	4829	-1353.48	-10.79	12.55
1118	SLU 46	35	24	4772	-1338.15	-10.64	12.14
1118	SLU 47	34	31	4698	-1318.39	-10.46	11.84
1118	SLU 48	37	13	4907	-1375.4	-11	13
1118	SLU 49	36	24	4850	-1360.08	-10.85	12.58
1118	SLU 50	37	13	4872	-1365.86	-10.92	12.97
1118	SLU 51	36	23	4815	-1350.53	-10.77	12.55
1118	SLU 52	33	33	5091	-1428.4	-11.39	11.6
1118	SLU 53	36	15	5300	-1485.41	-11.92	12.76
1118	SLU 54	35	26	5243	-1470.08	-11.77	12.34
1118	SLU 55	34	33	5169	-1450.32	-11.59	12.04
1118	SLU 56	38	15	5378	-1507.33	-12.13	13.2
1118	SLU 57	36	25	5321	-1492.01	-11.98	12.79
1118	SLU 58	37	15	5343	-1497.79	-12.05	13.17
1118	SLU 59	36	25	5286	-1482.46	-11.9	12.76
1118	SLU 60	35	16	5389	-1510.48	-12.12	12.37
1118	SLU 61	34	26	5332	-1495.15	-11.97	11.96
1118	SLU 62	36	16	5467	-1532.4	-12.33	12.81
1118	SLU 63	35	26	5409	-1517.08	-12.18	12.4
1118	SLU 64	36	14	5359	-1501.04	-12.06	12.8
1118	SLU 65	34	32	5264	-1475.5	-11.81	12.12
1118	SLU 66	38	14	5473	-1532.51	-12.35	13.28
1118	SLU 67	37	25	5415	-1517.18	-12.19	12.87
1118	SLU 68	36	32	5342	-1497.43	-12.01	12.56
1118	SLU 69	39	14	5551	-1554.43	-12.55	13.72
1118	SLU 70	38	25	5493	-1539.11	-12.4	13.31
1118	SLU 71	39	14	5515	-1544.89	-12.47	13.69
1118	SLU 72	38	25	5458	-1529.57	-12.32	13.28
1118	SLU 73	35	34	5735	-1607.43	-12.94	12.32
1118	SLU 74	38	16	5944	-1664.44	-13.47	13.48
1118	SLU 75	37	27	5886	-1649.11	-13.32	13.07
1118	SLU 76	36	34	5813	-1629.35	-13.14	12.76
1118	SLU 77	40	16	6022	-1686.36	-13.68	13.92
1118	SLU 78	38	27	5964	-1671.04	-13.53	13.51
1118	SLU 79	40	16	5986	-1676.82	-13.6	13.89
1118	SLU 80	38	27	5929	-1661.49	-13.45	13.48
1118	SLU 81	37	17	6032	-1689.51	-13.67	13.09
1118	SLU 82	36	28	5975	-1674.19	-13.52	12.68
1118	SLU 83	38	17	6110	-1711.43	-13.88	13.53
1118	SLU 84	37	27	6053	-1696.11	-13.73	13.12
1118	SLE RA 1	28	11	3981	-1115.3	-8.94	9.69
1118	SLE RA 2	26	22	3917	-1098.27	-8.77	9.23
1118	SLE RA 3	28	11	4057	-1136.28	-9.13	10.01
1118	SLE RA 4	28	18	4019	-1126.06	-9.03	9.73
1118	SLE RA 5	27	22	3969	-1112.89	-8.91	9.53
1118	SLE RA 6	29	11	4109	-1150.89	-9.26	10.3
1118	SLE RA 7	29	18	4070	-1140.68	-9.16	10.03
1118	SLE RA 8	29	10	4085	-1144.53	-9.21	10.28
1118	SLE RA 9	28	18	4047	-1134.32	-9.11	10.01
1118	SLE RA 10	27	24	4231	-1186.22	-9.52	9.37
1118	SLE RA 11	29	12	4371	-1224.23	-9.88	10.14
1118	SLE RA 12	28	19	4332	-1214.01	-9.78	9.87
1118	SLE RA 13	27	24	4283	-1200.84	-9.66	9.66
1118	SLE RA 14	30	12	4423	-1238.85	-10.02	10.43
1118	SLE RA 15	29	19	4384	-1228.63	-9.92	10.16
1118	SLE RA 16	30	12	4399	-1232.48	-9.96	10.41
1118	SLE RA 17	29	19	4361	-1222.27	-9.86	10.14
1118	SLE RA 18	28	12	4430	-1240.95	-10.01	9.88
1118	SLE RA 19	27	20	4391	-1230.73	-9.91	9.61
1118	SLE RA 20	29	12	4482	-1255.56	-10.15	10.18
1118	SLE RA 21	28	20	4443	-1245.35	-10.05	9.9
1118	SLE FR 1	28	11	3981	-1115.3	-8.94	9.69
1118	SLE FR 2	27	13	3968	-1111.89	-8.9	9.6
1118	SLE FR 3	28	11	4002	-1121.15	-8.99	9.81
1118	SLE FR 4	27	14	4103	-1149.59	-9.22	9.66
1118	SLE FR 5	28	11	4137	-1158.84	-9.31	9.87
1118	SLE FR 6	28	12	4205	-1178.12	-9.47	9.79
1118	SLE QP 1	28	11	3981	-1115.3	-8.94	9.69
1118	SLE QP 2	28	11	4116	-1152.99	-9.26	9.75
1118	SLD 1	446	142	2843	-858.95	-5.52	156.03
1118	SLD 2	363	187	2786	-835.1	-5.14	127.07
1118	SLD 3	467	-75	4221	-1225.77	-9.1	163.6
1118	SLD 4	384	-30	4164	-1201.93	-8.72	134.65
1118	SLD 5	134	373	1654	-512.54	-2.78	47.12
1118	SLD 6	81	402	1617	-497.18	-2.53	28.48
1118	SLD 7	207	-352	6247	-1735.27	-14.7	72.37
1118	SLD 8	153	-323	6210	-1719.92	-14.46	53.73
1118	SLD 9	-98	346	2021	-586.07	-4.06	-34.23
1118	SLD 10	-151	375	1985	-570.71	-3.81	-52.88
1118	SLD 11	-25	-379	6614	-1808.81	-15.99	-8.98
1118	SLD 12	-79	-350	6578	-1793.45	-15.74	-27.63
1118	SLD 13	-329	52	4068	-1104.06	-9.8	-115.15
1118	SLD 14	-412	97	4011	-1080.21	-9.42	-144.11
1118	SLD 15	-307	-165	5446	-1470.88	-13.38	-107.58
1118	SLD 16	-390	-120	5389	-1447.03	-12.99	-136.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1118	SLV 1	681	231	2027	-667.11	-3.17	238.57
1118	SLV 2	551	302	1938	-629.52	-2.56	192.93
1118	SLV 3	718	-140	4379	-1293.04	-9.27	251.34
1118	SLV 4	587	-69	4289	-1255.45	-8.67	205.69
1118	SLV 5	193	627	-61	-64.92	1.72	67.55
1118	SLV 6	105	674	-122	-39.61	2.12	36.82
1118	SLV 7	315	-610	7779	-2151.35	-18.63	110.1
1118	SLV 8	227	-562	7718	-2126.04	-18.23	79.37
1118	SLV 9	-171	585	513	-179.94	-0.29	-59.88
1118	SLV 10	-259	632	453	-154.64	0.12	-90.61
1118	SLV 11	-49	-652	8353	-2266.38	-20.64	-17.33
1118	SLV 12	-137	-604	8292	-2241.07	-20.23	-48.06
1118	SLV 13	-532	91	3942	-1050.54	-9.85	-186.2
1118	SLV 14	-663	162	3852	-1012.95	-9.25	-231.84
1118	SLV 15	-495	-280	6294	-1676.47	-15.96	-173.43
1118	SLV 16	-626	-209	6204	-1638.88	-15.35	-219.08
1118	SLV FO 1	747	253	1819	-618.52	-2.56	261.46
1118	SLV FO 2	603	331	1720	-577.17	-1.89	211.25
1118	SLV FO 3	787	-155	4406	-1307.04	-9.27	275.5
1118	SLV FO 4	643	-77	4307	-1265.69	-8.61	225.29
1118	SLV FO 5	209	688	-479	43.89	2.81	73.33
1118	SLV FO 6	112	741	-545	71.73	3.26	39.53
1118	SLV FO 7	344	-672	8145	-2251.18	-19.57	120.14
1118	SLV FO 8	247	-620	8078	-2223.35	-19.12	86.34
1118	SLV FO 9	-191	642	153	-82.64	0.61	-66.84
1118	SLV FO 10	-288	694	87	-54.8	1.05	-100.64
1118	SLV FO 11	-57	-718	8777	-2377.72	-21.78	-20.04
1118	SLV FO 12	-154	-666	8710	-2349.88	-21.33	-53.84
1118	SLV FO 13	-588	99	3925	-1040.29	-9.91	-205.79
1118	SLV FO 14	-732	177	3826	-998.94	-9.24	-256
1118	SLV FO 15	-547	-309	6512	-1728.82	-16.62	-191.75
1118	SLV FO 16	-691	-231	6413	-1687.47	-15.96	-241.96
1118	CRTFP Ux+	0	0	0	0	0	0
1118	CRTFP Ux-	0	0	0	0	0	0
1118	CRTFP Uy+	0	0	0	0	0	0
1118	CRTFP Uy-	0	0	0	0	0	0
1119	SLU 1	26	12	3560	-1103.18	81.66	8.94
1119	SLU 2	24	27	3469	-1076.19	79.61	7.91
1119	SLU 3	27	12	3667	-1136.33	84.1	9.38
1119	SLU 4	26	21	3612	-1120.14	82.87	8.77
1119	SLU 5	25	27	3543	-1099.33	81.29	8.32
1119	SLU 6	28	12	3741	-1159.48	85.77	9.79
1119	SLU 7	27	21	3686	-1143.28	84.54	9.18
1119	SLU 8	28	12	3707	-1149.47	85.01	9.76
1119	SLU 9	27	21	3653	-1133.27	83.78	9.14
1119	SLU 10	25	29	3913	-1214.68	89.73	8.14
1119	SLU 11	28	14	4110	-1274.83	94.21	9.62
1119	SLU 12	27	23	4056	-1258.63	92.98	9
1119	SLU 13	26	29	3986	-1237.82	91.4	8.55
1119	SLU 14	29	14	4184	-1297.97	95.89	10.03
1119	SLU 15	28	23	4130	-1281.78	94.66	9.41
1119	SLU 16	29	14	4151	-1287.96	95.13	9.99
1119	SLU 17	28	23	4097	-1271.77	93.9	9.37
1119	SLU 18	27	14	4193	-1301.03	96.12	9.27
1119	SLU 19	26	24	4139	-1284.83	94.88	8.65
1119	SLU 20	28	14	4267	-1324.17	97.79	9.68
1119	SLU 21	27	24	4213	-1307.98	96.56	9.06
1119	SLU 22	28	13	4166	-1291.31	95.48	9.69
1119	SLU 23	26	29	4075	-1264.32	93.43	8.66
1119	SLU 24	29	13	4273	-1324.47	97.91	10.14
1119	SLU 25	28	22	4218	-1308.27	96.68	9.52
1119	SLU 26	28	29	4149	-1287.47	95.1	9.07
1119	SLU 27	31	13	4347	-1347.61	99.59	10.55
1119	SLU 28	30	22	4292	-1331.42	98.36	9.93
1119	SLU 29	31	13	4313	-1337.6	98.83	10.51
1119	SLU 30	29	22	4259	-1321.41	97.6	9.89
1119	SLU 31	27	30	4519	-1402.81	103.54	8.9
1119	SLU 32	30	15	4716	-1462.96	108.03	10.37
1119	SLU 33	29	24	4662	-1446.76	106.8	9.75
1119	SLU 34	28	30	4593	-1425.96	105.22	9.3
1119	SLU 35	31	15	4790	-1486.11	109.7	10.78
1119	SLU 36	30	24	4736	-1469.91	108.47	10.16
1119	SLU 37	31	15	4757	-1476.1	108.94	10.74
1119	SLU 38	30	24	4703	-1459.9	107.71	10.13
1119	SLU 39	29	16	4799	-1489.16	109.93	10.02
1119	SLU 40	28	25	4745	-1472.96	108.7	9.41
1119	SLU 41	30	16	4873	-1512.31	111.6	10.43
1119	SLU 42	29	25	4819	-1496.11	110.37	9.82
1119	SLU 43	33	15	4420	-1369.63	101.43	11.36
1119	SLU 44	31	30	4329	-1342.64	99.37	10.33
1119	SLU 45	34	15	4527	-1402.78	103.86	11.81
1119	SLU 46	33	24	4472	-1386.59	102.63	11.19
1119	SLU 47	32	30	4403	-1365.78	101.05	10.74
1119	SLU 48	36	15	4601	-1425.93	105.53	12.22
1119	SLU 49	34	24	4546	-1409.73	104.3	11.6
1119	SLU 50	35	15	4567	-1415.92	104.77	12.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1119	SLU 51	34	24	4513	-1399.72	103.54	11.57
1119	SLU 52	32	32	4773	-1481.13	109.49	10.57
1119	SLU 53	35	17	4970	-1541.28	113.98	12.04
1119	SLU 54	34	26	4916	-1525.08	112.75	11.42
1119	SLU 55	33	32	4847	-1504.27	111.16	10.98
1119	SLU 56	36	17	5044	-1564.42	115.65	12.45
1119	SLU 57	35	26	4990	-1548.23	114.42	11.83
1119	SLU 58	36	17	5011	-1554.41	114.89	12.41
1119	SLU 59	35	26	4957	-1538.22	113.66	11.8
1119	SLU 60	34	17	5053	-1567.48	115.88	11.7
1119	SLU 61	33	27	4999	-1551.28	114.65	11.08
1119	SLU 62	35	17	5127	-1590.62	117.55	12.1
1119	SLU 63	34	27	5073	-1574.43	116.32	11.49
1119	SLU 64	35	16	5026	-1557.76	115.24	12.12
1119	SLU 65	33	32	4935	-1530.77	113.19	11.09
1119	SLU 66	37	16	5133	-1590.92	117.68	12.56
1119	SLU 67	35	25	5078	-1574.72	116.45	11.94
1119	SLU 68	35	32	5009	-1553.92	114.86	11.5
1119	SLU 69	38	16	5207	-1614.06	119.35	12.97
1119	SLU 70	37	25	5152	-1597.87	118.12	12.35
1119	SLU 71	38	16	5173	-1604.05	118.59	12.94
1119	SLU 72	37	25	5119	-1587.86	117.36	12.32
1119	SLU 73	34	33	5379	-1669.26	123.31	11.32
1119	SLU 74	37	18	5576	-1729.41	127.79	12.79
1119	SLU 75	36	27	5522	-1713.22	126.56	12.18
1119	SLU 76	35	34	5453	-1692.41	124.98	11.73
1119	SLU 77	38	18	5650	-1752.56	129.47	13.2
1119	SLU 78	37	27	5596	-1736.36	128.24	12.58
1119	SLU 79	38	18	5617	-1742.55	128.7	13.17
1119	SLU 80	37	27	5563	-1726.35	127.47	12.55
1119	SLU 81	36	19	5659	-1755.61	129.69	12.45
1119	SLU 82	35	28	5605	-1739.41	128.46	11.83
1119	SLU 83	38	19	5733	-1778.76	131.37	12.86
1119	SLU 84	36	28	5679	-1762.56	130.14	12.24
1119	SLE RA 1	27	12	3733	-1156.93	85.61	9.16
1119	SLE RA 2	25	22	3672	-1138.94	84.24	8.47
1119	SLE RA 3	28	12	3804	-1179.03	87.23	9.45
1119	SLE RA 4	27	18	3768	-1168.24	86.41	9.04
1119	SLE RA 5	26	22	3722	-1154.37	85.36	8.74
1119	SLE RA 6	28	12	3853	-1194.46	88.35	9.72
1119	SLE RA 7	28	18	3817	-1183.67	87.53	9.31
1119	SLE RA 8	28	12	3831	-1187.79	87.84	9.7
1119	SLE RA 9	27	18	3795	-1176.99	87.02	9.29
1119	SLE RA 10	26	24	3968	-1231.26	90.99	8.62
1119	SLE RA 11	28	13	4100	-1271.36	93.98	9.61
1119	SLE RA 12	27	20	4064	-1260.57	93.16	9.19
1119	SLE RA 13	27	24	4017	-1246.69	92.1	8.9
1119	SLE RA 14	29	13	4149	-1286.79	95.09	9.88
1119	SLE RA 15	28	20	4113	-1276	94.27	9.47
1119	SLE RA 16	29	13	4127	-1280.12	94.59	9.86
1119	SLE RA 17	28	20	4091	-1269.32	93.77	9.44
1119	SLE RA 18	27	14	4155	-1288.83	95.25	9.38
1119	SLE RA 19	27	20	4119	-1278.03	94.43	8.96
1119	SLE RA 20	28	14	4204	-1304.26	96.36	9.65
1119	SLE RA 21	27	20	4168	-1293.46	95.54	9.24
1119	SLE FR 1	27	12	3733	-1156.93	85.61	9.16
1119	SLE FR 2	26	14	3721	-1153.33	85.34	9.02
1119	SLE FR 3	27	12	3752	-1163.1	86.06	9.27
1119	SLE FR 4	27	15	3847	-1192.9	88.23	9.08
1119	SLE FR 5	27	13	3879	-1202.67	88.95	9.33
1119	SLE FR 6	27	13	3944	-1222.88	90.43	9.27
1119	SLE QP 1	27	12	3733	-1156.93	85.61	9.16
1119	SLE QP 2	27	13	3859	-1196.5	88.5	9.22
1119	SLD 1	391	129	2645	-881.84	61.17	134.68
1119	SLD 2	318	171	2584	-855.78	59.96	108.22
1119	SLD 3	412	-62	3949	-1269.11	90.76	146.4
1119	SLD 4	339	-20	3889	-1243.05	89.55	119.94
1119	SLD 5	118	330	1527	-519.22	35.64	33.64
1119	SLD 6	71	357	1488	-502.44	34.86	16.6
1119	SLD 7	186	-307	5875	-1810.13	134.25	72.69
1119	SLD 8	139	-280	5837	-1793.35	133.48	55.65
1119	SLD 9	-85	305	1882	-599.66	43.53	-37.21
1119	SLD 10	-132	332	1843	-582.87	42.75	-54.25
1119	SLD 11	-17	-332	6231	-1890.56	142.14	1.84
1119	SLD 12	-64	-305	6192	-1873.78	141.36	-15.2
1119	SLD 13	-285	45	3830	-1149.95	87.46	-101.49
1119	SLD 14	-358	87	3770	-1123.89	86.25	-127.95
1119	SLD 15	-265	-146	5134	-1537.22	117.04	-89.78
1119	SLD 16	-338	-104	5074	-1511.16	115.83	-116.24
1119	SLV 1	597	208	1867	-676.92	43.67	205.11
1119	SLV 2	482	274	1773	-635.84	41.76	163.4
1119	SLV 3	631	-118	4094	-1337.77	94.16	224.98
1119	SLV 4	516	-52	3999	-1296.69	92.26	183.27
1119	SLV 5	167	554	-98	-46	-1.18	45.63
1119	SLV 6	90	598	-162	-18.35	-2.46	17.55
1119	SLV 7	282	-534	7325	-2248.83	167.14	111.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1119	SLV 8	205	-489	7261	-2221.18	165.86	83.8
1119	SLV 9	-151	514	458	-171.82	11.14	-65.35
1119	SLV 10	-228	559	394	-144.17	9.86	-93.43
1119	SLV 11	-36	-573	7881	-2374.65	179.46	0.89
1119	SLV 12	-113	-529	7817	-2347	178.18	-27.19
1119	SLV 13	-463	77	3719	-1096.31	84.74	-164.83
1119	SLV 14	-578	143	3625	-1055.24	82.84	-206.54
1119	SLV 15	-428	-249	5946	-1757.16	135.24	-144.96
1119	SLV 16	-543	-183	5852	-1716.09	133.34	-186.66
1119	SLV FO 1	654	227	1668	-624.96	39.18	224.7
1119	SLV FO 2	527	300	1564	-579.77	37.09	178.82
1119	SLV FO 3	692	-131	4118	-1351.89	94.73	246.56
1119	SLV FO 4	565	-59	4013	-1306.71	92.64	200.68
1119	SLV FO 5	181	608	-494	69.05	-10.15	49.27
1119	SLV FO 6	96	657	-564	99.46	-11.56	18.38
1119	SLV FO 7	307	-589	7671	-2354.07	175	122.14
1119	SLV FO 8	222	-540	7601	-2323.65	173.59	91.25
1119	SLV FO 9	-169	565	118	-69.35	3.41	-72.81
1119	SLV FO 10	-254	614	47	-38.94	2	-103.7
1119	SLV FO 11	-42	-632	8283	-2492.47	188.56	0.06
1119	SLV FO 12	-127	-583	8213	-2462.05	187.15	-30.83
1119	SLV FO 13	-512	84	3705	-1086.29	84.37	-182.23
1119	SLV FO 14	-638	156	3601	-1041.11	82.27	-228.11
1119	SLV FO 15	-474	-275	6155	-1813.23	139.91	-160.37
1119	SLV FO 16	-600	-202	6051	-1768.04	137.82	-206.25
1119	CRTFP Ux+	0	0	0	0	0	0
1119	CRTFP Ux-	0	0	0	0	0	0
1119	CRTFP Uy+	0	0	0	-0.01	0	0
1119	CRTFP Uy-	0	0	0	0.01	0	0
1121	SLU 1	29	18	4257	-928.3	500.23	4.51
1121	SLU 2	27	36	4146	-904.97	487.63	1.75
1121	SLU 3	30	18	4386	-956.38	515.14	4.8
1121	SLU 4	29	29	4319	-942.38	507.58	3.14
1121	SLU 5	28	36	4235	-924.45	497.86	2.03
1121	SLU 6	32	19	4475	-975.86	525.37	5.07
1121	SLU 7	30	29	4409	-961.86	517.81	3.42
1121	SLU 8	32	19	4435	-967.26	520.7	5.06
1121	SLU 9	30	29	4369	-953.26	513.13	3.4
1121	SLU 10	28	38	4677	-1021.55	549.43	1.64
1121	SLU 11	31	21	4917	-1072.96	576.95	4.69
1121	SLU 12	30	32	4851	-1058.96	569.38	3.03
1121	SLU 13	29	39	4766	-1041.03	559.67	1.92
1121	SLU 14	33	21	5006	-1092.44	587.18	4.97
1121	SLU 15	31	32	4940	-1078.44	579.62	3.31
1121	SLU 16	32	21	4966	-1083.84	582.51	4.95
1121	SLU 17	31	32	4900	-1069.84	574.94	3.3
1121	SLU 18	30	22	5016	-1094.84	588.53	4.35
1121	SLU 19	29	32	4949	-1080.85	580.97	2.7
1121	SLU 20	32	22	5105	-1114.32	598.76	4.63
1121	SLU 21	30	33	5038	-1100.33	591.2	2.97
1121	SLU 22	32	20	4984	-1087.22	584.68	4.84
1121	SLU 23	29	38	4873	-1063.89	572.07	2.09
1121	SLU 24	33	21	5113	-1115.31	599.59	5.13
1121	SLU 25	32	31	5046	-1101.31	592.02	3.48
1121	SLU 26	31	38	4962	-1083.37	582.3	2.36
1121	SLU 27	34	21	5202	-1134.79	609.82	5.41
1121	SLU 28	33	31	5135	-1120.79	602.25	3.76
1121	SLU 29	34	21	5162	-1126.18	605.14	5.4
1121	SLU 30	33	31	5096	-1112.19	597.58	3.74
1121	SLU 31	30	40	5404	-1180.48	633.88	1.98
1121	SLU 32	34	23	5644	-1231.89	661.4	5.03
1121	SLU 33	33	34	5578	-1217.89	653.83	3.37
1121	SLU 34	32	41	5493	-1199.96	644.11	2.25
1121	SLU 35	35	23	5733	-1251.37	671.63	5.3
1121	SLU 36	34	34	5667	-1237.37	664.06	3.65
1121	SLU 37	35	23	5693	-1242.77	666.95	5.29
1121	SLU 38	34	34	5627	-1228.77	659.39	3.63
1121	SLU 39	33	24	5743	-1253.77	672.98	4.69
1121	SLU 40	31	35	5676	-1239.77	665.41	3.03
1121	SLU 41	34	24	5832	-1273.25	683.21	4.96
1121	SLU 42	33	35	5765	-1259.25	675.64	3.31
1121	SLU 43	37	23	5285	-1152.3	621.35	5.75
1121	SLU 44	35	40	5174	-1128.97	608.74	2.99
1121	SLU 45	38	23	5414	-1180.38	636.26	6.04
1121	SLU 46	37	34	5347	-1166.38	628.69	4.38
1121	SLU 47	36	41	5263	-1148.45	618.97	3.26
1121	SLU 48	40	23	5503	-1199.86	646.49	6.31
1121	SLU 49	38	34	5436	-1185.86	638.92	4.66
1121	SLU 50	39	23	5463	-1191.26	641.81	6.3
1121	SLU 51	38	34	5396	-1177.26	634.25	4.64
1121	SLU 52	36	43	5705	-1245.55	670.55	2.88
1121	SLU 53	39	26	5945	-1296.96	698.07	5.93
1121	SLU 54	38	36	5878	-1282.97	690.5	4.27
1121	SLU 55	37	43	5794	-1265.03	680.78	3.15
1121	SLU 56	40	26	6034	-1316.44	708.3	6.2
1121	SLU 57	39	37	5967	-1302.45	700.73	4.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1121	SLU 58	40	26	5994	-1307.84	703.62	6.19
1121	SLU 59	39	36	5928	-1293.84	696.06	4.53
1121	SLU 60	38	27	6044	-1318.85	709.65	5.59
1121	SLU 61	37	37	5977	-1304.85	702.09	3.93
1121	SLU 62	39	27	6133	-1338.33	719.88	5.87
1121	SLU 63	38	37	6066	-1324.33	712.32	4.21
1121	SLU 64	39	25	6012	-1311.22	705.8	6.08
1121	SLU 65	37	43	5901	-1287.89	693.19	3.32
1121	SLU 66	41	25	6141	-1339.31	720.7	6.37
1121	SLU 67	39	36	6074	-1325.31	713.14	4.72
1121	SLU 68	39	43	5990	-1307.37	703.42	3.6
1121	SLU 69	42	25	6230	-1358.79	730.94	6.65
1121	SLU 70	41	36	6163	-1344.79	723.37	4.99
1121	SLU 71	42	25	6190	-1350.18	726.26	6.63
1121	SLU 72	41	36	6123	-1336.19	718.7	4.98
1121	SLU 73	38	45	6432	-1404.48	755	3.21
1121	SLU 74	42	28	6672	-1455.89	782.51	6.26
1121	SLU 75	40	38	6605	-1441.89	774.95	4.61
1121	SLU 76	39	45	6521	-1423.96	765.23	3.49
1121	SLU 77	43	28	6761	-1475.37	792.74	6.54
1121	SLU 78	42	39	6694	-1461.37	785.18	4.88
1121	SLU 79	43	28	6721	-1466.77	788.07	6.52
1121	SLU 80	42	39	6654	-1452.77	780.5	4.87
1121	SLU 81	41	29	6771	-1477.77	794.1	5.93
1121	SLU 82	39	39	6704	-1463.77	786.53	4.27
1121	SLU 83	42	29	6860	-1497.25	804.33	6.2
1121	SLU 84	41	39	6793	-1483.25	796.76	4.55
1121	SLE RA 1	30	19	4465	-973.71	524.36	4.6
1121	SLE RA 2	28	30	4391	-958.15	515.96	2.77
1121	SLE RA 3	31	19	4551	-992.43	534.3	4.8
1121	SLE RA 4	30	26	4506	-983.09	529.26	3.69
1121	SLE RA 5	29	31	4450	-971.14	522.78	2.95
1121	SLE RA 6	32	19	4610	-1005.41	541.12	4.98
1121	SLE RA 7	31	26	4566	-996.08	536.08	3.88
1121	SLE RA 8	31	19	4584	-999.68	538	4.97
1121	SLE RA 9	31	26	4539	-990.35	532.96	3.87
1121	SLE RA 10	29	32	4745	-1035.87	557.16	2.69
1121	SLE RA 11	31	21	4905	-1070.15	575.5	4.73
1121	SLE RA 12	30	28	4860	-1060.82	570.46	3.62
1121	SLE RA 13	30	32	4804	-1048.86	563.98	2.88
1121	SLE RA 14	32	21	4964	-1083.14	582.33	4.91
1121	SLE RA 15	31	28	4920	-1073.8	577.28	3.81
1121	SLE RA 16	32	21	4938	-1077.4	579.21	4.9
1121	SLE RA 17	31	28	4893	-1068.07	574.17	3.8
1121	SLE RA 18	31	21	4971	-1084.74	583.23	4.5
1121	SLE RA 19	30	28	4926	-1075.4	578.18	3.4
1121	SLE RA 20	31	21	5030	-1097.72	590.05	4.68
1121	SLE RA 21	31	28	4986	-1088.39	585	3.58
1121	SLE FR 1	30	19	4465	-973.71	524.36	4.6
1121	SLE FR 2	29	21	4450	-970.59	522.68	4.24
1121	SLE FR 3	30	19	4489	-978.9	527.09	4.68
1121	SLE FR 4	30	22	4602	-1003.9	540.34	4.21
1121	SLE FR 5	30	20	4640	-1012.21	544.75	4.65
1121	SLE FR 6	30	20	4718	-1029.22	553.79	4.55
1121	SLE QP 1	30	19	4465	-973.71	524.36	4.6
1121	SLE QP 2	30	19	4617	-1007.01	542.02	4.57
1121	SLD 1	441	151	3090	-704.45	364.75	85.06
1121	SLD 2	358	201	3016	-686.04	357.86	60.11
1121	SLD 3	465	-64	4689	-1039.85	546.89	117.99
1121	SLD 4	382	-15	4616	-1021.45	540	93.03
1121	SLD 5	131	377	1746	-410.71	213.78	-16.92
1121	SLD 6	78	409	1698	-398.85	209.34	-32.99
1121	SLD 7	211	-341	7077	-1528.74	820.91	92.82
1121	SLD 8	158	-309	7029	-1516.88	816.48	76.76
1121	SLD 9	-98	348	2204	-497.15	267.56	-67.61
1121	SLD 10	-151	380	2156	-485.29	263.13	-83.68
1121	SLD 11	-18	-370	7535	-1615.18	874.7	42.14
1121	SLD 12	-71	-338	7488	-1603.32	870.26	26.07
1121	SLD 13	-322	54	4618	-992.58	544.04	-83.89
1121	SLD 14	-405	103	4544	-974.17	537.15	-108.84
1121	SLD 15	-298	-162	6217	-1327.99	726.18	-50.96
1121	SLD 16	-381	-112	6143	-1309.58	719.29	-75.91
1121	SLV 1	673	240	2116	-510.12	251.94	128.47
1121	SLV 2	542	319	2000	-481.1	241.08	89.14
1121	SLV 3	714	-127	4846	-1082.56	562.84	184.57
1121	SLV 4	582	-49	4730	-1053.55	551.98	145.24
1121	SLV 5	186	628	-252	4.84	-14.51	-36.01
1121	SLV 6	98	681	-331	24.38	-21.83	-62.49
1121	SLV 7	321	-596	8848	-1903.3	1021.83	151
1121	SLV 8	233	-543	8769	-1883.76	1014.52	124.52
1121	SLV 9	-173	582	464	-130.27	69.53	-115.38
1121	SLV 10	-261	635	386	-110.73	62.21	-141.85
1121	SLV 11	-38	-642	9564	-2038.41	1105.87	71.63
1121	SLV 12	-126	-589	9485	-2018.87	1098.55	45.15
1121	SLV 13	-522	88	4503	-960.48	532.06	-136.09
1121	SLV 14	-654	166	4387	-931.47	521.2	-175.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1121	SLV 15	-482	-280	7233	-1532.93	842.97	-79.99
1121	SLV 16	-613	-201	7117	-1503.91	832.1	-119.32
1121	SLV FO 1	737	262	1866	-460.43	222.93	140.86
1121	SLV FO 2	593	348	1738	-428.51	210.98	97.59
1121	SLV FO 3	782	-142	4869	-1090.12	564.92	202.57
1121	SLV FO 4	637	-55	4741	-1058.2	552.97	159.31
1121	SLV FO 5	202	689	-739	106.03	-70.17	-40.06
1121	SLV FO 6	104	747	-825	127.52	-78.21	-69.19
1121	SLV FO 7	350	-658	9271	-1992.93	1069.81	165.64
1121	SLV FO 8	253	-600	9185	-1971.44	1061.77	136.52
1121	SLV FO 9	-193	638	49	-42.59	22.28	-127.37
1121	SLV FO 10	-290	697	-38	-21.1	14.23	-156.5
1121	SLV FO 11	-44	-708	10059	-2141.55	1162.25	78.34
1121	SLV FO 12	-142	-650	9972	-2120.06	1154.21	49.21
1121	SLV FO 13	-577	94	4492	-955.83	531.07	-150.16
1121	SLV FO 14	-722	181	4364	-923.91	519.12	-193.43
1121	SLV FO 15	-533	-309	7495	-1585.52	873.06	-88.45
1121	SLV FO 16	-677	-223	7367	-1553.6	861.11	-131.71
1121	CRTFP Ux+	0	0	0	0	0	0
1121	CRTFP Ux-	0	0	0	0	0	0
1121	CRTFP Uy+	0	0	0	0	0	0
1121	CRTFP Uy-	0	0	0	0	0	0

1.3 Pressioni massime sul terreno

Nodo: *Nodo che interagisce col terreno.*
Ind.: *indice del nodo.*
Pressione minima: *situazione in cui si verifica la pressione minima nel nodo.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce la pressione minima.*
uz: *spostamento massimo verticale del nodo. [m]*
Valore: *pressione minima sul terreno del nodo. [daN/m²]*
Pressione massima: *situazione in cui si verifica la pressione massima nel nodo.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce la pressione massima.*
uz: *spostamento minimo verticale del nodo. [m]*
Valore: *pressione massima sul terreno del nodo. [daN/m²]*

Compressione estrema massima -22582.1 al nodo di indice 160, di coordinate x = -13.76, y = -4.78, z = -1.95, nel contesto SLV fondazioni 9.
Spostamento estremo minimo -0.0075274 al nodo di indice 160, di coordinate x = -13.76, y = -4.78, z = -1.95, nel contesto SLV fondazioni 9.
Spostamento estremo massimo 0.0009039 al nodo di indice 151, di coordinate x = -17.05, y = -4.78, z = -1.95, nel contesto SLV fondazioni 12.

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
11	SLU 84	-0.0040822	-12246.7	SLV FO 7	-0.0021025	-6307.5
12	SLU 84	-0.0041485	-12445.4	SLV FO 7	-0.0021131	-6339.4
13	SLU 84	-0.0041851	-12555.3	SLV FO 7	-0.0021151	-6345.2
14	SLU 84	-0.0042179	-12653.8	SLV FO 7	-0.0021168	-6350.5
15	SLU 84	-0.0042481	-12744.2	SLV FO 7	-0.0021181	-6354.3
16	SLU 84	-0.0042749	-12824.8	SLV FO 8	-0.0021164	-6349.1
17	SLU 84	-0.0042964	-12889.3	SLV FO 8	-0.0021098	-6329.3
18	SLU 84	-0.0043203	-12960.9	SLV FO 8	-0.0020896	-6268.8
19	SLU 84	-0.0040592	-12177.7	SLV FO 7	-0.0022371	-6711.2
20	SLU 84	-0.0041246	-12373.9	SLV FO 7	-0.0022449	-6734.8
21	SLU 84	-0.0041573	-12471.8	SLV FO 7	-0.002242	-6726.1
22	SLU 84	-0.004187	-12560.9	SLV FO 7	-0.0022387	-6716
23	SLU 84	-0.0042163	-12648.8	SLV FO 7	-0.0022358	-6707.4
24	SLU 84	-0.0042449	-12734.6	SLV FO 8	-0.0022318	-6695.3
25	SLU 84	-0.0042694	-12808.2	SLV FO 8	-0.0022244	-6673.1
26	SLU 84	-0.0042924	-12877.1	SLV FO 8	-0.0022008	-6602.3
27	SLU 84	-0.0042364	-12709.3	SLV FO 8	-0.0023189	-6956.8
28	SLU 84	-0.0042636	-12790.9	SLV FO 8	-0.0022953	-6885.9
29	SLU 84	-0.0042068	-12620.4	SLV FO 8	-0.0023287	-6986.1
30	SLU 84	-0.0041753	-12525.8	SLV FO 7	-0.002336	-7007.9
31	SLU 84	-0.0041464	-12439.3	SLV FO 7	-0.0023448	-7034.5
32	SLU 84	-0.0041207	-12362.1	SLV FO 7	-0.0023562	-7068.7
33	SLU 84	-0.0040354	-12106.1	SLV FO 7	-0.0023658	-7097.4
34	SLU 84	-0.0040939	-12281.6	SLV FO 7	-0.0023675	-7102.6
36	SLU 84	-0.0041998	-12599.5	SLV FO 8	-0.0024099	-7229.8
37	SLU 84	-0.004231	-12693	SLV FO 8	-0.0023852	-7155.6
38	SLU 84	-0.0041661	-12498.3	SLV FO 8	-0.002423	-7269
39	SLU 84	-0.0041321	-12396.2	SLV FO 7	-0.0024341	-7302.4
40	SLU 84	-0.0041039	-12311.8	SLV FO 7	-0.0024495	-7348.6
41	SLU 84	-0.0040821	-12246.4	SLV FO 7	-0.0024696	-7408.8
42	SLU 84	-0.0040093	-12028	SLV FO 7	-0.0024956	-7486.7
43	SLU 84	-0.0040605	-12181.6	SLV FO 7	-0.0024902	-7470.5
46	SLU 84	-0.0041639	-12491.7	SLV FO 7	-0.0025004	-7501.1
47	SLU 84	-0.0041974	-12592.1	SLV FO 4	-0.0024549	-7364.8
48	SLU 84	-0.004128	-12383.9	SLV FO 7	-0.0025176	-7552.7
49	SLU 84	-0.0040931	-12279.2	SLV FO 7	-0.0025333	-7600
50	SLU 84	-0.0040661	-12198.3	SLU 1	-0.0025453	-7635.9
51	SLU 84	-0.0040472	-12141.7	SLU 1	-0.0025316	-7594.9
52	SLU 83	-0.003984	-11952	SLU 2	-0.002487	-7461.1

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
53	SLU 84	-0.0040291	-12087.3	SLU 1	-0.0025184	-7555.3
55	SLU 84	-0.0041304	-12391.2	SLV FO 3	-0.0025184	-7555.1
56	SLU 84	-0.0041652	-12495.5	SLV FO 3	-0.0024711	-7413.2
57	SLU 84	-0.0040941	-12282.2	SLV FO 3	-0.0025425	-7627.5
58	SLU 84	-0.0040595	-12178.4	SLU 1	-0.0025385	-7615.6
59	SLU 83	-0.0040345	-12103.4	SLU 2	-0.0025202	-7560.6
60	SLU 83	-0.0040186	-12055.7	SLU 2	-0.0025073	-7521.9
61	SLU 83	-0.003962	-11886.1	SLU 2	-0.0024649	-7394.6
62	SLU 83	-0.004003	-12009.1	SLU 2	-0.0024944	-7483.2
64	SLU 83	-0.0041013	-12303.8	SLV FO 3	-0.0025348	-7604.5
65	SLU 84	-0.0041347	-12404.1	SLV FO 3	-0.0024884	-7465.1
66	SLU 83	-0.0040651	-12195.3	SLU 2	-0.0025363	-7609
67	SLU 83	-0.0040315	-12094.4	SLU 2	-0.0025129	-7538.8
68	SLU 83	-0.004008	-12024.1	SLU 2	-0.0024957	-7487.1
69	SLU 83	-0.0039945	-11983.5	SLU 2	-0.0024843	-7452.8
70	SLU 83	-0.00394	-11820.1	SLV FO 10	-0.0023883	-7164.8
71	SLU 83	-0.0039801	-11940.3	SLV FO 6	-0.0024678	-7403.5
77	SLU 83	-0.0040735	-12220.6	SLV FO 1	-0.0024932	-7479.7
78	SLU 83	-0.0039247	-11774	SLV FO 10	-0.0022772	-6831.6
79	SLU 83	-0.0039621	-11886.4	SLV FO 6	-0.0023584	-7075.2
80	SLU 83	-0.0039724	-11917.1	SLV FO 6	-0.0023931	-7179.4
81	SLU 83	-0.0039832	-11949.5	SLV FO 6	-0.0024288	-7286.5
82	SLU 83	-0.0040048	-12014.5	SLV FO 5	-0.002471	-7413
83	SLU 83	-0.0040377	-12113.2	SLV FO 1	-0.002495	-7485
84	SLU 83	-0.0041064	-12319.2	SLV FO 1	-0.0024676	-7402.8
151	SLV FO 5	-0.0074821	-22446.2	SLV FO 12	0.0009039	2711.8
152	SLV FO 5	-0.0074007	-22202.2	SLV FO 12	0.0008723	2617
153	SLV FO 5	-0.0073423	-22026.8	SLV FO 12	0.0008393	2517.9
154	SLV FO 5	-0.0073104	-21931.2	SLV FO 12	0.0008088	2426.5
155	SLV FO 5	-0.0073058	-21917.4	SLV FO 12	0.000783	2349
156	SLV FO 5	-0.007328	-21983.9	SLV FO 12	0.0007631	2289.3
157	SLV FO 5	-0.0073747	-22124.2	SLV FO 12	0.0007507	2252.1
158	SLV FO 5	-0.00744	-22320.1	SLV FO 12	0.0007469	2240.6
159	SLV FO 5	-0.0075116	-22534.9	SLV FO 12	0.0007489	2246.8
160	SLV FO 9	-0.0075274	-22582.1	SLV FO 8	0.0007477	2243.2
161	SLV FO 10	-0.0070249	-21074.8	SLV FO 7	0.0006889	2066.8
162	SLV FO 10	-0.0070806	-21241.8	SLV FO 7	0.000698	2094
163	SLV FO 10	-0.0071068	-21320.4	SLV FO 7	0.0007073	2121.8
164	SLV FO 10	-0.0071195	-21358.4	SLV FO 7	0.0007188	2156.5
165	SLV FO 10	-0.0071326	-21397.7	SLV FO 7	0.0007339	2201.8
166	SLV FO 10	-0.0071564	-21469.2	SLV FO 7	0.0007533	2260
167	SLV FO 10	-0.0071975	-21592.6	SLV FO 7	0.0007775	2332.4
168	SLV FO 10	-0.0072593	-21778	SLV FO 7	0.0008062	2418.6
169	SLV FO 10	-0.0073425	-22027.4	SLV FO 7	0.0008381	2514.3
170	SLV FO 10	-0.0074435	-22330.6	SLV FO 7	0.0008698	2609.4
187	SLV FO 10	-0.0068462	-20538.5	SLV FO 7	0.0006197	1859.1
199	SLV FO 5	-0.0070379	-21113.7	SLV FO 12	0.0006571	1971.4
200	SLV FO 5	-0.0069476	-20842.9	SLV FO 12	0.0006283	1884.9
201	SLV FO 5	-0.0068717	-20615.2	SLV FO 12	0.0005999	1799.6
202	SLV FO 5	-0.0068213	-20464	SLV FO 12	0.0005739	1721.8
203	SLV FO 5	-0.006804	-20412	SLV FO 12	0.0005516	1654.8
204	SLV FO 5	-0.0068237	-20471	SLV FO 12	0.0005338	1601.4
205	SLV FO 5	-0.0068801	-20640.2	SLV FO 12	0.0005222	1566.7
206	SLV FO 5	-0.0069653	-20895.8	SLV FO 12	0.0005178	1553.3
207	SLV FO 9	-0.0070538	-21161.5	SLV FO 8	0.0005172	1551.7
208	SLV FO 9	-0.0071038	-21311.4	SLV FO 8	0.0005153	1546
211	SLV FO 10	-0.0064765	-19429.4	SLV FO 7	0.0003884	1165.2
212	SLV FO 10	-0.0065218	-19565.3	SLV FO 7	0.0003983	1195
213	SLV FO 10	-0.0065366	-19609.9	SLV FO 7	0.0004088	1226.5
214	SLV FO 10	-0.0065418	-19625.5	SLV FO 7	0.0004211	1263.4
215	SLV FO 10	-0.0065545	-19663.4	SLV FO 7	0.000436	1307.9
216	SLV FO 10	-0.0065865	-19759.5	SLV FO 7	0.000454	1361.9
217	SLV FO 10	-0.0066436	-19930.8	SLV FO 7	0.0004756	1426.9
218	SLV FO 10	-0.0067251	-20175.4	SLV FO 7	0.0005009	1502.8
219	SLV FO 10	-0.0068251	-20475.2	SLV FO 7	0.000529	1586.9
220	SLV FO 10	-0.006934	-20802.1	SLV FO 7	0.0005581	1674.2
221	SLV FO 9	-0.0067342	-20202.7	SLV FO 8	0.0004073	1221.9
222	SLV FO 9	-0.0065855	-19756.6	SLV FO 8	0.0003922	1176.7
223	SLV FO 9	-0.0064299	-19289.8	SLV FO 8	0.0003751	1125.3
224	SLV FO 9	-0.0063032	-18909.7	SLV FO 8	0.0003584	1075.2
225	SLV FO 9	-0.0062273	-18681.8	SLV FO 8	0.0003441	1032.4
226	SLV FO 10	-0.0062138	-18641.4	SLV FO 7	0.0003375	1012.6
227	SLV FO 10	-0.0062544	-18763.1	SLV FO 7	0.0003365	1009.6
228	SLV FO 10	-0.0063285	-18985.4	SLV FO 7	0.0003401	1020.2
229	SLV FO 10	-0.0064036	-19210.8	SLV FO 7	0.0003478	1043.5
230	SLV FO 10	-0.0063366	-19009.8	SLV FO 7	0.0003344	1003.3
233	SLV FO 5	-0.0066023	-19806.8	SLV FO 12	0.0004111	1233.2
234	SLV FO 5	-0.0064984	-19495.1	SLV FO 12	0.0003859	1157.8
235	SLV FO 5	-0.0064039	-19211.8	SLV FO 12	0.0003621	1086.3
236	SLV FO 5	-0.0063336	-19000.9	SLV FO 12	0.0003408	1022.3
237	SLV FO 5	-0.0063015	-18904.6	SLV FO 12	0.0003224	967.1
238	SLV FO 5	-0.0063171	-18951.2	SLV FO 12	0.0003074	922.3
239	SLV FO 5	-0.0063832	-19149.6	SLV FO 12	0.0002974	892.3
240	SLV FO 5	-0.0064924	-19477.1	SLV FO 12	0.0002927	878.1
241	SLV FO 9	-0.0066226	-19867.7	SLV FO 8	0.0002905	871.4
242	SLV FO 9	-0.0067562	-20268.6	SLV FO 8	0.0002888	866.3

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
246	SLV FO 10	-0.0059786	-17935.8	SLV FO 7	0.0001023	306.9
247	SLV FO 10	-0.0059767	-17930.2	SLV FO 7	0.000114	342
248	SLV FO 10	-0.0059709	-17912.7	SLV FO 7	0.0001269	380.6
249	SLV FO 10	-0.0059814	-17944.2	SLV FO 7	0.0001412	423.6
250	SLV FO 10	-0.0060216	-18064.8	SLV FO 7	0.0001576	472.9
251	SLV FO 10	-0.0060956	-18286.8	SLV FO 7	0.0001768	530.3
252	SLV FO 10	-0.0061976	-18592.7	SLV FO 7	0.0001989	596.8
253	SLV FO 10	-0.0063139	-18941.6	SLV FO 7	0.0002235	670.6
254	SLV FO 10	-0.0064337	-19301	SLV FO 7	0.0002496	748.9
255	SLV FO 10	-0.0058625	-17587.5	SLV FO 7	0.0000541	162.2
256	SLV FO 10	-0.0059026	-17707.7	SLV FO 7	0.0000627	188.1
258	SLV FO 5	-0.0061696	-18508.8	SLV FO 12	0.0001708	512.4
259	SLV FO 5	-0.006052	-18156.1	SLV FO 12	0.0001487	446.2
260	SLV FO 5	-0.0059396	-17818.9	SLV FO 12	0.0001289	386.7
261	SLV FO 5	-0.0058484	-17545.1	SLV FO 12	0.0001119	335.7
262	SLV FO 5	-0.0057998	-17399.5	SLV FO 12	0.0000978	293.4
263	SLV FO 5	-0.0058093	-17427.8	SLV FO 12	0.0000866	259.9
264	SLV FO 5	-0.0058836	-17650.9	SLV FO 12	0.0000795	238.4
265	SLV FO 5	-0.0060191	-18057.3	SLV FO 12	0.0000752	225.7
266	SLV FO 9	-0.0062001	-18600.4	SLV FO 8	0.0000715	214.4
268	SLV FO 9	-0.0063721	-19116.4	SLV FO 8	0.0000462	138.6
269	SLV FO 10	-0.0054557	-16367.2	SLV FO 7	-0.0001865	-559.6
270	SLV FO 10	-0.0054325	-16297.5	SLV FO 7	-0.0001742	-522.5
271	SLV FO 10	-0.0054115	-16234.4	SLV FO 7	-0.0001613	-483.9
272	SLV FO 10	-0.0054174	-16252.2	SLV FO 7	-0.0001476	-442.8
273	SLV FO 10	-0.0054641	-16392.4	SLV FO 7	-0.0001325	-397.4
274	SLV FO 10	-0.0055547	-16664.2	SLV FO 7	-0.0001152	-345.7
275	SLV FO 10	-0.005678	-17034	SLV FO 7	-0.000095	-285
276	SLV FO 10	-0.0058043	-17412.8	SLV FO 7	-0.0000724	-217.1
277	SLV FO 10	-0.0059288	-17786.3	SLV FO 7	-0.0000471	-141.2
278	SLV FO 10	-0.0054053	-16216	SLV FO 7	-0.0002179	-653.8
279	SLV FO 10	-0.0054275	-16282.4	SLV FO 7	-0.0002111	-633.4
282	SLV FO 5	-0.005726	-17178	SLV FO 12	-0.0000579	-173.7
283	SLV FO 5	-0.0056014	-16804.3	SLV FO 12	-0.0000794	-238.2
284	SLV FO 5	-0.0054771	-16431.3	SLV FO 12	-0.0000969	-290.8
285	SLV FO 5	-0.0053636	-16090.7	SLV FO 12	-0.0001106	-331.8
286	SLV FO 5	-0.0052976	-15892.8	SLV FO 12	-0.0001207	-362
287	SLV FO 5	-0.0052991	-15897.4	SLV FO 12	-0.0001272	-381.7
288	SLV FO 5	-0.0053775	-16132.6	SLV FO 12	-0.0001296	-388.9
289	SLV FO 9	-0.0055321	-16596.2	SLV FO 8	-0.0001314	-394.3
290	SLV FO 9	-0.0057539	-17261.7	SLV FO 8	-0.0001365	-409.6
292	SLV FO 9	-0.0060101	-18030.2	SLV FO 8	-0.0001529	-458.8
294	SLV FO 5	-0.0072395	-21718.5	SLV FO 12	0.0007801	2340.2
310	SLV FO 5	-0.0054287	-16286.1	SLV FO 12	0.000016	48.1
312	SLV FO 5	-0.0054544	-16363.2	SLV FO 12	-0.0000758	-227.4
316	SLV FO 5	-0.0052481	-15744.3	SLV FO 12	-0.0002693	-808
318	SLV FO 5	-0.0051319	-15395.8	SLV FO 12	-0.0002938	-881.3
319	SLV FO 5	-0.0050178	-15053.5	SLV FO 12	-0.0003112	-933.6
320	SLV FO 5	-0.0048771	-14631.4	SLV FO 12	-0.0003257	-977.2
321	SLV FO 5	-0.0047939	-14381.8	SLV FO 12	-0.0003333	-999.8
322	SLV FO 5	-0.0047862	-14358.6	SLV FO 12	-0.0003347	-1004.2
323	SLV FO 5	-0.0048629	-14588.7	SLV FO 12	-0.0003305	-991.6
324	SLV FO 9	-0.00502	-15060	SLV FO 8	-0.0003261	-978.2
325	SLV FO 9	-0.0052478	-15743.4	SLV FO 8	-0.0003284	-985.3
326	SLV FO 9	-0.0053197	-15959.1	SLV FO 8	-0.000328	-984.1
327	SLV FO 9	-0.0055815	-16744.4	SLV FO 8	-0.000335	-1005.1
328	SLV FO 10	-0.0049469	-14840.8	SLV FO 7	-0.0004788	-1436.4
329	SLV FO 10	-0.0049524	-14857.3	SLV FO 7	-0.0004767	-1430.2
331	SLV FO 10	-0.0049447	-14834.2	SLV FO 7	-0.0004658	-1397.5
332	SLV FO 10	-0.0051631	-15489.2	SLV FO 7	-0.0003739	-1121.6
333	SLV FO 10	-0.0052756	-15826.9	SLV FO 7	-0.0003515	-1054.6
335	SLV FO 10	-0.0053884	-16165.2	SLV FO 7	-0.000323	-969.1
339	SLV FO 10	-0.005603	-16809.1	SLV FO 7	-0.0001131	-339.3
341	SLV FO 10	-0.0055838	-16751.5	SLV FO 7	-0.0000116	-34.7
356	SLV FO 10	-0.0067076	-20122.9	SLV FO 7	0.0005774	1732.2
360	SLV FO 10	-0.0048969	-14690.8	SLV FO 7	-0.0004551	-1365.3
361	SLV FO 10	-0.0048603	-14580.8	SLV FO 7	-0.000443	-1329
362	SLV FO 10	-0.0048601	-14580.3	SLV FO 7	-0.0004299	-1289.7
363	SLV FO 10	-0.0049107	-14732.2	SLV FO 7	-0.0004151	-1245.4
364	SLV FO 10	-0.0050147	-15044	SLV FO 7	-0.0003972	-1191.6
367	SLV FO 5	-0.0069891	-20967.2	SLV FO 12	0.0005519	1655.7
368	SLV FO 5	-0.0063145	-18943.6	SLV FO 12	0.0004683	1404.8
369	SLV FO 5	-0.0057041	-17112.2	SLV FO 12	0.0003887	1166
370	SLV FO 5	-0.0051793	-15538	SLV FO 12	0.0003154	946.2
371	SLV FO 5	-0.0047495	-14248.6	SLV FO 12	0.0002497	749.1
372	SLV FO 5	-0.0044162	-13248.7	SLV FO 12	0.0001919	575.7
373	SLV FO 5	-0.0041765	-12529.5	SLV FO 12	0.0001418	425.4
374	SLV FO 5	-0.0040253	-12075.9	SLV FO 12	0.0000987	296.1
375	SLV FO 5	-0.0039567	-11870.2	SLV FO 12	0.0000616	184.8
376	SLV FO 5	-0.0039644	-11893.1	SLV FO 12	0.0000291	87.3
377	SLV FO 5	-0.0040409	-12122.6	SLV FO 12	-0.0000006	-1.7
378	SLV FO 5	-0.0041769	-12530.8	SLV FO 12	-0.0000294	-88.2
379	SLV FO 5	-0.0043593	-13077.9	SLV FO 12	-0.0000598	-179.4
380	SLV FO 5	-0.0045685	-13705.4	SLV FO 12	-0.0000946	-283.8
381	SLV FO 5	-0.0047755	-14326.6	SLV FO 12	-0.0001368	-410.3
382	SLV FO 5	-0.0049386	-14815.7	SLV FO 12	-0.0001895	-568.4

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
383	SLV FO 5	-0.0050032	-15009.5	SLV FO 12	-0.0002554	-766.1
384	SLV FO 5	-0.0049935	-14980.5	SLV FO 12	-0.0003219	-965.7
385	SLV FO 5	-0.0049162	-14748.5	SLV FO 12	-0.000392	-1176.1
386	SLV FO 5	-0.0047983	-14394.8	SLV FO 12	-0.0004566	-1369.9
387	SLV FO 5	-0.0046576	-13972.9	SLV FO 12	-0.0005063	-1518.8
388	SLV FO 5	-0.0045457	-13637	SLV FO 12	-0.000538	-1614
389	SLV FO 5	-0.0044322	-13296.5	SLV FO 12	-0.0005588	-1676.4
390	SLV FO 5	-0.0042887	-12866	SLV FO 12	-0.0005745	-1723.4
391	SLV FO 5	-0.0041998	-12599.5	SLV FO 12	-0.0005783	-1735
392	SLV FO 5	-0.0041906	-12571.9	SLV FO 12	-0.0005723	-1716.9
393	SLV FO 9	-0.0042698	-12809.5	SLV FO 8	-0.0005595	-1678.4
394	SLV FO 9	-0.0044299	-13289.8	SLV FO 8	-0.0005466	-1639.7
395	SLV FO 9	-0.0046546	-13963.9	SLV FO 8	-0.0005389	-1616.7
396	SLV FO 9	-0.0049911	-14973.3	SLV FO 8	-0.0005453	-1636
397	SLV FO 10	-0.0044998	-13499.5	SLV FO 7	-0.0007299	-2189.6
398	SLV FO 10	-0.004469	-13406.9	SLV FO 7	-0.0007244	-2173.3
399	SLV FO 10	-0.0044041	-13212.2	SLV FO 7	-0.0007152	-2145.6
400	SLV FO 10	-0.0043512	-13053.5	SLV FO 7	-0.0007041	-2112.3
401	SLV FO 10	-0.0043406	-13021.7	SLV FO 7	-0.0006917	-2075.2
402	SLV FO 10	-0.0043868	-13160.3	SLV FO 7	-0.0006773	-2031.8
403	SLV FO 10	-0.0044901	-13470.2	SLV FO 7	-0.0006587	-1976
404	SLV FO 10	-0.0046354	-13906.2	SLV FO 7	-0.0006321	-1896.4
405	SLV FO 10	-0.0047462	-14238.5	SLV FO 7	-0.0006064	-1819.1
406	SLV FO 10	-0.0048546	-14563.7	SLV FO 7	-0.0005717	-1715
407	SLV FO 10	-0.0049416	-14824.9	SLV FO 7	-0.0005359	-1607.7
408	SLV FO 10	-0.0050745	-15223.4	SLV FO 7	-0.0004544	-1363.3
409	SLV FO 10	-0.0051495	-15448.6	SLV FO 7	-0.000366	-1097.9
410	SLV FO 10	-0.0051528	-15458.5	SLV FO 7	-0.0003327	-998.1
411	SLV FO 10	-0.0051336	-15400.9	SLV FO 7	-0.0002312	-693.6
412	SLV FO 10	-0.0051163	-15348.8	SLV FO 7	-0.0002028	-608.5
413	SLV FO 10	-0.0049776	-14932.9	SLV FO 7	-0.0001418	-425.4
414	SLV FO 10	-0.0047637	-14291	SLV FO 7	-0.0000983	-295
415	SLV FO 10	-0.0045305	-13591.6	SLV FO 7	-0.000067	-201
416	SLV FO 10	-0.0043167	-12950.1	SLV FO 7	-0.0000431	-129.3
417	SLV FO 10	-0.0041476	-12442.9	SLV FO 7	-0.0000226	-67.8
418	SLV FO 10	-0.0040402	-12120.6	SLV FO 7	-0.0000024	-7.1
419	SLV FO 10	-0.0040059	-12017.8	SLV FO 7	0.0000201	60.4
420	SLV FO 10	-0.0040536	-12160.8	SLV FO 7	0.0000467	140.1
421	SLV FO 10	-0.0041911	-12573.2	SLV FO 7	0.0000786	235.8
422	SLV FO 10	-0.0044257	-13277.1	SLV FO 7	0.0001166	349.7
423	SLV FO 10	-0.0047643	-14293	SLV FO 7	0.0001608	482.5
424	SLV FO 10	-0.0052116	-15634.8	SLV FO 7	0.0002111	633.3
425	SLV FO 10	-0.0057671	-17301.3	SLV FO 7	0.0002663	798.8
426	SLV FO 10	-0.0064213	-19263.9	SLV FO 7	0.0003244	973.2
427	SLV FO 10	-0.0067309	-20192.7	SLV FO 7	0.0003499	1049.6
429	SLV FO 5	-0.0064703	-19410.9	SLV FO 12	0.0004567	1370
430	SLV FO 5	-0.0049533	-14860	SLV FO 12	-0.0002417	-725
432	SLV FO 5	-0.0049759	-14927.8	SLV FO 12	-0.0003337	-1001
433	SLV FO 10	-0.0051096	-15328.8	SLV FO 7	-0.0003643	-1092.8
435	SLV FO 10	-0.0050956	-15286.8	SLV FO 7	-0.0002619	-785.8
436	SLV FO 10	-0.0060218	-18065.4	SLV FO 7	0.0002577	773
438	SLV FO 10	-0.0044442	-13332.7	SLV FO 7	-0.000768	-2304.1
444	SLV FO 5	-0.0058249	-17474.7	SLV FO 12	0.0001391	417.3
445	SLV FO 5	-0.0045619	-13685.6	SLV FO 12	-0.0004963	-1488.9
447	SLV FO 5	-0.0045763	-13729	SLV FO 12	-0.0005888	-1766.4
448	SLV FO 10	-0.0046926	-14077.7	SLV FO 7	-0.0006124	-1837.1
450	SLV FO 10	-0.0046924	-14077.2	SLV FO 7	-0.0005078	-1523.3
451	SLV FO 10	-0.0054262	-16278.7	SLV FO 7	-0.0000603	-181
453	SLV FO 10	-0.0040306	-12091.9	SLV FO 7	-0.0010436	-3130.8
458	SLV FO 5	-0.0053084	-15925.3	SLV FO 12	-0.0001758	-527.5
459	SLV FO 5	-0.0042286	-12685.9	SLV FO 12	-0.0007513	-2254
461	SLV FO 5	-0.004235	-12704.9	SLV FO 12	-0.0008444	-2533.3
462	SLV FO 10	-0.0043333	-13000	SLV FO 7	-0.0008602	-2580.6
464	SLV FO 10	-0.004347	-13041.1	SLV FO 7	-0.0007532	-2259.6
465	SLV FO 10	-0.0049348	-14804.4	SLV FO 7	-0.0003797	-1139.1
467	SLU 84	-0.0037192	-11157.6	SLV FO 7	-0.001312	-3936
470	SLU 84	-0.0029788	-8936.4	SLV FO 8	-0.0010594	-3178.3
473	SLV FO 5	-0.0049127	-14738.2	SLV FO 12	-0.0004924	-1477.2
474	SLV FO 5	-0.0039354	-11806.1	SLV FO 12	-0.0010095	-3028.6
476	SLV FO 5	-0.0039336	-11800.7	SLV FO 12	-0.0011033	-3310
477	SLV FO 10	-0.0040129	-12038.6	SLV FO 7	-0.0011103	-3331
479	SLV FO 10	-0.0040404	-12121.2	SLV FO 7	-0.0010008	-3002.4
480	SLV FO 10	-0.0045501	-13650.2	SLV FO 7	-0.0007041	-2112.2
482	SLU 84	-0.0037402	-11220.6	SLV FO 7	-0.0015772	-4731.6
487	SLV FO 5	-0.0046243	-13873	SLV FO 12	-0.0008144	-2443.3
488	SLU 84	-0.0036715	-11014.4	SLV FO 12	-0.0012728	-3818.3
490	SLU 84	-0.0037355	-11206.5	SLV FO 12	-0.0013673	-4102
491	SLU 84	-0.0037602	-11280.6	SLV FO 7	-0.0013645	-4093.4
493	SLV FO 10	-0.0037604	-11281.3	SLV FO 7	-0.0012523	-3756.8
494	SLV FO 10	-0.0042669	-12800.8	SLV FO 7	-0.0010365	-3109.5
497	SLU 84	-0.0038067	-11420	SLV FO 7	-0.0018382	-5514.5
502	SLV FO 1	-0.0045833	-13749.9	SLV FO 16	-0.0009868	-2960.3
503	SLU 84	-0.0036928	-11078.5	SLV FO 12	-0.0015415	-4624.4
505	SLU 84	-0.0037514	-11254.3	SLV FO 12	-0.0016369	-4910.8
506	SLU 84	-0.0037489	-11246.7	SLV FO 7	-0.0016238	-4871.3
508	SLU 84	-0.0037064	-11119.3	SLV FO 7	-0.0015088	-4526.5

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
509	SLV FO 14	-0.0042198	-12659.4	SLV FO 3	-0.0012327	-3698.2
511	SLU 84	-0.003891	-11672.9	SLV FO 8	-0.0020878	-6263.3
529	SLV FO 1	-0.0046733	-14019.9	SLV FO 16	-0.0011039	-3311.6
530	SLU 84	-0.0037332	-11199.5	SLV FO 12	-0.0018136	-5440.7
532	SLU 84	-0.0037864	-11359.2	SLV FO 12	-0.00191	-5730
533	SLU 84	-0.0037545	-11263.6	SLV FO 7	-0.0018891	-5667.2
535	SLU 84	-0.0037206	-11161.7	SLV FO 7	-0.0017714	-5314.1
536	SLV FO 14	-0.0043078	-12923.3	SLV FO 3	-0.0013748	-4124.3
538	SLU 83	-0.0028847	-8654	SLV FO 2	-0.0017534	-5260.2
539	SLU 84	-0.0039894	-11968.1	SLV FO 8	-0.002416	-7248.1
541	SLU 84	-0.0048361	-14508.4	SLV FO 8	-0.0026718	-8015.3
542	SLU 84	-0.0045185	-13555.4	SLV FO 8	-0.0025607	-7682
543	SLU 84	-0.004248	-12744.1	SLV FO 8	-0.002469	-7407.1
544	SLU 84	-0.0040563	-12169	SLV FO 7	-0.0024487	-7346
547	SLV FO 1	-0.0048029	-14408.6	SLV FO 16	-0.0012243	-3672.8
548	SLU 84	-0.0037886	-11365.8	SLV FO 16	-0.0020115	-6034.6
550	SLU 84	-0.0038364	-11509.2	SLV FO 16	-0.0021052	-6315.7
551	SLU 84	-0.0037767	-11330.2	SLV FO 7	-0.0021606	-6481.9
553	SLU 84	-0.0037512	-11253.7	SLV FO 7	-0.0020406	-6121.8
554	SLV FO 14	-0.004441	-13322.9	SLV FO 3	-0.0015214	-4564.3
556	SLU 84	-0.0040079	-12023.7	SLU 1	-0.0025033	-7509.9
563	SLV FO 1	-0.0049322	-14796.6	SLV FO 16	-0.0013377	-4013
564	SLU 84	-0.0038519	-11555.8	SLV FO 16	-0.0021017	-6305
566	SLU 83	-0.0038944	-11683.2	SLV FO 16	-0.0021929	-6578.7
567	SLU 83	-0.0038164	-11449.3	SLV FO 3	-0.0022968	-6890.4
569	SLU 84	-0.0037988	-11396.4	SLV FO 3	-0.0022436	-6730.9
570	SLU 84	-0.0046093	-13827.9	SLV FO 3	-0.0016599	-4979.8
572	SLU 83	-0.0040036	-12010.9	SLU 2	-0.0024934	-7480.2
579	SLV FO 2	-0.0050076	-15022.9	SLV FO 15	-0.001422	-4266.1
580	SLU 83	-0.0039123	-11736.8	SLV FO 14	-0.002137	-6411
582	SLU 83	-0.0039503	-11850.8	SLV FO 14	-0.0021909	-6572.7
583	SLU 83	-0.0038763	-11628.8	SLV FO 2	-0.0022784	-6835.1
585	SLU 83	-0.0038657	-11597.1	SLV FO 1	-0.0023022	-6906.6
586	SLU 84	-0.0047673	-14301.8	SLV FO 3	-0.0017701	-5310.2
588	SLU 83	-0.0039754	-11926.3	SLV FO 6	-0.002447	-7341.1
594	SLV FO 2	-0.0051374	-15412.2	SLV FO 15	-0.0013981	-4194.2
595	SLV FO 2	-0.0050047	-15014	SLV FO 15	-0.0014425	-4327.5
596	SLV FO 2	-0.0049438	-14831.5	SLV FO 15	-0.0014728	-4418.3
597	SLV FO 2	-0.0047918	-14375.5	SLV FO 15	-0.0015583	-4674.8
598	SLU 84	-0.0046766	-14029.9	SLV FO 15	-0.0016472	-4941.7
599	SLU 84	-0.0046526	-13957.9	SLV FO 16	-0.0017347	-5204
600	SLU 84	-0.0046265	-13879.5	SLV FO 16	-0.0018181	-5454.2
601	SLU 84	-0.0045946	-13783.9	SLV FO 16	-0.0018976	-5692.8
602	SLU 84	-0.0045543	-13663	SLV FO 16	-0.0019718	-5915.5
603	SLU 84	-0.0045027	-13508.1	SLV FO 16	-0.0020387	-6116
604	SLU 84	-0.0044362	-13308.5	SLV FO 16	-0.002095	-6285.1
605	SLU 84	-0.0043511	-13053.3	SLV FO 16	-0.0021368	-6410.4
606	SLU 84	-0.004246	-12738.1	SLV FO 16	-0.0021603	-6480.8
607	SLU 84	-0.0041275	-12382.6	SLV FO 16	-0.0021661	-6498.3
608	SLU 84	-0.0040601	-12180.2	SLV FO 16	-0.0021635	-6490.5
609	SLU 83	-0.0039979	-11993.7	SLV FO 16	-0.0021617	-6485.2
610	SLU 83	-0.0039386	-11815.9	SLV FO 14	-0.0021311	-6393.3
611	SLU 83	-0.0039505	-11851.5	SLV FO 14	-0.0021519	-6455.6
612	SLU 83	-0.0039865	-11959.5	SLV FO 13	-0.0022049	-6614.8
613	SLU 83	-0.0040317	-12095	SLV FO 13	-0.0022873	-6862
614	SLU 83	-0.00407	-12209.9	SLV FO 14	-0.0023821	-7146.3
615	SLU 83	-0.0040913	-12273.9	SLV FO 10	-0.0024598	-7379.4
616	SLU 83	-0.0040886	-12265.7	SLV FO 10	-0.0024982	-7494.7
617	SLU 83	-0.0040577	-12173.2	SLU 2	-0.0024959	-7487.7
618	SLU 83	-0.0040006	-12001.7	SLU 2	-0.002461	-7383.1
619	SLU 83	-0.0039356	-11806.7	SLV FO 6	-0.0024147	-7244
620	SLU 83	-0.0038742	-11622.7	SLV FO 6	-0.0023227	-6968.2
621	SLU 83	-0.0036685	-11005.5	SLV FO 6	-0.0019965	-5989.5
622	SLU 83	-0.0041565	-12469.5	SLV FO 1	-0.00256	-7680.1
623	SLU 83	-0.004172	-12516	SLV FO 1	-0.0025074	-7522.3
624	SLU 83	-0.0041803	-12540.8	SLV FO 1	-0.0024522	-7356.7
625	SLU 83	-0.0041771	-12531.3	SLV FO 1	-0.0023956	-7186.9
626	SLU 83	-0.0041601	-12480.4	SLV FO 1	-0.0023415	-7024.5
627	SLU 83	-0.0041296	-12388.9	SLV FO 2	-0.0022966	-6889.9
628	SLU 83	-0.0040908	-12272.5	SLV FO 2	-0.0022698	-6809.3
629	SLU 83	-0.0040493	-12147.8	SLV FO 2	-0.0023144	-6943.3
630	SLU 83	-0.0038949	-11684.7	SLV FO 2	-0.0022872	-6861.5
631	SLU 83	-0.0040095	-12028.5	SLV FO 3	-0.0023875	-7162.4
632	SLU 84	-0.0041222	-12366.5	SLV FO 3	-0.0024176	-7252.7
633	SLU 84	-0.004237	-12710.9	SLV FO 3	-0.0024294	-7288.1
634	SLU 84	-0.0043412	-13023.5	SLV FO 3	-0.0024178	-7253.3
635	SLU 84	-0.004429	-13286.9	SLV FO 3	-0.0023854	-7156.3
636	SLU 84	-0.0045002	-13500.7	SLV FO 3	-0.0023368	-7010.3
637	SLU 84	-0.0045568	-13670.5	SLV FO 3	-0.0022758	-6827.5
638	SLU 84	-0.0046011	-13803.3	SLV FO 3	-0.0022057	-6617.1
639	SLU 84	-0.0046357	-13907	SLV FO 3	-0.0021286	-6385.7
640	SLU 84	-0.0046644	-13993.2	SLV FO 3	-0.0020466	-6139.9
641	SLU 84	-0.0046941	-14082.4	SLV FO 3	-0.0019629	-5888.6
642	SLU 84	-0.0047382	-14214.5	SLV FO 3	-0.0018826	-5647.8
643	SLU 84	-0.0048208	-14462.3	SLV FO 3	-0.0018154	-5446.1
644	SLU 84	-0.0049776	-14932.8	SLV FO 4	-0.0017759	-5327.7

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
650	SLV FO 2	-0.0049807	-14942	SLV FO 15	-0.0014698	-4409.5
662	SLU 84	-0.0041128	-12338.5	SLV FO 16	-0.0021861	-6558.4
665	SLU 83	-0.0039483	-11844.9	SLV FO 14	-0.002103	-6309
667	SLU 83	-0.0039843	-11953	SLV FO 13	-0.0021525	-6457.5
676	SLU 83	-0.0039111	-11733.3	SLV FO 6	-0.00238	-7139.9
678	SLU 83	-0.0038259	-11477.8	SLV FO 6	-0.0022786	-6835.7
680	SLU 83	-0.0037357	-11207	SLV FO 6	-0.0021022	-6306.5
687	SLU 83	-0.0039141	-11742.4	SLV FO 6	-0.0022763	-6829
693	SLU 83	-0.0039514	-11854.1	SLU 2	-0.0024583	-7374.8
695	SLU 83	-0.0039975	-11992.4	SLV FO 1	-0.0024446	-7333.9
703	SLU 83	-0.0039536	-11860.8	SLV FO 6	-0.0021112	-6333.7
706	SLU 83	-0.0039461	-11838.4	SLV FO 6	-0.0022279	-6683.7
708	SLU 83	-0.0040584	-12175.2	SLV FO 3	-0.0024095	-7228.4
721	SLU 83	-0.0048082	-14424.6	SLV FO 4	-0.0018072	-5421.5
723	SLV FO 2	-0.0050913	-15274	SLV FO 15	-0.0014508	-4352.4
724	SLV FO 2	-0.0048967	-14690.1	SLV FO 15	-0.0015252	-4575.5
725	SLV FO 2	-0.0047424	-14227.2	SLV FO 15	-0.0016091	-4827.3
726	SLU 83	-0.0046738	-14021.3	SLV FO 15	-0.0016965	-5089.6
727	SLU 83	-0.0046468	-13940.4	SLV FO 15	-0.0017834	-5350.2
728	SLU 83	-0.0046177	-13853.1	SLV FO 15	-0.0018675	-5602.6
729	SLU 84	-0.0045829	-13748.8	SLV FO 15	-0.0019477	-5843.1
730	SLU 84	-0.0045398	-13619.3	SLV FO 16	-0.0020206	-6061.7
731	SLU 84	-0.0044852	-13455.7	SLV FO 16	-0.0020857	-6257
732	SLU 84	-0.0044158	-13247.3	SLV FO 16	-0.0021402	-6420.7
733	SLU 84	-0.0043277	-12983.2	SLV FO 16	-0.0021801	-6540.4
734	SLU 83	-0.0042198	-12659.3	SLV FO 16	-0.0022011	-6603.4
735	SLU 83	-0.0040988	-12296.4	SLV FO 14	-0.0021943	-6583
736	SLU 83	-0.0040159	-12047.6	SLV FO 14	-0.0021307	-6392
737	SLU 83	-0.0039679	-11903.7	SLV FO 13	-0.0020842	-6252.5
738	SLU 83	-0.0039821	-11946.4	SLV FO 13	-0.0021028	-6308.4
739	SLU 83	-0.0040136	-12040.9	SLV FO 13	-0.0021538	-6461.5
740	SLU 83	-0.0040502	-12150.7	SLV FO 13	-0.0022341	-6702.4
741	SLU 83	-0.00408	-12240	SLV FO 9	-0.0022961	-6888.3
742	SLU 83	-0.0040927	-12278.2	SLV FO 9	-0.0023534	-7060.2
743	SLU 83	-0.0040814	-12244.3	SLV FO 10	-0.002401	-7202.9
744	SLU 83	-0.004042	-12126	SLV FO 10	-0.0024299	-7289.7
745	SLU 83	-0.0039762	-11928.7	SLV FO 10	-0.0024288	-7286.3
746	SLU 83	-0.0038892	-11667.5	SLV FO 6	-0.0023669	-7100.8
747	SLU 83	-0.003804	-11412	SLV FO 6	-0.0022658	-6797.4
748	SLU 83	-0.0038455	-11536.4	SLV FO 6	-0.002155	-6465
749	SLU 83	-0.0038693	-11607.9	SLV FO 6	-0.0021183	-6354.9
750	SLU 83	-0.003871	-11613.1	SLV FO 6	-0.0020724	-6217.2
751	SLU 83	-0.0038106	-11431.7	SLV FO 6	-0.0019918	-5975.5
752	SLU 83	-0.0038029	-11408.6	SLV FO 6	-0.0020051	-6015.3
753	SLU 83	-0.0038791	-11637.2	SLV FO 6	-0.0022329	-6698.8
754	SLU 83	-0.0038771	-11631.2	SLV FO 5	-0.0023095	-6928.4
755	SLU 83	-0.0038394	-11518.1	SLV FO 5	-0.0023637	-7091
756	SLU 83	-0.0037877	-11363.1	SLU 2	-0.0023542	-7062.5
757	SLU 83	-0.0038367	-11510.2	SLV FO 1	-0.0023337	-7001.1
758	SLU 83	-0.0038515	-11554.5	SLV FO 1	-0.0022871	-6861.3
759	SLU 83	-0.0038611	-11583.3	SLV FO 1	-0.0022333	-6699.8
760	SLU 83	-0.003859	-11576.9	SLV FO 1	-0.0021778	-6533.4
761	SLU 83	-0.0038427	-11528	SLV FO 1	-0.0021245	-6373.4
762	SLU 83	-0.0038126	-11437.7	SLV FO 1	-0.0020804	-6241.1
763	SLU 83	-0.0037738	-11321.5	SLV FO 1	-0.0020547	-6164
764	SLU 83	-0.0037256	-11176.7	SLV FO 1	-0.0021034	-6310.1
765	SLU 83	-0.003925	-11775.1	SLV FO 1	-0.0022965	-6889.5
766	SLU 83	-0.004059	-12177.1	SLV FO 1	-0.0023797	-7139
767	SLU 83	-0.0041171	-12351.4	SLV FO 1	-0.0024086	-7225.7
768	SLU 83	-0.0042318	-12695.5	SLV FO 1	-0.0024361	-7308.3
769	SLU 83	-0.0043362	-13008.5	SLV FO 1	-0.0024307	-7292.2
770	SLU 83	-0.0044242	-13272.7	SLV FO 1	-0.0023994	-7198.2
771	SLU 83	-0.0044959	-13487.6	SLV FO 1	-0.0023487	-7046.1
772	SLU 83	-0.0045528	-13658.4	SLV FO 1	-0.0022838	-6851.5
773	SLU 83	-0.0045974	-13792.3	SLV FO 1	-0.0022088	-6626.5
774	SLU 83	-0.0046324	-13897.2	SLV FO 2	-0.0021263	-6378.8
775	SLU 83	-0.0046615	-13984.4	SLV FO 2	-0.0020376	-6112.9
776	SLU 83	-0.0046915	-14074.6	SLV FO 2	-0.0019474	-5842.1
777	SLU 83	-0.0047359	-14207.8	SLV FO 2	-0.0018608	-5582.5
778	SLU 83	-0.0048188	-14456.4	SLV FO 2	-0.0017874	-5362.2
779	SLV FO 15	-0.0049994	-14998.2	SLV FO 2	-0.0017414	-5224.2
780	SLU 83	-0.0047612	-14283.5	SLV FO 2	-0.0017319	-5195.7
783	SLV FO 4	-0.0048987	-14696.1	SLV FO 13	-0.0014921	-4476.4
784	SLV FO 15	-0.0046189	-13856.7	SLV FO 2	-0.0016014	-4804.2
786	SLU 83	-0.0040392	-12117.7	SLV FO 14	-0.0020969	-6290.8
788	SLU 83	-0.0040269	-12080.7	SLV FO 13	-0.0020645	-6193.5
789	SLU 83	-0.0037066	-11119.9	SLV FO 10	-0.0022852	-6855.5
791	SLU 83	-0.0035812	-10743.5	SLV FO 6	-0.0021857	-6557.2
792	SLU 83	-0.0033016	-9904.8	SLV FO 1	-0.0020146	-6043.7
794	SLU 83	-0.003368	-10104	SLV FO 1	-0.0019965	-5989.4
795	SLU 83	-0.0039613	-11883.9	SLV FO 6	-0.0022069	-6620.8
797	SLU 83	-0.0040122	-12036.5	SLV FO 2	-0.0022512	-6753.7
799	SLV FO 4	-0.0046652	-13995.7	SLV FO 13	-0.0012844	-3853.1
800	SLV FO 15	-0.0044805	-13441.5	SLV FO 2	-0.0014456	-4336.9
802	SLU 83	-0.0039945	-11983.6	SLV FO 6	-0.0020384	-6115.3
804	SLU 83	-0.0040324	-12097.3	SLV FO 6	-0.0021249	-6374.6

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
805	SLU 83	-0.0040276	-12082.9	SLV FO 13	-0.0020342	-6102.6
807	SLU 83	-0.0040204	-12061.1	SLV FO 9	-0.0019991	-5997.4
808	SLU 83	-0.0035882	-10764.5	SLV FO 10	-0.0021591	-6477.3
810	SLU 83	-0.0030646	-9193.7	SLV FO 1	-0.0018216	-5464.9
812	SLU 83	-0.003133	-9399.1	SLV FO 1	-0.0018051	-5415.3
814	SLV FO 4	-0.0045604	-13681.3	SLV FO 13	-0.0011622	-3486.6
815	SLV FO 15	-0.0043559	-13067.6	SLV FO 2	-0.0012844	-3853.2
817	SLU 83	-0.0040372	-12111.7	SLV FO 6	-0.0018308	-5492.4
819	SLU 83	-0.0040622	-12186.6	SLV FO 6	-0.0019102	-5730.7
820	SLU 83	-0.0040159	-12047.7	SLV FO 9	-0.0018717	-5615
822	SLU 83	-0.0040137	-12041.1	SLV FO 9	-0.0017716	-5314.7
823	SLU 83	-0.0035225	-10567.5	SLV FO 10	-0.0020027	-6008.2
825	SLU 83	-0.0028959	-8687.7	SLV FO 5	-0.0016477	-4943.1
827	SLU 83	-0.0029666	-8899.7	SLV FO 1	-0.0016443	-4932.8
828	SLU 83	-0.0033612	-10083.6	SLV FO 10	-0.0018555	-5566.5
829	SLU 83	-0.0026856	-8056.7	SLV FO 10	-0.0014864	-4459.1
830	SLU 83	-0.0025782	-7734.7	SLV FO 10	-0.0014232	-4269.7
831	SLU 83	-0.0025142	-7542.5	SLV FO 10	-0.0013923	-4176.9
832	SLU 83	-0.0024888	-7466.5	SLV FO 10	-0.0013888	-4166.5
833	SLU 83	-0.0024959	-7487.7	SLV FO 9	-0.0014061	-4218.3
834	SLU 83	-0.0025294	-7588.2	SLV FO 9	-0.0014385	-4315.4
835	SLU 83	-0.002584	-7752	SLV FO 5	-0.0014727	-4418.2
836	SLU 83	-0.002654	-7962.1	SLV FO 5	-0.0014933	-4479.9
837	SLU 83	-0.0027326	-8197.9	SLV FO 5	-0.0015177	-4553.2
838	SLU 83	-0.0028105	-8431.6	SLV FO 5	-0.0015449	-4634.6
839	SLU 83	-0.0028762	-8628.7	SLV FO 5	-0.0015696	-4708.7
841	SLV FO 4	-0.0045006	-13501.8	SLV FO 13	-0.0010396	-3118.8
842	SLV FO 15	-0.0042838	-12851.3	SLV FO 2	-0.0011298	-3389.5
844	SLU 83	-0.0040828	-12248.3	SLV FO 6	-0.0015897	-4769
846	SLU 83	-0.0040948	-12284.5	SLV FO 6	-0.0016621	-4986.4
847	SLU 83	-0.0040011	-12003.3	SLV FO 9	-0.001609	-4827.1
849	SLU 83	-0.004004	-12011.9	SLV FO 9	-0.0015129	-4538.7
850	SLU 83	-0.00348	-10439.9	SLV FO 10	-0.0018165	-5449.4
852	SLU 83	-0.0028997	-8699.2	SLV FO 10	-0.0015867	-4760.2
864	SLU 83	-0.0027973	-8392	SLV FO 5	-0.00142	-4260
866	SLU 83	-0.0028696	-8608.8	SLV FO 5	-0.0014465	-4339.4
868	SLV FO 4	-0.0045019	-13505.8	SLV FO 13	-0.0009214	-2764.3
869	SLU 83	-0.0027616	-8284.8	SLV FO 10	-0.0014659	-4397.8
870	SLU 83	-0.0025491	-7647.3	SLV FO 10	-0.001231	-3692.9
871	SLU 83	-0.0024478	-7343.5	SLV FO 10	-0.0011684	-3505.3
872	SLU 83	-0.0023896	-7168.9	SLV FO 10	-0.0011377	-3413.2
873	SLU 83	-0.00237	-7110	SLV FO 10	-0.0011341	-3402.3
874	SLU 83	-0.0023825	-7147.5	SLV FO 10	-0.0011515	-3454.4
875	SLU 83	-0.0024213	-7263.9	SLV FO 9	-0.0011828	-3548.5
876	SLU 83	-0.002481	-7443.1	SLV FO 5	-0.0012083	-3624.9
877	SLU 83	-0.002556	-7668	SLV FO 5	-0.0012261	-3678.3
878	SLU 83	-0.0026394	-7918.2	SLV FO 5	-0.0012487	-3746.2
879	SLU 83	-0.002722	-8165.9	SLV FO 5	-0.0012737	-3821.1
880	SLU 83	-0.0027907	-8372.1	SLV FO 5	-0.0012967	-3890.1
881	SLV FO 11	-0.0042265	-12679.5	SLV FO 6	-0.0013249	-3974.6
883	SLV FO 11	-0.0041616	-12484.9	SLV FO 6	-0.0013904	-4171.3
884	SLV FO 11	-0.0043397	-13019.1	SLV FO 6	-0.0009401	-2820.3
886	SLV FO 8	-0.0040209	-12062.8	SLV FO 9	-0.0013294	-3988.2
888	SLV FO 8	-0.0041205	-12361.5	SLV FO 9	-0.0012372	-3711.5
889	SLU 83	-0.0034202	-10260.5	SLV FO 10	-0.0016169	-4850.6
891	SLU 83	-0.0027579	-8273.7	SLV FO 5	-0.0012136	-3640.9
893	SLU 83	-0.002827	-8480.9	SLV FO 5	-0.0012382	-3714.6
895	SLV FO 4	-0.0045767	-13730.1	SLV FO 13	-0.0008105	-2431.6
896	SLV FO 11	-0.0045611	-13683.3	SLV FO 6	-0.0010464	-3139.1
898	SLV FO 11	-0.0044859	-13457.8	SLV FO 6	-0.0011051	-3315.2
899	SLV FO 11	-0.0046571	-13971.2	SLV FO 6	-0.0006038	-1811.5
901	SLV FO 8	-0.0042802	-12840.7	SLV FO 9	-0.0010473	-3142
903	SLV FO 8	-0.0043828	-13148.5	SLV FO 9	-0.0009589	-2876.7
904	SLU 83	-0.0033327	-9998.1	SLV FO 10	-0.0013837	-4151
906	SLU 83	-0.0027728	-8318.4	SLV FO 5	-0.0010077	-3023.2
908	SLU 83	-0.0028371	-8511.4	SLV FO 5	-0.0010294	-3088.2
910	SLV FO 8	-0.0048875	-14662.4	SLV FO 9	-0.0005564	-1669.1
911	SLV FO 11	-0.0048988	-14696.3	SLV FO 6	-0.0007629	-2288.8
913	SLV FO 11	-0.0048132	-14439.6	SLV FO 6	-0.0008148	-2444.4
914	SLV FO 11	-0.0050966	-15289.7	SLV FO 6	-0.0002738	-821.4
916	SLV FO 8	-0.0045433	-13629.8	SLV FO 9	-0.0007765	-2329.4
918	SLV FO 8	-0.004649	-13947	SLV FO 9	-0.0006917	-2075.1
919	SLU 83	-0.0032547	-9764.2	SLV FO 9	-0.001131	-3392.9
921	SLV FO 12	-0.0030017	-9005	SLV FO 5	-0.0008025	-2407.6
923	SLV FO 12	-0.0030643	-9192.9	SLV FO 5	-0.0008213	-2463.8
925	SLV FO 8	-0.0053422	-16026.6	SLV FO 9	-0.0002612	-783.6
926	SLV FO 11	-0.0052335	-15700.6	SLV FO 6	-0.0004827	-1448.2
928	SLV FO 11	-0.0051375	-15412.4	SLV FO 6	-0.0005279	-1583.6
929	SLV FO 8	-0.0034637	-10391	SLV FO 9	-0.0008704	-2611.3
931	SLV FO 11	-0.0033312	-9993.7	SLV FO 6	-0.000598	-1794.1
933	SLV FO 11	-0.0033906	-10171.9	SLV FO 6	-0.0006138	-1841.4
934	SLV FO 8	-0.0048225	-14467.4	SLV FO 9	-0.0005267	-1580
936	SLV FO 8	-0.0049315	-14794.4	SLV FO 9	-0.0004455	-1336.5
937	SLV FO 11	-0.0056695	-17008.4	SLV FO 6	0.0000547	164.2
939	SLV FO 8	-0.0028745	-8623.4	SLV FO 9	-0.000622	-1866.1
941	SLV FO 8	-0.0059072	-17721.7	SLV FO 9	0.0000328	98.3

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
942	SLV FO 11	-0.005562	-16686	SLV FO 6	-0.0002138	-641.4
944	SLV FO 11	-0.0054553	-16366	SLV FO 6	-0.0002522	-756.6
945	SLV FO 8	-0.0037589	-11276.6	SLV FO 9	-0.0006096	-1828.8
947	SLV FO 11	-0.0037099	-11129.6	SLV FO 6	-0.0003925	-1177.5
949	SLV FO 11	-0.0037662	-11298.6	SLV FO 6	-0.0004053	-1215.9
950	SLV FO 11	-0.0063799	-19139.8	SLV FO 6	0.0003872	1161.6
953	SLV FO 8	-0.0065906	-19771.7	SLV FO 9	0.0003289	986.8
954	SLV FO 8	-0.0070475	-21142.6	SLV FO 9	0.0004054	1216.2
955	SLV FO 8	-0.0063953	-19185.9	SLV FO 9	0.000327	981.1
956	SLV FO 8	-0.0058251	-17475.3	SLV FO 9	0.0002509	752.6
957	SLV FO 8	-0.0053629	-16088.6	SLV FO 9	0.0001788	536.4
958	SLV FO 8	-0.0050189	-15056.8	SLV FO 9	0.0001118	335.5
959	SLV FO 8	-0.0047941	-14382.3	SLV FO 9	0.0000506	151.7
960	SLV FO 8	-0.0046831	-14049.2	SLV FO 9	-0.0000045	-13.4
961	SLV FO 8	-0.0046765	-14029.4	SLV FO 9	-0.0000525	-157.4
962	SLV FO 8	-0.0047606	-14281.7	SLV FO 9	-0.0000921	-276.3
963	SLV FO 8	-0.0049159	-14747.6	SLV FO 9	-0.0001212	-363.5
964	SLV FO 8	-0.0051138	-15341.5	SLV FO 9	-0.0001363	-408.9
965	SLV FO 8	-0.0053129	-15938.8	SLV FO 9	-0.0001329	-398.7
966	SLV FO 8	-0.0054613	-16384	SLV FO 9	-0.0001067	-320.1
967	SLV FO 11	-0.005882	-17646.1	SLV FO 6	0.0000397	119.2
969	SLV FO 11	-0.0057715	-17314.5	SLV FO 6	0.0000036	10.9
970	SLV FO 11	-0.005697	-17091.1	SLV FO 6	-0.0000128	-38.4
971	SLV FO 11	-0.0055362	-16608.7	SLV FO 6	-0.0000167	-50.1
972	SLV FO 11	-0.0053521	-16056.3	SLV FO 6	-0.0000025	-7.6
973	SLV FO 11	-0.0051873	-15561.9	SLV FO 6	0.000026	78
974	SLV FO 11	-0.0050724	-15217.3	SLV FO 6	0.0000663	198.8
975	SLV FO 11	-0.0050293	-15088	SLV FO 6	0.0001164	349.3
976	SLV FO 11	-0.0050735	-15220.4	SLV FO 6	0.0001755	526.6
977	SLV FO 11	-0.0052158	-15647.4	SLV FO 6	0.0002429	728.7
978	SLV FO 11	-0.0054636	-16390.7	SLV FO 6	0.0003183	954.9
979	SLV FO 11	-0.0058201	-17460.3	SLV FO 6	0.0004013	1204
980	SLV FO 11	-0.0062833	-18850	SLV FO 6	0.0004913	1474
981	SLV FO 11	-0.0068433	-20530	SLV FO 6	0.0005868	1760.3
982	SLV FO 11	-0.0068719	-20615.8	SLV FO 6	0.0005933	1779.9
983	SLV FO 11	-0.0074778	-22433.5	SLV FO 6	0.0006849	2054.8
984	SLV FO 8	-0.0041635	-12490.4	SLV FO 9	-0.0003526	-1057.9
986	SLV FO 11	-0.0041432	-12429.6	SLV FO 6	-0.0001879	-563.6
988	SLV FO 11	-0.0041965	-12589.5	SLV FO 6	-0.0001977	-593.2
991	SLV FO 11	-0.0061085	-18325.4	SLV FO 6	0.0002232	669.7
994	SLV FO 8	-0.0073887	-22166.2	SLV FO 9	0.0006292	1887.6
1006	SLV FO 8	-0.0057939	-17381.6	SLV FO 9	0.0000707	212.2
1009	SLV FO 8	-0.0059451	-17835.4	SLV FO 9	0.0001105	331.6
1024	SLV FO 8	-0.0046988	-14096.3	SLV FO 9	-0.0001027	-308.1
1026	SLV FO 11	-0.0046457	-13937.1	SLV FO 6	0.0000159	47.8
1028	SLV FO 11	-0.004696	-14088.1	SLV FO 6	0.000009	27
1030	SLV FO 11	-0.0062961	-18888.2	SLV FO 6	0.0003923	1176.8
1035	SLV FO 8	-0.0062113	-18633.9	SLV FO 9	0.0002479	743.8
1036	SLV FO 8	-0.0066661	-19998.4	SLV FO 9	0.0003704	1111.1
1037	SLV FO 8	-0.0062643	-18793	SLV FO 9	0.0003133	940
1038	SLV FO 8	-0.0058705	-17611.6	SLV FO 9	0.0002634	790.1
1039	SLV FO 8	-0.0055177	-16553	SLV FO 9	0.0002205	661.4
1040	SLV FO 8	-0.005227	-15680.9	SLV FO 9	0.0001843	552.8
1041	SLV FO 8	-0.0050096	-15028.8	SLV FO 9	0.0001544	463.1
1042	SLV FO 8	-0.004869	-14607	SLV FO 9	0.0001301	390.4
1043	SLV FO 8	-0.0048025	-14407.6	SLV FO 9	0.000111	333
1044	SLV FO 8	-0.0048024	-14407.1	SLV FO 9	0.0000962	288.7
1045	SLV FO 8	-0.004855	-14565.1	SLV FO 9	0.0000851	255.3
1046	SLV FO 8	-0.0049409	-14822.8	SLV FO 9	0.0000766	229.9
1047	SLV FO 8	-0.0050326	-15097.8	SLV FO 9	0.0000699	209.6
1048	SLV FO 8	-0.0050932	-15279.5	SLV FO 9	0.0000636	190.8
1049	SLV FO 8	-0.0050785	-15235.4	SLV FO 9	0.0000567	170
1050	SLV FO 8	-0.0049865	-14959.6	SLV FO 9	0.0000464	139.3
1051	SLV FO 8	-0.0048192	-14457.5	SLV FO 9	0.0000325	97.6
1052	SLV FO 8	-0.0046282	-13884.6	SLV FO 9	0.000018	54.1
1053	SLV FO 8	-0.0044528	-13358.3	SLV FO 9	0.0000055	16.5
1054	SLV FO 8	-0.004319	-12957	SLV FO 9	-0.0000028	-8.5
1055	SLV FO 12	-0.0042447	-12734.1	SLV FO 5	-0.0000033	-10
1056	SLV FO 12	-0.0042422	-12726.6	SLV FO 5	0.0000094	28.1
1057	SLV FO 11	-0.0043094	-12928.3	SLV FO 6	0.0000327	98.1
1058	SLV FO 11	-0.0044369	-13310.7	SLV FO 6	0.0000626	187.9
1059	SLV FO 11	-0.0046062	-13818.5	SLV FO 6	0.0000936	280.9
1060	SLV FO 11	-0.0047912	-14373.6	SLV FO 6	0.000122	366
1061	SLV FO 11	-0.0049521	-14856.4	SLV FO 6	0.0001427	428.1
1062	SLV FO 11	-0.0050341	-15102.2	SLV FO 6	0.0001494	448.2
1063	SLV FO 11	-0.0050186	-15055.7	SLV FO 6	0.0001484	445.2
1064	SLV FO 11	-0.0049174	-14752.1	SLV FO 6	0.000148	444
1065	SLV FO 11	-0.0047957	-14387.2	SLV FO 6	0.0001511	453.2
1066	SLV FO 11	-0.0047034	-14110.2	SLV FO 6	0.00016	480.1
1067	SLV FO 11	-0.0046753	-14025.8	SLV FO 6	0.0001768	530.3
1068	SLV FO 11	-0.0047348	-14204.5	SLV FO 6	0.0002028	608.3
1069	SLV FO 11	-0.0048962	-14688.7	SLV FO 6	0.0002391	717.4
1070	SLV FO 11	-0.0051645	-15493.6	SLV FO 6	0.0002863	858.8
1071	SLV FO 11	-0.0055346	-16603.7	SLV FO 6	0.0003437	1031.1
1072	SLV FO 11	-0.0059874	-17962.1	SLV FO 6	0.0004097	1229
1073	SLV FO 11	-0.0063617	-19085	SLV FO 6	0.0004627	1388.1

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
1075	SLV FO 8	-0.0064819	-19445.8	SLV FO 9	0.0003947	1184.1
1079	SLV FO 8	-0.0067793	-20337.9	SLV FO 9	0.0005468	1640.5
1092	SLV FO 8	-0.0058727	-17618	SLV FO 9	0.0002698	809.5
1094	SLV FO 8	-0.0058058	-17417.4	SLV FO 9	0.0002595	778.6
1107	SLV FO 11	-0.0056331	-16899.4	SLV FO 6	0.0003411	1023.2
1109	SLV FO 11	-0.0056771	-17031.4	SLV FO 6	0.0003404	1021.2
1120	SLV FO 11	-0.0066202	-19860.6	SLV FO 6	0.0006549	1964.6

1.4 Cedimenti fondazioni superficiali

Nodo: *nodo che interagisce col terreno.*
Ind.: *indice del nodo.*
spostamento nodale massimo: *situazione in cui si verifica lo spostamento massimo verticale nel nodo calcolato dal solutore ad elementi finiti. Lo spostamento massimo con segno è quello con valore massimo lungo l'asse Z, dove valori positivi rappresentano spostamenti verso l'alto.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.*
uz: *spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]*
Press.: *pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]*
spostamento nodale minimo: *situazione in cui si verifica lo spostamento minimo verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento minimo con segno è quello con valore minimo lungo l'asse Z, dove valori negativi rappresentano spostamenti verso il basso.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.*
uz: *spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]*
Press.: *pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]*
Cedimento elastico: *cedimento teorico elastico massimo.*
Cont.: *nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico elastico massimo.*
v.: *valore del cedimento teorico elastico massimo. [m]*
Cedimento edometrico: *cedimento teorico edometrico massimo.*
Cont.: *nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico edometrico massimo.*
v.: *valore del cedimento teorico edometrico massimo. [m]*
Cedimento di consolidazione: *cedimento teorico di consolidazione massimo.*
Cont.: *nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico di consolidazione massimo.*
v.: *valore del cedimento teorico di consolidazione massimo. [m]*

Spostamento estremo minimo -0.0055974 al nodo di indice 983, di coordinate x = -0.12, y = 5.53, z = -1.95, nel contesto SLD 11.
Spostamento estremo massimo -0.0008548 al nodo di indice 374, di coordinate x = -21.91, y = -2.93, z = -1.95, nel contesto SLD 12.
Cedimento elastico estremo massimo 0.0018231 al nodo di indice 622, di coordinate x = -9.56, y = 0.89, z = -1.95, nel contesto SLE rara 21.

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
11	SLD 7	-2.4E-03	-7229	SLD 10	-3.1E-03	-9335.4	SLE RA 21	1.07E-03				
12	SLD 7	-2.4E-03	-7310	SLD 10	-3.2E-03	-9536.8	SLE RA 21	1.10E-03				
13	SLD 7	-2.4E-03	-7348.2	SLD 10	-3.2E-03	-9656.6	SLE RA 21	1.11E-03				
14	SLD 7	-2.5E-03	-7382.7	SLD 10	-3.3E-03	-9765.6	SLE RA 21	1.10E-03				
15	SLD 7	-2.5E-03	-7414	SLD 10	-3.3E-03	-9867.2	SLE RA 21	1.09E-03				
16	SLD 8	-2.5E-03	-7437.3	SLD 9	-3.3E-03	-9963.6	SLE RA 21	1.04E-03				
17	SLD 8	-2.5E-03	-7447.7	SLD 9	-3.4E-03	-10050.8	SLE RA 21	9.68E-04				
18	SLD 8	-2.5E-03	-7438.9	SLD 9	-3.4E-03	-10172.3	SLE RA 21	8.36E-04				
19	SLD 7	-2.5E-03	-7419.9	SLD 10	-3.0E-03	-9039.7	SLE RA 21	1.18E-03				
20	SLD 7	-2.5E-03	-7495.6	SLD 10	-3.1E-03	-9242.4	SLE RA 21	1.24E-03				
21	SLD 7	-2.5E-03	-7522.2	SLD 10	-3.1E-03	-9357.3	SLE RA 21	1.25E-03				
22	SLD 7	-2.5E-03	-7545.4	SLD 10	-3.2E-03	-9464.3	SLE RA 21	1.24E-03				
23	SLD 7	-2.5E-03	-7569.1	SLD 10	-3.2E-03	-9569.4	SLE RA 21	1.22E-03				
24	SLD 8	-2.5E-03	-7590.3	SLD 9	-3.2E-03	-9674.3	SLE RA 21	1.17E-03				
25	SLD 8	-2.5E-03	-7602.2	SLD 9	-3.3E-03	-9771.9	SLE RA 21	1.11E-03				
26	SLD 8	-2.5E-03	-7586.9	SLD 9	-3.3E-03	-9895.4	SLE RA 21	9.80E-04				
27	SLD 8	-2.6E-03	-7719.3	SLD 9	-3.2E-03	-9507.6	SLE RA 21	1.21E-03				
28	SLD 8	-2.6E-03	-7707.7	SLD 9	-3.2E-03	-9643.5	SLE RA 21	1.09E-03				
29	SLD 8	-2.6E-03	-7706.5	SLD 9	-3.1E-03	-9390.9	SLE RA 21	1.28E-03				
30	SLD 7	-2.6E-03	-7687.9	SLD 10	-3.1E-03	-9272.2	SLE RA 21	1.32E-03				
31	SLD 7	-2.6E-03	-7674.3	SLE RA 21	-3.1E-03	-9164.4	SLE RA 21	1.35E-03				
32	SLD 7	-2.6E-03	-7667.8	SLE RA 21	-3.0E-03	-9106.6	SLE RA 21	1.36E-03				
33	SLD 7	-2.5E-03	-7600.8	SLE RA 21	-3.0E-03	-8916.2	SLE RA 21	0.00128				
34	SLD 7	-2.6E-03	-7660.2	SLE RA 21	-3.0E-03	-9046.5	SLE RA 21	1.34E-03				
36	SLD 8	-2.6E-03	-7827.2	SLE RA 21	-3.1E-03	-9280.6	SLE RA 21	0.001289				
37	SLD 8	-2.6E-03	-7817.3	SLD 9	-3.1E-03	-9386.2	SLE RA 21	1.18E-03				
38	SLD 8	-2.6E-03	-7815.9	SLE RA 21	-3.1E-03	-9205.2	SLE RA 21	0.001354				
39	SLD 7	-2.6E-03	-7801.3	SLE RA 21	-3.0E-03	-9129.2	SLE RA 21	1.40E-03				
40	SLD 7	-2.6E-03	-7799	SLE RA 21	-3.0E-03	-9066.3	SLE RA 21	1.43E-03				
41	SLD 7	-2.6E-03	-7810.2	SLE RA 21	-3.0E-03	-9017.2	SLE RA 21	0.001295				
42	SLD 7	-2.6E-03	-7781.5	SLE RA 21	-3.0E-03	-8854.5	SLE RA 21	1.35E-03				
43	SLD 7	-2.6E-03	-7822.6	SLE RA 21	-3.0E-03	-8968.6	SLE RA 21	1.41E-03				
46	SLD 3	-2.6E-03	-7912.5	SLE RA 21	-3.1E-03	-9196.6	SLE RA 21	1.33E-03				
47	SLD 4	-2.6E-03	-7861.9	SLE RA 21	-3.1E-03	-9271.4	SLE RA 21	1.21E-03				
48	SLD 3	-2.6E-03	-7919.2	SLE RA 21	-3.0E-03	-9116.4	SLE RA 21	1.40E-03				
49	SLD 7	-2.6E-03	-7920.2	SLE RA 21	-3.0E-03	-9038.6	SLE RA 21	1.30E-03				
50	SLD 7	-2.6E-03	-7929.7	SLE RA 21	-3.0E-03	-8978.4	SLE RA 21	1.31E-03				
51	SLE RA 1	-2.6E-03	-7916	SLE RA 21	-3.0E-03	-8935.8	SLE RA 21	1.32E-03				
52	SLE RA 2	-2.6E-03	-7777.8	SLE RA 20	-2.9E-03	-8794.4	SLE RA 21	1.38E-03				
53	SLE RA 1	-2.6E-03	-7875.3	SLE RA 21	-3.0E-03	-8894.9	SLE RA 21	1.31E-03				
55	SLD 3	-2.6E-03	-7903.8	SLE RA 21	-3.0E-03	-9117.9	SLE RA 21	1.34E-03				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
56	SLD 3	-2.6E-03	-7854.4	SLE RA 21	-3.1E-03	-9195.4	SLE RA 21	1.23E-03				
57	SLD 3	-2.6E-03	-7912.2	SLE RA 21	-3.0E-03	-9036.9	SLE RA 21	0.001402				
58	SLD 3	-2.6E-03	-7921.6	SLE RA 21	-3.0E-03	-8959.9	SLE RA 21	0.001301				
59	SLE RA 2	-2.6E-03	-7886.5	SLE RA 20	-3.0E-03	-8904	SLE RA 21	1.31E-03				
60	SLE RA 2	-2.6E-03	-7847.6	SLE RA 20	-3.0E-03	-8868	SLE RA 21	1.31E-03				
61	SLE RA 2	-2.6E-03	-7717.9	SLE RA 20	-2.9E-03	-8741.2	SLE RA 21	0.001376				
62	SLE RA 2	-2.6E-03	-7808.9	SLE RA 20	-2.9E-03	-8832.7	SLE RA 21	1.31E-03				
64	SLD 3	-2.6E-03	-7899.5	SLE RA 20	-3.0E-03	-9048.6	SLE RA 21	1.32E-03				
65	SLD 3	-2.6E-03	-7850.5	SLE RA 21	-3.0E-03	-9123.2	SLE RA 21	1.21E-03				
66	SLD 1	-2.6E-03	-7884.8	SLE RA 20	-3.0E-03	-8968	SLE RA 21	1.37E-03				
67	SLD 1	-2.6E-03	-7864.6	SLE RA 20	-3.0E-03	-8893.3	SLE RA 21	1.28E-03				
68	SLE RA 2	-2.6E-03	-7818.6	SLE RA 20	-2.9E-03	-8841	SLE RA 21	1.29E-03				
69	SLE RA 2	-2.6E-03	-7784.3	SLE RA 20	-2.9E-03	-8810.3	SLE RA 21	1.29E-03				
70	SLD 10	-2.5E-03	-7532.3	SLE RA 20	-2.9E-03	-8687.8	SLE RA 21	1.34E-03				
71	SLD 6	-2.6E-03	-7700.1	SLE RA 20	-2.9E-03	-8777.2	SLE RA 21	0.001396				
77	SLD 1	-2.6E-03	-7802.8	SLE RA 20	-3.0E-03	-8982.4	SLE RA 20	1.27E-03				
78	SLD 10	-2.4E-03	-7337	SLE RA 20	-2.9E-03	-8650.6	SLE RA 20	1.30E-03				
79	SLD 6	-2.5E-03	-7505.3	SLE RA 20	-2.9E-03	-8734.2	SLE RA 20	1.35E-03				
80	SLD 6	-2.5E-03	-7570.4	SLE RA 20	-2.9E-03	-8757.3	SLE RA 20	1.36E-03				
81	SLD 6	-2.5E-03	-7637.6	SLE RA 20	-2.9E-03	-8781.6	SLE RA 20	1.36E-03				
82	SLD 5	-2.6E-03	-7725.3	SLE RA 20	-2.9E-03	-8829.8	SLE RA 20	1.35E-03				
83	SLD 1	-2.6E-03	-7775.8	SLE RA 20	-3.0E-03	-8902.7	SLE RA 20	1.31E-03				
84	SLD 1	-2.6E-03	-7786.4	SLE RA 20	-3.0E-03	-9055.6	SLE RA 20	1.17E-03				
151	SLD 12	-1.1E-03	-3151.4	SLD 5	-5.5E-03	-16583						
152	SLD 12	-1.1E-03	-3169.4	SLD 5	-5.5E-03	-16415.8						
153	SLD 12	-1.1E-03	-3206.9	SLD 5	-5.4E-03	-16302.1						
154	SLD 12	-1.1E-03	-3257	SLD 5	-5.4E-03	-16247.7						
155	SLD 12	-1.1E-03	-3315.6	SLD 5	-5.4E-03	-16252.8	SLE RA 21	1.41E-06				
156	SLD 12	-1.1E-03	-3379.1	SLD 5	-5.4E-03	-16315.6	SLE RA 21	3.63E-06				
157	SLD 12	-1.1E-03	-3441.6	SLD 5	-5.5E-03	-16430.5	SLE RA 21	6.10E-06				
158	SLD 12	-1.2E-03	-3495.7	SLD 5	-5.5E-03	-16583.9	SLE RA 21	9.47E-06				
159	SLD 12	-1.2E-03	-3539.5	SLD 5	-5.6E-03	-16748.6	SLE RA 21	1.46E-05				
160	SLD 8	-1.2E-03	-3551.9	SLD 9	-5.6E-03	-16787	SLE RA 21	2.15E-05				
161	SLD 7	-1.1E-03	-3331.8	SLD 10	-5.2E-03	-15676.2	SLE RA 21	1.65E-04				
162	SLD 7	-1.1E-03	-3348.9	SLD 10	-5.3E-03	-15798.9	SLE RA 21	1.02E-04				
163	SLD 7	-1.1E-03	-3344.5	SLD 10	-5.3E-03	-15854	SLE RA 21	4.88E-05				
164	SLD 7	-1.1E-03	-3325.4	SLD 10	-5.3E-03	-15876.5	SLE RA 21	6.55E-06				
165	SLD 7	-1.1E-03	-3298.3	SLD 10	-5.3E-03	-15897.7	SLE RA 21	2.95E-06				
166	SLD 7	-1.1E-03	-3268.7	SLD 10	-5.3E-03	-15940.6	SLE RA 21	7.73E-07				
167	SLD 7	-1.1E-03	-3240.3	SLD 10	-0.00534	-16019.9						
168	SLD 7	-1.1E-03	-3215.8	SLD 10	-5.4E-03	-16143.6						
169	SLD 7	-1.1E-03	-3198.9	SLD 10	-5.4E-03	-16314.1						
170	SLD 7	-1.1E-03	-3195.1	SLD 10	-5.5E-03	-16526						
187	SLD 7	-1.1E-03	-3366.6	SLD 10	-5.1E-03	-15312.7	SLE RA 21	1.89E-04				
199	SLD 12	-1.1E-03	-3408.6	SLD 5	-5.2E-03	-15733.7						
200	SLD 12	-1.1E-03	-3413.9	SLD 5	-5.2E-03	-15544.2	SLE RA 21	9.80E-06				
201	SLD 12	-1.1E-03	-3428.4	SLD 5	-5.1E-03	-15387.2	SLE RA 21	2.78E-05				
202	SLD 12	-1.2E-03	-3455	SLD 5	-5.1E-03	-15287.2	SLE RA 21	3.56E-05				
203	SLD 12	-1.2E-03	-3496.5	SLD 5	-5.1E-03	-15260.7	SLE RA 21	0.000056				
204	SLD 12	-1.2E-03	-3553.2	SLD 5	-5.1E-03	-15316.4	SLE RA 21	0.000083				
205	SLD 12	-1.2E-03	-3620.3	SLD 5	-5.2E-03	-15453.2	SLE RA 21	1.06E-04				
206	SLD 12	-1.2E-03	-3689.4	SLD 5	-5.2E-03	-15653.1	SLE RA 21	1.24E-04				
207	SLD 8	-1.3E-03	-3751.1	SLD 9	-5.3E-03	-15858.8	SLE RA 21	1.40E-04				
208	SLD 8	-1.3E-03	-3788.8	SLD 9	-5.3E-03	-15976.6	SLE RA 21	1.57E-04				
211	SLD 7	-1.2E-03	-3639.2	SLD 10	-4.9E-03	-14624.9	SLE RA 21	3.07E-04				
212	SLD 7	-1.2E-03	-3647.2	SLD 10	-4.9E-03	-14723.1	SLE RA 21	0.000303				
213	SLD 7	-1.2E-03	-3632.3	SLD 10	-4.9E-03	-14751.1	SLE RA 21	2.22E-04				
214	SLD 7	-1.2E-03	-3606.4	SLD 10	-4.9E-03	-14755.7	SLE RA 21	0.000171				
215	SLD 7	-1.2E-03	-3579.8	SLD 10	-4.9E-03	-14775.8	SLE RA 21	1.31E-04				
216	SLD 7	-1.2E-03	-3559.3	SLD 10	-4.9E-03	-14838.3	SLE RA 21	9.38E-05				
217	SLD 7	-1.2E-03	-3548	SLD 10	-5.0E-03	-14955.9	SLE RA 21	5.48E-05				
218	SLD 7	-1.2E-03	-3545.4	SLD 10	-5.0E-03	-15127.2	SLE RA 21	3.42E-05				
219	SLD 7	-1.2E-03	-3549.3	SLD 10	-5.1E-03	-15338.9	SLE RA 21	1.53E-05				
220	SLD 7	-1.2E-03	-3557.3	SLD 10	-5.2E-03	-15570.6						
221	SLD 8	-1.3E-03	-3778.5	SLD 9	-5.1E-03	-15202.3	SLE RA 21	2.03E-04				
222	SLD 8	-1.2E-03	-3708.7	SLD 9	-5.0E-03	-14871.2	SLE RA 21	2.12E-04				
223	SLD 8	-1.2E-03	-3639	SLD 9	-4.8E-03	-14525.6	SLE RA 21	1.73E-04				
224	SLD 8	-1.2E-03	-3588.6	SLD 9	-4.7E-03	-14245.9	SLE RA 21	0.000191				
225	SLD 8	-1.2E-03	-3568.3	SLD 9	-4.7E-03	-14081.1	SLE RA 21	2.27E-04				
226	SLD 7	-1.2E-03	-3573.8	SLD 10	-4.7E-03	-14054.9	SLE RA 21	2.71E-04				
227	SLD 7	-1.2E-03	-3604.2	SLD 10	-4.7E-03	-14149.2	SLE RA 21	3.12E-04				
228	SLD 7	-1.2E-03	-3647.6	SLD 10	-4.8E-03	-14317.7	SLE RA 21	0.000335				
229	SLD 7	-1.2E-03	-3681.6	SLD 10	-4.8E-03	-14485.7	SLE RA 21	3.31E-04				
230	SLD 7	-1.2E-03	-3666.3	SLD 10	-4.8E-03	-14340.2	SLE RA 21	3.38E-04				
233	SLD 12	-1.2E-03	-3670.1	SLD 5	-5.0E-03	-14903.5						
234	SLD 12	-1.2E-03	-3657.2	SLD 5	-4.9E-03	-14680	SLE RA 21	3.08E-05				
235	SLD 12	-1.2E-03	-3648	SLD 5	-4.8E-03	-14477.5	SLE RA 21	8.72E-05				
236	SLD 12	-1.2E-03	-3650	SLD 5	-4.8E-03	-14328.7	SLE RA 21	1.30E-04				
237	SLD 12	-1.2E-03	-3671.9	SLD 5	-4.8E-03	-14265.6	SLE RA 21	1.64E-04				
238	SLD 12	-1.2E-03	-3719	SLD 5	-0.00477	-14309.9	SLE RA 21	1.93E-04				
239	SLD 12	-1.3E-03	-3788.9	SLD 5	-4.8E-03	-14468.4	SLE RA 21	2.19E-04				
240	SLD 12	-1.3E-03	-3875.2	SLD 5	-4.9E-03	-14723.9	SLE RA 21	2.39E-04				
241	SLD 8	-1.3E-03	-3969.7	SLD 9	-5.0E-03	-15026.6	SLE RA 21	2.55E-04				
242	SLD 8	-1.4E-03	-4065.4	SLD 9	-5.1E-03	-15336.8	SLE RA 21	2.60E-04				
246	SLD 7	-1.3E-03	-3948.2	SLD 10	-4.6E-03	-13680.7	SLE RA 21	4.30E-04				
247	SLD 7	-1.3E-03	-3918.9	SLD 10	-4.6E-03	-13669.3	SLE RA 21	3.99E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
248	SLD 7	-1.3E-03	-3884.2	SLD 10	-4.5E-03	-13648	SLE RA 21	3.35E-04				
249	SLD 7	-1.3E-03	-3857.4	SLD 10	-4.6E-03	-13663.2	SLE RA 21	2.76E-04				
250	SLD 7	-1.3E-03	-3846.5	SLD 10	-4.6E-03	-13745.3	SLE RA 21	2.18E-04				
251	SLD 7	-1.3E-03	-3853.1	SLD 10	-4.6E-03	-13903.4	SLE RA 21	1.74E-04				
252	SLD 7	-1.3E-03	-3872.2	SLD 10	-4.7E-03	-14123.7	SLE RA 21	1.29E-04				
253	SLD 7	-1.3E-03	-3895.7	SLD 10	-4.8E-03	-14375.3	SLE RA 21	7.01E-05				
254	SLD 7	-1.3E-03	-3918.2	SLD 10	-4.9E-03	-14633.9	SLE RA 21	4.66E-06				
255	SLD 7	-1.3E-03	-3979.4	SLD 10	-4.5E-03	-13445.9	SLE RA 21	4.66E-04				
256	SLD 7	-1.3E-03	-3986.9	SLD 10	-4.5E-03	-13532.7	SLE RA 21	4.71E-04				
258	SLD 12	-1.3E-03	-3920.4	SLD 5	-4.7E-03	-14076	SLE RA 21	6.34E-05				
259	SLD 12	-1.3E-03	-3890.7	SLD 5	-4.6E-03	-13819.2	SLE RA 21	1.22E-04				
260	SLD 12	-1.3E-03	-3859.6	SLD 5	-4.5E-03	-13572.6	SLE RA 21	1.71E-04				
261	SLD 12	-1.3E-03	-3836.7	SLD 5	-4.5E-03	-13372.7	SLE RA 21	2.10E-04				
262	SLD 12	-1.3E-03	-3837.2	SLD 5	-4.4E-03	-13269	SLE RA 21	2.51E-04				
263	SLD 12	-1.3E-03	-3871.1	SLD 5	-4.4E-03	-13296.8	SLE RA 21	0.000295				
264	SLD 12	-1.3E-03	-3939.8	SLD 5	-4.5E-03	-13472.7	SLE RA 21	3.35E-04				
265	SLD 12	-1.3E-03	-4043.1	SLD 5	-4.6E-03	-13788.5	SLE RA 21	3.31E-04				
266	SLD 8	-1.4E-03	-4176.7	SLD 9	-4.7E-03	-14209.2	SLE RA 21	3.36E-04				
268	SLD 8	-1.5E-03	-4353.4	SLD 9	-4.9E-03	-14624.5	SLE RA 21	0.000347				
269	SLD 7	-1.4E-03	-4246.7	SLD 10	-4.2E-03	-12680	SLE RA 21	0.000555				
270	SLD 7	-1.4E-03	-4201.2	SLD 10	-4.2E-03	-12618.8	SLE RA 21	5.02E-04				
271	SLD 7	-1.4E-03	-4156	SLD 10	-4.2E-03	-12562.3	SLE RA 21	4.36E-04				
272	SLD 7	-1.4E-03	-4127.8	SLD 10	-4.2E-03	-12567.3	SLE RA 21	3.73E-04				
273	SLD 7	-1.4E-03	-4124.7	SLD 10	-4.2E-03	-12665.2	SLE RA 21	3.44E-04				
274	SLD 7	-1.4E-03	-4147.3	SLD 10	-4.3E-03	-12862.5	SLE RA 21	2.90E-04				
275	SLD 7	-1.4E-03	-4185.9	SLD 10	-4.4E-03	-13133.1	SLE RA 21	2.32E-04				
276	SLD 7	-1.4E-03	-4221.1	SLD 10	-4.5E-03	-13408.9	SLE RA 21	1.72E-04				
277	SLD 7	-1.4E-03	-4248.8	SLD 10	-4.6E-03	-13678.7	SLE RA 21	1.21E-04				
278	SLD 7	-1.4E-03	-4285.2	SLD 10	-4.2E-03	-12584.6	SLE RA 21	5.69E-04				
279	SLD 7	-1.4E-03	-4284.4	SLD 10	-4.2E-03	-12631.4	SLE RA 21	5.85E-04				
282	SLD 12	-1.4E-03	-4136.3	SLD 5	-4.4E-03	-13215.4	SLE RA 21	1.63E-04				
283	SLD 12	-1.4E-03	-4100.3	SLD 5	-4.3E-03	-12942.2	SLE RA 21	2.08E-04				
284	SLD 12	-1.4E-03	-4055.3	SLD 5	-4.2E-03	-12666.8	SLE RA 21	2.53E-04				
285	SLD 12	-1.3E-03	-4009.1	SLD 5	-4.1E-03	-12413.4	SLE RA 21	2.70E-04				
286	SLD 12	-1.3E-03	-3988	SLD 5	-4.1E-03	-12266.8	SLE RA 21	3.10E-04				
287	SLD 12	-1.3E-03	-4005.5	SLD 5	-4.1E-03	-12273.6	SLE RA 21	3.50E-04				
288	SLD 12	-1.4E-03	-4065.7	SLD 5	-4.2E-03	-12455.8	SLE RA 21	3.85E-04				
289	SLD 8	-1.4E-03	-4176.6	SLD 9	-4.3E-03	-12814	SLE RA 21	4.06E-04				
290	SLD 8	-1.4E-03	-4341.9	SLD 9	-4.4E-03	-13329.4	SLE RA 21	4.06E-04				
292	SLD 8	-1.5E-03	-4557	SLD 9	-4.6E-03	-13932	SLE RA 21	4.12E-04				
294	SLD 12	-1.1E-03	-3208.3	SLD 5	-0.00539	-16170	SLE RA 21	7.16E-05				
310	SLD 12	-1.3E-03	-3750.2	SLD 5	-4.2E-03	-12487.8	SLE RA 21	1.86E-04				
312	SLD 12	-1.3E-03	-3981.5	SLD 5	-4.2E-03	-12609.1	SLE RA 21	0.000234				
316	SLD 12	-1.4E-03	-4288.4	SLD 5	-4.1E-03	-12263.8	SLE RA 21	2.94E-04				
318	SLD 12	-1.4E-03	-4264.9	SLD 5	-4.0E-03	-12012.3	SLE RA 21	2.78E-04				
319	SLD 12	-1.4E-03	-4226.5	SLD 5	-3.9E-03	-11760.6	SLE RA 21	2.92E-04				
320	SLD 12	-1.4E-03	-4163.4	SLD 5	-3.8E-03	-11445.2	SLE RA 21	3.18E-04				
321	SLD 12	-1.4E-03	-4124.3	SLD 5	-3.8E-03	-11257.3	SLE RA 21	3.52E-04				
322	SLD 12	-1.4E-03	-4123.2	SLD 5	-3.7E-03	-11239.5	SLE RA 21	0.000389				
323	SLD 12	-1.4E-03	-4166.6	SLD 5	-3.8E-03	-11413.7	SLE RA 21	4.29E-04				
324	SLD 8	-1.4E-03	-4264.8	SLD 9	-3.9E-03	-11773.4	SLE RA 21	4.59E-04				
325	SLD 8	-1.5E-03	-4428.2	SLD 9	-4.1E-03	-12300.5	SLE RA 21	4.66E-04				
326	SLD 8	-1.5E-03	-4477.2	SLD 9	-4.2E-03	-12466	SLE RA 21	4.63E-04				
327	SLD 8	-1.6E-03	-4675	SLD 9	-4.4E-03	-13074.5	SLE RA 21	4.42E-04				
328	SLD 7	-1.5E-03	-4564.4	SLD 10	-3.9E-03	-11712.8	SLE RA 21	6.36E-04				
329	SLD 7	-1.5E-03	-4563	SLD 10	-3.9E-03	-11724.5	SLE RA 21	0.000662				
331	SLD 7	-1.5E-03	-4531.6	SLD 10	-0.0039	-11700.1	SLE RA 21	6.43E-04				
332	SLD 7	-1.5E-03	-4468	SLD 10	-4.0E-03	-12142.8	SLE RA 21	2.92E-04				
333	SLD 7	-1.5E-03	-4494.5	SLD 10	-4.1E-03	-12387	SLE RA 21	2.67E-04				
335	SLD 7	-1.5E-03	-4506.7	SLD 10	-4.2E-03	-12627.5	SLE RA 21	2.73E-04				
339	SLD 7	-1.4E-03	-4169.4	SLD 10	-4.3E-03	-12979	SLE RA 21	1.84E-04				
341	SLD 7	-1.3E-03	-3921.1	SLD 10	-4.3E-03	-12865.2	SLE RA 21	0.000138				
356	SLD 7	-1.1E-03	-3308.9	SLD 10	-5.0E-03	-15081.8	SLE RA 21	0.000088				
360	SLD 7	-1.5E-03	-4472.9	SLD 10	-3.9E-03	-11583.2	SLE RA 21	5.94E-04				
361	SLD 7	-1.5E-03	-4418.7	SLD 10	-3.8E-03	-11491.1	SLE RA 21	5.32E-04				
362	SLD 7	-1.5E-03	-4387.8	SLD 10	-3.8E-03	-11482.2	SLE RA 21	4.65E-04				
363	SLD 7	-1.5E-03	-4388.4	SLD 10	-3.9E-03	-11589.2	SLE RA 21	4.00E-04				
364	SLD 7	-1.5E-03	-4419	SLD 10	-3.9E-03	-11816.6	SLE RA 21	3.39E-04				
367	SLD 12	-1.2E-03	-3556.2	SLD 5	-5.3E-03	-15755.3	SLE RA 21	0.000094				
368	SLD 12	-1.1E-03	-3284.6	SLD 5	-4.8E-03	-14254.2	SLE RA 21	3.49E-05				
369	SLD 12	-1.0E-03	-3047.8	SLD 5	-4.3E-03	-12898.3	SLE RA 21	2.77E-05				
370	SLD 12	-9.5E-04	-2855.7	SLD 5	-3.9E-03	-11736	SLE RA 21	1.97E-05				
371	SLD 12	-9.0E-04	-2711.8	SLD 5	-3.6E-03	-10787.8	SLE RA 21	1.22E-05				
372	SLD 12	-8.7E-04	-2616.3	SLD 5	-3.4E-03	-10056.7	SLE RA 21	6.13E-06				
373	SLD 12	-8.6E-04	-2567.8	SLD 5	-3.2E-03	-9536.3	SLE RA 21	1.88E-06				
374	SLD 12	-8.5E-04	-2564.4	SLD 5	-3.1E-03	-9215.4						
375	SLD 12	-8.7E-04	-2604.5	SLD 5	-3.0E-03	-9080.9						
376	SLD 12	-9.0E-04	-2686.9	SLD 5	-3.0E-03	-9118.9	SLE RA 21	1.43E-06				
377	SLD 12	-9.4E-04	-2810.5	SLD 5	-3.1E-03	-9313.8	SLE RA 21	5.49E-06				
378	SLD 12	-9.9E-04	-2973.5	SLD 5	-3.2E-03	-9645.4	SLE RA 21	1.17E-05				
379	SLD 12	-1.1E-03	-3172.4	SLD 5	-3.4E-03	-10084.9	SLE RA 21	0.00002				
380	SLD 12	-1.1E-03	-3400	SLD 5	-3.5E-03	-10589.2	SLE RA 21	7.41E-05				
381	SLD 12	-1.2E-03	-3643	SLD 5	-3.7E-03	-11093.9	SLE RA 21	1.73E-04				
382	SLD 12	-1.3E-03	-3879.5	SLD 5	-3.8E-03	-11504.6	SLE RA 21	2.65E-04				
383	SLD 12	-1.4E-03	-4077.8	SLD 5	-3.9E-03	-11697.9	SLE RA 21	3.46E-04				
384	SLD 12	-1.4E-03	-4225.6	SLD 5	-3.9E-03	-11720.6	SLE RA 21	3.76E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
385	SLD 12	-1.4E-03	-4334.7	SLD 5	-3.9E-03	-11590	SLE RA 21	3.74E-04				
386	SLD 12	-1.5E-03	-4402.7	SLD 5	-3.8E-03	-11362	SLE RA 21	3.54E-04				
387	SLD 12	-1.5E-03	-4420.4	SLD 5	-3.7E-03	-11071.3	SLE RA 21	3.35E-04				
388	SLD 12	-1.5E-03	-4416.5	SLD 5	-3.6E-03	-10834.5	SLE RA 21	3.25E-04				
389	SLD 12	-1.5E-03	-4386.3	SLD 5	-3.5E-03	-10586.6	SLE RA 21	0.000323				
390	SLD 12	-1.4E-03	-4323.7	SLD 5	-3.4E-03	-10265.7	SLE RA 21	3.41E-04				
391	SLD 12	-1.4E-03	-4272	SLD 5	-3.4E-03	-10062.5	SLE RA 21	3.74E-04				
392	SLD 12	-1.4E-03	-4251.9	SLD 5	-3.3E-03	-10036.9	SLE RA 21	4.16E-04				
393	SLD 8	-1.4E-03	-4276.7	SLD 9	-3.4E-03	-10211.2	SLE RA 21	4.59E-04				
394	SLD 8	-1.5E-03	-4357.7	SLD 9	-3.5E-03	-10571.8	SLE RA 21	4.91E-04				
395	SLD 8	-1.5E-03	-4496	SLD 9	-3.7E-03	-11084.6	SLE RA 21	4.98E-04				
396	SLD 8	-1.6E-03	-4744.5	SLD 9	-4.0E-03	-11864.8	SLE RA 21	4.98E-04				
397	SLD 7	-1.6E-03	-4828.5	SLD 10	-3.6E-03	-10860.6	SLE RA 21	0.000712				
398	SLD 7	-1.6E-03	-4793.7	SLD 10	-3.6E-03	-10786.4	SLE RA 21	0.000691				
399	SLD 7	-1.6E-03	-4726.6	SLD 10	-3.5E-03	-10631.2	SLE RA 21	6.42E-04				
400	SLD 7	-1.6E-03	-4663.6	SLD 10	-3.5E-03	-10502.2	SLE RA 21	5.79E-04				
401	SLD 7	-1.5E-03	-4627.3	SLD 10	-3.5E-03	-10469.7	SLE RA 21	5.13E-04				
402	SLD 7	-1.5E-03	-4625.7	SLD 10	-3.5E-03	-10566.5	SLE RA 21	4.50E-04				
403	SLD 7	-1.6E-03	-4654.3	SLD 10	-3.6E-03	-10791.8	SLE RA 21	3.96E-04				
404	SLD 7	-1.6E-03	-4693.9	SLD 10	-3.7E-03	-11108.7	SLE RA 21	3.53E-04				
405	SLD 7	-1.6E-03	-4711.3	SLD 10	-3.8E-03	-11346.4	SLE RA 21	3.30E-04				
406	SLD 7	-1.6E-03	-4706.2	SLD 10	-3.9E-03	-11572.5	SLE RA 21	3.14E-04				
407	SLD 7	-1.6E-03	-4683.9	SLD 10	-3.9E-03	-11748.7	SLE RA 21	3.11E-04				
408	SLD 7	-1.5E-03	-4587.6	SLD 10	-4.0E-03	-11999	SLE RA 21	3.16E-04				
409	SLD 7	-1.5E-03	-4435.2	SLD 10	-4.0E-03	-12111.3	SLE RA 21	3.11E-04				
410	SLD 7	-1.5E-03	-4360.5	SLD 10	-4.0E-03	-12096.2	SLE RA 21	3.01E-04				
411	SLD 7	-1.4E-03	-4112.1	SLD 10	-4.0E-03	-11982.3	SLE RA 21	2.33E-04				
412	SLD 7	-1.3E-03	-4034.4	SLD 10	-4.0E-03	-11922.9	SLE RA 21	0.00021				
413	SLD 7	-1.3E-03	-3796	SLD 10	-3.9E-03	-11562.3	SLE RA 21	1.32E-04				
414	SLD 7	-1.2E-03	-3545.3	SLD 10	-3.7E-03	-11040.7	SLE RA 21	4.27E-05				
415	SLD 7	-1.1E-03	-3309.1	SLD 10	-3.5E-03	-10483.6	SLE RA 21	2.11E-05				
416	SLD 7	-1.0E-03	-3103.2	SLD 10	-3.3E-03	-9976.2	SLE RA 21	1.31E-05				
417	SLD 7	-9.8E-04	-2936.3	SLD 10	-3.2E-03	-9574.5	SLE RA 21	7.07E-06				
418	SLD 7	-9.4E-04	-2812.7	SLD 10	-3.1E-03	-9315	SLE RA 21	3.17E-06				
419	SLD 7	-9.1E-04	-2734.8	SLD 10	-3.1E-03	-9222.6	SLE RA 21	1.46E-06				
420	SLD 7	-9.0E-04	-2704.3	SLD 10	-3.1E-03	-9316.4	SLE RA 21	0.000002				
421	SLD 7	-9.1E-04	-2723.9	SLD 10	-3.2E-03	-9613.5	SLE RA 21	4.85E-06				
422	SLD 7	-9.3E-04	-2796.7	SLD 10	-3.4E-03	-10130.7	SLE RA 21	9.93E-06				
423	SLD 7	-9.8E-04	-2926.9	SLD 10	-3.6E-03	-10883.6	SLE RA 21	1.69E-05				
424	SLD 7	-1.0E-03	-3118.4	SLD 10	-4.0E-03	-11883.1	SLE RA 21	0.000025				
425	SLD 7	-1.1E-03	-3373.4	SLD 10	-4.4E-03	-13129.1	SLE RA 21	3.27E-05				
426	SLD 7	-1.2E-03	-3689.6	SLD 10	-4.9E-03	-14601	SLE RA 21	3.91E-05				
427	SLD 7	-1.3E-03	-3844	SLD 10	-5.1E-03	-15299.1	SLE RA 21	9.16E-05				
429	SLD 12	-1.1E-03	-3417.7	SLD 5	-4.9E-03	-14623.1	SLE RA 21	0.000037				
430	SLD 12	-1.3E-03	-4010.3	SLD 5	-3.9E-03	-11574.7	SLE RA 21	3.17E-04				
432	SLD 12	-1.4E-03	-4239.8	SLD 5	-3.9E-03	-11689.1	SLE RA 21	3.89E-04				
433	SLD 7	-1.5E-03	-4402.8	SLD 10	-4.0E-03	-12018.7	SLE RA 21	0.000318				
435	SLD 7	-1.4E-03	-4156.3	SLD 10	-4.0E-03	-11916.2	SLE RA 21	2.47E-04				
436	SLD 7	-1.2E-03	-3567.7	SLD 10	-4.6E-03	-13724.6	SLE RA 21	3.61E-05				
438	SLD 7	-1.6E-03	-4877.8	SLD 10	-3.6E-03	-10759.1	SLE RA 21	6.96E-04				
444	SLD 12	-1.2E-03	-3699.2	SLD 5	-4.5E-03	-13358.2	SLE RA 21	3.41E-05				
445	SLD 12	-1.4E-03	-4321.7	SLD 5	-3.6E-03	-10852.8	SLE RA 21	4.17E-04				
447	SLD 12	-1.5E-03	-4546.6	SLD 5	-3.6E-03	-10948.8	SLE RA 21	4.79E-04				
448	SLD 7	-1.6E-03	-4682.3	SLD 10	-3.7E-03	-11232.4	SLE RA 21	4.13E-04				
450	SLD 7	-1.5E-03	-4440.4	SLD 10	-0.00372	-11160.1	SLE RA 21	3.51E-04				
451	SLD 7	-1.3E-03	-3884.9	SLD 10	-4.2E-03	-12574.8	SLE RA 21	3.45E-05				
453	SLD 7	-1.7E-03	-5221.7	SLD 10	-3.3E-03	-10001	SLE RA 21	7.97E-04				
458	SLD 12	-1.4E-03	-4063.5	SLD 5	-4.1E-03	-12389.2	SLE RA 21	7.51E-05				
459	SLD 12	-1.6E-03	-4674.5	SLD 5	-3.4E-03	-10265.4	SLE RA 21	4.72E-04				
461	SLD 12	-1.6E-03	-4895	SLD 5	-3.4E-03	-10343.1	SLE RA 21	5.44E-04				
462	SLD 7	-1.7E-03	-5001.4	SLD 10	-3.5E-03	-10579.2	SLE RA 21	4.88E-04				
464	SLD 7	-1.6E-03	-4763.8	SLD 10	-3.5E-03	-10536.9	SLE RA 21	4.11E-04				
465	SLD 7	-1.4E-03	-4277.1	SLD 10	-3.9E-03	-11666.4	SLE RA 21	3.27E-05				
467	SLD 7	-1.9E-03	-5614.6	SLD 10	-3.2E-03	-9453.7	SLE RA 21	9.37E-04				
470	SLD 8	-1.5E-03	-4494.8	SLD 9	-2.5E-03	-7524.2	SLE RA 21	5.71E-04				
473	SLD 12	-1.5E-03	-4514.8	SLD 5	-3.9E-03	-11700.7	SLE RA 21	5.88E-05				
474	SLD 12	-1.7E-03	-5062.4	SLD 5	-3.3E-03	-9772.4	SLE RA 21	5.32E-04				
476	SLD 12	-1.8E-03	-5278.8	SLD 5	-3.3E-03	-9831.9	SLE RA 21	5.93E-04				
477	SLD 7	-1.8E-03	-5352.7	SLD 10	-3.3E-03	-10016.9	SLE RA 21	5.44E-04				
479	SLD 7	-1.7E-03	-5119	SLD 10	-3.3E-03	-10004.6	SLE RA 21	4.77E-04				
480	SLD 7	-1.6E-03	-4754.3	SLD 10	-3.7E-03	-11008	SLE RA 21	3.21E-05				
482	SLD 7	-2.0E-03	-6059.1	SLD 10	-3.0E-03	-9098.5	SLE RA 21	1.16E-03				
487	SLD 16	-1.7E-03	-5009	SLD 1	-3.8E-03	-11307.3	SLE RA 21	5.53E-05				
488	SLD 12	-1.8E-03	-5482	SLD 5	-3.1E-03	-9349.7	SLE RA 21	0.000602				
490	SLD 12	-1.9E-03	-5694.5	SLD 5	-3.1E-03	-9390.9	SLE RA 21	6.52E-04				
491	SLD 7	-1.9E-03	-5731.6	SLD 10	-3.2E-03	-9518.8	SLE RA 21	6.05E-04				
493	SLD 7	-1.8E-03	-5501.6	SLD 10	-3.2E-03	-9536.5	SLE RA 21	5.48E-04				
494	SLD 3	-1.8E-03	-5304.1	SLD 14	-3.5E-03	-10606.1	SLE RA 21	3.41E-05				
497	SLD 7	-2.2E-03	-6538.9	SLD 10	-3.0E-03	-8888.1	SLE RA 21	1.40E-03				
502	SLD 16	-1.8E-03	-5267.3	SLD 1	-3.8E-03	-11442.9	SLE RA 21	5.85E-05				
503	SLD 12	-2.0E-03	-5930.4	SLD 5	-3.0E-03	-8984.7	SLE RA 21	7.01E-04				
505	SLD 12	-2.0E-03	-6139.2	SLD 5	-3.0E-03	-9007.6	SLE RA 21	0.000742				
506	SLD 7	-2.0E-03	-6136	SLD 10	-3.0E-03	-9069.7	SLE RA 21	7.10E-04				
508	SLD 7	-2.0E-03	-5909.6	SLD 10	-3.0E-03	-9117.4	SLE RA 21	6.38E-04				
509	SLD 3	-1.9E-03	-5612.1	SLD 14	-3.6E-03	-10745.5	SLE RA 21	4.37E-05				
511	SLD 8	-2.3E-03	-7016.5	SLD 9	-2.9E-03	-8748.1	SLE RA 21	1.60E-03				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
529	SLD 16	-1.9E-03	-5590.3	SLD 1	-3.9E-03	-11741.2	SLE RA 21	6.74E-05				
530	SLD 12	-2.1E-03	-6401.6	SLD 5	-2.9E-03	-8671.8	SLE RA 21	8.37E-04				
532	SLD 12	-2.2E-03	-6606.8	SLD 5	-2.9E-03	-8676.1	SLE RA 21	8.92E-04				
533	SLD 7	-2.2E-03	-6565.6	SLD 10	-2.9E-03	-8662.7	SLE RA 21	8.44E-04				
535	SLD 7	-2.1E-03	-6342.7	SLD 10	-2.9E-03	-8740.3	SLE RA 21	7.73E-04				
536	SLD 3	-2.0E-03	-5993.4	SLD 14	-3.7E-03	-11054.2	SLE RA 21	0.000115				
538	SLD 2	-1.8E-03	-5495	SLE RA 20	-2.1E-03	-6360.5	SLE RA 21	6.68E-04				
539	SLD 8	-2.5E-03	-7632.4	SLE RA 21	-2.9E-03	-8810.7	SLE RA 21	1.59E-03				
541	SLD 8	-2.9E-03	-8790.6	SLE RA 21	-3.6E-03	-10651.9	SLE RA 21	1.15E-03				
542	SLD 8	-2.8E-03	-8324.1	SLE RA 21	-3.3E-03	-9959.3	SLE RA 21	0.001254				
543	SLD 8	-2.6E-03	-7936.2	SLE RA 21	-3.1E-03	-9370.6	SLE RA 21	0.001422				
544	SLD 7	-2.6E-03	-7752.4	SLE RA 21	-3.0E-03	-8960.5	SLE RA 21	1.64E-03				
547	SLD 16	-2.0E-03	-5946.9	SLD 1	-4.0E-03	-12134.5	SLE RA 21	1.35E-04				
548	SLD 16	-2.2E-03	-6722	SLD 1	-2.9E-03	-8569	SLE RA 21	8.88E-04				
550	SLD 16	-2.3E-03	-6922.6	SLD 1	-2.9E-03	-8555.9	SLE RA 21	9.46E-04				
551	SLD 7	-2.3E-03	-7020.3	SLE RA 21	-2.8E-03	-8332	SLE RA 21	9.87E-04				
553	SLD 7	-2.3E-03	-6801.5	SLD 10	-2.8E-03	-8402.9	SLE RA 21	0.00093				
554	SLD 3	-2.1E-03	-6415	SLD 14	-3.8E-03	-11472.2	SLE RA 21	2.11E-04				
556	SLE RA 1	-2.6E-03	-7827	SLE RA 21	-2.9E-03	-8848	SLE RA 21	1.64E-03				
563	SLD 16	-2.1E-03	-6287.7	SLD 1	-4.2E-03	-12521.9	SLE RA 21	1.89E-04				
564	SLD 16	-2.3E-03	-6921.7	SLD 1	-2.9E-03	-8618.5	SLE RA 21	0.000988				
566	SLD 16	-2.4E-03	-7113.2	SLD 1	-2.9E-03	-8592.5	SLE RA 21	1.04E-03				
567	SLD 3	-2.4E-03	-7246.7	SLE RA 20	-2.8E-03	-8416	SLE RA 21	9.94E-04				
569	SLD 3	-2.4E-03	-7141.5	SLE RA 21	-2.8E-03	-8376.4	SLE RA 21	9.30E-04				
570	SLD 3	-2.3E-03	-6824.6	SLD 14	-4.0E-03	-11908	SLE RA 21	3.15E-04				
572	SLE RA 2	-2.6E-03	-7804.8	SLE RA 20	-2.9E-03	-8834.4	SLE RA 21	1.65E-03				
579	SLD 15	-2.2E-03	-6526.8	SLD 2	-4.3E-03	-12762.2	SLE RA 21	2.60E-04				
580	SLD 14	-2.3E-03	-7029.3	SLD 3	-2.9E-03	-8742.4	SLE RA 21	1.06E-03				
582	SLD 14	-2.4E-03	-7156.2	SLD 3	-2.9E-03	-8759	SLE RA 21	1.10E-03				
583	SLD 2	-2.4E-03	-7266.9	SLE RA 20	-2.8E-03	-8543.6	SLE RA 21	1.04E-03				
585	SLD 1	-2.4E-03	-7293.9	SLE RA 20	-2.8E-03	-8519.8	SLE RA 21	9.90E-04				
586	SLD 3	-2.4E-03	-7142.2	SLD 14	-4.1E-03	-12229	SLE RA 21	0.000404				
588	SLD 6	-2.6E-03	-7662.6	SLE RA 20	-2.9E-03	-8767.9	SLE RA 20	1.62E-03				
594	SLD 15	-2.2E-03	-6548.3	SLD 2	-4.4E-03	-13058.1	SLE RA 21	1.97E-04				
595	SLD 15	-2.2E-03	-6570.6	SLD 2	-4.3E-03	-12770.9	SLE RA 21	2.77E-04				
596	SLD 15	-2.2E-03	-6604.2	SLD 2	-4.2E-03	-12645.5	SLE RA 21	3.14E-04				
597	SLD 15	-2.2E-03	-6711.8	SLD 2	-4.1E-03	-12338.5	SLE RA 21	3.80E-04				
598	SLD 15	-2.3E-03	-6840.2	SLD 2	-4.0E-03	-12081.1	SLE RA 21	4.29E-04				
599	SLD 16	-2.3E-03	-6970	SLD 1	-3.9E-03	-11841.4	SLE RA 21	4.44E-04				
600	SLD 16	-2.4E-03	-7091.1	SLD 1	-3.9E-03	-11602.6	SLE RA 21	4.50E-04				
601	SLD 16	-2.4E-03	-7200.9	SLD 1	-3.8E-03	-11353.1	SLE RA 21	4.63E-04				
602	SLD 16	-2.4E-03	-7294.5	SLD 1	-3.7E-03	-11087.2	SLE RA 21	0.0005				
603	SLD 16	-2.5E-03	-7366	SLD 1	-3.6E-03	-10799.5	SLE RA 21	5.73E-04				
604	SLD 16	-2.5E-03	-7406.8	SLD 1	-3.5E-03	-10484.2	SLE RA 21	6.67E-04				
605	SLD 16	-2.5E-03	-7406.6	SLD 1	-3.4E-03	-10137.4	SLE RA 21	7.82E-04				
606	SLD 16	-2.5E-03	-7357.5	SLD 1	-3.3E-03	-9761.3	SLE RA 21	9.09E-04				
607	SLD 16	-2.4E-03	-7265.6	SLD 1	-3.1E-03	-9376	SLE RA 20	1.04E-03				
608	SLD 16	-2.4E-03	-7202.5	SLD 1	-3.1E-03	-9168.3	SLE RA 21	9.39E-04				
609	SLD 16	-2.4E-03	-7144	SLD 1	-3.0E-03	-8976.7	SLE RA 21	9.86E-04				
610	SLD 14	-2.3E-03	-7042	SLD 3	-2.9E-03	-8833.4	SLE RA 20	1.06E-03				
611	SLD 14	-2.4E-03	-7089.6	SLD 3	-2.9E-03	-8826.6	SLE RA 20	1.09E-03				
612	SLD 13	-2.4E-03	-7212.7	SLD 4	-2.9E-03	-8839.6	SLE RA 20	1.11E-03				
613	SLD 13	-2.5E-03	-7393.6	SLE RA 20	-3.0E-03	-8873	SLE RA 20	1.12E-03				
614	SLD 14	-2.5E-03	-7589.7	SLE RA 20	-3.0E-03	-8956.2	SLE RA 20	1.20E-03				
615	SLD 10	-2.6E-03	-7764.5	SLE RA 20	-3.0E-03	-9002.3	SLE RA 20	1.16E-03				
616	SLD 10	-2.6E-03	-7825.8	SLE RA 20	-3.0E-03	-8995.9	SLE RA 20	1.16E-03				
617	SLD 10	-2.6E-03	-7831.5	SLE RA 20	-3.0E-03	-8928	SLE RA 20	0.00119				
618	SLE RA 2	-2.6E-03	-7734.2	SLE RA 20	-2.9E-03	-8802.6	SLE RA 20	1.25E-03				
619	SLD 6	-2.5E-03	-7549.5	SLE RA 20	-2.9E-03	-8660.1	SLE RA 20	1.21E-03				
620	SLD 6	-2.4E-03	-7342.4	SLE RA 20	-2.8E-03	-8525.7	SLE RA 20	1.24E-03				
621	SLD 6	-2.2E-03	-6626.4	SLD 11	-2.7E-03	-8119.7	SLE RA 20	1.30E-03				
622	SLD 1	-2.7E-03	-7987.1	SLE RA 20	-3.1E-03	-9166.5	SLE RA 21	1.82E-03				
623	SLD 1	-2.6E-03	-7906.6	SLE RA 20	-3.1E-03	-9198.5	SLE RA 21	1.70E-03				
624	SLD 1	-2.6E-03	-7815.6	SLE RA 20	-3.1E-03	-9214.8	SLE RA 21	1.65E-03				
625	SLD 1	-2.6E-03	-7713.2	SLE RA 20	-3.1E-03	-9206.3	SLE RA 21	1.41E-03				
626	SLD 1	-2.5E-03	-7604.2	SLD 16	-3.1E-03	-9206.1	SLE RA 21	1.26E-03				
627	SLD 2	-2.5E-03	-7500.9	SLD 15	-3.1E-03	-9186.5	SLE RA 21	0.001182				
628	SLD 2	-2.5E-03	-7422.7	SLD 15	-3.0E-03	-9110.7	SLE RA 21	1.16E-03				
629	SLD 2	-2.5E-03	-7471.2	SLE RA 20	-3.0E-03	-8923.2	SLE RA 21	1.20E-03				
630	SLD 2	-2.4E-03	-7294.8	SLE RA 20	-2.9E-03	-8582.5	SLE RA 20	1.00E-03				
631	SLD 3	-2.5E-03	-7560.6	SLE RA 20	-2.9E-03	-8834.5	SLE RA 21	1.02E-03				
632	SLD 3	-0.00257	-7709.9	SLE RA 21	-3.0E-03	-9082.7	SLE RA 20	9.29E-04				
633	SLD 3	-2.6E-03	-7828.4	SLE RA 21	-3.1E-03	-9335.7	SLE RA 20	8.28E-04				
634	SLD 3	-2.6E-03	-7896.8	SLD 14	-3.2E-03	-9661.4	SLE RA 21	7.31E-04				
635	SLD 3	-2.6E-03	-7915	SLD 14	-3.3E-03	-10002	SLE RA 21	6.48E-04				
636	SLD 3	-2.6E-03	-7891	SLD 14	-0.00344	-10320.1	SLE RA 21	5.86E-04				
637	SLD 3	-2.6E-03	-7833.3	SLD 14	-3.5E-03	-10614.2	SLE RA 21	5.47E-04				
638	SLD 3	-2.6E-03	-7749.5	SLD 14	-3.6E-03	-10886.3	SLE RA 21	5.31E-04				
639	SLD 3	-2.5E-03	-7645.7	SLD 14	-3.7E-03	-11140.7	SLE RA 21	5.50E-04				
640	SLD 3	-2.5E-03	-7528.6	SLD 14	-3.8E-03	-11385.7	SLE RA 21	5.75E-04				
641	SLD 3	-2.5E-03	-7409.5	SLD 14	-3.9E-03	-11638	SLE RA 21	5.85E-04				
642	SLD 3	-2.4E-03	-7308.8	SLD 14	-4.0E-03	-11930.3	SLE RA 21	5.50E-04				
643	SLD 3	-2.4E-03	-7263.3	SLD 14	-4.1E-03	-12323.1	SLE RA 21	4.42E-04				
644	SLD 4	-2.4E-03	-7328.7	SLD 13	-4.3E-03	-12904.4	SLE RA 21	3.00E-04				
650	SLD 15	-2.2E-03	-6615.7	SLD 2	-4.2E-03	-12735.8	SLE RA 21	2.87E-04				
662	SLD 16	-2.4E-03	-7285.2	SLD 1	-3.1E-03	-9299.4	SLE RA 20	9.24E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
665	SLD 14	-2.3E-03	-7004.5	SLD 3	-3.0E-03	-8903.5	SLE RA 20	1.08E-03				
667	SLD 13	-2.4E-03	-7122.1	SLD 4	-3.0E-03	-8921.2	SLE RA 20	1.11E-03				
676	SLD 6	-2.5E-03	-7472.1	SLE RA 20	-2.9E-03	-8605.9	SLE RA 20	1.23E-03				
678	SLD 6	-2.4E-03	-7228	SLE RA 20	-2.8E-03	-8419.9	SLE RA 20	1.27E-03				
680	SLD 6	-2.3E-03	-6859.8	SLE RA 20	-2.7E-03	-8223.2	SLE RA 20	1.30E-03				
687	SLD 6	-2.4E-03	-7328.7	SLE RA 20	-2.9E-03	-8628.4	SLE RA 20	1.74E-03				
693	SLD 1	-2.6E-03	-7671.7	SLE RA 20	-2.9E-03	-8712.6	SLE RA 20	1.58E-03				
695	SLD 1	-2.5E-03	-7649.5	SLE RA 20	-2.9E-03	-8813.8	SLE RA 20	1.72E-03				
703	SLD 6	-2.4E-03	-7095.8	SLD 11	-3.0E-03	-8892.2	SLE RA 20	0.001051				
706	SLD 6	-2.4E-03	-7274.6	SLE RA 20	-2.9E-03	-8692.7	SLE RA 20	1.01E-03				
708	SLD 3	-2.5E-03	-7637.8	SLE RA 20	-3.0E-03	-8941.5	SLE RA 20	1.03E-03				
721	SLD 4	-2.4E-03	-7236.7	SLD 13	-4.1E-03	-12300.3	SLE RA 20	4.45E-04				
723	SLD 15	-2.2E-03	-6635	SLD 2	-4.3E-03	-12991.5	SLE RA 20	1.96E-04				
724	SLD 15	-2.2E-03	-6689.5	SLD 2	-4.2E-03	-12576.1	SLE RA 20	0.000313				
725	SLD 15	-2.3E-03	-6792.3	SLD 2	-4.1E-03	-12262.2	SLE RA 20	3.83E-04				
726	SLD 15	-2.3E-03	-6915.9	SLD 2	-4.0E-03	-11998.1	SLE RA 20	4.33E-04				
727	SLD 15	-2.3E-03	-7042.4	SLD 2	-3.9E-03	-11750	SLE RA 20	4.52E-04				
728	SLD 15	-2.4E-03	-7162.7	SLD 2	-3.8E-03	-11500.4	SLE RA 20	4.62E-04				
729	SLD 15	-2.4E-03	-7271.3	SLD 2	-3.7E-03	-11240.4	SLE RA 20	4.81E-04				
730	SLD 16	-2.5E-03	-7360.4	SLD 1	-3.7E-03	-10967.5	SLE RA 20	0.000533				
731	SLD 16	-2.5E-03	-7426.6	SLD 1	-3.6E-03	-10673.2	SLE RA 20	6.17E-04				
732	SLD 16	-2.5E-03	-7462	SLD 1	-3.5E-03	-10351.5	SLE RA 20	7.25E-04				
733	SLD 16	-2.5E-03	-7456.2	SLD 1	-3.3E-03	-9998.2	SLE RA 20	8.53E-04				
734	SLD 16	-2.5E-03	-7400.4	SLD 1	-3.2E-03	-9616.8	SLE RA 20	9.86E-04				
735	SLD 14	-2.4E-03	-7285.5	SLD 3	-3.1E-03	-9242.1	SLE RA 20	9.28E-04				
736	SLD 14	-2.4E-03	-7107.6	SLD 3	-3.0E-03	-9079.4	SLE RA 20	1.01E-03				
737	SLD 13	-2.3E-03	-6989.8	SLD 4	-3.0E-03	-8995.4	SLE RA 20	1.06E-03				
738	SLD 13	-2.3E-03	-7035.6	SLD 4	-3.0E-03	-8999.5	SLE RA 20	1.09E-03				
739	SLD 13	-2.4E-03	-7151.2	SLD 4	-3.0E-03	-9002.9	SLE RA 20	1.10E-03				
740	SLD 13	-2.4E-03	-7320.9	SLD 4	-3.0E-03	-8972.2	SLE RA 20	0.001197				
741	SLD 9	-2.5E-03	-7488.3	SLE RA 20	-3.0E-03	-8976.3	SLE RA 20	1.16E-03				
742	SLD 9	-2.5E-03	-7594.1	SLE RA 20	-3.0E-03	-9003.8	SLE RA 20	1.15E-03				
743	SLD 10	-2.6E-03	-7662.3	SLE RA 20	-3.0E-03	-8978.8	SLE RA 20	1.17E-03				
744	SLD 10	-2.6E-03	-7674.7	SLE RA 20	-3.0E-03	-8892.3	SLE RA 20	0.001235				
745	SLD 10	-2.5E-03	-7614.7	SLE RA 20	-2.9E-03	-8748.2	SLE RA 20	1.20E-03				
746	SLD 6	-2.5E-03	-7432.9	SLE RA 20	-2.9E-03	-8557.8	SLE RA 20	1.23E-03				
747	SLD 6	-2.4E-03	-7189.2	SLE RA 20	-2.8E-03	-8371.7	SLE RA 20	1.26E-03				
748	SLD 6	-2.3E-03	-7047	SLE RA 20	-2.8E-03	-8463.8	SLE RA 20	1.31E-03				
749	SLD 6	-2.3E-03	-7009.8	SLD 11	-2.8E-03	-8538.7	SLE RA 20	1.33E-03				
750	SLD 6	-2.3E-03	-6938.1	SLD 11	-2.9E-03	-8618.5	SLE RA 20	1.39E-03				
751	SLD 6	-2.3E-03	-6760.2	SLD 11	-2.9E-03	-8573.7	SLE RA 20	1.36E-03				
752	SLD 6	-2.3E-03	-6778.4	SLD 11	-2.8E-03	-8535.1	SLE RA 20	1.42E-03				
753	SLD 6	-2.4E-03	-7224.8	SLE RA 20	-2.8E-03	-8548.6	SLE RA 20	1.53E-03				
754	SLD 5	-2.4E-03	-7345.5	SLE RA 20	-2.8E-03	-8544.9	SLE RA 20	1.53E-03				
755	SLD 5	-2.5E-03	-7396.2	SLE RA 20	-2.8E-03	-8462.6	SLE RA 20	1.51E-03				
756	SLD 1	-2.4E-03	-7333.4	SLE RA 20	-2.8E-03	-8349.5	SLE RA 20	0.001477				
757	SLD 1	-2.4E-03	-7318.6	SLE RA 20	-2.8E-03	-8457.6	SLE RA 20	1.61E-03				
758	SLD 1	-2.4E-03	-7248.1	SLE RA 20	-2.8E-03	-8488.2	SLE RA 20	1.52E-03				
759	SLD 1	-2.4E-03	-7160.7	SLE RA 20	-2.8E-03	-8507.4	SLE RA 20	1.41E-03				
760	SLD 1	-2.4E-03	-7061.1	SLD 16	-2.8E-03	-8518.5	SLE RA 20	1.31E-03				
761	SLD 1	-2.3E-03	-6954.2	SLD 16	-2.9E-03	-8557.2	SLE RA 20	1.18E-03				
762	SLD 1	-2.3E-03	-6852.6	SLD 16	-2.8E-03	-8537.7	SLE RA 20	1.11E-03				
763	SLD 1	-2.3E-03	-6776.6	SLD 16	-0.00282	-8460.1	SLE RA 20	1.08E-03				
764	SLD 1	-2.3E-03	-6826.7	SLD 16	-2.7E-03	-8228.8	SLE RA 20	9.89E-04				
765	SLD 1	-2.4E-03	-7332.8	SLE RA 20	-2.9E-03	-8646.8	SLE RA 20	9.37E-04				
766	SLD 1	-2.5E-03	-7588.6	SLE RA 20	-3.0E-03	-8942.2	SLE RA 20	8.83E-04				
767	SLD 1	-2.6E-03	-7687.2	SLE RA 20	-3.0E-03	-9070.2	SLE RA 20	0.001001				
768	SLD 1	-2.6E-03	-7831.3	SLE RA 20	-3.1E-03	-9323.1	SLE RA 20	9.01E-04				
769	SLD 1	-2.6E-03	-7910	SLD 16	-3.2E-03	-9626.9	SLE RA 20	7.94E-04				
770	SLD 1	-2.6E-03	-7930.4	SLD 16	-3.3E-03	-9966.7	SLE RA 20	6.98E-04				
771	SLD 1	-2.6E-03	-7903.5	SLD 16	-3.4E-03	-10288.8	SLE RA 20	6.24E-04				
772	SLD 1	-2.6E-03	-7840.1	SLD 16	-3.5E-03	-10589.8	SLE RA 20	5.75E-04				
773	SLD 1	-2.6E-03	-7749	SLD 16	-3.6E-03	-10870.3	SLE RA 20	5.50E-04				
774	SLD 2	-2.5E-03	-7636.9	SLD 15	-3.7E-03	-11134.1	SLE RA 20	0.00056				
775	SLD 2	-2.5E-03	-7509.5	SLD 15	-3.8E-03	-11390.6	SLE RA 20	5.81E-04				
776	SLD 2	-2.5E-03	-7380.3	SLD 15	-3.9E-03	-11654	SLE RA 20	5.89E-04				
777	SLD 2	-2.4E-03	-7269.8	SLD 15	-4.0E-03	-11957.2	SLE RA 20	0.000553				
778	SLD 2	-2.4E-03	-7214.7	SLD 15	-4.1E-03	-12360.6	SLE RA 20	4.44E-04				
779	SLD 2	-2.4E-03	-7269.8	SLD 15	-4.3E-03	-12952.5	SLE RA 20	3.00E-04				
780	SLD 2	-2.4E-03	-7072.4	SLD 15	-4.1E-03	-12270.2	SLE RA 20	4.04E-04				
783	SLD 13	-2.2E-03	-6609.1	SLD 4	-4.2E-03	-12563.4	SLE RA 20	2.55E-04				
784	SLD 2	-2.2E-03	-6710.3	SLD 15	-4.0E-03	-11950.5	SLE RA 20	3.10E-04				
786	SLD 14	-2.4E-03	-7075.3	SLD 3	-3.1E-03	-9210.3	SLE RA 20	0.000986				
788	SLD 13	-2.3E-03	-7010.5	SLD 4	-3.1E-03	-9215.6	SLE RA 20	0.001065				
789	SLD 10	-2.4E-03	-7137.4	SLE RA 20	-2.7E-03	-8158.2	SLE RA 20	1.13E-03				
791	SLD 6	-2.3E-03	-6861.6	SLE RA 20	-2.6E-03	-7883.6	SLE RA 20	1.16E-03				
792	SLD 1	-2.1E-03	-6306.6	SLE RA 20	-2.4E-03	-7273.6	SLE RA 20	1.15E-03				
794	SLD 1	-2.1E-03	-6331.5	SLE RA 20	-2.5E-03	-7420.3	SLE RA 20	1.12E-03				
795	SLD 2	-2.4E-03	-7225.4	SLD 15	-2.9E-03	-8783.3	SLE RA 20	9.76E-04				
797	SLD 2	-2.4E-03	-7333.4	SLD 15	-3.0E-03	-8884.5	SLE RA 20	9.31E-04				
799	SLD 13	-2.0E-03	-5986.5	SLD 4	-4.0E-03	-11862.3	SLE RA 20	1.29E-04				
800	SLD 2	-2.1E-03	-6263.1	SLD 15	-3.8E-03	-11515.3	SLE RA 20	2.01E-04				
802	SLD 6	-2.3E-03	-7011.7	SLD 11	-3.0E-03	-9125.2	SLE RA 20	8.40E-04				
804	SLD 6	-2.4E-03	-7186	SLD 11	-3.0E-03	-9108.1	SLE RA 20	8.14E-04				
805	SLD 13	-2.3E-03	-6963.6	SLD 4	-3.1E-03	-9273.2	SLE RA 20	8.60E-04				
807	SLD 13	-2.3E-03	-6906.3	SLD 4	-3.1E-03	-9291.5	SLE RA 20	9.11E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
808	SLD 10	-2.3E-03	-6826.1	SLE RA 20	-2.6E-03	-7898.7	SLE RA 20	1.03E-03				
810	SLD 1	-1.9E-03	-5770.7	SLE RA 20	-2.2E-03	-6749.2	SLE RA 20	9.46E-04				
812	SLD 1	-1.9E-03	-5800.1	SLE RA 20	-2.3E-03	-6900.4	SLE RA 20	9.19E-04				
814	SLD 13	-1.9E-03	-5640.6	SLD 4	-3.8E-03	-11527.3	SLE RA 20	7.37E-05				
815	SLD 2	-1.9E-03	-5812.4	SLD 15	-3.7E-03	-11108.5	SLE RA 20	1.03E-04				
817	SLD 6	-2.2E-03	-6717.5	SLD 11	-3.2E-03	-9585	SLE RA 20	7.14E-04				
819	SLD 6	-2.3E-03	-6868.6	SLD 11	-3.2E-03	-9539.4	SLE RA 20	6.94E-04				
820	SLD 9	-2.2E-03	-6748.2	SLD 8	-3.1E-03	-9438.7	SLE RA 20	7.32E-04				
822	SLD 9	-2.2E-03	-6584.1	SLD 8	-3.2E-03	-9584.2	SLE RA 20	7.72E-04				
823	SLD 10	-2.2E-03	-6515.6	SLE RA 20	-2.6E-03	-7754.7	SLE RA 20	9.11E-04				
825	SLD 1	-1.8E-03	-5348.8	SLE RA 20	-2.1E-03	-6375.8	SLE RA 19	7.24E-04				
827	SLD 1	-1.8E-03	-5382.8	SLD 16	-2.2E-03	-6587.4	SLE RA 20	7.46E-04				
828	SLD 10	-2.0E-03	-6127.8	SLD 7	-2.5E-03	-7436.3	SLE RA 20	8.64E-04				
829	SLD 10	-1.6E-03	-4896.4	SLD 7	-2.0E-03	-5935.5	SLE RA 20	4.38E-04				
830	SLD 10	-1.6E-03	-4692.8	SLD 7	-1.9E-03	-5699.7	SLE RA 20	3.98E-04				
831	SLD 10	-1.5E-03	-4583	SLD 7	-1.8E-03	-5546.7	SLE RA 20	3.77E-04				
832	SLD 10	-1.5E-03	-4554.9	SLE RA 20	-1.8E-03	-5476.6	SLE RA 20	1.53E-04				
833	SLD 9	-1.5E-03	-4591.4	SLE RA 20	-1.8E-03	-5492	SLE RA 20	1.61E-04				
834	SLD 9	-1.6E-03	-4677.6	SLE RA 20	-1.9E-03	-5566	SLE RA 20	0.000404				
835	SLD 5	-1.6E-03	-4785.6	SLE RA 20	-1.9E-03	-5686.6	SLE RA 20	4.32E-04				
836	SLD 5	-1.6E-03	-4882.2	SLE RA 20	-1.9E-03	-5841.2	SLE RA 20	4.64E-04				
837	SLD 5	-1.7E-03	-4993.4	SLD 12	-2.0E-03	-6023.4	SLE RA 20	4.95E-04				
838	SLD 5	-1.7E-03	-5108.4	SLD 12	-2.1E-03	-6226	SLE RA 20	5.20E-04				
839	SLD 5	-1.7E-03	-5208.1	SLD 12	-2.1E-03	-6394.4	SLE RA 20	6.89E-04				
841	SLD 13	-1.8E-03	-5322.8	SLD 4	-3.8E-03	-11297.8	SLE RA 20	0.00006				
842	SLD 2	-1.8E-03	-5411.6	SLD 15	-3.6E-03	-10829.2	SLE RA 20	3.76E-05				
844	SLD 6	-2.1E-03	-6372.3	SLD 11	-3.4E-03	-10107	SLE RA 20	6.01E-04				
846	SLD 6	-2.2E-03	-6500.2	SLD 11	-3.3E-03	-10032.8	SLE RA 20	5.86E-04				
847	SLD 9	-2.1E-03	-6313.3	SLD 8	-3.3E-03	-9811.3	SLE RA 20	6.21E-04				
849	SLD 9	-2.1E-03	-6160.3	SLD 8	-3.3E-03	-9966	SLE RA 20	6.52E-04				
850	SLD 10	-2.1E-03	-6178.7	SLD 7	-2.6E-03	-7869.5	SLE RA 20	8.51E-04				
852	SLD 10	-1.8E-03	-5270.2	SLD 7	-2.2E-03	-6451.5	SLE RA 20	6.03E-04				
864	SLD 5	-1.6E-03	-4895.3	SLD 12	-2.1E-03	-6386.6	SLE RA 20	6.05E-04				
866	SLD 5	-1.7E-03	-5003.8	SLD 12	-2.2E-03	-6573.1	SLE RA 20	5.91E-04				
868	SLD 13	-1.7E-03	-5054.8	SLD 4	-3.7E-03	-11215.3	SLE RA 20	0.000054				
869	SLD 10	-1.7E-03	-4951.3	SLD 7	-2.1E-03	-6230.3	SLE RA 20	4.86E-04				
870	SLD 10	-1.5E-03	-4361.2	SLD 7	-2.0E-03	-5923.1	SLE RA 20	2.81E-04				
871	SLD 10	-1.4E-03	-4164.3	SLD 7	-1.9E-03	-5704.8	SLE RA 20	2.41E-04				
872	SLD 10	-1.4E-03	-4060.2	SLD 7	-1.9E-03	-5569.3	SLE RA 20	2.27E-05				
873	SLD 10	-1.3E-03	-4037.1	SLD 7	-1.8E-03	-5510.5	SLE RA 20	1.21E-05				
874	SLD 10	-1.4E-03	-4078.7	SLD 7	-1.8E-03	-5518.3	SLE RA 20	2.32E-05				
875	SLD 9	-1.4E-03	-4168.3	SLD 8	-1.9E-03	-5585.8	SLE RA 20	2.48E-04				
876	SLD 5	-1.4E-03	-4265.4	SLD 12	-1.9E-03	-5731.1	SLE RA 20	2.76E-04				
877	SLD 5	-1.5E-03	-4362.2	SLD 12	-2.0E-03	-5939	SLE RA 20	3.09E-04				
878	SLD 5	-1.5E-03	-4474.8	SLD 12	-2.1E-03	-6165.3	SLE RA 20	3.42E-04				
879	SLD 5	-1.5E-03	-4590.7	SLD 12	-2.1E-03	-6385.3	SLE RA 20	5.12E-04				
880	SLD 5	-1.6E-03	-4690.6	SLD 12	-2.2E-03	-6565.6	SLE RA 20	5.10E-04				
881	SLD 6	-2.0E-03	-5988.8	SLD 11	-3.6E-03	-10665.3	SLE RA 20	5.07E-04				
883	SLD 6	-2.0E-03	-6093.7	SLD 11	-3.5E-03	-10562.5	SLE RA 20	0.000496				
884	SLD 2	-1.7E-03	-5094	SLD 15	-3.6E-03	-10745.4	SLE RA 20	3.27E-05				
886	SLD 9	-1.9E-03	-5848.4	SLD 8	-3.4E-03	-10202.6	SLE RA 20	5.36E-04				
888	SLD 9	-1.9E-03	-5706.4	SLD 8	-3.5E-03	-10366.6	SLE RA 20	5.59E-04				
889	SLD 10	-1.9E-03	-5804	SLD 7	-2.7E-03	-8009.5	SLE RA 20	6.91E-04				
891	SLD 5	-1.5E-03	-4527.8	SLD 12	-2.2E-03	-6594.3	SLE RA 20	4.75E-04				
893	SLD 5	-1.5E-03	-4630.3	SLD 12	-2.3E-03	-6774	SLE RA 20	5.21E-04				
895	SLD 13	-1.6E-03	-4851.1	SLD 4	-3.8E-03	-11310.7	SLE RA 20	5.39E-05				
896	SLD 6	-1.9E-03	-5581.8	SLD 11	-3.7E-03	-11240.6	SLE RA 20	4.30E-04				
898	SLD 6	-1.9E-03	-5663.7	SLD 11	-3.7E-03	-11109.2	SLE RA 20	4.25E-04				
899	SLD 6	-1.5E-03	-4596.2	SLD 11	-3.7E-03	-11186.4	SLE RA 20	3.11E-05				
901	SLD 9	-1.8E-03	-5380.7	SLD 8	-3.5E-03	-10602	SLE RA 20	4.75E-04				
903	SLD 9	-1.7E-03	-5249.6	SLD 8	-3.6E-03	-10775.6	SLE RA 20	4.91E-04				
904	SLD 10	-1.8E-03	-5349.6	SLD 7	-2.7E-03	-8116.5	SLE RA 20	5.39E-04				
906	SLD 5	-1.4E-03	-4212.6	SLD 12	-2.3E-03	-6969.6	SLE RA 20	4.30E-04				
908	SLD 5	-1.4E-03	-4306.1	SLD 12	-2.4E-03	-7139.2	SLE RA 20	0.00039				
910	SLD 9	-1.5E-03	-4635.8	SLD 8	-3.9E-03	-11695.7	SLE RA 20	6.08E-05				
911	SLD 6	-1.7E-03	-5165.5	SLD 11	-3.9E-03	-11819.6	SLE RA 20	3.78E-04				
913	SLD 6	-1.7E-03	-5224.5	SLD 11	-3.9E-03	-11659.5	SLE RA 20	3.87E-04				
914	SLD 6	-1.4E-03	-4143.3	SLD 11	-4.0E-03	-11967.8	SLE RA 20	3.25E-05				
916	SLD 9	-1.6E-03	-4941.1	SLD 8	-3.7E-03	-11018.1	SLE RA 20	0.000439				
918	SLD 9	-1.6E-03	-4820.7	SLD 8	-3.7E-03	-11201.4	SLE RA 20	4.39E-04				
919	SLD 9	-1.6E-03	-4872.5	SLD 8	-2.8E-03	-8282.9	SLE RA 20	4.37E-04				
921	SLD 5	-1.3E-03	-3938.4	SLD 12	-2.5E-03	-7474.2	SLE RA 20	3.40E-04				
923	SLD 5	-1.3E-03	-4022.9	SLD 12	-2.5E-03	-7633.8	SLE RA 20	3.15E-04				
925	SLD 9	-1.4E-03	-4272.9	SLD 8	-4.2E-03	-12537.3	SLE RA 20	8.13E-05				
926	SLD 6	-1.6E-03	-4754.3	SLD 11	-4.1E-03	-12394.6	SLE RA 20	3.44E-04				
928	SLD 6	-1.6E-03	-4790.5	SLD 11	-4.1E-03	-12205.5	SLE RA 20	3.54E-04				
929	SLD 9	-1.5E-03	-4419.7	SLD 8	-2.9E-03	-8582.5	SLE RA 20	3.55E-04				
931	SLD 6	-1.2E-03	-3699.2	SLD 11	-2.7E-03	-8088.5	SLE RA 20	2.68E-04				
933	SLD 6	-1.3E-03	-3774.7	SLD 11	-2.7E-03	-8238.6	SLE RA 20	3.00E-04				
934	SLD 9	-1.5E-03	-4560.9	SLD 8	-3.8E-03	-11486.6	SLE RA 20	4.22E-04				
936	SLD 9	-1.5E-03	-4451	SLD 8	-3.9E-03	-11679.9	SLE RA 20	4.17E-04				
937	SLD 6	-1.3E-03	-3785.8	SLD 11	-4.4E-03	-13058.5	SLE RA 20	0.000036				
939	SLD 9	-1.1E-03	-3437.6	SLD 8	-2.4E-03	-7051.9	SLE RA 20	2.15E-04				
941	SLD 9	-1.3E-03	-3988.4	SLD 8	-4.5E-03	-13635	SLE RA 20	3.82E-05				
942	SLD 6	-1.5E-03	-4364	SLD 11	-4.3E-03	-12963.4	SLE RA 20	2.97E-04				
944	SLD 6	-1.5E-03	-4377.4	SLD 11	-4.2E-03	-12745.2	SLE RA 20	3.02E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
945	SLD 9	-1.3E-03	-4026.3	SLD 8	-3.0E-03	-9079.2	SLE RA 20	2.99E-04				
947	SLD 6	-1.2E-03	-3491.9	SLD 11	-2.9E-03	-8815.1	SLE RA 20	2.92E-04				
949	SLD 6	-1.2E-03	-3558.4	SLD 11	-3.0E-03	-8956	SLE RA 20	2.66E-04				
950	SLD 6	-1.2E-03	-3514	SLD 11	-4.8E-03	-14464.1	SLE RA 20	4.01E-05				
953	SLD 9	-1.3E-03	-3780.4	SLD 8	-5.0E-03	-15004.6	SLE RA 20	4.22E-05				
954	SLD 9	-1.3E-03	-3917.5	SLD 8	-5.3E-03	-16008.8	SLE RA 20	0.000101				
955	SLD 9	-1.2E-03	-3651.7	SLD 8	-4.9E-03	-14553.1	SLE RA 20	4.02E-05				
956	SLD 9	-1.1E-03	-3437.1	SLD 8	-4.4E-03	-13285.6	SLE RA 20	3.41E-05				
957	SLD 9	-1.1E-03	-3287.4	SLD 8	-4.1E-03	-12264.7	SLE RA 20	2.76E-05				
958	SLD 9	-1.1E-03	-3207.5	SLD 8	-3.8E-03	-11513.8	SLE RA 20	2.23E-05				
959	SLD 9	-1.1E-03	-3196.5	SLD 8	-3.7E-03	-11034	SLE RA 20	1.95E-05				
960	SLD 9	-1.1E-03	-3249.7	SLD 8	-3.6E-03	-10812.9	SLE RA 20	1.96E-05				
961	SLD 9	-1.1E-03	-3358.7	SLD 8	-3.6E-03	-10828.1	SLE RA 20	2.28E-05				
962	SLD 9	-1.2E-03	-3511.1	SLD 8	-3.7E-03	-11047	SLE RA 20	2.91E-05				
963	SLD 9	-1.2E-03	-3688.2	SLD 8	-3.8E-03	-11422.9	SLE RA 20	1.15E-04				
964	SLD 9	-1.3E-03	-3862.7	SLD 8	-4.0E-03	-11887.7	SLE RA 20	2.17E-04				
965	SLD 9	-1.3E-03	-3995	SLD 8	-4.1E-03	-12342.5	SLE RA 20	3.04E-04				
966	SLD 9	-1.3E-03	-4039.4	SLD 8	-4.2E-03	-12664.7	SLE RA 20	3.55E-04				
967	SLD 6	-1.3E-03	-4002.6	SLD 11	-4.5E-03	-13524.2	SLE RA 20	2.45E-04				
969	SLD 6	-1.3E-03	-4008	SLD 11	-4.4E-03	-13295.6	SLE RA 20	2.44E-04				
970	SLD 6	-1.3E-03	-3993.5	SLD 11	-4.4E-03	-13136	SLE RA 20	0.000212				
971	SLD 6	-1.3E-03	-3889.5	SLD 11	-4.3E-03	-12769.2	SLE RA 20	1.47E-04				
972	SLD 6	-1.2E-03	-3727.3	SLD 11	-4.1E-03	-12336.6	SLE RA 20	7.38E-05				
973	SLD 6	-1.2E-03	-3545	SLD 11	-4.0E-03	-11938.8	SLE RA 20	3.27E-05				
974	SLD 6	-1.1E-03	-3370.2	SLD 11	-3.9E-03	-11648.3	SLE RA 20	0.000027				
975	SLD 6	-1.1E-03	-3222	SLD 11	-3.8E-03	-11516.6	SLE RA 20	2.36E-05				
976	SLD 6	-1.0E-03	-3113.8	SLD 11	-0.00386	-11580	SLE RA 20	2.25E-05				
977	SLD 6	-1.0E-03	-3054.3	SLD 11	-4.0E-03	-11864.4	SLE RA 20	2.37E-05				
978	SLD 6	-1.0E-03	-3049.3	SLD 11	-4.1E-03	-12386.5	SLE RA 20	0.000027				
979	SLD 6	-1.0E-03	-3101.8	SLD 11	-4.4E-03	-13154.4	SLE RA 20	3.19E-05				
980	SLD 6	-1.1E-03	-3212.1	SLD 11	-4.7E-03	-14163.9	SLE RA 20	3.73E-05				
981	SLD 6	-1.1E-03	-3376.7	SLD 11	-5.1E-03	-15393	SLE RA 20	4.23E-05				
982	SLD 6	-1.1E-03	-3381.2	SLD 11	-5.2E-03	-15454.6	SLE RA 20	4.24E-05				
983	SLD 6	-1.2E-03	-3586.5	SLD 11	-5.6E-03	-16792.3	SLE RA 20	6.87E-05				
984	SLD 9	-1.2E-03	-3718.2	SLD 8	-3.3E-03	-9830.1	SLE RA 20	0.00026				
986	SLD 6	-1.1E-03	-3325	SLD 11	-3.2E-03	-9668.2	SLE RA 20	2.49E-04				
988	SLD 6	-1.1E-03	-3382.6	SLD 11	-3.3E-03	-9800.1	SLE RA 20	2.34E-04				
991	SLD 6	-1.2E-03	-3737	SLD 11	-4.6E-03	-13918.6	SLE RA 20	1.96E-04				
994	SLD 9	-1.2E-03	-3641.8	SLD 8	-5.5E-03	-16636.8	SLE RA 20	7.82E-05				
1006	SLD 9	-1.3E-03	-3861.3	SLD 8	-4.4E-03	-13308	SLE RA 20	2.66E-04				
1009	SLD 9	-1.3E-03	-3876.7	SLD 8	-4.5E-03	-13627.1	SLE RA 20	2.84E-04				
1024	SLD 9	-1.2E-03	-3517.6	SLD 8	-3.6E-03	-10886.7	SLE RA 20	2.14E-04				
1026	SLD 6	-1.1E-03	-3208.2	SLD 11	-3.6E-03	-10681.1	SLE RA 20	2.05E-04				
1028	SLD 6	-1.1E-03	-3257.2	SLD 11	-3.6E-03	-10803.9	SLE RA 20	2.02E-04				
1030	SLD 6	-1.2E-03	-3476.7	SLD 11	-4.7E-03	-14234.7	SLE RA 20	1.26E-04				
1035	SLD 9	-1.2E-03	-3745.6	SLD 8	-4.7E-03	-14144.6	SLE RA 20	2.34E-04				
1036	SLD 9	-1.3E-03	-3778.6	SLD 8	-5.0E-03	-15108.8	SLE RA 20	1.94E-04				
1037	SLD 9	-1.2E-03	-3632.1	SLD 8	-4.7E-03	-14220.9	SLE RA 20	2.00E-04				
1038	SLD 9	-1.2E-03	-3474.9	SLD 8	-4.4E-03	-13346.6	SLE RA 20	1.69E-04				
1039	SLD 9	-0.00111	-3329.9	SLD 8	-4.2E-03	-12561.6	SLE RA 20	0.000116				
1040	SLD 9	-1.1E-03	-3212.7	SLD 8	-4.0E-03	-11915.4	SLE RA 20	5.77E-05				
1041	SLD 9	-1.0E-03	-3132.1	SLD 8	-3.8E-03	-11433.6	SLE RA 20	2.81E-05				
1042	SLD 9	-1.0E-03	-3091.7	SLD 8	-3.7E-03	-11124.8	SLE RA 20	2.44E-05				
1043	SLD 9	-1.0E-03	-3091.2	SLD 8	-3.7E-03	-10983.4	SLE RA 20	2.32E-05				
1044	SLD 9	-1.0E-03	-3126.7	SLD 8	-3.7E-03	-10991.6	SLE RA 20	2.44E-05				
1045	SLD 9	-1.1E-03	-3190.8	SLD 8	-3.7E-03	-11119.1	SLE RA 20	2.78E-05				
1046	SLD 9	-1.1E-03	-3271.6	SLD 8	-3.8E-03	-11321.3	SLE RA 20	7.41E-05				
1047	SLD 9	-1.1E-03	-3352.6	SLD 8	-3.8E-03	-11535.7	SLE RA 20	1.28E-04				
1048	SLD 9	-1.1E-03	-3410.5	SLD 8	-3.9E-03	-11678.1	SLE RA 20	1.70E-04				
1049	SLD 9	-1.1E-03	-3417.4	SLD 8	-3.9E-03	-11647.9	SLE RA 20	1.83E-04				
1050	SLD 9	-1.1E-03	-3378.2	SLD 8	-3.8E-03	-11442.1	SLE RA 20	1.58E-04				
1051	SLD 9	-1.1E-03	-3294.8	SLD 8	-3.7E-03	-11065.1	SLE RA 20	1.01E-04				
1052	SLD 9	-1.1E-03	-3196.3	SLD 8	-3.5E-03	-10634.2	SLE RA 20	3.23E-05				
1053	SLD 9	-1.0E-03	-3104.3	SLD 8	-3.4E-03	-10237.5	SLE RA 20	1.95E-05				
1054	SLD 9	-1.0E-03	-3031.8	SLD 8	-3.3E-03	-9933.6	SLE RA 20	1.47E-05				
1055	SLD 5	-9.9E-04	-2982.8	SLD 12	-3.3E-03	-9761.3	SLE RA 20	1.21E-05				
1056	SLD 5	-9.8E-04	-2951.3	SLD 12	-3.2E-03	-9747.2	SLE RA 20	1.18E-05				
1057	SLD 6	-9.8E-04	-2942.9	SLD 11	-3.3E-03	-9887.3	SLE RA 20	1.38E-05				
1058	SLD 6	-9.9E-04	-2961.3	SLD 11	-3.4E-03	-10161.5	SLE RA 20	1.81E-05				
1059	SLD 6	-1.0E-03	-3006.5	SLD 11	-3.5E-03	-10531.1	SLE RA 20	2.68E-05				
1060	SLD 6	-1.0E-03	-3068.9	SLD 11	-3.6E-03	-10938.7	SLE RA 20	9.41E-05				
1061	SLD 6	-1.0E-03	-3132	SLD 11	-3.8E-03	-11296.3	SLE RA 20	1.49E-04				
1062	SLD 6	-1.1E-03	-3172.2	SLD 11	-3.8E-03	-11481.8	SLE RA 20	1.70E-04				
1063	SLD 6	-1.1E-03	-3162	SLD 11	-3.8E-03	-11448.5	SLE RA 20	1.47E-04				
1064	SLD 6	-1.0E-03	-3090.7	SLD 11	-3.7E-03	-11217.3	SLE RA 20	8.96E-05				
1065	SLD 6	-1.0E-03	-2997.2	SLD 11	-3.6E-03	-10936.7	SLE RA 20	2.59E-05				
1066	SLD 6	-9.7E-04	-2910.7	SLD 11	-3.6E-03	-10719.4	SLE RA 20	2.06E-05				
1067	SLD 6	-9.5E-04	-2851	SLD 11	-3.5E-03	-10644.6	SLE RA 20	1.77E-05				
1068	SLD 6	-9.4E-04	-2831	SLD 11	-3.6E-03	-10765.2	SLE RA 20	1.78E-05				
1069	SLD 6	-9.5E-04	-2858.3	SLD 11	-3.7E-03	-11113	SLE RA 20	0.000021				
1070	SLD 6	-9.8E-04	-2935.3	SLD 11	-3.9E-03	-11699.5	SLE RA 20	0.000027				
1071	SLD 6	-1.0E-03	-3059.5	SLD 11	-4.2E-03	-12513.2	SLE RA 20	3.63E-05				
1072	SLD 6	-1.1E-03	-3221.7	SLD 11	-4.5E-03	-13511.4	SLE RA 20	7.67E-05				
1073	SLD 6	-1.1E-03	-3359.3	SLD 11	-4.8E-03	-14337.6	SLE RA 20	9.01E-05				
1075	SLD 9	-1.2E-03	-3596	SLD 8	-4.9E-03	-14665.6	SLE RA 20	1.65E-04				
1079	SLD 9	-1.2E-03	-3452.8	SLD 8	-5.1E-03	-15244.5	SLE RA 20	8.29E-05				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
1092	SLD 9	-1.2E-03	-3481.6	SLD 8	-4.4E-03	-13326.9	SLE RA 20	9.77E-05				
1094	SLD 9	-1.2E-03	-3460.3	SLD 8	-4.4E-03	-13178.5	SLE RA 20	9.39E-05				
1107	SLD 6	-1.1E-03	-3151.8	SLD 11	-4.2E-03	-12724.4	SLE RA 20	7.25E-05				
1109	SLD 6	-1.1E-03	-3182	SLD 11	-4.3E-03	-12828.2	SLE RA 20	7.25E-05				
1120	SLD 6	-1.0E-03	-3093.5	SLD 11	-4.9E-03	-14802.5	SLE RA 20	5.44E-05				

1.5 Baricentri delle rigidezze

Quota: *quota alla quale è stato valutato il baricentro delle rigidezze. esprimibile come livello, falda, piano orizzontale alla Z specificata. [m]*
Posizione: *posizione in pianta del baricentro delle rigidezze.*
X: *coordinata X. [m]*
Y: *coordinata Y. [m]*
Baricentro masse: *posizione in pianta del baricentro delle masse.*
X: *coordinata X. [m]*
Y: *coordinata Y. [m]*
Distanza: *distanza in pianta tra il baricentro delle rigidezze e il baricentro delle masse.*
X: *coordinata X. [m]*
Y: *coordinata Y. [m]*

Quota	Posizione		Baricentro masse		Distanza	
	X	Y	X	Y	X	Y
Terra	-12.507	-4.104	-12.928	-3.496	0.421	-0.608
Rialzato	-12.279	1.173	-12.297	1.33	0.018	-0.157
Primo	-12.441	1.8	-12.368	1.401	-0.073	0.399
Secondo	-12.549	1.971	-12.358	1.39	-0.191	0.58
Terzo	-12.615	1.804	-12.358	1.424	-0.257	0.38
Sottotetto	-12.679	1.664	-12.535	2.164	-0.144	-0.5

1.6 Risposta modale

Modo: *identificativo del modo di vibrare.*
Periodo: *periodo. [s]*
Massa X: *massa partecipante in direzione globale X. Il valore è adimensionale.*
Massa Y: *massa partecipante in direzione globale Y. Il valore è adimensionale.*
Massa Z: *massa partecipante in direzione globale Z. Il valore è adimensionale.*
Massa rot. X: *massa rotazionale partecipante attorno la direzione globale X. Il valore è adimensionale.*
Massa rot. Y: *massa rotazionale partecipante attorno la direzione globale Y. Il valore è adimensionale.*
Massa rot. Z: *massa rotazionale partecipante attorno la direzione globale Z. Il valore è adimensionale.*
Massa sX: *massa partecipante in direzione Sisma X. Il valore è adimensionale.*
Massa sY: *massa partecipante in direzione Sisma Y. Il valore è adimensionale.*

Totale masse partecipanti:

Traslazione X: 0.996513
Traslazione Y: 0.997381
Traslazione Z: 0
Rotazione X: 0.971472
Rotazione Y: 0.969429
Rotazione Z: 0.756432

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
1	1.986469208	0.000000024	0.008007161	0	0.02771242	0.000000026	0.000395593	0.000000024	0.008007161
2	1.35363889	0.000035122	0	0	0	0.000093175	0.000004108	0.000035122	0
3	1.044447499	0.000014626	0.000000004	0	0.000000001	0.000219324	0.000000476	0.000014626	0.000000004
4	0.92672438	0.000064303	0.000000599	0	0.000000884	0.000157461	0.000003636	0.000064303	0.000000599
5	0.919616448	0.000016159	0.000000045	0	0.000000008	0.000005364	0.000001944	0.000016159	0.000000045
6	0.901061559	0.00002923	0.000000008	0	0.000000035	0.000000002	0.000004513	0.00002923	0.000000008
7	0.873221409	0.000066848	0.000000001	0	0.000000015	0.000755452	0.000005116	0.000066848	0.000000001
8	0.860676652	0.000000284	0.000000185	0	0.000000041	0.00001388	0.000000257	0.000000284	0.000000185
9	0.836306469	0.000963963	0.000000113	0	0.000000292	0.002855556	0.000107865	0.000963963	0.000000113
10	0.788147029	0.000096027	0.000000009	0	0.000000004	0.000086452	0.000005723	0.000096027	0.000000009
11	0.781877467	0.000069576	0.000000313	0	0.000000301	0.000061251	0.000006048	0.000069576	0.000000313
12	0.770998083	0.006353227	0.000000502	0	0.000000465	0.005268146	0.000589913	0.006353227	0.000000502
13	0.76772044	0.00000638	0.000008223	0	0.000008021	0.000024208	0.000001502	0.00000638	0.000008223
14	0.760700282	0	0.000000325	0	0.00000002	0.000014995	0.000000497	0	0.000000325
15	0.717885337	0.001845404	0.000000302	0	0.000000121	0.000505942	0.000151262	0.001845404	0.000000302
16	0.712586132	0.000018106	0.000021555	0	0.000030471	0.000368937	0.000022447	0.000018106	0.000021555
17	0.687301803	0.000850706	0.000004075	0	0.000002679	0.006245047	0.000037233	0.000850706	0.000004075
18	0.682585112	0.000036453	0.000256158	0	0.000365239	0.000488671	0.000185486	0.000036453	0.000256158
19	0.673466962	0.000001723	0.000513108	0	0.000946088	0.00007701	0.000349415	0.000001723	0.000513108
20	0.652876667	0.000485182	0.000001436	0	0.000005571	0.001331251	0.000018692	0.000485182	0.000001436
21	0.634598533	0.025188238	0.000020559	0	0.000020929	0.019269139	0.001169754	0.025188238	0.000020559
22	0.629687675	0.00035579	0.000231542	0	0.000323768	0.000890636	0.000162211	0.00035579	0.000231542
23	0.619572625	0.004716196	0.000087267	0	0.000089675	0.005948837	0.000002693	0.004716196	0.000087267

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
24	0.5838254	0.000165376	0.000946658	0	0.001384254	0.000030197	0.000639445	0.000165376	0.000946658
25	0.574884034	0.012851553	0.000591704	0	0.000671251	0.014187531	0.000186861	0.012851553	0.000591704
26	0.53823349	0.000097517	0.077083637	0	0.116081982	0.000080827	0.046894184	0.000097517	0.077083637
27	0.525682707	0.010514417	0.000267749	0	0.000333642	0.008908028	0.001766709	0.010514417	0.000267749
28	0.504289914	0.000018185	0.032064897	0	0.052588624	0.000004655	0.021643717	0.000018185	0.032064897
29	0.490699536	0.005340653	0.01644941	0	0.020349118	0.001861446	0.016140384	0.005340653	0.01644941
30	0.479137365	0.000015298	0.574207207	0	0.66125181	0.000121864	0.408209577	0.000015298	0.574207207
31	0.447409506	0.000092997	0.008942519	0	0.011445287	0.000184071	0.00496906	0.000092997	0.008942519
32	0.440652804	0.008368449	0.00029682	0	0.000312854	0.008353363	0.000030667	0.008368449	0.00029682
33	0.385300746	0.00681361	0.012572562	0	0.010495778	0.004097218	0.006000954	0.00681361	0.012572562
34	0.38062611	0.010915784	0.00803695	0	0.00671035	0.006779878	0.010806415	0.010915784	0.00803695
35	0.355674898	0.001630724	0.042095176	0	0.013314693	0.001596859	0.029072392	0.001630724	0.042095176
36	0.340634183	0.309530952	0.000857899	0	0.000442863	0.320001484	0.004309053	0.309530952	0.000857899
37	0.318542647	0.149271403	0.000072243	0	0.000036919	0.179381431	0.009729936	0.149271403	0.000072243
38	0.304132363	0.002199968	0.016540049	0	0.014639398	0.003058301	0.005655086	0.002199968	0.016540049
39	0.254187667	0.123055611	0.009043682	0	0.006157263	0.136806729	0.006855777	0.123055611	0.009043682
40	0.253493996	0.128785582	0.011761437	0	0.00838513	0.139970488	0.008831389	0.128785582	0.011761437
41	0.22938445	0.053208072	0.000007462	0	0.000006794	0.06871664	0.033647208	0.053208072	0.000007462
42	0.209489486	0.000094422	0.013285098	0	0.002311331	0.000131611	0.011161766	0.000094422	0.013285098
43	0.15739064	0.005997832	0.00000839	0	0.000000101	0.000494594	0.012238854	0.005997832	0.00000839
44	0.148895905	0.000002283	0.010484972	0	0.000110995	0.000005522	0.006364637	0.000002283	0.010484972
45	0.092575323	0.000501771	0.122980177	0	0.008624414	0.000056541	0.087309818	0.000501771	0.122980177
46	0.088486802	0.063229111	0.000800161	0	0.000185102	0.019222512	0.000948879	0.063229111	0.000800161
47	0.062505878	0.06247353	0.000242275	0	0.000011385	0.01033453	0.003081241	0.06247353	0.000242275
48	0.059066663	0.000122716	0.028588111	0	0.002689303	0.000044446	0.016230436	0.000122716	0.028588111
49	0.005185452	0.000000523	0	0	0.001131365	0.000305494	0.000083833	0.000000523	0
50	0.004493988	0.000000749	0.000000014	0	0.002292996	0.000012417	0.000396858	0.000000749	0.000000014

1.7 Equilibrio globale forze

Contributo: Nome attribuito al sistema risultante.
Fx: Componente X di forza del sistema risultante. [daN]
Fy: Componente Y di forza del sistema risultante. [daN]
Fz: Componente Z di forza del sistema risultante. [daN]
*Mx: Componente di momento attorno l'asse X del sistema risultante. [daN*m]*
*My: Componente di momento attorno l'asse Y del sistema risultante. [daN*m]*
*Mz: Componente di momento attorno l'asse Z del sistema risultante. [daN*m]*

Bilancio in condizione di carico: Pesi strutturali

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	-30.926	-42.596	-1412693.672	-1530153.54	-17356538.91	366.53
Reazioni	30.926	42.596	1412693.672	1530329.25	17356438.3	-366.53
P-Delta	0	0	0	0	0	0
Totale	0	0	0	175.71	-100.61	0

Bilancio in condizione di carico: Permanenti portati

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-382727.173	-531756.25	-4738395.27	0
Reazioni	0	0	382727.173	531782.21	4738366.66	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	25.95	-28.6	0

Bilancio in condizione di carico: Variabile A

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-211583.246	-236602.25	-2620222.13	0
Reazioni	0	0	211583.246	236595.81	2620218.2	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-6.45	-3.93	0

Bilancio in condizione di carico: Neve

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-34373.532	-63368.99	-421050.33	0
Reazioni	0	0	34373.532	63472.36	420985.37	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	103.37	-64.95	0

Bilancio in condizione di carico: Variabile H

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-26238.529	-45732.09	-323166.86	0
Reazioni	0	0	26238.529	45773.69	323138.96	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	41.6	-27.9	0

Bilancio in condizione di carico: Vento

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	-5875.367	0	45155.94	0	72990.61
Reazioni	0	5875.367	0	-45156.2	-0.19	-72990.61
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-0.27	-0.19	0

Bilancio in condizione di carico: Sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	383213.178	0	0	0	3995520.81	-468830.12
Reazioni	-383213.178	0	0	-313.17	-3995454.81	468830.12
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-313.17	65.99	0

Bilancio in condizione di carico: Sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	383161.644	0	-3994983.5	0	-4707474.12
Reazioni	0	-383161.645	0	3995352.59	-226.12	4707474.12
P-Delta	0	0	0	0	0	0
Totale	0	0	0	369.09	-226.12	0

Bilancio in condizione di carico: Eccentricità Y per sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-179986.11
Reazioni	0	0	0	-19.94	-4.26	179986.11
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-19.94	-4.26	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	84175.73
Reazioni	0	0	0	9.33	1.99	-84175.73
P-Delta	0	0	0	0	0	0
Totale	0	0	0	9.33	1.99	0

Bilancio in condizione di carico: Sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	245788.519	0	0	0	2562681.03	-300702.24
Reazioni	-245788.519	0	0	-200.86	-2562638.7	300702.24
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-200.86	42.33	0

Bilancio in condizione di carico: Sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	224029.172	0	-2335810.11	0	-2752393.26
Reazioni	0	-224029.172	0	2336025.92	-132.21	2752393.26
P-Delta	0	0	0	0	0	0
Totale	0	0	0	215.8	-132.21	0

Bilancio in condizione di carico: Eccentricità Y per sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-115441.02
Reazioni	0	0	0	-12.79	-2.73	115441.02
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-12.79	-2.73	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	49216.35
Reazioni	0	0	0	5.45	1.16	-49216.35
P-Delta	0	0	0	0	0	0
Totale	0	0	0	5.45	1.16	0

Bilancio in condizione di carico: Rig Ux

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	1	0	0	0	14.6	-2.16
Reazioni	-1	0	0	0	-14.6	2.16
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Uy

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	1	0	-14.6	0	-12.54
Reazioni	0	-1	0	14.6	0	12.54
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Rz

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	0.01
Reazioni	0	0	0	0	0	-0.01
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

1.8 Risposta di spettro

Spettro: condizione elementare corrispondente allo spettro.
N.b.: nome breve della condizione elementare.

Fx: *componente della forza lungo l'asse X. [daN]*
Fy: *componente della forza lungo l'asse Y. [daN]*
Fz: *componente della forza lungo l'asse Z. [daN]*
Mx: *componente della coppia attorno all'asse X. [daN*m]*
My: *componente della coppia attorno all'asse Y. [daN*m]*
Mz: *componente della coppia attorno all'asse Z. [daN*m]*
Max X: *massima reazione lungo l'asse X.*
Valore: *valore massimo della reazione. [daN]*
Angolo: *angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]*
Max Y: *massima reazione lungo l'asse Y.*
Valore: *valore massimo della reazione. [daN]*
Angolo: *angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]*
Max Z: *massima reazione lungo l'asse Z.*
Valore: *valore massimo della reazione. [daN]*
Angolo: *angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]*

Spettro	Fx	Fy	Fz	Mx	My	Mz	Max X		Max Y		Max Z	
N.b.							Valore	Angolo	Valore	Angolo	Valore	Angolo
SLV X	253532.28	8652.16	0	7.466E04	2.282E06	3.540E05	253580.07	178	306499.27	89	0	0
SLV Y	8652.16	306458.96	0	2.852E06	8.200E04	3.826E06	253580.07	178	306499.27	89	0	0
X SLD	161977.89	5291.05	0	4.543E04	1.462E06	2.234E05	162010	178	179646.92	89	0	0
Y SLD	5291.05	179624.86	0	1.671E06	5.006E04	2.242E06	162010	178	179646.92	89	0	0

1.9 Annotazioni solutore

Informazioni: *informazioni fornite dal solutore al termine del calcolo del modello.*

Informazioni

1.10 Statistiche soluzione

Tipo di equazioni	Lineari
Tecnica di soluzione	Intel MKL PARDISO
Numero equazioni	108177
Elemento min. diagonale	612.22317003
Elemento max diagonale	160762397966807
Rapporto max/min	262587902315.528
Elementi non nulli	4861831

SIDEL
INGEGNERIA

TABULATI DI CALCOLO – VERIFICHE
CIVICO 47
STATO DI PROGETTO

Sommario

1 Verifiche 3
1.1 Verifica regolarità strutturale 3
1.2 Verifiche travate C.A. 6
1.3 Verifiche pareti C.A. 167
1.4 Verifiche piastre C.A. 176
1.5 Verifica sismica globale 182
1.6 Verifiche maschi in muratura 211
1.7 Verifiche travi di accoppiamento in muratura 624

1 Verifiche

1.1 Verifica regolarità strutturale

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

Livello:
Descr: *descrizione livello.*
Quota: *quota livello. [m]*
Q: *quota livello. [m]*
Qinf: *quota livello precedente. [m]*
Comb: *combinazione.*
A1: *a1 (Distribuzione masse).*
A1n: *a1 numeratore (distanza tra centro massa vs. centro rigidezza [se presente] o centro dell'ingombro del piano). [m]*
A1d: *a1 denominatore (ingombro del piano nella medesima direzione [x o y globale]). [m]*
A1r: *a1 rapporto (distanza centro massa/rigidezza su ingombro del piano).*
A2: *a2 (Distribuzione rigidezze).*
A2n: *a2 numeratore (rigidezza max [x o y globale]).*
A2d: *a2 denominatore (rigidezza min [x o y globale]).*
A2r: *a2 rapporto (rigidezza max/min).*
A3: *a3 (Forma compatta).*
A3n: *a3 numeratore (area convessa). [m²]*
A3d: *a3 denominatore (area piano). [m²]*
A3r: *a3 rapporto (area convessa/area piano).*
B: *b (Rapporto lati).*
Bn: *b numeratore (lato max [x o y globale]). [m]*
Bd: *b denominatore (lato min [x o y globale]). [m]*
Br: *b rapporto (lato max/min).*
C: *c (Rapporto rigidezze piano).*
Cn: *c numeratore (rigidezza elementi verticali).*
Cd: *c denominatore (rigidezza piano).*
Cr: *c rapporto (rigidezza elementi verticali/rigidezza piano).*
E1: *e1 (Variazione masse).*
E1n: *e1 numeratore (massa max). [daN]*
E1d: *e1 denominatore (massa min). [daN]*
E1r: *e1 rapporto (massa max/min).*
E2: *e2 (Riduzione rigidezze).*
E2n: *e2 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]*
E2d: *e2 denominatore (rigidezza relativa alla traslazione KUmin). [daN/m]*
E2r: *e2 rapporto (variazione massima in decremento Kmax/Kmin).*
E3: *e3 (Incremento rigidezze).*
E3n: *e3 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]*
E3d: *e3 denominatore (rigidezza relativa alla traslazione KUmin). [daN/m]*
E3r: *e3 rapporto (variazione massima in incremento Kmax/Kmin).*
F: *f (Rapporto Capacità/Domanda).*
Fn: *f numeratore (rapporto capacità/domanda massimo [c/d max]). [daN]*
Fd: *f denominatore (rapporto capacità/domanda minimo [c/d min]). [daN]*
Fr: *f rapporto (variazione massima [rapporto (c/d max)/(c/d min)]).*
G1: *g1 (Rastremazione di piano).*
G1n: *g1 numeratore (L1). [m]*
G1d: *g1 denominatore (L2). [m]*
G1r: *g1 rapporto (L1/L2).*
G2: *g2 (Rastremazione totale).*
G2n: *g2 numeratore (L0). [m]*
G2d: *g2 denominatore (Li). [m]*
G2r: *g2 rapporto (L0/Li).*
Capacità/Domanda in X:
VrdX: *taglio resistente complessivo in direzione X. [daN]*
VedX: *taglio agente complessivo in direzione X). [daN]*
|Rd/Ed|: *|Rd/Ed| (rapporto capacità/domanda in termini di resistenza a taglio).*
Capacità/Domanda in Y:
VrdY: *taglio resistente complessivo in direzione Y. [daN]*
VedY: *taglio agente complessivo in direzione Y). [daN]*

Verifica regolarità strutturale

Controllo regolarità edificio secondo D.M. 17-01-18 (N.T.C.) §7.2.1 - §C7.2.1

Avvertenze

La seguente procedura valuta la regolarità della costruzione secondo quanto indicato nelle NTC 2018 §7.2.1.

Tali valutazioni sono a carattere puramente informativo e vengono condotte sulla base del modello e delle verifiche presenti alla sua generazione, con le limitazioni indicate nella manualistica.
In ogni caso l'impostazione di regolarità della costruzione, in pianta ed elevazione, va indicata nelle preferenze di analisi dall'utente utilizzatore del software.

Sintesi dei risultati

Orizzontamenti considerati nella valutazione
Livelli di fondazione o di struttura scatolare non dissipativa: Fondazione ascensore(L1), Fondazione(L2),
Livelli di elevazione considerati: Rialzato(L4), Primo(L5), Secondo(L6), Terzo(L7), Sottotetto(L8), Colmo maggiore(L10),

Regolarità in pianta - NO
L'edificio risulta NON regolare in pianta, in base alle condizioni indicate in NTC 2018 §7.2.1
N.V. - Criterio A1 (Distribuzione masse) non valutabile al livello Colmo maggiore
N.V. - Criterio A2 (Distribuzione rigidezze) non valutabile al livello Rialzato
No - Criterio A3 (Forma compatta) NON rispettato, con rapporto massimo 2730600.4/2505957.6=1.1 (limite=1,05) al livello Terzo
Ok - Criterio B (Rapporto lati) rispettato, con rapporto massimo 2,13 (limite=4) al livello Secondo
No - Criterio C (Rapporto rigidezze piano) NON rispettato, con rapporto massimo > 999 (limite=0) al livello Colmo maggiore

Regolarità in altezza - NO
L'edificio risulta NON regolare in altezza, in base alle condizioni indicate in NTC 2018 §7.2.1
Ok - Criterio D (Altezza elementi sismoresistenti) rispettato, con rapporto massimo 1 (limite=1,01)
No - Criterio E1 (Variazione masse) NON rispettato, con rapporto massimo 157585.2/70113.9=2.2 (limite=1,25) tra il livello Colmo maggiore ed il precedente
N.V. - Criterio E2 (Riduzione rigidezze) non valutabile tra il livello Primo ed il precedente
N.V. - Criterio E3 (Incremento rigidezze) non valutabile tra il livello Primo ed il precedente
N.V. - Criterio F (Rapporto Capacità/Domanda) non valutabile tra il livello Colmo maggiore ed il precedente
Ok - Criterio G1 (Rastremazione di piano) rispettato, con rapporto massimo 0 (limite=0,1) tra il livello Primo ed il precedente
Ok - Criterio G2 (Rastremazione totale) rispettato, con rapporto massimo 0 (limite=0,3) tra il livello Primo ed il precedente

Valori per piano

Verifiche di regolarità in pianta

Livello		A1			A2			A3			B			C		
Descr	Quota	A1n	A1d	A1r	A2n	A2d	A2r	A3n	A3d	A3r	Bn	Bd	Br	Cn	Cd	Cr
Rialzato	0.73	0.16	11.73	0.01				278.1193	259.1267	1.07	24.93	11.73	2.12	0	+∞	0
Primo	4.4	0.4	11.64	0.03				273.06	253.6313	1.08	24.77	11.64	2.13	0	+∞	0
Secondo	7.95	0.58	11.64	0.05				273.06	259.6576	1.05	24.77	11.64	2.13	0	+∞	0
Terzo	11.5	0.38	11.64	0.03				273.06	250.5958	1.09	24.77	11.64	2.13	0	+∞	0
Sottotetto	14.6	0.5	11.66	0.04				273.7493	257.8835	1.06	24.78	11.66	2.12	0	+∞	0
Colmo maggiore	17.09							273.7484	257.8234	1.06	24.78	11.66	2.12	9999	1	9999

Verifiche di regolarità in elevazione

Rapporto di regolarità per la condizione D (Altezza elementi sismoresistenti): 19.04/19=0.01.

Livello			E1			E2			E3			F			G1			G2		
Descr	Q	Qinf	E1n	E1d	E1r	E2n	E2d	E2r	E3n	E3d	E3r	Fn	Fd	Fr	G1n	G1d	G1r	G2n	G2d	G2r
Primo	4.4	0.73	185350	142544	1.3							15.4	11.4	1.36	0.09	24.93	0	0.09	24.93	0
Secondo	7.95	4.4	142593	142544	1							19.9	13.1	1.52	0	11.64	0	0.09	24.93	0
Terzo	11.5	7.95	142593	140164	1.02							32.8	18.8	1.74	0	11.64	0	0.09	24.93	0
Sottotetto	14.6	11.5	157585	140164	1.12							18.7	5.7	3.3	0	24.77	0	0.08	24.93	0
Colmo maggiore	17.09	14.6	157585	70114	2.25										0	11.66	0	0	0.01	0

Dettaglio delle resistenze di piano a taglio (per valutazione punto F)

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	|Rd/Ed|	VrdY	VedY	|Rd/Ed|
Rialzato	0.73	SLD 1	1208212	-158069	7.6	913228	-50204	18.2
Rialzato	0.73	SLD 2	1208726	-158069	7.6	912500	-50204	18.2
Rialzato	0.73	SLD 3	1213791	-156570	7.8	903105	56552	16
Rialzato	0.73	SLD 4	1213712	-156570	7.8	902477	56552	16
Rialzato	0.73	SLD 5	1204211	-49715	24.2	927946	-176985	5.2
Rialzato	0.73	SLD 6	1204360	-49715	24.2	927637	-176985	5.2
Rialzato	0.73	SLD 7	1220947	-44718	27.3	897117	178869	5
Rialzato	0.73	SLD 8	1220984	-44718	27.3	896765	178869	5
Rialzato	0.73	SLD 9	1202900	44659	26.9	910501	-178898	5.1
Rialzato	0.73	SLD 10	1202948	44659	26.9	926160	-178898	5.2
Rialzato	0.73	SLD 11	1219573	49657	24.6	900978	176955	5.1
Rialzato	0.73	SLD 12	1219604	49657	24.6	900749	176955	5.1
Rialzato	0.73	SLD 13	1202621	156511	7.7	920649	-56582	16.3
Rialzato	0.73	SLD 14	1202701	156511	7.7	922334	-56582	16.3
Rialzato	0.73	SLD 15	1208998	158011	7.7	917337	50174	18.3
Rialzato	0.73	SLD 16	1209055	158011	7.7	916754	50174	18.3
Rialzato	0.73	SLV 1	1208292	-246993	4.9	912568	-86220	10.6
Rialzato	0.73	SLV 2	1208134	-246993	4.9	911288	-86220	10.6
Rialzato	0.73	SLV 3	1217315	-244352	5	899348	95904	9.4
Rialzato	0.73	SLV 4	1216921	-244352	5	898359	95904	9.4
Rialzato	0.73	SLV 5	1145613	-78125	14.7	917798	-302097	3
Rialzato	0.73	SLV 6	1147215	-78125	14.7	917013	-302097	3
Rialzato	0.73	SLV 7	1221274	-69320	17.6	847804	304982	2.8
Rialzato	0.73	SLV 8	1222473	-69320	17.6	847399	304982	2.8
Rialzato	0.73	SLV 9	1157129	69261	16.7	922889	-305011	3
Rialzato	0.73	SLV 10	1142234	69261	16.5	922103	-305011	3
Rialzato	0.73	SLV 11	1205681	78066	15.4	856338	302068	2.8
Rialzato	0.73	SLV 12	1208017	78066	15.5	855933	302068	2.8
Rialzato	0.73	SLV 13	1200710	244293	4.9	911524	-95933	9.5

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	|Rd/Ed|	VrdY	VedY	|Rd/Ed|
Rialzato	0.73	SLV 14	1200862	244293	4.9	910447	-95933	9.5
Rialzato	0.73	SLV 15	1208848	246934	4.9	917748	86190	10.6
Rialzato	0.73	SLV 16	1209232	246934	4.9	918182	86190	10.7
Primo	4.4	SLD 1	792542	-135170	5.9	733162	-43671	16.8
Primo	4.4	SLD 2	792542	-135170	5.9	735282	-43671	16.8
Primo	4.4	SLD 3	794100	-133468	5.9	733546	48038	15.3
Primo	4.4	SLD 4	792542	-133468	5.9	733518	48038	15.3
Primo	4.4	SLD 5	790643	-43132	18.3	735943	-152189	4.8
Primo	4.4	SLD 6	790667	-43132	18.3	735925	-152189	4.8
Primo	4.4	SLD 7	794100	-37460	21.2	732209	153508	4.8
Primo	4.4	SLD 8	794100	-37460	21.2	732191	153508	4.8
Primo	4.4	SLD 9	790749	37460	21.1	737208	-153495	4.8
Primo	4.4	SLD 10	790773	37460	21.1	737203	-153495	4.8
Primo	4.4	SLD 11	794100	43131	18.4	733558	152202	4.8
Primo	4.4	SLD 12	794100	43131	18.4	733552	152202	4.8
Primo	4.4	SLD 13	794100	133468	5.9	739522	-48024	15.4
Primo	4.4	SLD 14	794100	133468	5.9	739513	-48024	15.4
Primo	4.4	SLD 15	792497	135169	5.9	737783	43685	16.9
Primo	4.4	SLD 16	794100	135169	5.9	737774	43685	16.9
Primo	4.4	SLV 1	774624	-211419	3.7	733201	-75164	9.8
Primo	4.4	SLV 2	780247	-211419	3.7	733158	-75164	9.8
Primo	4.4	SLV 3	769763	-208452	3.7	732334	81794	9
Primo	4.4	SLV 4	768159	-208452	3.7	732290	81794	9
Primo	4.4	SLV 5	767785	-67925	11.3	720322	-260598	2.8
Primo	4.4	SLV 6	766247	-67925	11.3	720292	-260598	2.8
Primo	4.4	SLV 7	777764	-58037	13.4	710930	262596	2.7
Primo	4.4	SLV 8	771351	-58037	13.3	710900	262596	2.7
Primo	4.4	SLV 9	761046	58037	13.1	721987	-262583	2.7
Primo	4.4	SLV 10	761066	58037	13.1	722065	-262583	2.7
Primo	4.4	SLV 11	772834	67924	11.4	713025	260611	2.7
Primo	4.4	SLV 12	777643	67924	11.4	713016	260611	2.7
Primo	4.4	SLV 13	786072	208452	3.8	741943	-81781	9.1
Primo	4.4	SLV 14	785893	208452	3.8	741929	-81781	9.1
Primo	4.4	SLV 15	773589	211418	3.7	738972	75177	9.8
Primo	4.4	SLV 16	780471	211418	3.7	738958	75177	9.8
Secondo	7.95	SLD 1	889242	-105287	8.4	700627	-35232	19.9
Secondo	7.95	SLD 2	889341	-105287	8.4	700598	-35232	19.9
Secondo	7.95	SLD 3	895031	-103785	8.6	700047	37252	18.8
Secondo	7.95	SLD 4	888632	-103785	8.6	700018	37252	18.8
Secondo	7.95	SLD 5	889622	-33863	26.3	701257	-120499	5.8
Secondo	7.95	SLD 6	889685	-33863	26.3	701238	-120499	5.8
Secondo	7.95	SLD 7	898888	-28858	31.1	699669	121114	5.8
Secondo	7.95	SLD 8	899035	-28858	31.2	699692	121114	5.8
Secondo	7.95	SLD 9	891511	28858	30.9	701608	-121101	5.8
Secondo	7.95	SLD 10	891575	28858	30.9	701622	-121101	5.8
Secondo	7.95	SLD 11	899107	33864	26.6	698004	120512	5.8
Secondo	7.95	SLD 12	899107	33864	26.6	698027	120512	5.8
Secondo	7.95	SLD 13	895001	103786	8.6	701568	-37239	18.8
Secondo	7.95	SLD 14	895100	103786	8.6	701589	-37239	18.8
Secondo	7.95	SLD 15	897828	105287	8.5	698948	35245	19.8
Secondo	7.95	SLD 16	897925	105287	8.5	698969	35245	19.8
Secondo	7.95	SLV 1	875745	-164542	5.3	700877	-60469	11.6
Secondo	7.95	SLV 2	870742	-164542	5.3	700832	-60469	11.6
Secondo	7.95	SLV 3	870979	-161918	5.4	699886	63497	11
Secondo	7.95	SLV 4	877374	-161918	5.4	699840	63497	11
Secondo	7.95	SLV 5	874424	-53343	16.4	699811	-206151	3.4
Secondo	7.95	SLV 6	880032	-53343	16.5	699781	-206151	3.4
Secondo	7.95	SLV 7	892479	-44595	20	691280	207069	3.3
Secondo	7.95	SLV 8	887609	-44595	19.9	689170	207069	3.3
Secondo	7.95	SLV 9	881921	44595	19.8	700146	-207056	3.4
Secondo	7.95	SLV 10	888931	44595	19.9	700168	-207056	3.4
Secondo	7.95	SLV 11	895656	53343	16.8	686025	206164	3.3
Secondo	7.95	SLV 12	895656	53343	16.8	686063	206164	3.3
Secondo	7.95	SLV 13	892391	161918	5.5	702167	-63484	11.1
Secondo	7.95	SLV 14	886451	161918	5.5	700052	-63484	11
Secondo	7.95	SLV 15	890397	164543	5.4	699212	60482	11.6
Secondo	7.95	SLV 16	890193	164543	5.4	699245	60482	11.6
Terzo	11.5	SLD 1	901114	-67717	13.3	748784	-22120	33.9
Terzo	11.5	SLD 2	901070	-67717	13.3	748780	-22120	33.9
Terzo	11.5	SLD 3	901881	-66884	13.5	748686	22860	32.8
Terzo	11.5	SLD 4	898602	-66884	13.4	748681	22860	32.8
Terzo	11.5	SLD 5	901275	-21580	41.8	748744	-74851	10
Terzo	11.5	SLD 6	901261	-21580	41.8	748741	-74851	10
Terzo	11.5	SLD 7	908009	-18801	48.3	748416	75082	10
Terzo	11.5	SLD 8	908075	-18801	48.3	748413	75082	10
Terzo	11.5	SLD 9	906583	18801	48.2	748612	-75069	10
Terzo	11.5	SLD 10	906673	18801	48.2	748609	-75069	10
Terzo	11.5	SLD 11	901923	21580	41.8	748284	74864	10
Terzo	11.5	SLD 12	905477	21580	42	748281	74864	10
Terzo	11.5	SLD 13	904841	66884	13.5	748344	-22847	32.8
Terzo	11.5	SLD 14	906826	66884	13.6	748340	-22847	32.8
Terzo	11.5	SLD 15	904558	67718	13.4	748246	22133	33.8
Terzo	11.5	SLD 16	904863	67718	13.4	748241	22133	33.8
Terzo	11.5	SLV 1	885918	-106448	8.3	748946	-37984	19.7
Terzo	11.5	SLV 2	879942	-106448	8.3	748939	-37984	19.7
Terzo	11.5	SLV 3	883782	-104987	8.4	748778	39031	19.2
Terzo	11.5	SLV 4	879393	-104987	8.4	748770	39031	19.2
Terzo	11.5	SLV 5	893833	-34150	26.2	727936	-128196	5.7

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	|Rd/Ed|	VrdY	VedY	|Rd/Ed|
Terzo	11.5	SLV 6	893707	-34150	26.2	731807	-128196	5.7
Terzo	11.5	SLV 7	899683	-29280	30.7	721268	128520	5.6
Terzo	11.5	SLV 8	892910	-29280	30.5	721264	128520	5.6
Terzo	11.5	SLV 9	897822	29280	30.7	744817	-128506	5.8
Terzo	11.5	SLV 10	899566	29280	30.7	744812	-128506	5.8
Terzo	11.5	SLV 11	900661	34151	26.4	727452	128210	5.7
Terzo	11.5	SLV 12	900779	34151	26.4	727448	128210	5.7
Terzo	11.5	SLV 13	899949	104987	8.6	748255	-39018	19.2
Terzo	11.5	SLV 14	905145	104987	8.6	748248	-39018	19.2
Terzo	11.5	SLV 15	899617	106449	8.5	748086	37997	19.7
Terzo	11.5	SLV 16	899967	106449	8.5	748079	37997	19.7
Sottotetto	14.6	SLD 1	843387	-21720	38.8	630898	-5904	106.9
Sottotetto	14.6	SLD 2	848581	-21720	39.1	630954	-5904	106.9
Sottotetto	14.6	SLD 3	852972	-21334	40	622910	5835	106.8
Sottotetto	14.6	SLD 4	851411	-21334	39.9	622916	5835	106.8
Sottotetto	14.6	SLD 5	840226	-7103	118.3	626261	-19574	32
Sottotetto	14.6	SLD 6	850214	-7103	119.7	626268	-19574	32
Sottotetto	14.6	SLD 7	871333	-5814	149.9	596717	19553	30.5
Sottotetto	14.6	SLD 8	871422	-5814	149.9	597120	19553	30.5
Sottotetto	14.6	SLD 9	857256	5814	147.5	614327	-19553	31.4
Sottotetto	14.6	SLD 10	857248	5814	147.5	614334	-19553	31.4
Sottotetto	14.6	SLD 11	861150	7103	121.2	597418	19574	30.5
Sottotetto	14.6	SLD 12	859718	7103	121	597418	19574	30.5
Sottotetto	14.6	SLD 13	863450	21334	40.5	625898	-5834	107.3
Sottotetto	14.6	SLD 14	864548	21334	40.5	625909	-5834	107.3
Sottotetto	14.6	SLD 15	849164	21720	39.1	625814	5904	106
Sottotetto	14.6	SLD 16	858410	21720	39.5	625826	5904	106
Sottotetto	14.6	SLV 1	845361	-34184	24.7	630887	-10172	62
Sottotetto	14.6	SLV 2	832801	-34184	24.4	630963	-10172	62
Sottotetto	14.6	SLV 3	832950	-33490	24.9	619149	10041	61.7
Sottotetto	14.6	SLV 4	838026	-33490	25	619158	10041	61.7
Sottotetto	14.6	SLV 5	822286	-11308	72.7	631665	-33707	18.7
Sottotetto	14.6	SLV 6	832170	-11308	73.6	631678	-33707	18.7
Sottotetto	14.6	SLV 7	851339	-8994	94.7	586561	33669	17.4
Sottotetto	14.6	SLV 8	847908	-8994	94.3	586561	33669	17.4
Sottotetto	14.6	SLV 9	836214	8994	93	614387	-33668	18.2
Sottotetto	14.6	SLV 10	836523	8994	93	602588	-33668	17.9
Sottotetto	14.6	SLV 11	856067	11308	75.7	586542	33708	17.4
Sottotetto	14.6	SLV 12	852518	11308	75.4	586541	33708	17.4
Sottotetto	14.6	SLV 13	850989	33490	25.4	633874	-10041	63.1
Sottotetto	14.6	SLV 14	861913	33490	25.7	622080	-10041	62
Sottotetto	14.6	SLV 15	844223	34184	24.7	625611	10172	61.5
Sottotetto	14.6	SLV 16	848938	34184	24.8	633750	10172	62.3

1.2 Verifiche travate C.A.

Le unità di misura elencate nel capitolo sono in [m, daN, deg] ove non espressamente specificato.

N°: indice progressivo della sezione.
Descrizione: descrizione della sezione.
Tipo: tipo di sezione.
Base: base della sezione. [m]
Altezza: altezza della sezione. [m]
Copriferro sup.: distanza del bordo della staffa dalla superficie superiore del getto. [m]
Copriferro inf.: distanza del bordo della staffa dalla superficie inferiore del getto. [m]
Copriferro lat.: distanza del bordo della staffa dalle superfici laterali del getto. [m]
x: distanza da asse appoggio sinistro. [m]
A sup.: area efficace di armatura longitudinale superiore. [m²]
C.b. sup.: distanza dal bordo del baricentro dell'armatura longitudinale superiore. [m]
A inf.: area efficace di armatura longitudinale inferiore. [m²]
C.b. inf.: distanza dal bordo del baricentro dell'armatura longitudinale inferiore. [m]
*M+ela: momento flettente desunto dal solutore che tende le fibre inferiori. [daN*m]*
Comb.: combinazione.
*M+des: momento flettente di progetto che tende le fibre inferiori. [daN*m]*
*M+ult: momento ultimo per trazione delle fibre inferiori. [daN*m]*
x/d: rapporto tra posizione asse neutro e altezza utile.
coeff: coefficiente di sicurezza.
*M-ela: momento flettente desunto dal solutore che tende le fibre superiori. [daN*m]*
*M-des: momento flettente di progetto che tende le fibre superiori. [daN*m]*
*M-ult: momento ultimo per trazione delle fibre superiori. [daN*m]*
Verifica: stato di verifica.
A st: area di staffe per unità di lunghezza. [m²]
A sl: area di armatura longitudinale tesa per valutazione resistenza taglio in assenza di armature a taglio. [m²]
A sag: area equivalente di barre piegate per unità di lunghezza. [m²]
Vela: taglio elastico. [daN]
Vdes: taglio di progetto. [daN]
Vrd: resistenza a taglio della sezione senza armature. [daN]

Vrcd: sforzo di taglio che produce il cedimento delle bielle. [daN]
Vrsd: resistenza a taglio per la presenza delle armature. [daN]
Vult: taglio ultimo. [daN]
cotgϑ: cotg dell'angolo di inclinazione dei puntoni in calcestruzzo.
Rara: famiglia di combinazione di verifica.
*Mela: momento elastico. [daN*m]*
*Mdes: momento di progetto. [daN*m]*
σ c: tensione di compressione nel calcestruzzo. [daN/m²]
σ c lim.: tensione limite di compressione nel calcestruzzo. [daN/m²]
σ f.: tensione di trazione nell'acciaio. [daN/m²]
σ f lim.: tensione limite di trazione nell'acciaio. [daN/m²]
σ c limite: tensione di compressione limite nel calcestruzzo. [daN/m²]
σ f: tensione di trazione nell'acciaio. [daN/m²]
σ f limite: tensione di trazione limite nell'acciaio. [daN/m²]
Quasi permanente: famiglia di combinazione di verifica.
σ FRP: tensione di trazione nell'FRP. [daN/m²]
σ FRP lim.: tensione limite di trazione nell'FRP. [daN/m²]
d: altezza utile. [m]
Af: area di armatura inferiore per unità di lunghezza. [m]
*M: momento flettente. [daN*m/m]*
Comb: combinazione.
*Mult: momento ultimo. [daN*m/m]*
V: sforzo di taglio. [daN/m]
Vult: sforzo di taglio ultimo. [daN/m]
Aste: numero delle aste del tratto in verifica.
Size X: misura dell'impronta al suolo lungo la direzione X locale. [m]
Size Y: misura dell'impronta al suolo lungo la direzione Y locale. [m]
Type: indicazione del tipo di combinazione statica o sismica.
Cond: indicazione della condizione di carico (BT breve termine o LT lungo termine).
γR: coefficiente parziale sulla resistenza di progetto.
Rd: resistenza di progetto. [daN]
Ed: azione di progetto. [daN]
Rd/Ed: coefficiente di sicurezza alla capacità portante.
Fx: componente orizzontale del carico lungo x. [daN]
Fy: componente orizzontale del carico lungo y. [daN]
Fz: componente verticale del carico. [daN]
*Mx: momento risultante agente attorno x. [daN*m]*
*My: momento risultante agente attorno y. [daN*m]*
Inc.x: inclinazione del carico lungo x. [deg]
Inc.y: inclinazione del carico lungo y. [deg]
Ecc.x: eccentricità del carico lungo x. [m]
Ecc.y: eccentricità del carico lungo y. [m]
B': larghezza efficace. [m]
L': lunghezza efficace. [m]
qd: sovraccarico di progetto. [daN/m²]
γs: peso specifico di progetto del suolo. [daN/m³]
Fi: angolo di attrito di progetto. [deg]
Coes: coesione di progetto. [daN/m²]
Amax: accelerazione normalizzata max al suolo.
N:
Nq: fattore di capacità portante per il termine di sovraccarico.
Nc: fattore di capacità portante per il termine coesivo.
Ng: fattore di capacità portante per il termine attritivo.
S:
Sq: fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.
Sc: fattore correttivo di capacità portante per forma (shape), per il termine coesivo.
Sg: fattore correttivo di capacità portante per forma (shape), per il termine attritivo.
D:
Dq: fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.
Dc: fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.
Dg: fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.
I:
Iq: fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.
Ic: fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.
Ig: fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.
B:
Bq: fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.
Bc: fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.
Bg: fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.
G:
Gq: fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.
Gc: fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.

Gg: fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.
P:
Pq: fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.
Pc: fattore correttivo di capacità portante per punzonamento, per il termine coesivo.
Pg: fattore correttivo di capacità portante per punzonamento, per il termine attritivo.
E:
Eq: fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.
Ec: fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.
Eg: fattore correttivo di capacità portante per sisma (earthquake), per il termine attritivo.
Tipo: tipologia di cedimento considerato (E = elastico, D = edometrico, Z = consolidazione primaria).
Assoluto: cedimento assoluto massimo.
Sa adm: cedimento assoluto ammissibile. [m]
Sa: cedimento assoluto massimo. [m]
Nodo: nodo dove avviene il cedimento assoluto massimo.
Differenziale: cedimento differenziale massimo.
Sd adm: cedimento differenziale ammissibile. [m]
Sd: cedimento differenziale massimo. [m]
Nodo I: nodo dove avviene il cedimento differenziale massimo.
Nodo j: nodo dove avviene il cedimento differenziale massimo.
Relativo: cedimento relativo massimo.
Sr adm: cedimento relativo ammissibile. [m]
Sr: cedimento relativo massimo. [m]
Nodo: nodo dove avviene il cedimento relativo massimo.
Rapp. inflessione: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).
RI adm: rapporto di inflessione ammissibile.
RI: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).
Rotazione rigida: rotazione rigida valutata tra primo ed ultimo punto.
RR adm: rotazione rigida ammissibile. [deg]
RR: rotazione rigida massima (tra primo ed ultimo punto). [deg]
Rotazione assoluta: rotazione assoluta dei singoli tratti.
R Adm: rotazione assoluta ammissibile. [deg]
R Max: rotazione assoluta massima. [deg]
Nodo I: dal nodo.
Nodo J: al nodo.
Distorsione angolare positiva: distorsione angolare positiva (concavità verso l'alto).
D+ adm: distorsione angolare ammissibile. [deg]
D+: distorsione angolare massima positiva (concavità verso l'alto). [deg]
Nodo: nodo dove avviene la distorsione angolare massima positiva (concavità verso l'alto).
Distorsione angolare negativa: distorsione angolare negativa (concavità verso il basso).
D- adm: distorsione angolare ammissibile. [deg]
D-: distorsione angolare massima negativa (concavità verso il basso). [deg]
Nodo: nodo dove avviene la distorsione angolare massima negativa (concavità verso il basso).
Bordo: bordo interessato dalla fessura.
Rara: famiglia di combinazione per verifica inferiore.
Dmax: distanza massima tra le fessure. [m]
Esm: dilatazione media delle barre di armatura.
Wd: valore di calcolo di apertura delle fessure. [m]
Frequente: famiglia di combinazione per verifica inferiore.
Quasi permanente: famiglia di combinazione per verifica inferiore.
Frequente: famiglia di combinazione di verifica.
Ascissa: ascissa sezione di verifica. [m]
Lv: luce di taglio considerata. [m]
x: altezza della zona compressa della sezione. [m]
h: altezza totale della sezione. [m]
ρ,tot: percentuale geometrica totale di armatura longitudinale.
ϑ,m: rotazione massima per la combinazione considerata.
ϑ,y: rotazione di prima plasticizzazione.
μΔ,pl: parte plastica della domanda di duttilità.
Vrd: resistenza a taglio del calcestruzzo non staffato per la verifica nella direzione considerata. [daN]
VRcd(cotϑ=1): resistenza a taglio delle bielle compresse per la verifica nella direzione considerata consideranto il valore di cotϑ unitario. [daN]
VRsd: resistenza a taglio delle staffe per la verifica nella direzione considerata. [daN]
Vw: contributo dell'armatura trasversale per la resistenza a taglio. [daN]
Vr: resistenza a taglio in condizioni cicliche (formula [C8.7.2.8]). [daN]
Vu: resistenza a taglio in condizioni sismiche. [daN]
Ved: sollecitazione tagliante. [daN]
Ned: sollecitazione di sforzo normale. [daN]
Comb.: combinazione di verifica.
x: ascissa relativa. [m]
taglio negativo: valori per taglio negativo.
contr. grav.: contributo azioni gravitazionali. [daN]
contr. mom. res.: contributo dei momenti resistenti. [daN]
taglio positivo: valori per taglio positivo.

campata: *campata.*
appoggio: *appoggio.*
momento positivo: *momento resistente positivo. [daN*m]*
momento negativo: *momento resistente negativo. [daN*m]*

CORDOLO 1

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

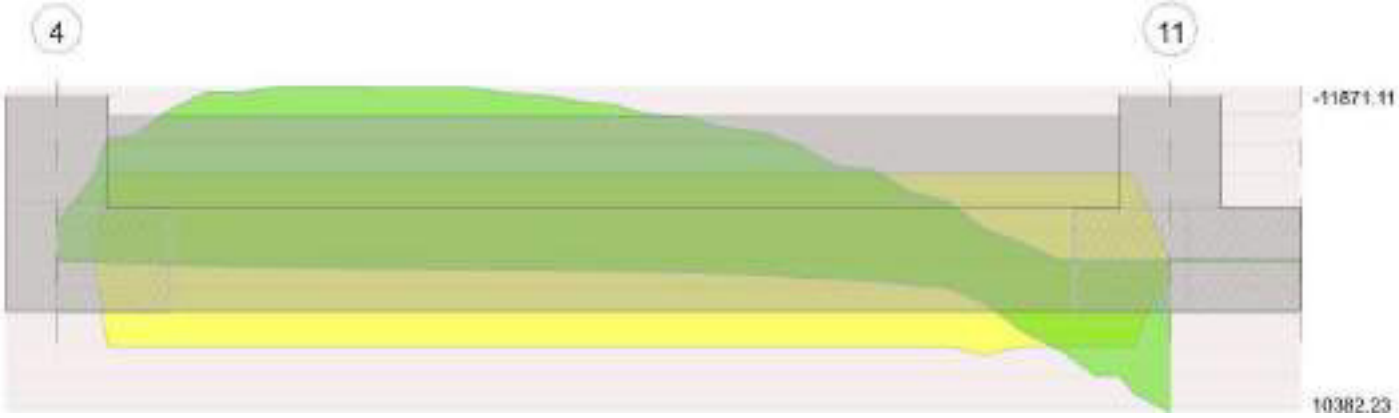


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 4 - 11, sezione R 70x45, aste 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.46	0.41	0.0003	3881	SLV FO 8	0.119	5173	10016	SLV FO 8	15877	Si
4.69	0.41	0.0003	4517	SLV FO 8	0.119	5173	11656	SLV FO 8	15877	Si
4.91	0.41	0.0003	4582	SLV FO 8	0.119	5173	11826	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4470	SLD 8	0.098	6001	11535	SLD 8	15877	Si
0.23	0.41	0.0003	4224	SLD 8	0.098	6001	10901	SLD 8	15877	Si
2.46	0.41	0.0003	2909	SLD 8	0.098	6001	7508	SLD 8	15877	Si
4.69	0.41	0.0003	3419	SLD 8	0.098	6001	8823	SLD 8	15877	Si
4.91	0.41	0.0003	3466	SLD 8	0.098	6001	8943	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000338	2918	SLE RA 20	82657	1494000	1024952	36000000	2654	SLE QP 2	75174	1120500	Si
0.23	0.41	0.00000338	2759	SLE RA 20	78155	1494000	969123	36000000	2509	SLE QP 2	71052	1120500	Si
2.46	0.41	0.00000338	1958	SLE RA 20	55467	1494000	687794	36000000	1774	SLE QP 2	50236	1120500	Si
4.69	0.41	0.00000338	2370	SLE RA 20	67119	1494000	832279	36000000	2145	SLE QP 2	60758	1120500	Si
4.91	0.41	0.00000338	2398	SLE RA 20	67915	1494000	842140	36000000	2170	SLE QP 2	61471	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
173,174,175,176,177,178,179,180,181,182,183,184	5.14	1.3	SLU 83	ST	BT	2.3	227224	81655	2.78	Si
173,174,175,176,177,178,179,180,181,182,183,184	5.14	1.3	SLD 8	SIS	BT	2.3	203913	83411	2.44	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-222	-81655	-9092.43	-3111.75	0	0	-0.04	-0.11	1.08	5.06	1496	2060	0	14430	
0	-9411	-4165	5962.66	4882.04	0	-66	1.17	1.43	-1.56	2.79	1496	2060	0	14430	0.07
0	4771	-83411	-12518.9	-6106.41	0	3	-0.07	-0.15	1	4.99	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

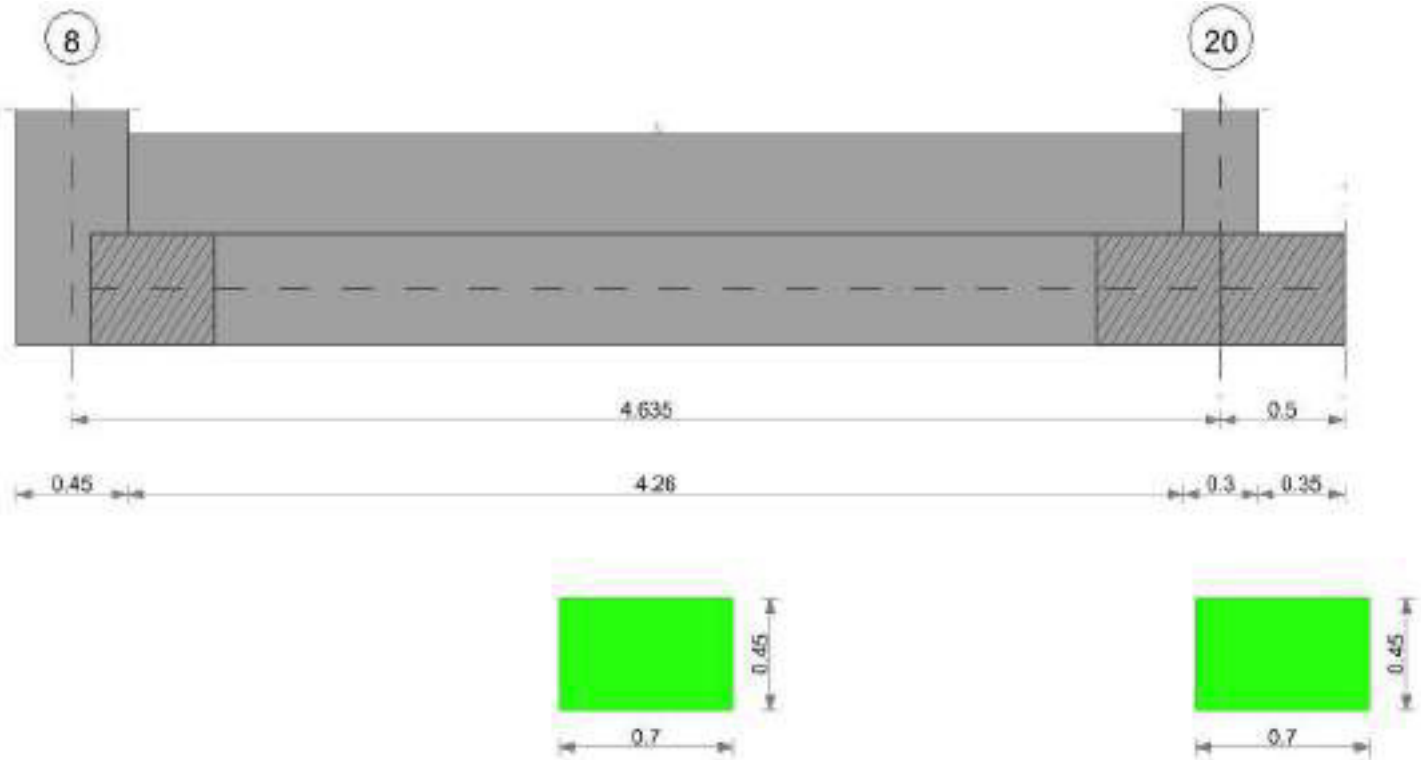
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	966	SLE RA 20	0.05	0	966	954	SLE RA 20	0.05	0	966	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	966	SLE RA 1	0.05	0	966	966	SLE RA 1	0.05	0	966	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	966	SLE RA 1	0.05	0	966	966	SLE RA 1	0.05	0	966	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	966	954	SLE RA 20	0.19	0	966	SLE RA 1	0.1	0	966	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	966	954	SLE RA 1	0.19	0	966	SLE RA 1	0.1	0	966	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	966	954	SLE RA 1	0.19	0	966	SLE RA 1	0.1	0	966	SLE RA 1	Si

CORDOLO 2

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

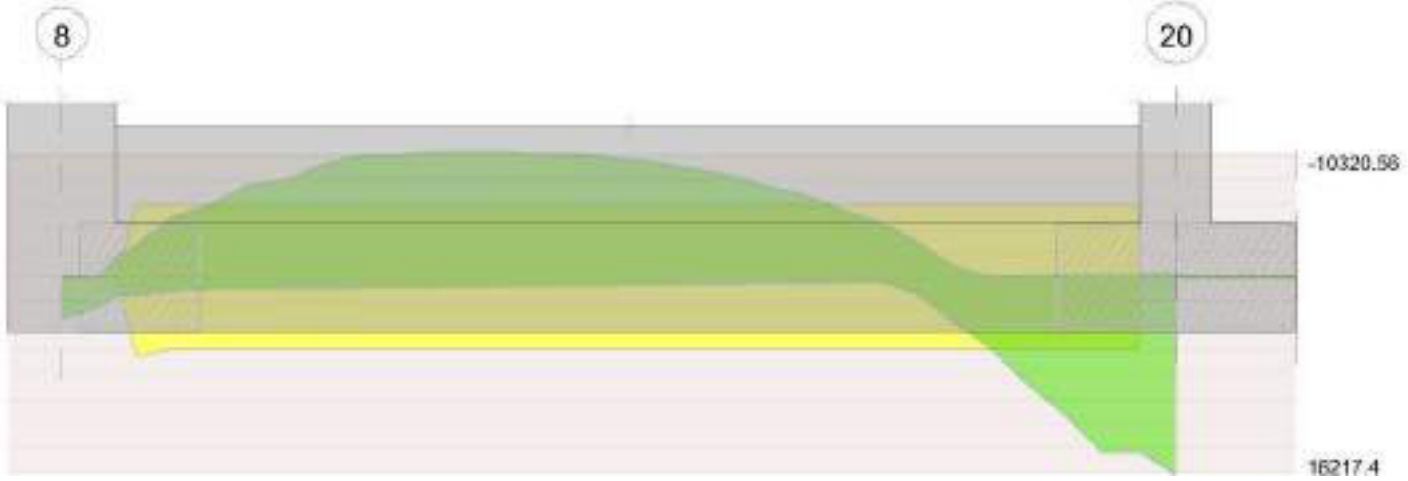
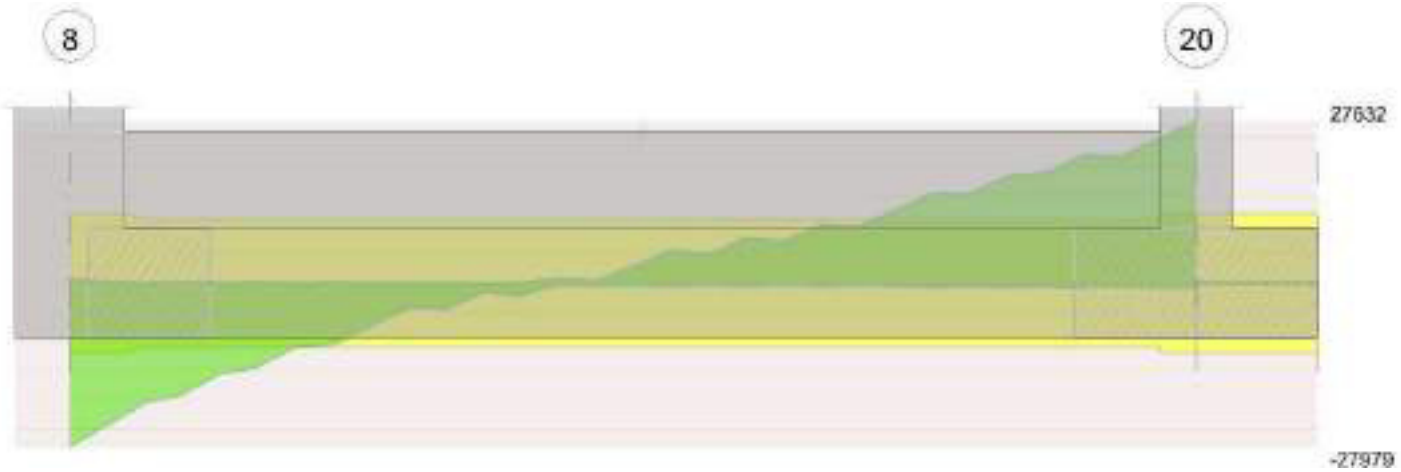


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 8 - 20, sezione R 70x45, aste 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	5668	SLV FO 8	0.145	7759	14627	SLV FO 8	15877	Si
0.23	0.41	0.0005	5440	SLV FO 8	0.145	7759	14039	SLV FO 8	15877	Si
2.32	0.41	0.0005	4011	SLV FO 8	0.145	7759	10351	SLV FO 8	15877	Si
4.48	0.41	0.0005	4253	SLV FO 8	0.145	7759	10976	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	4199	SLD 8	0.12	9019	10837	SLD 8	15877	Si
0.23	0.41	0.0005	4032	SLD 8	0.12	9019	10405	SLD 8	15877	Si
2.32	0.41	0.0005	2976	SLD 8	0.12	9019	7679	SLD 8	15877	Si
4.48	0.41	0.0005	3172	SLD 8	0.12	9019	8185	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000512	2756	SLE RA 20	76322	1494000	946396	36000000	2498	SLE QP 2	69178	1120500	Si
0.23	0.41	0.00000512	2649	SLE RA 20	73364	1494000	909709	36000000	2401	SLE QP 2	66484	1120500	Si
2.32	0.41	0.00000512	1971	SLE RA 20	54569	1494000	676655	36000000	1782	SLE QP 2	49358	1120500	Si
4.48	0.41	0.00000512	2135	SLE RA 20	59109	1494000	732955	36000000	1931	SLE QP 2	53465	1120500	Si
4.63	0.42	0	2128	SLE RA 20	63039	1494000	0	36000000	1924	SLE QP 2	57017	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
433,434,435,436,437,438,439,440,441,442,443,444,445	4.86	1.3	SLU 83	ST	BT	2.3	224247	74517	3.01	Si
433,434,435,436,437,438,439,440,441,442,443,444,445	4.86	1.3	SLD 8	SIS	BT	2.3	203452	76835	2.65	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-356	-74517	-6213.12	-4889.2	0	0	-0.07	-0.08	1.13	4.73	1496	2060	0	14430	
0	-9053	-7320	5288.79	-2045.55	0	-51	-0.28	0.72	-0.15	4.3	1496	2060	0	14430	0.07
0	4290	-76835	-9416.95	-6510.35	0	3	-0.08	-0.12	1.05	4.69	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

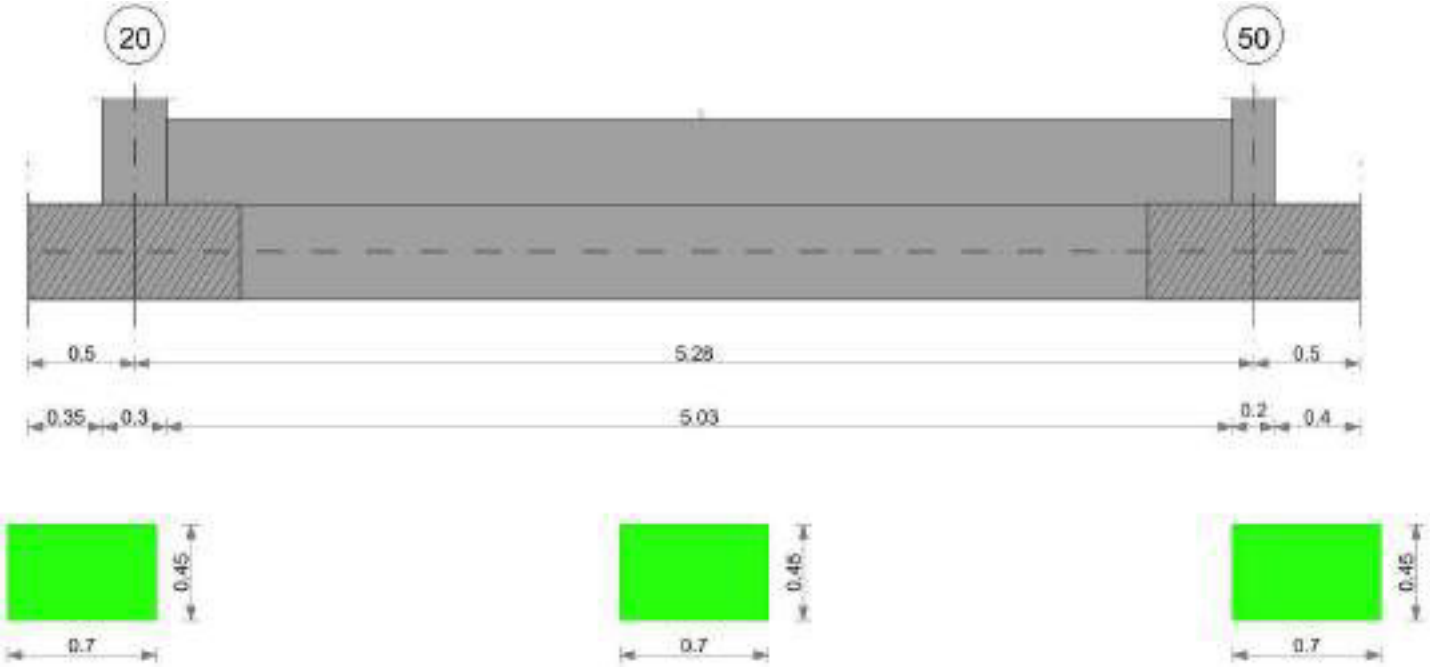
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1036	SLE RA 20	0.05	0	1036	1049	SLE RA 14	0.05	0	1049	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1049	SLE RA 1	0.05	0	1049	1049	SLE RA 1	0.05	0	1049	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1049	SLE RA 1	0.05	0	1049	1049	SLE RA 1	0.05	0	1049	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 14	0.19	0	1049	1036	SLE RA 14	0.19	0	1049	SLE RA 1	0.1	0	1049	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1049	1036	SLE RA 1	0.19	0	1049	SLE RA 1	0.1	0	1049	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1049	1036	SLE RA 1	0.19	0	1049	SLE RA 1	0.1	0	1049	SLE RA 1	Si

CORDOLO 3

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

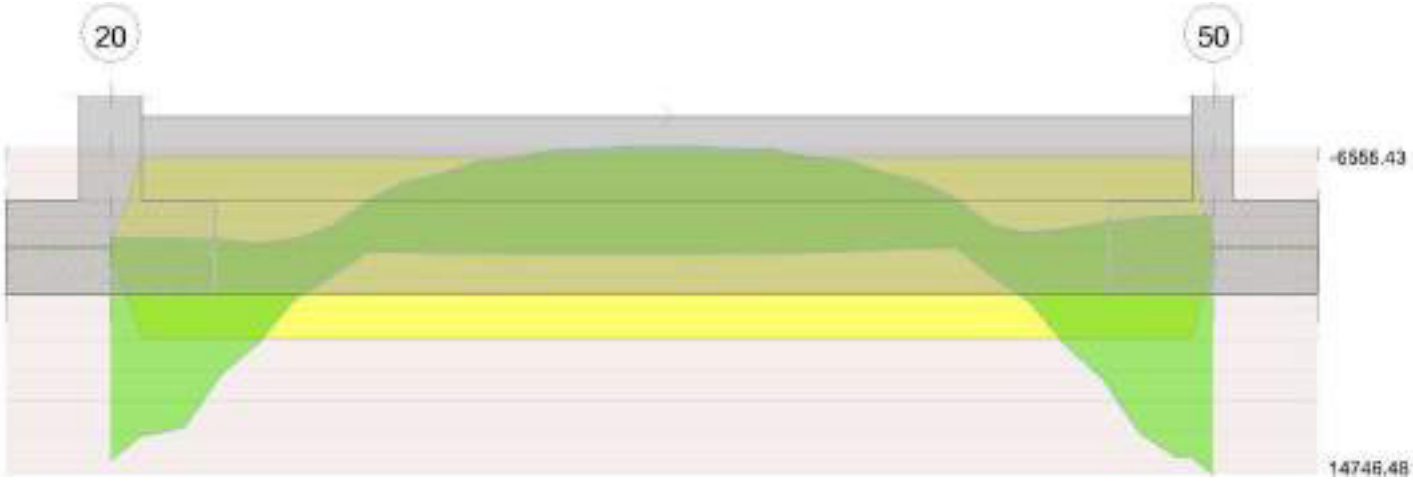
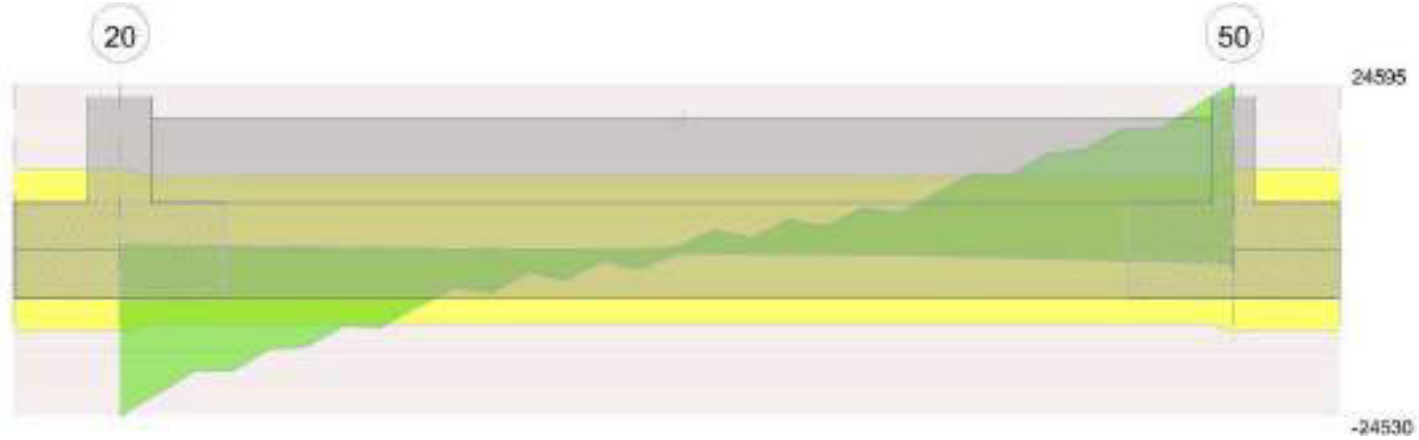


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 20 - 50, sezione R 70x45, aste 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.64	0.41	0.0003	3477	SLV FO 12	0.104	3925	8973	SLV FO 12	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3160	SLD 8	0.085	4549	8155	SLD 8	15877	Si
0.15	0.41	0.0003	3145	SLD 8	0.085	4549	8117	SLD 8	15877	Si
2.64	0.41	0.0003	2585	SLD 12	0.085	4549	6672	SLD 12	15877	Si
5.18	0.41	0.0003	3103	SLD 11	0.085	4549	8009	SLD 11	15877	Si
5.28	0.41	0.0003	3110	SLD 11	0.085	4549	8027	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000255	2128	SLE RA 20	60919	1494000	755397	36000000	1924	SLE QP 2	55099	1120500	Si
0.15	0.41	0.00000255	2118	SLE RA 20	60651	1494000	752067	36000000	1916	SLE QP 2	54853	1120500	Si
2.64	0.41	0.00000255	1738	SLE RA 20	49778	1494000	617246	36000000	1569	SLE QP 2	44924	1120500	Si
5.18	0.41	0.00000255	2056	SLE RA 20	58879	1494000	730099	36000000	1858	SLE QP 2	53203	1120500	Si
5.28	0.41	0.00000255	2061	SLE RA 20	59016	1494000	731798	36000000	1863	SLE QP 2	53330	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
486,487,488,489,490,491,492,493,494,495,496,497,498	5.28	1.3	SLU 83	ST	BT	2.3	238211	76345	3.12	Si
486,487,488,489,490,491,492,493,494,495,496,497,498	5.28	1.3	SLD 8	SIS	BT	2.3	217199	76936	2.82	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-784	-76345	-8021.01	-901.64	0	-1	-0.01	-0.11	1.09	5.26	1496	2060	0	14430	
0	-9647	-4954	5440.73	-3815.69	0	-63	-0.77	1.1	-0.9	3.74	1496	2060	0	14430	0.07
0	4227	-76936	-10990.57	-2035.84	0	3	-0.03	-0.14	1.01	5.23	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

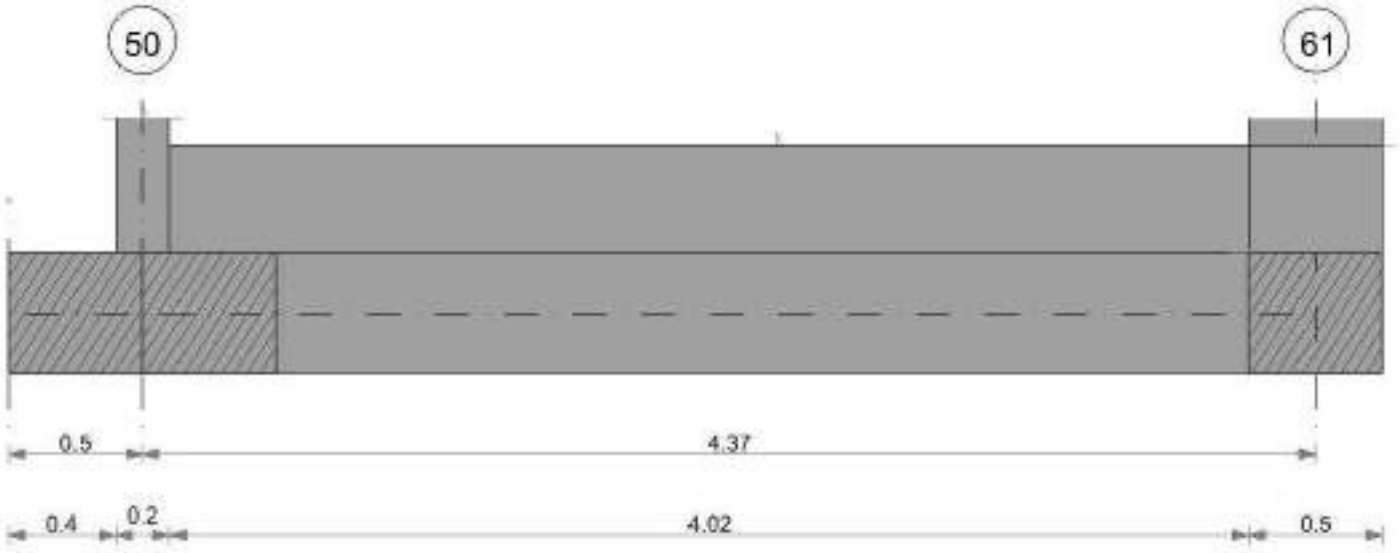
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1049	SLE RA 20	0.05	0	1049	1062	SLE RA 19	0.05	0	1062	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1062	SLE RA 1	0.05	0	1062	1062	SLE RA 1	0.05	0	1062	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1062	SLE RA 1	0.05	0	1062	1062	SLE RA 1	0.05	0	1062	SLE RA 1	0.0033	0	SLE RA 1	Si

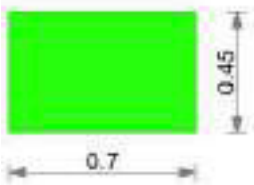
Verifiche geotecniche - Rotazioni assolute e differenziali

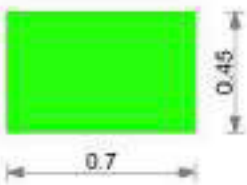
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 19	0.19	0	1062	1049	SLE RA 19	0.19	0	1062	SLE RA 1	0.1	0	1062	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1062	1049	SLE RA 1	0.19	0	1062	SLE RA 1	0.1	0	1062	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1062	1049	SLE RA 1	0.19	0	1062	SLE RA 1	0.1	0	1062	SLE RA 1	Si

CORDOLO 4

Geometria







Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

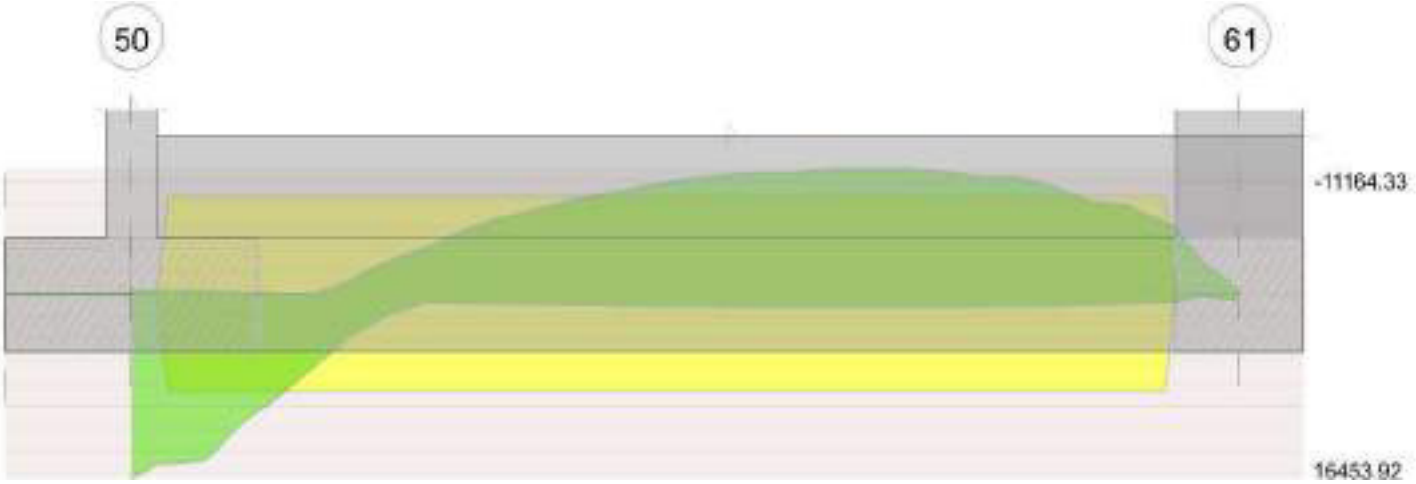


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 50 - 61, sezione R 70x45, aste 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.18	0.41	0.0003	3884	SLV FO 11	0.105	4031	10024	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3110	SLD 11	0.086	4671	8027	SLD 11	15877	Si
0.1	0.41	0.0003	3116	SLD 11	0.086	4671	8040	SLD 11	15877	Si
2.18	0.41	0.0003	2865	SLD 11	0.086	4671	7393	SLD 11	15877	Si
4.12	0.41	0.0003	3764	SLD 11	0.086	4671	9715	SLD 11	15877	Si
4.37	0.41	0.0003	3968	SLD 11	0.086	4671	10240	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000262	2061	SLE RA 20	58962	1494000	731124	36000000	1863	SLE QP 2	53281	1120500	Si
0.1	0.41	0.00000262	2065	SLE RA 20	59068	1494000	732446	36000000	1866	SLE QP 2	53381	1120500	Si
2.18	0.41	0.00000262	1869	SLE RA 20	53454	1494000	662825	36000000	1690	SLE QP 2	48338	1120500	Si
4.12	0.41	0.00000262	2428	SLE RA 20	69455	1494000	861243	36000000	2201	SLE QP 2	62956	1120500	Si
4.37	0.41	0.00000262	2558	SLE RA 20	73180	1494000	907426	36000000	2319	SLE QP 2	66352	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
499,500,501,502,503,504,505,506,507,508,509	4.62	1.3	SLU 83	ST	BT	2.3	216436	67167	3.22	Si
499,500,501,502,503,504,505,506,507,508,509	4.62	1.3	SLD 11	SIS	BT	2.3	197674	69994	2.82	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-495	-67167	-5351.67	3077.92	0	0	0.05	-0.08	1.14	4.53	1496	2060	0	14430	
0	-7435	-1021	4773.83	-2598.27	0	-82	-2.55	4.68	-8.05	-0.47	1496	2060	0	14430	0.07
0	3685	-69994	-8165.49	4576.52	0	3	0.07	-0.12	1.07	4.49	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	3.42	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

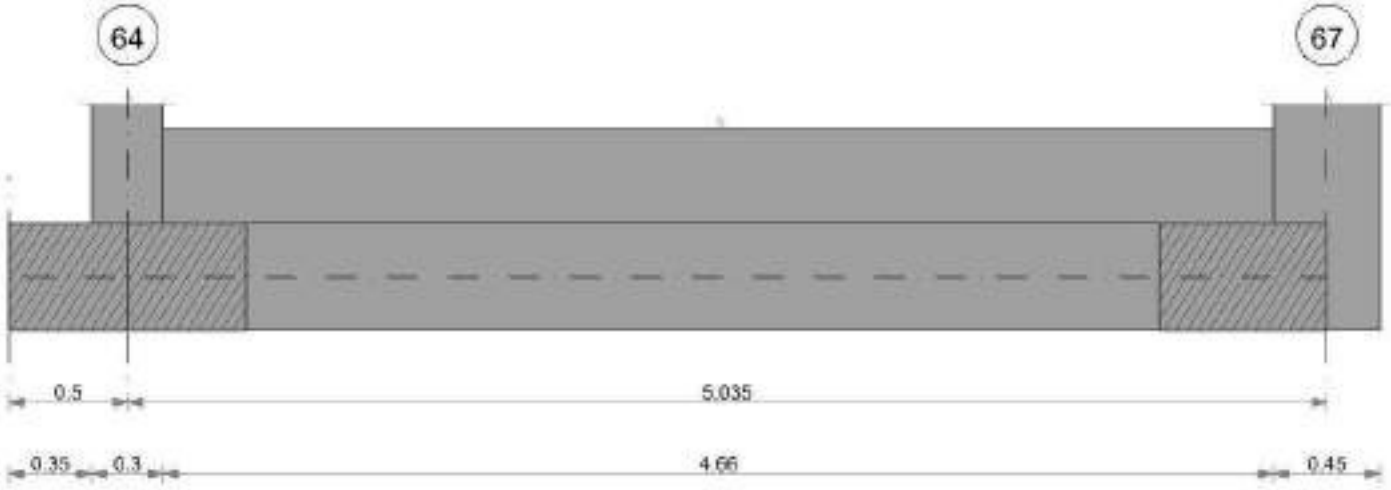
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1062	SLE RA 20	0.05	0	1062	1073	SLE RA 20	0.05	0	1073	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1073	SLE RA 1	0.05	0	1073	1073	SLE RA 1	0.05	0	1073	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1073	SLE RA 1	0.05	0	1073	1073	SLE RA 1	0.05	0	1073	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	1073	1062	SLE RA 20	0.19	0	1073	SLE RA 1	0.1	0	1073	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1073	1062	SLE RA 1	0.19	0	1073	SLE RA 1	0.1	0	1073	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1073	1062	SLE RA 1	0.19	0	1073	SLE RA 1	0.1	0	1073	SLE RA 1	Si

CORDOLO 5

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

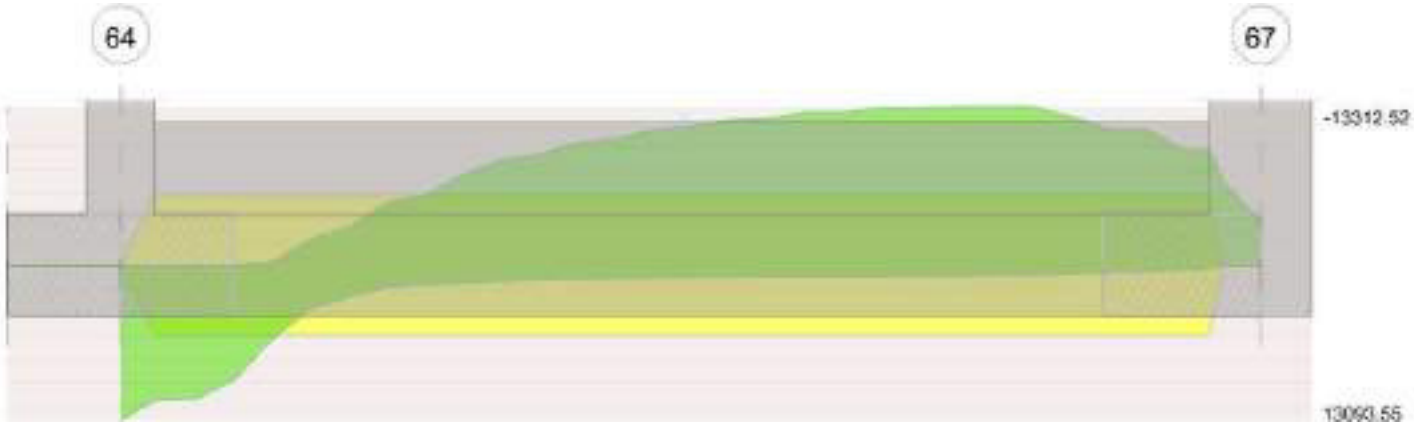
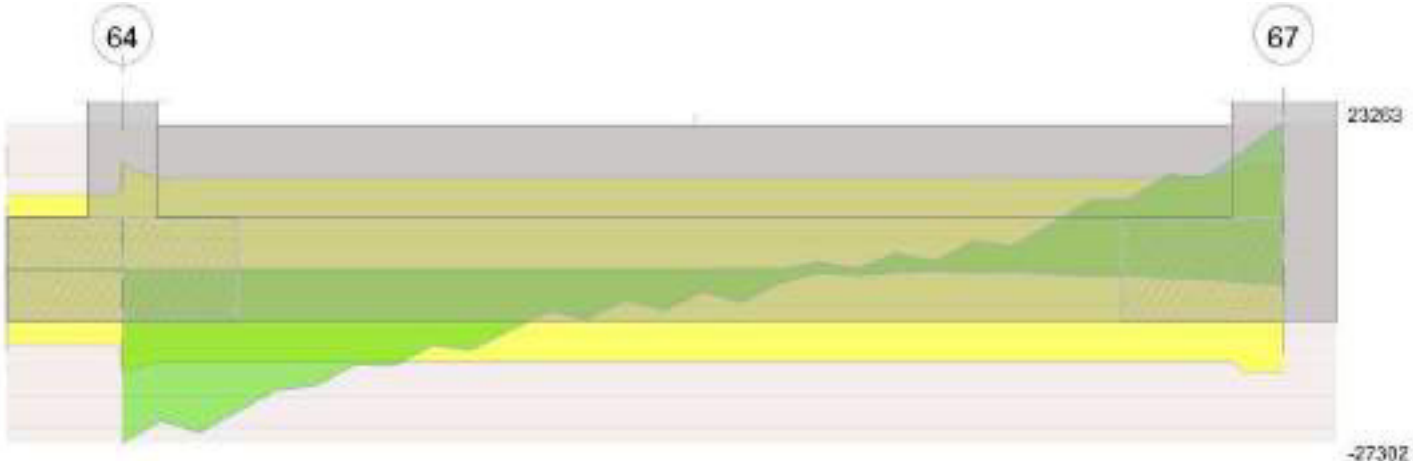


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 64 - 67, sezione R 70x45, aste 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4862	SLV FO 11	0.12	5267	12547	SLV FO 11	15877	Si
0.15	0.41	0.0003	4832	SLV FO 11	0.12	5267	12470	SLV FO 11	15877	Si
2.52	0.41	0.0003	4209	SLV FO 11	0.12	5267	10861	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3655	SLD 11	0.099	6111	9432	SLD 11	15877	Si
0.15	0.41	0.0003	3634	SLD 11	0.099	6111	9378	SLD 11	15877	Si
2.52	0.41	0.0003	3125	SLD 11	0.099	6111	8066	SLD 11	15877	Si
4.81	0.41	0.0003	4461	SLD 11	0.099	6111	11513	SLD 11	15877	Si
5.03	0.41	0.0003	4705	SLD 11	0.099	6111	12142	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000344	2495	SLE RA 20	70618	1494000	875667	36000000	2260	SLE QP 2	63967	1120500	Si
0.15	0.41	0.00000344	2484	SLE RA 20	70289	1494000	871579	36000000	2250	SLE QP 2	63670	1120500	Si
2.52	0.41	0.00000344	2060	SLE RA 20	58294	1494000	722846	36000000	1867	SLE QP 2	52820	1120500	Si
4.81	0.41	0.00000344	2838	SLE RA 20	80324	1494000	996021	36000000	2582	SLE QP 2	73055	1120500	Si
5.03	0.41	0.00000344	2992	SLE RA 20	84667	1494000	1049876	36000000	2722	SLE QP 2	77034	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
310,311,312,313,314,315,316,317,318,319,320,321,322	5.26	1.3	SLU 83	ST	BT	2.3	237949	81514	2.92	Si
310,311,312,313,314,315,316,317,318,319,320,321,322	5.26	1.3	SLD 11	SIS	BT	2.3	215028	84889	2.53	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-491	-81514	-8201.54	2452.37	0	0	0.03	-0.1	1.1	5.2	1496	2060	0	14430	
0	-7638	-2604	5415.69	-5778.31	0	-71	-2.22	2.08	-2.86	0.82	1496	2060	0	14430	0.07
0	4194	-84889	-11723.41	5849.8	0	3	0.07	-0.14	1.02	5.12	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

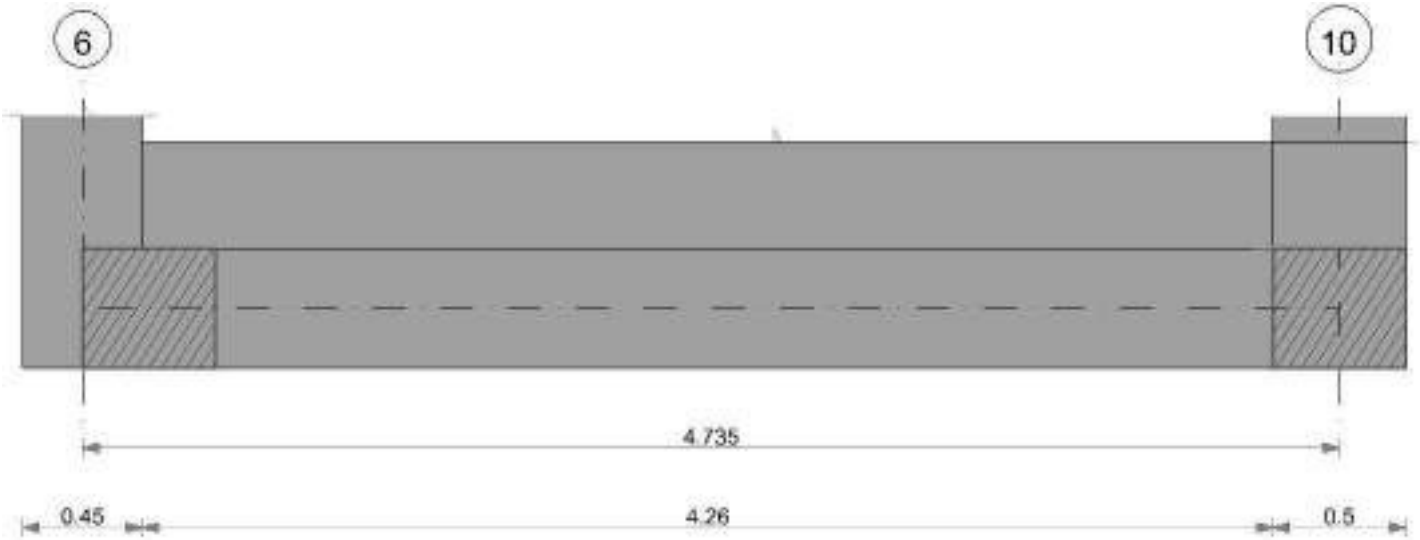
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	969	SLE RA 20	0.05	0	969	983	SLE RA 20	0.05	0	983	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	983	SLE RA 1	0.05	0	983	983	SLE RA 1	0.05	0	983	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	983	SLE RA 1	0.05	0	983	983	SLE RA 1	0.05	0	983	SLE RA 1	0.0033	0	SLE RA 1	Si

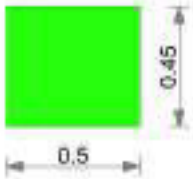
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	983	969	SLE RA 20	0.19	0	983	SLE RA 1	0.1	0	983	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	983	969	SLE RA 1	0.19	0	983	SLE RA 1	0.1	0	983	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	983	969	SLE RA 1	0.19	0	983	SLE RA 1	0.1	0	983	SLE RA 1	Si

CORDOLO 6

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

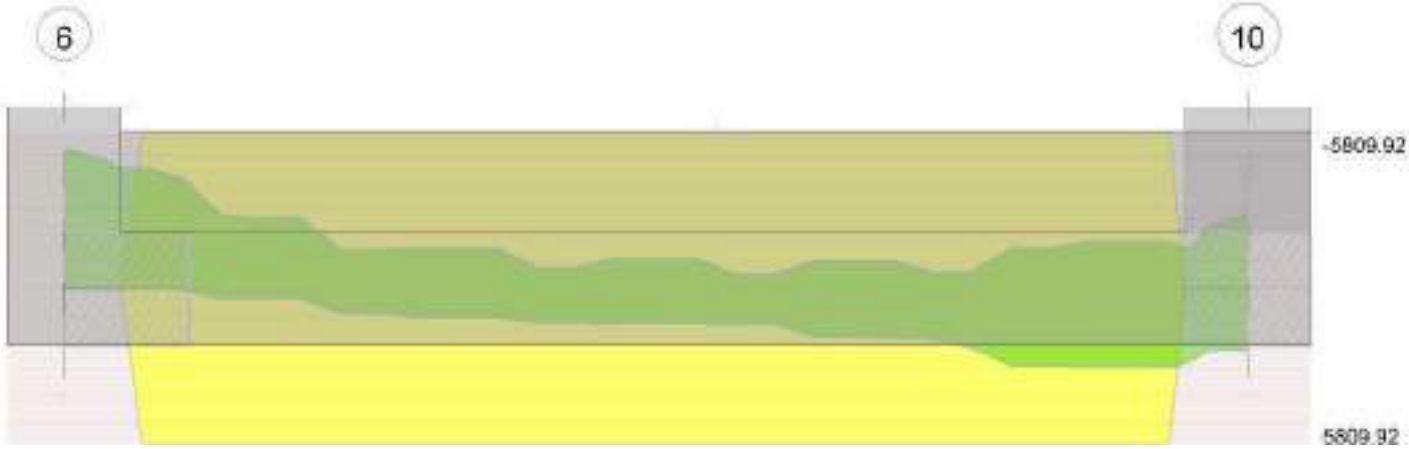
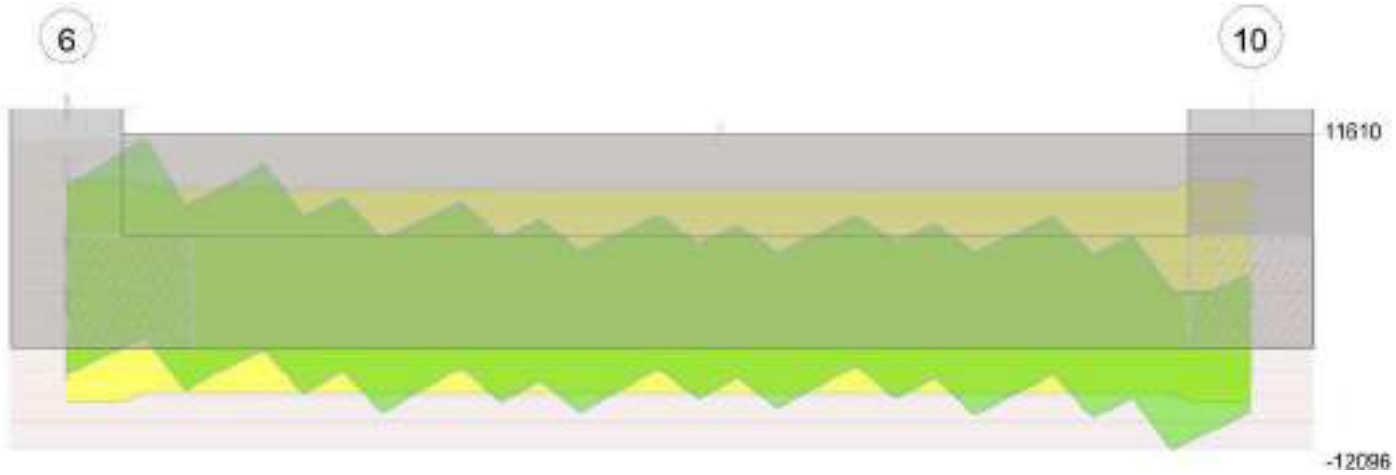


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 6 - 10, sezione R 50x45, aste 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2339	SLV FO 2	0.086	2676	8136	SLV FO 2	15877	Si
0.23	0.41	0.0002	2281	SLV FO 2	0.086	2676	7934	SLV FO 2	15877	Si
2.37	0.41	0.0002	2031	SLU 84	0.017	2751	7065	SLU 84	15877	Si
4.49	0.41	0.0002	1829	SLU 83	0.017	2751	6363	SLU 83	15877	Si
4.74	0.41	0.0002	1791	SLU 83	0.017	2751	6229	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1962	SLD 2	0.07	3097	6823	SLD 2	15877	Si
0.23	0.41	0.0002	1920	SLD 2	0.07	3097	6678	SLD 2	15877	Si
2.37	0.41	0.0002	1672	SLD 2	0.07	3097	5816	SLD 2	15877	Si
4.49	0.41	0.0002	1380	SLD 3	0.07	3097	4801	SLD 3	15877	Si
4.74	0.41	0.0002	1342	SLD 3	0.07	3097	4667	SLD 3	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	1578	SLE RA 20	45678	1494000	566405	36000000	1436	SLE QP 2	41577	1120500	Si
0.23	0.41	0.00000172	1558	SLE RA 20	45094	1494000	559172	36000000	1417	SLE QP 2	41030	1120500	Si
2.37	0.41	0.00000172	1482	SLE RA 21	42910	1494000	532085	36000000	1344	SLE QP 2	38910	1120500	Si
4.49	0.41	0.00000172	1334	SLE RA 20	38607	1494000	478729	36000000	1206	SLE QP 2	34911	1120500	Si
4.74	0.41	0.00000172	1306	SLE RA 20	37793	1494000	468632	36000000	1180	SLE QP 2	34163	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
223,224,225,226,227,228,229,230,231,232,233,234	5.21	1.1	SLU 84	ST	BT	2.3	241878	76472	3.16	Si
223,224,225,226,227,228,229,230,231,232,233,234	5.21	1.1	SLV FO 1	SIS	BT	2.3	218280	69902	3.12	Si
223,224,225,226,227,228,229,230,231,232,233,234	5.21	1.1	SLD 1	SIS	BT	2.3	227195	62431	3.64	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-182	-76472	117.48	-3417.63	0	0	-0.04	0	1.1	5.12	1496	2060	0	14430	
0	-3021	-69902	1574.99	-12496.84	0	-2	-0.18	0.02	1.05	4.85	1496	2060	0	14430	0.07
0	-1660	-62431	872.8	-8270.1	0	-2	-0.13	0.01	1.07	4.95	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

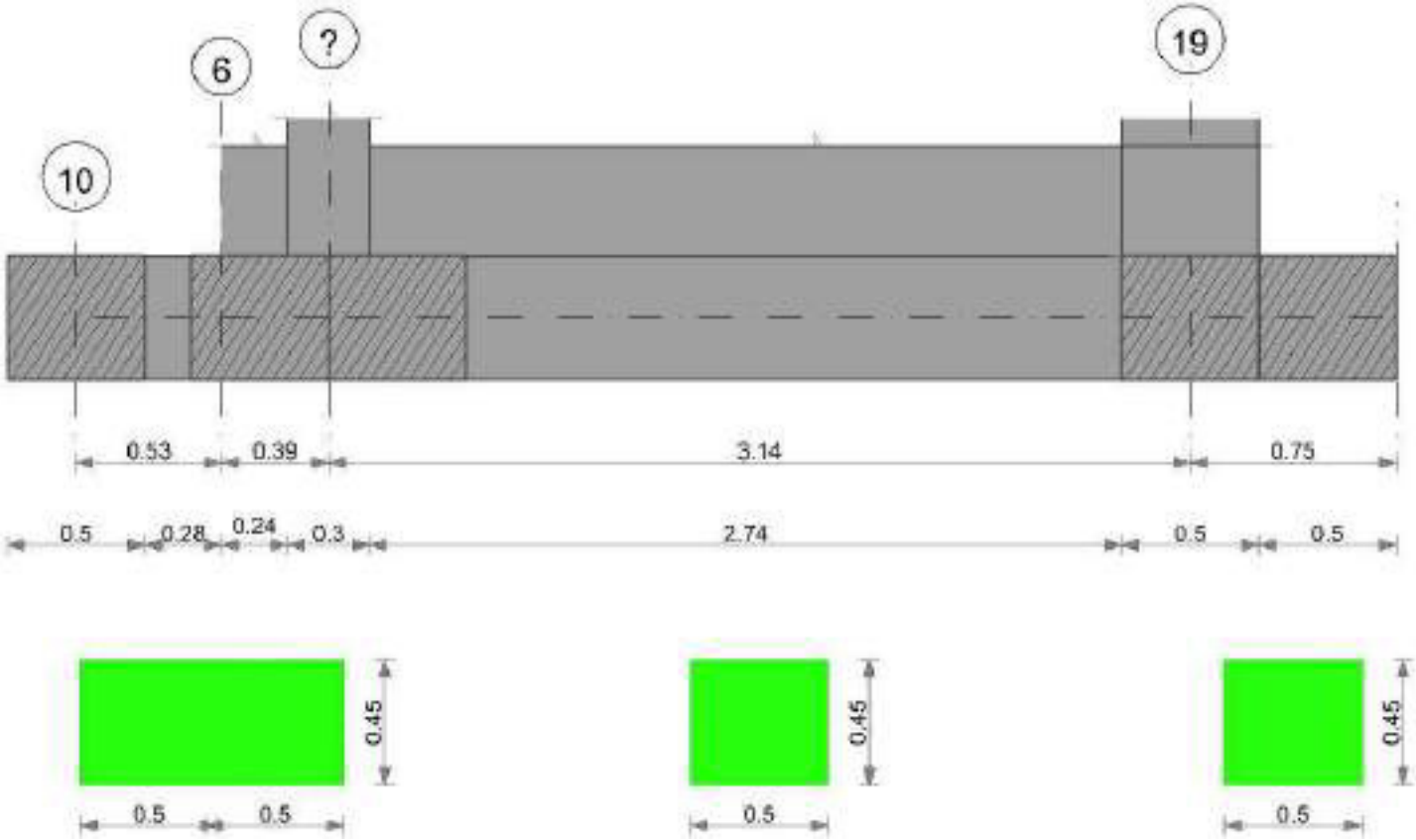
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	735	SLE RA 20	0.05	0.001	735	723	SLE RA 20	0.05	0	735	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	735	SLE RA 1	0.05	0	735	735	SLE RA 1	0.05	0	735	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	735	SLE RA 1	0.05	0	735	735	SLE RA 1	0.05	0	735	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	735	723	SLE RA 20	0.19	0	735	SLE RA 1	0.1	0	735	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	735	723	SLE RA 1	0.19	0	735	SLE RA 1	0.1	0	735	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	735	723	SLE RA 1	0.19	0	735	SLE RA 1	0.1	0	735	SLE RA 1	Si

CORDOLO 7

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

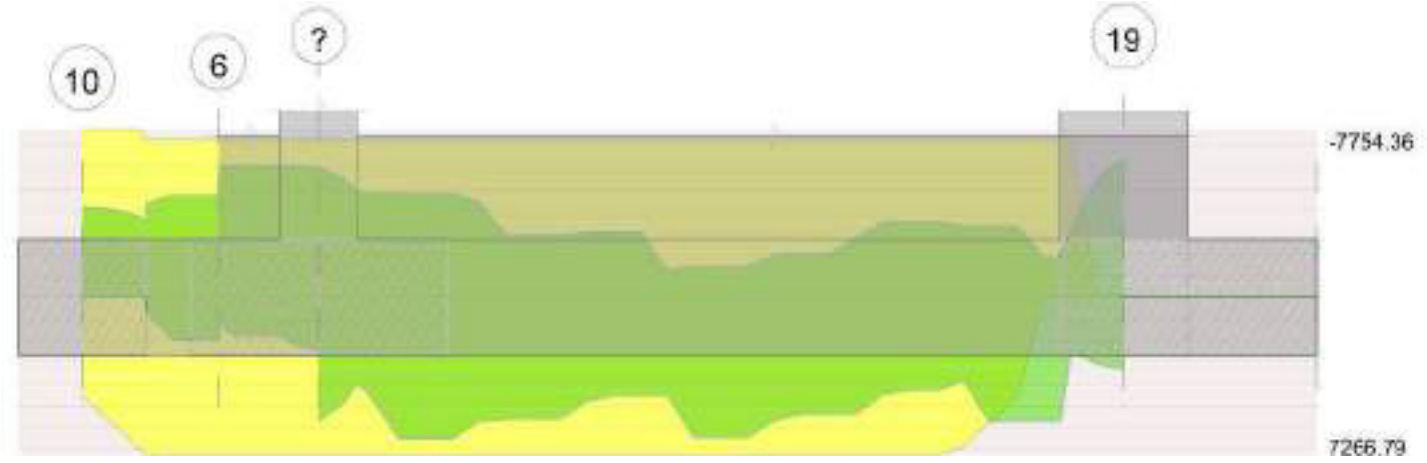
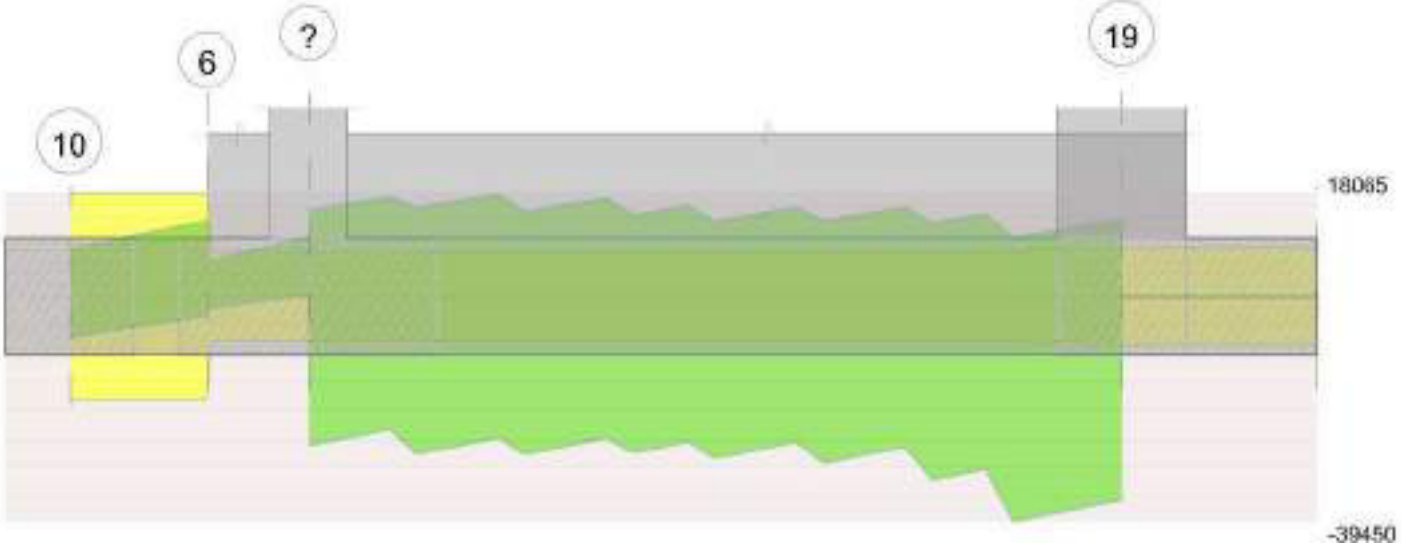


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 10 - 6, sezione R 50x45, asta 542

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000314	0.052							-4244.22	SLU 83	-4124.93	-7738.37	0.109	1.88	Si
0.25	0.000509	0.052	0.000508	0.052							-3628.28	SLU 84	-3628.28	-7755.42	0.113	2.14	Si
0.26	0.000509	0.052	0.000509	0.052							-3567.85	SLU 84	-3628.28	-7755.45	0.113	2.14	Si
0.53	0.000509	0.052	0.000509	0.052							-2036.67	SLU 84	-3168.75	-7755.45	0.113	2.45	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000314	0.052							-4335.78	SLV FO 4	-3636.59	-7269.88	0.2	2	Si
0.25	0.000509	0.052	0.000508	0.052	-1348.44	SLV FO 12	683.09	7260.75	0.197	10.63	-3459.44	SLV FO 5	-4306.08	-7266.86	0.197	1.69	Si
0.26	0.000509	0.052	0.000509	0.052	-1183.32	SLV FO 8	867.11	7266.79	0.197	8.38	-3546.3	SLV FO 9	-4367.27	-7266.79	0.197	1.66	Si
0.35	0.000509	0.052	0.000509	0.052	-218.64	SLV FO 8	1957.53	7266.79	0.197	3.71	-3972.75	SLV FO 9	-4686.52	-7266.79	0.197	1.55	Si
0.53	0.000509	0.052	0.000509	0.052	1957.53	SLV FO 8	1957.53	7266.79	0.197	3.71	-4686.52	SLV FO 9	-4686.52	-7266.79	0.197	1.55	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000314	0.052							-3680.51	SLD 4	-3244.55	-7269.88	0.2	2.24	Si
0.25	0.000509	0.052	0.000508	0.052							-2965.41	SLD 5	-3158.09	-7266.86	0.197	2.3	Si
0.26	0.000509	0.052	0.000509	0.052							-2995.19	SLD 9	-3163.5	-7266.79	0.197	2.3	Si
0.53	0.000509	0.052	0.000509	0.052	433.05	SLD 8	433.05	7266.79	0.197	16.78	-3162.04	SLD 9	-3169.44	-7266.79	0.197	2.29	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000129	0.000509	0	948	SLU 83	948	7764	63178	18065	18065	1	19.06	Si
0.25	0.0000129	0.000509	0	4063	SLU 83	4063	7764	63178	18065	18065	1	4.45	Si
0.26	0.0000129	0.000509	0	4249	SLU 83	4249	7764	63178	18065	18065	1	4.25	Si
0.53	0.0000129	0.000509	0	7530	SLU 83	7530	7764	63178	18065	18065	1	2.4	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000129	0.000509	0	8217	SLV FO 8	8217	7764	63178	18065	18065	1	2.2	Si
0	0.0000129	0.000509	0	-7251	SLV FO 9	-7251	-7764	-63178	-18065	-18065	1	2.49	Si
0.25	0.0000129	0.000509	0	10545	SLV FO 8	10545	7764	63178	18065	18065	1	1.71	Si
0.25	0.0000129	0.000509	0	-5429	SLV FO 9	-5429	-7764	-63178	-18065	-18065	1	3.33	Si
0.26	0.0000129	0.000509	0	10686	SLV FO 8	10686	7764	63178	18065	18065	1	1.69	Si
0.26	0.0000129	0.000509	0	-5322	SLV FO 9	-5322	-7764	-63178	-18065	-18065	1	3.39	Si
0.53	0.0000129	0.000508	0	13270	SLV FO 4	13270	7764	63178	18065	18065	1	1.36	Si
0.53	0.0000129	0.000509	0	-3538	SLV FO 13	-3538	-7764	-63178	-18065	-18065	1	5.11	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000129	0.000509	0	4713	SLD 4	4713	7764	63178	18065	18065	1	3.83	Si
0	0.0000129	0.000509	0	-3747	SLD 13	-3747	-7764	-63178	-18065	-18065	1	4.82	Si
0.25	0.0000129	0.000509	0	7055	SLD 4	7055	7764	63178	18065	18065	1	2.56	Si
0.25	0.0000129	0.000509	0	-1939	SLD 13	-1939	-7764	-63178	-18065	-18065	1	9.32	Si
0.26	0.0000129	0.000509	0	7195	SLD 4	7195	7764	63178	18065	18065	1	2.51	Si
0.26	0.0000129	0.000509	0	-1831	SLD 13	-1831	-7764	-63178	-18065	-18065	1	9.86	Si
0.53	0.0000129	0.000508	0	9668	SLD 4	9668	7764	63178	18065	18065	1	1.87	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-3092.97	20	-3011.33	164198	1494000	2416840	36000000	-2784.63	2	-2723.68	148513	1120500			Si

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.25	-2652.89	21	-2652.89	140330	1494000	2104864	36000000	-2403.94	2	-2403.94	127161	1120500			Si
0.26	-2609.25	21	-2652.89	140321	1494000	2104810	36000000	-2364.81	2	-2403.94	127153	1120500			Si
0.53	-1499.09	21	-2320.51	122740	1494000	1841100	36000000	-1364.49	2	-2105.32	111358	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 10 - 6, sezione R 50x45, asta 542

Campata 2 tra i fili 6 - ?, sezione R 50x45, asta 543

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1726	SLU 83	0.054	10139	6004	SLU 83	25230	Si
0.2	0.41	0.0003	1727	SLU 83	0.023	4108	6007	SLU 83	15877	Si
0.24	0.41	0.0003	1728	SLU 83	0.023	4108	6011	SLU 83	15877	Si
0.39	0.41	0.0003	1733	SLU 83	0.023	4108	6028	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1301	SLD 4	0.134	11278	4525	SLD 4	29015	Si
0.2	0.41	0.0003	1301	SLD 4	0.086	4604	4524	SLD 4	15877	Si
0.24	0.41	0.0003	1301	SLD 4	0.086	4604	4525	SLD 4	15877	Si
0.39	0.41	0.0003	1302	SLD 4	0.086	4604	4528	SLD 4	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000644	1258	SLE RA 20	34248	1494000	424671	36000000	1135	SLE QP 2	30915	1120500	Si
0.2	0.41	0.00000258	1258	SLE RA 20	36015	1494000	446585	36000000	1136	SLE QP 2	32504	1120500	Si
0.24	0.41	0.00000258	1259	SLE RA 20	36037	1494000	446856	36000000	1136	SLE QP 2	32522	1120500	Si
0.39	0.41	0.00000258	1263	SLE RA 20	36141	1494000	448148	36000000	1139	SLE QP 2	32612	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili ? - 19, sezione R 50x45, aste 544, 545, 546, 547, 548, 549, 550, 551

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1733	SLU 83	0.023	4108	6028	SLU 83	15877	Si
0.15	0.41	0.0002	1739	SLU 83	0.018	2812	6047	SLU 83	15877	Si
1.57	0.41	0.0002	1788	SLU 83	0.018	2812	6219	SLU 83	15877	Si
2.89	0.41	0.0002	1712	SLU 83	0.018	2812	5955	SLU 83	15877	Si
3.14	0.41	0.0002	1687	SLU 83	0.018	2812	5868	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1302	SLD 4	0.086	4604	4528	SLD 4	15877	Si
0.15	0.41	0.0002	1302	SLD 4	0.071	3164	4530	SLD 4	15877	Si
1.57	0.41	0.0002	1278	SLD 8	0.071	3164	4443	SLD 8	15877	Si
2.89	0.41	0.0002	1184	SLD 11	0.071	3164	4117	SLD 11	15877	Si
3.14	0.41	0.0002	1170	SLD 11	0.071	3164	4068	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000258	1263	SLE RA 20	36141	1494000	448148	36000000	1139	SLE QP 2	32612	1120500	Si
0.15	0.41	0.00000176	1267	SLE RA 20	36648	1494000	454439	36000000	1143	SLE QP 2	33065	1120500	Si
1.57	0.41	0.00000176	1303	SLE RA 20	37687	1494000	467319	36000000	1174	SLE QP 2	33964	1120500	Si
2.89	0.41	0.00000176	1247	SLE RA 20	36077	1494000	447361	36000000	1123	SLE QP 2	32484	1120500	Si
3.14	0.41	0.00000176	1229	SLE RA 20	35551	1494000	440836	36000000	1106	SLE QP 2	32004	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
542,543,544,545,546,547,548,549,550,551	4.31	1.1	SLU 84	ST	BT	2.3	204312	58441	3.5	Si
542,543,544,545,546,547,548,549,550,551	4.31	1.1	SLV FO 8	SIS	BT	2.3	170866	44647	3.83	Si
542,543,544,545,546,547,548,549,550,551	4.31	1.1	SLD 8	SIS	BT	2.3	186271	42384	4.39	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-236	-58441	93.96	263.95	0	0	0	0	1.1	4.3	1496	2060	0	14430	
0	6239	-44647	-3126.05	-1510.89	0	8	-0.03	-0.07	0.96	4.24	1496	2060	0	14430	0.07
0	3276	-42384	-1649.38	-811.67	0	4	-0.02	-0.04	1.02	4.27	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	746	SLE RA 20	0.05	0	746	736	SLE RA 20	0.05	0	738	SLE RA 18	0.0033	0	SLE FR 6	Si

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
D	0.05	0	746	SLE RA 1	0.05	0	746	746	SLE RA 1	0.05	0	738	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	746	SLE RA 1	0.05	0	746	746	SLE RA 1	0.05	0	738	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0.01	737	736	SLE RA 20	0.19	0	737	SLE RA 20	0.1	0	738	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	746	738	SLE RA 1	0.19	0	746	SLE RA 1	0.1	0	738	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	746	738	SLE RA 1	0.19	0	746	SLE RA 1	0.1	0	738	SLE RA 1	Si

CORDOLO 8

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio

Output campate

Campata 1 tra i fili 24 - 24, sezione R 50x45, asta 752

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	2122.3	SLU 83	2341.63	9076.41	0.12	3.88							Si
0.95	0.00067	0.052	0.000603	0.051	3589.93	SLU 83	3589.93	9079.5	0.121	2.53							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	2543.9	SLV FO 7	3293.61	8577.24	0.213	2.6	251.38	SLV FO 10	-248.13	-7266.96	0.196	29.29	Si
0.95	0.00067	0.052	0.000603	0.051	5355.88	SLV FO 3	5355.88	8576.65	0.21	1.6	-720.12	SLV FO 14	-720.12	-9440.09	0.222	13.11	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	2017.79	SLD 7	2485.21	8577.24	0.213	3.45							Si
0.95	0.00067	0.052	0.000603	0.051	4053.16	SLD 3	4053.16	8576.65	0.21	2.12							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-4944	SLU 84	-4944	-8455	-71432	0	-8455	1	1.71	Si
0.25	0.0000121	0	0	-2321	SLU 78	-2321	-8455	-71432	-19118	-19118	1	8.24	Si
0.47	0.0000121	0	0	123	SLU 39	123	7777	63336	16952	16952	1	138.06	Si
0.47	0.0000121	0	0	-242	SLU 47	-242	-7777	-63336	-16952	-16952	1	70.06	Si
0.95	0.0000095	0.000603	0	4804	SLU 83	4804	8014	63336	13383	13383	1	2.79	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-6162	SLV FO 14	-6162	-8455	-71432	0	-8455	1	1.37	Si
0.25	0.0000121	0	0	1397	SLV FO 3	1397	8455	71432	19118	19118	1	13.68	Si
0.25	0.0000121	0	0	-4633	SLV FO 14	-4633	-8455	-71432	-19118	-19118	1	4.13	Si
0.47	0.0000121	0	0	3192	SLV FO 3	3192	7777	63336	16952	16952	1	5.31	Si
0.47	0.0000121	0	0	-3319	SLV FO 14	-3319	-7777	-63336	-16952	-16952	1	5.11	Si
0.95	0.0000095	0.000603	0	6955	SLV FO 3	6955	8014	63336	13383	13383	1	1.92	Si
0.95	0.0000095	0.000509	0	-758	SLV FO 14	-758	-7767	-63216	-13357	-13357	1	17.63	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-4982	SLD 14	-4982	-8455	-71432	0	-8455	1	1.7	Si
0.25	0.0000121	0	0	116	SLD 3	116	8455	71432	19118	19118	1	164.33	Si
0.25	0.0000121	0	0	-3353	SLD 14	-3353	-8455	-71432	-19118	-19118	1	5.7	Si
0.47	0.0000121	0	0	1806	SLD 3	1806	7777	63336	16952	16952	1	9.39	Si
0.47	0.0000121	0	0	-1932	SLD 14	-1932	-7777	-63336	-16952	-16952	1	8.77	Si
0.95	0.0000095	0.000603	0	5305	SLD 3	5305	8014	63336	13383	13383	1	2.52	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	2632.13	20	2002.32	118656	1494000	0	36000000	2423.38	2	1838.55	108951	1120500			Si
0.25	1788.33	20	1788.33	105975	1494000	0	36000000	1636.29	2	1636.29	96965	1120500			Si
0.47	1544.85	20	1700.64	89422	1494000	1328882	36000000	1397.64	2	1553.04	81661	1120500			Si
0.95	2596.78	20	2596.78	133234	1494000	2010595	36000000	2317.88	2	2317.88	118925	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 24 - 24, sezione R 50x45, asta 752

Campata 2 tra i fili 24 - 49, sezione R 50x45, aste 753, 754, 755, 756, 757, 758, 759, 760, 761, 762

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1515	SLU 83	0.04	7535	4329	SLU 83	15877	Si
2.04	0.41	0.0002	1421	SLU 83	0.017	2755	4061	SLU 83	15877	Si
3.98	0.41	0.0002	1682	SLU 83	0.017	2755	4806	SLU 83	15877	Si
4.08	0.41	0.0002	1693	SLU 83	0.017	2755	4837	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1176	SLD 7	0.116	8399	3359	SLD 7	15877	Si
2.04	0.41	0.0002	1093	SLD 8	0.07	3100	3123	SLD 8	15877	Si
3.98	0.41	0.0002	1324	SLD 12	0.07	3100	3782	SLD 12	15877	Si
4.08	0.41	0.0002	1333	SLD 12	0.07	3100	3808	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000476	1099	SLE RA 20	30573	1494000	379105	36000000	984	SLE QP 2	27380	1120500	Si
2.04	0.41	0.00000172	1029	SLE RA 20	29801	1494000	369531	36000000	919	SLE QP 2	26610	1120500	Si
3.98	0.41	0.00000172	1221	SLE RA 20	35351	1494000	438355	36000000	1096	SLE QP 2	31723	1120500	Si
4.08	0.41	0.00000172	1229	SLE RA 20	35582	1494000	441217	36000000	1103	SLE QP 2	31936	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
752,753,754,755,756,757,758,759,760,761,762	5.28	1.1	SLU 84	ST	BT	2.3	242284	49923	4.85	Si
752,753,754,755,756,757,758,759,760,761,762	5.28	1.1	SLV FO 5	SIS	LT	2.3	97802	26815	3.65	Si
752,753,754,755,756,757,758,759,760,761,762	5.28	1.1	SLD 12	SIS	BT	2.3	223115	38079	5.86	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-756	-49923	754.82	36.52	0	-1	0	0.02	1.07	5.28	1496	2060	0	14430	
0	-8067	-26815	4485.89	-2908.74	0	-17	-0.11	0.17	0.77	5.06	1496	2060	37	0	0.07
0	3608	-38079	-1662.31	1632.32	0	5	0.04	-0.04	1.01	5.19	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.11	1.12	0.94	1.16	1.27	1	0.51	0.5	0.36	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

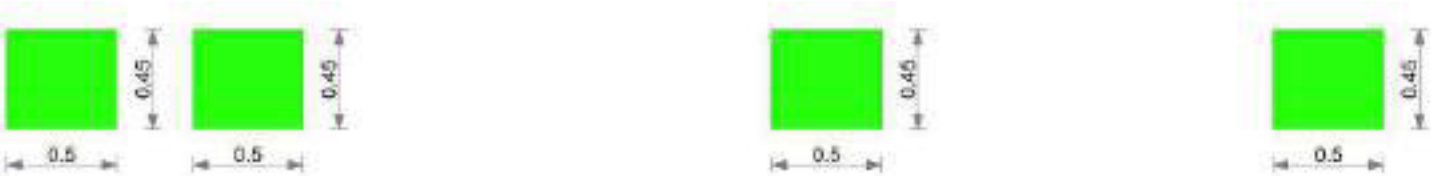
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	880	SLE RA 20	0.05	0	880	870	SLE RA 20	0.05	0	870	SLE FR 6	0.0033	0	SLE FR 6	Si
D	0.05	0	880	SLE RA 1	0.05	0	880	880	SLE RA 1	0.05	0	870	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	880	SLE RA 1	0.05	0	880	880	SLE RA 1	0.05	0	870	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0.01	870	869	SLE FR 6	0.19	0	880	SLE RA 1	0.1	0.01	870	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	880	870	SLE RA 1	0.19	0	880	SLE RA 1	0.1	0	870	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	880	870	SLE RA 1	0.19	0	880	SLE RA 1	0.1	0	870	SLE RA 1	Si

CORDOLO 9

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

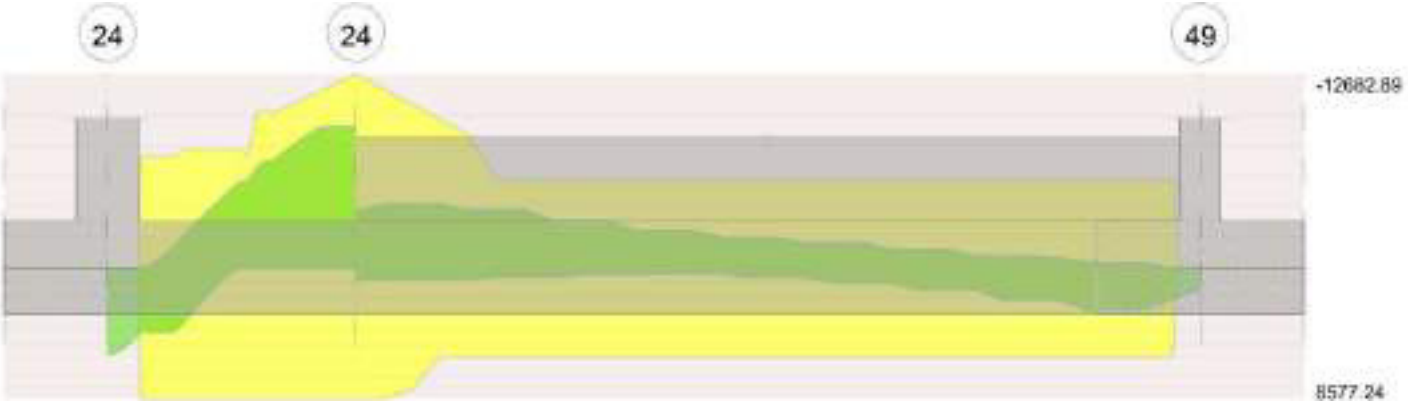


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 2 tra i fili 24 - 24, sezione R 50x45, asta 741

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.6	0.000509	0.052	0.000603	0.051							-2833.2	SLU 83	-5147.91	-7750.24	0.114	1.51	Si
1.2	0.000911	0.052	0.000603	0.051							-9486.15	SLU 83	-9486.15	-13290.66	0.141	1.4	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.6	0.000509	0.052	0.000603	0.051	-1191.45	SLV FO 6	242.7	8577.24	0.213	35.34	-2558.42	SLV FO 11	-4790.24	-7266.96	0.196	1.52	Si
1.2	0.000911	0.052	0.000603	0.051							-9210.07	SLV FO 11	-9210.07	-12682.89	0.256	1.38	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.6	0.000509	0.052	0.000603	0.051	-1505.01	SLD 6	83.66	8577.24	0.213	102.53	-2244.85	SLD 11	-4156.61	-7266.96	0.196	1.75	Si
1.2	0.000911	0.052	0.000603	0.051							-7869.08	SLD 11	-7869.08	-12682.89	0.256	1.61	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0	0	-19559	SLU 83	-19559	-8455	-71432	-19118	-19118	1	0.98	Si
0.15	0.0000121	0	0	-18027	SLU 83	-18027	-8455	-71432	-19118	-19118	1	1.06	Si
1.2	0.0000095	0.000718	0	-8567	SLU 83	-8567	-8487	-63248	-13364	-13364	1	1.56	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0	0	-17513	SLV FO 11	-17513	-8455	-71432	-19118	-19118	1	1.09	Si
0.15	0.0000121	0	0	-16334	SLV FO 11	-16334	-8455	-71432	-19118	-19118	1	1.17	Si
0.6	0.0000095	0.000509	0	-13051	SLV FO 11	-13051	-7764	-63178	-13349	-13349	1	1.02	Si
1.2	0.0000095	0.000718	0	-9213	SLV FO 11	-9213	-8487	-63248	-13364	-13364	1	1.45	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0	0	-15422	SLD 11	-15422	-8455	-71432	-19118	-19118	1	1.24	Si
0.15	0.0000121	0	0	-14318	SLD 11	-14318	-8455	-71432	-19118	-19118	1	1.34	Si
0.6	0.0000095	0.000509	0	-11231	SLD 11	-11231	-7764	-63178	-13349	-13349	1	1.19	Si
1.2	0.0000095	0.000718	0	-7597	SLD 11	-7597	-8487	-63248	-13364	-13364	1	1.76	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	5203.5	20	4132.07	244863	1494000	0	36000000	4753.03	2	3776.7	223804	1120500			Si
0.15	3143.25	20	3143.25	186267	1494000	0	36000000	2875.57	2	2875.57	170404	1120500			Si
0.6	-2068.42	20	-3761.53	195951	1494000	2966807	36000000	-1874.93	2	-3418.96	178105	1120500			Si
1.2	-6935.41	20	-6935.41	573698	1494000	21290086	36000000	-6315.78	2	-6315.78	522442	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
1	superiore	0.348	0.00068	0.000236	20	0.348	0.00063	0.000221	6	0.348	0.00062	0.000215	2	Si
1.2	superiore	0.324	0.00062	0.000201	20	0.324	0.00059	0.00019	6	0.324	0.00056	0.000183	2	Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 24 - 24, sezione R 50x45, asta 741

Campata 3 tra i fili 24 - 49, sezione R 50x45, aste 742, 743, 744, 745, 746, 747, 748, 749, 750, 751

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1616	SLU 83	0.04	7535	4616	SLU 83	15877	Si
2.04	0.41	0.0002	1501	SLU 83	0.017	2755	4288	SLU 83	15877	Si
3.98	0.41	0.0002	1745	SLU 83	0.017	2755	4986	SLU 83	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
4.08	0.41	0.0002	1756	SLU 83	0.017	2755	5016	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1179	SLD 7	0.116	8399	3367	SLD 7	15877	Si
2.04	0.41	0.0002	1075	SLD 8	0.07	3100	3071	SLD 8	15877	Si
3.98	0.41	0.0002	1282	SLD 12	0.07	3100	3662	SLD 12	15877	Si
4.08	0.41	0.0002	1291	SLD 12	0.07	3100	3689	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000476	1173	SLE RA 20	32625	1494000	404544	36000000	1051	SLE QP 2	29245	1120500	Si
2.04	0.41	0.00000172	1088	SLE RA 20	31496	1494000	390550	36000000	973	SLE QP 2	28153	1120500	Si
3.98	0.41	0.00000172	1268	SLE RA 20	36700	1494000	455085	36000000	1138	SLE QP 2	32953	1120500	Si
4.08	0.41	0.00000172	1276	SLE RA 20	36929	1494000	457915	36000000	1146	SLE QP 2	33164	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
741,742,743,744,745,746,747,748,749,750,751	5.28	1.1	SLU 84	ST	BT	2.3	239689	52687	4.55	Si
741,742,743,744,745,746,747,748,749,750,751	5.28	1.1	SLV FO 5	SIS	LT	2.3	123301	31713	3.89	Si
741,742,743,744,745,746,747,748,749,750,751	5.28	1.1	SLD 7	SIS	BT	2.3	220879	38629	5.72	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-776	-52687	694.38	-2090.27	0	-1	-0.04	0.01	1.07	5.2	1496	2060	0	14430	
0	-8079	-31713	4477.96	-3339.1	0	-14	-0.11	0.14	0.82	5.07	1496	2060	37	0	0.07
0	3559	-38629	-1691.64	-2668.27	0	5	-0.07	-0.04	1.01	5.14	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.12	1.12	0.94	1.16	1.27	1	0.58	0.57	0.43	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

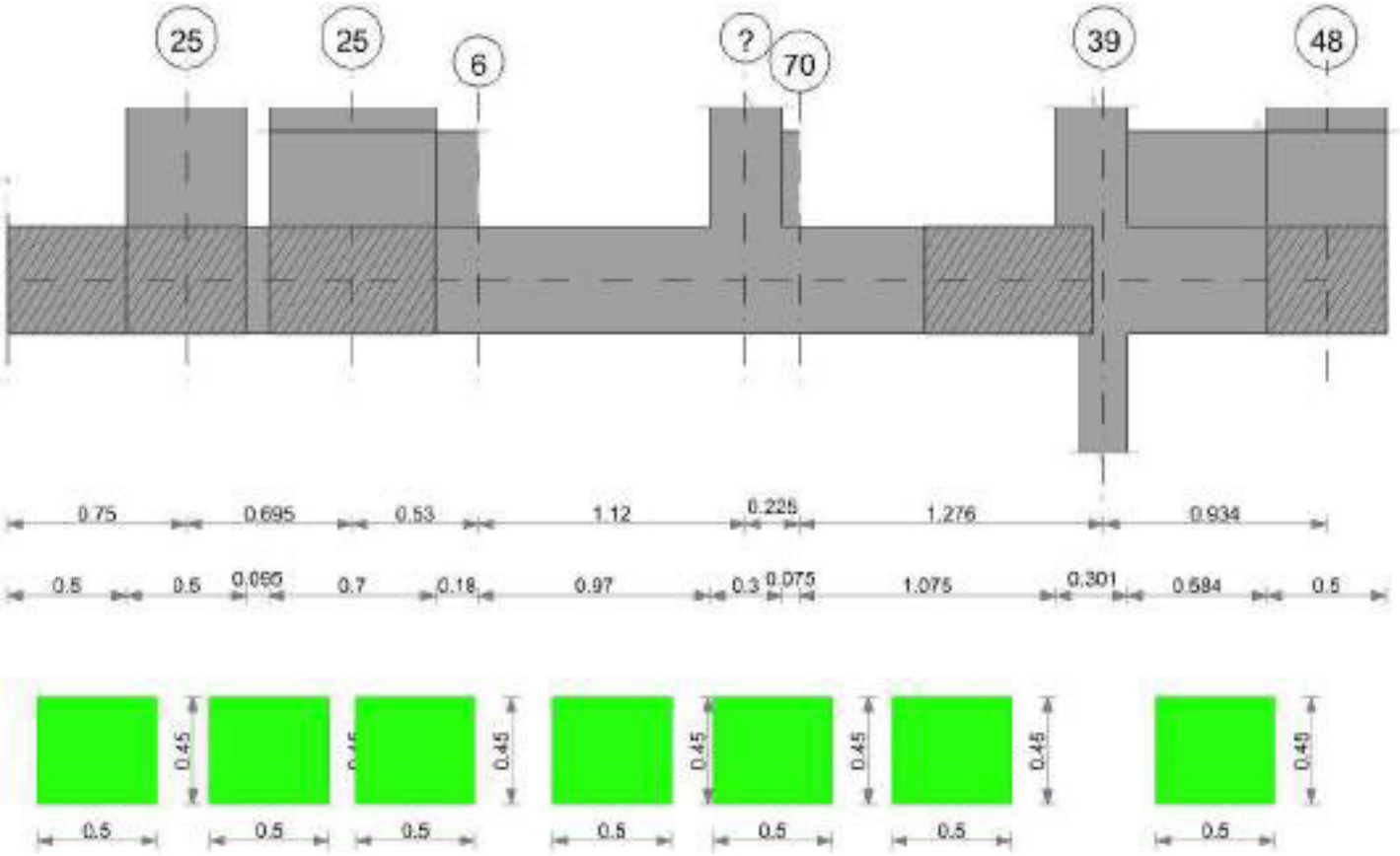
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	828	SLE RA 20	0.05	0	828	829	SLE RA 20	0.05	0	829	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	839	SLE RA 1	0.05	0	839	839	SLE RA 1	0.05	0	829	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	839	SLE RA 1	0.05	0	839	839	SLE RA 1	0.05	0	829	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 8	0.19	0.02	829	828	SLE RA 20	0.19	0	839	SLE RA 1	0.1	0.02	829	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	839	829	SLE RA 1	0.19	0	839	SLE RA 1	0.1	0	829	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	839	829	SLE RA 1	0.19	0	839	SLE RA 1	0.1	0	829	SLE RA 1	Si

CORDOLO 10

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

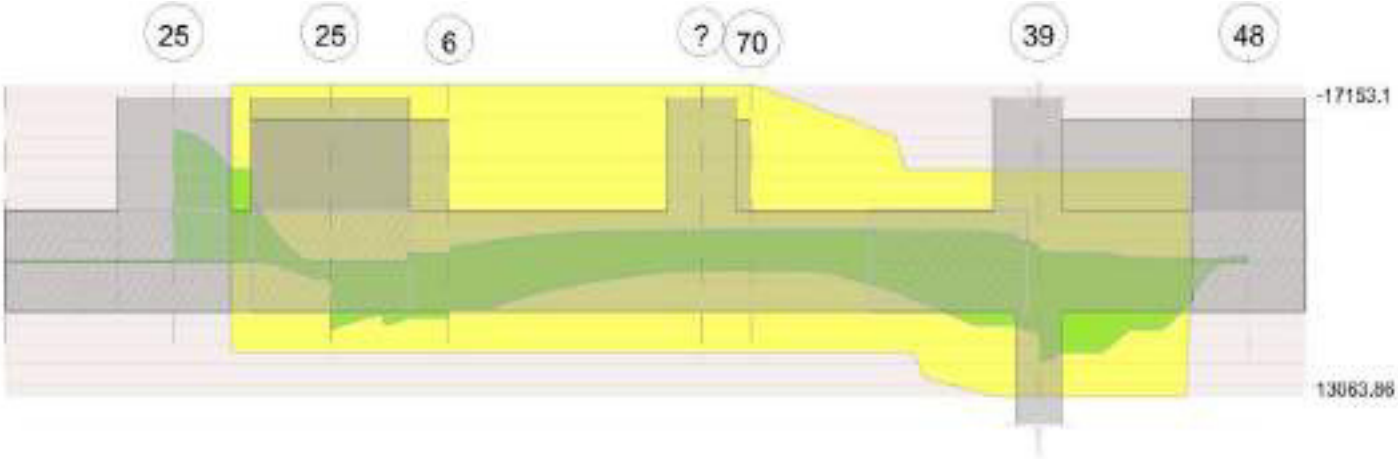
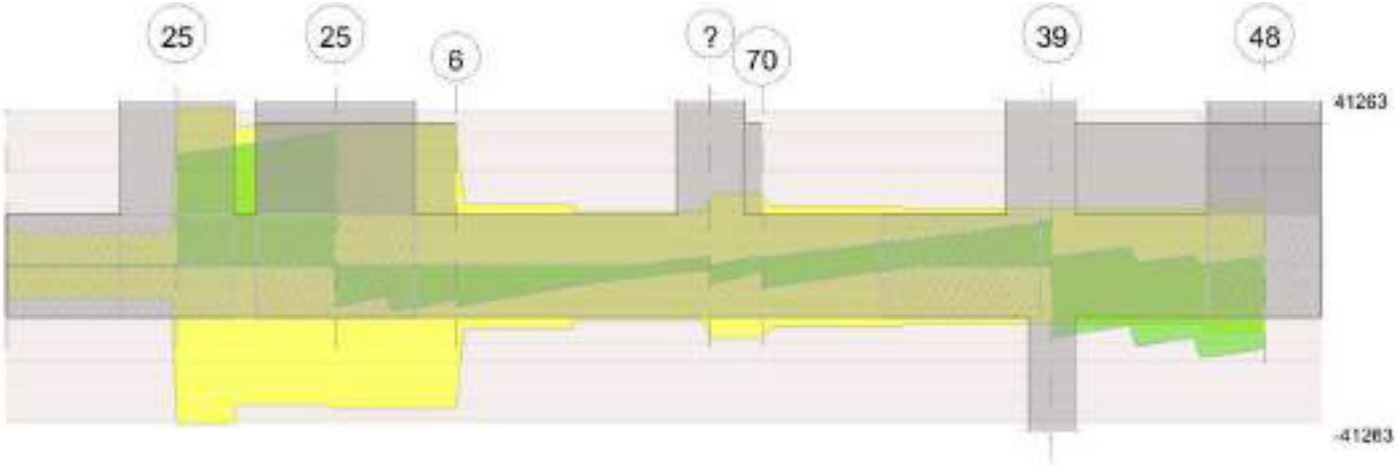


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 25 - 25, sezione R 50x45, asta 552

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.35	0.001257	0.053	0.000628	0.053							-4808.38	SLU 83	-7502.17	-17905.28	0.173	2.39	Si
0.35	0.001257	0.053	0.000628	0.053							-4736.36	SLU 83	-4736.35	-17905.28	0.173	3.78	Si
0.7	0.001257	0.053	0.000628	0.053	6039.16	SLU 83	260.41	9394.23	0.128	36.07							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.35	0.001257	0.053	0.000628	0.053							-6078.4	SLV FO 8	-8932.11	-17153.1	0.299	1.92	Si
0.35	0.001257	0.053	0.000628	0.053							-6002.49	SLV FO 8	-6002.49	-17153.1	0.299	2.86	Si
0.7	0.001257	0.053	0.000628	0.053	6315.74	SLV FO 15	1685.96	8862.89	0.207	5.26							Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.35	0.001257	0.053	0.000628	0.053							-4744.9	SLD 8	-7090.14	-17153.1	0.299	2.42	Si
0.35	0.001257	0.053	0.000628	0.053							-4682.4	SLD 8	-4682.4	-17153.1	0.299	3.66	Si
0.7	0.001257	0.053	0.000628	0.053	5303.22	SLD 15	1032.51	8862.89	0.207	8.58							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000026	0	0	24851	SLU 83	24851	8455	71432	41263	41263	1	1.66	Si
0.25	0.000026	0	0	27798	SLU 83	27798	8455	71432	41263	41263	1	1.48	Si
0.35	0.000026	0	0	28918	SLU 83	28918	7751	63019	36403	36403	1	1.26	Si
0.35	0.000026	0	0	28948	SLU 83	28948	7751	63019	36403	36403	1	1.26	Si
0.67	0.000026	0.000628	0	32801	SLU 83	32801	8105	63019	36403	36403	1	1.11	Si
0.7	0.0000266	0.000628	0	33078	SLU 83	33078	8105	63019	37128	37128	1	1.12	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000026	0	0	28852	SLV FO 12	28852	8455	71432	41263	41263	1	1.43	Si
0.25	0.000026	0	0	31048	SLV FO 12	31048	8455	71432	41263	41263	1	1.33	Si
0.35	0.000026	0	0	31893	SLV FO 12	31893	7751	63019	36403	36403	1	1.14	Si
0.35	0.000026	0	0	31915	SLV FO 12	31915	7751	63019	36403	36403	1	1.14	Si
0.67	0.000026	0.000628	0	34868	SLV FO 12	34868	8105	63019	36403	36403	1	1.04	Si
0.7	0.0000266	0.000628	0	35083	SLV FO 12	35083	8105	63019	37128	37128	1	1.06	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000026	0	0	23037	SLD 12	23037	8455	71432	41263	41263	1	1.79	Si
0.25	0.000026	0	0	25123	SLD 12	25123	8455	71432	41263	41263	1	1.64	Si
0.35	0.000026	0	0	25921	SLD 12	25921	7751	63019	36403	36403	1	1.4	Si
0.35	0.000026	0	0	25942	SLD 12	25942	7751	63019	36403	36403	1	1.4	Si
0.67	0.000026	0.000628	0	28713	SLD 12	28713	8105	63019	36403	36403	1	1.27	Si
0.7	0.0000266	0.000628	0	28914	SLD 12	28914	8105	63019	37128	37128	1	1.28	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.35	-3518.77	20	-5486.37	406655	1494000	12403077	36000000	-3191.7	2	-4964.61	367982	1120500			Si
0.35	-3466.16	20	-3466.15	173496	1494000	2458481	36000000	-3144.29	2	-3144.28	157385	1120500			Si
0.7	4405.45	20	183.17	8661	1494000	137527	36000000	3952.8	2	139.58	6600	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0.35	superiore	0.29	0.00036	0.000105	20	0.29	0.00034	0.000097	6	0.29	0.00033	0.000095	2	Si

Campata 4 tra i fili 6 - ?, sezione R 50x45, asta 555

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	3070.2	SLU 83	3070.2	9394.23	0.128	3.06							Si
0.56	0.001257	0.053	0.000628	0.053	-394.59	SLU 8	285.93	9394.23	0.128	32.85	-614.42	SLU 73	-1173.89	-17905.28	0.173	15.25	Si
0.97	0.001257	0.053	0.000628	0.053							-1491.13	SLU 84	-1491.13	-17905.28	0.173	12.01	Si
1.12	0.001257	0.053	0.000628	0.053							-1443.74	SLU 84	-1443.74	-17905.28	0.173	12.4	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	4543.05	SLV FO 15	4543.05	8862.89	0.207	1.95	-572.94	SLV FO 2	-1277.48	-17153.1	0.299	13.43	Si
0.56	0.001257	0.053	0.000628	0.053	1605.62	SLV FO 11	2271.81	8862.89	0.207	3.9	-2450.85	SLV FO 6	-2774.38	-17153.1	0.299	6.18	Si
0.97	0.001257	0.053	0.000628	0.053	973.24	SLV FO 11	1098.88	8862.89	0.207	8.07	-2977.78	SLV FO 6	-2977.78	-17153.1	0.299	5.76	Si
1.12	0.001257	0.053	0.000628	0.053	1050.38	SLV FO 11	969.45	8862.89	0.207	9.14	-2982.24	SLV FO 6	-2982.24	-17153.1	0.299	5.75	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	3446.96	SLD 15	3446.96	8862.89	0.207	2.57	523.15	SLD 2	-271.96	-17153.1	0.299	63.07	Si
0.56	0.001257	0.053	0.000628	0.053	674.95	SLD 11	1299.21	8862.89	0.207	6.82	-1520.18	SLD 6	-1864.65	-17153.1	0.299	9.2	Si
0.97	0.001257	0.053	0.000628	0.053	59.48	SLD 11	191.28	8862.89	0.207	46.33	-2064.03	SLD 6	-2064.03	-17153.1	0.299	8.31	Si
1.12	0.001257	0.053	0.000628	0.053	114.87	SLD 11	47.89	8862.89	0.207	185.07	-2046.73	SLD 6	-2046.73	-17153.1	0.299	8.38	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000266	0.000628	0	-10433	SLU 83	-10433	-8105	-63019	-37128	-37128	1	3.56	Si
0.04	0.0000116	0.000628	0	-10044	SLU 83	-10044	-8105	-63019	-16212	-16212	1	1.61	Si
0.56	0.0000101	0.001257	0	-4617	SLU 83	-4617	-10212	-63019	-14056	-14056	1	3.04	Si
0.97	0.0000101	0.001257	0	-403	SLU 84	-403	-10212	-63019	-14056	-14056	1	34.92	Si
1.12	0.0000134	0.001257	0	1146	SLU 83	1146	10212	63019	18756	18756	1	16.37	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000266	0.000628	0	-8993	SLV FO 15	-8993	-8105	-63019	-37128	-37128	1	4.13	Si
0.04	0.0000116	0.000628	0	-8699	SLV FO 15	-8699	-8105	-63019	-16212	-16212	1	1.86	Si
0.56	0.0000101	0.000628	0	-4628	SLV FO 14	-4628	-8105	-63019	-14056	-14056	1	3.04	Si
0.97	0.0000101	0.001257	0	1348	SLV FO 3	1348	10212	63019	14056	14056	1	10.43	Si
0.97	0.0000101	0.001257	0	-1810	SLV FO 14	-1810	-10212	-63019	-14056	-14056	1	7.77	Si
1.12	0.0000134	0.001257	0	2385	SLV FO 3	2385	10212	63019	18756	18756	1	7.87	Si
1.12	0.0000134	0.001257	0	-801	SLV FO 14	-801	-10212	-63019	-18756	-18756	1	23.41	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000266	0.000628	0	-8106	SLD 15	-8106	-8105	-63019	-37128	-37128	1	4.58	Si
0.04	0.0000116	0.000628	0	-7828	SLD 15	-7828	-8105	-63019	-16212	-16212	1	2.07	Si
0.56	0.0000101	0.001257	0	-3963	SLD 14	-3963	-10212	-63019	-14056	-14056	1	3.55	Si
0.97	0.0000101	0.001257	0	680	SLD 3	680	10212	63019	14056	14056	1	20.68	Si
0.97	0.0000101	0.001257	0	-1142	SLD 14	-1142	-10212	-63019	-14056	-14056	1	12.31	Si
1.12	0.0000134	0.001257	0	1707	SLD 3	1707	10212	63019	18756	18756	1	10.99	Si
1.12	0.0000134	0.001257	0	-124	SLD 14	-124	-10212	-63019	-18756	-18756	1	151.39	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	2235.47	20	2235.47	105705	1494000	1678427	36000000	1985.06	2	1985.06	93865	1120500			Si
0.56	-453.69	10	-862.49	43171	1494000	611749	36000000	-422.61	2	-798.4	39963	1120500			Si
0.97	-1092.64	21	-1092.64	54692	1494000	774994	36000000	-1002.27	2	-1002.27	50168	1120500			Si
1.12	-1056.61	21	-1056.61	52888	1494000	749437	36000000	-965.93	2	-965.93	48349	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 6 tra i fili 70 - 39, sezione R 50x45, asta 557

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053							-1545.33	SLU 84	-1822.78	-17905.28	0.173	9.82	Si
0.64	0.000871	0.053	0.000628	0.053	-538.05	SLU 1	109.9	9389.48	0.126	85.44	-944.53	SLU 84	-1560.74	-12698.03	0.141	8.14	Si
1.18	0.000628	0.053	0.000942	0.053	3059.62	SLU 83	3059.62	13662.92	0.147	4.47							Si
1.28	0.000628	0.053	0.000942	0.053	4150.29	SLU 83	3599.8	13662.92	0.147	3.8							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	904.07	SLV FO 11	904.07	8862.89	0.207	9.8	-2964.03	SLV FO 6	-3035.15	-17153.1	0.299	5.65	Si
0.64	0.000871	0.053	0.000628	0.053	1761.05	SLV FO 3	3008.99	8867.15	0.212	2.95	-2963.24	SLV FO 14	-2991.75	-12125.57	0.251	4.05	Si
1.18	0.000628	0.053	0.000942	0.053	6242.17	SLV FO 3	6242.17	13063.86	0.261	2.09	-2092.96	SLV FO 14	-2608.49	-8866.46	0.211	3.4	Si
1.28	0.000628	0.053	0.000942	0.053	7319.71	SLV FO 3	6784.2	13063.86	0.261	1.93	-1708.09	SLV FO 14	-1708.09	-8866.46	0.211	5.19	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	3.41	SLD 11	3.41	8862.89	0.207	2596.68	-2063.37	SLD 6	-2186.57	-17153.1	0.299	7.84	Si
0.64	0.000871	0.053	0.000628	0.053	751.28	SLD 3	1752.33	8867.15	0.212	5.06	-1953.48	SLD 14	-2090.51	-12125.57	0.251	5.8	Si
1.18	0.000628	0.053	0.000942	0.053	4476.05	SLD 3	4476.05	13063.86	0.261	2.92	-326.83	SLD 14	-1100.29	-8866.46	0.211	8.06	Si
1.28	0.000628	0.053	0.000942	0.053	5407.89	SLD 3	4942.48	13063.86	0.261	2.64							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000134	0.001026	0	-2647	SLU 83	-2647	-9543	-63019	-18756	-18756	1	7.09	Si
0.64	0.0000108	0.000628	0	4612	SLU 83	4612	8105	63019	15119	15119	1	3.28	Si
1.18	0.0000108	0.000809	0	10804	SLU 83	10804	8817	63019	15119	15119	1	1.4	Si
1.28	0.0000108	0.000864	0	11962	SLU 83	11962	9013	63019	15119	15119	1	1.26	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000134	0.001026	0	2116	SLV FO 2	2116	9543	63019	18756	18756	1	8.86	Si
0	0.0000134	0.001026	0	-5539	SLV FO 15	-5539	-9543	-63019	-18756	-18756	1	3.39	Si
0.64	0.0000108	0.000628	0	6590	SLV FO 4	6590	8105	63019	15119	15119	1	2.29	Si
0.64	0.0000108	0.000628	0	-351	SLV FO 13	-351	-8105	-63019	-15119	-15119	1	43.04	Si
1.18	0.0000108	0.000809	0	10861	SLV FO 4	10861	8817	63019	15119	15119	1	1.39	Si
1.28	0.0000108	0.000864	0	11661	SLV FO 4	11661	9013	63019	15119	15119	1	1.3	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000134	0.001026	0	503	SLD 2	503	9543	63019	18756	18756	1	37.28	Si
0	0.0000134	0.001026	0	-3926	SLD 15	-3926	-9543	-63019	-18756	-18756	1	4.78	Si
0.64	0.0000108	0.000628	0	5139	SLD 4	5139	8105	63019	15119	15119	1	2.94	Si
1.18	0.0000108	0.000809	0	9341	SLD 4	9341	8817	63019	15119	15119	1	1.62	Si
1.28	0.0000108	0.000864	0	10127	SLD 4	10127	9013	63019	15119	15119	1	1.49	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1130.16	21	-1331	66622	1494000	944055	36000000	-1029.98	2	-1207.06	60419	1120500			Si
0.64	-681.83	21	-1135.47	57917	1494000	849399	36000000	-601.1	2	-1020.02	52028	1120500			Si
1.18	2256.02	20	2256.02	114658	1494000	1670726	36000000	2074.61	2	2074.61	105438	1120500			Si
1.28	3056.1	20	2652.31	134799	1494000	1964208	36000000	2805.81	2	2436.86	123849	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 25 - 25, sezione R 50x45, asta 552

Campata 3 tra i fili 25 - 6, sezione R 50x45, aste 553, 554

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0013	1665	SLU 83	0.112	20398	5793	SLU 83	51984	Si
0.26	0.41	0.0013	1678	SLU 83	0.112	20398	5836	SLU 83	51984	Si
0.35	0.41	0.0013	1679	SLU 83	0.112	20398	5841	SLU 83	51984	Si
0.53	0.41	0.0013	1678	SLU 83	0.112	20398	5837	SLU 83	51984	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0013	1204	SLD 11	0.191	22680	4187	SLD 11	59782	Si
0.26	0.41	0.0013	1227	SLD 11	0.191	22680	4269	SLD 11	59782	Si
0.35	0.41	0.0013	1232	SLD 11	0.191	22680	4286	SLD 11	59782	Si
0.53	0.41	0.0013	1239	SLD 11	0.191	22680	4309	SLD 11	59782	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00001328	1213	SLE RA 20	30425	1494000	377273	36000000	1091	SLE QP 2	27371	1120500	Si
0.26	0.41	0.00001328	1222	SLE RA 20	30657	1494000	380141	36000000	1100	SLE QP 2	27578	1120500	Si
0.35	0.41	0.00001328	1223	SLE RA 20	30681	1494000	380450	36000000	1101	SLE QP 2	27600	1120500	Si
0.53	0.41	0.00001328	1223	SLE RA 20	30663	1494000	380215	36000000	1100	SLE QP 2	27583	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 6 - ?, sezione R 50x45, asta 555

Campata 5 tra i fili ? - 70, sezione R 50x45, asta 556

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	1648	SLU 83	0.057	10543	5732	SLU 83	26261	Si
0.11	0.41	0.0007	1645	SLU 83	0.057	10543	5722	SLU 83	26261	Si
0.15	0.41	0.0007	1644	SLU 83	0.057	10543	5720	SLU 83	26261	Si
0.22	0.41	0.0007	1644	SLU 83	0.057	10543	5719	SLU 83	26261	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	1231	SLD 11	0.137	11726	4283	SLD 11	30200	Si
0.11	0.41	0.0007	1228	SLD 11	0.137	11726	4272	SLD 11	30200	Si
0.15	0.41	0.0007	1227	SLD 11	0.137	11726	4268	SLD 11	30200	Si
0.22	0.41	0.0007	1225	SLD 11	0.137	11726	4261	SLD 11	30200	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000671	1201	SLE RA 20	32606	1494000	404310	36000000	1081	SLE QP 2	29352	1120500	Si
0.11	0.41	0.00000671	1199	SLE RA 20	32550	1494000	403621	36000000	1080	SLE QP 2	29310	1120500	Si

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0.15	0.41	0.00000671	1199	SLE RA 20	32540	1494000	403500	36000000	1080	SLE QP 2	29304	1120500	Si
0.22	0.41	0.00000671	1199	SLE RA 20	32537	1494000	403462	36000000	1080	SLE QP 2	29307	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 6 tra i fili 70 - 39, sezione R 50x45, asta 557

Campata 7 tra i fili 39 - 48, sezione R 50x45, aste 558, 559, 560

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1682	SLU 83	0.046	8537	5850	SLU 83	21168	Si
0.1	0.41	0.0005	1684	SLU 83	0.045	8458	5858	SLU 83	20969	Si
0.47	0.41	0.0005	1675	SLU 83	0.045	8458	5825	SLU 83	20969	Si
0.68	0.41	0.0005	1659	SLU 83	0.045	8458	5769	SLU 83	20969	Si
0.93	0.41	0.0005	1637	SLU 83	0.045	8458	5693	SLU 83	20969	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1207	SLD 11	0.123	9507	4200	SLD 11	24343	Si
0.1	0.41	0.0005	1204	SLD 11	0.123	9419	4187	SLD 11	24114	Si
0.47	0.41	0.0005	1175	SLD 12	0.123	9419	4088	SLD 12	24114	Si
0.68	0.41	0.0005	1150	SLD 12	0.123	9419	3999	SLD 12	24114	Si
0.93	0.41	0.0005	1133	SLD 16	0.123	9419	3939	SLD 16	24114	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000541	1227	SLE RA 20	33860	1494000	419862	36000000	1108	SLE QP 2	30568	1120500	Si
0.1	0.41	0.00000536	1229	SLE RA 20	33928	1494000	420712	36000000	1110	SLE QP 2	30635	1120500	Si
0.47	0.41	0.00000536	1222	SLE RA 20	33738	1494000	418356	36000000	1104	SLE QP 2	30478	1120500	Si
0.68	0.41	0.00000536	1210	SLE RA 20	33414	1494000	414337	36000000	1094	SLE QP 2	30192	1120500	Si
0.93	0.41	0.00000536	1194	SLE RA 20	32973	1494000	408865	36000000	1079	SLE QP 2	29801	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
552,553,554,555,556,557,558,559,560	5.03	1.1	SLU 83	ST	BT	2.3	226410	65921	3.43	Si
552,553,554,555,556,557,558,559,560	5.03	1.1	SLV FO 9	SIS	LT	2.3	148624	39042	3.81	Si
552,553,554,555,556,557,558,559,560	5.03	1.1	SLD 11	SIS	BT	2.3	228738	48453	4.72	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	412	-65921	1711.62	160.42	0	0	0	0.03	1.05	5.03	1496	2060	0	14430	
0	-7949	-39042	4812.36	1244.7	0	-12	0.03	0.12	0.85	4.97	1496	2060	37	0	0.07
0	4625	-48453	-626.28	202.15	0	5	0	-0.01	1.07	5.02	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.13	1.13	0.93	1.16	1.27	1	0.66	0.65	0.52	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

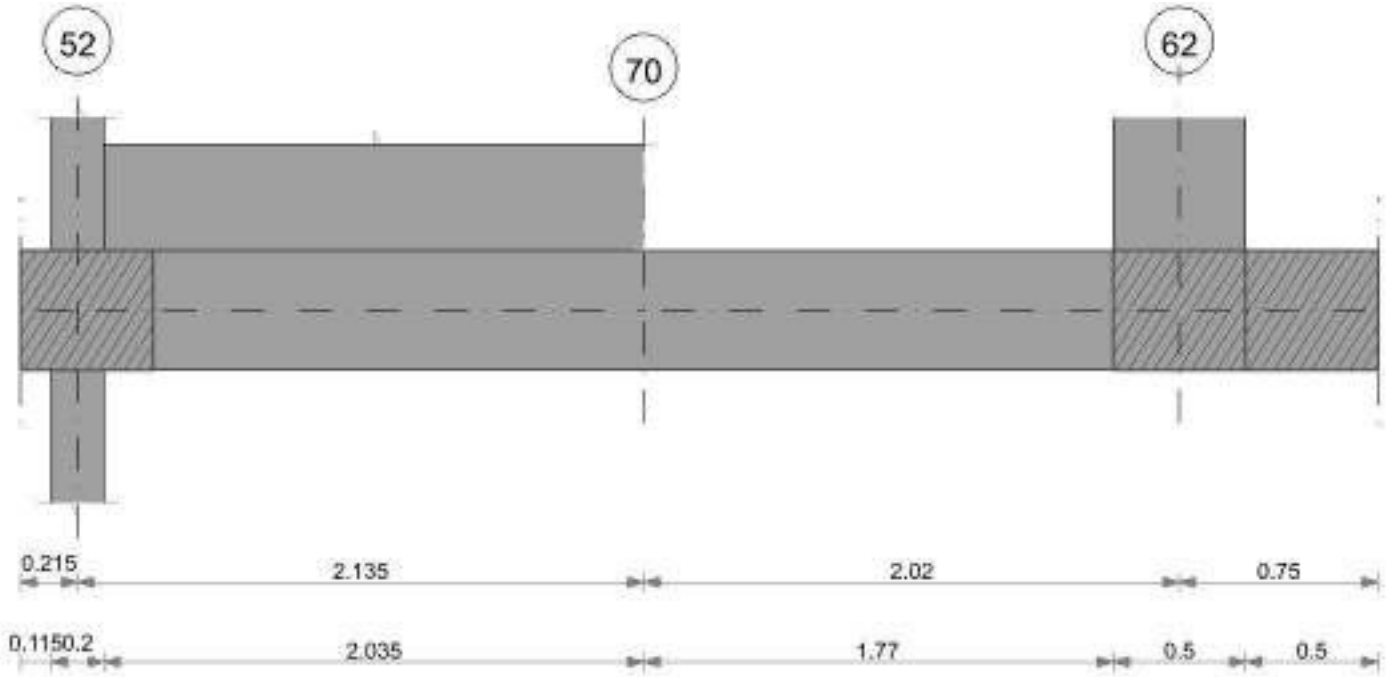
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	753	SLE RA 20	0.05	0	753	747	SLE RA 20	0.05	0	753	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	756	SLE RA 1	0.05	0	756	756	SLE RA 1	0.05	0	753	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	756	SLE RA 1	0.05	0	756	756	SLE RA 1	0.05	0	753	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0.01	752	751	SLE RA 21	0.19	0.01	750	SLE RA 20	0.1	0.01	751	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	756	753	SLE RA 1	0.19	0	756	SLE RA 1	0.1	0	753	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	756	753	SLE RA 1	0.19	0	756	SLE RA 1	0.1	0	753	SLE RA 1	Si

CORDOLO 11

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

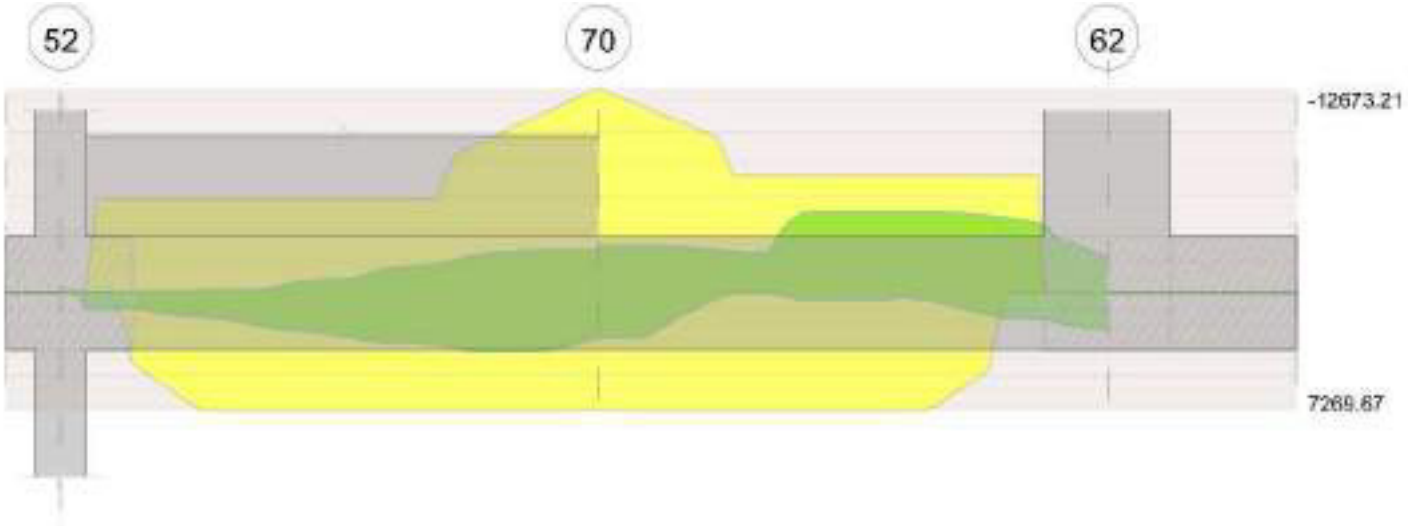
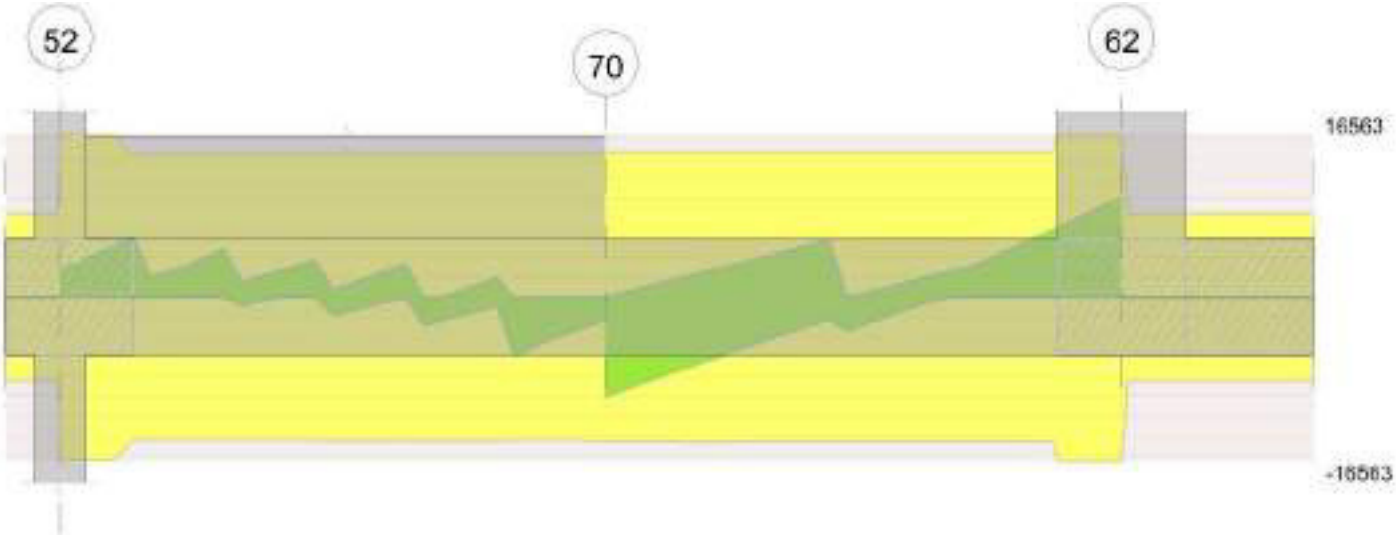


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 70 - 62, sezione R 50x45, aste 775, 776

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000509	0.052	32.48	SLU 42	32.48	7767.77	0.118	239.13	-101.64	SLU 43	-1165.38	-13290.91	0.144	11.4	Si
1.01	0.000509	0.052	0.000509	0.052							-3539.76	SLU 84	-3681.81	-7755.45	0.113	2.11	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000509	0.052	2802.63	SLV FO 13	2802.63	7261.38	0.192	2.59	-2894.72	SLV FO 4	-2894.72	-12673.21	0.259	4.38	Si
1.01	0.000509	0.052	0.000509	0.052	316.31	SLV FO 7	447.58	7266.79	0.197	16.24	-5016.24	SLV FO 10	-5048.19	-7266.79	0.197	1.44	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000509	0.052	1607.85	SLD 13	1607.85	7261.38	0.192	4.52	-1699.94	SLD 4	-1962.5	-12673.21	0.259	6.46	Si
1.01	0.000509	0.052	0.000509	0.052							-3791.95	SLD 10	-3853	-7266.79	0.197	1.89	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.000716	0	-7577	SLU 84	-7577	-8479	-63248	-14665	-14665	1	1.94	Si
1.01	0.0000105	0.000509	0	-1865	SLU 83	-1865	-7764	-63178	-14649	-14649	1	7.85	Si
1.77	0.0000105	0	0	7074	SLU 84	7074	8455	71432	16563	16563	1	2.34	Si
2.02	0.0000105	0	0	10100	SLU 84	10100	8455	71432	16563	16563	1	1.64	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.000716	0	39	SLV FO 3	39	8479	63248	14665	14665	1	374.56	Si
0	0.0000105	0.000509	0	-10018	SLV FO 14	-10018	-7764	-63178	-14649	-14649	1	1.46	Si
1.01	0.0000105	0.000509	0	393	SLV FO 2	393	7764	63178	14649	14649	1	37.23	Si
1.01	0.0000105	0.000509	0	-2800	SLV FO 15	-2800	-7764	-63178	-14649	-14649	1	5.23	Si
1.77	0.0000105	0	0	5484	SLV FO 2	5484	8455	71432	16563	16563	1	3.02	Si
2.02	0.0000105	0	0	7281	SLV FO 6	7281	8455	71432	16563	16563	1	2.27	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.000509	0	-7901	SLD 14	-7901	-7764	-63178	-14649	-14649	1	1.85	Si
1.01	0.0000105	0.000509	0	-2120	SLD 15	-2120	-7764	-63178	-14649	-14649	1	6.91	Si
1.77	0.0000105	0	0	5172	SLD 2	5172	8455	71432	16563	16563	1	3.2	Si
2.02	0.0000105	0	0	7058	SLD 2	7058	8455	71432	16563	16563	1	2.35	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-58.53	1	-864.79	44735	1494000	646077	36000000	-58.53	1	-811.46	41976	1120500			Si
1.01	-2600.86	21	-2702.77	142959	1494000	2144379	36000000	-2349.96	2	-2440.78	129101	1120500			Si
1.77	-1148.64	21	-1936.05	-114729	1494000	0	36000000	-1011.87	2	-1733.63	-102734	1120500			Si
2.02	450.85	14	450.85	26717	1494000	0	36000000	428.84	2	416.96	24709	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 52 - 70, sezione R 50x45, aste 769, 770, 771, 772, 773, 774

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1661	SLU 83	0.044	8185	5777	SLU 83	20279	Si
0.1	0.41	0.0005	1663	SLU 83	0.044	8185	5786	SLU 83	20279	Si
1.07	0.41	0.0005	1672	SLU 83	0.044	8185	5815	SLU 83	20279	Si
2.14	0.41	0.0005	1630	SLU 83	0.044	8256	5669	SLU 83	20459	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1168	SLD 16	0.121	9117	4064	SLD 16	23321	Si
0.1	0.41	0.0005	1175	SLD 16	0.121	9117	4086	SLD 16	23321	Si
1.07	0.41	0.0005	1223	SLD 16	0.121	9117	4253	SLD 16	23321	Si
2.14	0.41	0.0005	1213	SLD 16	0.121	9196	4218	SLD 16	23528	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000518	1212	SLE RA 20	33542	1494000	415915	36000000	1096	SLE QP 2	30330	1120500	Si
0.1	0.41	0.00000518	1214	SLE RA 20	33587	1494000	416479	36000000	1097	SLE QP 2	30369	1120500	Si
1.07	0.41	0.00000518	1219	SLE RA 20	33736	1494000	418327	36000000	1102	SLE QP 2	30482	1120500	Si
2.14	0.41	0.00000523	1188	SLE RA 20	32857	1494000	407423	36000000	1073	SLE QP 2	29685	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 70 - 62, sezione R 50x45, aste 775, 776

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
769,770,771,772,773,774,775,776	4.16	1.1	SLU 84	ST	BT	2.3	191032	56185	3.4	Si
769,770,771,772,773,774,775,776	4.16	1.1	SLV FO 10	SIS	LT	2.3	158715	38115	4.16	Si
769,770,771,772,773,774,775,776	4.16	1.1	SLD 14	SIS	BT	2.3	186148	40916	4.55	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-481	-56185	892.64	-670.92	0	0	-0.01	0.02	1.07	4.13	1496	2060	0	14430	
0	-6090	-38115	3287.87	-551.55	0	-9	-0.01	0.09	0.93	4.13	1496	2060	37	0	0.07
0	-1314	-40916	1075.02	662.2	0	-2	0.02	0.03	1.05	4.12	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.17	1.17	0.91	1.16	1.27	1	0.73	0.72	0.61	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

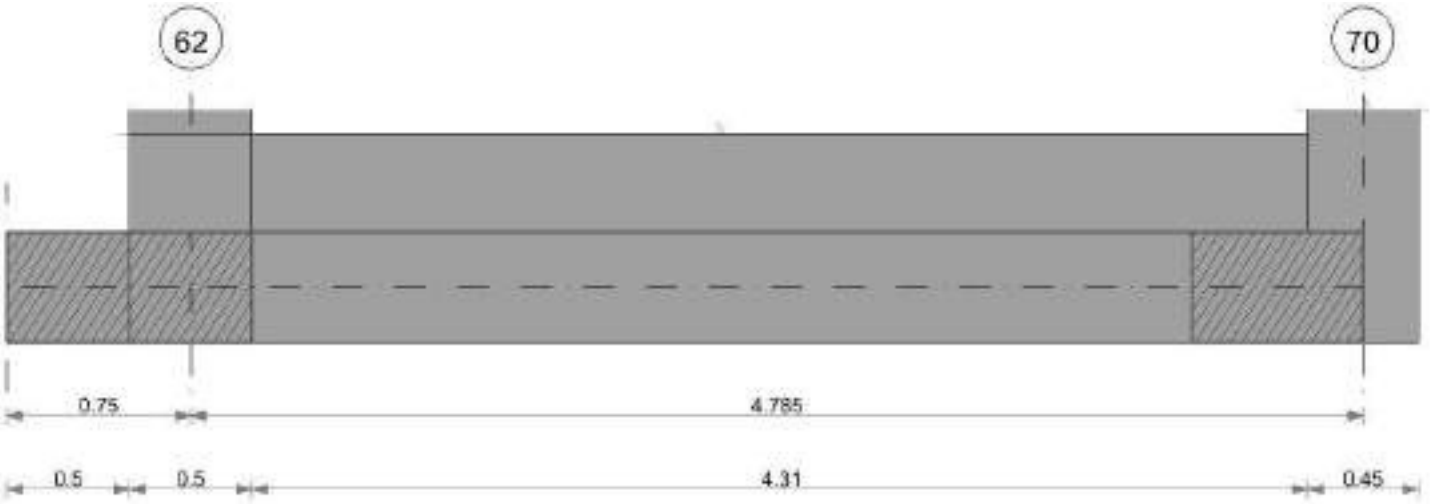
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	757	SLE RA 20	0.05	0.001	757	765	SLE RA 21	0.05	0	763	SLE FR 3	0.0033	0	SLE FR 3	Si
D	0.05	0	765	SLE RA 1	0.05	0	765	765	SLE RA 1	0.05	0	763	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	765	SLE RA 1	0.05	0	765	765	SLE RA 1	0.05	0	763	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	763	757	SLE RA 21	0.19	0	765	SLE RA 1	0.1	0.01	763	SLE FR 3	Si
D	0.19	0	SLE RA 1	0.19	0	765	763	SLE RA 1	0.19	0	765	SLE RA 1	0.1	0	763	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	765	763	SLE RA 1	0.19	0	765	SLE RA 1	0.1	0	763	SLE RA 1	Si

CORDOLO 12

Geometria



Caratteristiche dei materiali

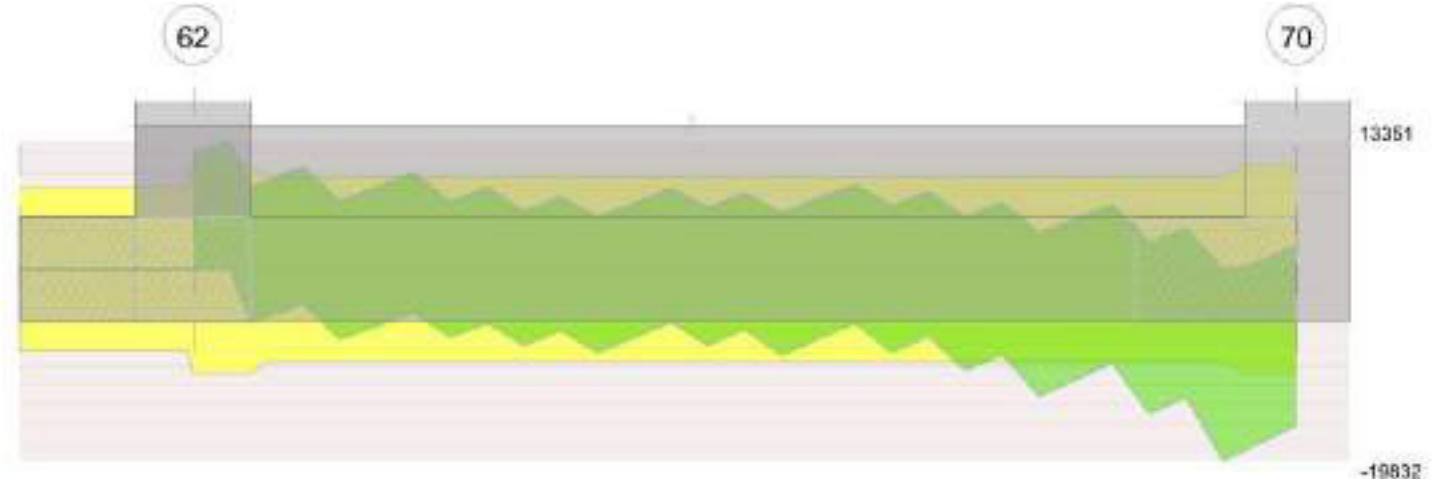
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 62 - 70, sezione R 50x45, aste 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1771	SLU 83	0.029	5423	6161	SLU 83	15877	Si
0.25	0.41	0.0003	1807	SLU 83	0.029	5423	6286	SLU 83	15877	Si
2.39	0.41	0.0003	2033	SLU 83	0.029	5423	7071	SLU 83	15877	Si
4.56	0.41	0.0003	2212	SLV FO 15	0.119	5224	7693	SLV FO 15	15877	Si
4.79	0.41	0.0003	2293	SLV FO 15	0.119	5224	7977	SLV FO 15	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1273	SLD 16	0.098	6061	4427	SLD 16	15877	Si
0.25	0.41	0.0003	1302	SLD 16	0.098	6061	4527	SLD 16	15877	Si
2.39	0.41	0.0003	1599	SLD 16	0.098	6061	5562	SLD 16	15877	Si
4.56	0.41	0.0003	1893	SLD 15	0.098	6061	6585	SLD 15	15877	Si
4.79	0.41	0.0003	1955	SLD 15	0.098	6061	6801	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000341	1292	SLE RA 20	36584	1494000	453641	36000000	1171	SLE QP 2	33142	1120500	Si
0.25	0.41	0.00000341	1319	SLE RA 20	37333	1494000	462930	36000000	1195	SLE QP 2	33830	1120500	Si
2.39	0.41	0.00000341	1485	SLE RA 20	42047	1494000	521379	36000000	1349	SLE QP 2	38196	1120500	Si
4.56	0.41	0.00000341	1591	SLE RA 20	45053	1494000	558657	36000000	1450	SLE QP 2	41063	1120500	Si
4.79	0.41	0.00000341	1629	SLE RA 20	46122	1494000	571910	36000000	1486	SLE QP 2	42055	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
561,562,563,564,565,566,567,568,569,570,571,572,573	5.01	1.1	SLU 84	ST	BT	2.3	231222	77046	3	Si
561,562,563,564,565,566,567,568,569,570,571,572,573	5.01	1.1	SLV FO 14	SIS	BT	2.3	202380	66010	3.07	Si
561,562,563,564,565,566,567,568,569,570,571,572,573	5.01	1.1	SLD 14	SIS	BT	2.3	213499	60399	3.53	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-447	-77046	214.73	4075.02	0	0	0.05	0	1.09	4.9	1496	2060	0	14430	
0	-4559	-66010	2167.15	13039.09	0	-4	0.2	0.03	1.03	4.61	1496	2060	0	14430	0.07
0	-2633	-60399	1248.55	8791.89	0	-2	0.15	0.02	1.06	4.72	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

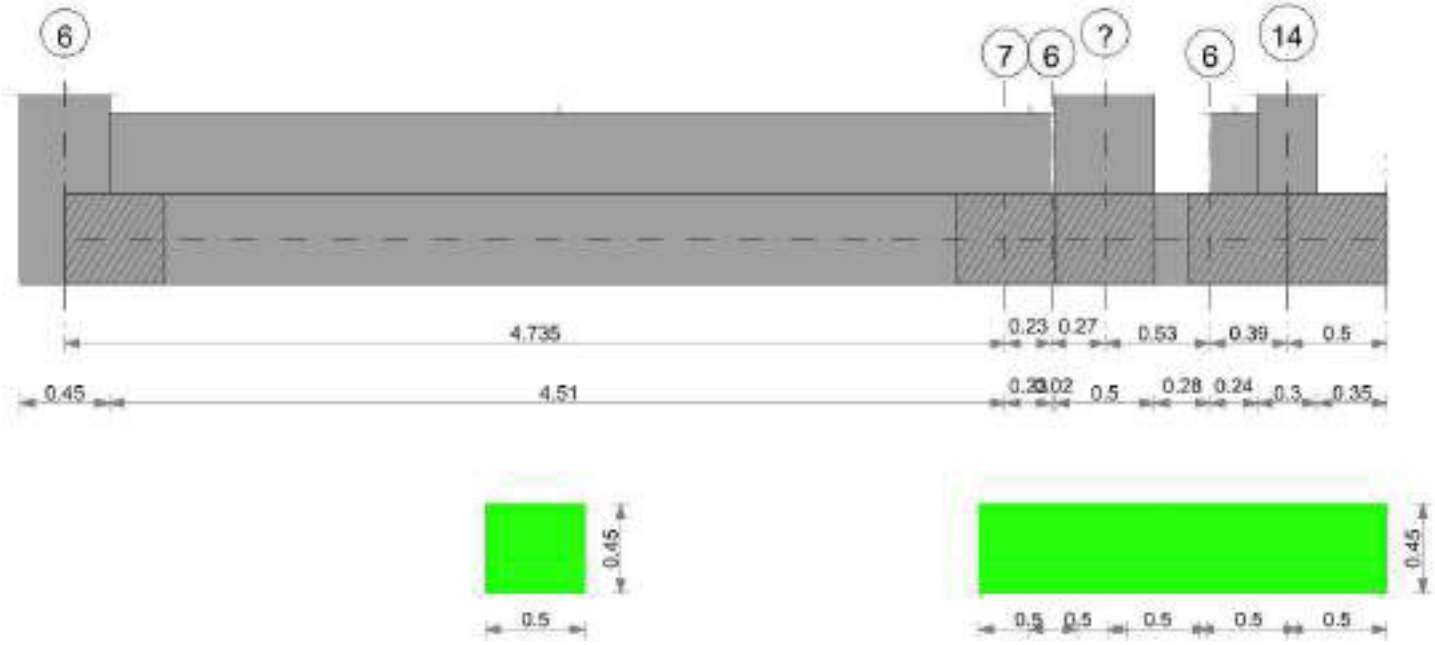
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	766	SLE RA 20	0.05	0.001	766	779	SLE RA 20	0.05	0	779	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	779	SLE RA 1	0.05	0	779	779	SLE RA 1	0.05	0	779	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	779	SLE RA 1	0.05	0	779	779	SLE RA 1	0.05	0	779	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	779	766	SLE RA 20	0.19	0	779	SLE RA 1	0.1	0	779	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	779	766	SLE RA 1	0.19	0	779	SLE RA 1	0.1	0	779	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	779	766	SLE RA 1	0.19	0	779	SLE RA 1	0.1	0	779	SLE RA 1	Si

CORDOLO 13

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

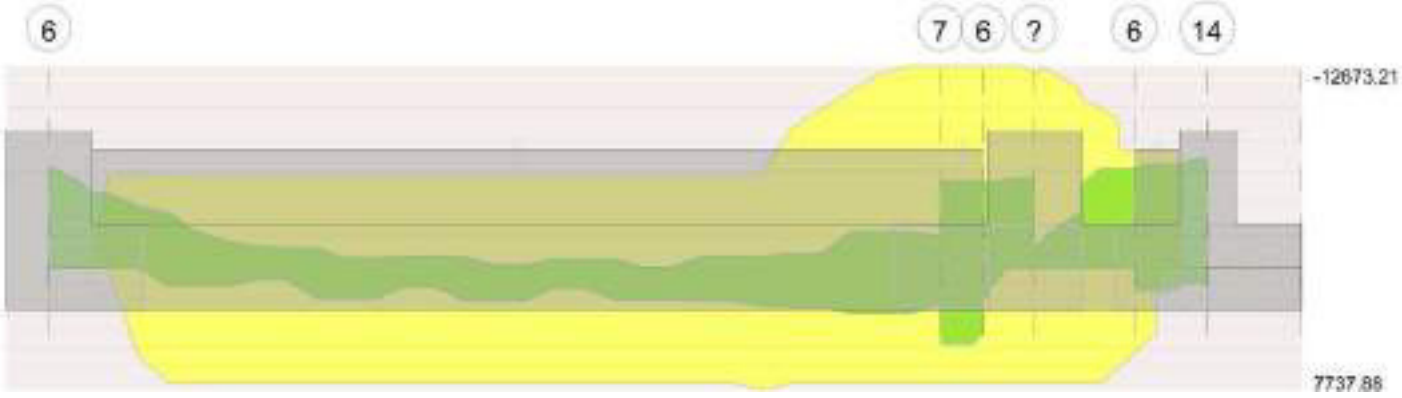
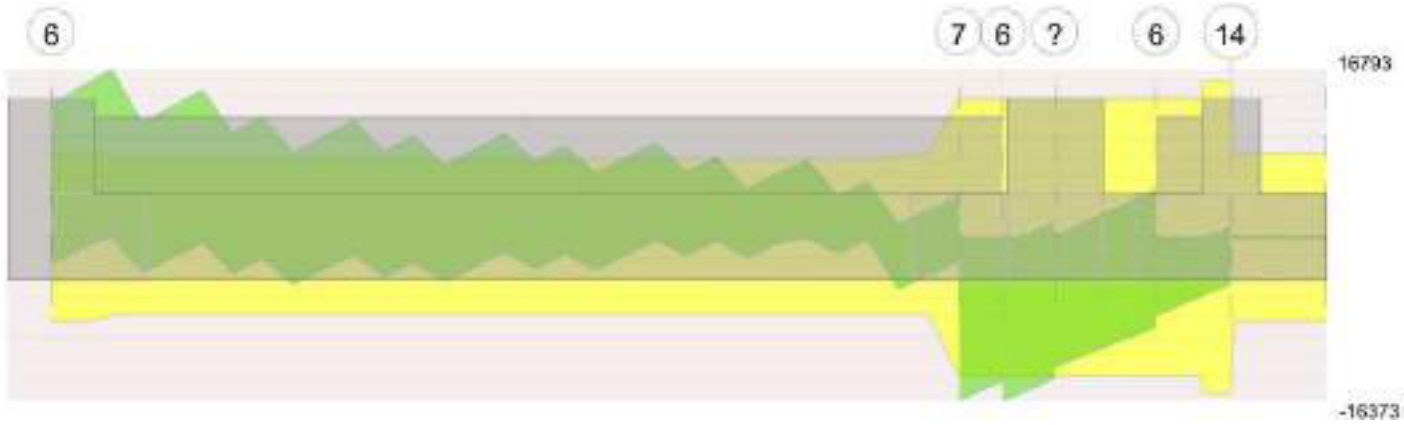


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 6 - ?, sezione R 50x45, asta 248

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000509	0.052							-2611.02	SLU 83	-2867.32	-13290.91	0.144	4.64	Si
0.02	0.000911	0.052	0.000509	0.052							-2867.32	SLU 83	-2867.32	-13290.91	0.144	4.64	Si
0.14	0.000911	0.052	0.000509	0.052							-4243.67	SLU 83	-3991.27	-13290.91	0.144	3.33	Si
0.27	0.000881	0.052	0.000509	0.052							-5647.52	SLU 83	-4453.92	-12877.37	0.141	2.89	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000509	0.052	1816.22	SLV FO 9	1816.22	7261.38	0.192	4	-5279.68	SLV FO 8	-5301.51	-12673.21	0.259	2.39	Si
0.02	0.000911	0.052	0.000509	0.052	1497.82	SLV FO 13	1816.22	7261.38	0.192	4	-5301.51	SLV FO 4	-5301.51	-12673.21	0.259	2.39	Si
0.14	0.000911	0.052	0.000509	0.052							-5541.98	SLV FO 4	-5533.43	-12673.21	0.259	2.29	Si
0.27	0.000881	0.052	0.000509	0.052							-5660.03	SLV FO 4	-5628.9	-12272.61	0.255	2.18	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000509	0.052	274.99	SLD 13	274.99	7261.38	0.192	26.41	-3738.45	SLD 4	-3843.64	-12673.21	0.259	3.3	Si
0.02	0.000911	0.052	0.000509	0.052	39.95	SLD 13	274.99	7261.38	0.192	26.41	-3843.64	SLD 4	-3843.64	-12673.21	0.259	3.3	Si
0.14	0.000911	0.052	0.000509	0.052							-4376.78	SLD 4	-4299.83	-12673.21	0.259	2.95	Si
0.27	0.000881	0.052	0.000509	0.052							-4847.46	SLD 4	-4487.61	-12272.61	0.255	2.73	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000911	0	-13031	SLU 84	-13031	-9189	-63248	-13908	-13908	1	1.07	Si
0.02	0.0000099	0.000911	0	-12778	SLU 84	-12778	-9189	-63248	-13908	-13908	1	1.09	Si
0.14	0.0000099	0.000911	0	-11329	SLU 84	-11329	-9189	-63248	-13908	-13908	1	1.23	Si
0.27	0.0000099	0.000911	0	-9641	SLU 84	-9641	-9189	-63245	-13907	-13907	1	1.44	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.14	0.0000099	0.000911	0	351	SLV FO 8	351	9189	63248	13908	13908	1	39.59	Si
0.14	0.0000099	0.000911	0	-15269	SLV FO 9	-15269	-9189	-63248	-13908	-13908	1	0.91	Si
0.27	0.0000099	0.000911	0	1521	SLV FO 8	1521	9189	63245	13907	13907	1	9.14	Si
0.27	0.0000099	0.000911	0	-14189	SLV FO 9	-14189	-9189	-63245	-13907	-13907	1	0.98	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000509	0	-12791	SLD 9	-12791	-7764	-63178	-13892	-13892	1	1.09	Si
0.02	0.0000099	0.000911	0	-12625	SLD 9	-12625	-9189	-63248	-13908	-13908	1	1.1	Si
0.14	0.0000099	0.000911	0	-11677	SLD 9	-11677	-9189	-63248	-13908	-13908	1	1.19	Si
0.27	0.0000099	0.000911	0	-10579	SLD 9	-10579	-9189	-63245	-13907	-13907	1	1.31	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1910.8	20	-2098.1	108532	1494000	1567462	36000000	-1731.73	2	-1901.85	98380	1120500			Si
0.02	-2098.1	20	-2098.1	108532	1494000	1567462	36000000	-1901.85	2	-1901.85	98380	1120500			Si
0.14	-3103.78	20	-2919.42	151018	1494000	2181067	36000000	-2815.13	2	-2647.84	136969	1120500			Si
0.27	-4129.31	20	-3257.51	168775	1494000	2444296	36000000	-3746.04	2	-2954.91	153097	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili ? - 6, sezione R 50x45, asta 249

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000881	0.052	0.000509	0.052							-1369.89	SLU 83	-1369.89	-12877.37	0.141	9.4	Si
0.25	0.00076	0.052	0.000509	0.052							-3465.34	SLU 84	-4497.42	-11218.83	0.131	2.49	Si
0.26	0.000753	0.052	0.000509	0.052							-3567.01	SLU 84	-4565.87	-11119.09	0.131	2.44	Si
0.53	0.000509	0.052	0.000375	0.052							-4902.59	SLU 84	-4902.59	-7744.84	0.111	1.58	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000881	0.052	0.000509	0.052							-1525.15	SLV FO 7	-1504.89	-12272.61	0.255	8.16	Si
0.25	0.00076	0.052	0.000509	0.052							-3387.42	SLV FO 9	-5249.26	-10658.95	0.238	2.03	Si
0.26	0.000753	0.052	0.000509	0.052							-3551.89	SLV FO 9	-5394.21	-10561.61	0.237	1.96	Si
0.46	0.000509	0.052	0.00043	0.052							-5535.52	SLV FO 9	-6187.99	-7268.04	0.198	1.17	Si
0.53	0.000509	0.052	0.000375	0.052							-6187.99	SLV FO 9	-6187.99	-7268.87	0.199	1.17	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000881	0.052	0.000509	0.052							-1254.37	SLD 7	-1254.37	-12272.61	0.255	9.78	Si
0.25	0.00076	0.052	0.000509	0.052							-2879.42	SLD 9	-4183.74	-10658.95	0.238	2.55	Si
0.26	0.000753	0.052	0.000509	0.052							-2997.92	SLD 9	-4281.57	-10561.61	0.237	2.47	Si
0.46	0.000509	0.052	0.00043	0.052							-4376.36	SLD 9	-4805.36	-7268.04	0.198	1.51	Si
0.53	0.000509	0.052	0.000375	0.052							-4805.36	SLD 9	-4805.36	-7268.87	0.199	1.51	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000685	0	-9952	SLU 84	-9952	-8354	-63245	-13907	-13907	1	1.4	Si
0.25	0.0000099	0.000509	0	-6854	SLU 84	-6854	-7768	-63230	-13904	-13904	1	2.03	Si
0.26	0.0000099	0.000509	0	-6669	SLU 84	-6669	-7768	-63229	-13904	-13904	1	2.08	Si
0.53	0.0000099	0.000509	0	-3414	SLU 84	-3414	-7764	-63178	-13892	-13892	1	4.07	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000685	0	90	SLV FO 8	90	8354	63245	13907	13907	1	153.77	Si
0	0.0000099	0.000685	0	-13039	SLV FO 9	-13039	-8354	-63245	-13907	-13907	1	1.07	Si
0.25	0.0000099	0.000509	0	2267	SLV FO 8	2267	7768	63230	13904	13904	1	6.13	Si
0.25	0.0000099	0.000509	0	-11087	SLV FO 9	-11087	-7768	-63230	-13904	-13904	1	1.25	Si
0.26	0.0000099	0.000509	0	2399	SLV FO 8	2399	7768	63229	13904	13904	1	5.8	Si
0.26	0.0000099	0.000509	0	-10972	SLV FO 9	-10972	-7768	-63229	-13904	-13904	1	1.27	Si
0.53	0.0000099	0.000509	0	4750	SLV FO 8	4750	7764	63178	13892	13892	1	2.92	Si
0.53	0.0000099	0.000509	0	-8984	SLV FO 9	-8984	-7764	-63178	-13892	-13892	1	1.55	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000685	0	-9985	SLD 9	-9985	-8354	-63245	-13907	-13907	1	1.39	Si
0.25	0.0000099	0.000509	0	-7988	SLD 9	-7988	-7768	-63230	-13904	-13904	1	1.74	Si
0.26	0.0000099	0.000509	0	-7869	SLD 9	-7869	-7768	-63229	-13904	-13904	1	1.77	Si
0.53	0.0000099	0.000509	0	1569	SLD 8	1569	7764	63178	13892	13892	1	8.85	Si
0.53	0.0000099	0.000509	0	-5803	SLD 9	-5803	-7764	-63178	-13892	-13892	1	2.39	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1011.92	20	-1011.92	52429	1494000	759303	36000000	-938.94	2	-938.94	48648	1120500			Si
0.25	-2534.91	21	-3282.46	171174	1494000	2507024	36000000	-2298.85	2	-2958.29	154269	1120500			Si
0.26	-2608.67	21	-3331.91	173822	1494000	2547528	36000000	-2364.24	2	-3001.54	156587	1120500			Si
0.53	-3574.65	21	-3574.65	193054	1494000	2858499	36000000	-3212.45	2	-3212.45	173493	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 6 - 7, sezione R 50x45, aste 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2362	SLV FO 2	0.086	2676	8215	SLV FO 2	15877	Si
0.23	0.41	0.0002	2304	SLV FO 2	0.086	2676	8014	SLV FO 2	15877	Si
2.37	0.41	0.0002	2037	SLU 84	0.017	2751	7085	SLU 84	15877	Si
4.74	0.41	0.0005	1805	SLU 84	0.042	7837	6279	SLU 84	19403	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1973	SLD 2	0.07	3097	6862	SLD 2	15877	Si
0.23	0.41	0.0002	1931	SLD 2	0.07	3097	6717	SLD 2	15877	Si
2.37	0.41	0.0002	1691	SLD 1	0.07	3097	5881	SLD 1	15877	Si
4.74	0.41	0.0005	1364	SLD 1	0.118	8733	4744	SLD 1	22313	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	1577	SLE RA 21	45640	1494000	565934	36000000	1435	SLE QP 2	41529	1120500	Si
0.23	0.41	0.00000172	1557	SLE RA 21	45061	1494000	558754	36000000	1416	SLE QP 2	40985	1120500	Si
2.37	0.41	0.00000172	1487	SLE RA 21	43038	1494000	533674	36000000	1348	SLE QP 2	39011	1120500	Si
4.74	0.41	0.00000496	1316	SLE RA 21	36524	1494000	452899	36000000	1190	SLE QP 2	33010	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 2 tra i fili 7 - 6, sezione R 50x45, asta 247

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1805	SLU 84	0.042	7837	6279	SLU 84	19403	Si
0.11	0.41	0.0005	1788	SLU 84	0.042	7837	6219	SLU 84	19403	Si
0.23	0.41	0.0005	1772	SLU 84	0.042	7837	6163	SLU 84	19403	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1364	SLD 1	0.118	8733	4744	SLD 1	22313	Si
0.11	0.41	0.0005	1346	SLD 1	0.118	8733	4682	SLD 1	22313	Si
0.23	0.41	0.0005	1330	SLD 1	0.118	8733	4625	SLD 1	22313	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000496	1316	SLE RA 21	36524	1494000	452899	36000000	1190	SLE QP 2	33010	1120500	Si
0.11	0.41	0.00000496	1304	SLE RA 21	36174	1494000	448563	36000000	1178	SLE QP 2	32691	1120500	Si
0.23	0.41	0.00000496	1292	SLE RA 21	35844	1494000	444462	36000000	1167	SLE QP 2	32389	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 6 - ?, sezione R 50x45, asta 248

Campata 4 tra i fili ? - 6, sezione R 50x45, asta 249

Campata 5 tra i fili 6 - 14, sezione R 50x45, asta 250

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1712	SLU 83	0.042	7837	5953	SLU 83	19403	Si
0.2	0.41	0.0005	1712	SLU 83	0.042	7837	5954	SLU 83	19403	Si
0.24	0.41	0.0005	1713	SLU 83	0.042	7837	5957	SLU 83	19403	Si
0.39	0.41	0.0005	1717	SLU 83	0.042	7837	5974	SLU 83	19403	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1274	SLD 3	0.118	8733	4432	SLD 3	22313	Si
0.2	0.41	0.0005	1273	SLD 3	0.118	8733	4427	SLD 3	22313	Si
0.24	0.41	0.0005	1273	SLD 3	0.118	8733	4427	SLD 3	22313	Si
0.39	0.41	0.0005	1273	SLD 3	0.118	8733	4428	SLD 3	22313	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000496	1247	SLE RA 20	34617	1494000	429249	36000000	1126	SLE QP 2	31253	1120500	Si
0.2	0.41	0.00000496	1248	SLE RA 20	34619	1494000	429277	36000000	1126	SLE QP 2	31249	1120500	Si
0.24	0.41	0.00000496	1248	SLE RA 20	34636	1494000	429487	36000000	1127	SLE QP 2	31262	1120500	Si
0.39	0.41	0.00000496	1252	SLE RA 20	34734	1494000	430696	36000000	1130	SLE QP 2	31346	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
235,236,237,238,239,240,241,242,243,244,245,246,247,248,249,250	6.38	1.1	SLU 84	ST	BT	2.3	291005	96602	3.01	Si
235,236,237,238,239,240,241,242,243,244,245,246,247,248,249,250	6.38	1.1	SLV FO 1	SIS	BT	2.3	258679	86781	2.98	Si
235,236,237,238,239,240,241,242,243,244,245,246,247,248,249,250	6.38	1.1	SLD 1	SIS	BT	2.3	270934	77914	3.48	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-203	-96602	65.28	-9435.15	0	0	-0.1	0	1.1	6.18	1496	2060	0	14430	
0	-4035	-86781	2028.51	-25179.38	0	-3	-0.29	0.02	1.05	5.8	1496	2060	0	14430	0.07
0	-2213	-77914	1101.07	-17317.79	0	-2	-0.22	0.01	1.07	5.94	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

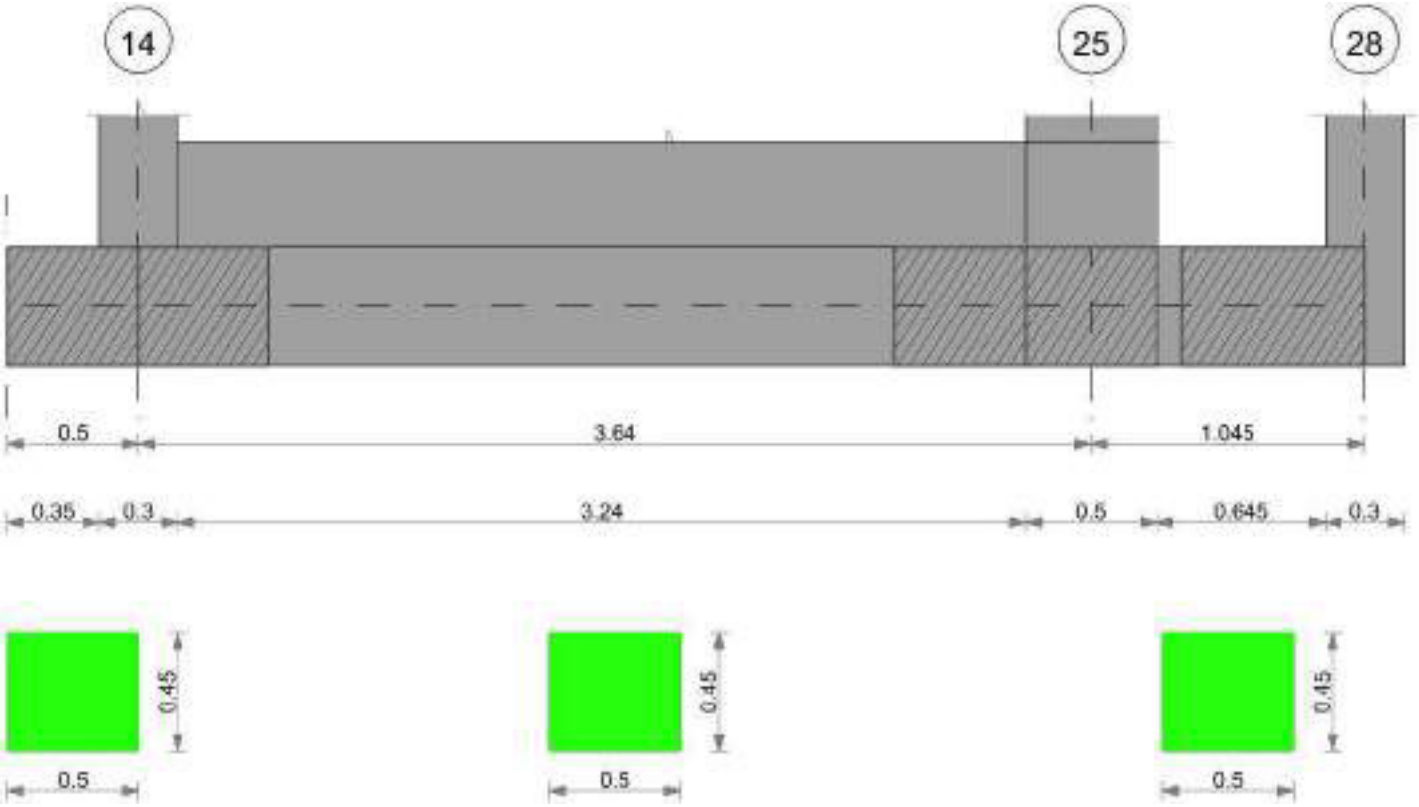
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0.001	611	SLE RA 20	0.05	0.001	611	594	SLE RA 20	0.05	0	607	SLE FR 6	0.0033	0	SLE RA 20	Si
D	0.05	0	611	SLE RA 1	0.05	0	611	611	SLE RA 1	0.05	0	610	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	611	SLE RA 1	0.05	0	611	611	SLE RA 1	0.05	0	610	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.03	608	607	SLE RA 18	0.19	0.04	607	SLE RA 18	0.1	0.03	608	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	611	610	SLE RA 1	0.19	0	611	SLE RA 1	0.1	0	610	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	611	610	SLE RA 1	0.19	0	611	SLE RA 1	0.1	0	610	SLE RA 1	Si

CORDOLO 14

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

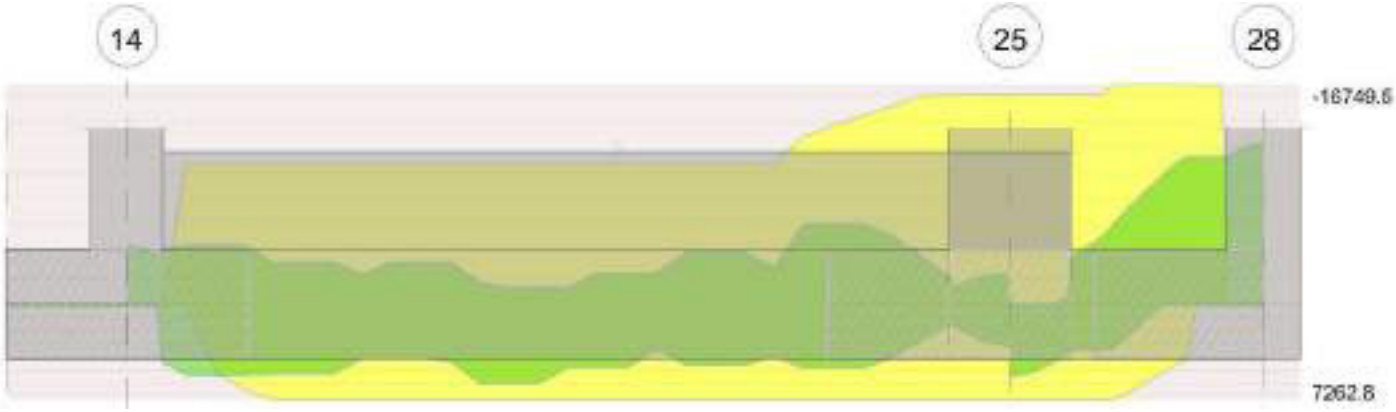


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 3 tra i fili 25 - 28, sezione R 50x45, asta 620

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000509	0.052	8770.84	SLU 84	4706.54	7774.71	0.12	1.65							Si
0.25	0.001166	0.052	0.000509	0.052	1949.01	SLU 84	1949.01	7774.71	0.12	3.99	1145.41	SLU 1	-2374.96	-16748.89	0.167	7.05	Si
0.52	0.001166	0.052	0.000444	0.052							-4408.25	SLU 83	-7960.04	-16747.91	0.17	2.1	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000509	0.052	8679.18	SLV FO 13	5430.37	7257.26	0.188	1.34							Si
0.25	0.001166	0.052	0.000509	0.052	3401.92	SLV FO 9	3401.92	7257.26	0.188	2.13	-877.5	SLV FO 8	-3500	-15990.14	0.291	4.57	Si
0.52	0.001166	0.052	0.000444	0.052	-1121.53	SLV FO 9	1781.09	6356.58	0.178	3.57	-4719.37	SLV FO 8	-6994.37	-15981.15	0.293	2.28	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000509	0.052	7440.23	SLD 13	4424.81	7257.26	0.188	1.64							Si
0.25	0.001166	0.052	0.000509	0.052	2423.5	SLD 9	2423.5	7257.26	0.188	2.99	100.92	SLD 8	-2612.61	-15990.14	0.291	6.12	Si
0.52	0.001166	0.052	0.000444	0.052	-1956.62	SLD 9	848.1	6356.58	0.178	7.5	-3884.29	SLD 8	-6191.18	-15981.15	0.293	2.58	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000213	0.000509	0	-25494	SLU 83	-25494	-7764	-63178	-29914	-29914	1	1.17	Si
0.25	0.0000213	0.000336	0	-22064	SLU 83	-22064	-7764	-63178	-29914	-29914	1	1.36	Si
0.52	0.0000213	0	0	-18414	SLU 84	-18414	-7769	-63232	-29940	-29940	1	1.63	Si
0.9	0.0000213	0	0	-13551	SLU 84	-13551	-8455	-71432	-33822	-33822	1	2.5	Si
0.91	0	0	0	-13413	SLU 84	-13413	-8455	-71432	0	-8455	1	0.63	Si
1.05	0	0	0	-11601	SLU 84	-11601	-8455	-71432	0	-8455	1	0.73	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000213	0.000509	0	-20557	SLV FO 15	-20557	-7764	-63178	-29914	-29914	1	1.46	Si
0.25	0.0000213	0.000336	0	-18077	SLV FO 13	-18077	-7764	-63178	-29914	-29914	1	1.65	Si
0.52	0.0000213	0	0	-15503	SLV FO 13	-15503	-7769	-63232	-29940	-29940	1	1.93	Si
0.9	0.0000213	0	0	-12129	SLV FO 13	-12129	-8455	-71432	-33822	-33822	1	2.79	Si
0.91	0	0	0	-12033	SLV FO 13	-12033	-8455	-71432	0	-8455	1	0.7	Si
1.05	0	0	0	-10778	SLV FO 13	-10778	-8455	-71432	0	-8455	1	0.78	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000213	0.000509	0	-19005	SLD 15	-19005	-7764	-63178	-29914	-29914	1	1.57	Si
0.25	0.0000213	0.000336	0	-16614	SLD 13	-16614	-7764	-63178	-29914	-29914	1	1.8	Si
0.52	0.0000213	0	0	-14102	SLD 13	-14102	-7769	-63232	-29940	-29940	1	2.12	Si
0.9	0.0000213	0	0	-10781	SLD 13	-10781	-8455	-71432	-33822	-33822	1	3.14	Si
0.91	0	0	0	-10686	SLD 13	-10686	-8455	-71432	0	-8455	1	0.79	Si
1.05	0	0	0	-9449	SLD 13	-9449	-8455	-71432	0	-8455	1	0.89	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	6404.62	21	3434.3	165067	1494000	2631181	36000000	5772.51	2	3084.72	148264	1120500			Si
0.25	1419.25	21	1419.25	68215	1494000	1087354	36000000	1262.21	2	1262.21	60667	1120500			Si
0.52	-3224.2	20	-5818.89	452109	1494000	14127884	36000000	-2920.45	2	-5264.75	409054	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0.52	superiore	0.281	0.00041	0.000115	20	0.281	0.00038	0.000107	6	0.281	0.00037	0.000104	2	Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 14 - 25, sezione R 50x45, aste 611, 612, 613, 614, 615, 616, 617, 618, 619

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1717	SLU 83	0.02	3305	5974	SLU 83	15877	Si
0.15	0.41	0.0002	1723	SLU 83	0.02	3305	5993	SLU 83	15877	Si
1.82	0.41	0.0002	1788	SLU 83	0.02	3305	6220	SLU 83	15877	Si
3.39	0.41	0.0002	1699	SLU 83	0.02	3305	5908	SLU 83	15877	Si
3.64	0.41	0.0011	1680	SLU 83	0.09	16544	5842	SLU 83	41778	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1273	SLD 3	0.077	3713	4428	SLD 3	15877	Si
0.15	0.41	0.0002	1274	SLD 3	0.077	3713	4431	SLD 3	15877	Si
1.82	0.41	0.0002	1244	SLD 7	0.077	3713	4328	SLD 7	15877	Si
3.39	0.41	0.0002	1178	SLD 11	0.077	3713	4098	SLD 11	15877	Si
3.64	0.41	0.0011	1173	SLD 11	0.172	18380	4081	SLD 11	48045	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000207	1252	SLE RA 20	36065	1494000	447208	36000000	1130	SLE QP 2	32548	1120500	Si
0.15	0.41	0.00000207	1256	SLE RA 20	36179	1494000	448617	36000000	1133	SLE QP 2	32646	1120500	Si
1.82	0.41	0.00000207	1303	SLE RA 20	37541	1494000	465505	36000000	1174	SLE QP 2	33825	1120500	Si
3.39	0.41	0.00000207	1237	SLE RA 20	35652	1494000	442087	36000000	1113	SLE QP 2	32079	1120500	Si
3.64	0.41	0.00001067	1223	SLE RA 20	31636	1494000	392285	36000000	1101	SLE QP 2	28459	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 25 - 28, sezione R 50x45, asta 620

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
611,612,613,614,615,616,617,618,619,620	4.84	1.1	SLU 83	ST	BT	2.3	226033	66200	3.41	Si
611,612,613,614,615,616,617,618,619,620	4.84	1.1	SLV FO 8	SIS	BT	2.3	186798	48704	3.84	Si
611,612,613,614,615,616,617,618,619,620	4.84	1.1	SLD 8	SIS	BT	2.3	204308	46933	4.35	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-188	-66200	-77.69	-2119.03	0	0	-0.03	0	1.1	4.77	1496	2060	0	14430	
0	7335	-48704	-3665.6	-2849.61	0	9	-0.06	-0.08	0.95	4.72	1496	2060	0	14430	0.07
0	3843	-46933	-1975.13	-2294.35	0	5	-0.05	-0.04	1.02	4.74	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

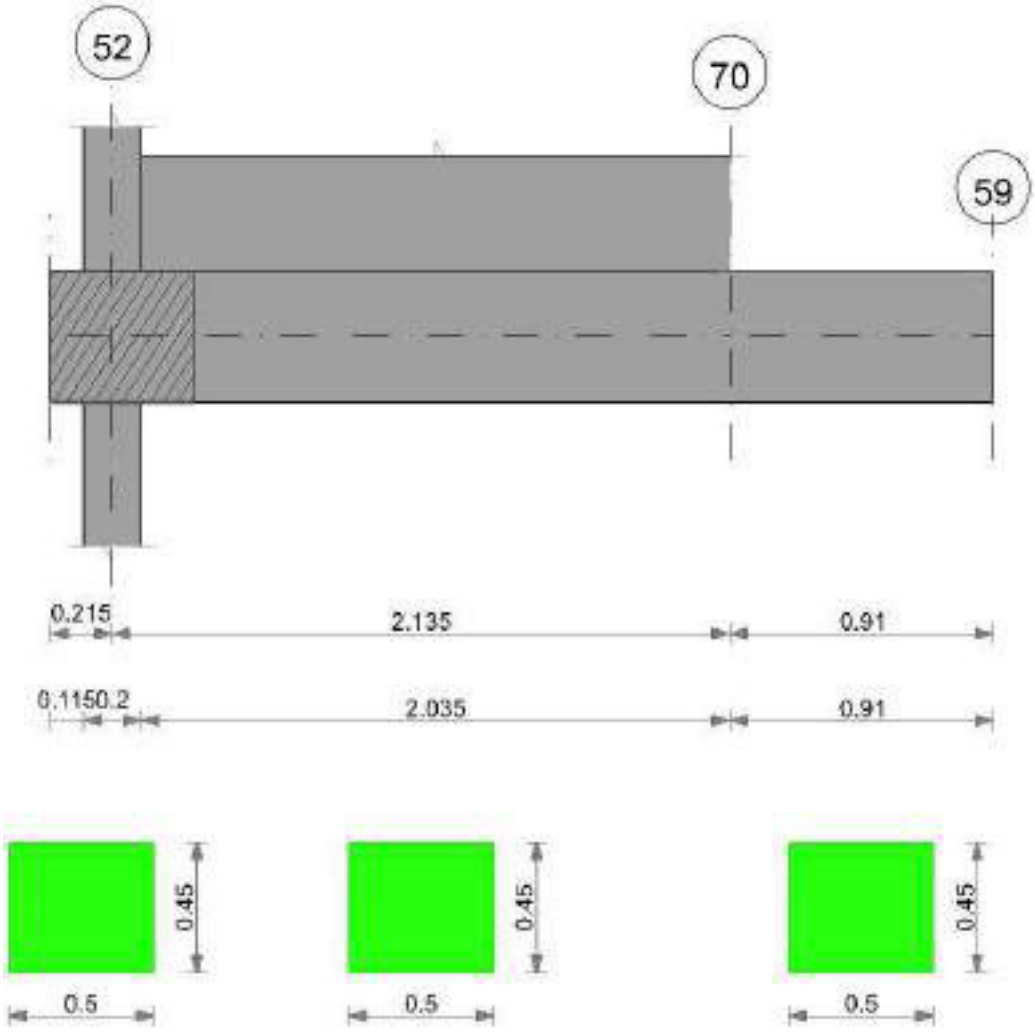
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	621	SLE RA 20	0.05	0	621	611	SLE RA 20	0.05	0	620	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	621	SLE RA 1	0.05	0	621	621	SLE RA 1	0.05	0	620	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	621	SLE RA 1	0.05	0	621	621	SLE RA 1	0.05	0	620	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	621	620	SLE RA 20	0.19	0	621	SLE RA 1	0.1	0	620	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	621	620	SLE RA 1	0.19	0	621	SLE RA 1	0.1	0	620	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	621	620	SLE RA 1	0.19	0	621	SLE RA 1	0.1	0	620	SLE RA 1	Si

CORDOLO 15

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

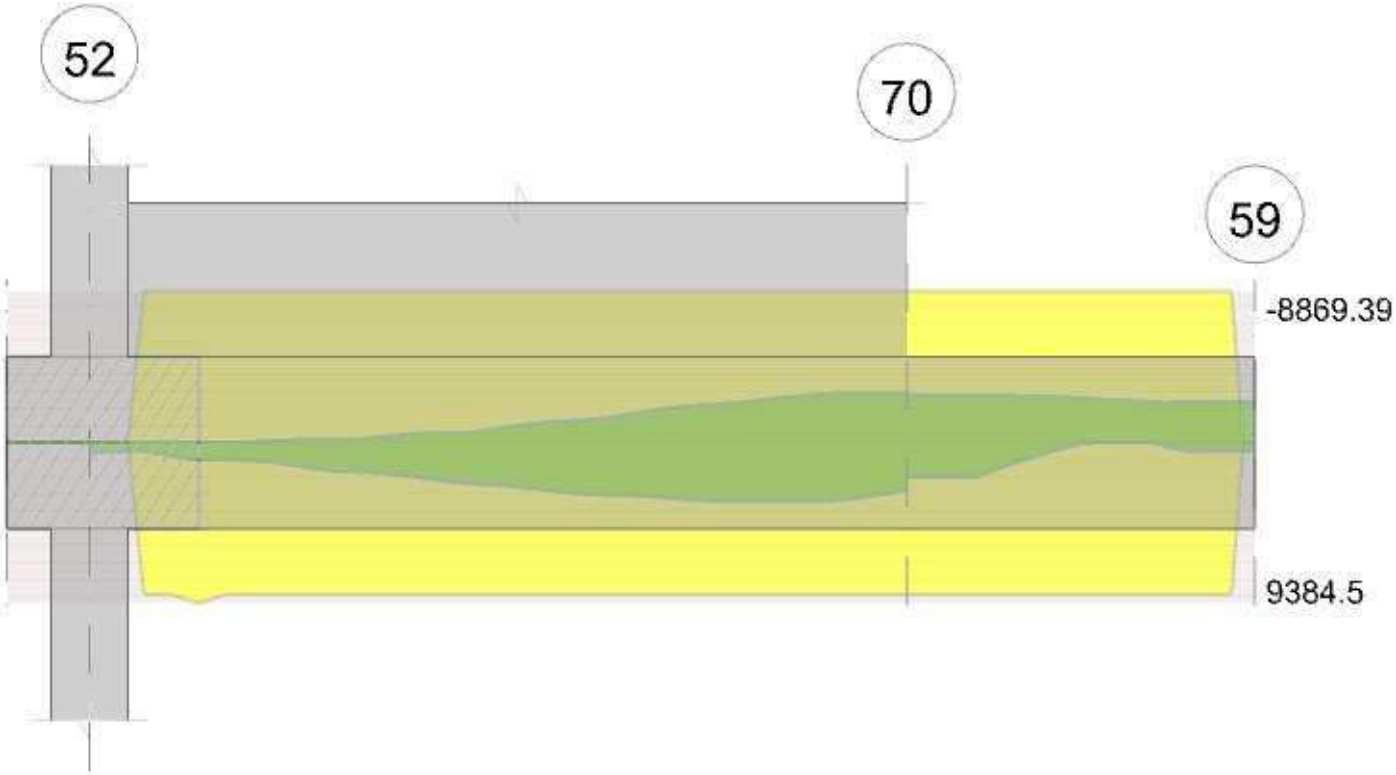
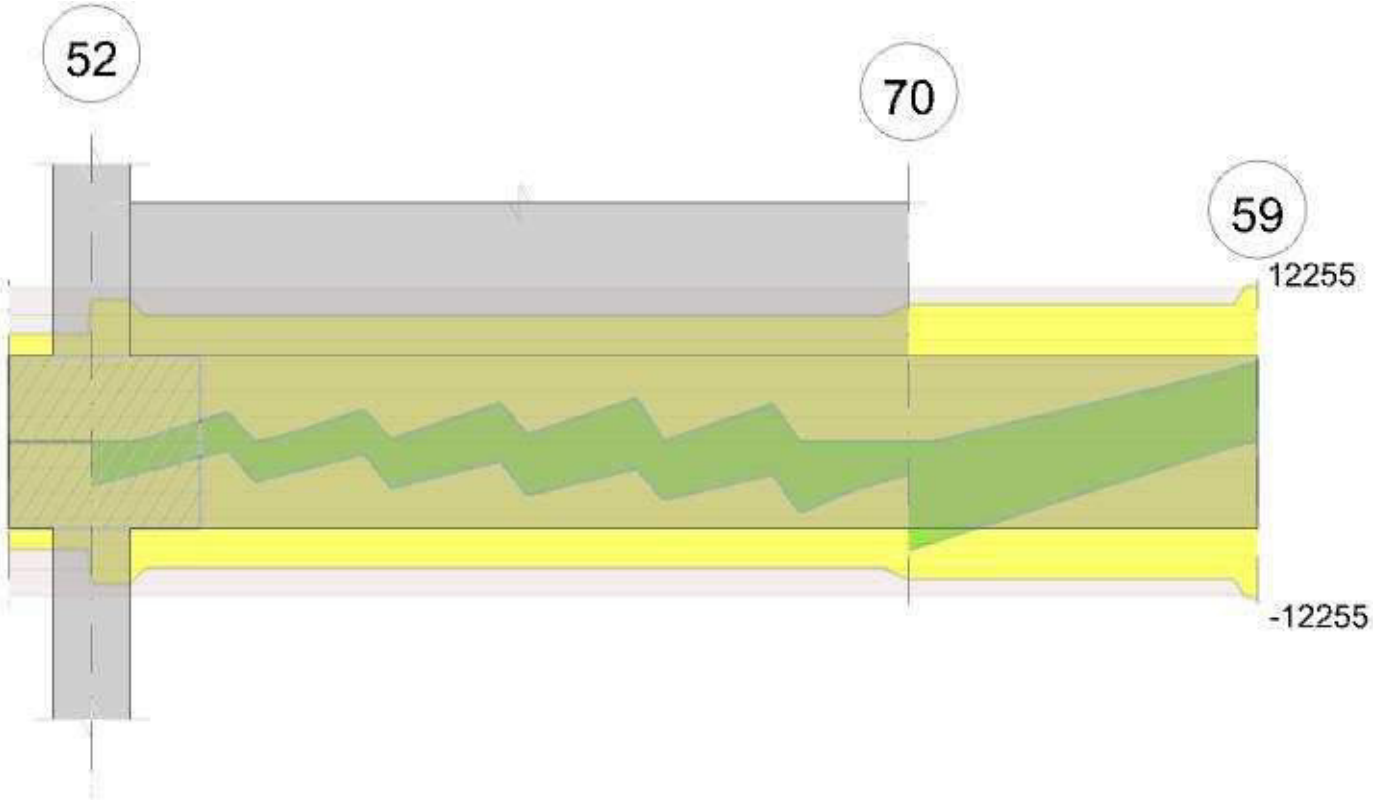


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 70 - 59, sezione R 50x45, asta 412

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000628	0.053	0.000628	0.053							-528.31	SLU 83	-1521.09	-9384.5	0.124	6.17	Si
0.45	0.000628	0.053	0.000628	0.053							-2254.12	SLU 84	-2287.55	-9384.5	0.124	4.1	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando

i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000628	0.053	0.000628	0.053	2004.83	SLV FO 14	2004.83	8869.39	0.216	4.42	-2740.03	SLV FO 3	-2754.18	-8869.39	0.216	3.22	Si
0.45	0.000628	0.053	0.000628	0.053	-643.85	SLV FO 15	52.96	8869.39	0.216	167.46	-2396.54	SLV FO 2	-2602.51	-8869.39	0.216	3.41	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000628	0.053	0.000628	0.053	1003.34	SLD 14	1003.34	8869.39	0.216	8.84	-1738.54	SLD 3	-2001.41	-8869.39	0.216	4.43	Si
0.45	0.000628	0.053	0.000628	0.053							-2025.21	SLD 2	-2051.01	-8869.39	0.216	4.32	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000628	0	-6708	SLU 84	-6708	-8105	-63019	-10812	-10812	1	1.61	Si
0.45	0.0000077	0.000628	0	-934	SLU 84	-934	-8105	-63019	-10812	-10812	1	11.57	Si
0.91	0.0000077	0	0	4846	SLU 83	4846	8455	71432	12255	12255	1	2.53	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000628	0	-8488	SLV FO 14	-8488	-8105	-63019	-10812	-10812	1	1.27	Si
0.45	0.0000077	0.000628	0	2821	SLV FO 3	2821	8105	63019	10812	10812	1	3.83	Si
0.45	0.0000077	0.000628	0	-4033	SLV FO 14	-4033	-8105	-63019	-10812	-10812	1	2.68	Si
0.91	0.0000077	0	0	6281	SLV FO 7	6281	8455	71432	12255	12255	1	1.95	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000628	0	-6779	SLD 14	-6779	-8105	-63019	-10812	-10812	1	1.59	Si
0.45	0.0000077	0.000628	0	1357	SLD 3	1357	8105	63019	10812	10812	1	7.97	Si
0.45	0.0000077	0.000628	0	-2569	SLD 14	-2569	-8105	-63019	-10812	-10812	1	4.21	Si
0.91	0.0000077	0	0	4899	SLD 3	4899	8455	71432	12255	12255	1	2.5	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-388.81	20	-1117.98	57767	1494000	866498	36000000	-367.6	2	-1031.99	53323	1120500			Si
0.45	-1657.58	21	-1682.58	86940	1494000	1304094	36000000	-1520.19	2	-1541.43	79646	1120500			Si
0.91	-1015.88	21	-1497.3	-88729	1494000	0	36000000	-922.32	2	-1366.63	-80985	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 52 - 70, sezione R 50x45, aste 406, 407, 408, 409, 410, 411

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1820	SLU 83	0.03	5612	6329	SLU 83	15877	Si
0.1	0.41	0.0004	1822	SLU 83	0.03	5612	6337	SLU 83	15877	Si
1.07	0.41	0.0004	1830	SLU 83	0.03	5612	6365	SLU 83	15877	Si
2.14	0.41	0.0004	1787	SLU 83	0.033	6137	6216	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1274	SLD 16	0.1	6270	4433	SLD 16	15900	Si
0.1	0.41	0.0004	1281	SLD 16	0.1	6270	4455	SLD 16	15900	Si
1.07	0.41	0.0004	1330	SLD 16	0.1	6270	4625	SLD 16	15900	Si
2.14	0.41	0.0004	1320	SLD 15	0.105	6852	4592	SLD 15	17409	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000353	1329	SLE RA 20	37575	1494000	465931	36000000	1204	SLE QP 2	34042	1120500	Si
0.1	0.41	0.00000353	1331	SLE RA 20	37622	1494000	466507	36000000	1206	SLE QP 2	34081	1120500	Si
1.07	0.41	0.00000353	1336	SLE RA 20	37761	1494000	468234	36000000	1209	SLE QP 2	34184	1120500	Si
2.14	0.41	0.00000387	1304	SLE RA 20	36704	1494000	455134	36000000	1181	SLE QP 2	33225	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 70 - 59, sezione R 50x45, asta 412

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
406,407,408,409,410,411,412	3.05	1.1	SLU 84	ST	BT	2.3	140981	44728	3.15	Si
406,407,408,409,410,411,412	3.05	1.1	SLV FO 14	SIS	BT	2.3	130862	34112	3.84	Si
406,407,408,409,410,411,412	3.05	1.1	SLD 14	SIS	BT	2.3	136211	32601	4.18	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-378	-433	-44728	789.55	-583.88	0	-1	-0.01	0.02	1.06	3.02	1496	2060	0	14430	
3430	-1841	-34112	1267.82	1541.5	6	-3	0.05	0.04	1.03	2.95	1496	2060	0	14430	0.07
1882	-1119	-32601	927.18	734.62	3	-2	0.02	0.03	1.04	3	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	622	SLE RA 21	0.05	0.001	622	628	SLE RA 21	0.05	0	628	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	629	SLE RA 1	0.05	0	629	629	SLE RA 1	0.05	0	628	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	629	SLE RA 1	0.05	0	629	629	SLE RA 1	0.05	0	628	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	628	622	SLE RA 21	0.19	0	629	SLE RA 1	0.1	0.02	628	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	629	628	SLE RA 1	0.19	0	629	SLE RA 1	0.1	0	628	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	629	628	SLE RA 1	0.19	0	629	SLE RA 1	0.1	0	628	SLE RA 1	Si

CORDOLO 16

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

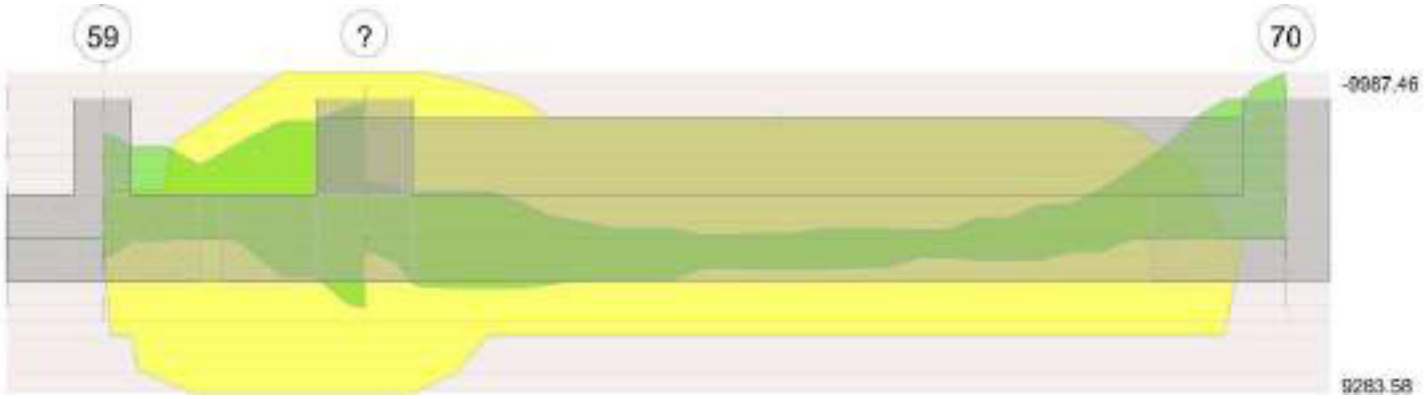
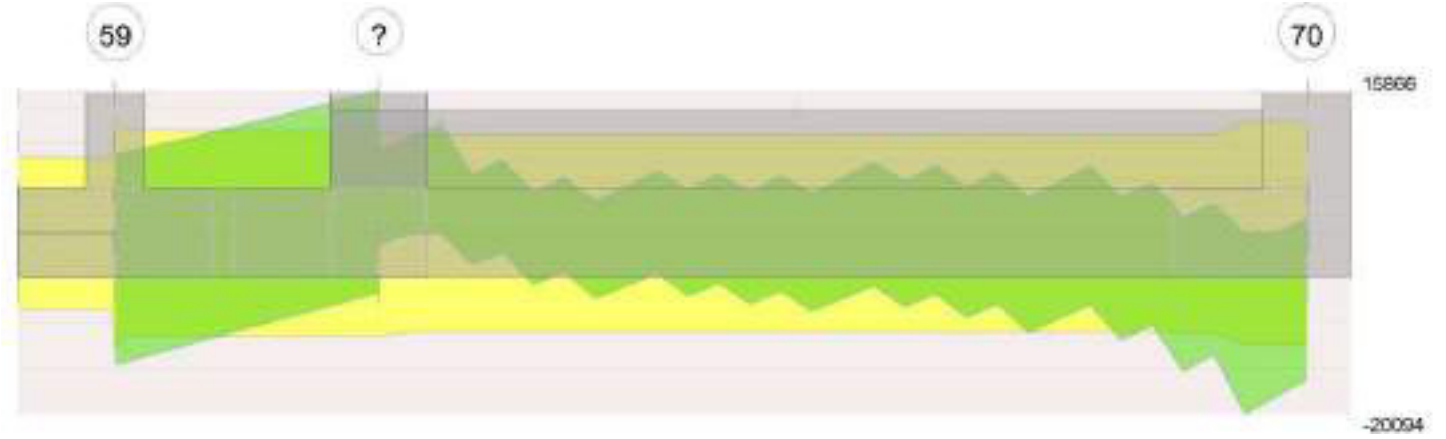


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 59 - ?, sezione R 50x45, asta 574

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000571	0.052	0.000657	0.051							-4379.76	SLU 83	-4444.89	-8612.63	0.118	1.94	Si
1.11	0.00071	0.052	0.000657	0.051							-3476.83	SLU 83	-3982.24	-10527.26	0.127	2.64	Si
1.36	0.00071	0.052	0.000657	0.051							-2463.93	SLU 83	-2463.93	-10527.26	0.127	4.27	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000571	0.052	0.000657	0.051							-4308.28	SLV FO 11	-5537.16	-8101.5	0.205	1.46	Si
1.11	0.00071	0.052	0.000657	0.051	2295.67	SLV FO 6	2295.67	9283.39	0.218	4.04	-7039.67	SLV FO 11	-7039.67	-9987.46	0.227	1.42	Si
1.36	0.00071	0.052	0.000657	0.051	4886.63	SLV FO 6	4104.84	9283.39	0.218	2.26	-8294.13	SLV FO 11	-8047.39	-9987.46	0.227	1.24	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000571	0.052	0.000657	0.051							-3687.1	SLD 11	-4274.13	-8101.5	0.205	1.9	Si
1.11	0.00071	0.052	0.000657	0.051	138.98	SLD 6	138.98	9283.39	0.218	66.8	-4882.99	SLD 11	-4882.99	-9987.46	0.227	2.05	Si
1.36	0.00071	0.052	0.000657	0.051	1839.96	SLD 6	1296.33	9283.39	0.218	7.16	-5247.46	SLD 11	-5238.88	-9987.46	0.227	1.91	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000081	0.000201	0	-4376	SLU 83	-4376	-8455	-71432	-12886	-12886	1	2.94	Si
0.15	0.0000081	0.000201	0	-3133	SLU 83	-3133	-7777	-63336	-11426	-11426	1	3.65	Si
0.68	0.0000081	0.000201	0	1430	SLU 76	1430	7769	63233	11407	11407	1	7.98	Si
1.11	0.0000081	0.000595	0	5016	SLU 84	5016	7972	63222	11405	11405	1	2.27	Si
1.36	0.0000081	0.00071	0	7141	SLU 84	7141	8455	63222	11405	11405	1	1.6	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000081	0.000201	0	8694	SLV FO 6	8694	8455	71432	12886	12886	1	1.48	Si
0	0.0000081	0.000402	0	-14651	SLV FO 11	-14651	-8455	-71432	-12886	-12886	1	0.88	Si
0.15	0.0000081	0.000201	0	9441	SLV FO 6	9441	7777	63336	11426	11426	1	1.21	Si
0.68	0.0000081	0.000201	0	-10569	SLV FO 11	-10569	-7769	-63233	-11407	-11407	1	1.08	Si
1.11	0.0000081	0.000595	0	-8062	SLV FO 11	-8062	-7972	-63222	-11405	-11405	1	1.41	Si
1.36	0.0000081	0.000657	0	15866	SLV FO 6	15866	8240	63275	11415	11415	1	0.72	Si
1.36	0.0000081	0.00071	0	-6614	SLV FO 11	-6614	-8455	-63222	-11405	-11405	1	1.72	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000081	0.000201	0	3301	SLD 6	3301	8455	71432	12886	12886	1	3.9	Si
0	0.0000081	0.000201	0	-9258	SLD 11	-9258	-8455	-71432	-12886	-12886	1	1.39	Si
0.15	0.0000081	0.000201	0	4086	SLD 6	4086	7777	63336	11426	11426	1	2.8	Si
0.15	0.0000081	0.000201	0	-8381	SLD 11	-8381	-7777	-63336	-11426	-11426	1	1.36	Si
0.68	0.0000081	0.000201	0	6903	SLD 6	6903	7769	63233	11407	11407	1	1.65	Si
0.68	0.0000081	0.000201	0	-5314	SLD 11	-5314	-7769	-63233	-11407	-11407	1	2.15	Si
1.11	0.0000081	0.000657	0	9259	SLD 6	9259	8240	63275	11415	11415	1	1.23	Si
1.11	0.0000081	0.000595	0	-2847	SLD 11	-2847	-7972	-63222	-11405	-11405	1	4.01	Si
1.36	0.0000081	0.000657	0	10662	SLD 6	10662	8240	63275	11415	11415	1	1.07	Si
1.36	0.0000081	0.00071	0	-1409	SLD 11	-1409	-8455	-63222	-11405	-11405	1	8.09	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-2717.17	21	-2717.17	-161018	1494000	0	36000000	-2451.73	2	-2451.73	-145288	1120500			Si
0.15	-2988.95	21	-3192.72	174759	1494000	2674153	36000000	-2713.78	2	-2916.41	159634	1120500			Si
0.68	-3221.42	20	-3268.5	168334	1494000	2545952	36000000	-2960.27	2	-2998.94	154451	1120500			Si
1.11	-2562.1	20	-2931.43	149813	1494000	2236187	36000000	-2372	2	-2703.48	138163	1120500			Si
1.36	-1821.39	20	-1821.39	93083	1494000	1389411	36000000	-1703.75	2	-1703.75	87071	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 59 - ?, sezione R 50x45, asta 574

Campata 3 tra i fili ? - 70, sezione R 50x45, aste 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1747	SLU 83	0.034	6449	6075	SLU 83	15917	Si
0.25	0.41	0.0004	1784	SLU 84	0.033	6210	6205	SLU 84	15877	Si
2.39	0.41	0.0004	2030	SLU 84	0.033	6210	7060	SLU 84	15877	Si
4.56	0.41	0.0004	2196	SLV FO 14	0.128	5972	7637	SLV FO 14	15877	Si
4.79	0.41	0.0004	2278	SLV FO 13	0.128	5972	7924	SLV FO 13	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1245	SLD 14	0.107	7197	4332	SLD 14	18305	Si
0.25	0.41	0.0004	1279	SLD 14	0.105	6932	4447	SLD 14	17617	Si
2.39	0.41	0.0004	1592	SLD 14	0.105	6932	5536	SLD 14	17617	Si
4.56	0.41	0.0004	1884	SLD 14	0.105	6932	6554	SLD 14	17617	Si
4.79	0.41	0.0004	1947	SLD 13	0.105	6932	6773	SLD 13	17617	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000407	1274	SLE RA 20	35775	1494000	443604	36000000	1155	SLE QP 2	32411	1120500	Si
0.25	0.41	0.00000391	1302	SLE RA 21	36617	1494000	454052	36000000	1180	SLE QP 2	33179	1120500	Si
2.39	0.41	0.00000391	1483	SLE RA 21	41712	1494000	517227	36000000	1347	SLE QP 2	37886	1120500	Si
4.56	0.41	0.00000391	1591	SLE RA 21	44752	1494000	554921	36000000	1450	SLE QP 2	40789	1120500	Si
4.79	0.41	0.00000391	1630	SLE RA 21	45847	1494000	568500	36000000	1486	SLE QP 2	41806	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
574,575,576,577,578,579,580,581,582,583,584,585,586,587	6.37	1.1	SLU 84	ST	BT	2.3	289444	93022	3.11	Si
574,575,576,577,578,579,580,581,582,583,584,585,586,587	6.37	1.1	SLV FO 14	SIS	BT	2.3	254408	78568	3.24	Si
574,575,576,577,578,579,580,581,582,583,584,585,586,587	6.37	1.1	SLD 14	SIS	BT	2.3	268065	72233	3.71	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-450	-93022	188.74	9257.1	0	0	0.1	0	1.1	6.17	1496	2060	0	14430	
0	-4913	-78568	2335.43	22692.63	0	-4	0.29	0.03	1.04	5.79	1496	2060	0	14430	0.07
0	-2808	-72233	1322.77	15860.94	0	-2	0.22	0.02	1.06	5.93	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

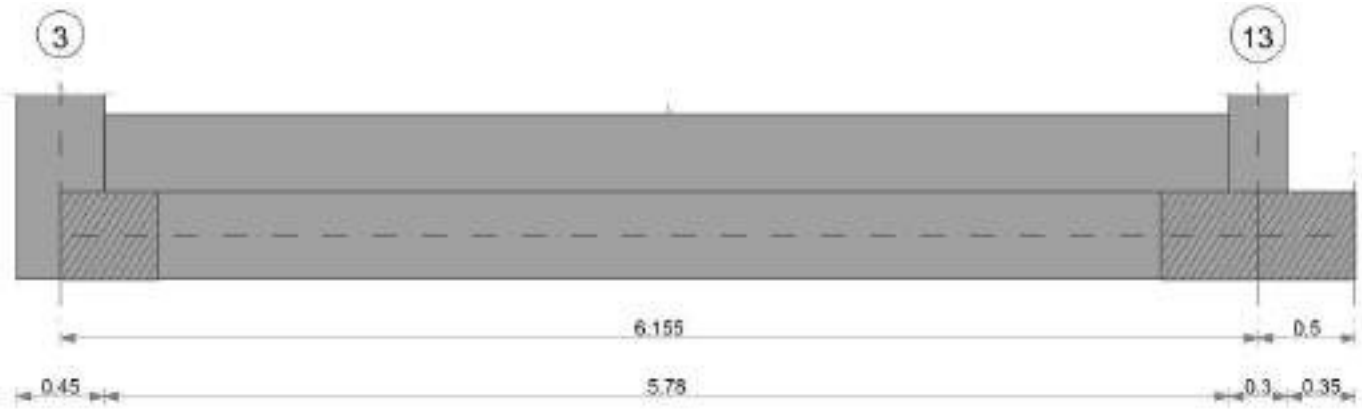
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	631	SLE RA 21	0.05	0.001	631	644	SLE RA 20	0.05	0	631	SLE FR 6	0.0033	0	SLE RA 1	Si
D	0.05	0	644	SLE RA 1	0.05	0	644	644	SLE RA 1	0.05	0	631	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	644	SLE RA 1	0.05	0	644	644	SLE RA 1	0.05	0	631	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	644	631	SLE RA 20	0.19	0.01	631	SLE FR 6	0.1	0	644	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	644	631	SLE RA 1	0.19	0	644	SLE RA 1	0.1	0	631	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	644	631	SLE RA 1	0.19	0	644	SLE RA 1	0.1	0	631	SLE RA 1	Si

CORDOLO 17

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

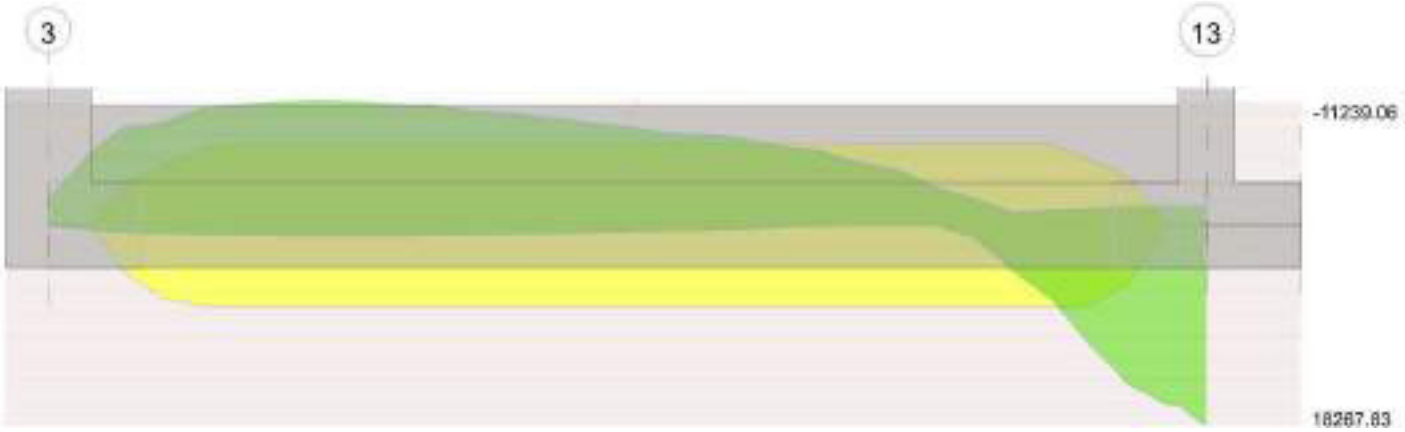


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 3 - 13, sezione R 70x45, aste 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
3.08	0.41	0.0003	3227	SLV FO 5	0.119	5189	8327	SLV FO 5	15877	Si
6.01	0.41	0.0003	4160	SLV FO 5	0.119	5189	10736	SLV FO 5	15877	Si
6.16	0.41	0.0003	4170	SLV FO 5	0.119	5189	10761	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4394	SLD 5	0.098	6020	11338	SLD 5	15877	Si
0.23	0.41	0.0003	4126	SLD 5	0.098	6020	10648	SLD 5	15877	Si
3.08	0.41	0.0003	2389	SLD 5	0.098	6020	6166	SLD 5	15877	Si
6.01	0.41	0.0003	3162	SLD 5	0.098	6020	8161	SLD 5	15877	Si
6.16	0.41	0.0003	3175	SLD 5	0.098	6020	8194	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000339	2831	SLE RA 21	80181	1494000	994240	36000000	2562	SLE QP 2	72549	1120500	Si
0.23	0.41	0.00000339	2658	SLE RA 21	75267	1494000	933309	36000000	2404	SLE QP 2	68069	1120500	Si
3.08	0.41	0.00000339	1577	SLE RA 21	44659	1494000	553770	36000000	1417	SLE QP 2	40121	1120500	Si
6.01	0.41	0.00000339	2237	SLE RA 21	63335	1494000	785349	36000000	2014	SLE QP 2	57029	1120500	Si
6.16	0.41	0.00000339	2255	SLE RA 21	63868	1494000	791963	36000000	2031	SLE QP 2	57514	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
185,186,187,188,189,190,191,192,193,194,195,196,197,198,199,200	6.38	1.3	SLU 84	ST	BT	2.3	265874	90042	2.95	Si
185,186,187,188,189,190,191,192,193,194,195,196,197,198,199,200	6.38	1.3	SLD 5	SIS	BT	2.3	235345	92491	2.54	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-312	-90042	12470.39	-4358.51	0	0	-0.05	0.14	1.02	6.28	1496	2060	0	14430	
0	9893	-5250	-6304.28	9612.32	0	62	1.83	-1.2	-1.1	2.72	1496	2060	0	14430	0.07
0	-6109	-92491	16514.29	-9941.17	0	-4	-0.11	0.18	0.94	6.17	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.03	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.03	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

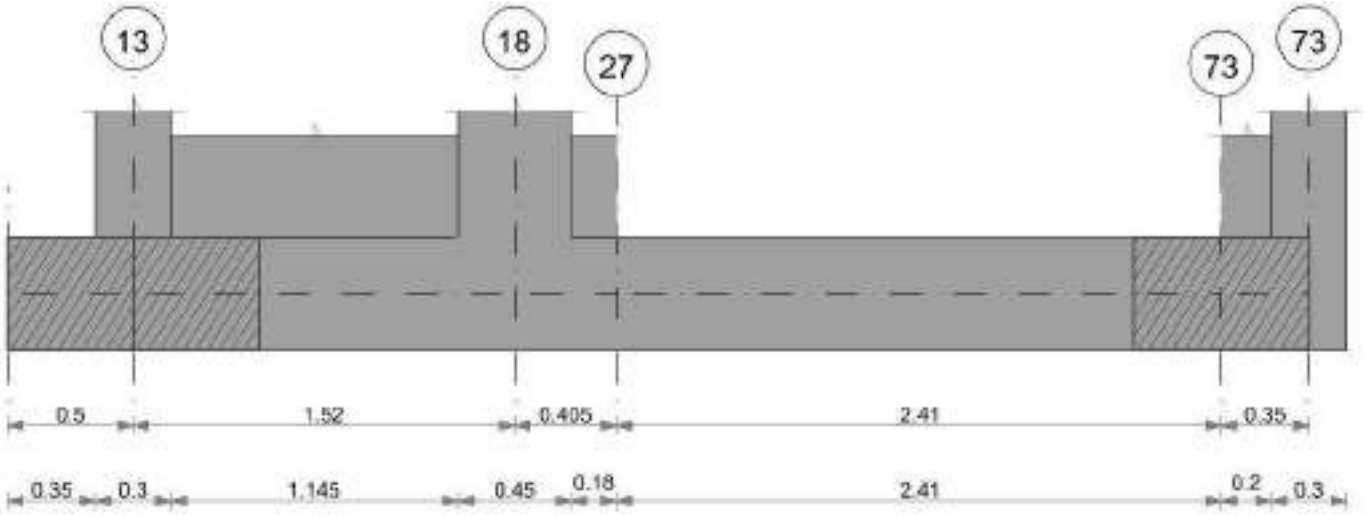
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	383	SLE RA 21	0.05	0	383	367	SLE RA 21	0.05	0	383	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	383	SLE RA 1	0.05	0	383	383	SLE RA 1	0.05	0	383	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	383	SLE RA 1	0.05	0	383	383	SLE RA 1	0.05	0	383	SLE RA 1	0.0033	0	SLE RA 1	Si

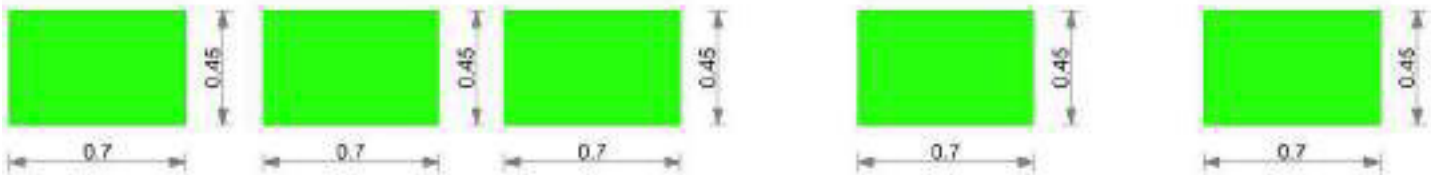
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	383	367	SLE RA 21	0.19	0	383	SLE RA 1	0.1	0	383	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	383	367	SLE RA 1	0.19	0	383	SLE RA 1	0.1	0	383	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	383	367	SLE RA 1	0.19	0	383	SLE RA 1	0.1	0	383	SLE RA 1	Si

CORDOLO 18

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

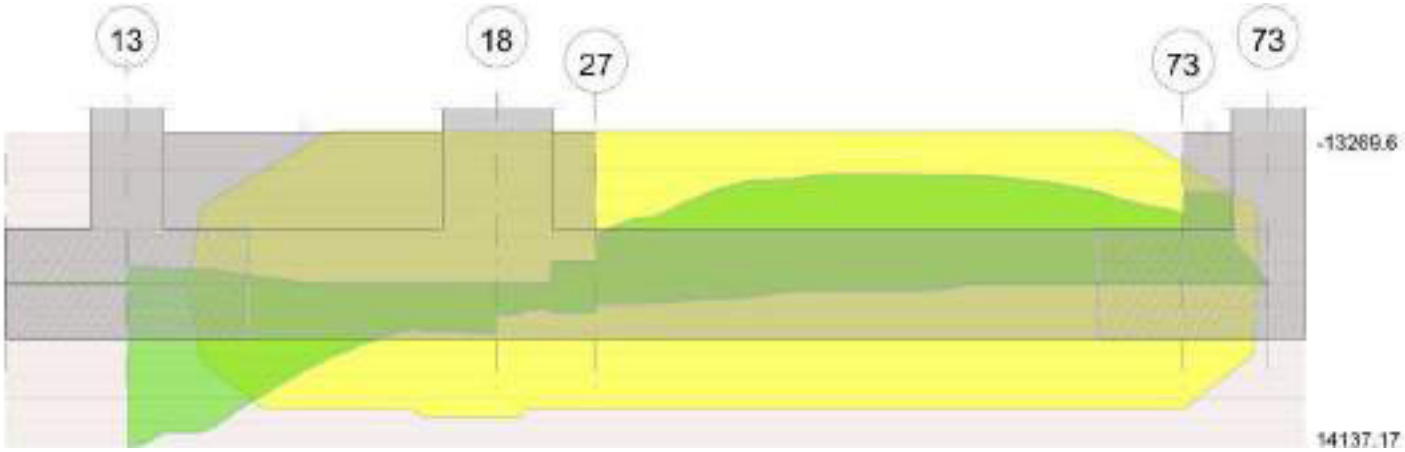
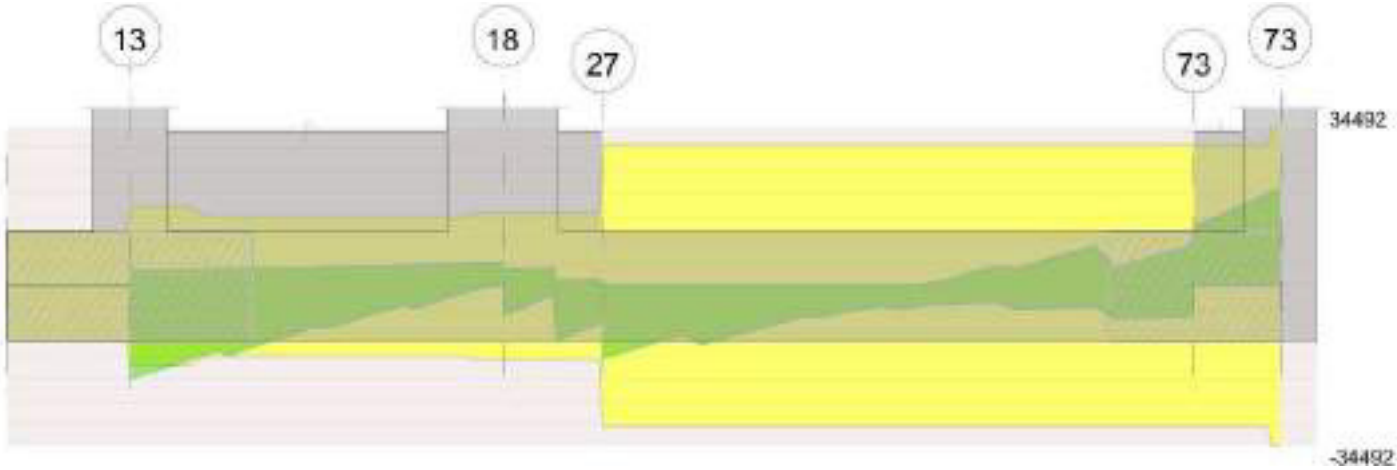


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 4 tra i fili 27 - 73, sezione R 70x45, aste 329, 330, 331, 332, 333, 334

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052							-136.83	SLU 76	-2096.99	-13985.55	0.125	6.67	Si
1.21	0.000942	0.053	0.000763	0.052							-6625.08	SLU 84	-7298.46	-13985.55	0.125	1.92	Si
1.37	0.000942	0.053	0.000763	0.052							-7126.4	SLU 84	-7325.92	-13985.55	0.125	1.91	Si
2.41	0.000734	0.053	0.000763	0.052							-5441.71	SLU 84	-5570.63	-11131.59	0.115	2	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	1707.1	SLV FO 12	1707.1	10865.3	0.201	6.36	-1816.29	SLV FO 5	-4135.32	-13269.6	0.224	3.21	Si
1.12	0.000942	0.053	0.000763	0.052	-137.25	SLV FO 12	584.21	10865.3	0.201	18.6	-9510.35	SLV FO 5	-9510.35	-13269.6	0.224	1.4	Si
1.21	0.000942	0.053	0.000763	0.052	584.21	SLV FO 12	584.21	10865.3	0.201	18.6	-9330.43	SLV FO 5	-9510.35	-13269.6	0.224	1.4	Si
2.41	0.000734	0.053	0.000763	0.052							-5071.29	SLV FO 9	-6204.14	-10443.74	0.2	1.68	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	894.25	SLD 12	894.25	10865.3	0.201	12.15	-1003.44	SLD 5	-2844.61	-13269.6	0.224	4.66	Si
1.12	0.000942	0.053	0.000763	0.052							-7321.6	SLD 5	-7321.6	-13269.6	0.224	1.81	Si
1.21	0.000942	0.053	0.000763	0.052							-7019.93	SLD 5	-7321.6	-13269.6	0.224	1.81	Si
2.41	0.000734	0.053	0.000763	0.052							-4397.63	SLD 9	-5031.11	-10443.74	0.2	2.08	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-12628	SLU 84	-12628	-11611	-88226	-30430	-30430	1	2.41	Si
1.21	0.0000218	0.000942	0	-4263	SLU 83	-4263	-11611	-88226	-30430	-30430	1	7.14	Si
2.41	0.0000218	0.000734	0	1913	SLU 76	1913	10851	88226	30430	30430	1	15.91	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-15615	SLV FO 9	-15615	-11611	-88226	-30430	-30430	1	1.95	Si
1.21	0.0000218	0.000942	0	-4814	SLV FO 15	-4814	-11611	-88226	-30430	-30430	1	6.32	Si
2.41	0.0000218	0.000734	0	9119	SLV FO 5	9119	10851	88226	30430	30430	1	3.34	Si
2.41	0.0000218	0.000734	0	-6631	SLV FO 12	-6631	-10851	-88226	-30430	-30430	1	4.59	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-12254	SLD 9	-12254	-11611	-88226	-30430	-30430	1	2.48	Si
1.21	0.0000218	0.000942	0	-3983	SLD 15	-3983	-11611	-88226	-30430	-30430	1	7.64	Si
2.41	0.0000218	0.000734	0	5464	SLD 5	5464	10851	88226	30430	30430	1	5.57	Si
2.41	0.0000218	0.000734	0	-2976	SLD 12	-2976	-10851	-88226	-30430	-30430	1	10.22	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-94.7	13	-1532.22	57073	1494000	846091	36000000	-54.59	2	-1356.09	50512	1120500			Si
1.21	-4857.3	21	-5349.84	199275	1494000	2954180	36000000	-4373.11	2	-4823.8	179681	1120500			Si
2.41	-3986.22	21	-4083.26	153363	1494000	2305596	36000000	-3612.02	2	-3693.71	138732	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 13 - 18, sezione R 70x45, aste 323, 324, 325, 326

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	4170	SLV FO 5	0.123	5511	10761	SLV FO 5	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.15	0.41	0.0004	4175	SLV FO 5	0.123	5511	10773	SLV FO 5	15877	Si
0.76	0.41	0.0004	4091	SLV FO 5	0.123	5511	10558	SLV FO 5	15877	Si
1.29	0.41	0.0004	3935	SLV FO 5	0.123	5511	10155	SLV FO 5	15877	Si
1.52	0.41	0.0004	3858	SLV FO 5	0.126	5794	9957	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3175	SLD 5	0.101	6395	8194	SLD 5	15877	Si
0.15	0.41	0.0004	3184	SLD 5	0.101	6395	8217	SLD 5	15877	Si
0.76	0.41	0.0004	3143	SLD 5	0.101	6395	8110	SLD 5	15877	Si
1.29	0.41	0.0004	3040	SLD 5	0.101	6395	7846	SLD 5	15877	Si
1.52	0.41	0.0004	2987	SLD 5	0.104	6725	7708	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000036	2255	SLE RA 21	63689	1494000	789741	36000000	2031	SLE QP 2	57352	1120500	Si
0.15	0.41	0.0000036	2271	SLE RA 21	64121	1494000	795103	36000000	2045	SLE QP 2	57745	1120500	Si
0.76	0.41	0.0000036	2280	SLE RA 21	64377	1494000	798279	36000000	2053	SLE QP 2	57984	1120500	Si
1.29	0.41	0.0000036	2237	SLE RA 21	63160	1494000	783184	36000000	2014	SLE QP 2	56884	1120500	Si
1.52	0.41	0.00000379	2208	SLE RA 21	62195	1494000	771217	36000000	1988	SLE QP 2	56009	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 18 - 27, sezione R 70x45, aste 327, 328

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3858	SLV FO 5	0.126	5794	9957	SLV FO 5	15877	Si
0.2	0.41	0.0004	3758	SLV FO 5	0.126	5794	9697	SLV FO 5	15877	Si
0.23	0.41	0.0004	3746	SLV FO 5	0.126	5794	9667	SLV FO 5	15877	Si
0.41	0.41	0.0007	3655	SLV FO 5	0.172	10865	9433	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2987	SLD 5	0.104	6725	7708	SLD 5	15877	Si
0.2	0.41	0.0004	2916	SLD 5	0.104	6725	7525	SLD 5	15877	Si
0.23	0.41	0.0004	2908	SLD 5	0.104	6725	7504	SLD 5	15877	Si
0.41	0.41	0.0007	2841	SLD 5	0.142	12654	7333	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000379	2208	SLE RA 21	62195	1494000	771217	36000000	1988	SLE QP 2	56009	1120500	Si
0.2	0.41	0.00000379	2168	SLE RA 21	61075	1494000	757330	36000000	1952	SLE QP 2	54991	1120500	Si
0.23	0.41	0.00000379	2163	SLE RA 21	60937	1494000	755614	36000000	1948	SLE QP 2	54865	1120500	Si
0.41	0.41	0.00000725	2122	SLE RA 21	57211	1494000	709419	36000000	1910	SLE QP 2	51499	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 27 - 73, sezione R 70x45, aste 329, 330, 331, 332, 333, 334

Campata 5 tra i fili 73 - 73, sezione R 70x45, asta 335

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3856	SLV FO 9	0.172	10865	9950	SLV FO 9	15877	Si
0.18	0.41	0.0007	4001	SLV FO 9	0.172	10865	10325	SLV FO 9	15877	Si
0.2	0.41	0.0007	4023	SLV FO 9	0.172	10865	10382	SLV FO 9	15877	Si
0.35	0.41	0.0007	4159	SLV FO 9	0.172	10865	10732	SLV FO 9	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2991	SLD 9	0.142	12654	7719	SLD 9	15877	Si
0.18	0.41	0.0007	3103	SLD 9	0.142	12654	8008	SLD 9	15877	Si
0.2	0.41	0.0007	3120	SLD 9	0.142	12654	8052	SLD 9	15877	Si
0.35	0.41	0.0007	3225	SLD 9	0.142	12654	8323	SLD 9	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000725	2230	SLE RA 21	60125	1494000	745544	36000000	2002	SLE QP 2	53959	1120500	Si
0.18	0.41	0.00000725	2312	SLE RA 21	62336	1494000	772970	36000000	2075	SLE QP 2	55938	1120500	Si
0.2	0.41	0.00000725	2325	SLE RA 21	62676	1494000	777183	36000000	2086	SLE QP 2	56242	1120500	Si
0.35	0.41	0.00000725	2403	SLE RA 21	64775	1494000	803216	36000000	2156	SLE QP 2	58122	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	395	SLE RA 21	0.05	0	395	389	SLE RA 21	0.05	0	389	SLE RA 21	0.0033	0	SLE RA 21	Si
D	0.05	0	396	SLE RA 1	0.05	0	396	396	SLE RA 1	0.05	0	395	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	396	SLE RA 1	0.05	0	396	396	SLE RA 1	0.05	0	395	SLE RA 1	0.0033	0	SLE RA 1	Si

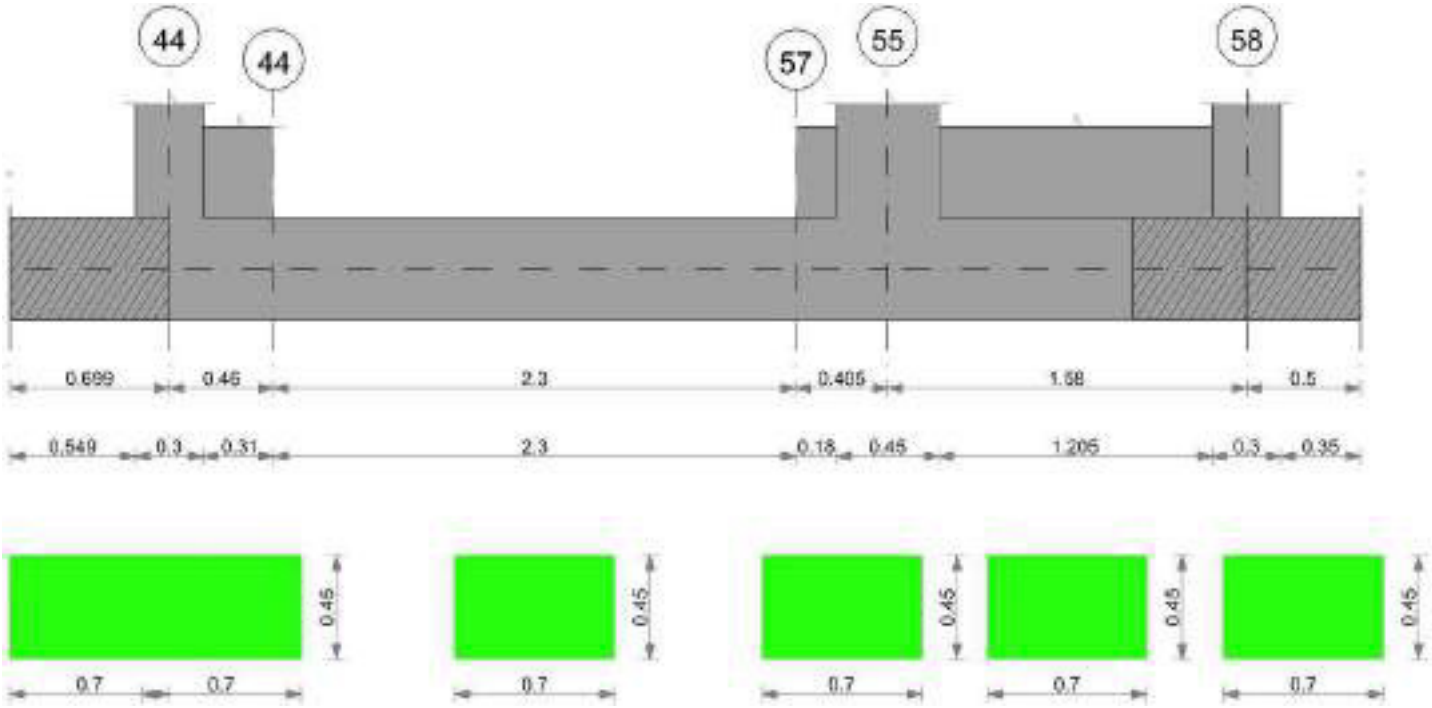
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	395	389	SLE RA 21	0.19	0.01	395	SLE FR 5	0.1	0.01	389	SLE RA 21	Si
D	0.19	0	SLE RA 1	0.19	0	396	395	SLE RA 1	0.19	0	396	SLE RA 1	0.1	0	395	SLE RA 1	Si

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
Z	0.19	0	SLE RA 1	0.19	0	396	395	SLE RA 1	0.19	0	396	SLE RA 1	0.1	0	395	SLE RA 1	Si

CORDOLO 19

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

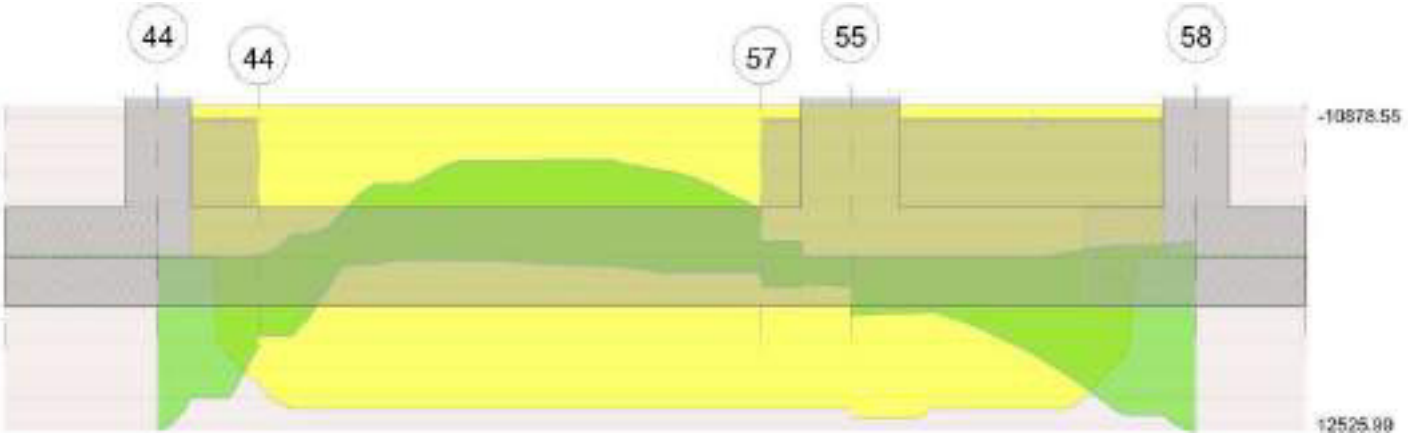
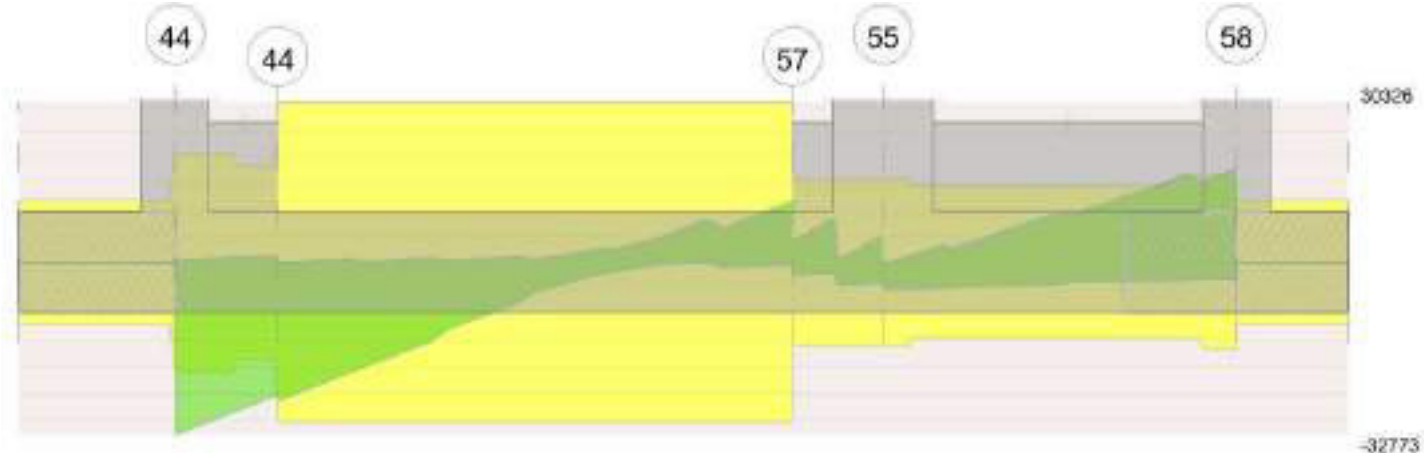


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 44 - 57, sezione R 70x45, aste 788, 787, 786, 785, 784, 783

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000643	0.052	4394.16	SLU 84	4394.16	9903	0.111	2.25							Si
1.15	0.000763	0.052	0.000763	0.052							-4399.27	SLU 84	-5015.88	-11561.07	0.116	2.3	Si
2.3	0.000763	0.052	0.000763	0.052							-490.71	SLU 84	-1752.79	-11561.07	0.116	6.6	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000643	0.052	5664.81	SLV FO 10	5664.81	9214.73	0.188	1.63							Si
1.15	0.000763	0.052	0.000763	0.052	202.95	SLV FO 7	300.89	10870.29	0.203	36.13	-6014.11	SLV FO 10	-6891.85	-10870.29	0.203	1.58	Si
1.3	0.000763	0.052	0.000763	0.052	279.99	SLV FO 7	450.13	10870.29	0.203	24.15	-6658.66	SLV FO 10	-6935.08	-10870.29	0.203	1.57	Si
2.3	0.000763	0.052	0.000763	0.052	1127.36	SLV FO 7	1127.36	10870.29	0.203	9.64	-1750.29	SLV FO 10	-3414.12	-10870.29	0.203	3.18	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000643	0.052	4410.15	SLD 10	4410.15	9214.73	0.188	2.09							Si
1.15	0.000763	0.052	0.000763	0.052							-4562.84	SLD 10	-5236.71	-10870.29	0.203	2.08	Si
2.3	0.000763	0.052	0.000763	0.052	470.89	SLD 7	470.89	10870.29	0.203	23.08	-1093.83	SLD 10	-2368.56	-10870.29	0.203	4.59	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000643	0	-19742	SLU 84	-19742	-10870	-88449	-30326	-30326	1	1.54	Si
1.15	0.0000216	0.000763	0	-3760	SLU 84	-3760	-10870	-88449	-30326	-30326	1	8.07	Si
2.3	0.0000216	0.000763	0	8348	SLU 84	8348	10870	88449	30326	30326	1	3.63	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000643	0	-26302	SLV FO 10	-26302	-10870	-88449	-30326	-30326	1	1.15	Si
1.15	0.0000216	0.000763	0	532	SLV FO 3	532	10870	88449	30326	30326	1	56.96	Si
1.15	0.0000216	0.000763	0	-5618	SLV FO 14	-5618	-10870	-88449	-30326	-30326	1	5.4	Si
2.3	0.0000216	0.000763	0	11507	SLV FO 6	11507	10870	88449	30326	30326	1	2.64	Si
2.3	0.0000216	0.000763	0	-422	SLV FO 11	-422	-10870	-88449	-30326	-30326	1	71.78	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000643	0	-20229	SLD 10	-20229	-10870	-88449	-30326	-30326	1	1.5	Si
1.15	0.0000216	0.000763	0	-4300	SLD 14	-4300	-10870	-88449	-30326	-30326	1	7.05	Si
2.3	0.0000216	0.000763	0	8734	SLD 6	8734	10870	88449	30326	30326	1	3.47	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	3246.42	21	3246.42	122324	1494000	1850102	36000000	2956.7	2	2956.7	111408	1120500			Si
1.15	-3221.24	21	-3680.64	138000	1494000	2069993	36000000	-2905.58	2	-3326.78	124732	1120500			Si
2.3	-363.43	21	-1287.41	48269	1494000	724037	36000000	-311.47	2	-1148.11	43046	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 44 - 44, sezione R 70x45, asta 789

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3716	SLV FO 10	0.135	6651	9590	SLV FO 10	15877	Si
0.15	0.41	0.0004	3717	SLV FO 10	0.135	6651	9591	SLV FO 10	15877	Si
0.23	0.41	0.0004	3712	SLV FO 10	0.135	6651	9581	SLV FO 10	15877	Si
0.46	0.41	0.0007	3688	SLV FO 10	0.172	10803	9518	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2924	SLD 10	0.111	7725	7545	SLD 10	15877	Si
0.15	0.41	0.0004	2924	SLD 10	0.111	7725	7545	SLD 10	15877	Si
0.23	0.41	0.0004	2921	SLD 10	0.111	7725	7537	SLD 10	15877	Si
0.46	0.41	0.0007	2901	SLD 10	0.142	12581	7488	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000437	2238	SLE RA 21	62578	1494000	775966	36000000	2018	SLE QP 2	56421	1120500	Si
0.15	0.41	0.00000437	2237	SLE RA 21	62557	1494000	775713	36000000	2018	SLE QP 2	56413	1120500	Si
0.23	0.41	0.00000437	2235	SLE RA 21	62477	1494000	774714	36000000	2015	SLE QP 2	56346	1120500	Si
0.46	0.41	0.00000721	2219	SLE RA 21	59845	1494000	742073	36000000	2002	SLE QP 2	53985	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 44 - 57, sezione R 70x45, aste 788, 787, 786, 785, 784, 783

Campata 4 tra i fili 57 - 55, sezione R 70x45, aste 782, 781

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3838	SLV FO 10	0.172	10803	9905	SLV FO 10	15877	Si
0.18	0.41	0.0004	3927	SLV FO 10	0.126	5794	10134	SLV FO 10	15877	Si
0.2	0.41	0.0004	3938	SLV FO 10	0.126	5794	10163	SLV FO 10	15877	Si
0.4	0.41	0.0004	4036	SLV FO 10	0.126	5794	10415	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2998	SLD 10	0.142	12581	7737	SLD 10	15877	Si
0.18	0.41	0.0004	3062	SLD 10	0.104	6725	7901	SLD 10	15877	Si
0.2	0.41	0.0004	3070	SLD 10	0.104	6725	7922	SLD 10	15877	Si
0.4	0.41	0.0004	3138	SLD 10	0.104	6725	8097	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000721	2251	SLE RA 21	60719	1494000	752920	36000000	2035	SLE QP 2	54886	1120500	Si
0.18	0.41	0.00000379	2289	SLE RA 21	64474	1494000	799477	36000000	2069	SLE QP 2	58287	1120500	Si
0.2	0.41	0.00000379	2293	SLE RA 21	64601	1494000	801056	36000000	2073	SLE QP 2	58403	1120500	Si
0.4	0.41	0.00000379	2330	SLE RA 21	65631	1494000	813824	36000000	2107	SLE QP 2	59338	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 5 tra i fili 55 - 58, sezione R 70x45, aste 780, 779, 778, 777

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	4036	SLV FO 10	0.126	5794	10415	SLV FO 10	15877	Si
0.23	0.41	0.0003	4096	SLV FO 10	0.12	5289	10571	SLV FO 10	15877	Si
0.79	0.41	0.0003	4226	SLV FO 10	0.12	5289	10905	SLV FO 10	15877	Si
1.43	0.41	0.0003	4304	SLV FO 10	0.12	5289	11107	SLV FO 10	15877	Si
1.58	0.41	0.0003	4305	SLV FO 10	0.12	5289	11108	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3138	SLD 10	0.104	6725	8097	SLD 10	15877	Si
0.23	0.41	0.0003	3179	SLD 10	0.099	6136	8203	SLD 10	15877	Si
0.79	0.41	0.0003	3261	SLD 10	0.099	6136	8415	SLD 10	15877	Si
1.43	0.41	0.0003	3299	SLD 10	0.099	6136	8514	SLD 10	15877	Si
1.58	0.41	0.0003	3295	SLD 10	0.099	6136	8503	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000379	2330	SLE RA 21	65631	1494000	813824	36000000	2107	SLE QP 2	59338	1120500	Si
0.23	0.41	0.00000345	2350	SLE RA 21	66493	1494000	824508	36000000	2125	SLE QP 2	60119	1120500	Si
0.79	0.41	0.00000345	2380	SLE RA 21	67344	1494000	835066	36000000	2152	SLE QP 2	60883	1120500	Si
1.43	0.41	0.00000345	2372	SLE RA 21	67108	1494000	832137	36000000	2144	SLE QP 2	60651	1120500	Si
1.58	0.41	0.00000345	2361	SLE RA 21	66789	1494000	828184	36000000	2133	SLE QP 2	60356	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

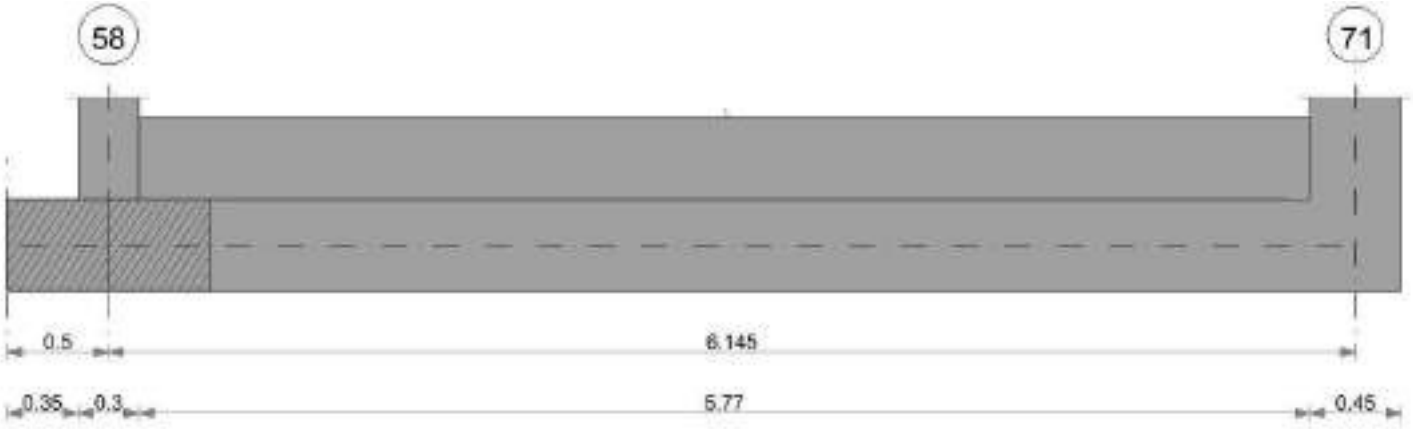
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	397	SLE RA 21	0.05	0	397	410	SLE RA 21	0.05	0	404	SLE RA 8	0.0033	0	SLE RA 10	Si
D	0.05	0	410	SLE RA 1	0.05	0	410	410	SLE RA 1	0.05	0	406	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	410	SLE RA 1	0.05	0	410	410	SLE RA 1	0.05	0	406	SLE RA 1	0.0033	0	SLE RA 1	Si

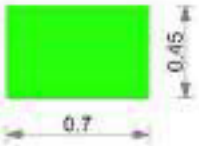
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	404	398	SLE RA 21	0.19	0.01	398	SLE RA 19	0.1	0.01	404	SLE RA 10	Si
D	0.19	0	SLE RA 1	0.19	0	410	406	SLE RA 1	0.19	0	410	SLE RA 1	0.1	0	406	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	410	406	SLE RA 1	0.19	0	410	SLE RA 1	0.1	0	406	SLE RA 1	Si

CORDOLO 20

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

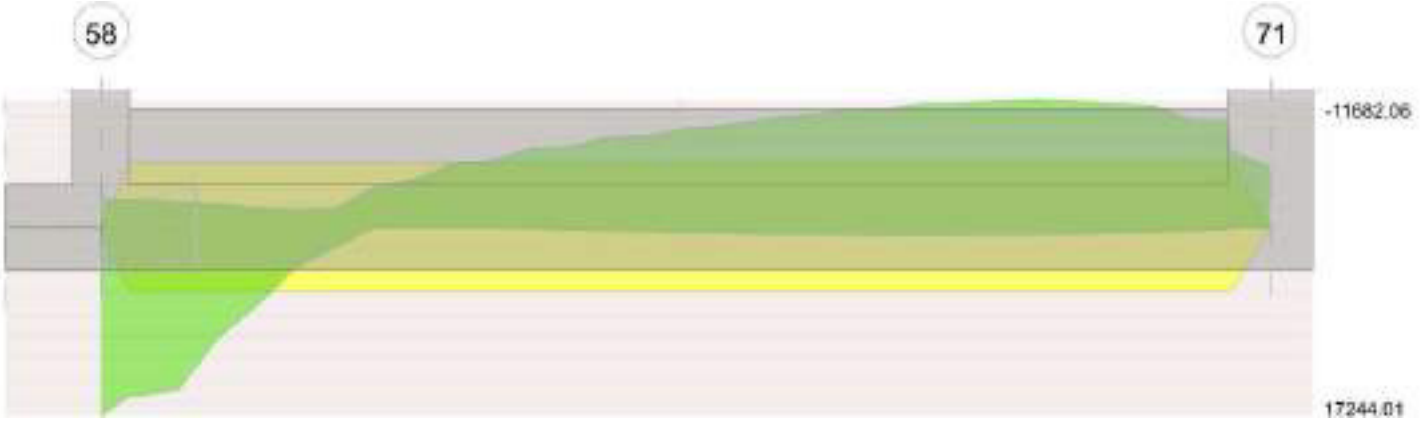


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 58 - 71, sezione R 70x45, aste 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4287	SLV FO 10	0.119	5197	11064	SLV FO 10	15877	Si
0.15	0.41	0.0003	4272	SLV FO 10	0.119	5197	11025	SLV FO 10	15877	Si
3.07	0.41	0.0003	3271	SLV FO 10	0.119	5197	8442	SLV FO 10	15877	Si
6.15	0.41	0.0003	5104	SLV FO 10	0.119	5197	13172	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3261	SLD 10	0.098	6029	8414	SLD 10	15877	Si
0.15	0.41	0.0003	3243	SLD 10	0.098	6029	8370	SLD 10	15877	Si
3.07	0.41	0.0003	2432	SLD 10	0.098	6029	6276	SLD 10	15877	Si
5.92	0.41	0.0003	3997	SLD 10	0.098	6029	10314	SLD 10	15877	Si
6.15	0.41	0.0003	3789	SLD 10	0.098	6029	9779	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000339	2302	SLE RA 21	65172	1494000	808136	36000000	2079	SLE QP 2	58865	1120500	Si
0.15	0.41	0.00000339	2280	SLE RA 21	64559	1494000	800533	36000000	2059	SLE QP 2	58302	1120500	Si
3.07	0.41	0.00000339	1618	SLE RA 21	45820	1494000	568171	36000000	1457	SLE QP 2	41268	1120500	Si
5.92	0.41	0.00000339	2625	SLE RA 21	74321	1494000	921574	36000000	2378	SLE QP 2	67337	1120500	Si
6.15	0.41	0.00000339	2487	SLE RA 21	70410	1494000	873081	36000000	2252	SLE QP 2	63767	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
361,362,363,364,365,366,367,368,369,370,371,372,373,374,375,376	6.37	1.3	SLU 84	ST	BT	2.3	267193	87293	3.06	Si
361,362,363,364,365,366,367,368,369,370,371,372,373,374,375,376	6.37	1.3	SLD 10	SIS	BT	2.3	238169	89120	2.67	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	234	-87293	11995.77	3070.03	0	0	0.04	0.14	1.03	6.3	1496	2060	0	14430	
0	11469	-5197	-6714.26	-6086.79	0	66	-1.17	-1.29	-1.28	4.03	1496	2060	0	14430	0.07
0	-5685	-89120	15834.53	6763.61	0	-4	0.08	0.18	0.94	6.22	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.03	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.03	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

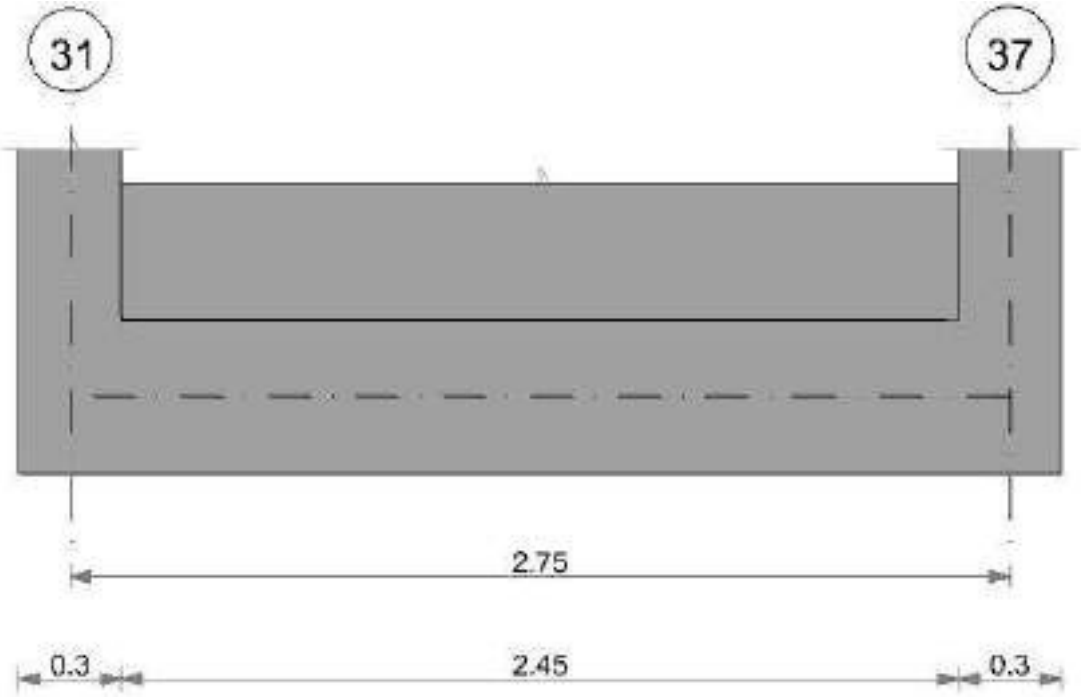
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	411	SLE RA 21	0.05	0	411	427	SLE RA 21	0.05	0	427	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	427	SLE RA 1	0.05	0	427	427	SLE RA 1	0.05	0	427	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	427	SLE RA 1	0.05	0	427	427	SLE RA 1	0.05	0	427	SLE RA 1	0.0033	0	SLE RA 1	Si

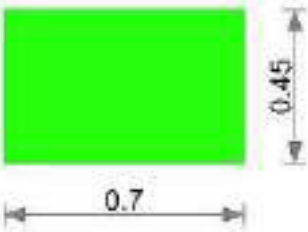
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	427	411	SLE RA 21	0.19	0	427	SLE RA 1	0.1	0	427	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	427	411	SLE RA 1	0.19	0	427	SLE RA 1	0.1	0	427	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	427	411	SLE RA 1	0.19	0	427	SLE RA 1	0.1	0	427	SLE RA 1	Si

CORDOLO 21

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

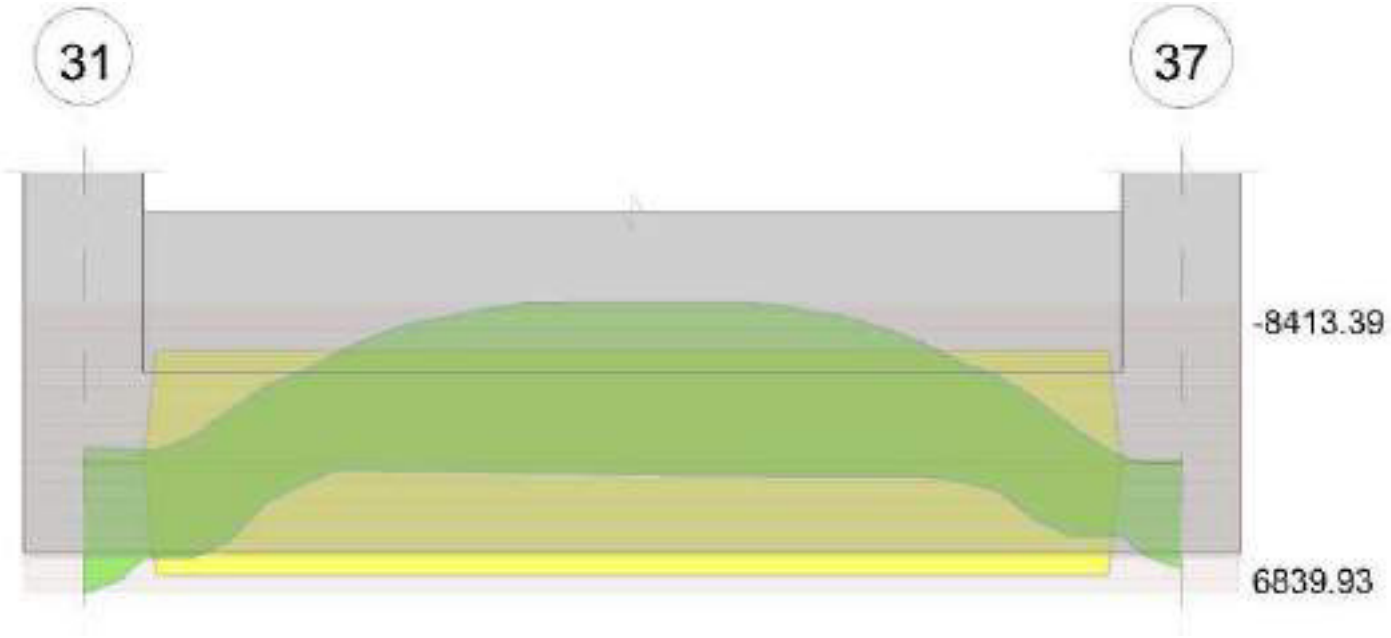
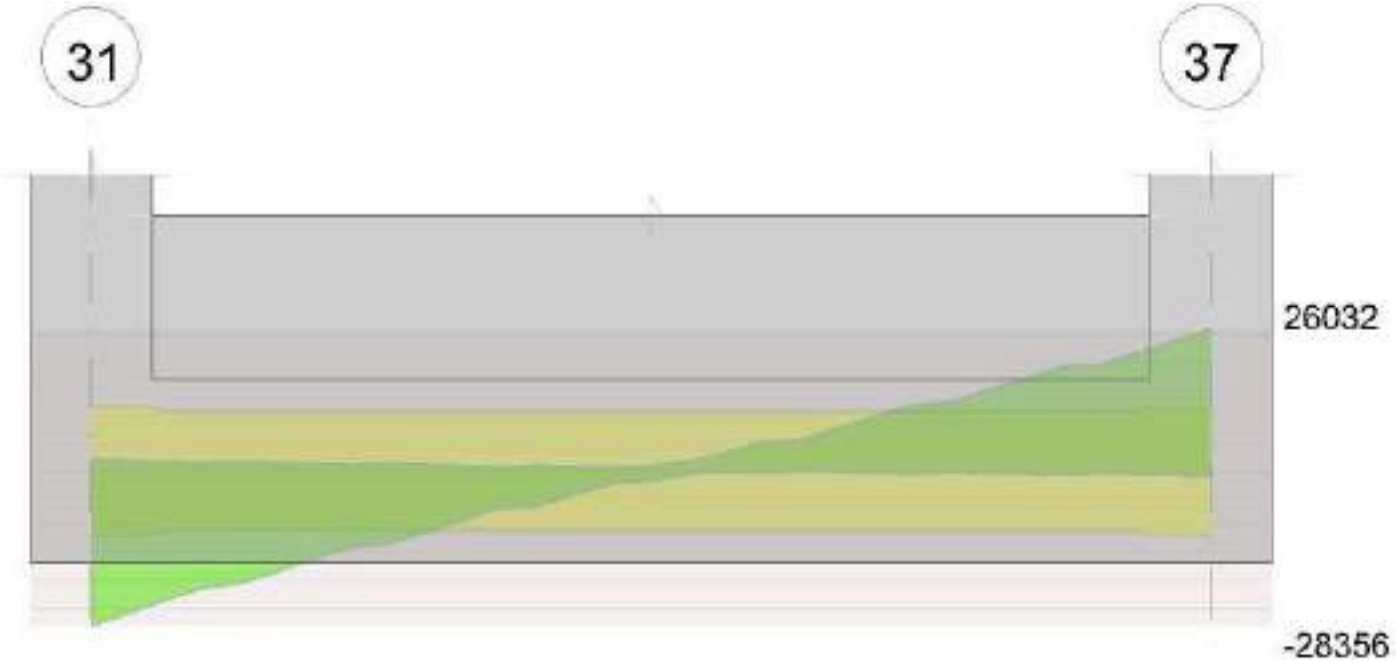


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 31 - 37, sezione R 70x45, aste 610, 609, 608, 607, 606, 605, 604, 603

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
1.38	0.41	0.0003	5273	SLV FO 9	0.12	5298	13607	SLV FO 9	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4228	SLD 9	0.099	6147	10910	SLD 9	15877	Si
0.15	0.41	0.0003	4186	SLD 9	0.099	6147	10804	SLD 9	15877	Si
1.38	0.41	0.0003	3891	SLD 9	0.099	6147	10041	SLD 9	15877	Si
2.6	0.41	0.0003	3992	SLD 10	0.099	6147	10302	SLD 10	15877	Si
2.75	0.41	0.0003	4012	SLD 10	0.099	6147	10355	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000346	2798	SLE RA 21	79171	1494000	981725	36000000	2512	SLE QP 2	71075	1120500	Si
0.15	0.41	0.00000346	2771	SLE RA 21	78386	1494000	971984	36000000	2487	SLE QP 2	70369	1120500	Si
1.38	0.41	0.00000346	2574	SLE RA 21	72817	1494000	902936	36000000	2312	SLE QP 2	65419	1120500	Si

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
2.6	0.41	0.00000346	2642	SLE RA 21	74739	1494000	926759	36000000	2378	SLE QP 2	67278	1120500	Si
2.75	0.41	0.00000346	2655	SLE RA 21	75100	1494000	931240	36000000	2390	SLE QP 2	67619	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
610,609,608,607,606,605,604,603	3.05	1.3	SLU 84	ST	BT	2.3	160211	51843	3.09	Si
610,609,608,607,606,605,604,603	3.05	1.3	SLD 6	SIS	BT	2.3	146798	53819	2.73	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
42	35	-51843	1789.96	-536.2	0	0	-0.01	0.03	1.23	3.03	1496	2060	0	14430	
2472	5724	-134	-3839.01	1245.2	87	89	9.28	-28.61	-55.93	-15.51	1496	2060	0	14430	0.07
-1385	-2905	-53819	3817.73	-1207.46	-1	-3	-0.02	0.07	1.16	3.01	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.08	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.72	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

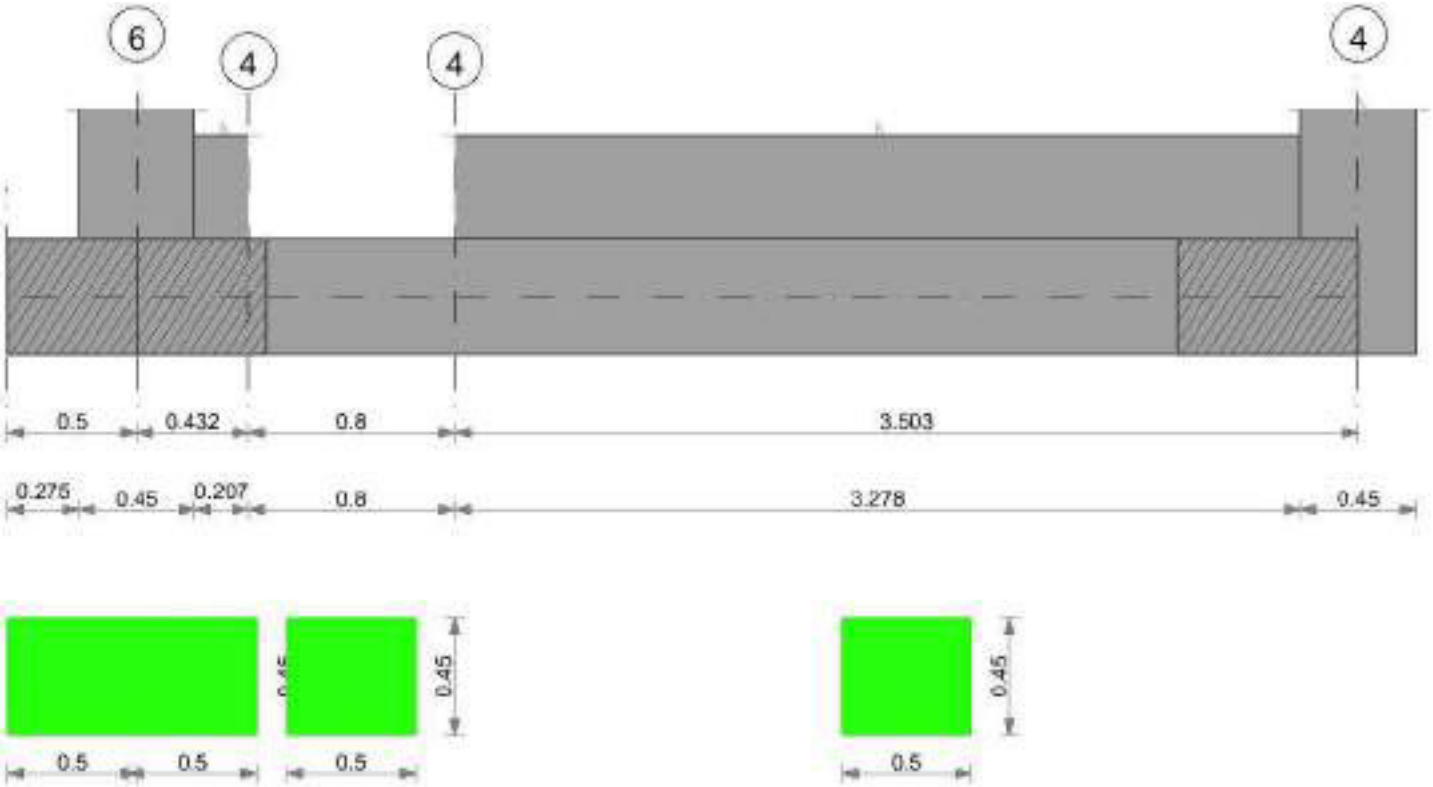
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	229	SLE RA 21	0.05	0	229	221	SLE RA 21	0.05	0	229	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	229	SLE RA 1	0.05	0	229	229	SLE RA 1	0.05	0	229	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	229	SLE RA 1	0.05	0	229	229	SLE RA 1	0.05	0	229	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	229	221	SLE RA 21	0.19	0	229	SLE RA 1	0.1	0	229	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	229	221	SLE RA 1	0.19	0	229	SLE RA 1	0.1	0	229	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	229	221	SLE RA 1	0.19	0	229	SLE RA 1	0.1	0	229	SLE RA 1	Si

CORDOLO 22

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

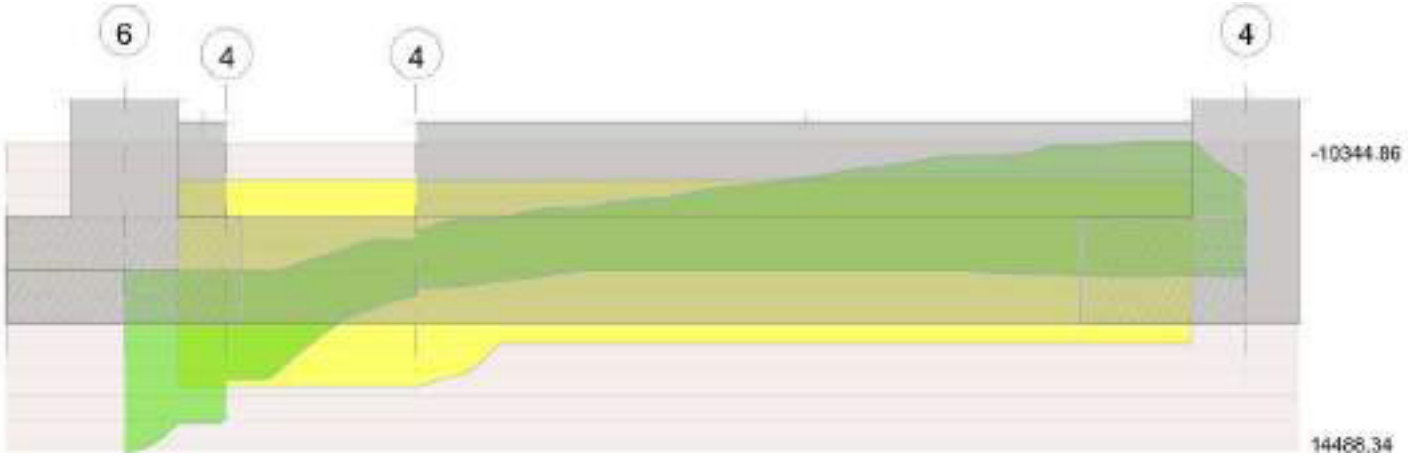
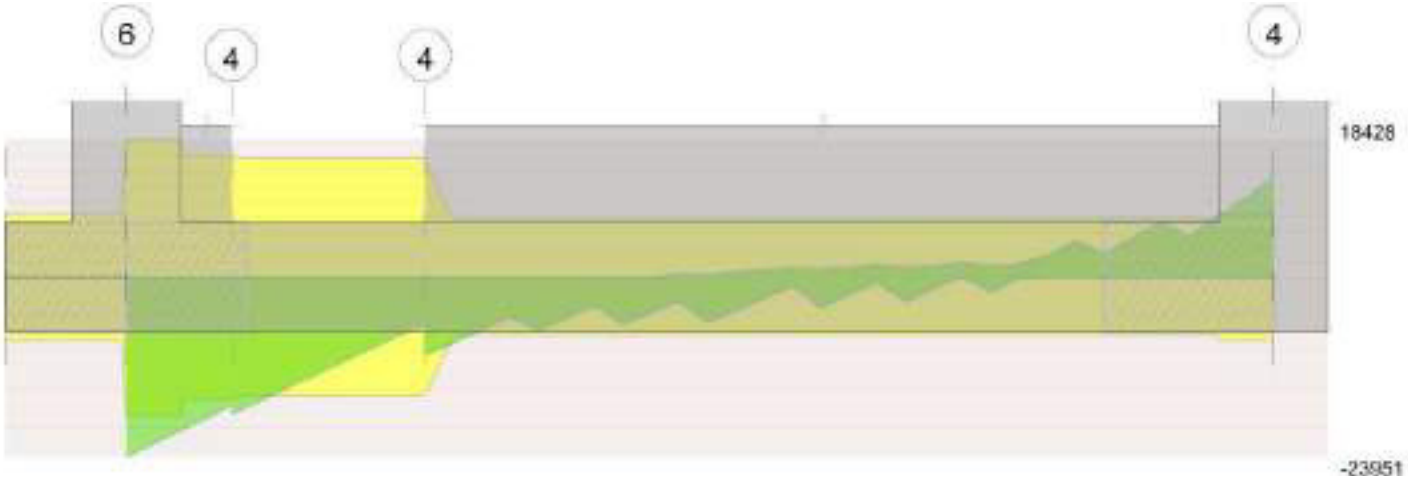


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 4 - 4, sezione R 50x45, asta 473

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000657	0.051	7962.79	SLU 84	7962.79	9802.96	0.123	1.23							Si
0.16	0.000509	0.052	0.000657	0.051	5480.69	SLU 84	7962.79	9802.96	0.123	1.23							Si
0.4	0.000509	0.052	0.000657	0.051	2461.53	SLU 84	4636.15	9802.96	0.123	2.11							Si
0.8	0.000509	0.052	0.000657	0.051	-409.61	SLU 2	416.24	9802.96	0.123	23.55	-767.42	SLU 83	-767.42	-7757.04	0.115	10.11	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000657	0.051	8689.35	SLV FO 2	8689.35	9282.47	0.222	1.07							Si
0.16	0.000509	0.052	0.000657	0.051	6070.08	SLV FO 2	8689.35	9282.47	0.222	1.07							Si
0.4	0.000509	0.052	0.000657	0.051	3247.47	SLV FO 5	5178.39	9282.47	0.222	1.79	8.9	SLV FO 12	-1139.49	-7265.54	0.195	6.38	Si
0.8	0.000509	0.052	0.000657	0.051	1439.83	SLV FO 9	1916.04	9282.47	0.222	4.84	-2446.23	SLV FO 8	-2446.23	-7265.54	0.195	2.97	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000657	0.051	7262.64	SLD 2	7262.64	9282.47	0.222	1.28							Si
0.4	0.000509	0.052	0.000657	0.051	2503.88	SLD 5	4285.3	9282.47	0.222	2.17	752.49	SLD 12	-382.84	-7265.54	0.195	18.98	Si
0.8	0.000509	0.052	0.000657	0.051	541.2	SLD 9	1147.09	9282.47	0.222	8.09	-1547.6	SLD 8	-1547.6	-7265.54	0.195	4.69	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.4	0.0000113	0.000657	0	-10870	SLU 83	-10870	-8240	-63275	-15877	-15877	1	1.46	Si
0.8	0.0000113	0.000509	0	-5232	SLU 83	-5232	-7764	-63178	-15852	-15852	1	3.03	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.4	0.0000113	0.000657	0	-12194	SLV FO 4	-12194	-8240	-63275	-15877	-15877	1	1.3	Si
0.8	0.0000113	0.000509	0	-6199	SLV FO 4	-6199	-7764	-63178	-15852	-15852	1	2.56	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000116	0.000657	0	-15337	SLD 4	-15337	-8240	-63275	-16324	-16324	1	1.06	Si
0.03	0.0000113	0.000657	0	-14985	SLD 4	-14985	-8240	-63275	-15877	-15877	1	1.06	Si
0.4	0.0000113	0.000657	0	-10106	SLD 4	-10106	-8240	-63275	-15877	-15877	1	1.57	Si
0.8	0.0000113	0.000509	0	-5039	SLD 4	-5039	-7764	-63178	-15852	-15852	1	3.15	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	5824.58	21	5824.58	554283	1494000	24498492	36000000	5303.71	2	5303.71	504716	1120500			Si
0.4	1800.01	21	3390.49	177782	1494000	2628956	36000000	1628.18	2	3080.17	161511	1120500			Si
0.8	-557.17	20	-557.17	28802	1494000	438232	36000000	-503.2	2	-503.2	26012	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0	inferiore	0.398	0.00071	0.000284	21	0.398	0.00067	0.000265	6	0.398	0.00065	0.000259	2	Si
0.16	inferiore	0.398	0.00071	0.000284	21	0.398	0.00067	0.000265	6	0.398	0.00065	0.000259	2	Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 6 - 4, sezione R 50x45, asta 474

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2284	SLV FO 2	0.155	8772	7945	SLV FO 2	22763	Si
0.22	0.41	0.0006	2271	SLV FO 2	0.155	8772	7900	SLV FO 2	22763	Si
0.23	0.41	0.0006	2270	SLV FO 2	0.155	8772	7897	SLV FO 2	22763	Si
0.43	0.41	0.0006	2243	SLV FO 4	0.155	8772	7803	SLV FO 4	22763	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1919	SLD 2	0.128	10204	6676	SLD 2	26177	Si
0.22	0.41	0.0006	1912	SLD 2	0.128	10204	6651	SLD 2	26177	Si
0.23	0.41	0.0006	1912	SLD 2	0.128	10204	6649	SLD 2	26177	Si
0.43	0.41	0.0006	1891	SLD 4	0.128	10204	6577	SLD 4	26177	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000581	1554	SLE RA 21	42650	1494000	528865	36000000	1414	SLE QP 2	38800	1120500	Si
0.22	0.41	0.00000581	1552	SLE RA 20	42609	1494000	528353	36000000	1412	SLE QP 2	38767	1120500	Si
0.23	0.41	0.00000581	1552	SLE RA 20	42600	1494000	528239	36000000	1412	SLE QP 2	38758	1120500	Si
0.43	0.41	0.00000581	1537	SLE RA 20	42202	1494000	523301	36000000	1399	SLE QP 2	38394	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 4 - 4, sezione R 50x45, asta 473

Campata 4 tra i fili 4 - 4, sezione R 50x45, aste 472, 471, 470, 469, 468, 467, 466, 465, 464

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2128	SLV FO 4	0.153	8540	7401	SLV FO 4	22140	Si
1.75	0.41	0.0002	2144	SLV FO 8	0.086	2722	7457	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1775	SLD 4	0.126	9932	6174	SLD 4	25461	Si
1.75	0.41	0.0002	1704	SLD 4	0.071	3150	5927	SLD 4	15877	Si
3.28	0.41	0.0002	2404	SLD 8	0.071	3150	8360	SLD 8	15877	Si
3.5	0.41	0.0002	2564	SLD 8	0.071	3150	8919	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000565	1418	SLE RA 20	38992	1494000	483502	36000000	1289	SLE QP 2	35462	1120500	Si
1.75	0.41	0.00000175	1270	SLE RA 20	36741	1494000	455592	36000000	1154	SLE QP 2	33389	1120500	Si
3.28	0.41	0.00000175	1557	SLE RA 20	45062	1494000	558763	36000000	1416	SLE QP 2	40969	1120500	Si
3.5	0.41	0.00000175	1639	SLE RA 20	47420	1494000	588014	36000000	1490	SLE QP 2	43120	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
474,473,472,471,470,469,468,467,466,465,464	4.96	1.1	SLU 83	ST	BT	2.3	197503	73206	2.7	Si
474,473,472,471,470,469,468,467,466,465,464	4.96	1.1	SLV FO 4	SIS	BT	2.3	173173	80816	2.14	Si
474,473,472,471,470,469,468,467,466,465,464	4.96	1.1	SLD 4	SIS	BT	2.3	182802	67644	2.7	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-1008	-73206	-5939.19	-1259.45	0	-1	-0.02	-0.08	0.94	4.93	1496	2060	0	14430	
0	3991	-80816	-9419.93	8713.39	0	3	0.11	-0.12	0.87	4.74	1496	2060	0	14430	0.07
0	2028	-67644	-7109.1	4325.79	0	2	0.06	-0.11	0.89	4.83	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

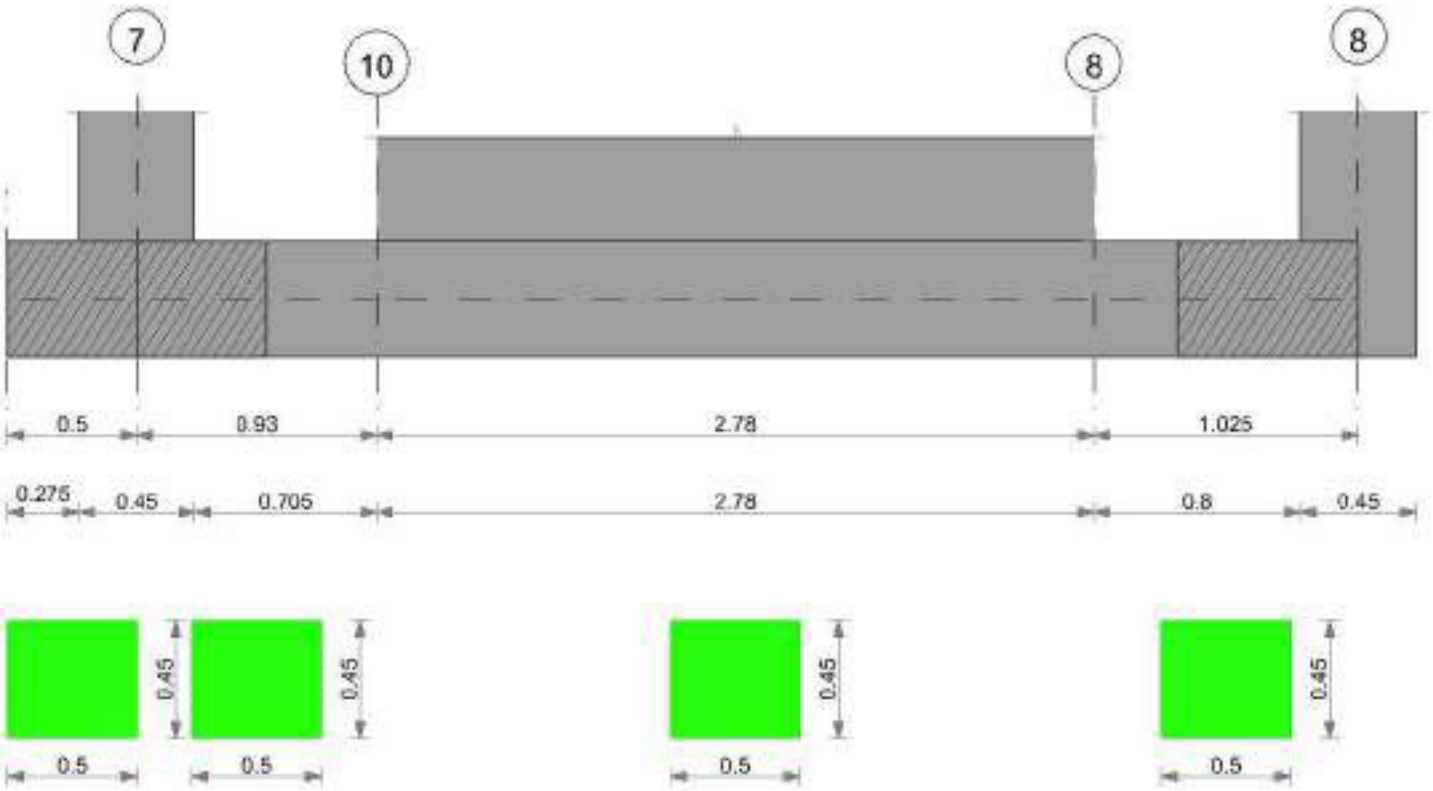
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	650	SLE RA 21	0.05	0	650	994	SLE RA 21	0.05	0	799	SLE FR 6	0.0033	0	SLE RA 10	Si
D	0.05	0	650	SLE RA 1	0.05	0	650	650	SLE RA 1	0.05	0	783	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	650	SLE RA 1	0.05	0	650	650	SLE RA 1	0.05	0	783	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0.01	783	799	SLE RA 21	0.19	0	783	SLE RA 21	0.1	0.01	799	SLE RA 10	Si
D	0.19	0	SLE RA 1	0.19	0	650	783	SLE RA 1	0.19	0	650	SLE RA 1	0.1	0	783	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	650	783	SLE RA 1	0.19	0	650	SLE RA 1	0.1	0	783	SLE RA 1	Si

CORDOLO 23

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

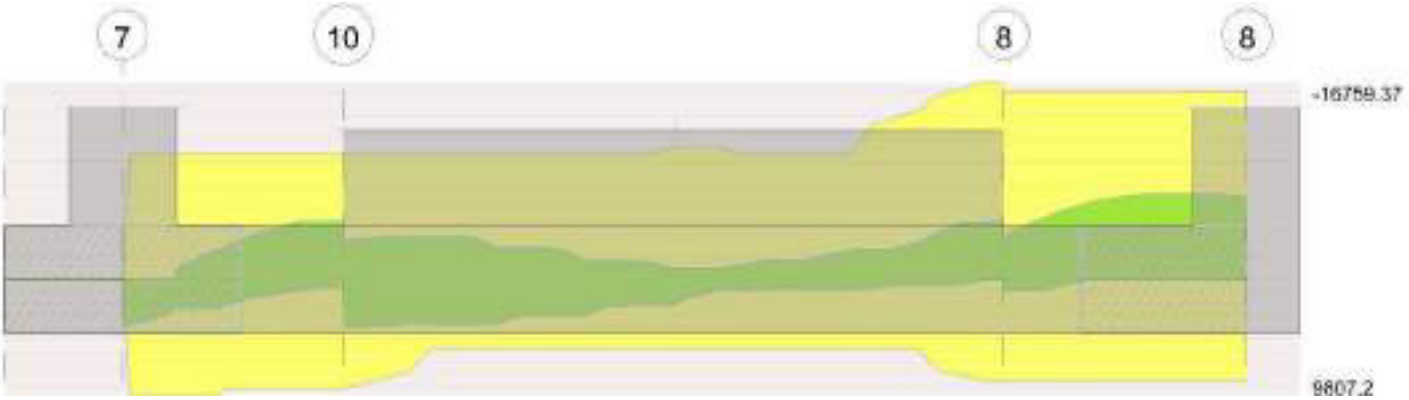


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 2 tra i fili 7 - 10, sezione R 50x45, asta 463

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000763	0.052	0.000657	0.051	2404.79	SLU 84	2404.79	9807.2	0.125	4.08							Si
0.47	0.000763	0.052	0.000657	0.051	-130.92	SLU 2	1671.76	9807.2	0.125	5.87	-255.36	SLU 77	-1747.87	-11252.05	0.131	6.44	Si
0.93	0.000763	0.052	0.000657	0.051							-3296.42	SLU 83	-3296.42	-11252.05	0.131	3.41	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000763	0.052	0.000657	0.051	2205.64	SLV FO 10	2205.64	9282.36	0.217	4.21	973.27	SLV FO 7	-930.22	-10721.8	0.235	11.53	Si
0.47	0.000763	0.052	0.000657	0.051	1177.45	SLV FO 9	1891.93	9282.36	0.217	4.91	-1520.27	SLV FO 8	-3077.6	-10721.8	0.235	3.48	Si
0.93	0.000763	0.052	0.000657	0.051	549.12	SLV FO 9	599.44	9282.36	0.217	15.48	-4939.44	SLV FO 8	-4939.44	-10721.8	0.235	2.17	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000763	0.052	0.000657	0.051	1918.01	SLD 10	1918.01	9282.36	0.217	4.84	1260.9	SLD 7	-393.76	-10721.8	0.235	27.23	Si
0.47	0.000763	0.052	0.000657	0.051	551.81	SLD 9	1523.56	9282.36	0.217	6.09	-894.63	SLD 8	-2191.58	-10721.8	0.235	4.89	Si
0.93	0.000763	0.052	0.000657	0.051							-3663.44	SLD 8	-3663.44	-10721.8	0.235	2.93	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000173	0.000657	0	-15447	SLU 83	-15447	-8716	-71432	-27410	-27410	1	1.77	Si
0.03	0.0000173	0.000657	0	-15049	SLU 83	-15049	-8240	-63275	-24280	-24280	1	1.61	Si
0.23	0.0000173	0.000657	0	-12563	SLU 83	-12563	-8240	-63275	-24280	-24280	1	1.93	Si
0.47	0.0000173	0.000763	0	-9502	SLU 83	-9502	-8659	-63178	-24242	-24242	1	2.55	Si
0.93	0.0000173	0.000763	0	-3621	SLU 83	-3621	-8659	-63178	-24242	-24242	1	6.69	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000173	0.000657	0	-13779	SLV FO 8	-13779	-8716	-71432	-27410	-27410	1	1.99	Si
0.03	0.0000173	0.000657	0	-13504	SLV FO 8	-13504	-8240	-63275	-24280	-24280	1	1.8	Si
0.23	0.0000173	0.000657	0	-11763	SLV FO 8	-11763	-8240	-63275	-24280	-24280	1	2.06	Si
0.47	0.0000173	0.000763	0	-9576	SLV FO 8	-9576	-8659	-63178	-24242	-24242	1	2.53	Si
0.93	0.0000173	0.000657	0	567	SLV FO 5	567	8240	63275	24280	24280	1	42.83	Si
0.93	0.0000173	0.000763	0	-5359	SLV FO 12	-5359	-8659	-63178	-24242	-24242	1	4.52	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000173	0.000657	0	-12165	SLD 8	-12165	-8716	-71432	-27410	-27410	1	2.25	Si
0.03	0.0000173	0.000657	0	-11893	SLD 8	-11893	-8240	-63275	-24280	-24280	1	2.04	Si
0.23	0.0000173	0.000657	0	-10186	SLD 8	-10186	-8240	-63275	-24280	-24280	1	2.38	Si
0.47	0.0000173	0.000763	0	-8060	SLD 8	-8060	-8659	-63178	-24242	-24242	1	3.01	Si
0.93	0.0000173	0.000763	0	-3979	SLD 12	-3979	-8659	-63178	-24242	-24242	1	6.09	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4058.13	20	2788.71	165257	1494000	0	36000000	3684.66	2	2529.38	149889	1120500			Si
0.23	1758.14	21	1758.14	88736	1494000	1344129	36000000	1589.45	2	1589.45	80222	1120500			Si
0.47	-185.08	14	-1275.85	65027	1494000	965907	36000000	-171.41	2	-1168.17	59539	1120500			Si
0.93	-2406.1	20	-2406.1	122634	1494000	1821592	36000000	-2195.16	2	-2195.16	111882	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili 8 - 8, sezione R 50x45, asta 455

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051							-937.84	SLU 83	-2774.47	-16759.37	0.162	6.04	Si
0.51	0.001166	0.052	0.000603	0.051							-5116.18	SLU 83	-5794.45	-16759.37	0.162	2.89	Si
0.8	0.001166	0.052	0.000603	0.051							-6003.4	SLU 83	-6003.4	-16759.37	0.162	2.79	Si
0.89	0.001166	0.052	0.000603	0.051							-6063.96	SLU 83	-6063.96	-16759.37	0.162	2.76	Si
1.02	0.001166	0.052	0.000603	0.051							-5952.44	SLU 83	-5952.44	-16759.37	0.162	2.82	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051	876.6	SLV FO 14	876.6	8572.71	0.203	9.78	-2201.67	SLV FO 3	-3621.73	-16008.95	0.288	4.42	Si
0.51	0.001166	0.052	0.000603	0.051							-6357.48	SLV FO 8	-7083.39	-16008.95	0.288	2.26	Si
0.8	0.001166	0.052	0.000603	0.051							-7256.02	SLV FO 8	-7256.02	-16008.95	0.288	2.21	Si
0.85	0.001166	0.052	0.000603	0.051							-7269.97	SLV FO 8	-7269.97	-16008.95	0.288	2.2	Si
1.02	0.001166	0.052	0.000603	0.051							-7008.04	SLV FO 12	-7008.04	-16008.95	0.288	2.28	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051	227.34	SLD 14	227.34	8572.71	0.203	37.71	-1552.41	SLD 3	-2857.29	-16008.95	0.288	5.6	Si
0.51	0.001166	0.052	0.000603	0.051							-4998.15	SLD 8	-5587.26	-16008.95	0.288	2.87	Si
0.8	0.001166	0.052	0.000603	0.051							-5738.35	SLD 8	-5738.35	-16008.95	0.288	2.79	Si
0.85	0.001166	0.052	0.000603	0.051							-5758.16	SLD 8	-5758.16	-16008.95	0.288	2.78	Si
1.02	0.001166	0.052	0.000603	0.051							-5577.83	SLD 12	-5577.83	-16008.95	0.288	2.87	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001166	0	-11351	SLU 83	-11351	-9974	-63232	-14667	-14667	1	1.29	Si
0.51	0.0000105	0.001166	0	-4930	SLU 83	-4930	-9974	-63232	-14667	-14667	1	2.98	Si
0.8	0.0000105	0.001166	0	-1240	SLU 83	-1240	-9974	-63232	-14667	-14667	1	11.83	Si
1.02	0.0000105	0.001166	0	1719	SLU 83	1719	9974	63232	14667	14667	1	8.53	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001166	0	-13999	SLV FO 12	-13999	-9974	-63232	-14667	-14667	1	1.05	Si
0.51	0.0000105	0.001166	0	-6402	SLV FO 12	-6402	-9974	-63232	-14667	-14667	1	2.29	Si
0.8	0.0000105	0.001166	0	1395	SLV FO 1	1395	9974	63232	14667	14667	1	10.51	Si
0.8	0.0000105	0.001166	0	-2929	SLV FO 16	-2929	-9974	-63232	-14667	-14667	1	5.01	Si
1.02	0.0000105	0.001166	0	4306	SLV FO 3	4306	9974	63232	14667	14667	1	3.41	Si
1.02	0.0000105	0.001166	0	-1893	SLV FO 14	-1893	-9974	-63232	-14667	-14667	1	7.75	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001166	0	-10971	SLD 12	-10971	-9974	-63232	-14667	-14667	1	1.34	Si
0.51	0.0000105	0.001166	0	-4940	SLD 12	-4940	-9974	-63232	-14667	-14667	1	2.97	Si
0.8	0.0000105	0.001166	0	488	SLD 1	488	9974	63232	14667	14667	1	30.04	Si
0.8	0.0000105	0.001166	0	-2022	SLD 16	-2022	-9974	-63232	-14667	-14667	1	7.26	Si
1.02	0.0000105	0.001166	0	2987	SLD 3	2987	9974	63232	14667	14667	1	4.91	Si
1.02	0.0000105	0.001166	0	-574	SLD 14	-574	-9974	-63232	-14667	-14667	1	25.54	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-699.97	20	-2038	102524	1494000	1460695	36000000	-662.54	2	-1875.72	94360	1120500			Si
0.51	-3741.55	20	-4233.02	212947	1494000	3033937	36000000	-3416.5	2	-3857.85	194073	1120500			Si
0.8	-4383.18	20	-4383.18	220500	1494000	3141559	36000000	-3990.66	2	-3990.66	200754	1120500			Si
1.02	-4340.6	20	-4340.6	218358	1494000	3111037	36000000	-3943.1	2	-3943.1	198362	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 7 - 10, sezione R 50x45, asta 463

Campata 3 tra i fili 10 - 8, sezione R 50x45, aste 462, 461, 460, 459, 458, 457, 456

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	2251	SLU 83	0.073	13502	6926	SLU 83	30740	Si
1.39	0.41	0.0002	2229	SLV FO 8	0.096	3356	6859	SLV FO 8	15877	Si
2.78	0.41	0.0005	2819	SLV FO 8	0.147	7913	8673	SLV FO 8	18582	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	1708	SLD 3	0.155	15002	5255	SLD 3	35351	Si
1.39	0.41	0.0002	1876	SLD 8	0.079	3886	5772	SLD 8	15877	Si
2.78	0.41	0.0005	2189	SLD 8	0.121	9199	6735	SLD 8	21369	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000865	1640	SLE RA 20	43464	1494000	538950	36000000	1483	SLE QP 2	39283	1120500	Si
1.39	0.41	0.00000217	1617	SLE RA 20	46543	1494000	577131	36000000	1462	SLE QP 2	42061	1120500	Si
2.78	0.41	0.00000523	1612	SLE RA 20	44569	1494000	552650	36000000	1457	SLE QP 2	40302	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 8 - 8, sezione R 50x45, asta 455

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
463,462,461,460,459,458,457,456,455	4.96	1.1	SLU 83	ST	BT	2.3	231988	68289	3.4	Si
463,462,461,460,459,458,457,456,455	4.96	1.1	SLV FO 8	SIS	BT	2.3	205033	67018	3.06	Si
463,462,461,460,459,458,457,456,455	4.96	1.1	SLD 8	SIS	BT	2.3	215679	57526	3.75	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-903	-68289	400.68	-42.78	0	-1	0	0.01	1.09	4.96	1496	2060	0	14430	
0	52	-67018	231.44	21134.38	0	0	0.32	0	1.09	4.33	1496	2060	0	14430	0.07
0	-195	-57526	219.03	11262.01	0	0	0.2	0	1.09	4.57	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

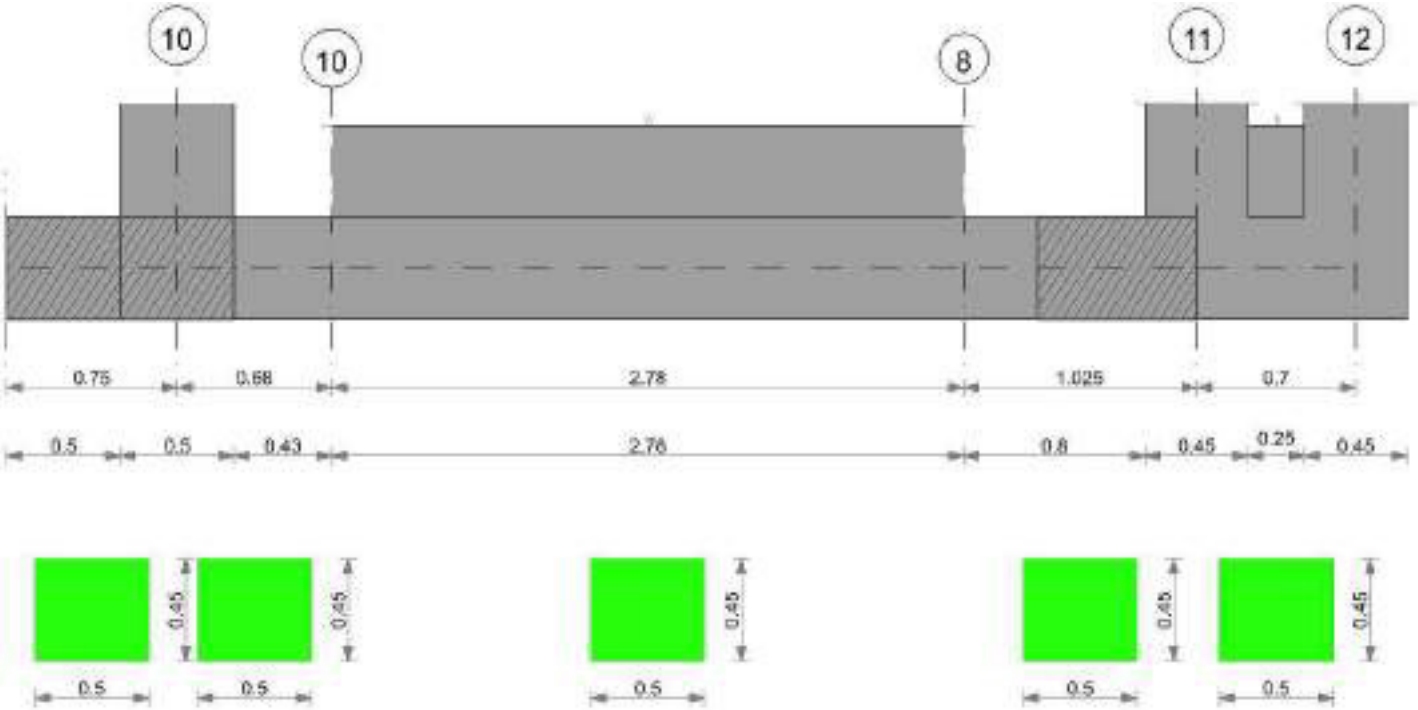
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	786	SLE RA 20	0.05	0.001	786	1006	SLE RA 21	0.05	0	786	SLE RA 20	0.0033	0	SLE RA 7	Si
D	0.05	0	662	SLE RA 1	0.05	0	662	662	SLE RA 1	0.05	0	786	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	662	SLE RA 1	0.05	0	662	662	SLE RA 1	0.05	0	786	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	786	934	SLE RA 21	0.19	0.02	786	SLE RA 20	0.1	0	934	SLE RA 7	Si
D	0.19	0	SLE RA 1	0.19	0	662	786	SLE RA 1	0.19	0	662	SLE RA 1	0.1	0	786	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	662	786	SLE RA 1	0.19	0	662	SLE RA 1	0.1	0	786	SLE RA 1	Si

CORDOLO 24

Geometria



Caratteristiche dei materiali

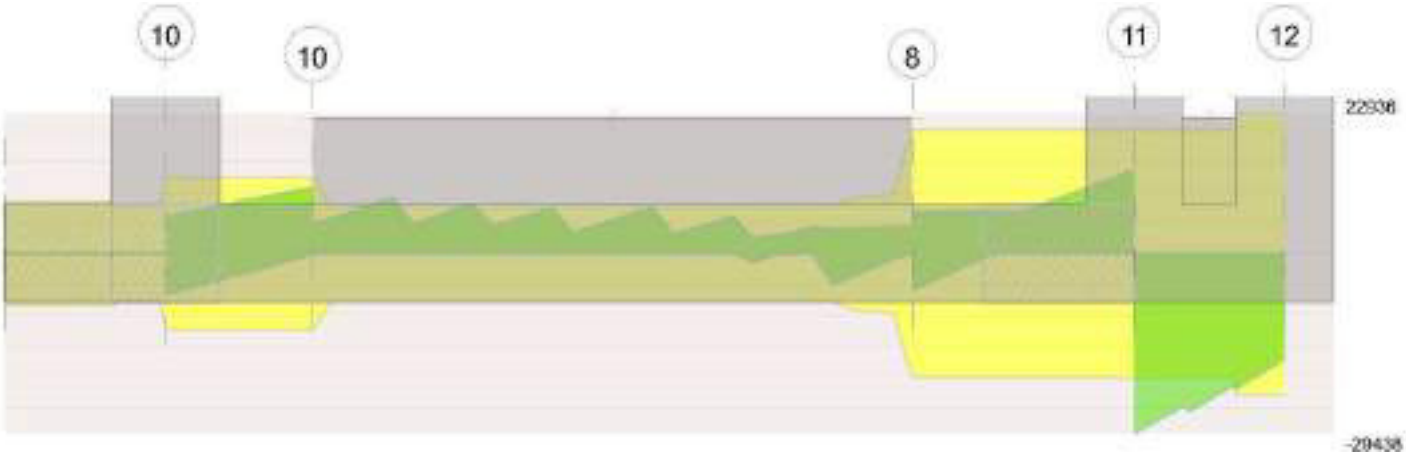
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 262

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	350.57	SLU 83	276.46	7755.45	0.113	28.05							Si
0.25	0.000509	0.052	0.000509	0.052	601.78	SLU 84	1271.54	7755.45	0.113	6.1							Si
0.34	0.000509	0.052	0.000509	0.052	886.83	SLU 84	1759.5	7755.45	0.113	4.41							Si
0.66	0.000509	0.052	0.000509	0.052	2703.07	SLU 84	2881.15	7755.45	0.113	2.69							Si
0.68	0.000509	0.052	0.000509	0.052	2881.15	SLU 84	2881.15	7755.45	0.113	2.69							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	1674.3	SLV FO 4	1403.91	7266.79	0.197	5.18	-1286.22	SLV FO 13	-1101.53	-7266.79	0.197	6.6	Si
0.25	0.000509	0.052	0.000509	0.052	1880.14	SLV FO 5	3191.21	7266.79	0.197	2.28	-1141.61	SLV FO 12	-1556.62	-7266.79	0.197	4.67	Si
0.34	0.000509	0.052	0.000509	0.052	2501.95	SLV FO 5	3954.93	7266.79	0.197	1.84	-1381.81	SLV FO 12	-1668.21	-7266.79	0.197	4.36	Si
0.66	0.000509	0.052	0.000509	0.052	5269.86	SLV FO 5	5503.8	7266.79	0.197	1.32	-1722.73	SLV FO 12	-1722.98	-7266.79	0.197	4.22	Si
0.68	0.000509	0.052	0.000509	0.052	5503.8	SLV FO 5	5503.8	7266.79	0.197	1.32	-1718.85	SLV FO 12	-1722.98	-7266.79	0.197	4.22	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	1051.99	SLD 4	871.16	7266.79	0.197	8.34	-663.91	SLD 13	-568.77	-7266.79	0.197	12.78	Si
0.25	0.000509	0.052	0.000509	0.052	1185.78	SLD 5	2089.41	7266.79	0.197	3.48	-447.25	SLD 12	-483.86	-7266.79	0.197	15.02	Si
0.34	0.000509	0.052	0.000509	0.052	1604	SLD 5	2646.87	7266.79	0.197	2.75	-483.86	SLD 12	-483.86	-7266.79	0.197	15.02	Si
0.66	0.000509	0.052	0.000509	0.052	3640.19	SLD 5	3820.33	7266.79	0.197	1.9	-93.05	SLD 12	-412.14	-7266.79	0.197	17.63	Si
0.68	0.000509	0.052	0.000509	0.052	3820.33	SLD 5	3820.33	7266.79	0.197	1.9	-35.37	SLD 12	-385.65	-7266.79	0.197	18.84	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000089	0.000509	0	-617	SLU 83	-617	-7764	-63178	-12433	-12433	1	20.16	Si
0.25	0.0000089	0.000509	0	2604	SLU 84	2604	7764	63178	12433	12433	1	4.77	Si
0.34	0.0000089	0.000509	0	3733	SLU 84	3733	7764	63178	12433	12433	1	3.33	Si
0.68	0.0000089	0.000509	0	7999	SLU 84	7999	7764	63178	12433	12433	1	1.55	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000089	0.000509	0	6006	SLV FO 9	6006	7764	63178	12433	12433	1	2.07	Si
0	0.0000089	0.000509	0	-6691	SLV FO 8	-6691	-7764	-63178	-12433	-12433	1	1.86	Si
0.25	0.0000089	0.000509	0	7834	SLV FO 9	7834	7764	63178	12433	12433	1	1.59	Si
0.25	0.0000089	0.000509	0	-4345	SLV FO 8	-4345	-7764	-63178	-12433	-12433	1	2.86	Si
0.34	0.0000089	0.000509	0	8477	SLV FO 9	8477	7764	63178	12433	12433	1	1.47	Si
0.34	0.0000089	0.000509	0	-3483	SLV FO 8	-3483	-7764	-63178	-12433	-12433	1	3.57	Si
0.68	0.0000089	0.000509	0	10831	SLV FO 9	10831	7764	63178	12433	12433	1	1.15	Si
0.68	0.0000089	0.000509	0	-149	SLV FO 8	-149	-7764	-63178	-12433	-12433	1	83.23	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000089	0.000509	0	3082	SLD 9	3082	7764	63178	12433	12433	1	4.03	Si
0	0.0000089	0.000509	0	-3767	SLD 8	-3767	-7764	-63178	-12433	-12433	1	3.3	Si
0.25	0.0000089	0.000509	0	5024	SLD 9	5024	7764	63178	12433	12433	1	2.47	Si
0.25	0.0000089	0.000509	0	-1535	SLD 8	-1535	-7764	-63178	-12433	-12433	1	8.1	Si
0.34	0.0000089	0.000509	0	5716	SLD 9	5716	7764	63178	12433	12433	1	2.18	Si
0.34	0.0000089	0.000509	0	-722	SLD 8	-722	-7764	-63178	-12433	-12433	1	17.22	Si
0.68	0.0000089	0.000509	0	8289	SLD 9	8289	7764	63178	12433	12433	1	1.5	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	244.17	20	192.23	10168	1494000	152516	36000000	194.04	2	151.19	7997	1120500			Si
0.25	431.99	21	924.47	48899	1494000	733479	36000000	369.27	2	817.3	43230	1120500			Si
0.34	641.78	21	1282.7	67846	1494000	1017694	36000000	560.07	2	1143.36	60476	1120500			Si
0.68	2105.48	21	2105.48	111366	1494000	1670489	36000000	1892.48	2	1892.48	100100	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili 8 - 11, sezione R 50x45, asta 254

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001451	0.053	0.000509	0.052							-6327.1	SLU 83	-6327.1	-20525.72	0.198	3.24	Si
0.51	0.001451	0.053	0.000509	0.052							-4456.77	SLU 83	-5489.3	-20525.72	0.198	3.74	Si
0.8	0.001451	0.053	0.000509	0.052							-1930.62	SLU 83	-3634.48	-20525.72	0.198	5.65	Si
1.02	0.001451	0.053	0.000509	0.052	846.08	SLU 76	730.37	7792.26	0.123	10.67							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001451	0.053	0.000509	0.052							-5136.1	SLV FO 3	-5834.75	-19592.87	0.324	3.36	Si
0.51	0.001451	0.053	0.000509	0.052	-30.03	SLV FO 9	1208.48	7250.15	0.186	6	-5923.72	SLV FO 8	-6097.37	-19592.87	0.324	3.21	Si
0.8	0.001451	0.053	0.000509	0.052	1950.08	SLV FO 9	1950.08	7250.15	0.186	3.72	-4503.17	SLV FO 8	-5560	-19592.87	0.324	3.52	Si
1.02	0.001451	0.053	0.000509	0.052	3478.15	SLV FO 9	2689.4	7250.15	0.186	2.7	-2356.3	SLV FO 8	-2356.3	-19592.87	0.324	8.32	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001451	0.053	0.000509	0.052							-4756.83	SLD 3	-5016.25	-19592.87	0.324	3.91	Si
0.07	0.001451	0.053	0.000509	0.052							-4870.48	SLD 7	-5035.08	-19592.87	0.324	3.89	Si
0.51	0.001451	0.053	0.000509	0.052							-4563.11	SLD 8	-4973.8	-19592.87	0.324	3.94	Si
0.8	0.001451	0.053	0.000509	0.052	459.62	SLD 9	459.62	7250.15	0.186	15.77	-3012.71	SLD 8	-4111.02	-19592.87	0.324	4.77	Si
1.02	0.001451	0.053	0.000509	0.052	2130.63	SLD 9	1230.31	7250.15	0.186	5.89	-1008.79	SLD 8	-1008.79	-19592.87	0.324	19.42	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0.001451	0	617	SLU 44	617	10718	63074	20252	20252	1	32.83	Si
0.51	0.0000145	0.001451	0	6945	SLU 84	6945	10718	63074	20252	20252	1	2.92	Si
0.8	0.0000145	0.001451	0	10672	SLU 84	10672	10718	63074	20252	20252	1	1.9	Si
1.02	0.0000145	0.000509	0	13691	SLU 83	13691	7764	63178	20285	20285	1	1.48	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0.001451	0	6704	SLV FO 9	6704	10718	63074	20252	20252	1	3.02	Si
0	0.0000145	0.001451	0	-6011	SLV FO 8	-6011	-10718	-63074	-20252	-20252	1	3.37	Si
0.51	0.0000145	0.001451	0	6982	SLV FO 9	6982	10718	63074	20252	20252	1	2.9	Si
0.8	0.0000145	0.001451	0	7892	SLV FO 7	7892	10718	63074	20252	20252	1	2.57	Si
1.02	0.0000145	0.001451	0	11839	SLV FO 7	11839	10718	63074	20252	20252	1	1.71	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0.001451	0	3759	SLD 9	3759	10718	63074	20252	20252	1	5.39	Si
0	0.0000145	0.001451	0	-3066	SLD 8	-3066	-10718	-63074	-20252	-20252	1	6.6	Si
0.51	0.0000145	0.001451	0	5906	SLD 9	5906	10718	63074	20252	20252	1	3.43	Si
0.8	0.0000145	0.001451	0	7567	SLD 3	7567	10718	63074	20252	20252	1	2.68	Si
1.02	0.0000145	0.001451	0	10609	SLD 7	10609	10718	63074	20252	20252	1	1.91	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-4639.17	20	-4639.17	234070	1494000	3224914	36000000	-4254.49	2	-4254.49	214661	1120500			Si
0.51	-3259.52	20	-4018.53	202756	1494000	2793481	36000000	-2976.87	2	-3675.68	185458	1120500			Si
0.8	-1406.39	20	-2655.94	134006	1494000	1846276	36000000	-1276.54	2	-2422.52	122229	1120500			Si
1.02	625.75	13	526.52	24401	1494000	398489	36000000	560.92	2	470.13	21787	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 262

Campata 3 tra i fili 10 - 8, sezione R 50x45, aste 261, 260, 259, 258, 257, 256, 255

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2243	SLU 83	0.037	7026	6902	SLU 83	15877	Si
1.39	0.41	0.0002	2291	SLV FO 8	0.088	2806	7050	SLV FO 8	15877	Si
2.78	0.41	0.0007	2888	SLV FO 8	0.172	10838	8885	SLV FO 8	25722	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1709	SLD 4	0.112	7836	5259	SLD 4	18130	Si
1.39	0.41	0.0002	1910	SLD 8	0.072	3248	5876	SLD 8	15877	Si
2.78	0.41	0.0007	2230	SLD 8	0.142	12622	6861	SLD 8	29580	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000444	1634	SLE RA 20	45652	1494000	566090	36000000	1476	SLE QP 2	41240	1120500	Si
1.39	0.41	0.00000181	1620	SLE RA 20	46829	1494000	580678	36000000	1463	SLE QP 2	42301	1120500	Si
2.78	0.41	0.00000724	1622	SLE RA 20	43736	1494000	542324	36000000	1466	SLE QP 2	39532	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 8 - 11, sezione R 50x45, asta 254

Campata 5 tra i fili 11 - 12, sezione R 50x45, aste 253, 252, 251

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3530	SLV FO 8	0.172	10838	10862	SLV FO 8	25722	Si
0.23	0.41	0.0007	3693	SLV FO 8	0.172	10838	11362	SLV FO 8	25722	Si
0.35	0.41	0.0007	3783	SLV FO 8	0.172	10838	11641	SLV FO 8	25722	Si
0.48	0.41	0.0007	3877	SLV FO 8	0.172	10838	11928	SLV FO 8	25722	Si
0.7	0.41	0.0007	4059	SLV FO 8	0.172	10838	12488	SLV FO 8	25722	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2641	SLD 8	0.142	12622	8126	SLD 8	29580	Si
0.23	0.41	0.0007	2747	SLD 8	0.142	12622	8451	SLD 8	29580	Si
0.35	0.41	0.0007	2805	SLD 8	0.142	12622	8630	SLD 8	29580	Si
0.48	0.41	0.0007	2865	SLD 8	0.142	12622	8814	SLD 8	29580	Si
0.7	0.41	0.0007	2983	SLD 8	0.142	12622	9178	SLD 8	29580	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000724	1779	SLE RA 20	47969	1494000	594809	36000000	1611	SLE QP 2	43442	1120500	Si
0.23	0.41	0.00000724	1822	SLE RA 20	49123	1494000	609122	36000000	1651	SLE QP 2	44505	1120500	Si
0.35	0.41	0.00000724	1844	SLE RA 20	49729	1494000	616637	36000000	1671	SLE QP 2	45063	1120500	Si
0.48	0.41	0.00000724	1868	SLE RA 20	50357	1494000	624421	36000000	1693	SLE QP 2	45640	1120500	Si
0.7	0.41	0.00000724	1916	SLE RA 20	51665	1494000	640640	36000000	1737	SLE QP 2	46842	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
262,261,260,259,258,257,256,255,254,253,252,251	5.41	1.1	SLU 83	ST	BT	2.3	249371	75906	3.29	Si
262,261,260,259,258,257,256,255,254,253,252,251	5.41	1.1	SLV FO 8	SIS	BT	2.3	220415	81171	2.72	Si
262,261,260,259,258,257,256,255,254,253,252,251	5.41	1.1	SLD 8	SIS	BT	2.3	231161	67488	3.43	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-1003	-75906	343	3053.56	0	-1	0.04	0	1.09	5.33	1496	2060	0	14430	
0	-71	-81171	128.06	30848.26	0	0	0.38	0	1.1	4.65	1496	2060	0	14430	0.07
0	-283	-67488	141.59	17429.9	0	0	0.26	0	1.1	4.89	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

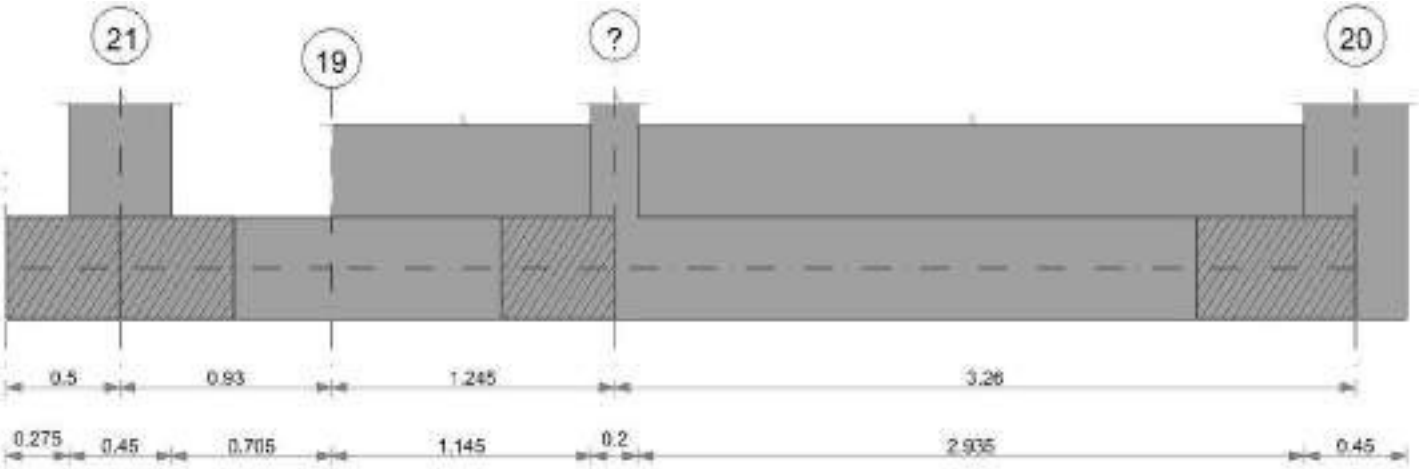
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	788	SLE RA 20	0.05	0.001	788	1079	SLE RA 21	0.05	0	788	SLE RA 16	0.0033	0	SLE RA 9	Si
D	0.05	0	736	SLE RA 1	0.05	0	736	736	SLE RA 1	0.05	0	788	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	736	SLE RA 1	0.05	0	736	736	SLE RA 1	0.05	0	788	SLE RA 1	0.0033	0	SLE RA 1	Si

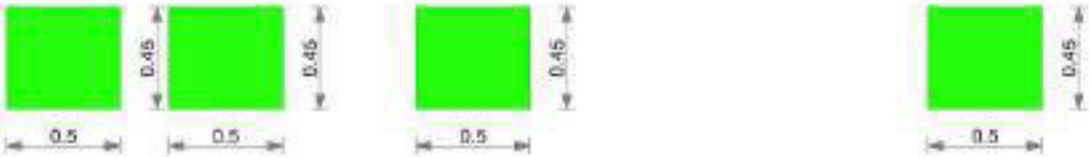
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	1009	1079	SLE RA 20	0.19	0.02	788	SLE RA 16	0.1	0.01	936	SLE RA 9	Si
D	0.19	0	SLE RA 1	0.19	0	736	788	SLE RA 1	0.19	0	736	SLE RA 1	0.1	0	788	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	736	788	SLE RA 1	0.19	0	736	SLE RA 1	0.1	0	788	SLE RA 1	Si

CORDOLO 25

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

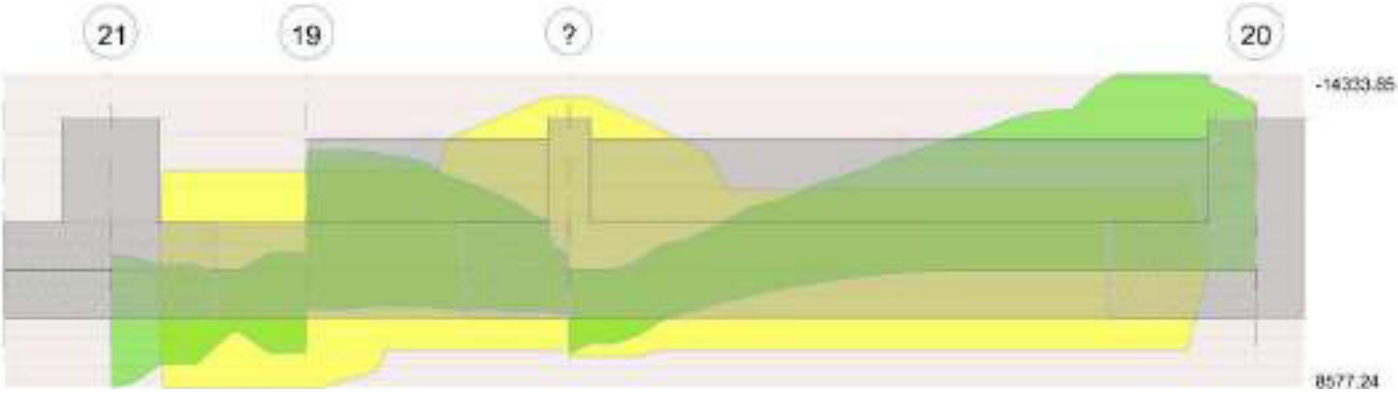
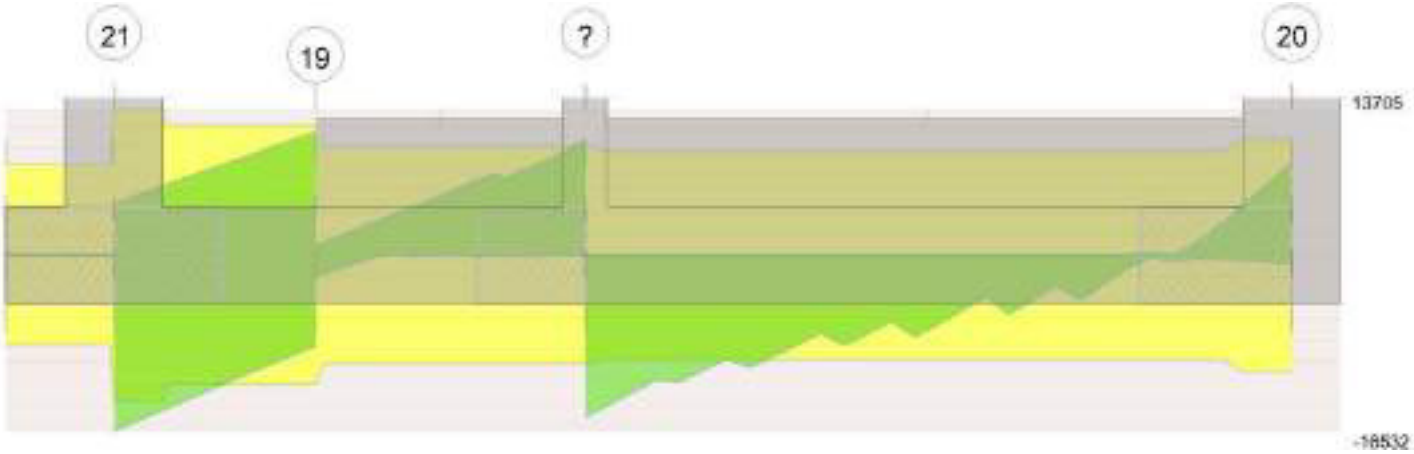


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 21 - 19, sezione R 50x45, asta 276

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	3854.15	SLU 83	4669.13	9076.41	0.12	1.94							Si
0.93	0.000509	0.052	0.000603	0.051	3575	SLU 84	3575	9076.41	0.12	2.54							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	3636.59	SLV FO 12	6011.55	8577.24	0.213	1.43							Si
0.93	0.000509	0.052	0.000603	0.051	6009.14	SLV FO 5	6009.14	8577.24	0.213	1.43	-1240.26	SLV FO 12	-1240.26	-7266.96	0.196	5.86	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	3120.93	SLD 12	4629.82	8577.24	0.213	1.85							Si
0.93	0.000509	0.052	0.000603	0.051	4323.86	SLD 5	4323.86	8577.24	0.213	1.98							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0	0	-9076	SLU 83	-9076	-8455	-71432	-13705	-13705	1	1.51	Si
0.23	0.0000086	0	0	-6345	SLU 83	-6345	-8455	-71432	-13705	-13705	1	2.16	Si
0.47	0.0000086	0	0	-3457	SLU 83	-3457	-7777	-63336	-12152	-12152	1	3.52	Si
0.93	0.0000086	0.000603	0	2249	SLU 73	2249	8014	63336	12152	12152	1	5.4	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0	0	4831	SLV FO 5	4831	8455	71432	13705	13705	1	2.84	Si
0	0.0000086	0	0	-16532	SLV FO 12	-16532	-8455	-71432	-13705	-13705	1	0.83	Si
0.23	0.0000086	0	0	6473	SLV FO 5	6473	8455	71432	13705	13705	1	2.12	Si
0.47	0.0000086	0	0	8216	SLV FO 5	8216	7777	63336	12152	12152	1	1.48	Si
0.93	0.0000086	0.000603	0	11554	SLV FO 5	11554	8014	63336	12152	12152	1	1.05	Si
0.93	0.0000086	0.000509	0	-8535	SLV FO 12	-8535	-7764	-63178	-12121	-12121	1	1.42	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0	0	-11573	SLD 12	-11573	-8455	-71432	-13705	-13705	1	1.18	Si
0.23	0.0000086	0	0	1593	SLD 5	1593	8455	71432	13705	13705	1	8.6	Si
0.23	0.0000086	0	0	-9667	SLD 12	-9667	-8455	-71432	-13705	-13705	1	1.42	Si
0.47	0.0000086	0	0	3417	SLD 5	3417	7777	63336	12152	12152	1	3.56	Si
0.47	0.0000086	0	0	-7656	SLD 12	-7656	-7777	-63336	-12152	-12152	1	1.59	Si
0.93	0.0000086	0.000603	0	6891	SLD 5	6891	8014	63336	12152	12152	1	1.76	Si
0.93	0.0000086	0.000603	0	-3872	SLD 12	-3872	-8014	-63336	-12152	-12152	1	3.14	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4915.58	20	4175.31	247426	1494000	0	36000000	4371.46	2	3714.21	220102	1120500			Si
0.23	3658.74	20	3658.74	216815	1494000	0	36000000	3260.03	2	3260.03	193187	1120500			Si
0.47	2809.89	20	3397.22	178631	1494000	2654591	36000000	2520.96	2	3030.55	159351	1120500			Si
0.93	2625.02	21	2625.02	138028	1494000	2051191	36000000	2384.44	2	2384.44	125378	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 21 - 19, sezione R 50x45, asta 276

Campata 3 tra i fili 19 - ?, sezione R 50x45, aste 275, 274, 273

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2040	SLU 83	0.036	6853	6277	SLU 83	15877	Si
0.62	0.41	0.0004	1941	SLU 83	0.031	5772	5973	SLU 83	15877	Si
1.15	0.41	0.0004	1903	SLU 83	0.031	5772	5855	SLU 83	15877	Si
1.25	0.41	0.0004	1896	SLU 83	0.031	5772	5835	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1407	SLD 7	0.111	7644	4330	SLD 7	17675	Si
0.62	0.41	0.0004	1377	SLD 7	0.101	6448	4238	SLD 7	15877	Si
1.15	0.41	0.0004	1415	SLD 7	0.101	6448	4354	SLD 7	15877	Si
1.25	0.41	0.0004	1425	SLD 7	0.101	6448	4384	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000432	1486	SLE RA 20	41566	1494000	515423	36000000	1339	SLE QP 2	37452	1120500	Si
0.62	0.41	0.00000363	1413	SLE RA 20	39898	1494000	494730	36000000	1275	SLE QP 2	35979	1120500	Si
1.15	0.41	0.00000363	1386	SLE RA 20	39110	1494000	484962	36000000	1250	SLE QP 2	35294	1120500	Si
1.25	0.41	0.00000363	1381	SLE RA 20	38976	1494000	483298	36000000	1246	SLE QP 2	35177	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili ? - 20, sezione R 50x45, aste 272, 271, 270, 269, 268, 267, 266, 265

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1896	SLU 83	0.031	5772	5835	SLU 83	15877	Si
0.1	0.41	0.0003	1890	SLU 83	0.029	5502	5814	SLU 83	15877	Si
1.63	0.41	0.0003	2007	SLV FO 8	0.12	5299	6174	SLV FO 8	15877	Si
3.03	0.41	0.0003	3179	SLV FO 8	0.12	5299	9781	SLV FO 8	15877	Si
3.26	0.41	0.0003	3484	SLV FO 8	0.12	5299	10720	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1425	SLD 7	0.101	6448	4384	SLD 7	15877	Si
0.1	0.41	0.0003	1434	SLD 7	0.099	6148	4413	SLD 7	15877	Si
1.63	0.41	0.0003	1602	SLD 8	0.099	6148	4928	SLD 8	15877	Si
3.03	0.41	0.0003	2363	SLD 8	0.099	6148	7272	SLD 8	15877	Si
3.26	0.41	0.0003	2578	SLD 8	0.099	6148	7931	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000363	1381	SLE RA 20	38976	1494000	483298	36000000	1246	SLE QP 2	35177	1120500	Si
0.1	0.41	0.00000346	1376	SLE RA 20	38919	1494000	482599	36000000	1242	SLE QP 2	35129	1120500	Si
1.63	0.41	0.00000346	1258	SLE RA 20	35587	1494000	441280	36000000	1136	SLE QP 2	32130	1120500	Si
3.03	0.41	0.00000346	1578	SLE RA 20	44634	1494000	553459	36000000	1428	SLE QP 2	40389	1120500	Si
3.26	0.41	0.00000346	1698	SLE RA 20	48050	1494000	595817	36000000	1538	SLE QP 2	43504	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
276,275,274,273,272,271,270,269,268,267,266,265	5.66	1.1	SLU 83	ST	BT	2.3	246967	69335	3.56	Si
276,275,274,273,272,271,270,269,268,267,266,265	5.66	1.1	SLV FO 12	SIS	BT	2.3	205076	63839	3.21	Si
276,275,274,273,272,271,270,269,268,267,266,265	5.66	1.1	SLD 12	SIS	BT	2.3	223473	56028	3.99	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-173	-69335	2374.73	-2618.12	0	0	-0.04	0.03	1.03	5.58	1496	2060	0	14430	
0	-2686	-63839	3954.45	23007.69	0	-2	0.36	0.06	0.98	4.94	1496	2060	0	14430	0.07
0	-1589	-56028	2889.95	11438.35	0	-2	0.2	0.05	1	5.25	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

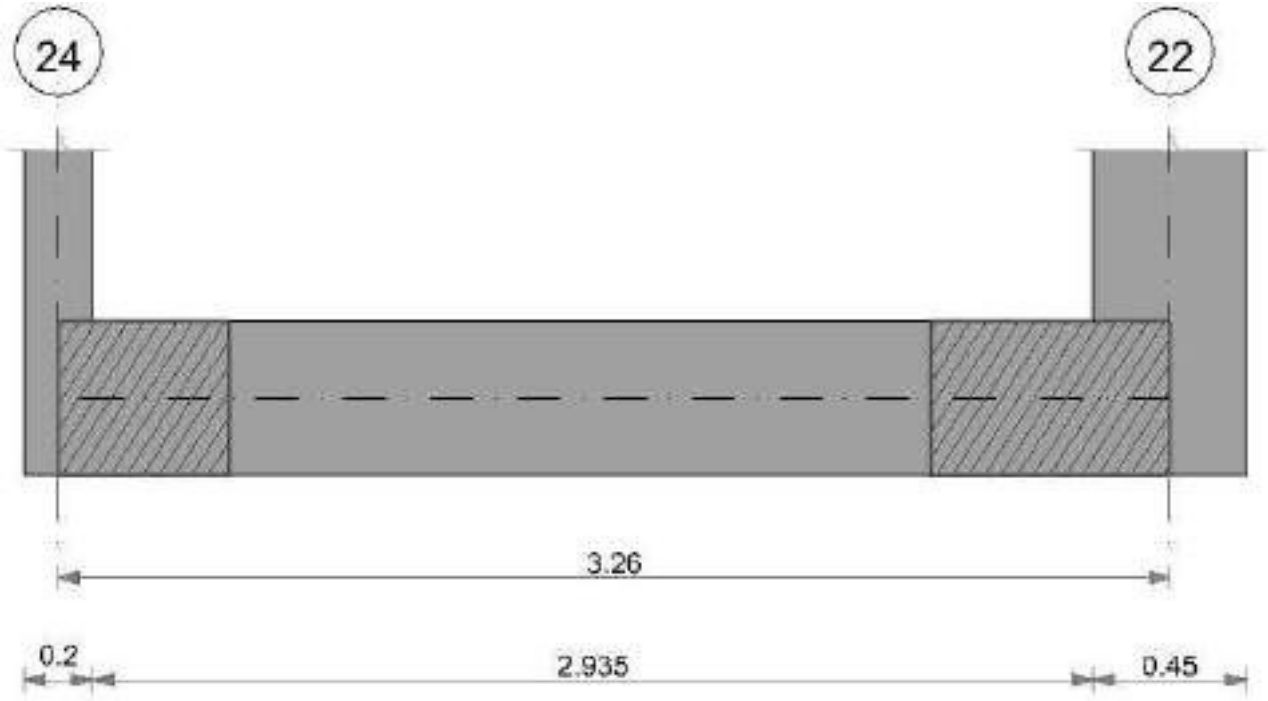
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	676	SLE RA 20	0.05	0.001	676	1092	SLE RA 21	0.05	0	789	SLE RA 20	0.0033	0	SLE FR 6	Si
D	0.05	0	676	SLE RA 1	0.05	0	676	676	SLE RA 1	0.05	0	789	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	676	SLE RA 1	0.05	0	676	676	SLE RA 1	0.05	0	789	SLE RA 1	0.0033	0	SLE RA 1	Si

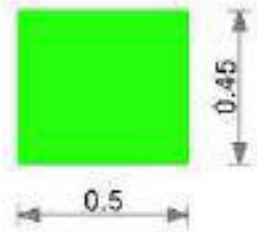
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	789	850	SLE RA 21	0.19	0.01	789	SLE RA 19	0.1	0	850	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	676	789	SLE RA 1	0.19	0	676	SLE RA 1	0.1	0	789	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	676	789	SLE RA 1	0.19	0	676	SLE RA 1	0.1	0	789	SLE RA 1	Si

CORDOLO 26

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

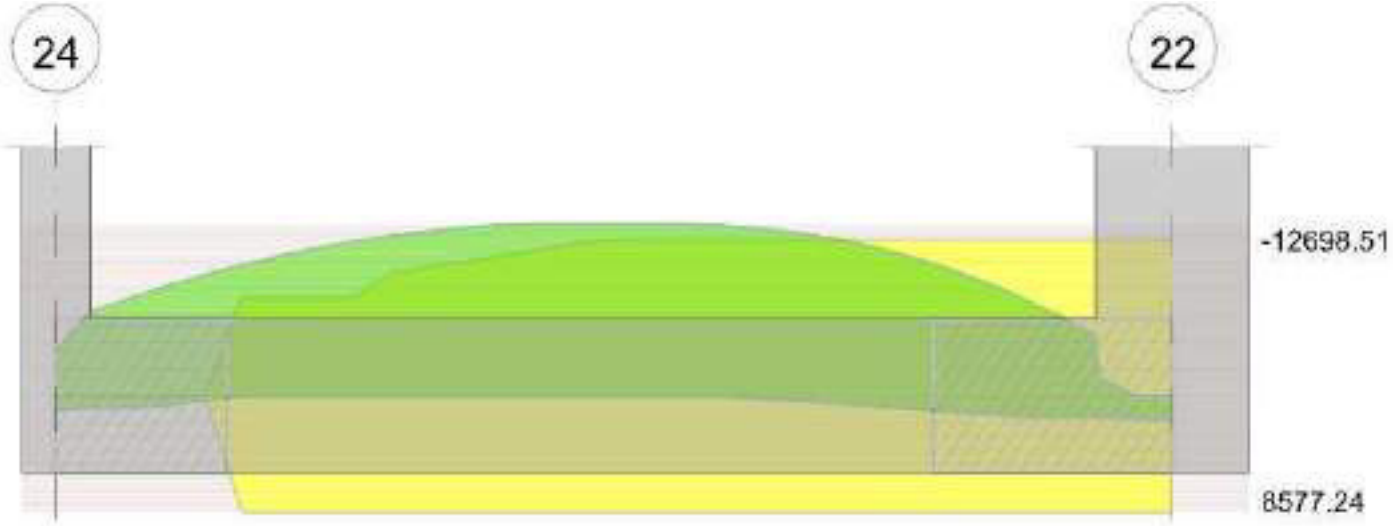
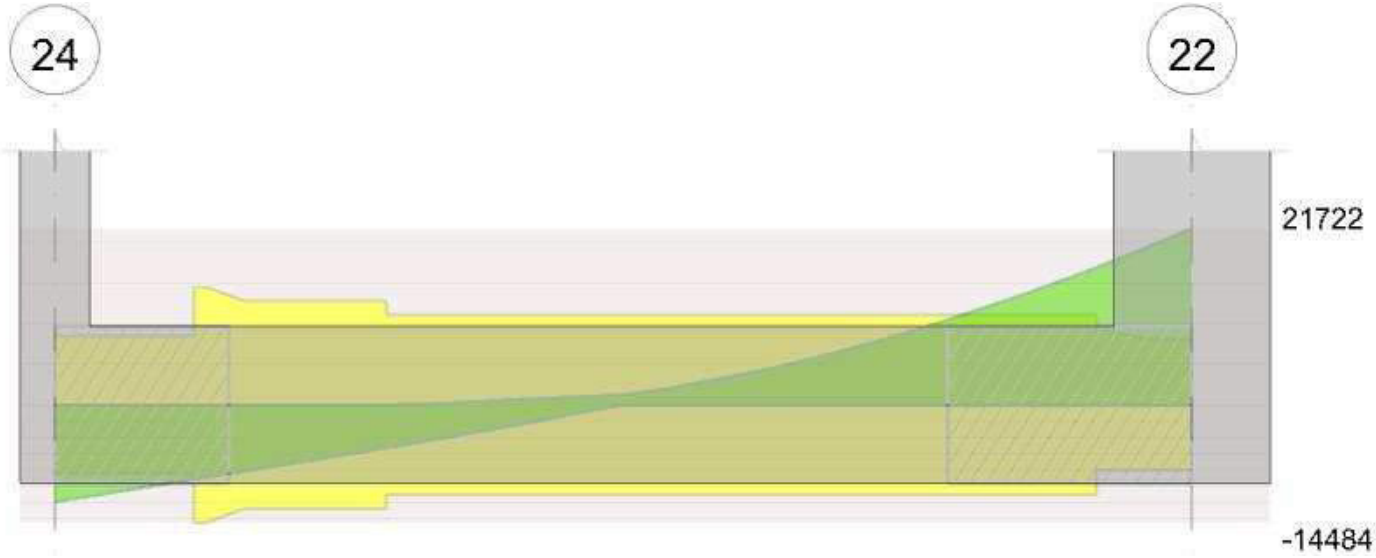


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 24 - 22, sezione R 50x45, aste 264, 263

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
1.63	0.000823	0.052	0.000603	0.051							-10088.13	SLU 83	-10147.13	-12057.57	0.134	1.19	Si
3.03	0.000823	0.052	0.000603	0.051	96.01	SLU 52	96.01	9088.27	0.123	94.66	16.11	SLU 27	-2346.63	-12057.57	0.134	5.14	Si
3.26	0.000823	0.052	0.000603	0.051	3610.26	SLU 83	1680.82	9088.27	0.123	5.41							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
3.03	0.000823	0.052	0.000603	0.051	1577.4	SLV FO 9	1577.4	8573.66	0.208	5.44	-1499.93	SLV FO 8	-4397.15	-11495.09	0.245	2.61	Si
3.26	0.000823	0.052	0.000603	0.051	3071.54	SLV FO 11	1750.89	8573.66	0.208	4.9							Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
1.63	0.000823	0.052	0.000603	0.051							-9906.54	SLD 8	-9906.54	-11495.09	0.245	1.16	Si
3.03	0.000823	0.052	0.000603	0.051	863.55	SLD 9	863.55	8573.66	0.208	9.93	-786.09	SLD 8	-3076.05	-11495.09	0.245	3.74	Si
3.26	0.000823	0.052	0.000603	0.051	2767.21	SLD 11	1461.5	8573.66	0.208	5.87							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-11812	SLU 83	-11812	-8455	-71432	0	-8455	1	0.72	Si
1.63	0.0000079	0.000706	0	978	SLU 84	978	8431	63117	11068	11068	1	11.32	Si
3.26	0	0.000603	0	17256	SLU 83	17256	8014	63336	0	8014	1	0.46	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-11958	SLV FO 7	-11958	-8455	-71432	0	-8455	1	0.71	Si
1.63	0.0000079	0.000706	0	1213	SLV FO 13	1213	8431	63117	11068	11068	1	9.13	Si
3.26	0	0.000603	0	21722	SLV FO 8	21722	8014	63336	0	8014	1	0.37	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-10065	SLD 7	-10065	-8455	-71432	0	-8455	1	0.84	Si
1.63	0.0000079	0.000706	0	971	SLD 13	971	8431	63117	11068	11068	1	11.4	Si
3.26	0	0.000603	0	16954	SLD 8	16954	8014	63336	0	8014	1	0.47	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1103.14	20	-1103.14	-65371	1494000	0	36000000	-993.16	2	-993.16	-58854	1120500			Si
0.1	-1933.07	20	-3260.24	-193199	1494000	0	36000000	-1749.72	2	-2959.76	-175393	1120500			Si
1.63	-7372.72	20	-7416.26	639402	1494000	25143127	36000000	-6713.85	2	-6753.03	582222	1120500			Si
3.03	61.82	10	61.82	3103	1494000	47494	36000000	38.73	2	38.73	1944	1120500			Si
3.26	2643.62	20	1232.93	61888	1494000	947154	36000000	2412.4	2	1122.27	56333	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
1.63	superiore	0.365	0.00073	0.000268	20	0.365	0.00072	0.000264	6	0.365	0.00069	0.000254	2	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
264,263	3.58	1.1	SLU 83	ST	BT	2.3	162369	35298	4.6	Si
264,263	3.58	1.1	SLV FO 12	SIS	BT	2.3	134238	37373	3.59	Si

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
264,263	3.58	1.1	SLD 12	SIS	BT	2.3	144150	31172	4.62	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-161	-35298	45.55	3608.87	0	0	0.1	0	1.1	3.38	1496	2060	0	14430	
0	-1957	-37373	864.64	12330.22	0	-3	0.33	0.02	1.05	2.93	1496	2060	0	14430	0.07
0	-1158	-31172	503.68	7687.07	0	-2	0.25	0.02	1.07	3.09	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.06	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

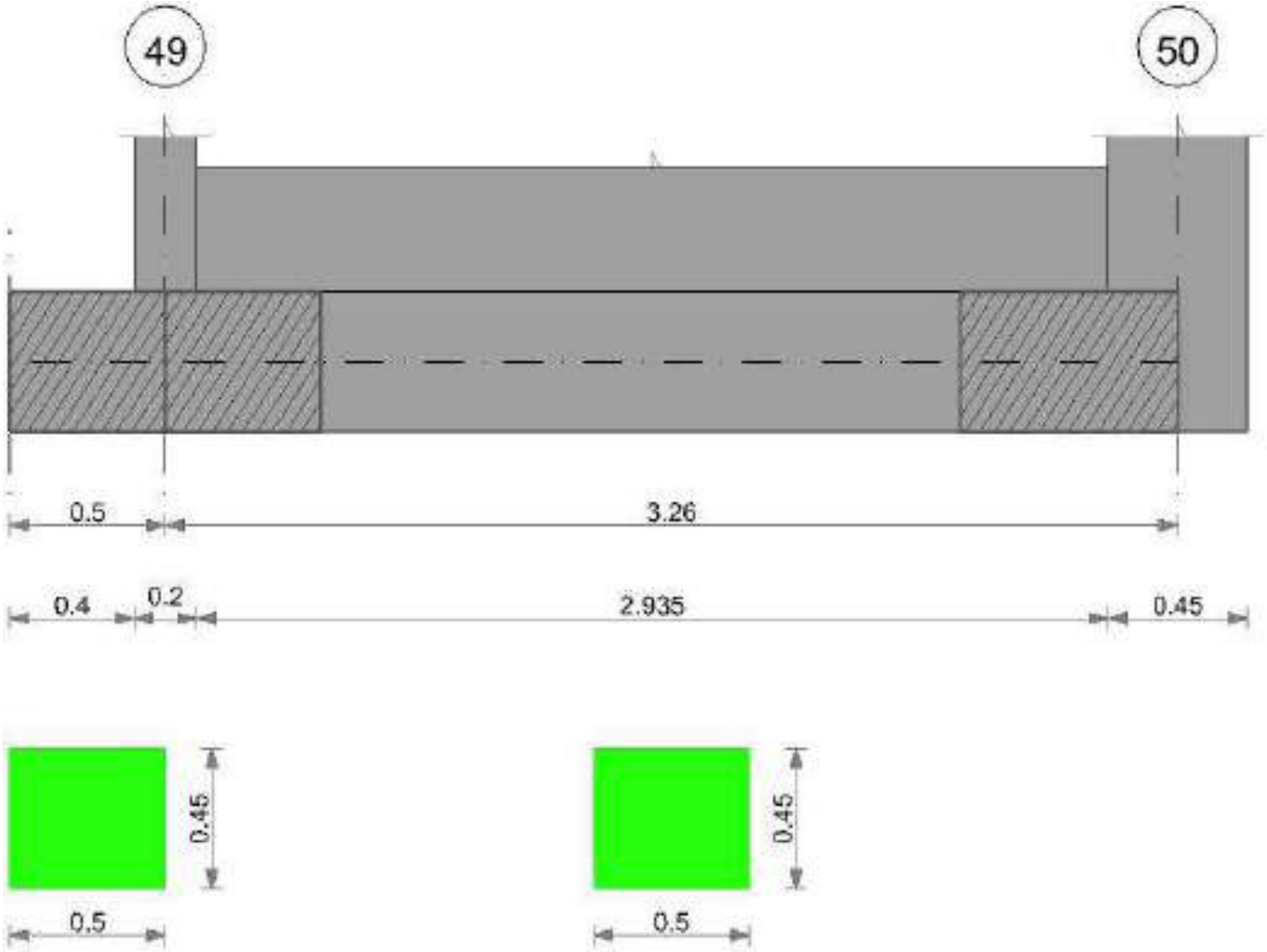
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	852	SLE RA 20	0.05	0.001	852	1094	SLE RA 20	0.05	0	852	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	852	SLE RA 1	0.05	0	852	852	SLE RA 1	0.05	0	852	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	852	SLE RA 1	0.05	0	852	852	SLE RA 1	0.05	0	852	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	852	1094	SLE RA 20	0.19	0	852	SLE RA 1	0.1	0	852	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	852	1094	SLE RA 1	0.19	0	852	SLE RA 1	0.1	0	852	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	852	1094	SLE RA 1	0.19	0	852	SLE RA 1	0.1	0	852	SLE RA 1	Si

CORDOLO 27

Geometria



Caratteristiche dei materiali

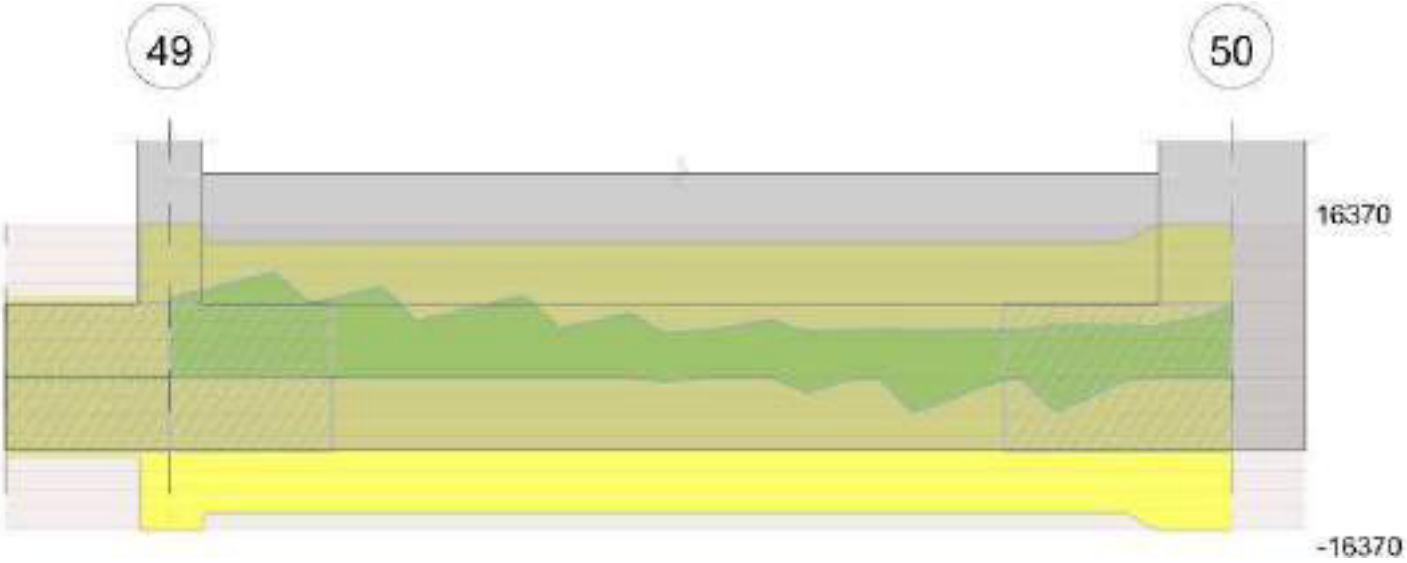
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 49 - 50, sezione R 50x45, aste 296, 295, 294, 293, 292, 291, 290, 289

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1698	SLU 83	0.044	8162	4851	SLU 83	15877	Si
0.1	0.41	0.0005	1686	SLU 83	0.044	8162	4816	SLU 83	15877	Si
1.63	0.41	0.0005	2251	SLV FO 11	0.146	7821	6433	SLV FO 11	15877	Si
3.03	0.41	0.0005	3574	SLV FO 11	0.146	7821	10213	SLV FO 11	15877	Si
3.26	0.41	0.0005	3865	SLV FO 11	0.146	7821	11042	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1289	SLD 12	0.121	9092	3683	SLD 12	15877	Si
0.1	0.41	0.0005	1298	SLD 12	0.121	9092	3709	SLD 12	15877	Si
1.63	0.41	0.0005	1756	SLD 11	0.121	9092	5017	SLD 11	15877	Si
3.03	0.41	0.0005	2640	SLD 11	0.121	9092	7544	SLD 11	15877	Si
3.26	0.41	0.0005	2842	SLD 11	0.121	9092	8120	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000516	1233	SLE RA 20	34122	1494000	423113	36000000	1106	SLE QP 2	30621	1120500	Si
0.1	0.41	0.00000516	1224	SLE RA 20	33875	1494000	420046	36000000	1098	SLE QP 2	30395	1120500	Si
1.63	0.41	0.00000516	1318	SLE RA 20	36469	1494000	452221	36000000	1185	SLE QP 2	32802	1120500	Si

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
3.03	0.41	0.00000516	1736	SLE RA 20	48040	1494000	595691	36000000	1569	SLE QP 2	43426	1120500	Si
3.26	0.41	0.00000516	1845	SLE RA 20	51066	1494000	633214	36000000	1669	SLE QP 2	46197	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
296,295,294,293,292,291,290,289	3.48	1.1	SLU 83	ST	BT	2.3	159519	36921	4.32	Si
296,295,294,293,292,291,290,289	3.48	1.1	SLV FO 12	SIS	BT	2.3	136929	41670	3.29	Si
296,295,294,293,292,291,290,289	3.48	1.1	SLD 12	SIS	BT	2.3	144579	34004	4.25	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	54	-36921	87.21	2979.09	0	0	0.08	0	1.1	3.32	1496	2060	0	14430	
0	-1330	-41670	720.92	11367.13	0	-2	0.27	0.02	1.07	2.94	1496	2060	0	14430	0.07
0	-751	-34004	440.49	6986.92	0	-1	0.21	0.01	1.07	3.07	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

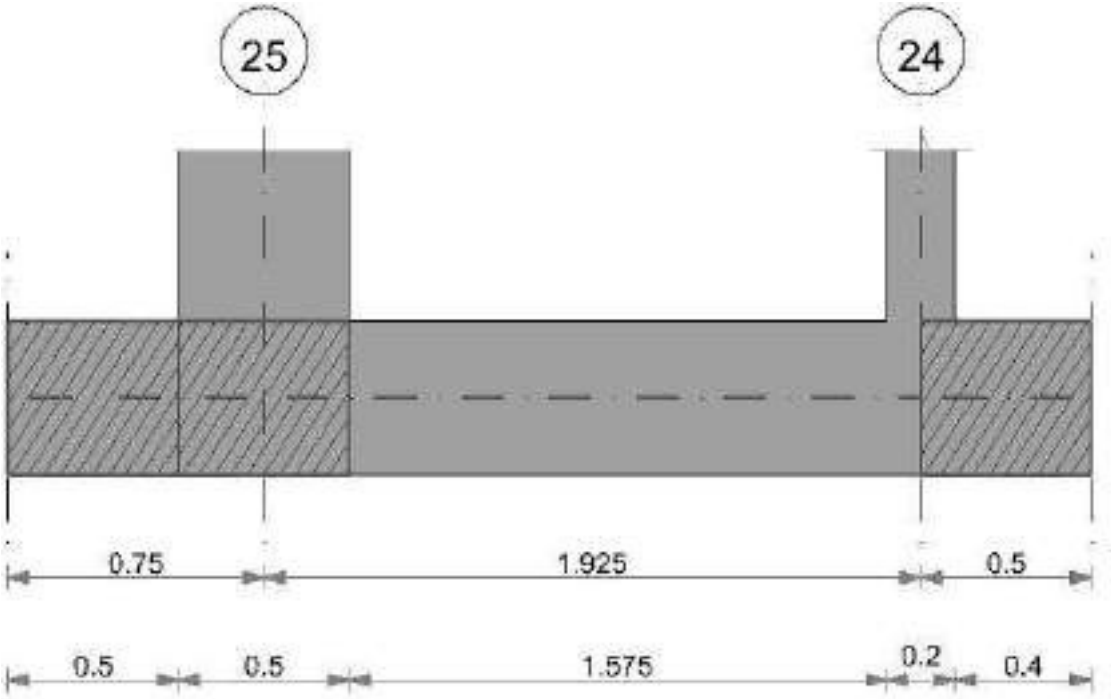
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	864	SLE RA 20	0.05	0.001	864	1107	SLE RA 20	0.05	0	864	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	864	SLE RA 1	0.05	0	864	864	SLE RA 1	0.05	0	864	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	864	SLE RA 1	0.05	0	864	864	SLE RA 1	0.05	0	864	SLE RA 1	0.0033	0	SLE RA 1	Si

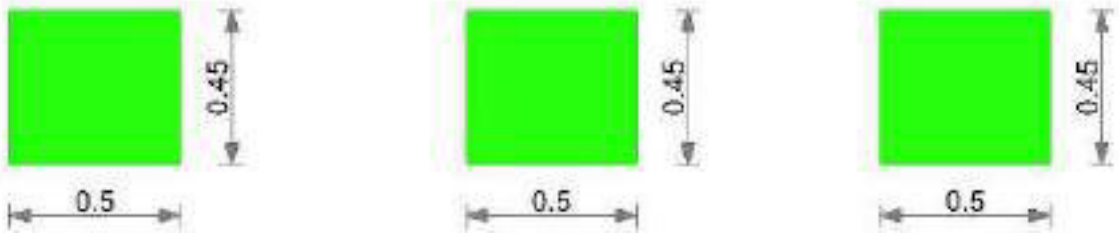
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	864	1107	SLE RA 20	0.19	0	864	SLE RA 1	0.1	0	864	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	864	1107	SLE RA 1	0.19	0	864	SLE RA 1	0.1	0	864	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	864	1107	SLE RA 1	0.19	0	864	SLE RA 1	0.1	0	864	SLE RA 1	Si

CORDOLO 28

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

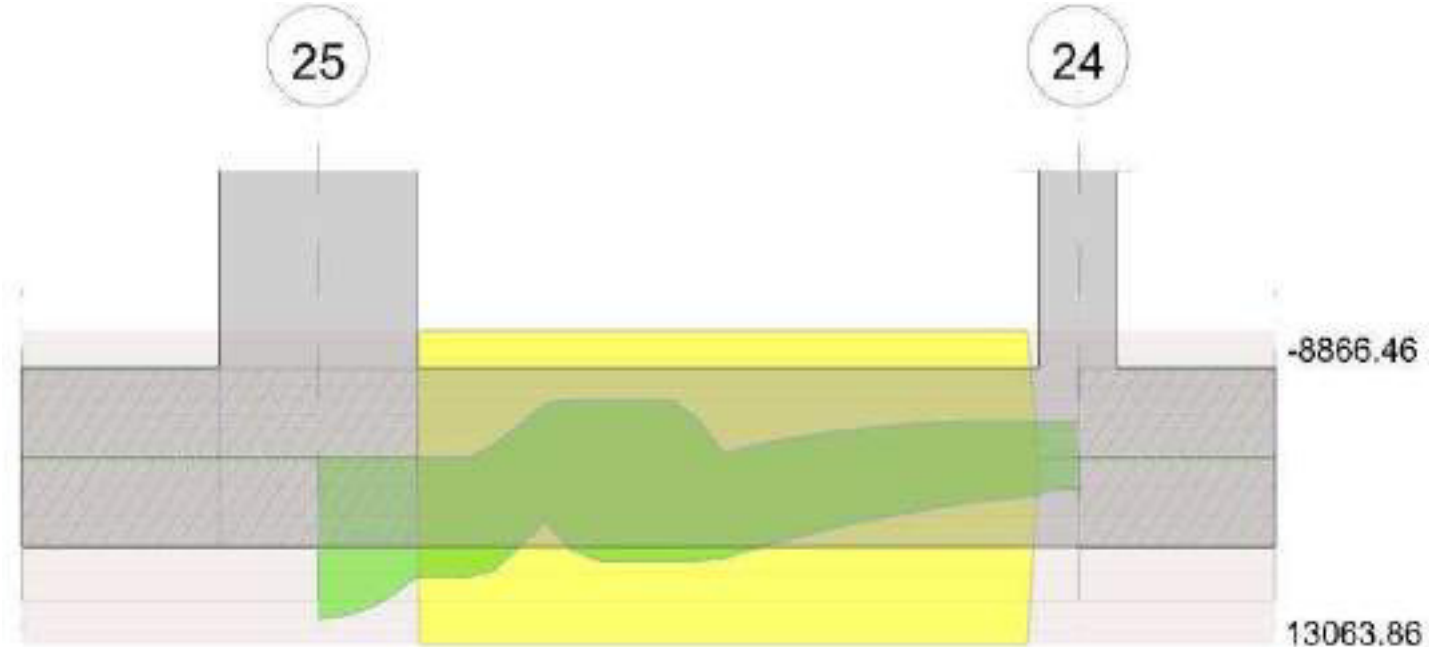
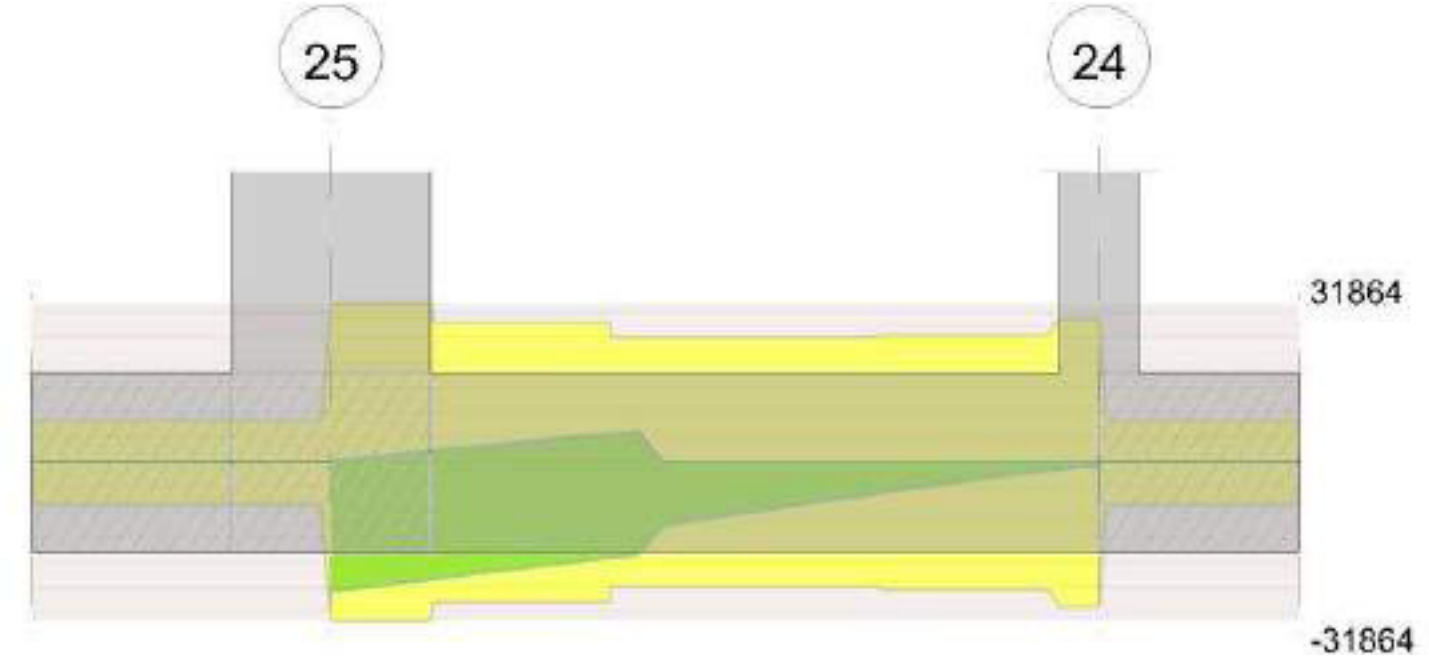


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 25 - 24, sezione R 50x45, aste 764, 763

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.96	0.000628	0.053	0.000942	0.053	5627.72	SLU 84	7344.98	13662.92	0.147	1.86							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.96	0.000628	0.053	0.000942	0.053	6058.12	SLV FO 5	7136.34	13063.86	0.261	1.83	1481.37	SLV FO 12	-2662.64	-8866.46	0.211	3.33	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.96	0.000628	0.053	0.000942	0.053	4997.54	SLD 5	6107.4	13063.86	0.261	2.14	2541.94	SLD 12	-1026.39	-8866.46	0.211	8.64	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000201	0	0	-19482	SLU 83	-19482	-8455	-71432	-31864	-31864	1	1.64	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.25	0.0000201	0	0	-16136	SLU 83	-16136	-8455	-71432	-31864	-31864	1	1.97	Si
0.96	0.0000179	0.000942	0	-11053	SLU 83	-11053	-9278	-63019	-24988	-24988	1	2.26	Si
1.83	0.0000183	0	0	-1308	SLU 84	-1308	-8455	-71432	-28967	-28967	1	22.14	Si
1.93	0.0000183	0	0	-300	SLU 78	-300	-8455	-71432	-28967	-28967	1	96.47	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000201	0	0	300	SLV FO 5	300	8455	71432	31864	31864	1	106.34	Si
0	0.0000201	0	0	-25965	SLV FO 12	-25965	-8455	-71432	-31864	-31864	1	1.23	Si
0.25	0.0000201	0	0	2265	SLV FO 5	2265	8455	71432	31864	31864	1	14.07	Si
0.25	0.0000201	0	0	-23488	SLV FO 12	-23488	-8455	-71432	-31864	-31864	1	1.36	Si
0.26	0.0000201	0	0	2317	SLV FO 5	2317	7751	63019	28111	28111	1	12.13	Si
0.26	0.0000201	0	0	-23423	SLV FO 12	-23423	-7751	-63019	-28111	-28111	1	1.2	Si
0.96	0.0000179	0.000942	0	-7978	SLV FO 7	-7978	-9278	-63019	-24988	-24988	1	3.13	Si
1.83	0.0000183	0	0	-1193	SLV FO 5	-1193	-8455	-71432	-28967	-28967	1	24.27	Si
1.93	0.0000183	0	0	227	SLV FO 8	227	8455	71432	28967	28967	1	127.67	Si
1.93	0.0000183	0	0	-641	SLV FO 9	-641	-8455	-71432	-28967	-28967	1	45.21	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000201	0	0	-19862	SLD 12	-19862	-8455	-71432	-31864	-31864	1	1.6	Si
0.25	0.0000201	0	0	-17503	SLD 12	-17503	-8455	-71432	-31864	-31864	1	1.82	Si
0.96	0.0000179	0.000942	0	-7695	SLD 7	-7695	-9278	-63019	-24988	-24988	1	3.25	Si
1.83	0.0000183	0	0	-1047	SLD 5	-1047	-8455	-71432	-28967	-28967	1	27.66	Si
1.93	0.0000183	0	0	24	SLD 8	24	8455	71432	28967	28967	1	1187.45	Si
1.93	0.0000183	0	0	-438	SLD 9	-438	-8455	-71432	-28967	-28967	1	66.1	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.96	4127.91	21	5385.2	442525	1494000	16044242	36000000	3769.74	2	4914.83	403873	1120500			Si
1.83	-198.32	14	-198.32	-11752	1494000	0	36000000	-152.83	2	-152.83	-9057	1120500			Si
1.93	-265.5	20	-245.79	-14565	1494000	0	36000000	-215.15	2	-196.85	-11665	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0.96	inferiore	0.347	0.00047	0.000162	21	0.347	0.00044	0.000151	6	0.347	0.00043	0.000148	2	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
764,763	1.93	1.1	SLU 84	ST	BT	2.3	90822	26888	3.38	Si
764,763	1.93	1.1	SLV FO 13	SIS	BT	2.3	75440	17866	4.22	Si
764,763	1.93	1.1	SLD 13	SIS	BT	2.3	82541	18061	4.57	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-222	-36	-26888	-81.99	-1351.24	0	0	-0.05	0	1.09	1.82	1496	2060	0	14430	
-1101	-2486	-17866	1073.63	-1646.65	-4	-8	-0.09	0.06	0.98	1.74	1496	2060	0	14430	0.07
-640	-1457	-18061	602.31	-1300.17	-2	-5	-0.07	0.03	1.03	1.78	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.12	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.11	0	0	0.27	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.12	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

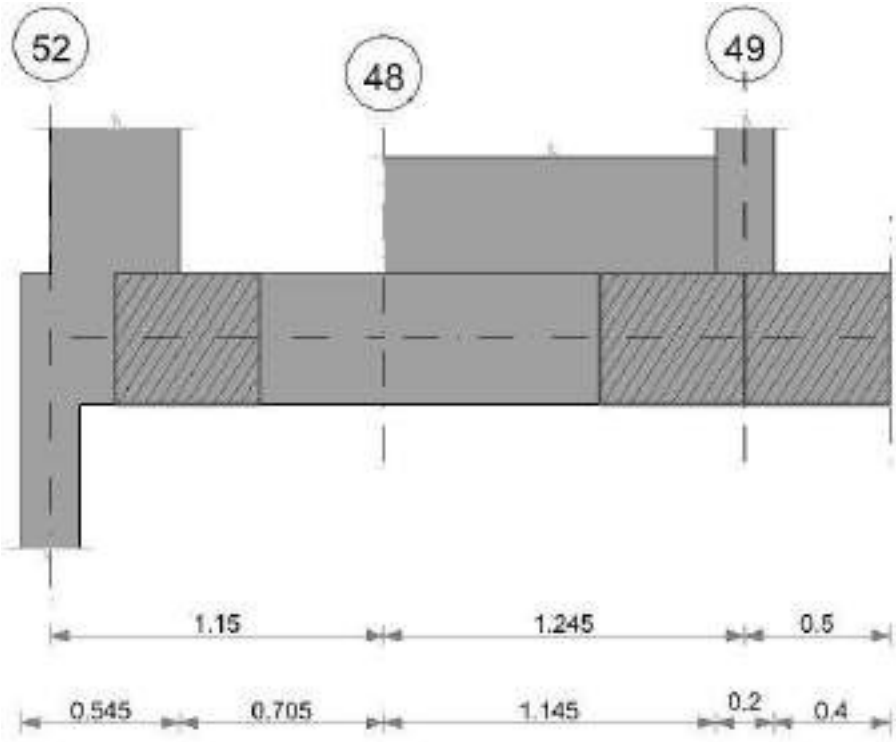
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	678	SLE RA 20	0.05	0.001	678	852	SLE RA 21	0.05	0	678	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	678	SLE RA 1	0.05	0	678	678	SLE RA 1	0.05	0	678	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	678	SLE RA 1	0.05	0	678	678	SLE RA 1	0.05	0	678	SLE RA 1	0.0033	0	SLE RA 1	Si

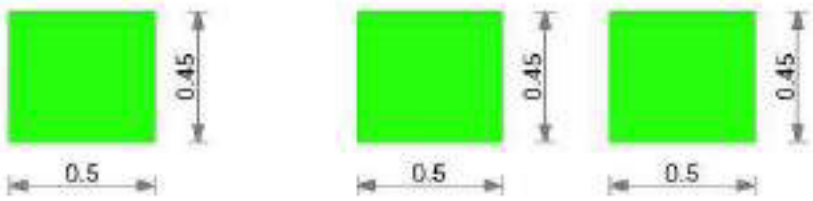
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.02	678	852	SLE RA 21	0.19	0	678	SLE RA 1	0.1	0	678	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	678	852	SLE RA 1	0.19	0	678	SLE RA 1	0.1	0	678	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	678	852	SLE RA 1	0.19	0	678	SLE RA 1	0.1	0	678	SLE RA 1	Si

CORDOLO 29

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

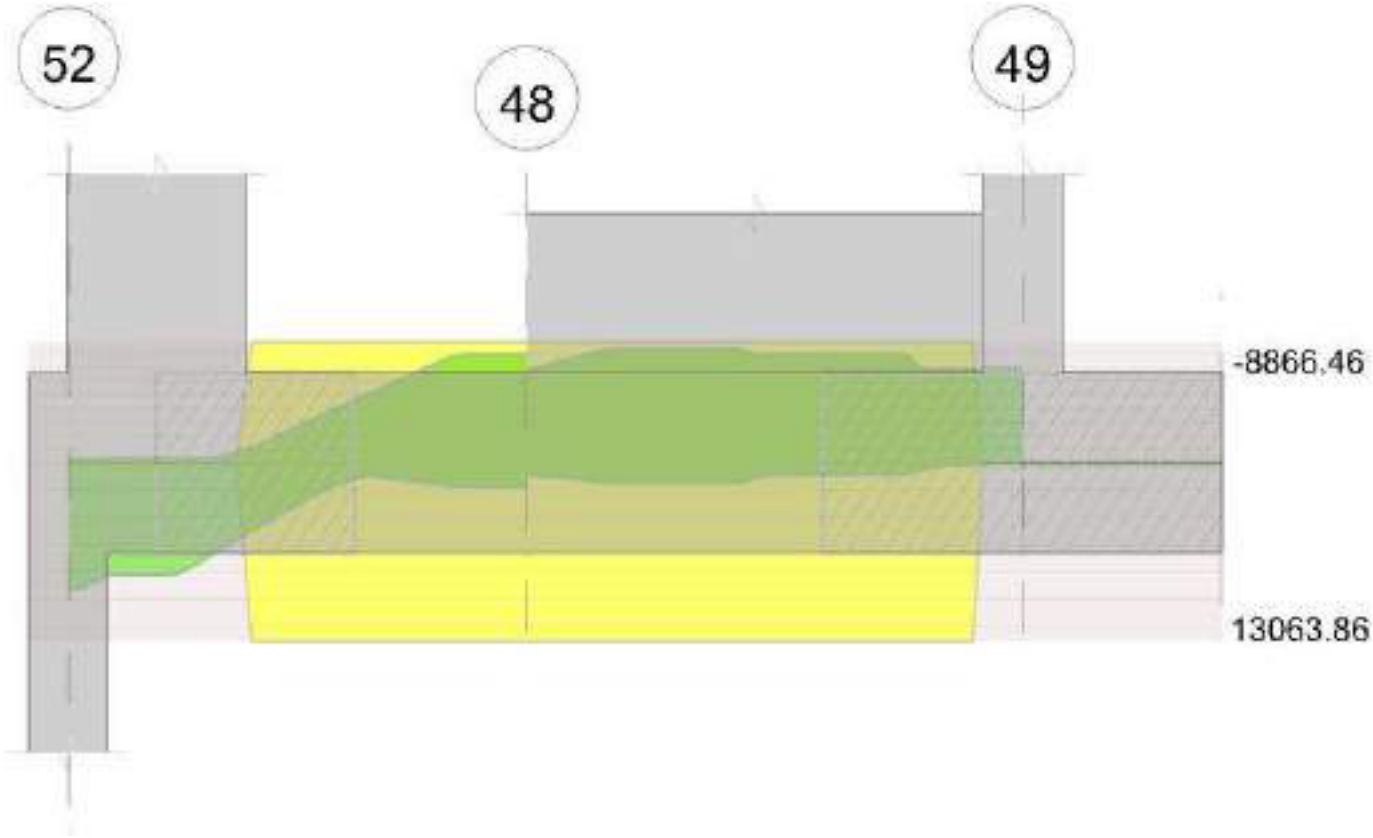
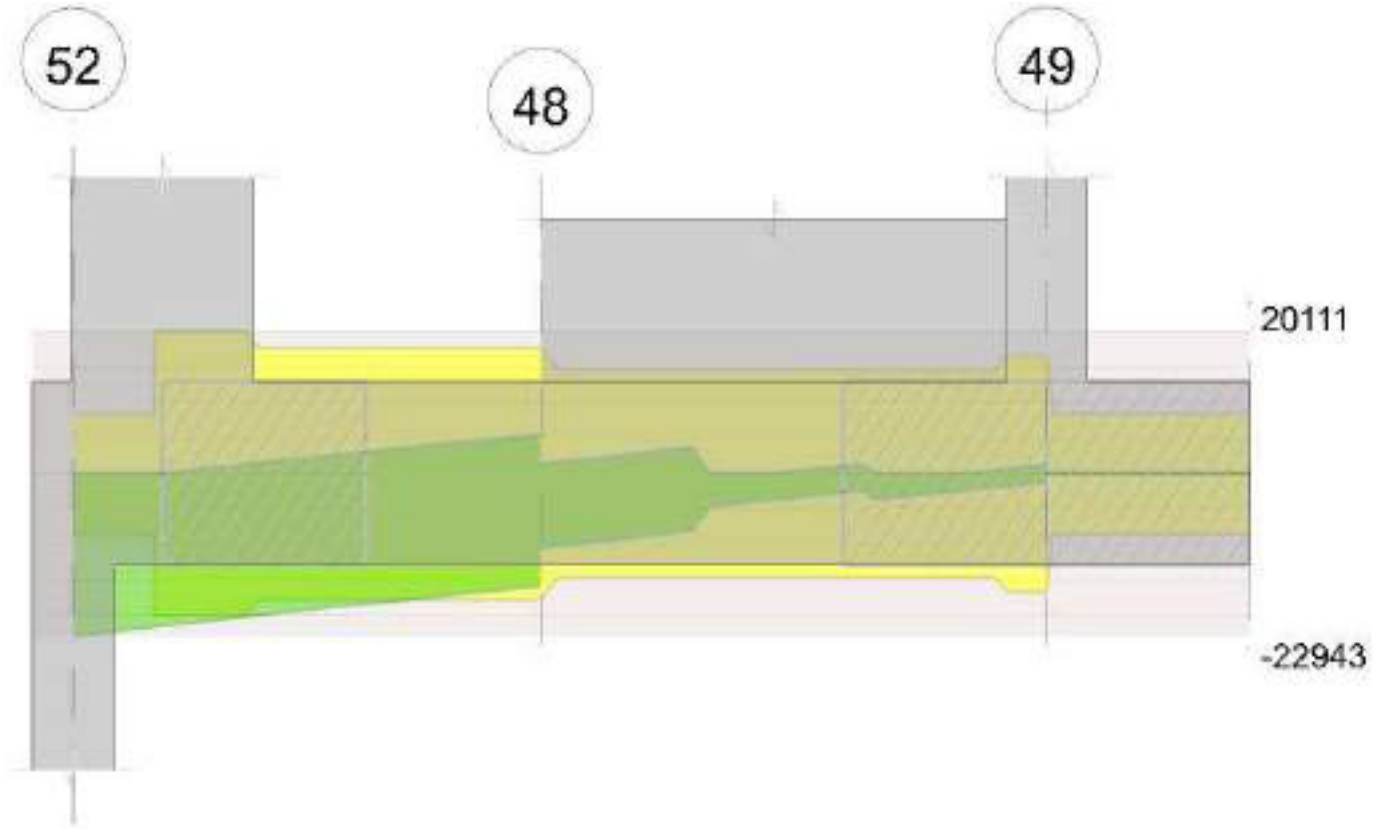


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 52 - 48, sezione R 50x45, asta 768

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000628	0.053	0.000942	0.053	211.86	SLU 35	2163.9	13662.92	0.147	6.31	36.27	SLU 44	-1532.07	-9390.61	0.127	6.13	Si
1.15	0.000628	0.053	0.000942	0.053							-4542.41	SLU 83	-4542.41	-9390.61	0.127	2.07	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000628	0.053	0.000942	0.053	753.04	SLV FO 2	3094.09	13063.86	0.261	4.22	-576.88	SLV FO 15	-2705.86	-8866.46	0.211	3.28	Si
1.15	0.000628	0.053	0.000942	0.053	1766.56	SLV FO 10	1766.56	13063.86	0.261	7.4	-7933.87	SLV FO 7	-7933.87	-8866.46	0.211	1.12	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000628	0.053	0.000942	0.053	473.15	SLD 2	2317.82	13063.86	0.261	5.64	-296.98	SLD 15	-1946.11	-8866.46	0.211	4.56	Si
1.15	0.000628	0.053	0.000942	0.053							-5672.15	SLD 7	-5672.15	-8866.46	0.211	1.56	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-18200	SLU 83	-18200	-8455	-71432	0	-8455	1	0.46	Si
0.58	0.0000127	0	0	-12718	SLU 83	-12718	-7751	-63019	-17742	-17742	1	1.4	Si
1.15	0.0000127	0.000628	0	-7747	SLU 83	-7747	-8105	-63019	-17742	-17742	1	2.29	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-22943	SLV FO 7	-22943	-8455	-71432	0	-8455	1	0.37	Si
0.58	0.0000127	0	0	2207	SLV FO 10	2207	7751	63019	17742	17742	1	8.04	Si
1.15	0.0000127	0.000942	0	5486	SLV FO 10	5486	9278	63019	17742	17742	1	3.23	Si
1.15	0.0000127	0.000628	0	-15871	SLV FO 7	-15871	-8105	-63019	-17742	-17742	1	1.12	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-17932	SLD 7	-17932	-8455	-71432	0	-8455	1	0.47	Si
0.58	0.0000127	0	0	-14242	SLD 7	-14242	-7751	-63019	-17742	-17742	1	1.25	Si
1.15	0.0000127	0.000628	0	529	SLD 10	529	8105	63019	17742	17742	1	33.52	Si
1.15	0.0000127	0.000628	0	-10914	SLD 7	-10914	-8105	-63019	-17742	-17742	1	1.63	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.58	125.79	14	1567.3	79655	1494000	1160685	36000000	88.08	2	1403.92	71352	1120500			Si
1.15	-3351.05	20	-3351.05	165444	1494000	2554655	36000000	-3083.65	2	-3083.65	152243	1120500			Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 52 - 48, sezione R 50x45, asta 768

Campata 2 tra i fili 48 - 49, sezione R 50x45, aste 767, 766, 765

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2068	SLU 83	0.054	9986	5910	SLU 83	15877	Si
0.62	0.41	0.0005	1826	SLU 83	0.044	8292	5216	SLU 83	15877	Si
1.15	0.41	0.0005	1711	SLU 83	0.044	8292	4888	SLU 83	15877	Si
1.25	0.41	0.0005	1698	SLU 83	0.044	8292	4851	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1445	SLD 16	0.133	11109	4129	SLD 16	15877	Si
0.62	0.41	0.0005	1303	SLD 16	0.122	9235	3723	SLD 16	15877	Si
1.15	0.41	0.0005	1281	SLD 12	0.122	9235	3660	SLD 12	15877	Si
1.25	0.41	0.0005	1289	SLD 12	0.122	9235	3683	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000635	1506	SLE RA 20	41073	1494000	509300	36000000	1357	SLE QP 2	37008	1120500	Si
0.62	0.41	0.00000525	1327	SLE RA 20	36696	1494000	455035	36000000	1193	SLE QP 2	32979	1120500	Si
1.15	0.41	0.00000525	1243	SLE RA 20	34351	1494000	425950	36000000	1115	SLE QP 2	30830	1120500	Si
1.25	0.41	0.00000525	1233	SLE RA 20	34086	1494000	422661	36000000	1106	SLE QP 2	30588	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
768,767,766,765	2.5	1.1	SLU 84	ST	BT	2.3	115999	26111	4.44	Si
768,767,766,765	2.5	1.1	SLV FO 14	SIS	BT	2.3	97577	18898	5.16	Si
768,767,766,765	2.5	1.1	SLD 14	SIS	BT	2.3	105237	18471	5.7	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-326	106	-26111	-0.53	-1725.4	-1	0	-0.07	0	1.1	2.36	1496	2060	0	14430	
-1404	-2457	-18898	1245.08	-1696.04	-4	-7	-0.09	0.07	0.97	2.32	1496	2060	0	14430	0.07
-851	-1401	-18471	724.49	-1443.89	-3	-4	-0.08	0.04	1.02	2.34	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.09	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.27	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.09	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

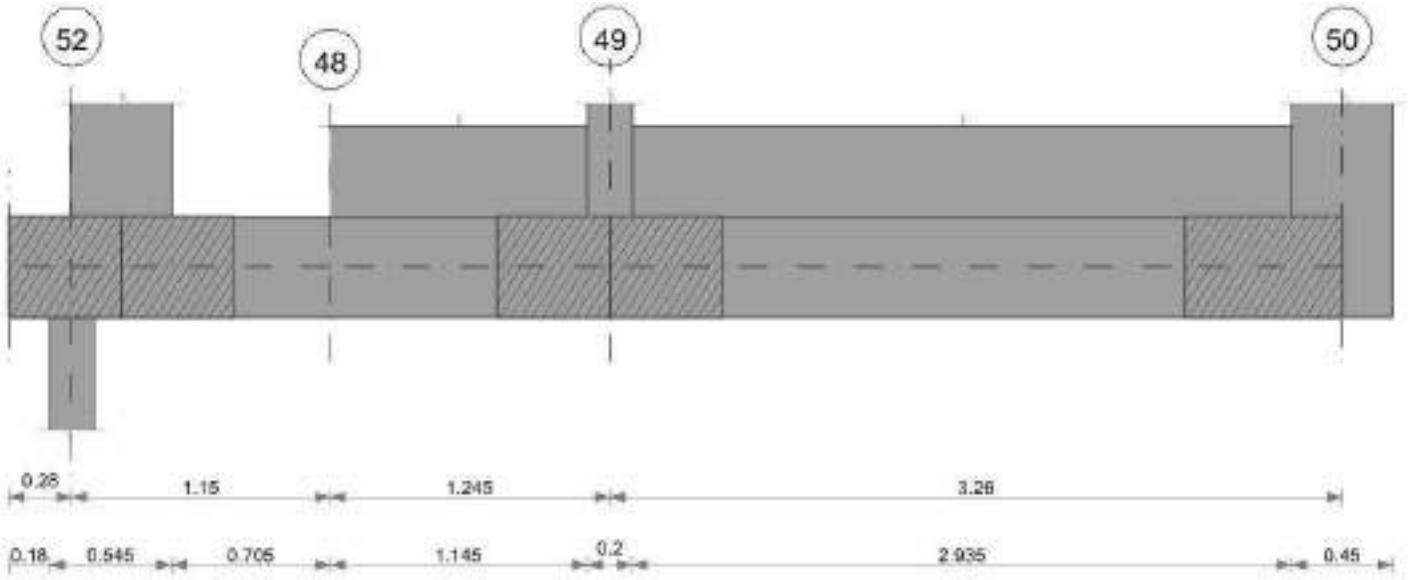
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	693	SLE RA 20	0.05	0.001	693	864	SLE RA 21	0.05	0	792	SLE RA 2	0.0033	0	SLE RA 2	Si
D	0.05	0	693	SLE RA 1	0.05	0	693	693	SLE RA 1	0.05	0	792	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	693	SLE RA 1	0.05	0	693	693	SLE RA 1	0.05	0	792	SLE RA 1	0.0033	0	SLE RA 1	Si

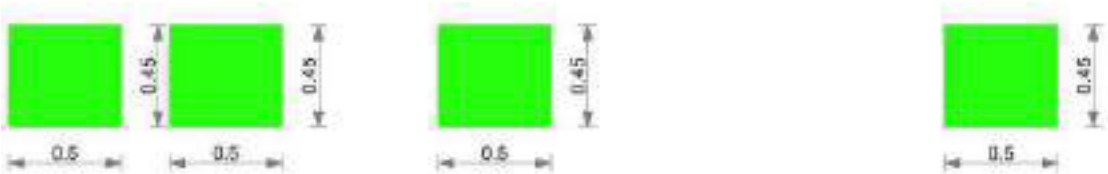
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.03	SLE RA 21	0.19	0.03	693	792	SLE RA 21	0.19	0	693	SLE RA 1	0.1	0	792	SLE RA 2	Si
D	0.19	0	SLE RA 1	0.19	0	693	792	SLE RA 1	0.19	0	693	SLE RA 1	0.1	0	792	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	693	792	SLE RA 1	0.19	0	693	SLE RA 1	0.1	0	792	SLE RA 1	Si

CORDOLO 30

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

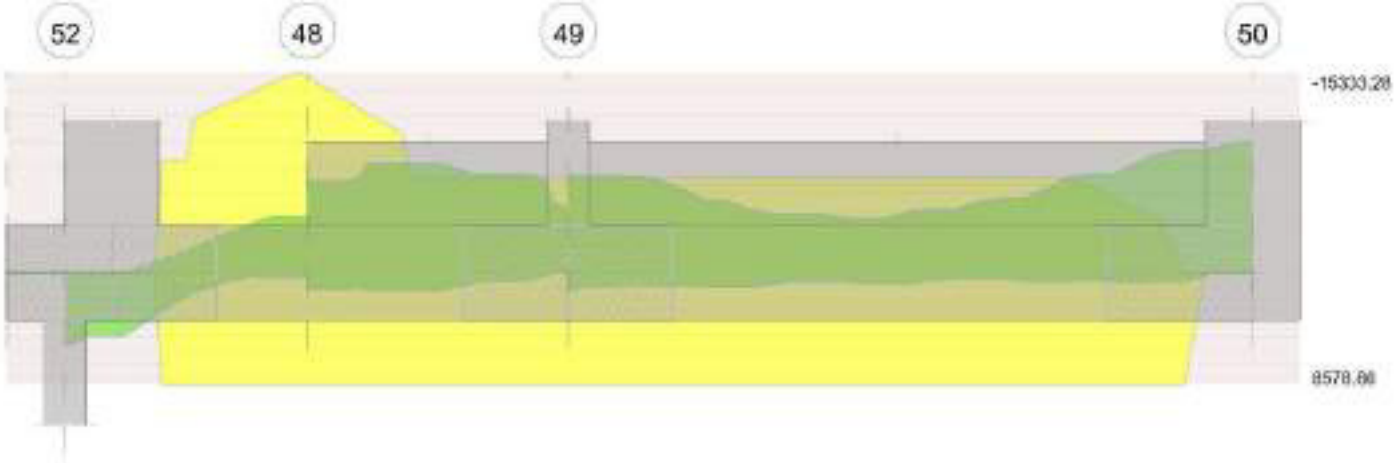


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 2 tra i fili 52 - 48, sezione R 50x45, asta 288

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0	0	0	0	5621.98	SLU 83	5163.95	0	0	0							Si
0.58	0.000603	0.051	0.000603	0.051	164.05	SLU 35	1587.15	9071.72	0.119	5.72	30.49	SLU 44	-1036.35	-9071.72	0.119	8.75	Si
1.15	0.001087	0.051	0.000603	0.051							-2841.4	SLU 83	-2841.4	-15699.13	0.155	5.53	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0	0	0	0	5983.6	SLV FO 7	5527.48	0	0	0							Si
0.58	0.000603	0.051	0.000603	0.051	726.23	SLV FO 4	1854.48	8578.86	0.211	4.63	-599.81	SLV FO 13	-1636.22	-8578.86	0.211	5.24	Si
1.15	0.001087	0.051	0.000603	0.051	369.09	SLV FO 6	369.09	8574.08	0.204	23.23	-4265.07	SLV FO 11	-4265.07	-15005.04	0.279	3.52	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0	0	0	0	4932.62	SLD 7	4547.09	0	0	0							Si
0.58	0.000603	0.051	0.000603	0.051	447.52	SLD 4	1474.14	8578.86	0.211	5.82	-321.1	SLD 13	-1248.27	-8578.86	0.211	6.87	Si
1.15	0.001087	0.051	0.000603	0.051							-3193.15	SLD 11	-3193.15	-15005.04	0.279	4.7	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-14577	SLU 83	-14577	-8455	-71432	0	-8455	1	0.58	Si
0.58	0.0000176	0	0	-9018	SLU 83	-9018	-7777	-63336	-24721	-24721	1	2.74	Si
1.15	0.0000105	0.000932	0	-3950	SLU 83	-3950	-9261	-63262	-14793	-14793	1	3.74	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-14642	SLV FO 11	-14642	-8455	-71432	0	-8455	1	0.58	Si
0.58	0.0000176	0	0	-10773	SLV FO 11	-10773	-7777	-63336	-24721	-24721	1	2.29	Si
1.15	0.0000105	0.000603	0	1944	SLV FO 6	1944	8014	63336	14810	14810	1	7.62	Si
1.15	0.0000105	0.000932	0	-7270	SLV FO 11	-7270	-9261	-63262	-14793	-14793	1	2.03	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-12369	SLD 11	-12369	-8455	-71432	0	-8455	1	0.68	Si
0.58	0.0000176	0	0	-8568	SLD 11	-8568	-7777	-63336	-24721	-24721	1	2.89	Si
1.15	0.0000105	0.000932	0	-5120	SLD 11	-5120	-9261	-63262	-14793	-14793	1	2.89	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4105.94	20	3770.37	223429	1494000	0	36000000	3723.58	2	3417.04	202492	1120500			Si
0.1	3273.07	20	3273.07	193960	1494000	0	36000000	2962.7	2	2962.7	175568	1120500			Si
0.58	103.13	14	1150.02	59556	1494000	893336	36000000	63.21	2	1022.6	52957	1120500			Si
1.15	-2094.65	20	-2094.65	105761	1494000	1517255	36000000	-1947.99	2	-1947.99	98356	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 52 - 48, sezione R 50x45, asta 288

Campata 3 tra i fili 48 - 49, sezione R 50x45, aste 287, 286, 285

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	2117	SLU 83	0.044	8324	6049	SLU 83	15877	Si
0.62	0.41	0.0005	1877	SLU 83	0.044	8324	5362	SLU 83	15877	Si
1.15	0.41	0.0002	1764	SLU 83	0.019	3218	5039	SLU 83	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
1.25	0.41	0.0002	1751	SLU 83	0.019	3218	5002	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1506	SLD 16	0.122	9272	4302	SLD 16	15877	Si
0.62	0.41	0.0005	1365	SLD 16	0.122	9272	3900	SLD 16	15877	Si
1.15	0.41	0.0002	1327	SLD 12	0.076	3616	3791	SLD 12	15877	Si
1.25	0.41	0.0002	1335	SLD 12	0.076	3616	3814	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000527	1542	SLE RA 20	42629	1494000	528601	36000000	1391	SLE QP 2	38434	1120500	Si
0.62	0.41	0.00000527	1365	SLE RA 20	37727	1494000	467818	36000000	1228	SLE QP 2	33932	1120500	Si
1.15	0.41	0.00000202	1282	SLE RA 20	36954	1494000	458228	36000000	1151	SLE QP 2	33196	1120500	Si
1.25	0.41	0.00000202	1272	SLE RA 20	36678	1494000	454813	36000000	1143	SLE QP 2	32945	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 49 - 50, sezione R 50x45, aste 284, 283, 282, 281, 280, 279, 278, 277

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1751	SLU 83	0.019	3218	5002	SLU 83	15877	Si
0.1	0.41	0.0002	1739	SLU 83	0.019	3218	4967	SLU 83	15877	Si
1.63	0.41	0.0002	2295	SLV FO 11	0.092	3123	6556	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1335	SLD 12	0.076	3616	3814	SLD 12	15877	Si
0.1	0.41	0.0002	1344	SLD 12	0.076	3616	3839	SLD 12	15877	Si
1.63	0.41	0.0002	1792	SLD 11	0.076	3616	5120	SLD 11	15877	Si
3.03	0.41	0.0002	2666	SLD 11	0.076	3616	7618	SLD 11	15877	Si
3.26	0.41	0.0002	2867	SLD 11	0.076	3616	8192	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000202	1272	SLE RA 20	36678	1494000	454813	36000000	1143	SLE QP 2	32945	1120500	Si
0.1	0.41	0.00000202	1263	SLE RA 20	36418	1494000	451580	36000000	1134	SLE QP 2	32707	1120500	Si
1.63	0.41	0.00000202	1347	SLE RA 20	38843	1494000	481648	36000000	1212	SLE QP 2	34959	1120500	Si
3.03	0.41	0.00000202	1754	SLE RA 20	50579	1494000	627181	36000000	1586	SLE QP 2	45735	1120500	Si
3.26	0.41	0.00000202	1863	SLE RA 20	53712	1494000	666034	36000000	1686	SLE QP 2	48605	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
288,287,286,285,284,283,282,281,280,279,278,277	5.88	1.1	SLU 83	ST	BT	2.3	275003	63973	4.3	Si
288,287,286,285,284,283,282,281,280,279,278,277	5.88	1.1	SLV FO 12	SIS	BT	2.3	228393	61915	3.69	Si
288,287,286,285,284,283,282,281,280,279,278,277	5.88	1.1	SLD 12	SIS	BT	2.3	246894	53451	4.62	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	184	-63973	106.22	-1082.23	0	0	-0.02	0	1.1	5.85	1496	2060	0	14430	
0	-2239	-61915	1210.09	26068.21	0	-2	0.42	0.02	1.06	5.04	1496	2060	0	14430	0.07
0	-1232	-53451	725.3	13526.94	0	-1	0.25	0.01	1.07	5.37	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

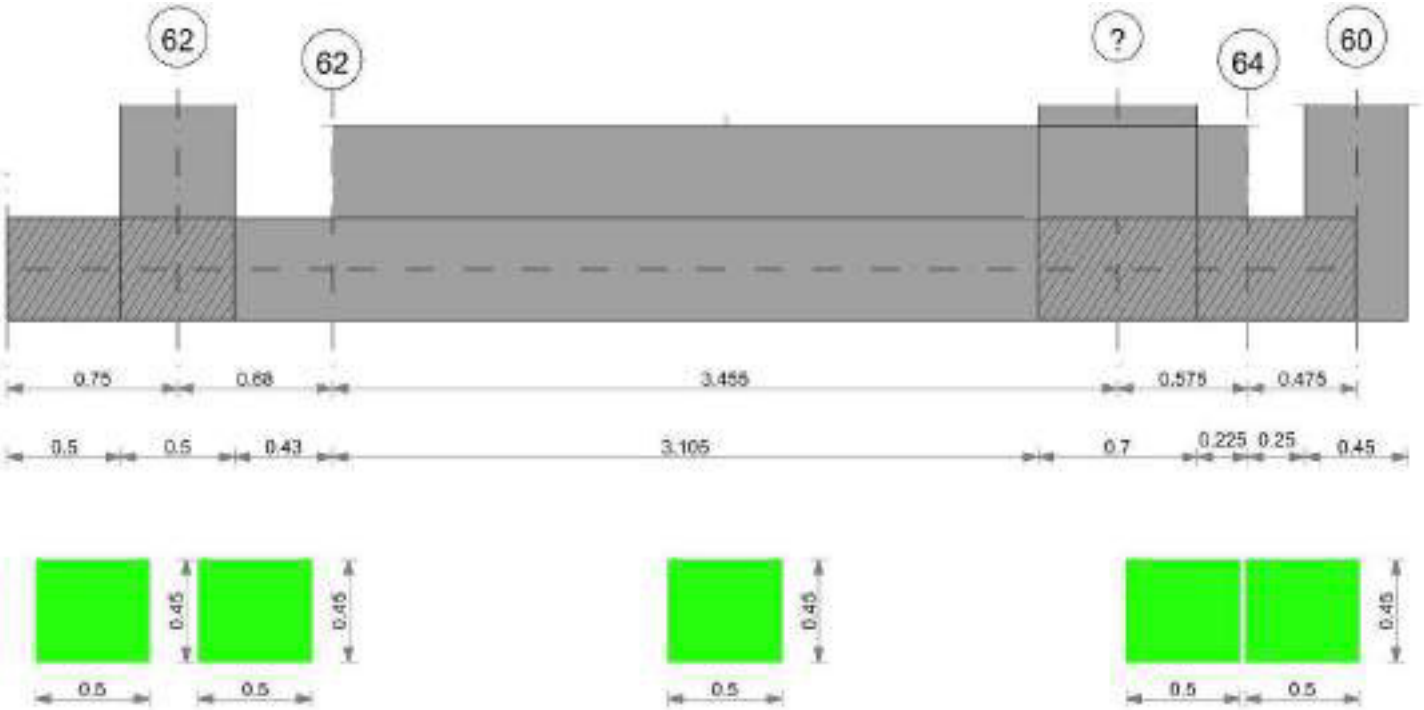
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	695	SLE RA 20	0.05	0.002	695	1109	SLE RA 21	0.05	0	866	SLE FR 4	0.0033	0	SLE FR 5	Si
D	0.05	0	695	SLE RA 1	0.05	0	695	695	SLE RA 1	0.05	0	794	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	695	SLE RA 1	0.05	0	695	695	SLE RA 1	0.05	0	794	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.04	695	794	SLE RA 21	0.19	0	695	SLE RA 1	0.1	0.02	866	SLE FR 5	Si
D	0.19	0	SLE RA 1	0.19	0	695	794	SLE RA 1	0.19	0	695	SLE RA 1	0.1	0	794	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	695	794	SLE RA 1	0.19	0	695	SLE RA 1	0.1	0	794	SLE RA 1	Si

CORDOLO 31

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

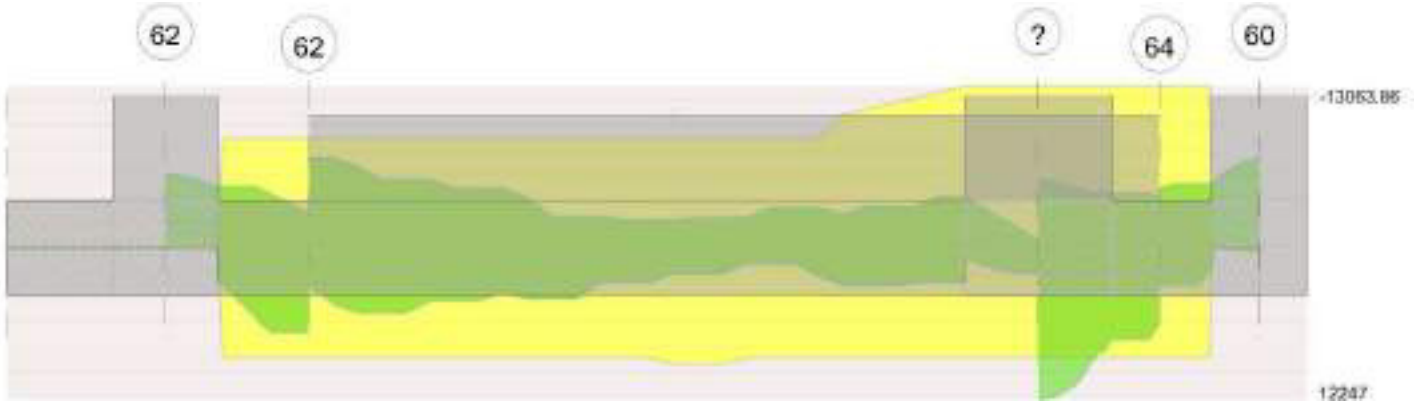
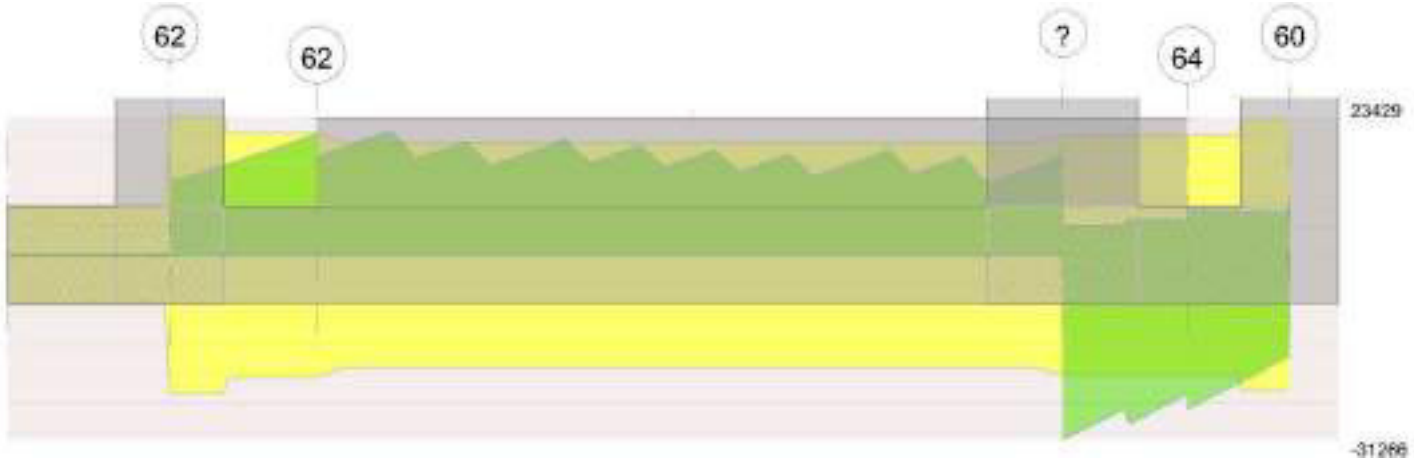


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 62 - 62, sezione R 50x45, asta 309

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.34	0.000628	0.053	0.000628	0.053	-1199.53	SLU 2	1106.6	9384.5	0.124	8.48	-2056.29	SLU 83	-3469.06	-9384.5	0.124	2.71	Si
0.68	0.000628	0.053	0.000628	0.053	4235.46	SLU 84	4235.46	9384.5	0.124	2.22							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.34	0.000628	0.053	0.000628	0.053	1431.88	SLV FO 6	4081.71	8869.39	0.216	2.17	-4180.63	SLV FO 11	-4910.64	-8869.39	0.216	1.81	Si
0.68	0.000628	0.053	0.000628	0.053	6836.97	SLV FO 10	6836.97	8869.39	0.216	1.3	-1246.42	SLV FO 7	-2819.57	-8869.39	0.216	3.15	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.34	0.000628	0.053	0.000628	0.053	127.5	SLD 6	2513.53	8869.39	0.216	3.53	-2876.24	SLD 11	-3709.96	-8869.39	0.216	2.39	Si
0.68	0.000628	0.053	0.000628	0.053	4966.17	SLD 10	4966.17	8869.39	0.216	1.79	624.38	SLD 7	-1286.61	-8869.39	0.216	6.89	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000148	0	0	12157	SLU 84	12157	8455	71432	23429	23429	1	1.93	Si
0.25	0.0000148	0	0	15211	SLU 84	15211	8455	71432	23429	23429	1	1.54	Si
0.34	0.0000148	0	0	16312	SLU 84	16312	7751	63019	20670	20670	1	1.27	Si
0.68	0.0000148	0.000628	0	20490	SLU 84	20490	8105	63019	20670	20670	1	1.01	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000148	0	0	12632	SLV FO 10	12632	8455	71432	23429	23429	1	1.85	Si
0.25	0.0000148	0	0	14853	SLV FO 14	14853	8455	71432	23429	23429	1	1.58	Si
0.34	0.0000148	0	0	15664	SLV FO 14	15664	7751	63019	20670	20670	1	1.32	Si
0.68	0.0000148	0.000628	0	18734	SLV FO 14	18734	8105	63019	20670	20670	1	1.1	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000148	0	0	10663	SLD 14	10663	8455	71432	23429	23429	1	2.2	Si
0.25	0.0000148	0	0	12830	SLD 14	12830	8455	71432	23429	23429	1	1.83	Si
0.34	0.0000148	0	0	13611	SLD 14	13611	7751	63019	20670	20670	1	1.52	Si
0.68	0.0000148	0.000628	0	16570	SLD 14	16570	8105	63019	20670	20670	1	1.25	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-5029.59	20	-3923.08	-232479	1494000	0	36000000	-4597.17	2	-3585.87	-212496	1120500			Si
0.25	-2536.86	20	-2536.86	-150333	1494000	0	36000000	-2319.34	2	-2319.34	-137442	1120500			Si
0.34	-1502.56	20	-2536.86	131081	1494000	1966214	36000000	-1374.37	2	-2319.34	119841	1120500			Si
0.68	3100.01	21	3100.01	160179	1494000	2402684	36000000	2795.27	2	2795.27	144433	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 5 tra i fili 64 - 60, sezione R 50x45, asta 297

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000628	0.053							-911.8	SLU 73	-3192.42	-13662.92	0.147	4.28	Si
0.24	0.000942	0.053	0.000628	0.053							-3846.37	SLU 83	-3980.99	-13662.92	0.147	3.43	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000628	0.053	3042	SLV FO 3	3042	8866.46	0.211	2.91	-4339.39	SLV FO 14	-4749.95	-13063.86	0.261	2.75	Si
0.24	0.000942	0.053	0.000628	0.053	-115.01	SLV FO 1	1967.96	8866.46	0.211	4.51	-5073.3	SLV FO 16	-5203.28	-13063.86	0.261	2.51	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000628	0.053	1477.31	SLD 3	1477.31	8866.46	0.211	6	-2774.7	SLD 14	-3653.93	-13063.86	0.261	3.58	Si
0.24	0.000942	0.053	0.000628	0.053	-1178.28	SLD 1	646.58	8866.46	0.211	13.71	-4010.02	SLD 16	-4081.36	-13063.86	0.261	3.2	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0	0	-14149	SLU 83	-14149	-7751	-63019	-20282	-20282	1	1.43	Si
0.24	0.0000145	0	0	-10878	SLU 83	-10878	-7751	-63019	-20282	-20282	1	1.86	Si
0.25	0.0000145	0	0	-10706	SLU 83	-10706	-8455	-71432	-22989	-22989	1	2.15	Si
0.47	0.0000145	0	0	-7592	SLU 83	-7592	-8455	-71432	-22989	-22989	1	3.03	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0	0	7597	SLV FO 10	7597	7751	63019	20282	20282	1	2.67	Si
0.24	0.0000145	0	0	7465	SLV FO 10	7465	7751	63019	20282	20282	1	2.72	Si
0.25	0.0000145	0	0	7456	SLV FO 10	7456	8455	71432	22989	22989	1	3.08	Si
0.25	0.0000145	0	0	-21424	SLV FO 7	-21424	-8455	-71432	-22989	-22989	1	1.07	Si
0.47	0.0000145	0	0	7276	SLV FO 10	7276	8455	71432	22989	22989	1	3.16	Si
0.47	0.0000145	0	0	-17083	SLV FO 7	-17083	-8455	-71432	-22989	-22989	1	1.35	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0	0	-18360	SLD 7	-18360	-7751	-63019	-20282	-20282	1	1.1	Si
0.24	0.0000145	0	0	754	SLD 10	754	7751	63019	20282	20282	1	26.9	Si
0.24	0.0000145	0	0	-14952	SLD 7	-14952	-7751	-63019	-20282	-20282	1	1.36	Si
0.25	0.0000145	0	0	804	SLD 10	804	8455	71432	22989	22989	1	28.6	Si
0.25	0.0000145	0	0	-14771	SLD 7	-14771	-8455	-71432	-22989	-22989	1	1.56	Si
0.47	0.0000145	0	0	1689	SLD 10	1689	8455	71432	22989	22989	1	13.61	Si
0.47	0.0000145	0	0	-11496	SLD 7	-11496	-8455	-71432	-22989	-22989	1	2	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-686.87	10	-2346.94	119279	1494000	1738062	36000000	-648.7	2	-2167.04	110136	1120500			Si
0.24	-2821.89	20	-2919.63	148384	1494000	2162170	36000000	-2594.15	2	-2681.98	136306	1120500			Si
0.25	-2919.63	20	-2919.63	-173015	1494000	0	36000000	-2681.98	2	-2681.98	-158932	1120500			Si
0.47	-4412.65	20	-3794.04	-224832	1494000	0	36000000	-4019.69	2	-3467.65	-205491	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 62 - 62, sezione R 50x45, asta 309

Campata 3 tra i fili 62 - ?, sezione R 50x45, aste 308, 307, 306, 305, 304, 303, 302, 301, 300

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2202	SLU 83	0.062	11592	6774	SLU 83	26276	Si
1.73	0.41	0.0007	2546	SLV FO 11	0.167	10262	7835	SLV FO 11	24306	Si
3.1	0.41	0.0007	3305	SLV FO 11	0.167	10262	10170	SLV FO 11	24306	Si
3.45	0.41	0.0007	3490	SLV FO 11	0.172	10862	10739	SLV FO 11	25782	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	1618	SLD 15	0.144	12886	4978	SLD 15	30217	Si
1.73	0.41	0.0007	2076	SLD 11	0.138	11947	6387	SLD 11	27952	Si
3.1	0.41	0.0007	2511	SLD 11	0.138	11947	7727	SLD 11	27952	Si
3.45	0.41	0.0007	2619	SLD 11	0.142	12651	8059	SLD 11	29650	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000739	1605	SLE RA 20	43201	1494000	535692	36000000	1453	SLE QP 2	39108	1120500	Si
1.73	0.41	0.00000684	1691	SLE RA 20	45823	1494000	568203	36000000	1530	SLE QP 2	41469	1120500	Si
3.1	0.41	0.00000684	1761	SLE RA 20	47712	1494000	591634	36000000	1594	SLE QP 2	43197	1120500	Si
3.45	0.41	0.00000725	1782	SLE RA 20	48026	1494000	595526	36000000	1614	SLE QP 2	43499	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili ? - 64, sezione R 50x45, aste 299, 298

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3490	SLV FO 11	0.172	10862	10739	SLV FO 11	25782	Si
0.29	0.41	0.0007	3634	SLV FO 11	0.172	10862	11180	SLV FO 11	25782	Si
0.35	0.41	0.0007	3661	SLV FO 11	0.172	10862	11264	SLV FO 11	25782	Si
0.57	0.41	0.0007	3752	SLV FO 11	0.172	10862	11546	SLV FO 11	25782	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2619	SLD 11	0.142	12651	8059	SLD 11	29650	Si
0.29	0.41	0.0007	2703	SLD 11	0.142	12651	8316	SLD 11	29650	Si
0.35	0.41	0.0007	2718	SLD 11	0.142	12651	8363	SLD 11	29650	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.57	0.41	0.0007	2769	SLD 11	0.142	12651	8521	SLD 11	29650	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000725	1782	SLE RA 20	48026	1494000	595526	36000000	1614	SLE QP 2	43499	1120500	Si
0.29	0.41	0.00000725	1796	SLE RA 20	48413	1494000	600325	36000000	1627	SLE QP 2	43865	1120500	Si
0.35	0.41	0.00000725	1798	SLE RA 20	48457	1494000	600868	36000000	1629	SLE QP 2	43909	1120500	Si
0.57	0.41	0.00000725	1802	SLE RA 20	48565	1494000	602203	36000000	1633	SLE QP 2	44024	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 5 tra i fili 64 - 60, sezione R 50x45, asta 297

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
309,308,307,306,305,304,303,302,301,300,299,298,297	5.41	1.1	SLU 83	ST	BT	2.3	249079	77133	3.23	Si
309,308,307,306,305,304,303,302,301,300,299,298,297	5.41	1.1	SLV FO 11	SIS	BT	2.3	218020	83309	2.62	Si
309,308,307,306,305,304,303,302,301,300,299,298,297	5.41	1.1	SLD 11	SIS	BT	2.3	229903	69015	3.33	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	1024	-77133	-230.71	3946.99	0	1	0.05	0	1.09	5.31	1496	2060	0	14430	
0	43	-83309	217.73	33472.97	0	0	0.4	0	1.09	4.61	1496	2060	0	14430	0.07
0	278	-69015	73.12	19117.13	0	0	0.28	0	1.1	4.86	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

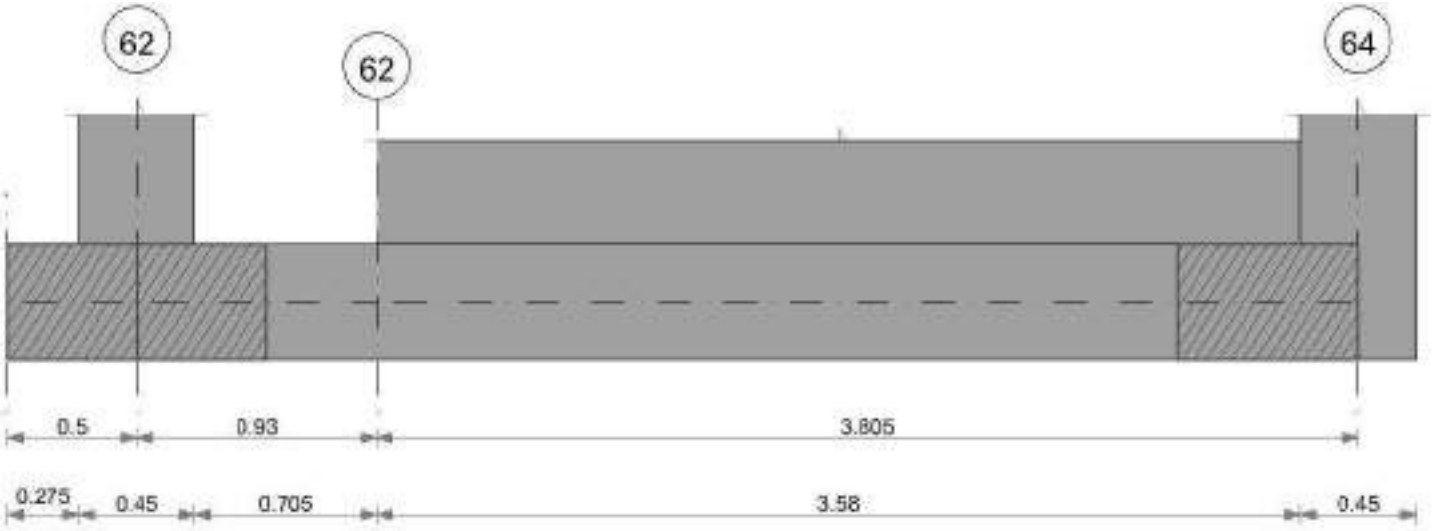
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	795	SLE RA 20	0.05	0.001	795	1120	SLE RA 20	0.05	0	795	SLE RA 16	0.0033	0	SLE RA 9	Si
D	0.05	0	765	SLE RA 1	0.05	0	765	765	SLE RA 1	0.05	0	795	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	765	SLE RA 1	0.05	0	765	765	SLE RA 1	0.05	0	795	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	795	967	SLE RA 21	0.19	0.02	795	SLE RA 16	0.1	0.01	1030	SLE RA 9	Si
D	0.19	0	SLE RA 1	0.19	0	765	795	SLE RA 1	0.19	0	765	SLE RA 1	0.1	0	795	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	765	795	SLE RA 1	0.19	0	765	SLE RA 1	0.1	0	795	SLE RA 1	Si

CORDOLO 32

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

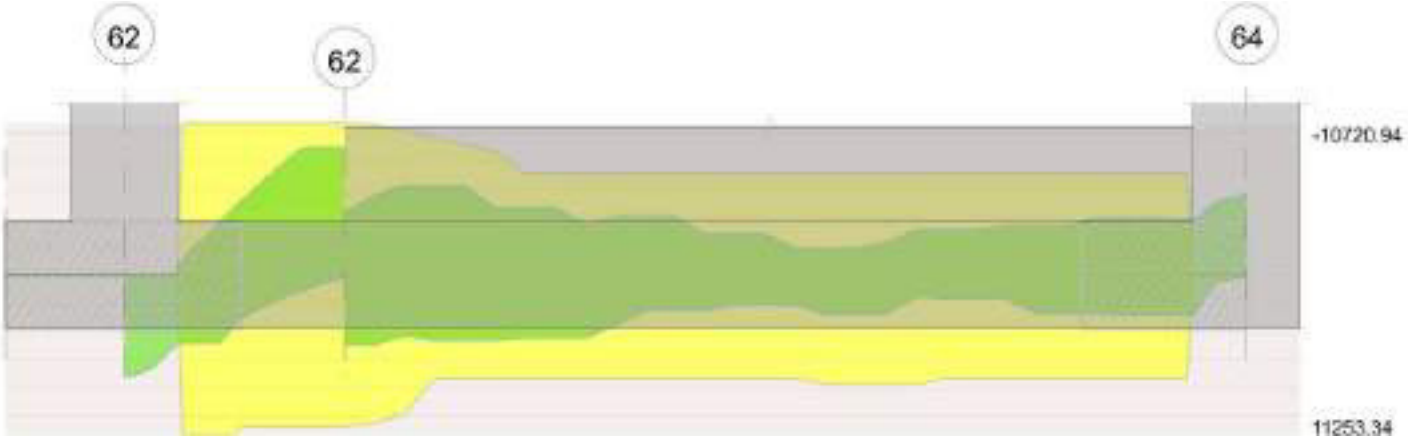
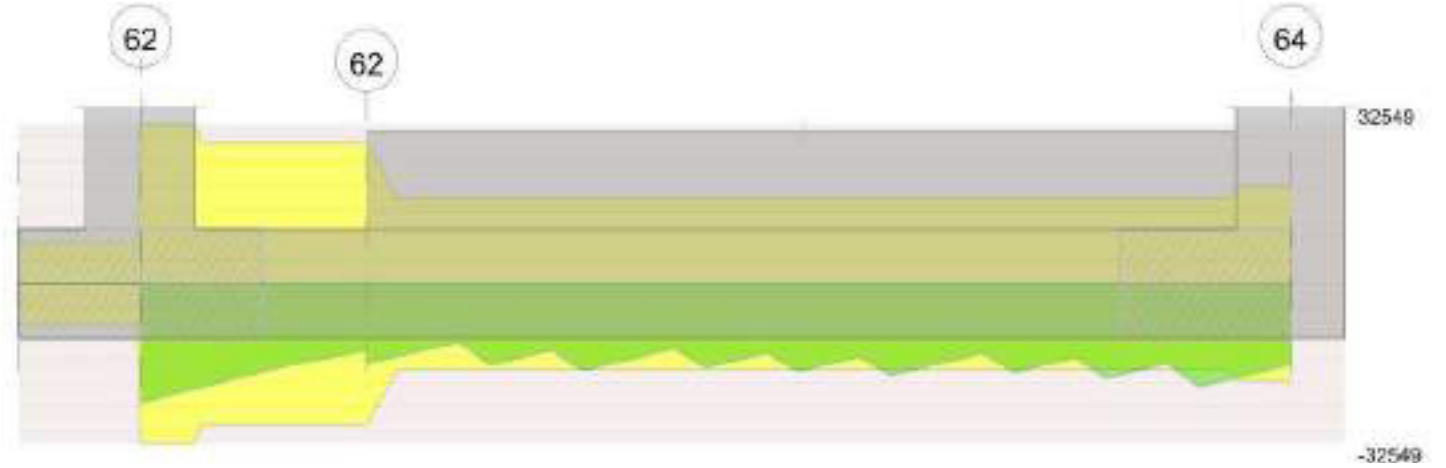


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 62 - 62, sezione R 50x45, asta 530

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000763	0.052	0.000763	0.052	43.75	SLU 52	3501.96	11253.34	0.131	3.21	-20.63	SLU 27	-3091.95	-11253.34	0.131	3.64	Si
0.93	0.000763	0.052	0.000763	0.052							-7172.71	SLU 83	-7172.71	-11253.34	0.131	1.57	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000763	0.052	0.000763	0.052	1756.04	SLV FO 6	3270.65	10720.94	0.233	3.28	-1763.89	SLV FO 11	-4781.73	-10720.94	0.233	2.24	Si
0.93	0.000763	0.052	0.000763	0.052	-570.01	SLV FO 6	131.77	10720.94	0.233	81.36	-8993.82	SLV FO 11	-8993.82	-10720.94	0.233	1.19	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000763	0.052	0.000763	0.052	936.48	SLD 6	2836.66	10720.94	0.233	3.78	-944.34	SLD 11	-3517.56	-10720.94	0.233	3.05	Si
0.93	0.000763	0.052	0.000763	0.052							-7037.29	SLD 11	-7037.29	-10720.94	0.233	1.52	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000205	0	0	-24211	SLU 83	-24211	-8455	-71432	-32549	-32549	1	1.34	Si
0.23	0.0000205	0	0	-21362	SLU 83	-21362	-8455	-71432	-32549	-32549	1	1.52	Si
0.47	0.0000205	0	0	-18333	SLU 83	-18333	-7764	-63178	-28788	-28788	1	1.57	Si
0.93	0.0000205	0.000763	0	-12508	SLU 83	-12508	-8659	-63178	-28788	-28788	1	2.3	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000205	0	0	-22080	SLV FO 12	-22080	-8455	-71432	-32549	-32549	1	1.47	Si
0.23	0.0000205	0	0	-20079	SLV FO 12	-20079	-8455	-71432	-32549	-32549	1	1.62	Si
0.25	0.0000205	0	0	-19873	SLV FO 12	-19873	-7764	-63178	-28788	-28788	1	1.45	Si
0.47	0.0000205	0	0	-17900	SLV FO 12	-17900	-7764	-63178	-28788	-28788	1	1.61	Si
0.93	0.0000205	0.000763	0	-13538	SLV FO 12	-13538	-8659	-63178	-28788	-28788	1	2.13	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000205	0	0	-19344	SLD 12	-19344	-8455	-71432	-32549	-32549	1	1.68	Si
0.23	0.0000205	0	0	-17385	SLD 12	-17385	-8455	-71432	-32549	-32549	1	1.87	Si
0.25	0.0000205	0	0	-17184	SLD 12	-17184	-7764	-63178	-28788	-28788	1	1.68	Si
0.47	0.0000205	0	0	-15274	SLD 12	-15274	-7764	-63178	-28788	-28788	1	1.88	Si
0.93	0.0000205	0.000763	0	-11123	SLD 12	-11123	-8659	-63178	-28788	-28788	1	2.59	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.23	3485.01	21	3485.01	206519	1494000	0	36000000	3173.29	2	3173.29	188047	1120500			Si
0.47	24.86	10	2560.6	128535	1494000	1928027	36000000								Si
0.47	-12.23	6	-2259.29	113410	1494000	1701151	36000000	-5.97	1	-2062.69	103541	1120500			Si
0.93	-5241.21	20	-5241.21	455045	1494000	19073022	36000000	-4781.92	2	-4781.92	415169	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0.93	superiore	0.377	0.00056	0.000209	20	0.377	0.00052	0.000196	6	0.377	0.00051	0.000191	2	Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 62 - 62, sezione R 50x45, asta 530

Campata 3 tra i fili 62 - 64, sezione R 50x45, aste 529, 528, 527, 526, 525, 524, 523, 522, 521

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.001	2234	SLU 83	0.087	15943	6873	SLU 83	36503	Si
1.9	0.41	0.0006	2502	SLV FO 11	0.16	9388	7698	SLV FO 11	22168	Si
3.58	0.41	0.0006	3313	SLV FO 11	0.16	9388	10194	SLV FO 11	22168	Si
3.8	0.41	0.0006	3420	SLV FO 11	0.16	9388	10523	SLV FO 11	22168	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.001	1639	SLD 15	0.169	17712	5044	SLD 15	41979	Si
1.9	0.41	0.0006	2051	SLD 11	0.132	10924	6311	SLD 11	25493	Si
3.58	0.41	0.0006	2509	SLD 11	0.132	10924	7719	SLD 11	25493	Si
3.8	0.41	0.0006	2571	SLD 11	0.132	10924	7911	SLD 11	25493	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00001027	1629	SLE RA 20	42331	1494000	524906	36000000	1475	SLE QP 2	38334	1120500	Si
1.9	0.41	0.00000624	1688	SLE RA 20	46086	1494000	571463	36000000	1528	SLE QP 2	41715	1120500	Si
3.58	0.41	0.00000624	1744	SLE RA 20	47603	1494000	590283	36000000	1579	SLE QP 2	43109	1120500	Si
3.8	0.41	0.00000624	1755	SLE RA 20	47926	1494000	594282	36000000	1590	SLE QP 2	43412	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
530,529,528,527,526,525,524,523,522,521	4.96	1.1	SLU 83	ST	BT	2.3	230154	64913	3.55	Si
530,529,528,527,526,525,524,523,522,521	4.96	1.1	SLV FO 11	SIS	BT	2.3	206056	62819	3.28	Si
530,529,528,527,526,525,524,523,522,521	4.96	1.1	SLD 11	SIS	BT	2.3	215633	54212	3.98	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	929	-64913	-381.26	1336.03	0	1	0.02	-0.01	1.09	4.92	1496	2060	0	14430	
0	-1	-62819	-150.88	19415.81	0	0	0.31	0	1.1	4.34	1496	2060	0	14430	0.07
0	237	-54212	-174.12	10765.74	0	0	0.2	0	1.09	4.56	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

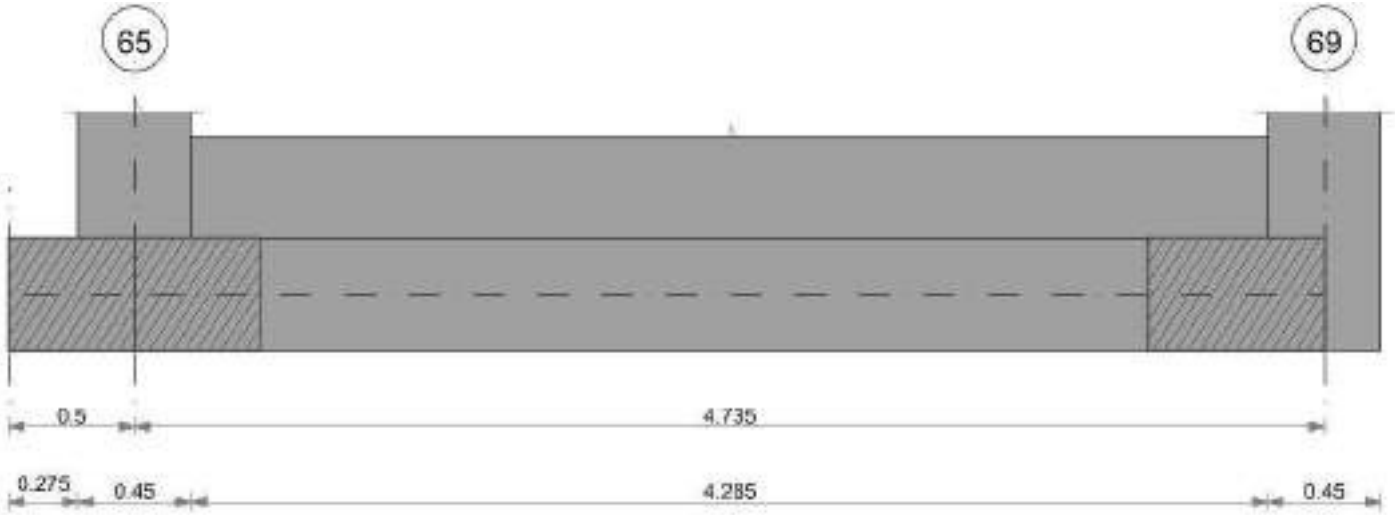
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	708	SLE RA 20	0.05	0.001	708	969	SLE RA 21	0.05	0	797	SLE RA 20	0.0033	0	SLE RA 1	Si
D	0.05	0	708	SLE RA 1	0.05	0	708	708	SLE RA 1	0.05	0	797	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	708	SLE RA 1	0.05	0	708	708	SLE RA 1	0.05	0	797	SLE RA 1	0.0033	0	SLE RA 1	Si

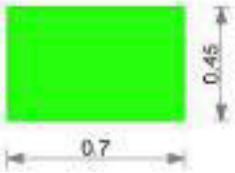
Verifiche geotecniche - Rotazioni assolute e differenziali

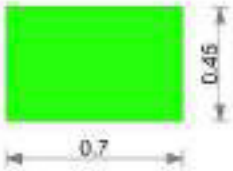
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	797	969	SLE RA 21	0.19	0.01	797	SLE RA 20	0.1	0	708	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	708	797	SLE RA 1	0.19	0	708	SLE RA 1	0.1	0	797	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	708	797	SLE RA 1	0.19	0	708	SLE RA 1	0.1	0	797	SLE RA 1	Si

CORDOLO 33

Geometria







Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

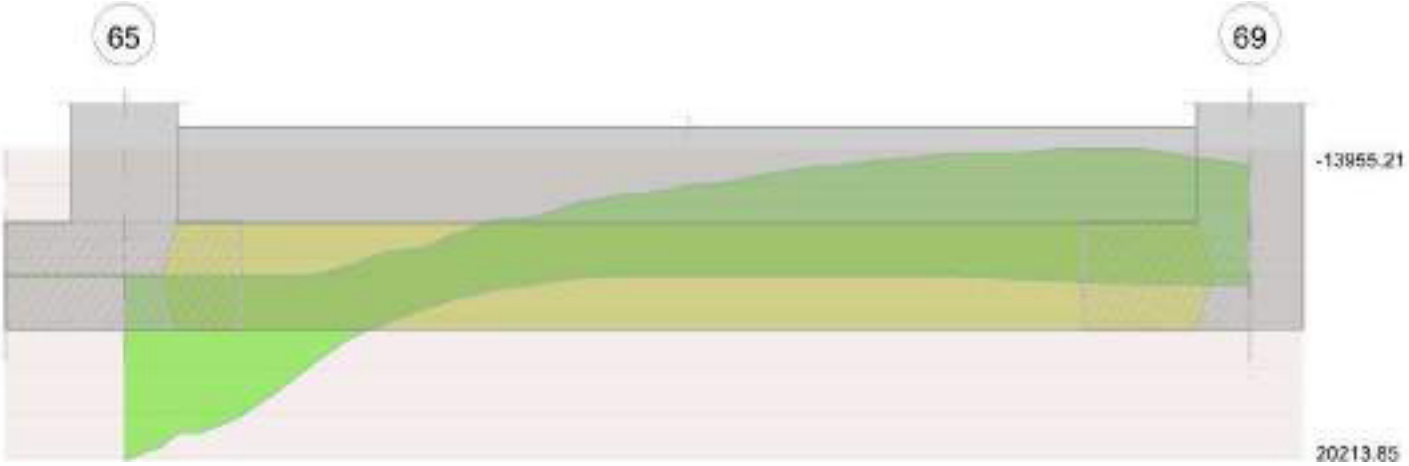
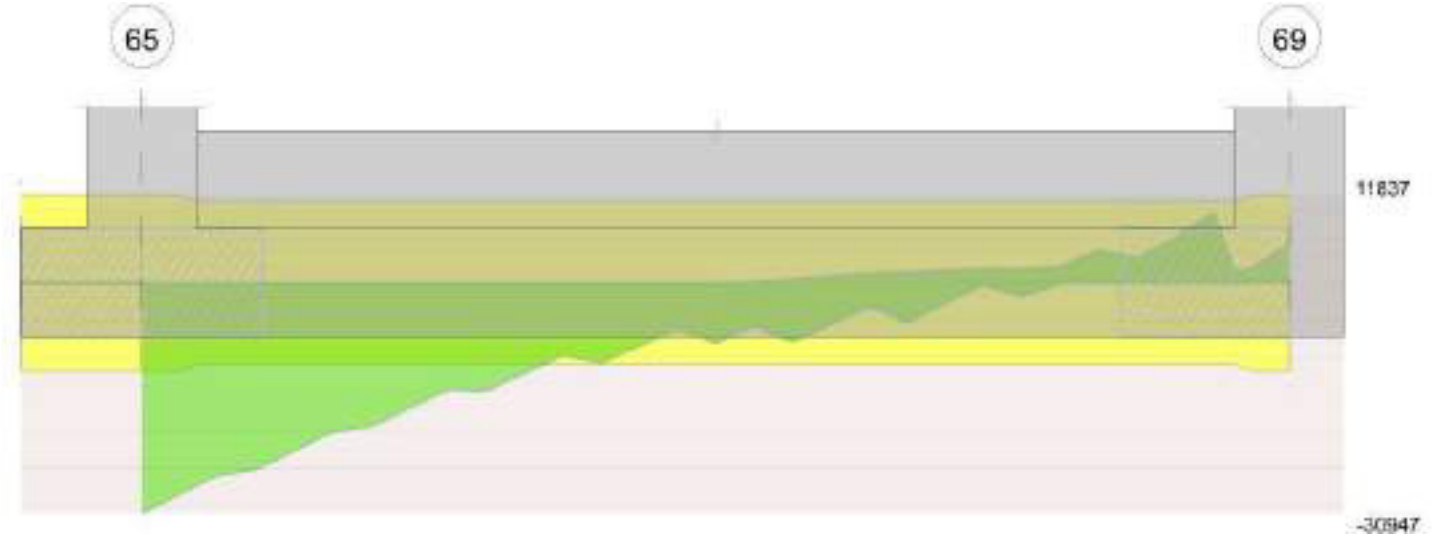


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 65 - 69, sezione R 70x45, aste 520, 519, 518, 517, 516, 515, 514, 513, 512, 511, 510

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.37	0.41	0.0002	2900	SLD 15	0.07	3097	7483	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	2848	SLE RA 20	82455	1494000	1022448	36000000	2596	SLE QP 2	75142	1120500	Si
0.23	0.41	0.00000172	2844	SLE RA 20	82341	1494000	1021034	36000000	2592	SLE QP 2	75031	1120500	Si
2.37	0.41	0.00000172	2284	SLE RA 20	66117	1494000	819853	36000000	2078	SLE QP 2	60140	1120500	Si
4.51	0.41	0.00000172	2621	SLE RA 20	75867	1494000	940747	36000000	2383	SLE QP 2	68976	1120500	Si
4.74	0.41	0.00000172	2739	SLE RA 20	79288	1494000	983177	36000000	2490	SLE QP 2	72094	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
520,519,518,517,516,515,514,513,512,511,510	4.96	1.3	SLU 83	ST	BT	2.3	225867	79071	2.86	Si
520,519,518,517,516,515,514,513,512,511,510	4.96	1.3	SLV FO 11	SIS	BT	2.3	195677	83190	2.35	Si
520,519,518,517,516,515,514,513,512,511,510	4.96	1.3	SLD 11	SIS	BT	2.3	209708	69943	3	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	1148	-79071	7311.92	-3886.91	0	1	-0.05	0.09	1.12	4.86	1496	2060	0	14430	
0	37	-83190	10432.87	21011.45	0	0	0.25	0.13	1.05	4.45	1496	2060	0	14430	0.07
0	323	-69943	7925.25	9934.8	0	0	0.14	0.11	1.07	4.68	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	721	SLE RA 20	0.05	0	721	982	SLE RA 21	0.05	0	721	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	721	SLE RA 1	0.05	0	721	721	SLE RA 1	0.05	0	721	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	721	SLE RA 1	0.05	0	721	721	SLE RA 1	0.05	0	721	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	721	982	SLE RA 21	0.19	0	721	SLE RA 1	0.1	0	721	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	721	982	SLE RA 1	0.19	0	721	SLE RA 1	0.1	0	721	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	721	982	SLE RA 1	0.19	0	721	SLE RA 1	0.1	0	721	SLE RA 1	Si

CORDOLO 34

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

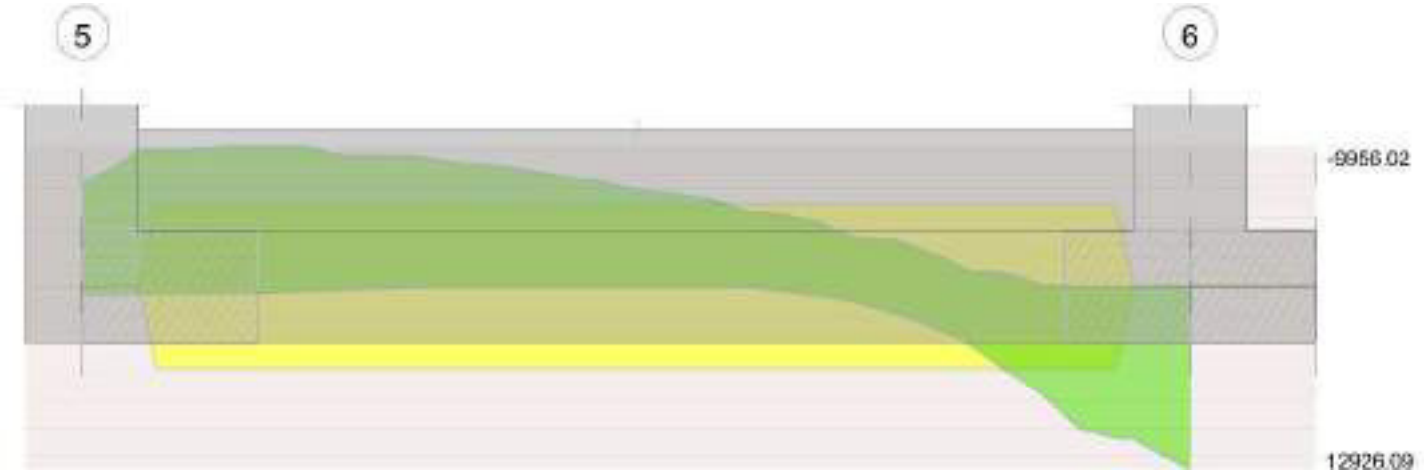
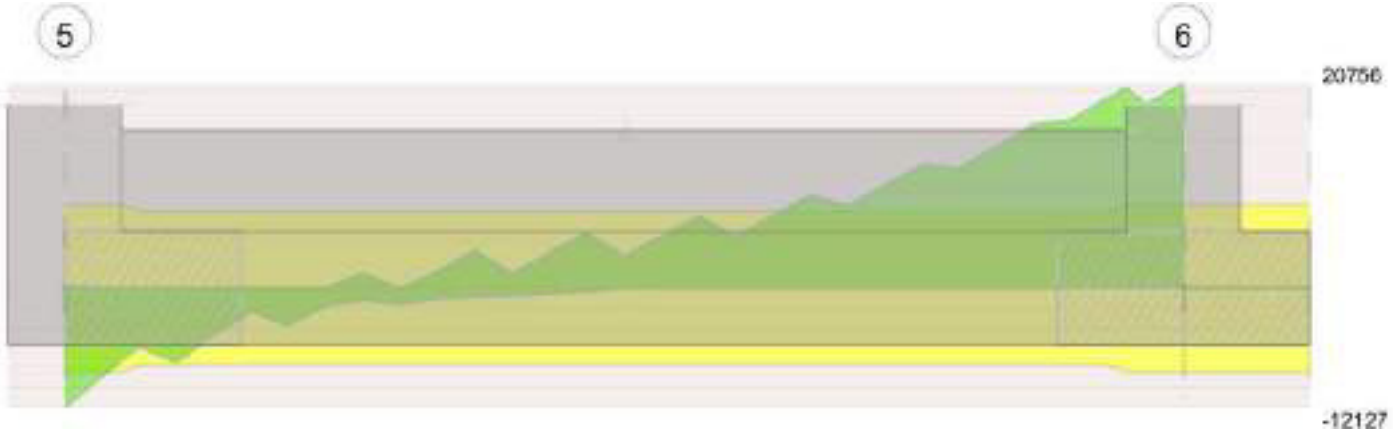


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 5 - 6, sezione R 50x45, aste 485, 484, 483, 482, 481, 480, 479, 478, 477, 476, 475

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2086	SLV FO 5	0.086	2686	7254	SLV FO 5	15877	Si
4.2	0.41	0.0002	2295	SLV FO 2	0.086	2686	7983	SLV FO 2	15877	Si
4.42	0.41	0.0002	2296	SLV FO 2	0.086	2686	7986	SLV FO 2	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2487	SLD 5	0.07	3109	8651	SLD 5	15877	Si
0.23	0.41	0.0002	2347	SLD 5	0.07	3109	8164	SLD 5	15877	Si
2.21	0.41	0.0002	1685	SLD 1	0.07	3109	5861	SLD 1	15877	Si
4.2	0.41	0.0002	1921	SLD 2	0.07	3109	6681	SLD 2	15877	Si
4.42	0.41	0.0002	1925	SLD 2	0.07	3109	6696	SLD 2	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	1566	SLE RA 21	45318	1494000	561949	36000000	1416	SLE QP 2	40980	1120500	Si
0.23	0.41	0.00000173	1498	SLE RA 21	43348	1494000	537520	36000000	1354	SLE QP 2	39200	1120500	Si
2.21	0.41	0.00000173	1288	SLE RA 21	37272	1494000	462175	36000000	1167	SLE QP 2	33782	1120500	Si
4.2	0.41	0.00000173	1545	SLE RA 21	44716	1494000	554479	36000000	1405	SLE QP 2	40661	1120500	Si
4.42	0.41	0.00000173	1553	SLE RA 21	44960	1494000	557504	36000000	1413	SLE QP 2	40892	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
485,484,483,482,481,480,479,478,477,476,475	4.65	1.1	SLU 84	ST	BT	2.3	189387	64468	2.94	Si
485,484,483,482,481,480,479,478,477,476,475	4.65	1.1	SLV FO 5	SIS	BT	2.3	163794	72035	2.27	Si
485,484,483,482,481,480,479,478,477,476,475	4.65	1.1	SLD 5	SIS	BT	2.3	173858	59238	2.93	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-938	-64468	-4551.26	1403.94	0	-1	0.02	-0.07	0.96	4.61	1496	2060	0	14430	
0	-63	-72035	-6748.97	-17521.03	0	0	-0.24	-0.09	0.91	4.16	1496	2060	0	14430	0.07
0	-270	-59238	-5077.31	-8849.87	0	0	-0.15	-0.09	0.93	4.35	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	595	SLE RA 21	0.05	0	595	294	SLE RA 20	0.05	0	595	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	595	SLE RA 1	0.05	0	595	595	SLE RA 1	0.05	0	595	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	595	SLE RA 1	0.05	0	595	595	SLE RA 1	0.05	0	595	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	595	294	SLE RA 20	0.19	0	595	SLE RA 1	0.1	0	595	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	595	294	SLE RA 1	0.19	0	595	SLE RA 1	0.1	0	595	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	595	294	SLE RA 1	0.19	0	595	SLE RA 1	0.1	0	595	SLE RA 1	Si

CORDOLO 35

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

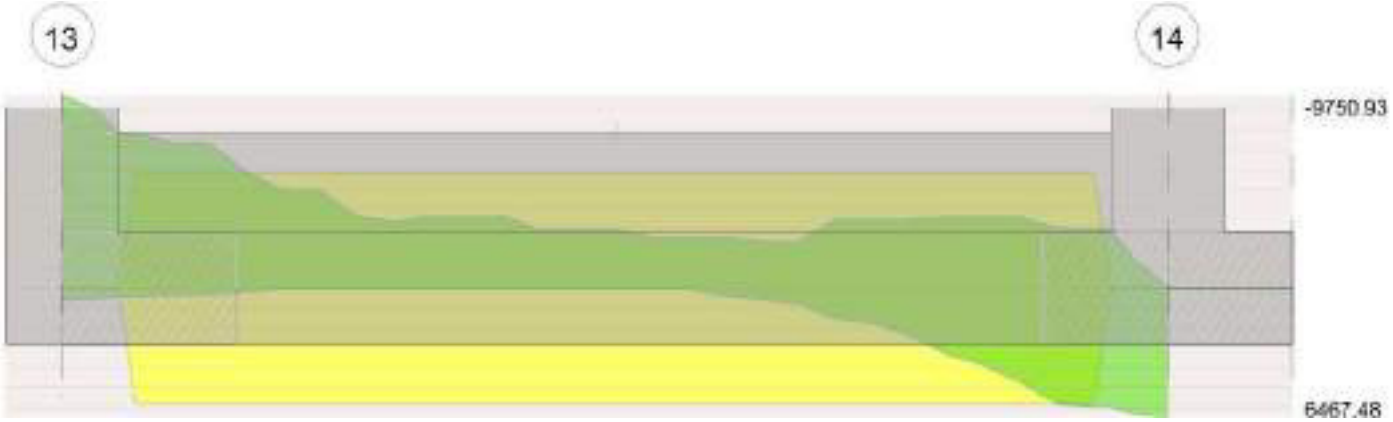
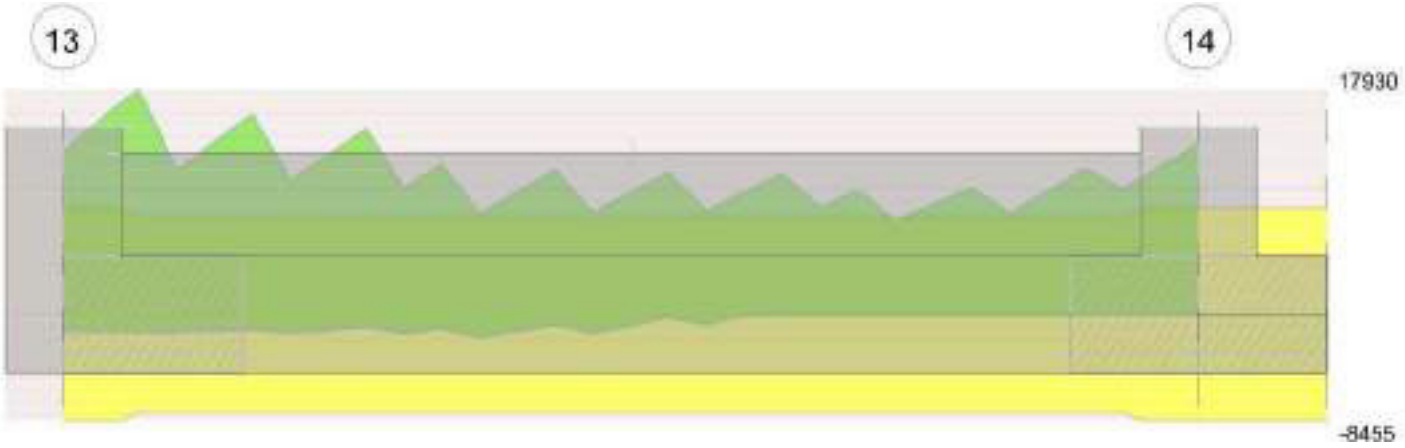


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 13 - 14, sezione R 50x45, aste 211, 210, 209, 208, 207, 206, 205, 204, 203, 202, 201

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2011	SLV FO 5	0.086	2686	6224	SLU 84	15877	Si
4.2	0.41	0.0002	2183	SLU 83	0.017	2762	6717	SLU 83	15877	Si
4.42	0.41	0.0002	2193	SLU 83	0.017	2762	6749	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2400	SLD 5	0.07	3109	7386	SLD 5	15877	Si
0.23	0.41	0.0002	2287	SLD 5	0.07	3109	7037	SLD 5	15877	Si
2.21	0.41	0.0002	1697	SLD 5	0.07	3109	5223	SLD 5	15877	Si
4.2	0.41	0.0002	1626	SLD 3	0.07	3109	5004	SLD 3	15877	Si
4.42	0.41	0.0002	1643	SLD 3	0.07	3109	5056	SLD 3	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	1641	SLE RA 21	47503	1494000	589032	36000000	1477	SLE QP 2	42766	1120500	Si
0.23	0.41	0.00000173	1594	SLE RA 21	46151	1494000	572268	36000000	1436	SLE QP 2	41553	1120500	Si
2.21	0.41	0.00000173	1477	SLE RA 21	42754	1494000	530153	36000000	1332	SLE QP 2	38562	1120500	Si
4.2	0.41	0.00000173	1591	SLE RA 20	46052	1494000	571050	36000000	1436	SLE QP 2	41571	1120500	Si
4.42	0.41	0.00000173	1598	SLE RA 20	46263	1494000	573656	36000000	1443	SLE QP 2	41757	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
211,210,209,208,207,206,205,204,203,202,201	4.65	1.1	SLU 84	ST	BT	2.3	216522	60216	3.6	Si
211,210,209,208,207,206,205,204,203,202,201	4.65	1.1	SLV FO 9	SIS	BT	2.3	177915	54128	3.29	Si
211,210,209,208,207,206,205,204,203,202,201	4.65	1.1	SLD 9	SIS	BT	2.3	193292	47908	4.03	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-699	-60216	488.04	457.75	0	-1	0.01	0.01	1.08	4.63	1496	2060	0	14430	
0	-3089	-54128	1424.48	-18509.27	0	-3	-0.34	0.03	1.05	3.97	1496	2060	0	14430	0.07
0	-1970	-47908	960.36	-9734.45	0	-2	-0.2	0.02	1.06	4.24	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	665	SLE RA 20	0.05	0.001	665	310	SLE RA 20	0.05	0	665	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	665	SLE RA 1	0.05	0	665	665	SLE RA 1	0.05	0	665	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	665	SLE RA 1	0.05	0	665	665	SLE RA 1	0.05	0	665	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	665	310	SLE RA 20	0.19	0	665	SLE RA 1	0.1	0	665	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	665	310	SLE RA 1	0.19	0	665	SLE RA 1	0.1	0	665	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	665	310	SLE RA 1	0.19	0	665	SLE RA 1	0.1	0	665	SLE RA 1	Si

CORDOLO 36

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

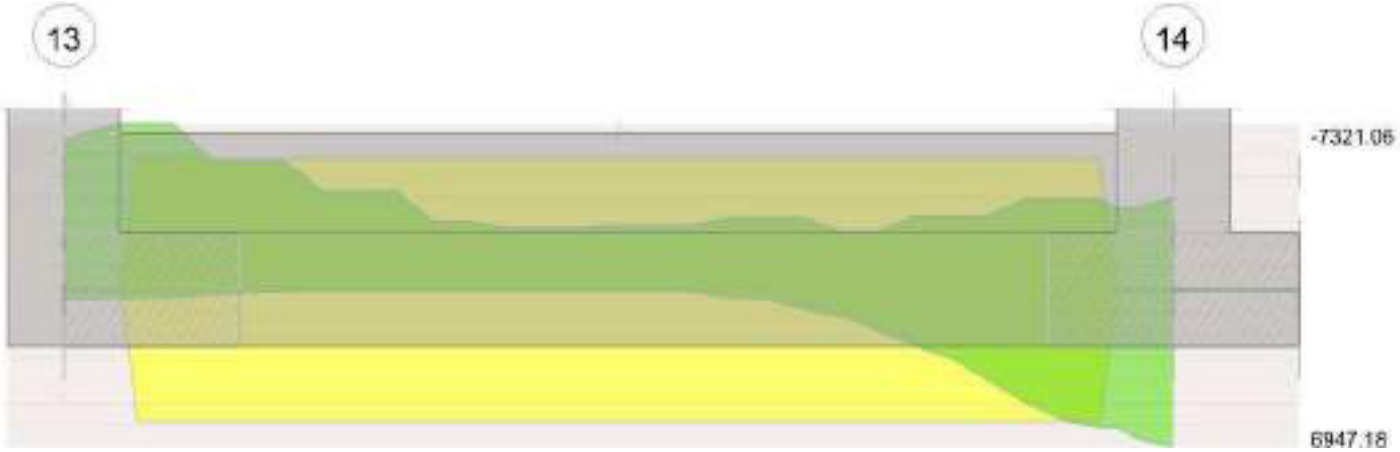


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 13 - 14, sezione R 50x45, aste 222, 221, 220, 219, 218, 217, 216, 215, 214, 213, 212

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2062	SLU 84	0.017	2762	6344	SLU 84	15877	Si
4.2	0.41	0.0002	2206	SLU 83	0.017	2762	6789	SLU 83	15877	Si
4.42	0.41	0.0002	2216	SLU 83	0.017	2762	6819	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2426	SLD 5	0.07	3109	7465	SLD 5	15877	Si
0.23	0.41	0.0002	2312	SLD 5	0.07	3109	7115	SLD 5	15877	Si
2.21	0.41	0.0002	1704	SLD 5	0.07	3109	5244	SLD 5	15877	Si
4.2	0.41	0.0002	1630	SLD 4	0.07	3109	5014	SLD 4	15877	Si
4.42	0.41	0.0002	1647	SLD 4	0.07	3109	5068	SLD 4	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	1682	SLE RA 21	48690	1494000	603757	36000000	1515	SLE QP 2	43844	1120500	Si
0.23	0.41	0.00000173	1635	SLE RA 21	47328	1494000	586872	36000000	1472	SLE QP 2	42622	1120500	Si
2.21	0.41	0.00000173	1506	SLE RA 21	43577	1494000	540359	36000000	1358	SLE QP 2	39304	1120500	Si
4.2	0.41	0.00000173	1608	SLE RA 20	46541	1494000	577103	36000000	1451	SLE QP 2	41993	1120500	Si
4.42	0.41	0.00000173	1615	SLE RA 20	46742	1494000	579597	36000000	1457	SLE QP 2	42171	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
222,221,220,219,218,217,216,215,214,213,212	4.65	1.1	SLU 84	ST	BT	2.3	216975	61113	3.55	Si
222,221,220,219,218,217,216,215,214,213,212	4.65	1.1	SLV FO 9	SIS	BT	2.3	177710	54309	3.27	Si
222,221,220,219,218,217,216,215,214,213,212	4.65	1.1	SLD 9	SIS	BT	2.3	193147	48290	4	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-699	-61113	488.04	191.87	0	-1	0	0.01	1.08	4.64	1496	2060	0	14430	
0	-3089	-54309	1424.48	-18718.44	0	-3	-0.34	0.03	1.05	3.96	1496	2060	0	14430	0.07
0	-1970	-48290	960.36	-9923.97	0	-2	-0.21	0.02	1.06	4.24	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

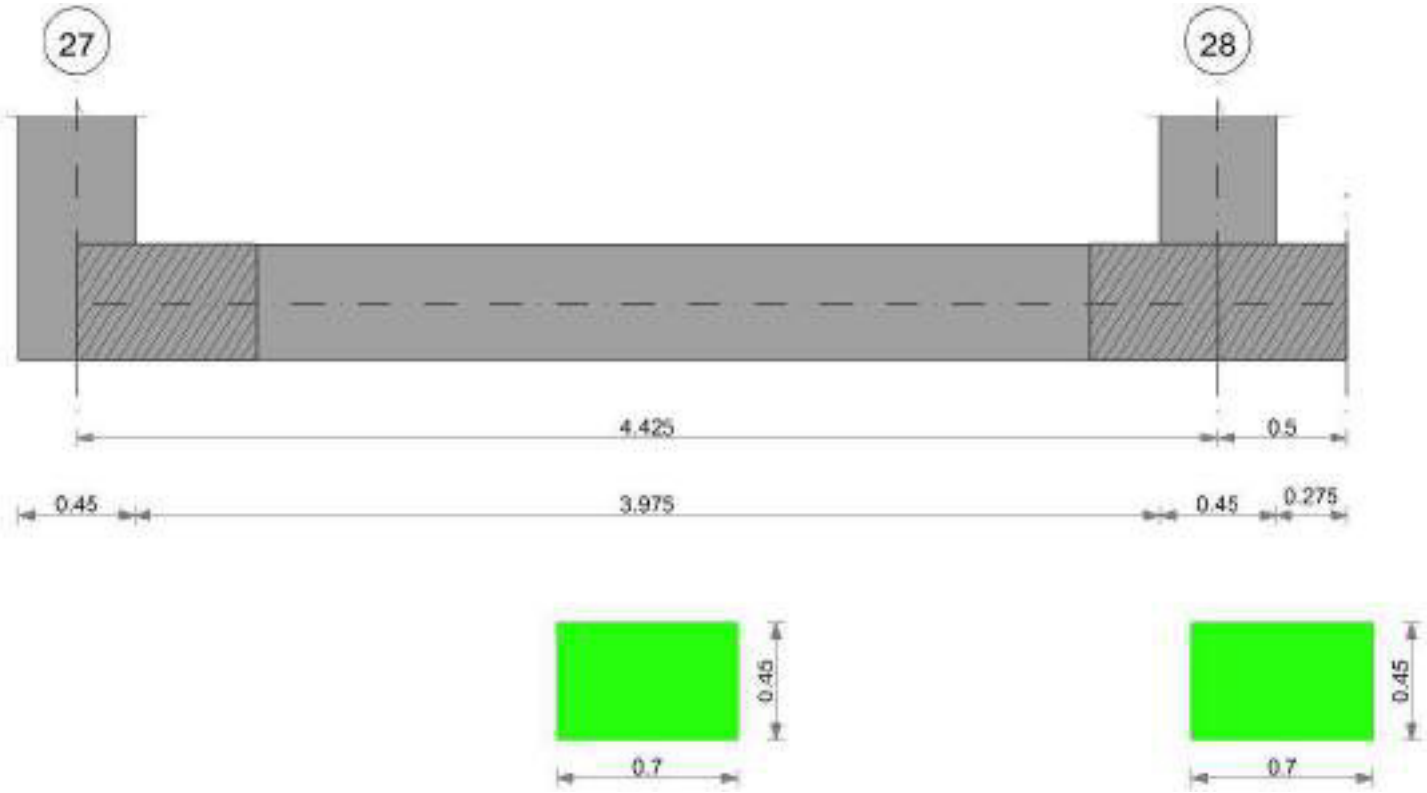
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	667	SLE RA 20	0.05	0.001	667	312	SLE RA 20	0.05	0	667	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	667	SLE RA 1	0.05	0	667	667	SLE RA 1	0.05	0	667	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	667	SLE RA 1	0.05	0	667	667	SLE RA 1	0.05	0	667	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	667	312	SLE RA 20	0.19	0	667	SLE RA 1	0.1	0	667	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	667	312	SLE RA 1	0.19	0	667	SLE RA 1	0.1	0	667	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	667	312	SLE RA 1	0.19	0	667	SLE RA 1	0.1	0	667	SLE RA 1	Si

CORDOLO 37

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

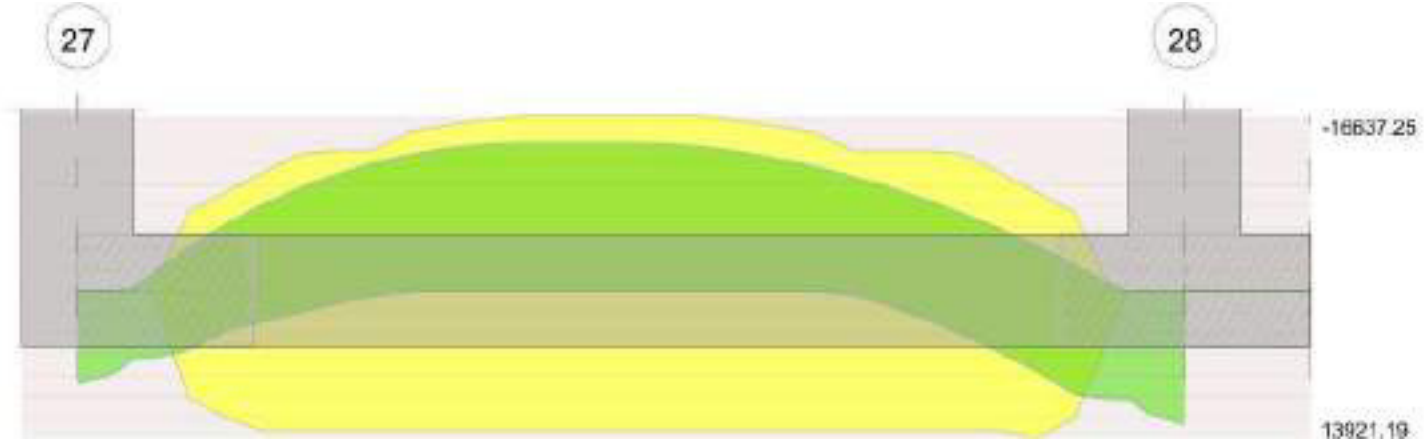
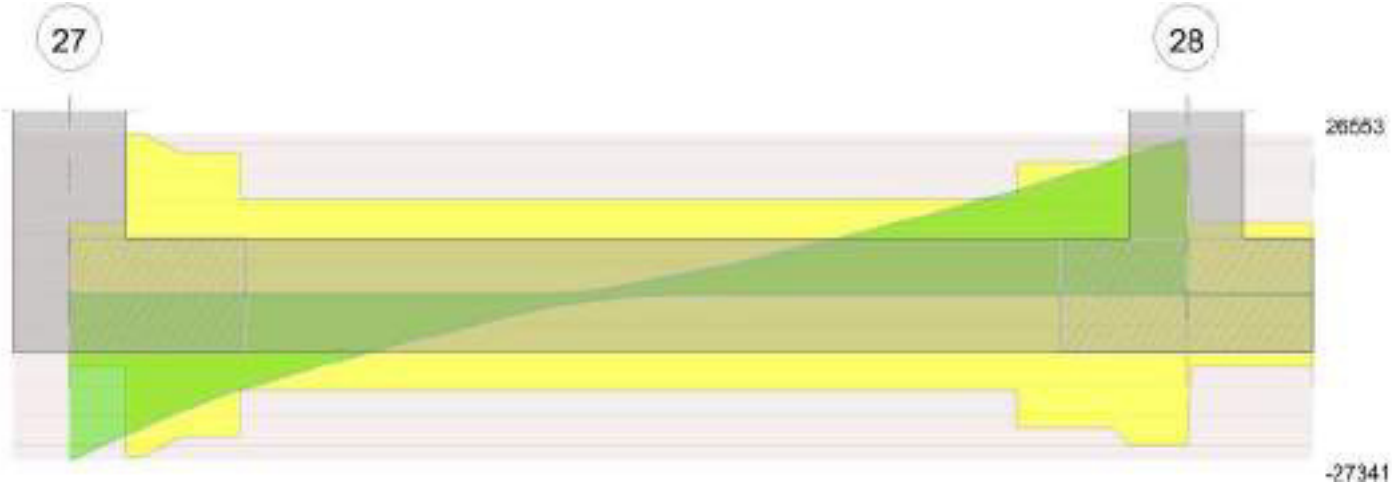


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 27 - 28, sezione R 70x45, aste 338, 337, 336

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
2.21	0.001197	0.053	0.000942	0.053							-12536.64	SLU 84	-12595.48	-17472.25	0.14	1.39	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
2.21	0.001197	0.053	0.000942	0.053							-13842.85	SLV FO 9	-14009.61	-16637.25	0.248	1.19	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
2.21	0.001197	0.053	0.000942	0.053							-11267.83	SLD 9	-11375.12	-16637.25	0.248	1.46	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-25277	SLU 84	-25277	-11837	-100005	0	-11837	1	0.47	Si
0.23	0.0000168	0	0	-21892	SLU 84	-21892	-11837	-100005	-26553	-26553	1	1.21	Si
2.21	0.0000113	0.001155	0	1111	SLU 84	1111	12427	88274	15778	15778	1	14.2	Si
4.2	0.0000156	0	0	22886	SLU 84	22886	11837	100005	24783	24783	1	1.08	Si
4.42	0.0000156	0	0	25889	SLU 83	25889	11837	100005	24783	24783	1	0.96	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-27341	SLV FO 9	-27341	-11837	-100005	0	-11837	1	0.43	Si
0.23	0.0000168	0	0	-23020	SLV FO 9	-23020	-11837	-100005	-26553	-26553	1	1.15	Si
2.21	0.0000113	0.001155	0	1731	SLV FO 9	1731	12427	88274	15778	15778	1	9.11	Si
2.21	0.0000113	0.001155	0	-263	SLV FO 8	-263	-12427	-88274	-15778	-15778	1	59.94	Si
4.2	0.0000156	0	0	16910	SLV FO 13	16910	11837	100005	24783	24783	1	1.47	Si
4.42	0.0000156	0	0	18993	SLV FO 13	18993	11837	100005	24783	24783	1	1.3	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-22415	SLD 9	-22415	-11837	-100005	0	-11837	1	0.53	Si
0.23	0.0000168	0	0	-19062	SLD 9	-19062	-11837	-100005	-26553	-26553	1	1.39	Si
2.21	0.0000113	0.001155	0	1269	SLD 9	1269	12427	88274	15778	15778	1	12.44	Si
4.2	0.0000156	0	0	16178	SLD 13	16178	11837	100005	24783	24783	1	1.53	Si
4.42	0.0000156	0	0	18225	SLD 13	18225	11837	100005	24783	24783	1	1.36	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.23	4663.16	20	4663.16	197383	1494000	0	36000000	4215.87	2	4215.87	178450	1120500			Si
2.21	-9193.98	21	-9237.63	558340	1494000	21638742	36000000	-8324.41	2	-8363.07	505480	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
2.21	superiore	0.366	0.00063	0.00023	21	0.366	0.00059	0.000214	6	0.366	0.00057	0.000209	2	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
338,337,336	4.65	1.3	SLU 84	ST	BT	2.3	244594	61586	3.97	Si
338,337,336	4.65	1.3	SLV FO 9	SIS	BT	2.3	194218	53198	3.65	Si
338,337,336	4.65	1.3	SLD 9	SIS	BT	2.3	214358	47983	4.47	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-1165	-61586	755.92	-2585.96	0	-1	-0.04	0.01	1.28	4.57	1496	2060	0	14430	

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-3705	-53198	1872.49	-23282.42	0	-4	-0.44	0.04	1.23	3.77	1496	2060	0	14430	0.07
0	-2459	-47983	1288.05	-13180.79	0	-3	-0.27	0.03	1.25	4.1	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.06	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.06	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

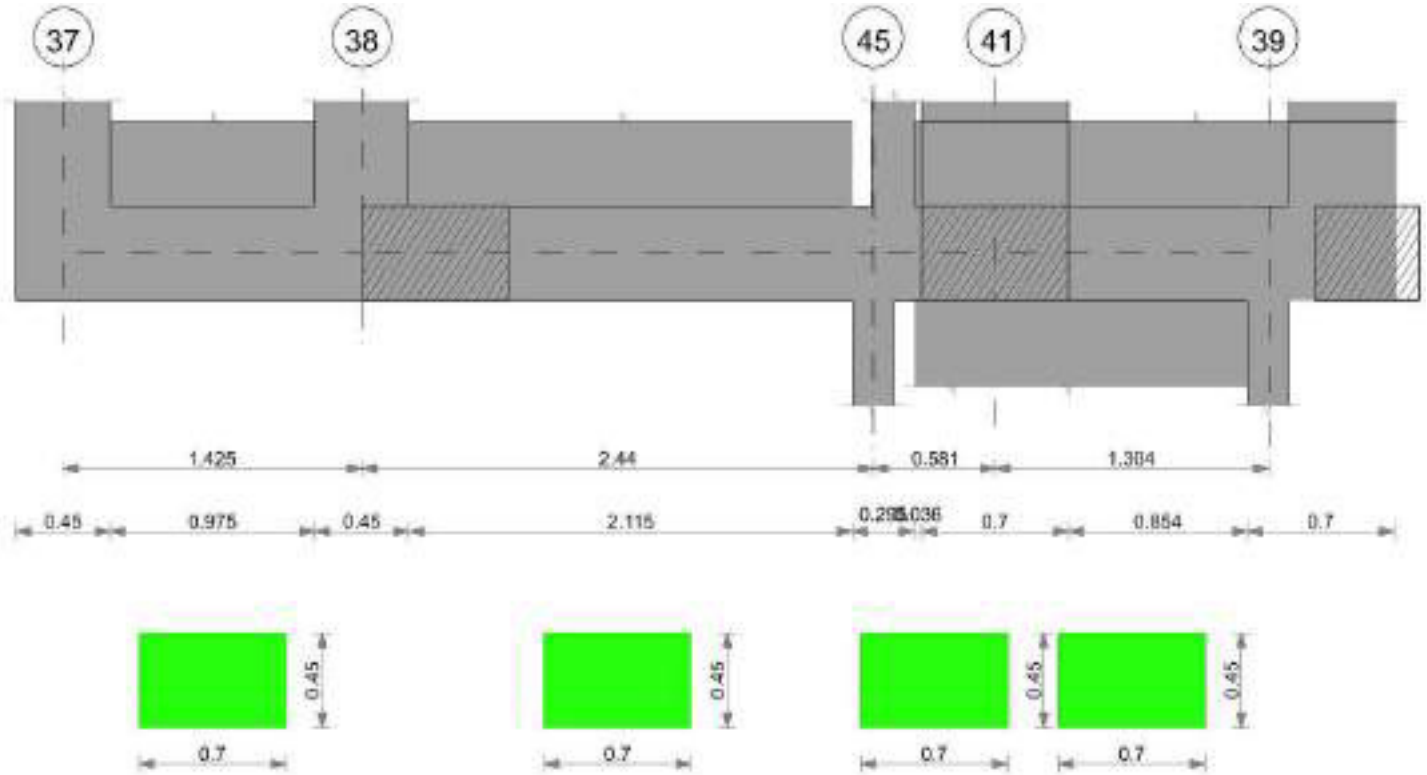
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	680	SLE RA 20	0.05	0.001	680	326	SLE RA 20	0.05	0	680	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	680	SLE RA 1	0.05	0	680	680	SLE RA 1	0.05	0	680	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	680	SLE RA 1	0.05	0	680	680	SLE RA 1	0.05	0	680	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	680	326	SLE RA 20	0.19	0	680	SLE RA 1	0.1	0	680	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	680	326	SLE RA 1	0.19	0	680	SLE RA 1	0.1	0	680	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	680	326	SLE RA 1	0.19	0	680	SLE RA 1	0.1	0	680	SLE RA 1	Si

CORDOLO 38

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

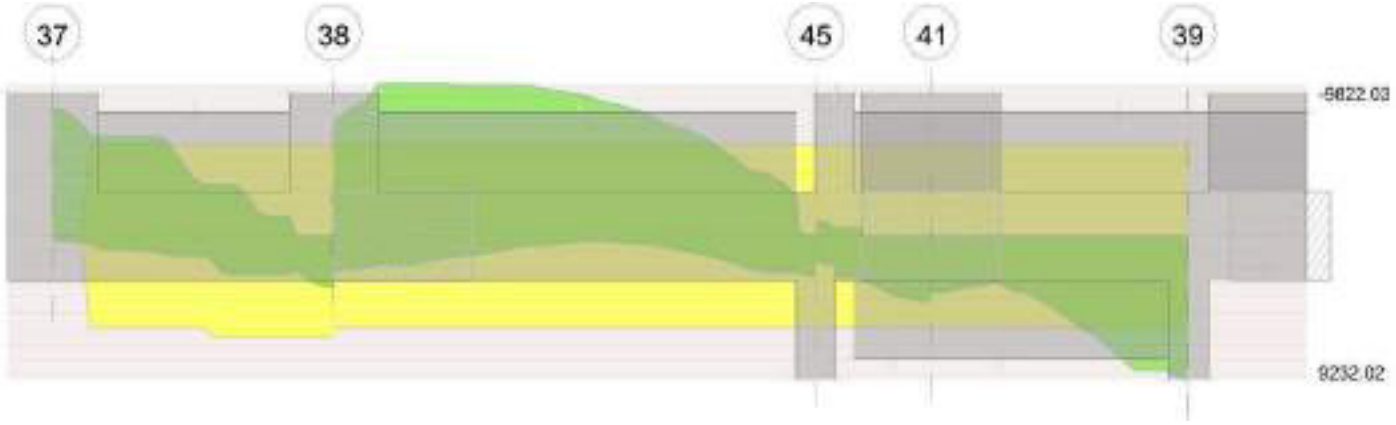
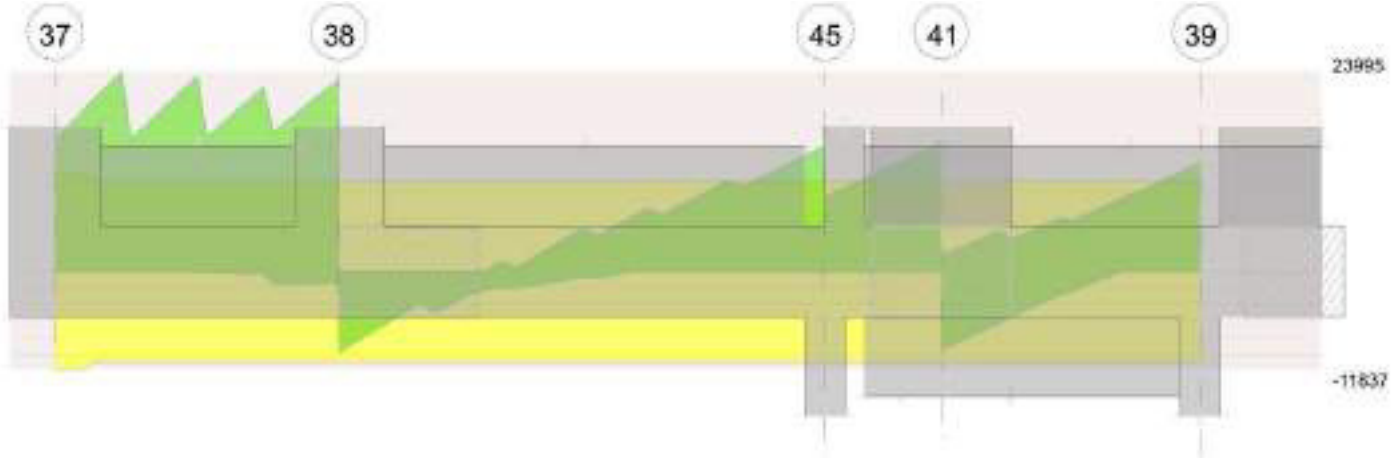


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 37 - 38, sezione R 70x45, aste 602, 601, 600, 599

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
1.42	0.41	0.0004	4944	SLV FO 10	0.121	5360	11646	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	5115	SLD 10	0.098	5956	12047	SLD 10	15877	Si
0.23	0.41	0.0003	4889	SLD 10	0.098	5956	11517	SLD 10	15877	Si
0.71	0.41	0.0003	4442	SLD 10	0.098	5956	10462	SLD 10	15877	Si
1.2	0.41	0.0003	4016	SLD 10	0.098	5956	9460	SLD 10	15877	Si
1.42	0.41	0.0004	3817	SLD 10	0.1	6219	8990	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000335	3292	SLE RA 21	93256	1494000	1156378	36000000	2961	SLE QP 2	83900	1120500	Si
0.23	0.41	0.00000335	3203	SLE RA 21	90758	1494000	1125397	36000000	2882	SLE QP 2	81666	1120500	Si
0.71	0.41	0.00000335	3038	SLE RA 21	86083	1494000	1067430	36000000	2735	SLE QP 2	77495	1120500	Si
1.2	0.41	0.00000335	2883	SLE RA 21	81687	1494000	1012920	36000000	2597	SLE QP 2	73574	1120500	Si
1.42	0.41	0.0000035	2806	SLE RA 21	79357	1494000	984028	36000000	2528	SLE QP 2	71491	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 2 tra i fili 38 - 45, sezione R 70x45, aste 598, 597, 596, 595, 594, 593

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	4944	SLV FO 10	0.121	5360	11646	SLV FO 10	15877	Si
0.23	0.41	0.0004	4633	SLV FO 10	0.121	5360	10913	SLV FO 10	15877	Si
1.22	0.41	0.0004	3608	SLV FO 10	0.121	5360	8497	SLV FO 10	15877	Si
2.34	0.41	0.0004	3659	SLU 84	0.03	5566	8618	SLU 84	15877	Si
2.44	0.41	0.0004	3681	SLU 84	0.03	5566	8670	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3817	SLD 10	0.1	6219	8990	SLD 10	15877	Si
0.23	0.41	0.0004	3619	SLD 10	0.1	6219	8525	SLD 10	15877	Si
1.22	0.41	0.0004	3002	SLD 10	0.1	6219	7072	SLD 10	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.34	0.41	0.0004	2760	SLD 10	0.1	6219	6501	SLD 10	15877	Si
2.44	0.41	0.0004	2748	SLD 9	0.1	6219	6473	SLD 9	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000035	2806	SLE RA 21	79357	1494000	984028	36000000	2528	SLE QP 2	71491	1120500	Si
0.23	0.41	0.0000035	2730	SLE RA 21	77205	1494000	957348	36000000	2460	SLE QP 2	69569	1120500	Si
1.22	0.41	0.0000035	2560	SLE RA 21	72396	1494000	897705	36000000	2310	SLE QP 2	65330	1120500	Si
2.34	0.41	0.0000035	2678	SLE RA 21	75730	1494000	939054	36000000	2421	SLE QP 2	68463	1120500	Si
2.44	0.41	0.0000035	2694	SLE RA 21	76181	1494000	944649	36000000	2436	SLE QP 2	68879	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 45 - 41, sezione R 70x45, asta 592

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3681	SLU 84	0.03	5566	8670	SLU 84	15877	Si
0.1	0.41	0.0003	3703	SLU 84	0.023	4133	8721	SLU 84	15877	Si
0.23	0.41	0.0003	3730	SLU 84	0.023	4133	8787	SLU 84	15877	Si
0.29	0.41	0.0003	3742	SLU 84	0.023	4133	8814	SLU 84	15877	Si
0.58	0.41	0.0003	3787	SLU 84	0.029	5457	8920	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2748	SLD 9	0.1	6219	6473	SLD 9	15877	Si
0.1	0.41	0.0003	2736	SLD 9	0.086	4632	6445	SLD 9	15877	Si
0.23	0.41	0.0003	2720	SLD 9	0.086	4632	6408	SLD 9	15877	Si
0.29	0.41	0.0003	2713	SLD 9	0.086	4632	6390	SLD 9	15877	Si
0.58	0.41	0.0003	2667	SLD 9	0.099	6098	6281	SLD 9	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000035	2694	SLE RA 21	76181	1494000	944649	36000000	2436	SLE QP 2	68879	1120500	Si
0.1	0.41	0.00000259	2710	SLE RA 21	77547	1494000	961582	36000000	2450	SLE QP 2	70121	1120500	Si
0.23	0.41	0.00000259	2730	SLE RA 21	78119	1494000	968673	36000000	2469	SLE QP 2	70647	1120500	Si
0.29	0.41	0.00000259	2738	SLE RA 21	78361	1494000	971680	36000000	2477	SLE QP 2	70870	1120500	Si
0.58	0.41	0.00000343	2771	SLE RA 21	78413	1494000	972316	36000000	2506	SLE QP 2	70930	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 41 - 39, sezione R 70x45, aste 591, 590, 589, 588

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3787	SLU 84	0.029	5457	8920	SLU 84	15877	Si
0.35	0.41	0.0003	3807	SLU 84	0.029	5457	8968	SLU 84	15877	Si
0.65	0.41	0.0003	3803	SLU 83	0.029	5457	8957	SLU 83	15877	Si
1.2	0.41	0.0003	3730	SLU 83	0.029	5457	8785	SLU 83	15877	Si
1.3	0.41	0.0003	3706	SLU 83	0.029	5457	8729	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	2667	SLD 9	0.099	6098	6281	SLD 9	15877	Si
0.35	0.41	0.0003	2579	SLD 9	0.099	6098	6075	SLD 9	15877	Si
0.65	0.41	0.0003	2566	SLD 11	0.099	6098	6043	SLD 11	15877	Si
1.2	0.41	0.0003	2643	SLD 11	0.099	6098	6226	SLD 11	15877	Si
1.3	0.41	0.0003	2648	SLD 11	0.099	6098	6237	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000343	2771	SLE RA 21	78413	1494000	972316	36000000	2506	SLE QP 2	70930	1120500	Si
0.35	0.41	0.00000343	2784	SLE RA 21	78797	1494000	977088	36000000	2519	SLE QP 2	71286	1120500	Si
0.65	0.41	0.00000343	2779	SLE RA 20	78655	1494000	975325	36000000	2513	SLE QP 2	71122	1120500	Si
1.2	0.41	0.00000343	2723	SLE RA 20	77060	1494000	955545	36000000	2459	SLE QP 2	69593	1120500	Si
1.3	0.41	0.00000343	2705	SLE RA 20	76553	1494000	949258	36000000	2442	SLE QP 2	69116	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

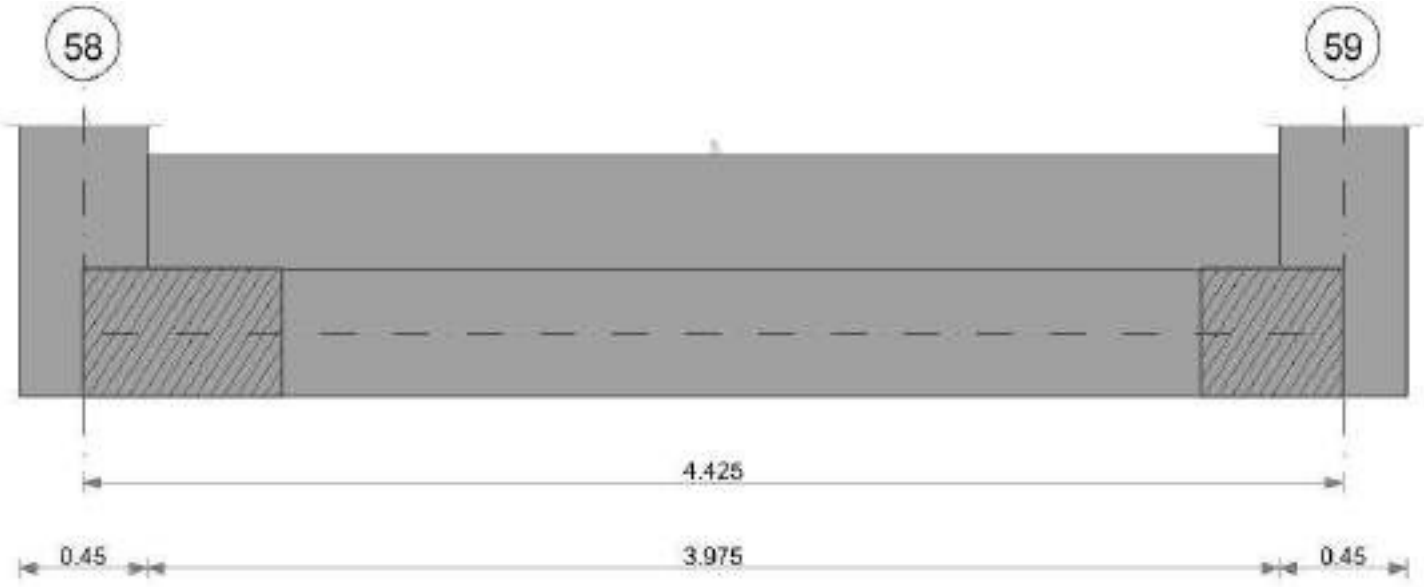
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	687	SLE RA 20	0.05	0.002	687	187	SLE RA 20	0.05	0	511	SLE RA 13	0.0033	0	SLE FR 6	Si
D	0.05	0	687	SLE RA 1	0.05	0	687	687	SLE RA 1	0.05	0	539	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	687	SLE RA 1	0.05	0	687	687	SLE RA 1	0.05	0	539	SLE RA 1	0.0033	0	SLE RA 1	Si

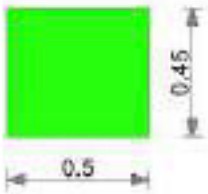
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 20	0.19	0.02	511	328	SLE RA 20	0.19	0.02	511	SLE RA 21	0.1	0.01	539	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	687	539	SLE RA 1	0.19	0	687	SLE RA 1	0.1	0	539	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	687	539	SLE RA 1	0.19	0	687	SLE RA 1	0.1	0	539	SLE RA 1	Si

CORDOLO 39

Geometria





Caratteristiche dei materiali

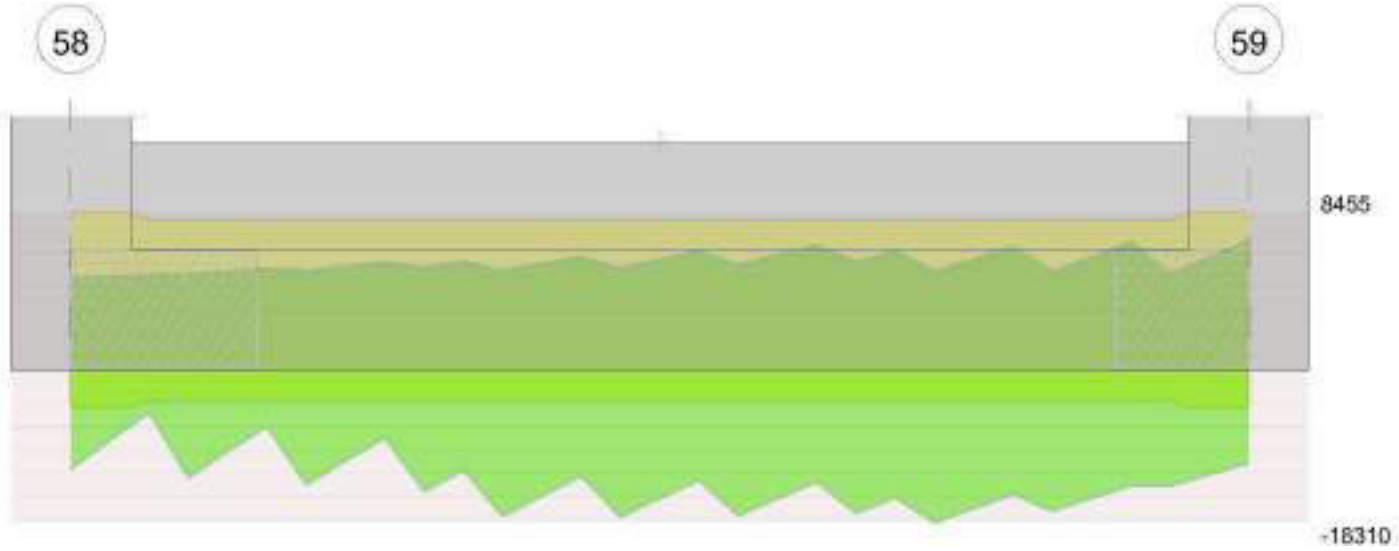
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 58 - 59, sezione R 50x45, aste 360, 359, 358, 357, 356, 355, 354, 353, 352, 351, 350

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2031	SLV FO 10	0.086	2722	6366	SLU 84	15877	Si
4.2	0.41	0.0002	2168	SLU 83	0.018	2799	6671	SLU 83	15877	Si
4.42	0.41	0.0002	2197	SLU 83	0.018	2799	6759	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2504	SLD 10	0.071	3150	7705	SLD 10	15877	Si
0.23	0.41	0.0002	2386	SLD 10	0.071	3150	7341	SLD 10	15877	Si
2.21	0.41	0.0002	1725	SLD 10	0.071	3150	5306	SLD 10	15877	Si
4.2	0.41	0.0002	1572	SLD 11	0.071	3150	4838	SLD 11	15877	Si
4.42	0.41	0.0002	1641	SLD 11	0.071	3150	5049	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000175	1742	SLE RA 21	50399	1494000	624946	36000000	1574	SLE QP 2	45536	1120500	Si
0.23	0.41	0.00000175	1691	SLE RA 21	48920	1494000	606614	36000000	1528	SLE QP 2	44206	1120500	Si
2.21	0.41	0.00000175	1513	SLE RA 21	43773	1494000	542787	36000000	1370	SLE QP 2	39639	1120500	Si
4.2	0.41	0.00000175	1582	SLE RA 20	45771	1494000	567563	36000000	1433	SLE QP 2	41465	1120500	Si
4.42	0.41	0.00000175	1602	SLE RA 20	46364	1494000	574909	36000000	1451	SLE QP 2	41989	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
360,359,358,357,356,355,354,353,352,351,350	4.87	1.1	SLU 84	ST	BT	2.3	225929	61531	3.67	Si
360,359,358,357,356,355,354,353,352,351,350	4.87	1.1	SLV FO 6	SIS	BT	2.3	187023	55532	3.37	Si
360,359,358,357,356,355,354,353,352,351,350	4.87	1.1	SLD 6	SIS	BT	2.3	202106	49182	4.11	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	834	-61531	-507.58	-870.61	0	1	-0.01	-0.01	1.08	4.85	1496	2060	0	14430	
0	3169	-55532	-1314.36	-20030.72	0	3	-0.36	-0.02	1.05	4.15	1496	2060	0	14430	0.07
0	2054	-49182	-908.52	-10930.84	0	2	-0.22	-0.02	1.06	4.43	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	703	SLE RA 20	0.05	0.001	703	339	SLE RA 20	0.05	0	703	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	703	SLE RA 1	0.05	0	703	703	SLE RA 1	0.05	0	703	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	703	SLE RA 1	0.05	0	703	703	SLE RA 1	0.05	0	703	SLE RA 1	0.0033	0	SLE RA 1	Si

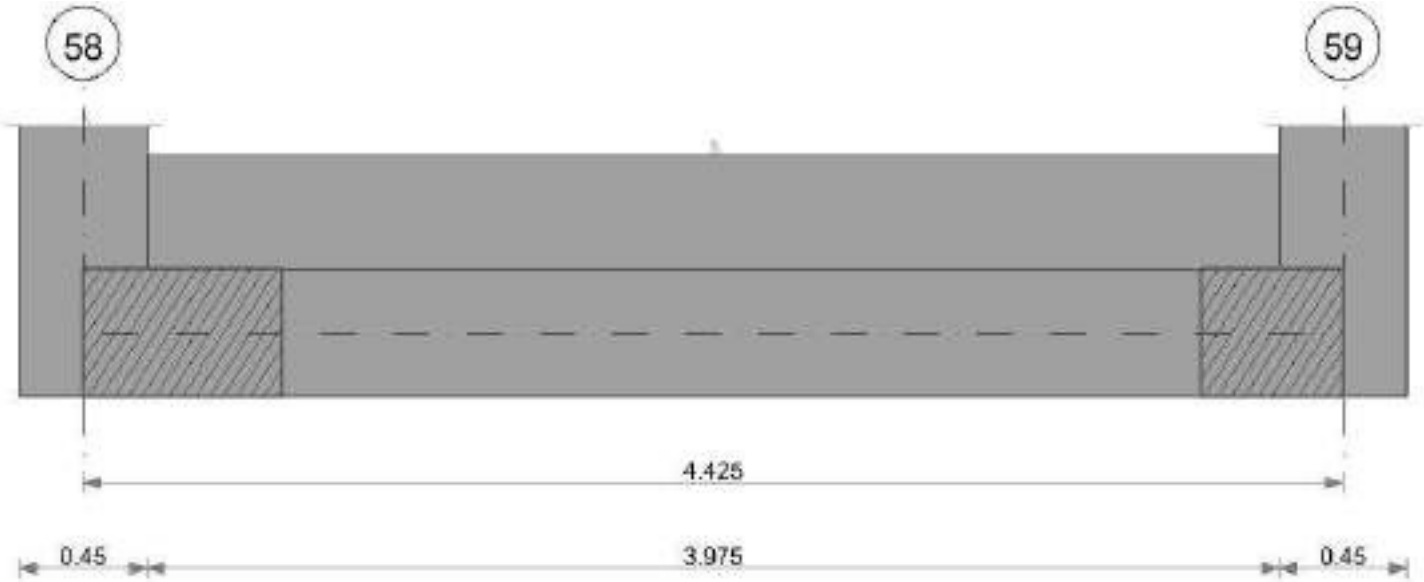
Verifiche geotecniche - Rotazioni assolute e differenziali

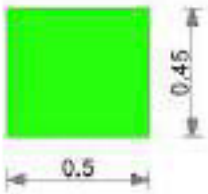
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	703	339	SLE RA 20	0.19	0	703	SLE RA 1	0.1	0	703	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	703	339	SLE RA 1	0.19	0	703	SLE RA 1	0.1	0	703	SLE RA 1	Si

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
Z	0.19	0	SLE RA 1	0.19	0	703	339	SLE RA 1	0.19	0	703	SLE RA 1	0.1	0	703	SLE RA 1	Si

CORDOLO 40

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

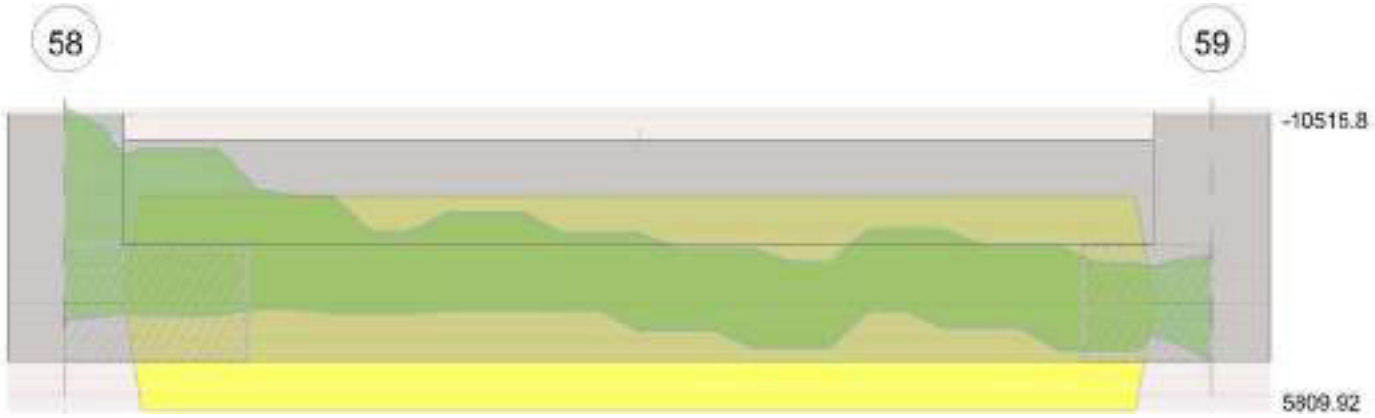
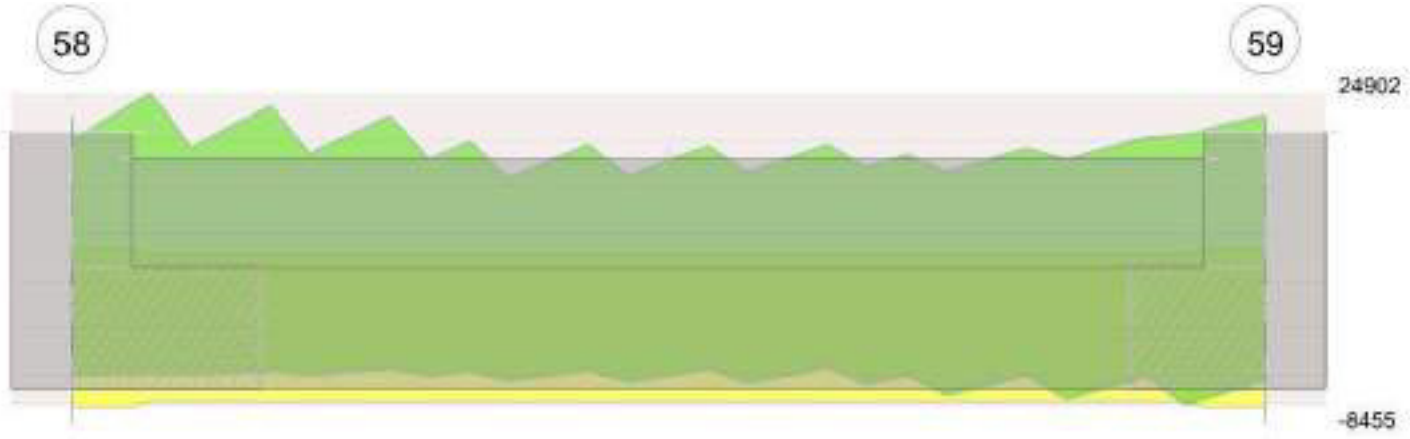


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 58 - 59, sezione R 50x45, aste 349, 348, 347, 346, 345, 344, 343, 342, 341, 340, 339

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2062	SLV FO 10	0.086	2722	6344	SLV FO 10	15877	Si
4.2	0.41	0.0002	2163	SLU 83	0.018	2799	6654	SLU 83	15877	Si
4.42	0.41	0.0002	2192	SLU 83	0.018	2799	6744	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2480	SLD 10	0.071	3150	7631	SLD 10	15877	Si
0.23	0.41	0.0002	2363	SLD 10	0.071	3150	7270	SLD 10	15877	Si
2.21	0.41	0.0002	1731	SLD 10	0.071	3150	5328	SLD 10	15877	Si
4.2	0.41	0.0002	1555	SLD 15	0.071	3150	4785	SLD 15	15877	Si
4.42	0.41	0.0002	1596	SLD 11	0.071	3150	4911	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000175	1700	SLE RA 21	49198	1494000	610056	36000000	1535	SLE QP 2	44429	1120500	Si
0.23	0.41	0.00000175	1650	SLE RA 21	47735	1494000	591910	36000000	1490	SLE QP 2	43112	1120500	Si
2.21	0.41	0.00000175	1491	SLE RA 21	43140	1494000	534931	36000000	1349	SLE QP 2	39041	1120500	Si
4.2	0.41	0.00000175	1578	SLE RA 20	45653	1494000	566103	36000000	1429	SLE QP 2	41352	1120500	Si
4.42	0.41	0.00000175	1599	SLE RA 20	46260	1494000	573622	36000000	1448	SLE QP 2	41888	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
349,348,347,346,345,344,343,342,341,340,339	4.87	1.1	SLU 84	ST	BT	2.3	226618	60847	3.72	Si
349,348,347,346,345,344,343,342,341,340,339	4.87	1.1	SLV FO 6	SIS	BT	2.3	188675	56109	3.36	Si
349,348,347,346,345,344,343,342,341,340,339	4.87	1.1	SLD 6	SIS	BT	2.3	203185	49265	4.12	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	834	-60847	-507.58	-369.96	0	1	-0.01	-0.01	1.08	4.86	1496	2060	0	14430	
0	3169	-56109	-1314.36	-19240.43	0	3	-0.34	-0.02	1.05	4.19	1496	2060	0	14430	0.07
0	2054	-49265	-908.52	-10355.8	0	2	-0.21	-0.02	1.06	4.45	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

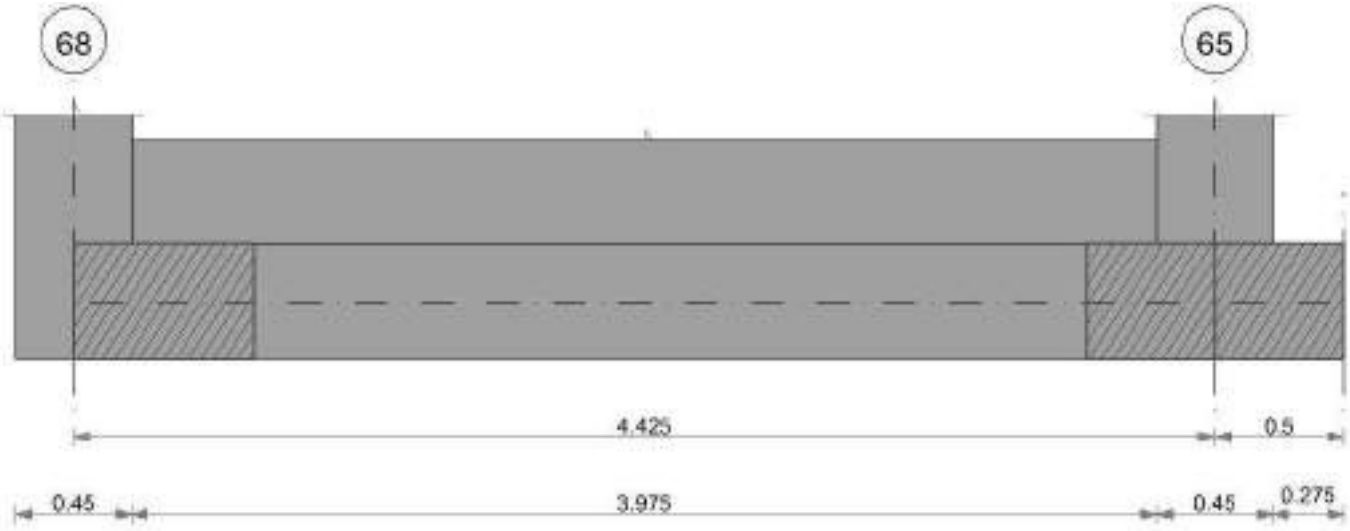
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	706	SLE RA 20	0.05	0.001	706	341	SLE RA 20	0.05	0	706	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	706	SLE RA 1	0.05	0	706	706	SLE RA 1	0.05	0	706	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	706	SLE RA 1	0.05	0	706	706	SLE RA 1	0.05	0	706	SLE RA 1	0.0033	0	SLE RA 1	Si

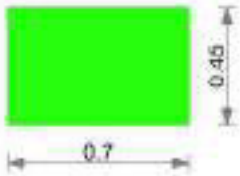
Verifiche geotecniche - Rotazioni assolute e differenziali

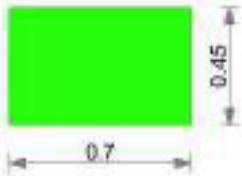
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	706	341	SLE RA 20	0.19	0	706	SLE RA 1	0.1	0	706	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	706	341	SLE RA 1	0.19	0	706	SLE RA 1	0.1	0	706	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	706	341	SLE RA 1	0.19	0	706	SLE RA 1	0.1	0	706	SLE RA 1	Si

CORDOLO 41

Geometria







Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

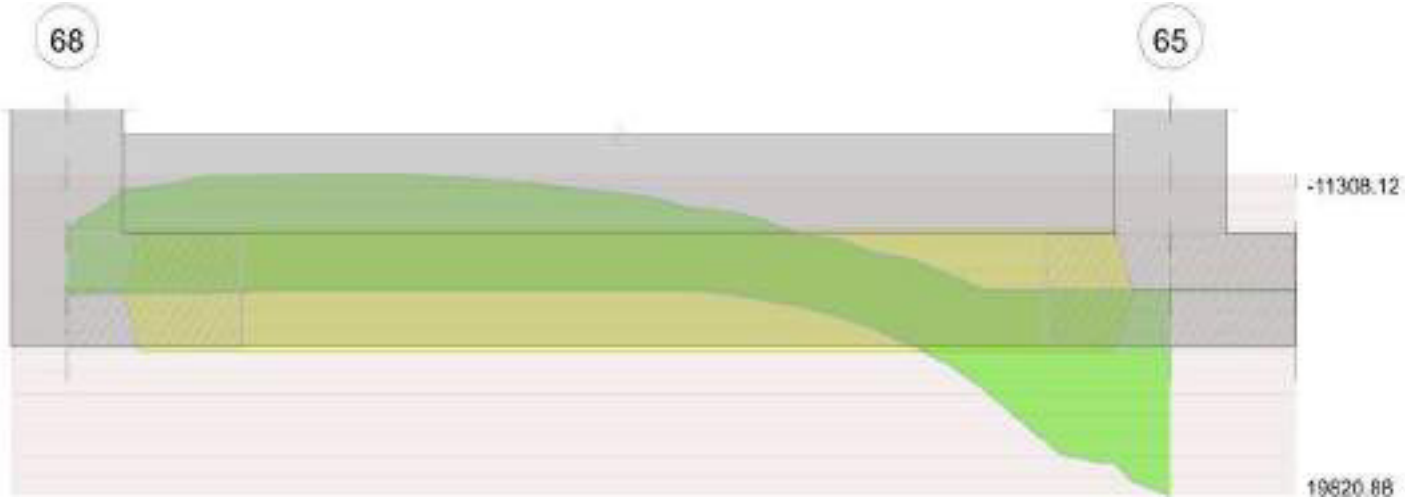


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 68 - 65, sezione R 70x45, aste 541, 540, 539, 538, 537, 536, 535, 534, 533, 532, 531

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2861	SLD 14	0.07	3109	7383	SLD 14	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	2676	SLE RA 21	77469	1494000	960619	36000000	2424	SLE QP 2	70153	1120500	Si
0.23	0.41	0.00000173	2570	SLE RA 21	74381	1494000	922319	36000000	2327	SLE QP 2	67364	1120500	Si
2.21	0.41	0.00000173	2289	SLE RA 21	66266	1494000	821704	36000000	2080	SLE QP 2	60194	1120500	Si
4.2	0.41	0.00000173	2845	SLE RA 21	82339	1494000	1021001	36000000	2592	SLE QP 2	75031	1120500	Si
4.42	0.41	0.00000173	2848	SLE RA 20	82448	1494000	1022356	36000000	2596	SLE QP 2	75135	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
541,540,539,538,537,536,535,534,533,532,531	4.65	1.3	SLU 84	ST	BT	2.3	215110	79112	2.72	Si
541,540,539,538,537,536,535,534,533,532,531	4.65	1.3	SLV FO 10	SIS	BT	2.3	185948	82870	2.24	Si
541,540,539,538,537,536,535,534,533,532,531	4.65	1.3	SLD 10	SIS	BT	2.3	199993	69773	2.87	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	982	-79112	6668.49	4051.9	0	1	0.05	0.08	1.13	4.55	1496	2060	0	14430	
0	-226	-82870	9367.37	-21825.53	0	0	-0.26	0.11	1.07	4.12	1496	2060	0	14430	0.07
0	108	-69773	7162.61	-10313.53	0	0	-0.15	0.1	1.09	4.35	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

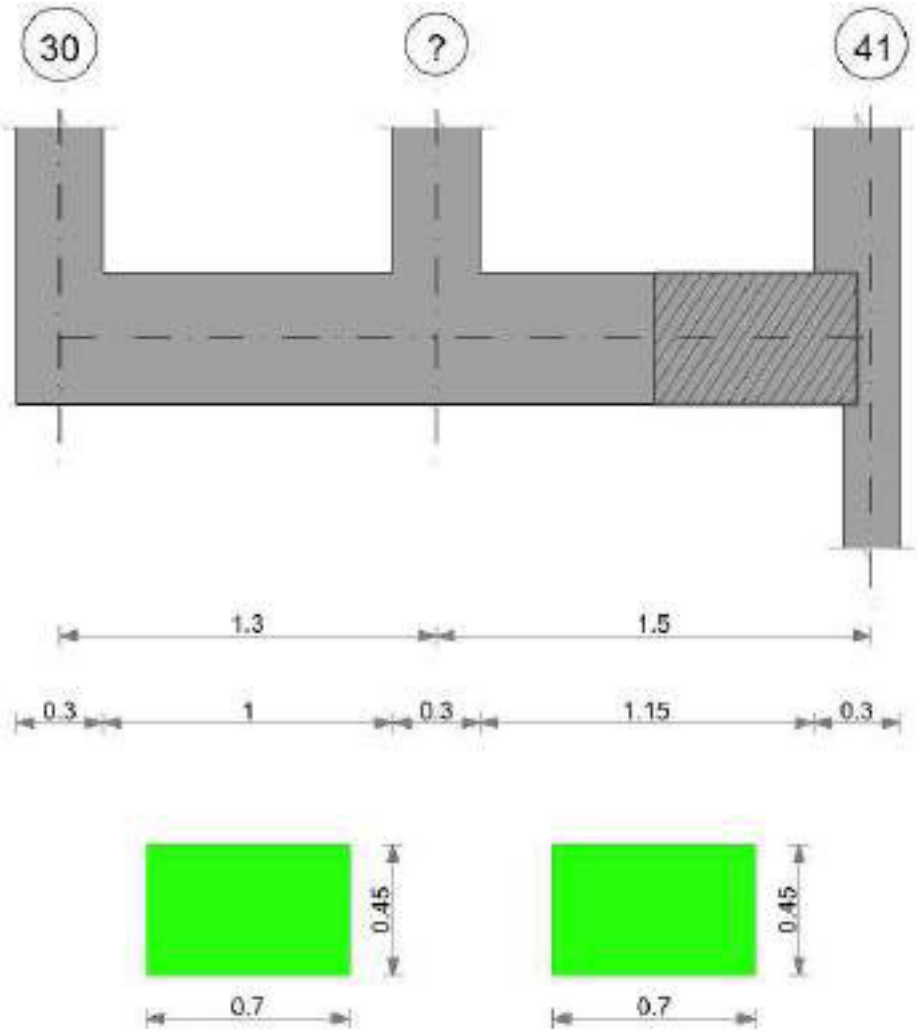
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	721	SLE RA 20	0.05	0	721	356	SLE RA 20	0.05	0	721	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	721	SLE RA 1	0.05	0	721	721	SLE RA 1	0.05	0	721	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	721	SLE RA 1	0.05	0	721	721	SLE RA 1	0.05	0	721	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	721	356	SLE RA 20	0.19	0	721	SLE RA 1	0.1	0	721	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	721	356	SLE RA 1	0.19	0	721	SLE RA 1	0.1	0	721	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	721	356	SLE RA 1	0.19	0	721	SLE RA 1	0.1	0	721	SLE RA 1	Si

CORDOLO 42

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

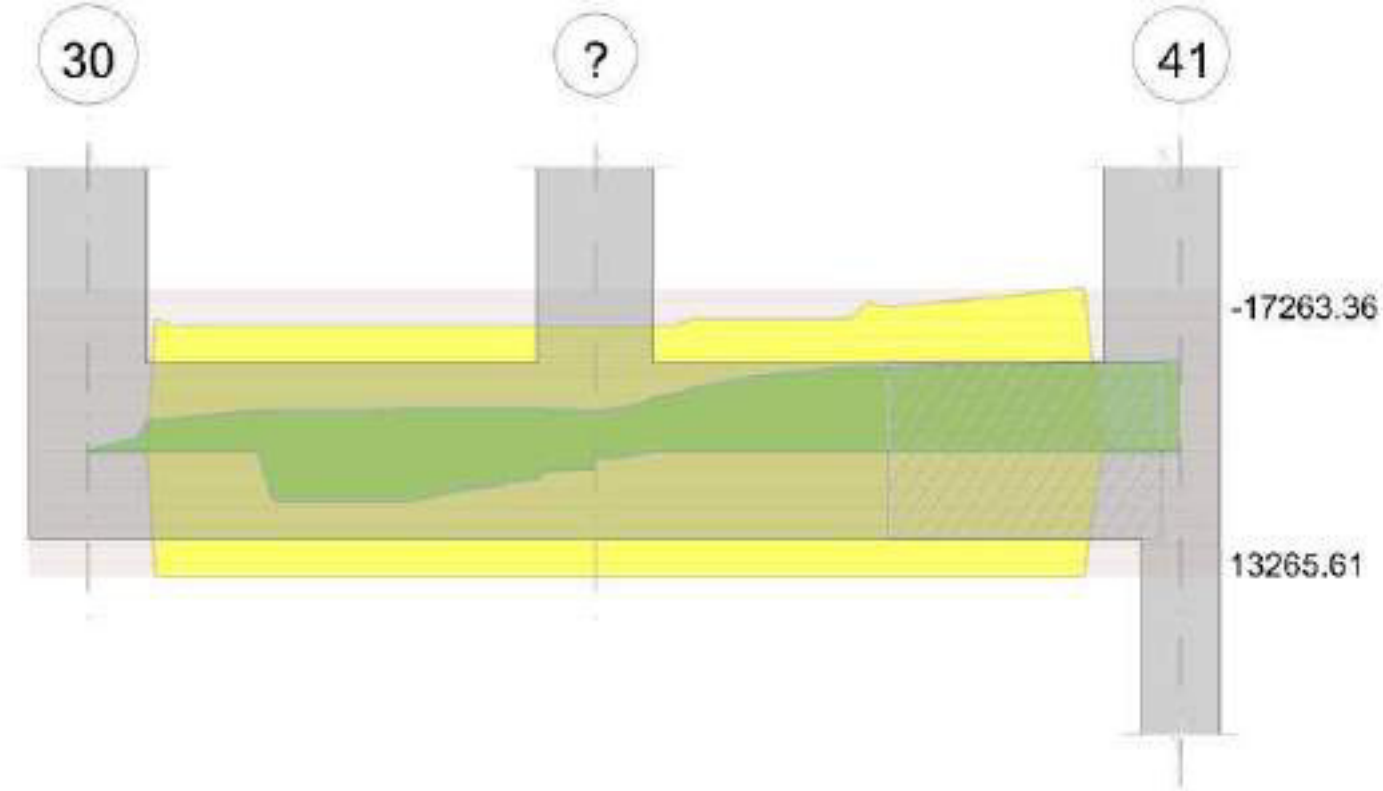
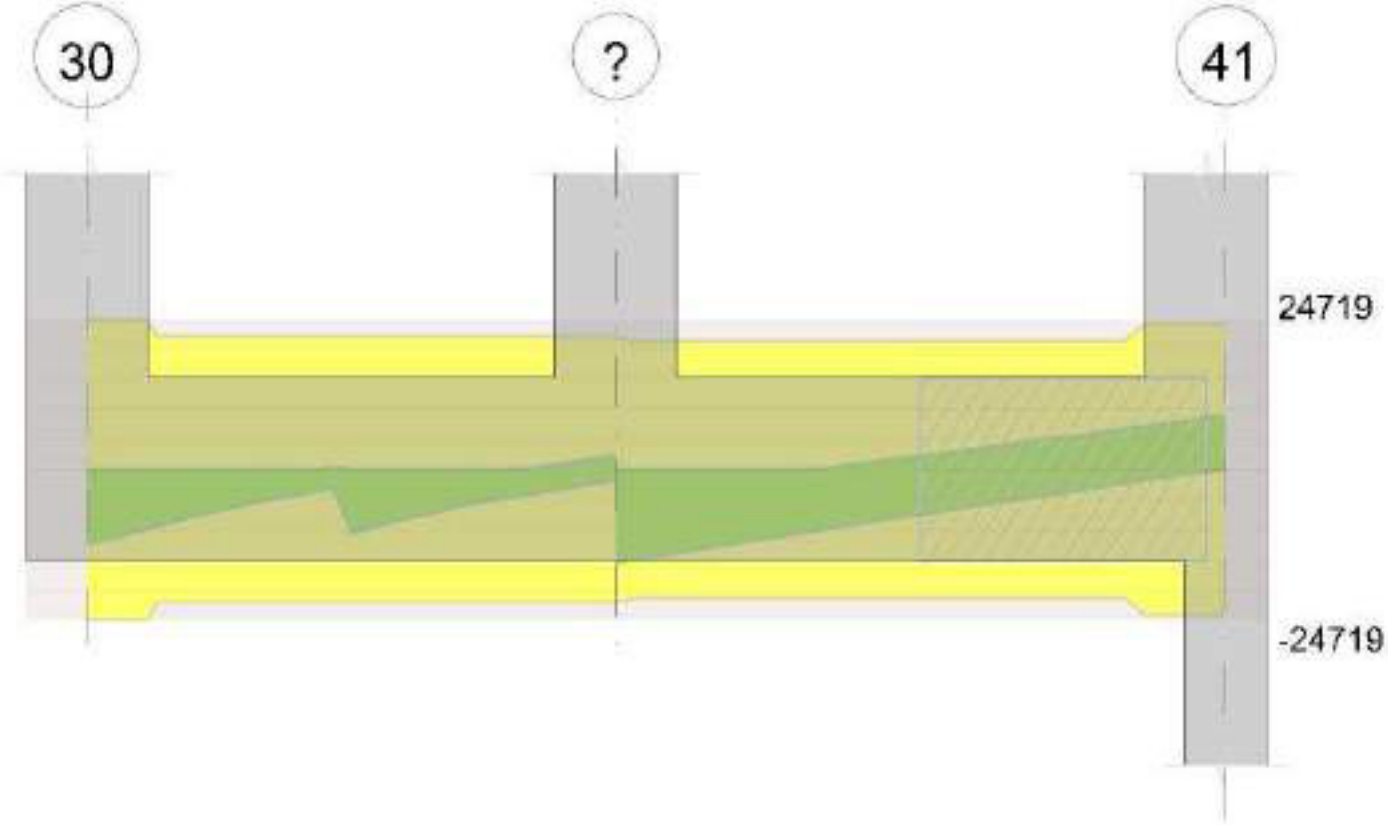


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 30 - ?, sezione R 70x45, aste 448, 447

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.65	0.000942	0.053	0.000942	0.053	1456.01	SLU 83	1456.01	13996.86	0.128	9.61	674.36	SLU 2	-4321.63	-13996.86	0.128	3.24	Si

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
1.15	0.000942	0.053	0.000942	0.053							-1733.93	SLU 78	-1733.93	-13996.86	0.128	8.07	Si
1.3	0.000942	0.053	0.000942	0.053							-1903.29	SLU 84	-1903.29	-13996.86	0.128	7.35	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.65	0.000942	0.053	0.000942	0.053	5260.89	SLV FO 15	5260.89	13265.61	0.222	2.52	-3586.34	SLV FO 2	-4283.36	-13265.61	0.222	3.1	Si
1.15	0.000942	0.053	0.000942	0.053	2150.09	SLV FO 15	2942.31	13265.61	0.222	4.51	-4474.14	SLV FO 2	-4501.11	-13265.61	0.222	2.95	Si
1.3	0.000942	0.053	0.000942	0.053	1764.81	SLV FO 15	1764.81	13265.61	0.222	7.52	-4254.02	SLV FO 2	-4254.02	-13265.61	0.222	3.12	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.65	0.000942	0.053	0.000942	0.053	3391.06	SLD 15	3391.06	13265.61	0.222	3.91	-1716.5	SLD 2	-3653.59	-13265.61	0.222	3.63	Si
1.15	0.000942	0.053	0.000942	0.053	753.04	SLD 15	1382.66	13265.61	0.222	9.59	-3077.09	SLD 2	-3077.09	-13265.61	0.222	4.31	Si
1.3	0.000942	0.053	0.000942	0.053	497.56	SLD 15	497.56	13265.61	0.222	26.66	-2986.77	SLD 2	-2986.77	-13265.61	0.222	4.44	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-12402	SLU 84	-12402	-11837	-100005	-24719	-24719	1	1.99	Si
0.15	0.0000156	0	0	-9749	SLU 84	-9749	-11837	-100005	-24719	-24719	1	2.54	Si
0.65	0.0000156	0.000942	0	-10427	SLU 83	-10427	-11611	-88226	-21808	-21808	1	2.09	Si
1.15	0.0000156	0.000942	0	-2341	SLU 83	-2341	-11611	-88226	-21808	-21808	1	9.32	Si
1.3	0.0000156	0.000942	0	501	SLU 47	501	11611	88226	21808	21808	1	43.49	Si
1.3	0.0000156	0.000942	0	-122	SLU 39	-122	-11611	-88226	-21808	-21808	1	178.48	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-11183	SLV FO 9	-11183	-11837	-100005	-24719	-24719	1	2.21	Si
0.15	0.0000156	0	0	-9105	SLV FO 9	-9105	-11837	-100005	-24719	-24719	1	2.71	Si
0.65	0.0000156	0.000942	0	-9134	SLV FO 15	-9134	-11611	-88226	-21808	-21808	1	2.39	Si
1.15	0.0000156	0.000942	0	769	SLV FO 2	769	11611	88226	21808	21808	1	28.35	Si
1.15	0.0000156	0.000942	0	-3433	SLV FO 15	-3433	-11611	-88226	-21808	-21808	1	6.35	Si
1.3	0.0000156	0.000942	0	2251	SLV FO 2	2251	11611	88226	21808	21808	1	9.69	Si
1.3	0.0000156	0.000942	0	-1790	SLV FO 15	-1790	-11611	-88226	-21808	-21808	1	12.19	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-9859	SLD 9	-9859	-11837	-100005	-24719	-24719	1	2.51	Si
0.15	0.0000156	0	0	-7927	SLD 9	-7927	-11837	-100005	-24719	-24719	1	3.12	Si
0.65	0.0000156	0.000942	0	-8106	SLD 15	-8106	-11611	-88226	-21808	-21808	1	2.69	Si
1.15	0.0000156	0.000942	0	-2532	SLD 15	-2532	-11611	-88226	-21808	-21808	1	8.61	Si
1.3	0.0000156	0.000942	0	1381	SLD 2	1381	11611	88226	21808	21808	1	15.8	Si
1.3	0.0000156	0.000942	0	-920	SLD 15	-920	-11611	-88226	-21808	-21808	1	23.71	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-3.86	15	-3.86	-163	1494000	0	36000000	-3.59	2	-3.59	-152	1120500			Si
0.15	-1218.3	21	-2290.3	-96944	1494000	0	36000000	-1116.94	2	-2104.02	-89059	1120500			Si
0.65	1048.75	20	1048.75	38356	1494000	575340	36000000	837.28	2	837.28	30622	1120500			Si
1.15	-1260.79	15	-1260.79	46111	1494000	691661	36000000	-1162.02	2	-1162.02	42499	1120500			Si
1.3	-1377.06	21	-1377.06	50363	1494000	755446	36000000	-1244.6	2	-1244.6	45519	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 2 tra i fili ? - 41, sezione R 70x45, asta 446

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053							-1899.09	SLU 84	-1899.09	-13996.86	0.128	7.37	Si
0.15	0.000942	0.053	0.000942	0.053							-3878.68	SLU 84	-5820.86	-13996.86	0.128	2.4	Si
0.75	0.001091	0.053	0.000942	0.053							-8616.71	SLU 84	-9062.48	-16016.12	0.135	1.77	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053	1770.87	SLV FO 15	786.48	13265.61	0.222	16.87	-4254.65	SLV FO 2	-4254.65	-13265.61	0.222	3.12	Si
0.15	0.000942	0.053	0.000942	0.053							-4974.14	SLV FO 2	-5622.26	-13265.61	0.222	2.36	Si
0.75	0.001091	0.053	0.000942	0.053							-7950.04	SLV FO 10	-8705.83	-15255	0.238	1.75	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053	502.23	SLD 15	366.98	13265.61	0.222	36.15	-2986	SLD 2	-2986	-13265.61	0.222	4.44	Si
0.15	0.000942	0.053	0.000942	0.053							-3951.13	SLD 2	-4831.15	-13265.61	0.222	2.75	Si
0.75	0.001091	0.053	0.000942	0.053							-6916.59	SLD 10	-7468.68	-15255	0.238	2.04	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-14775	SLU 84	-14775	-11611	-88226	-21808	-21808	1	1.48	Si
0.15	0.0000151	0.000942	0	-12538	SLU 84	-12538	-11611	-88226	-21083	-21083	1	1.68	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.75	0.0000151	0.000942	0	-3864	SLU 84	-3864	-11611	-88226	-21083	-21083	1	5.46	Si
1.4	0.0000151	0	0	5346	SLU 83	5346	11837	100005	23897	23897	1	4.47	Si
1.5	0.0000151	0	0	6771	SLU 83	6771	11837	100005	23897	23897	1	3.53	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-15414	SLV FO 13	-15414	-11611	-88226	-21808	-21808	1	1.41	Si
0.15	0.0000151	0.000942	0	-13751	SLV FO 13	-13751	-11611	-88226	-21083	-21083	1	1.53	Si
0.75	0.0000151	0.000942	0	2249	SLV FO 4	2249	11611	88226	21083	21083	1	9.37	Si
0.75	0.0000151	0.000942	0	-7399	SLV FO 13	-7399	-11611	-88226	-21083	-21083	1	2.85	Si
1.4	0.0000151	0	0	7988	SLV FO 4	7988	11837	100005	23897	23897	1	2.99	Si
1.4	0.0000151	0	0	-853	SLV FO 13	-853	-11837	-100005	-23897	-23897	1	28.01	Si
1.5	0.0000151	0	0	8893	SLV FO 4	8893	11837	100005	23897	23897	1	2.69	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-13054	SLD 13	-13054	-11611	-88226	-21808	-21808	1	1.67	Si
0.15	0.0000151	0.000942	0	-11466	SLD 13	-11466	-11611	-88226	-21083	-21083	1	1.84	Si
0.75	0.0000151	0.000942	0	212	SLD 4	212	11611	88226	21083	21083	1	99.57	Si
0.75	0.0000151	0.000942	0	-5362	SLD 13	-5362	-11611	-88226	-21083	-21083	1	3.93	Si
1.4	0.0000151	0	0	6128	SLD 4	6128	11837	100005	23897	23897	1	3.9	Si
1.5	0.0000151	0	0	7055	SLD 4	7055	11837	100005	23897	23897	1	3.39	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1374.01	21	-1374.01	50251	1494000	753772	36000000	-1241.89	2	-1241.89	45420	1120500			Si
0.15	-2827.65	21	-4254.3	155592	1494000	2333882	36000000	-2561.02	2	-3855.49	141007	1120500			Si
0.75	-6310.15	21	-6639.28	241448	1494000	3586272	36000000	-5719.21	2	-6016.03	218783	1120500			Si
1.5	-5553	21	-5553	-235048	1494000	0	36000000	-5018.24	2	-5018.24	-212412	1120500			Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
448,447,446	3.05	1.3	SLU 84	ST	BT	2.3	164439	49835	3.3	Si
448,447,446	3.05	1.3	SLV FO 9	SIS	BT	2.3	138007	38017	3.63	Si
448,447,446	3.05	1.3	SLD 9	SIS	BT	2.3	150440	36104	4.17	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-412	587	-49835	202.24	-2318.06	0	1	-0.05	0	1.29	2.96	1496	2060	0	14430	
820	-5599	-38017	3370.27	-1715.75	1	-8	-0.05	0.09	1.12	2.96	1496	2060	0	14430	0.07
357	-2774	-36104	1833.23	-1591.07	1	-4	-0.04	0.05	1.2	2.96	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Nγ	Sq	Sc	Sγ	Dq	Dc	Dγ	Iq	Ic	Iγ	Bq	Bc	Bγ	Gq	Gc	Gγ	Pq	Pc	Pγ	Eq	Ec	Eγ
1	5	0	0	0.09	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

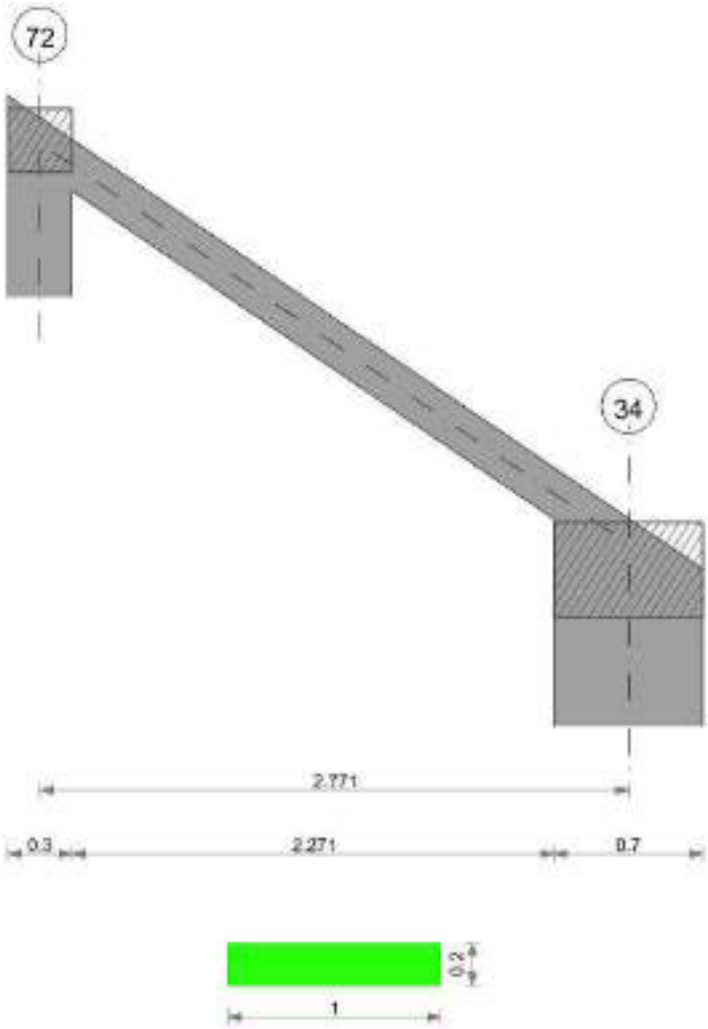
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	544	SLE RA 21	0.05	0	544	541	SLE RA 21	0.05	0	543	SLE RA 21	0.0033	0	SLE RA 1	Si
D	0.05	0	544	SLE RA 1	0.05	0	544	544	SLE RA 1	0.05	0	543	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	544	SLE RA 1	0.05	0	544	544	SLE RA 1	0.05	0	543	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	543	541	SLE RA 21	0.19	0	543	SLE RA 21	0.1	0	544	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	544	543	SLE RA 1	0.19	0	544	SLE RA 1	0.1	0	543	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	544	543	SLE RA 1	0.19	0	544	SLE RA 1	0.1	0	543	SLE RA 1	Si

Rampa scala interrato - terra

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 100x20	Rettangolare	1	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

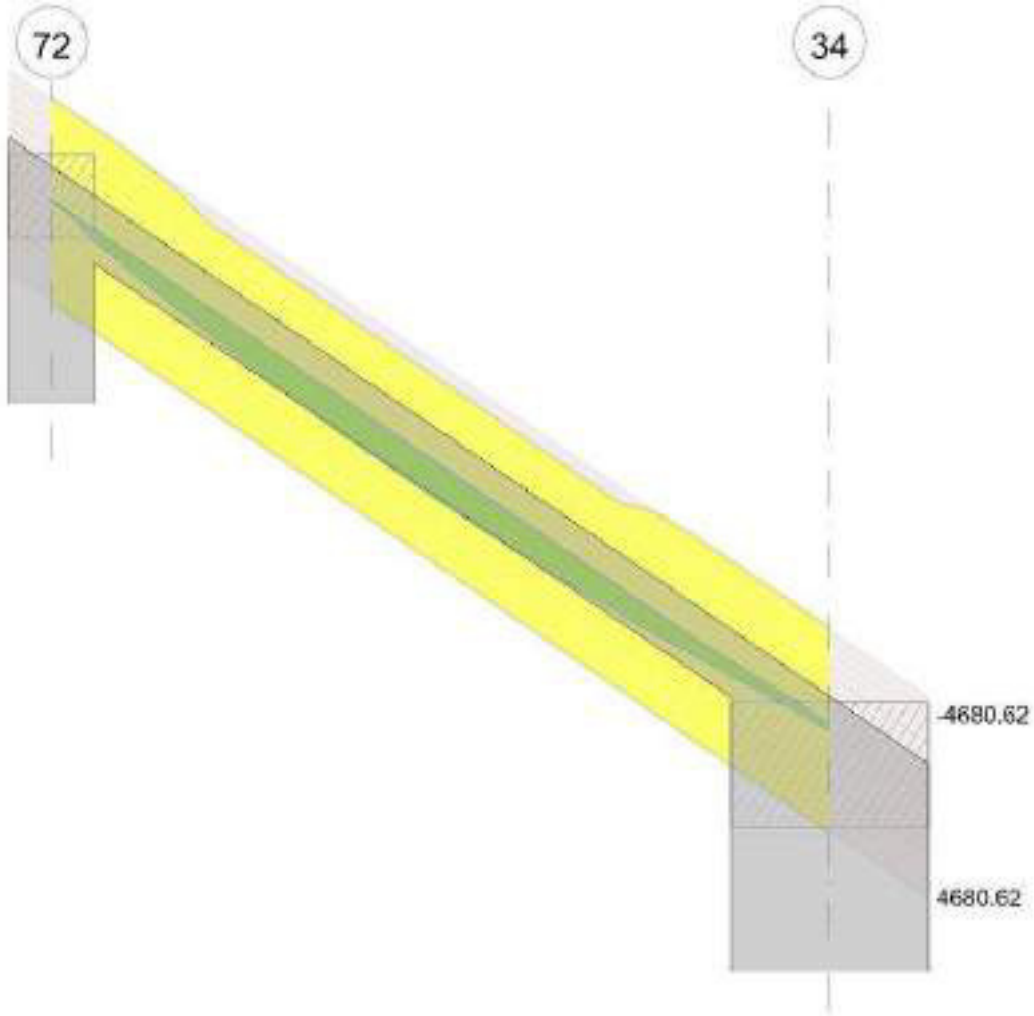


Diagramma verifica stato limite ultimo taglio

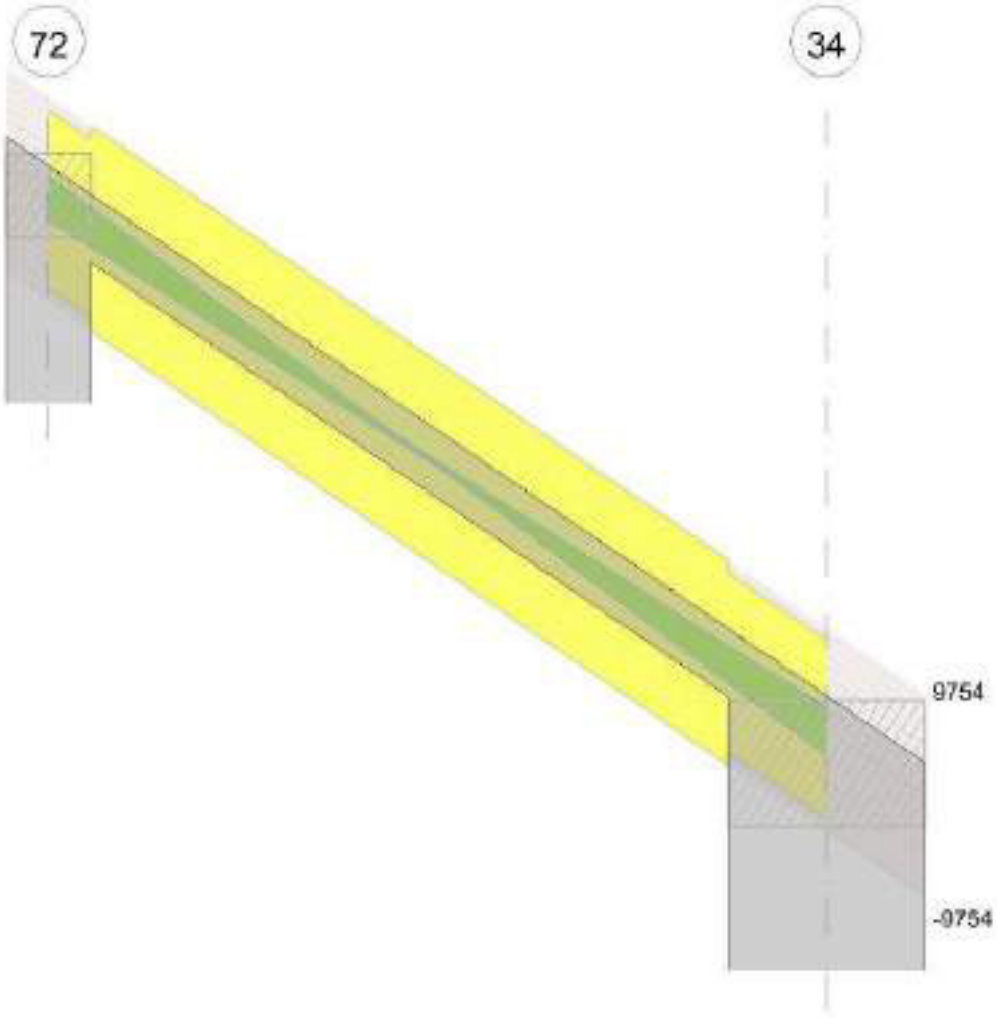
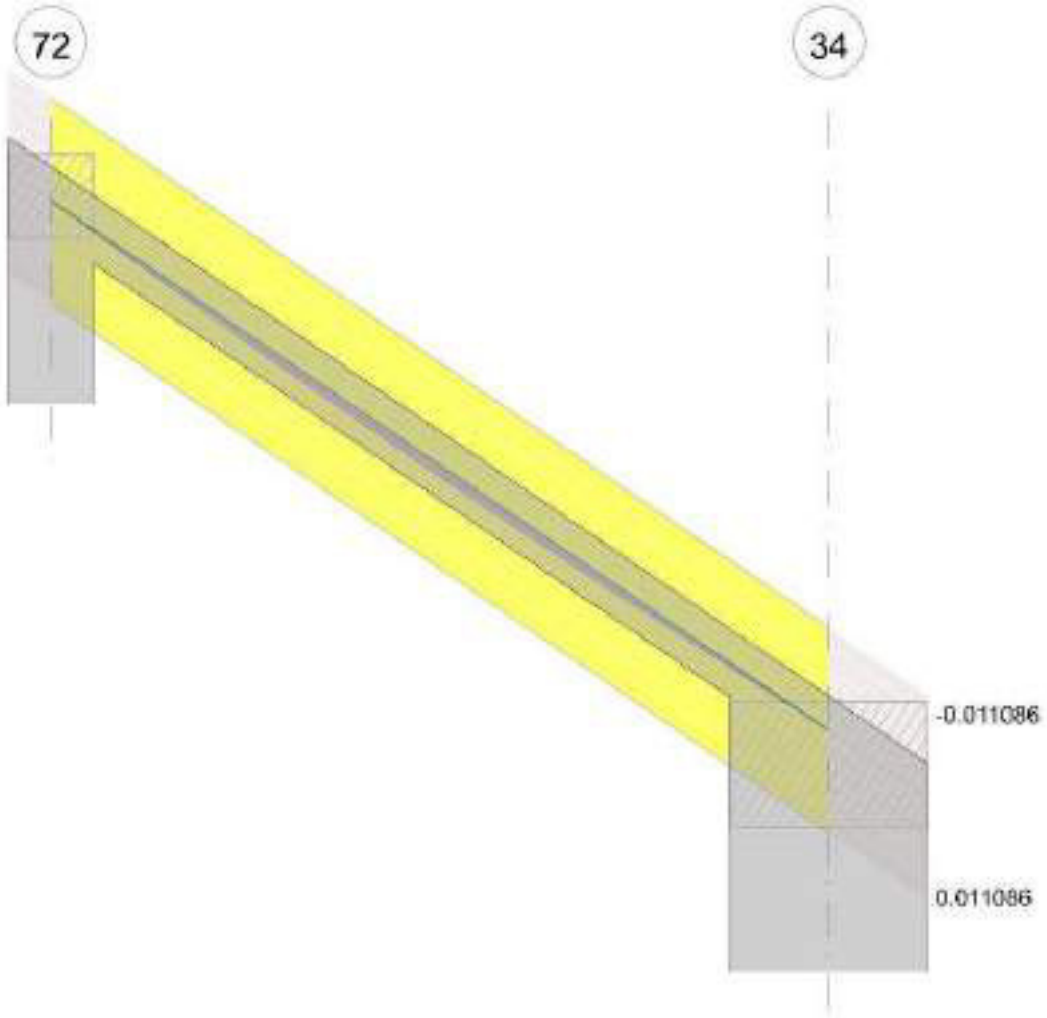


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 1 tra i fili 72 - 34, sezione R 100x20, asta 790; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000804	0.051	0.000804	0.051							-40.76	SLU 83	-40.76	-4680.62	0.274	114.82	Si
0.15	0.000804	0.051	0.000804	0.051	329.8	SLU 81	481.51	4680.62	0.274	9.72							Si
1.29	0.000603	0.051	0.000804	0.051	1661.17	SLU 83	1661.17	4649.72	0.264	2.8							Si
1.39	0.000603	0.051	0.000804	0.051	1651.98	SLU 83	1658.65	4649.72	0.264	2.8							Si
2.42	0.000804	0.051	0.000804	0.051	354.17	SLU 83	503.71	4680.62	0.274	9.29							Si
2.77	0.000804	0.051	0.000804	0.051							-583.56	SLU 82	-25.13	-4680.62	0.274	186.28	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000804	0.051	0.000804	0.051							-34.09	SLV 11	-34.09	-4680.62	0.274	137.31	Si
0.15	0.000804	0.051	0.000804	0.051	205.86	SLV 8	303.82	4680.62	0.274	15.41							Si
1.39	0.000603	0.051	0.000804	0.051	1139.04	SLV 12	1139.04	4649.72	0.264	4.08							Si
2.42	0.000804	0.051	0.000804	0.051	497.12	SLV 12	577.47	4680.62	0.274	8.11	-90.05	SLV 5	-90.05	-4680.62	0.274	51.98	Si
2.77	0.000804	0.051	0.000804	0.051							-686.49	SLV 5	-304.01	-4680.62	0.274	15.4	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000804	0.051	0.000804	0.051							-29.92	SLD 11	-29.92	-4680.62	0.274	156.41	Si
0.15	0.000804	0.051	0.000804	0.051	201.47	SLD 8	295.99	4680.62	0.274	15.81							Si
1.39	0.000603	0.051	0.000804	0.051	1071.05	SLD 12	1071.05	4649.72	0.264	4.34							Si
2.42	0.000804	0.051	0.000804	0.051	375.64	SLD 12	459.45	4680.62	0.274	10.19							Si
2.77	0.000804	0.051	0.000804	0.051							-546.92	SLD 5	-175.13	-4680.62	0.274	26.73	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000804	0	2157	SLU 83	2157	8502	47304	0	8502	1	3.94	Si
0.15	0.0000186	0.000804	0	1906	SLU 83	1906	8502	47304	9754	9754	1	5.12	Si
1.39	0.0000186	0.000804	0	-160	SLU 82	-160	-8502	-47304	-9754	-9754	1	60.87	Si
2.42	0.0000186	0.000804	0	-1891	SLU 82	-1891	-8502	-47304	-9754	-9754	1	5.16	Si
2.77	0	0.000804	0	-2475	SLU 82	-2475	-8502	-47304	0	-8502	1	3.43	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000804	0	1377	SLV 12	1377	8502	47304	0	8502	1	6.17	Si
0	0	0.000804	0	1173	Ger.	-1903	-8502	-47304	0	-8502	1	4.47	Si
0.15	0.0000186	0.000804	0	1229	SLV 12	1229	8502	47304	9754	9754	1	7.94	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.15	0.0000186	0.000804	0	1024	Ger.	-1718	-8502	-47304	-9754	-9754	1	5.68	Si
1.39	0.0000186	0.000804	0	6	Ger.	280	8502	47304	9754	9754	1	34.88	Si
1.39	0.0000186	0.000804	0	-198	SLV 5	-198	-8502	-47304	-9754	-9754	1	49.22	Si
2.42	0.0000186	0.000804	0	-1018	Ger.	1559	8502	47304	9754	9754	1	6.26	Si
2.42	0.0000186	0.000804	0	-1223	SLV 5	-1223	-8502	-47304	-9754	-9754	1	7.98	Si
2.77	0	0.000804	0	-1365	Ger.	1992	8502	47304	0	8502	1	4.27	Si
2.77	0	0.000804	0	-1569	SLV 5	-1569	-8502	-47304	0	-8502	1	5.42	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000804	0	1335	SLD 12	1335	8502	47304	0	8502	1	6.37	Si
0.15	0.0000186	0.000804	0	1186	SLD 12	1186	8502	47304	9754	9754	1	8.22	Si
1.39	0.0000186	0.000804	0	-156	SLD 5	-156	-8502	-47304	-9754	-9754	1	62.57	Si
2.42	0.0000186	0.000804	0	-1180	SLD 5	-1180	-8502	-47304	-9754	-9754	1	8.26	Si
2.77	0	0.000804	0	-1527	SLD 5	-1527	-8502	-47304	0	-8502	1	5.57	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-29.23	20	-29.23	4034	1494000	60513	36000000	-23.89	2	-23.89	3296	1120500			Si
0.15	237.51	18	346.72	47850	1494000	717757	36000000	195.09	2	284.75	39298	1120500			Si
1.39	1188.73	20	1193.58	167522	1494000	2479462	36000000	974.67	2	978.8	137376	1120500			Si
2.42	253.25	20	361	49821	1494000	747310	36000000	203.54	2	292.25	40333	1120500			Si
2.77	-422.05	19	-15.08	2082	1494000	31226	36000000	-349.21	2	-7.45	1028	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.15	0.0001	0.00007	0.00009	0.00007	0.00008	0.00007	0.00008	0.00007	0.00008	0.00007	0.00021	2	0.00019	2	9999	Si
1.39	0.00054	0.0004	0.00051	0.00038	0.00047	0.0004	0.00044	0.00038	0.00044	0.0004	0.00118	2	0.00107	2	2351	Si
2.42	0.00019	0.00014	0.00018	0.00013	0.00017	0.00014	0.00016	0.00014	0.00016	0.00014	0.00042	2	0.00038	2	6588	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	ρ,tot	θ,m	θ,y	μΔ,pl	Vrd	VRcd(cotθ=1)	VRsd	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.3	0.222	0.041	0.2	0.008	0.00028	0.00569	0	8502	47304	9754	9754	15060	15060	1154	-4587	SLV 4	Si
2.571	1.386	0.041	0.2	0.008	0.00071	0.00569	0	8502	47304	9754	9754	9865	9865	-1153	-2601	SLV 2	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	-1712	-1903	-173	1173	-1712	1377	254	1377
0.15	-1527	-1718	-173	1024	-1527	1229	254	1229
1.39	0	-198	-173	-198	0	280	254	6
2.42	1280	-1223	-173	-1223	1280	1559	254	-1018
2.77	1712	-1569	-173	-1569	1712	1992	254	-1365

Momenti resistenti a filo appoggi

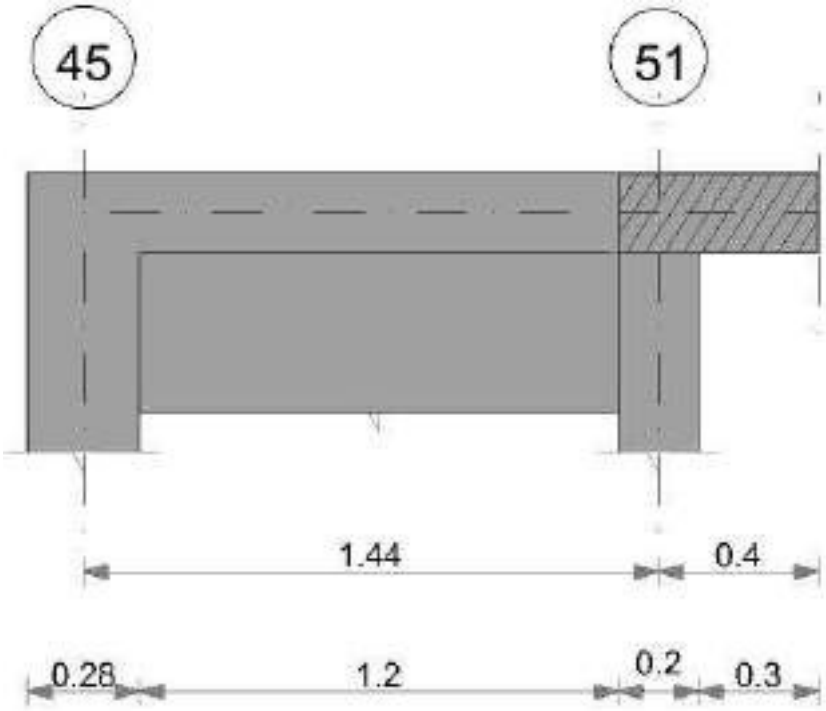
campata	x	appoggio	momento positivo	momento negativo
1	0.15	72	4680.62	-4680.62
1	2.42	34	4680.62	-4680.62

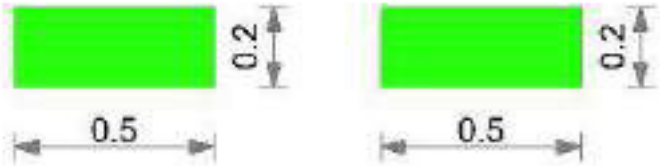
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Primo" 45-53

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

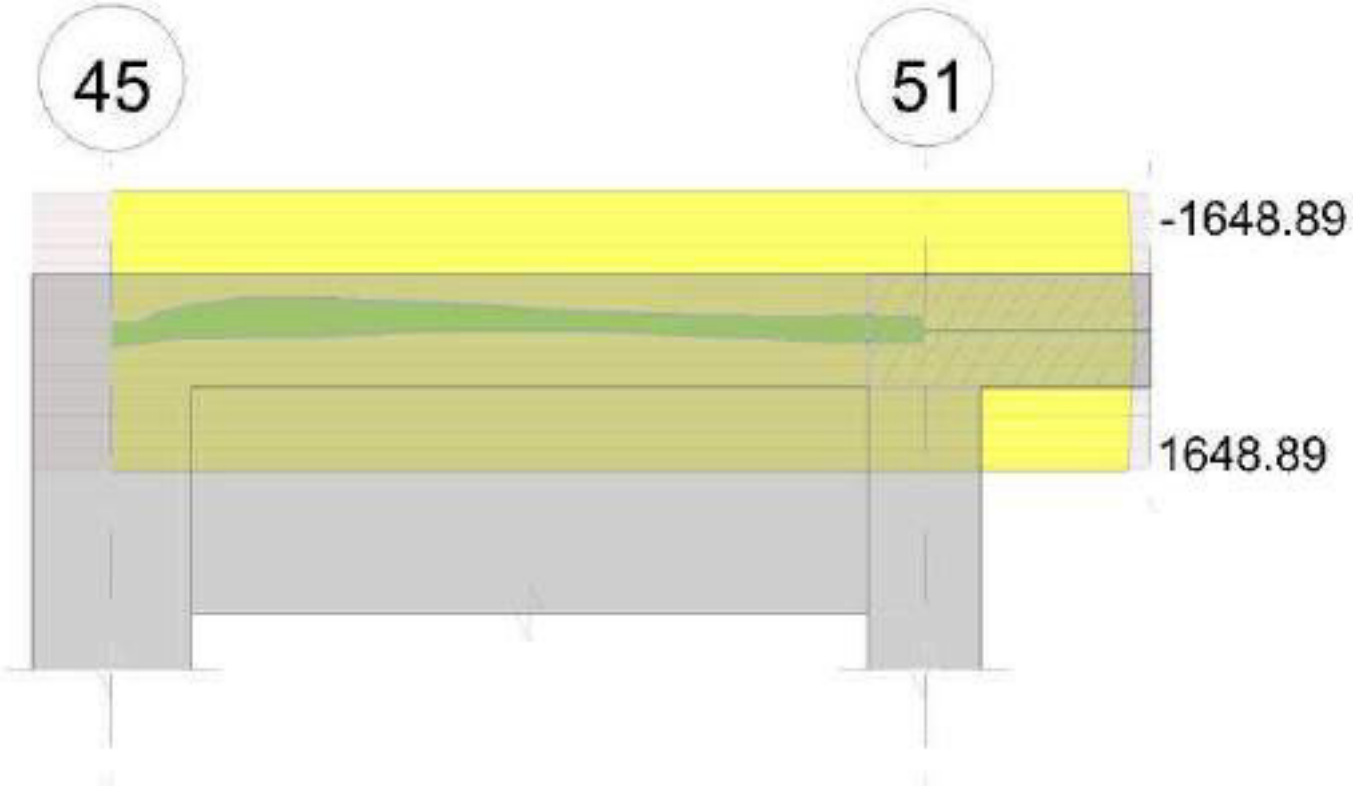


Diagramma verifica stato limite ultimo taglio

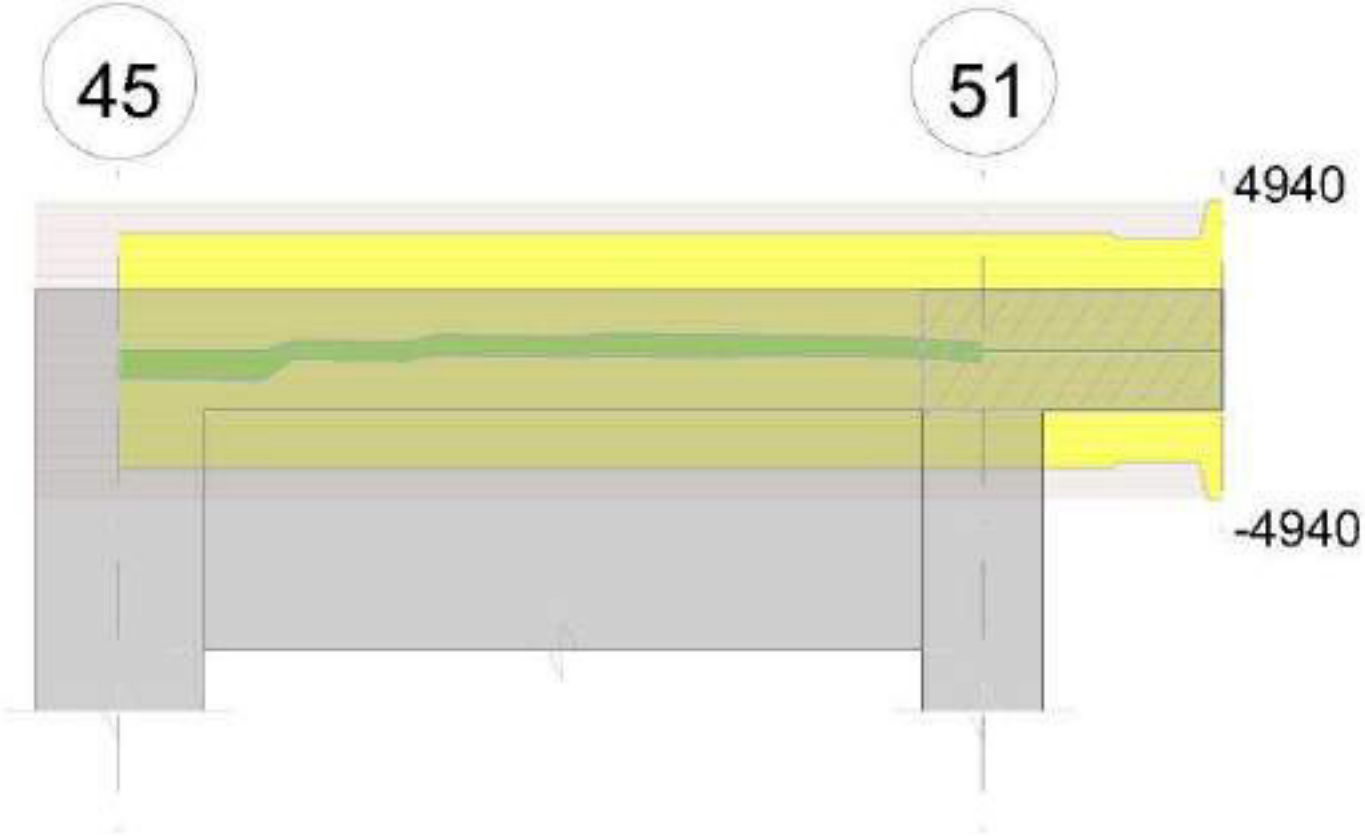
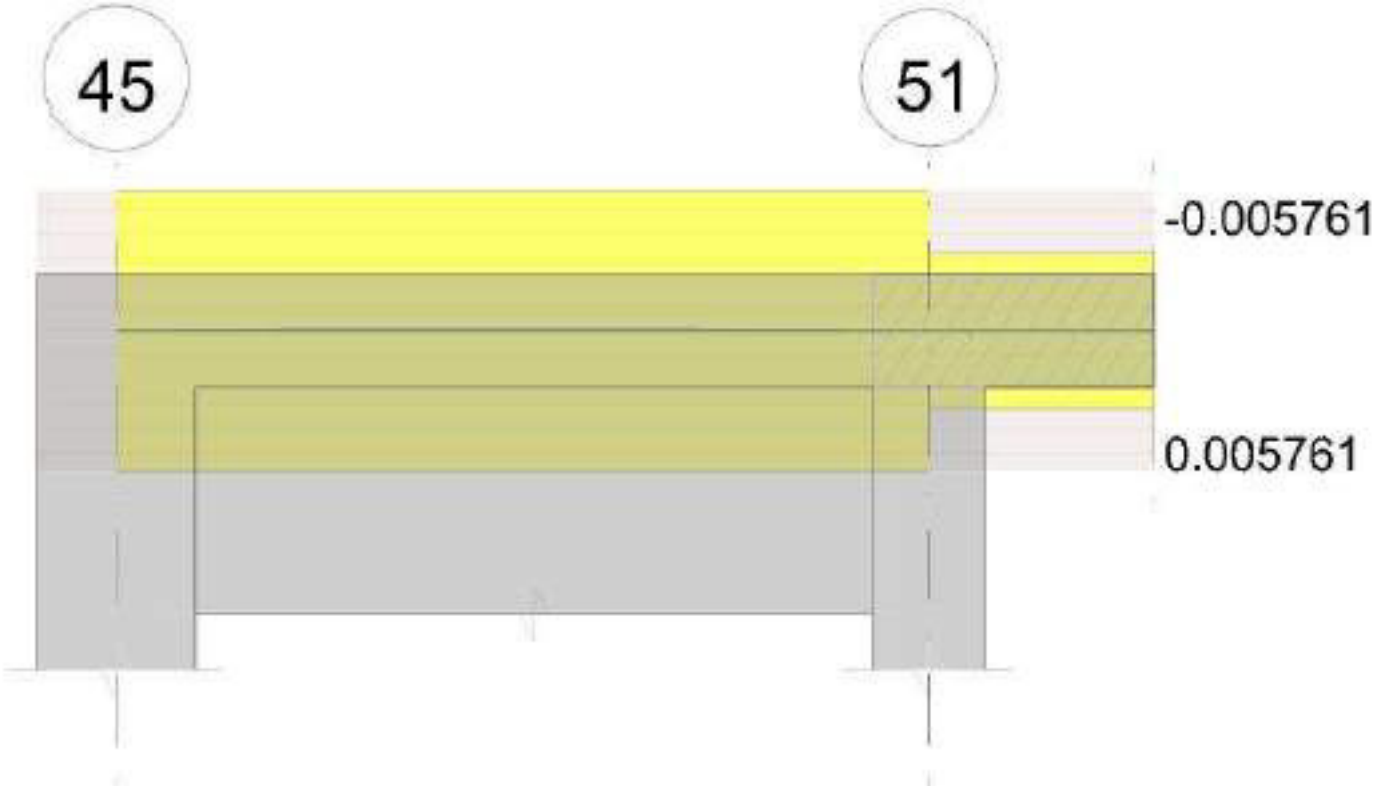


Diagramma verifica stato limite esercizio quasi permanente freccia



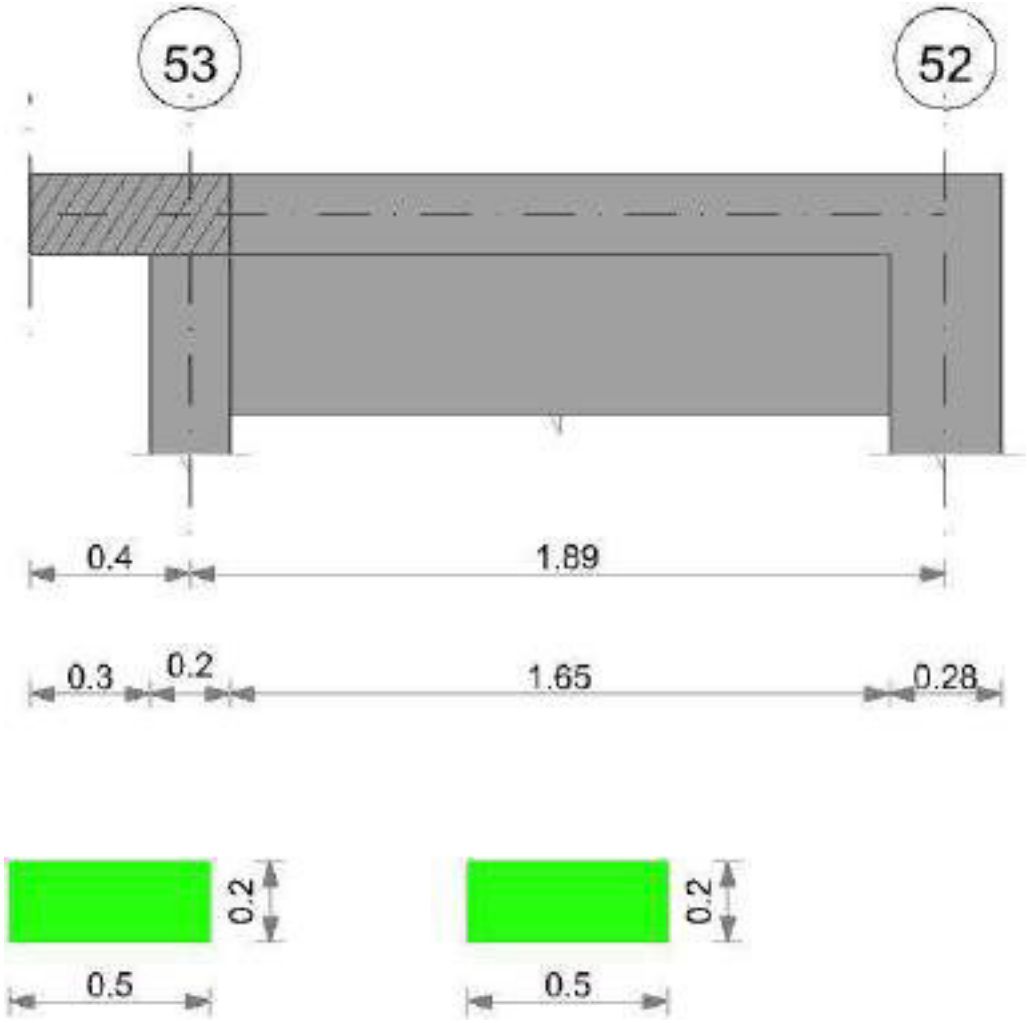
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Primo" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

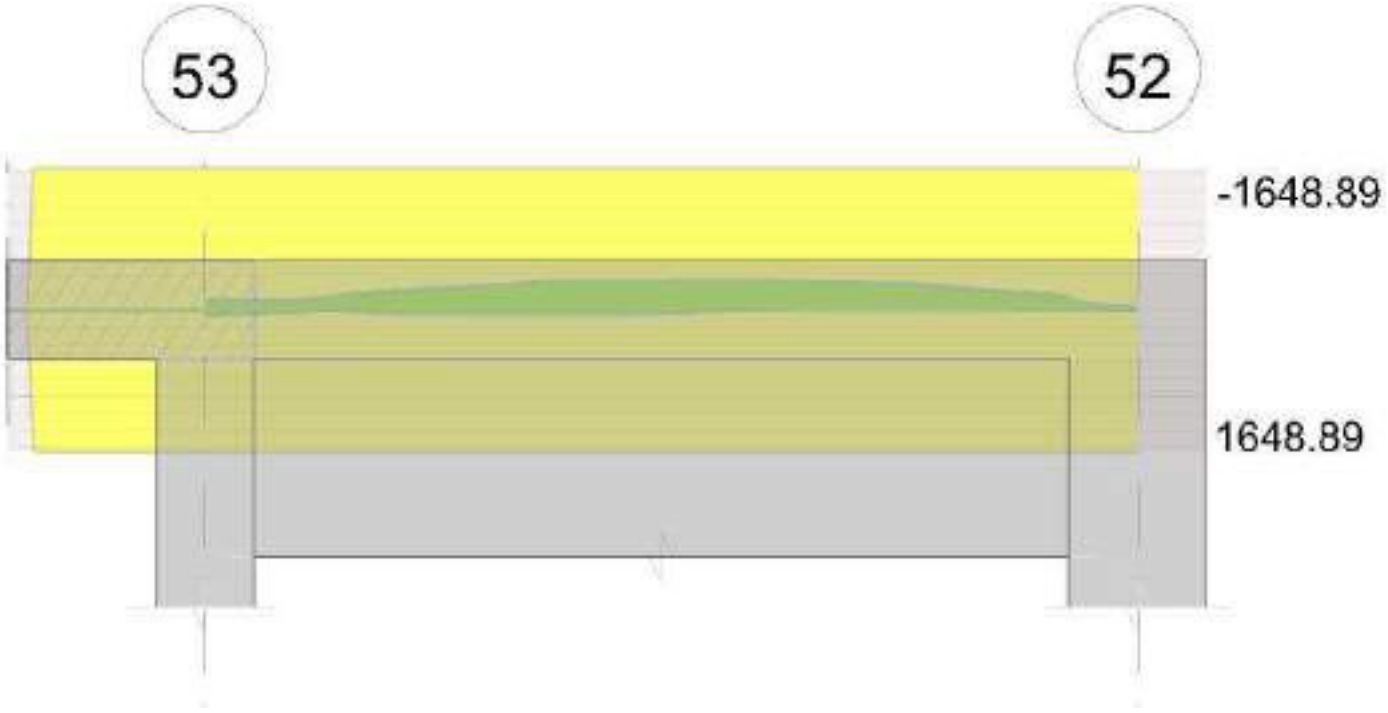


Diagramma verifica stato limite ultimo taglio

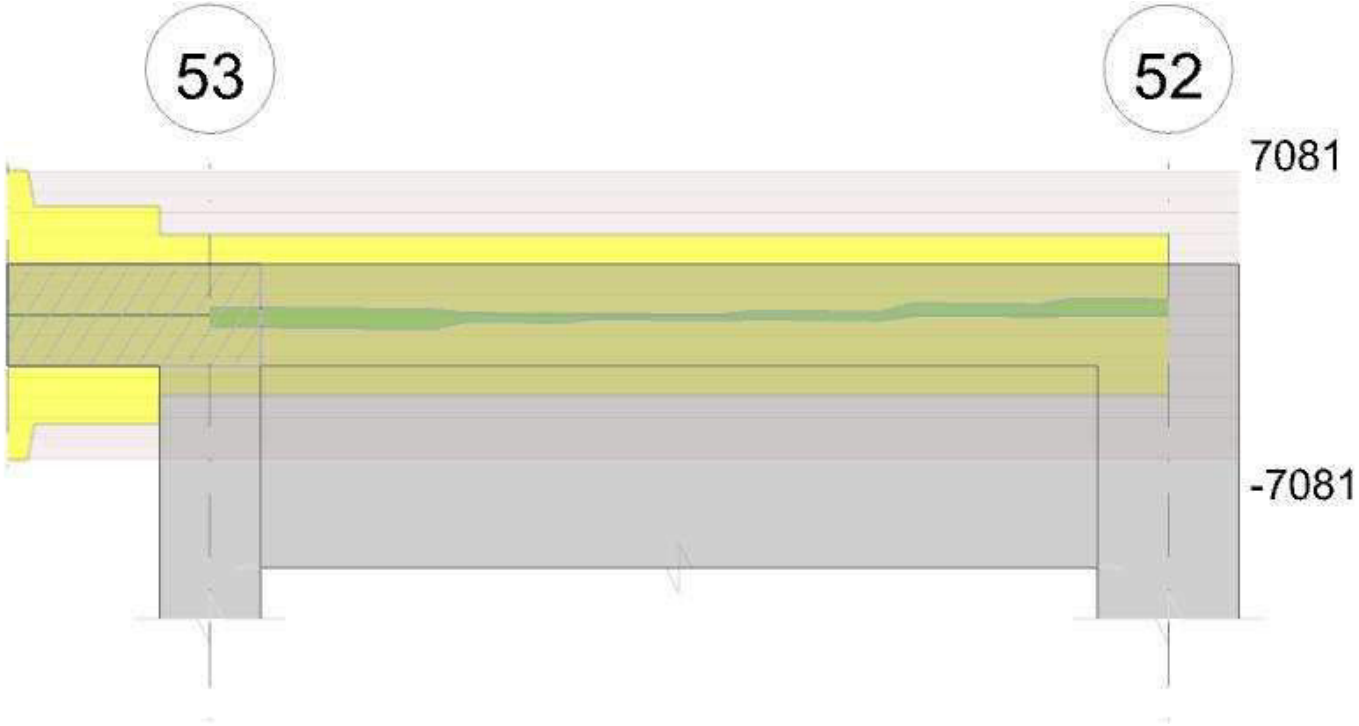
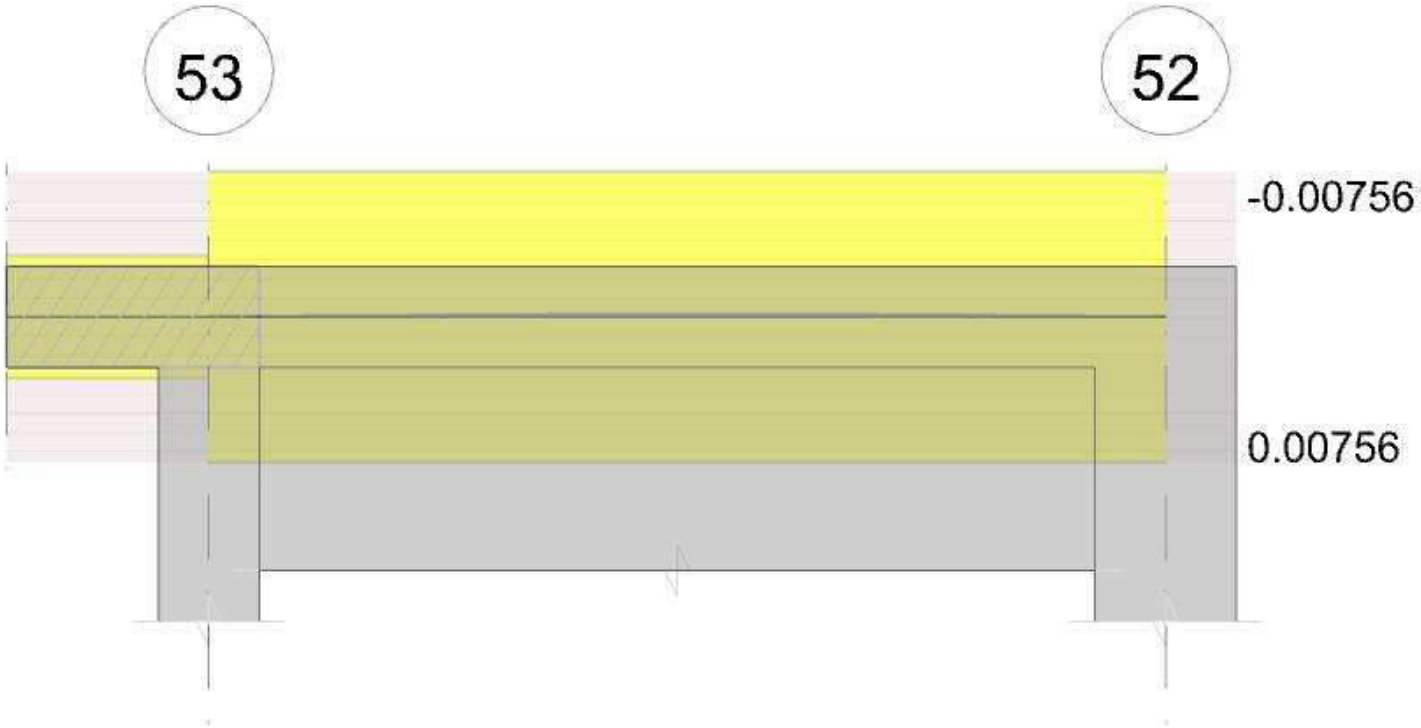


Diagramma verifica stato limite esercizio quasi permanente freccia



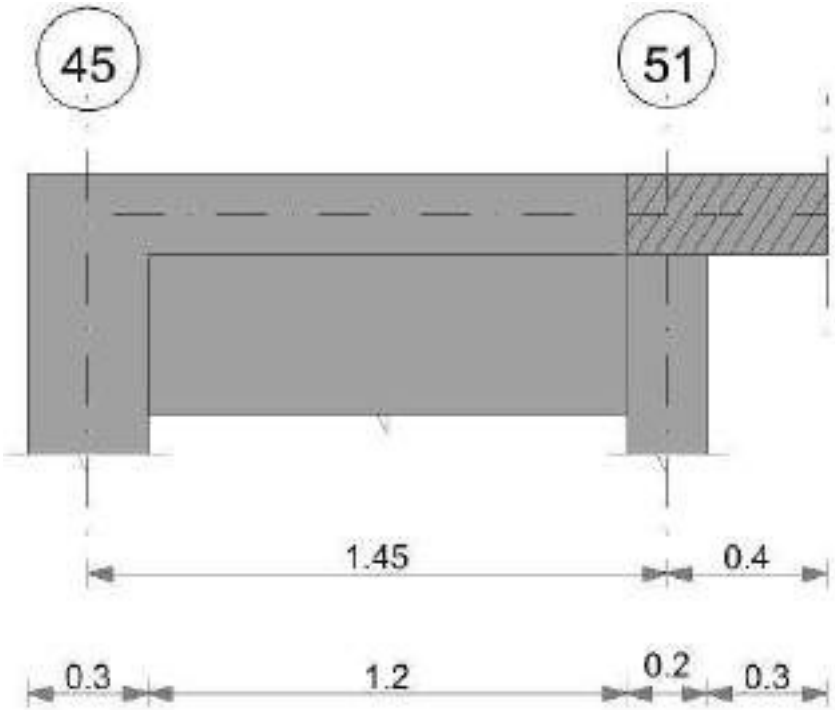
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Rialzato" 45-53

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

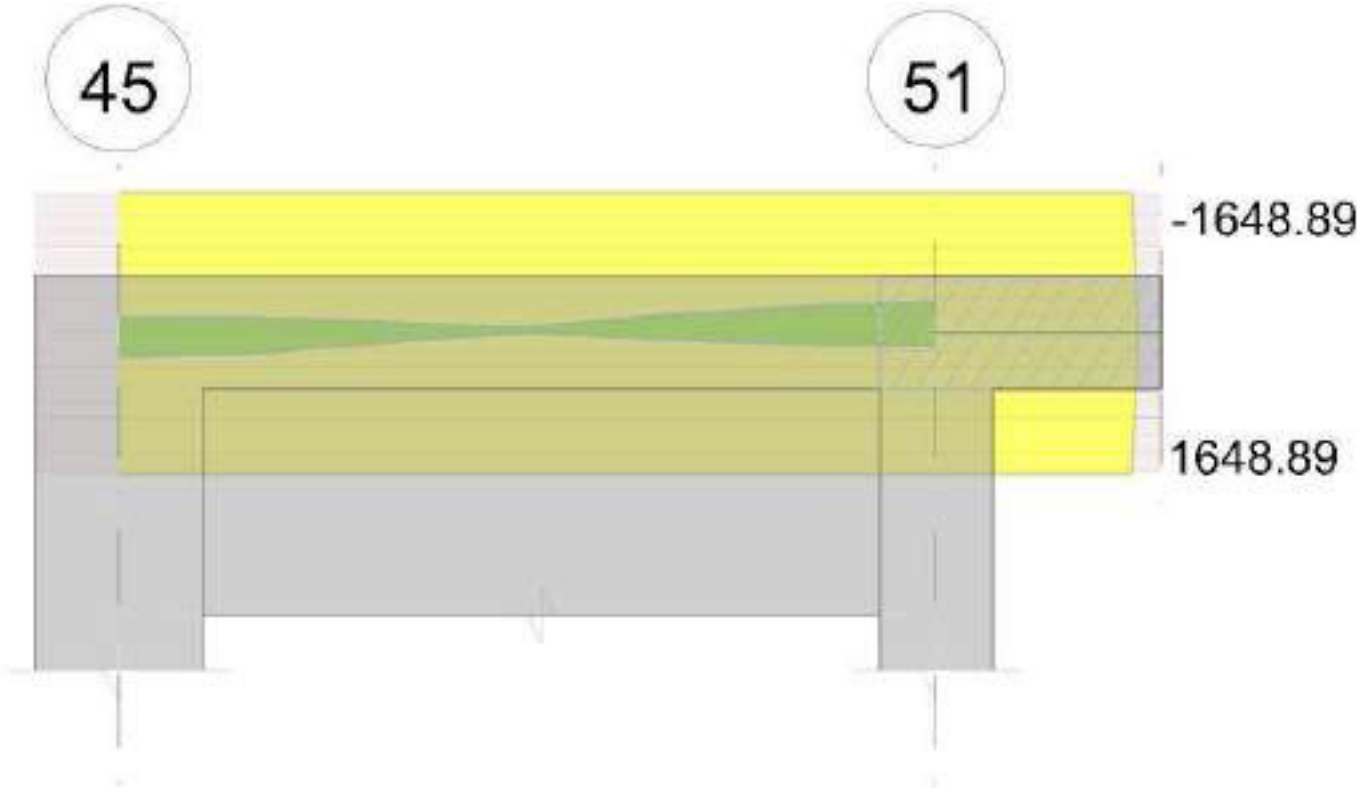


Diagramma verifica stato limite ultimo taglio

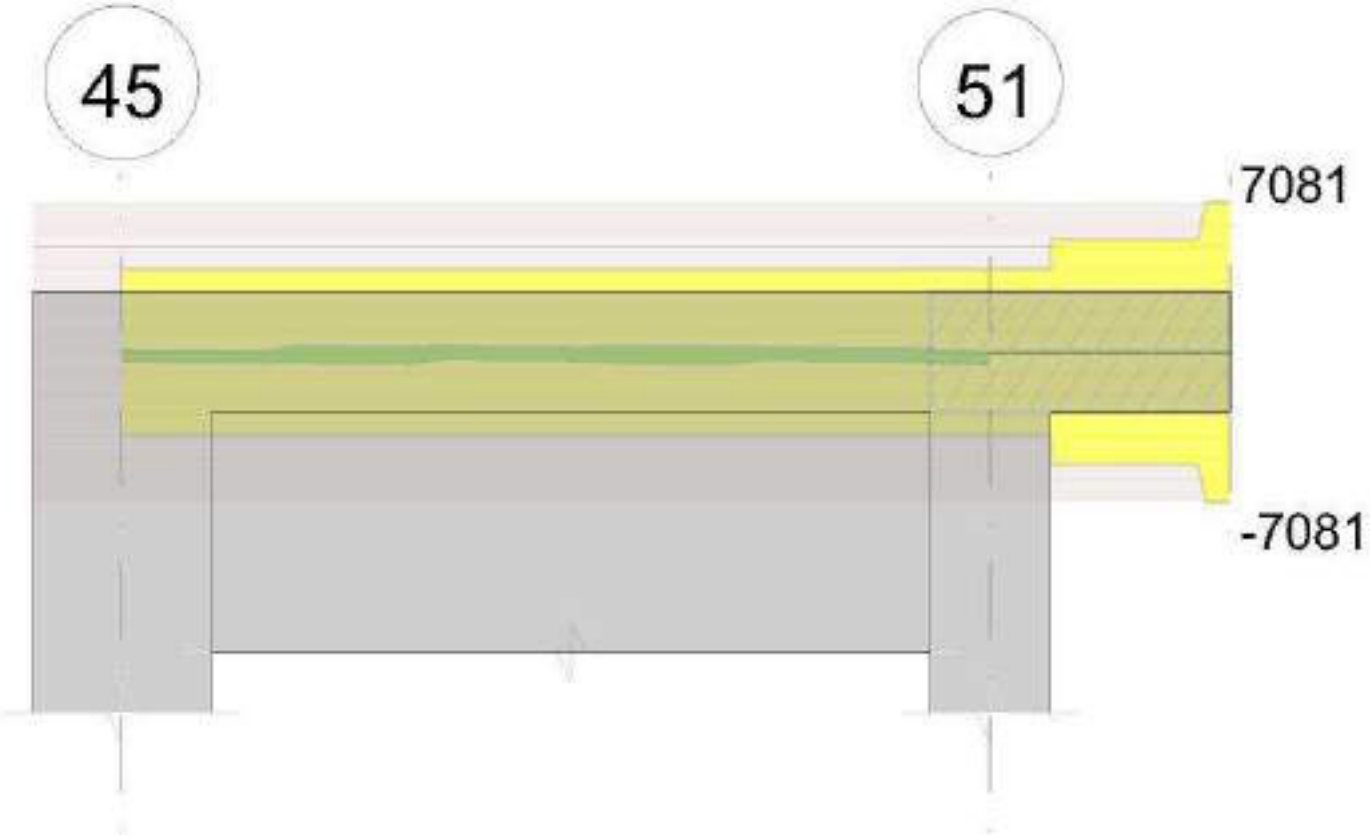
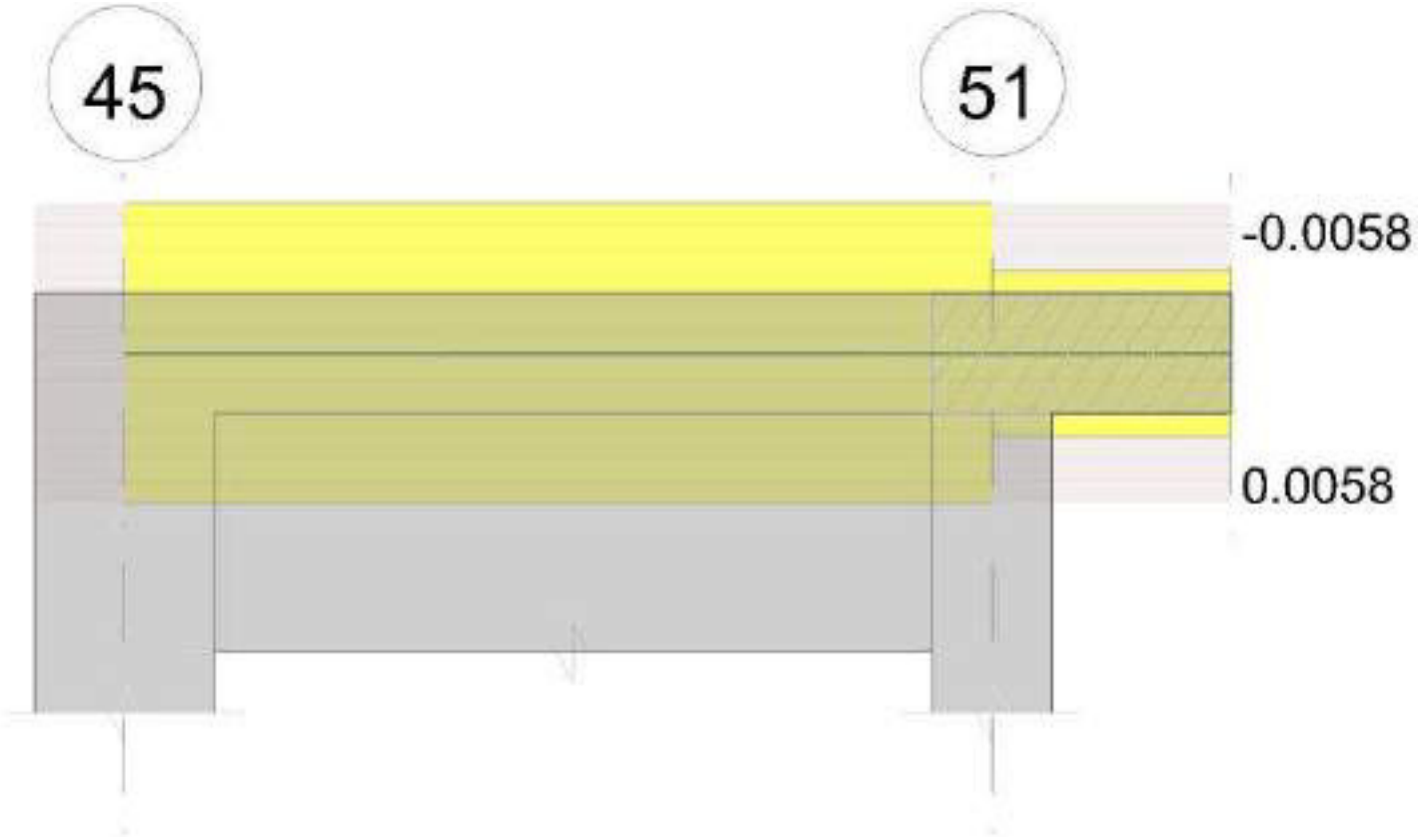


Diagramma verifica stato limite esercizio quasi permanente freccia



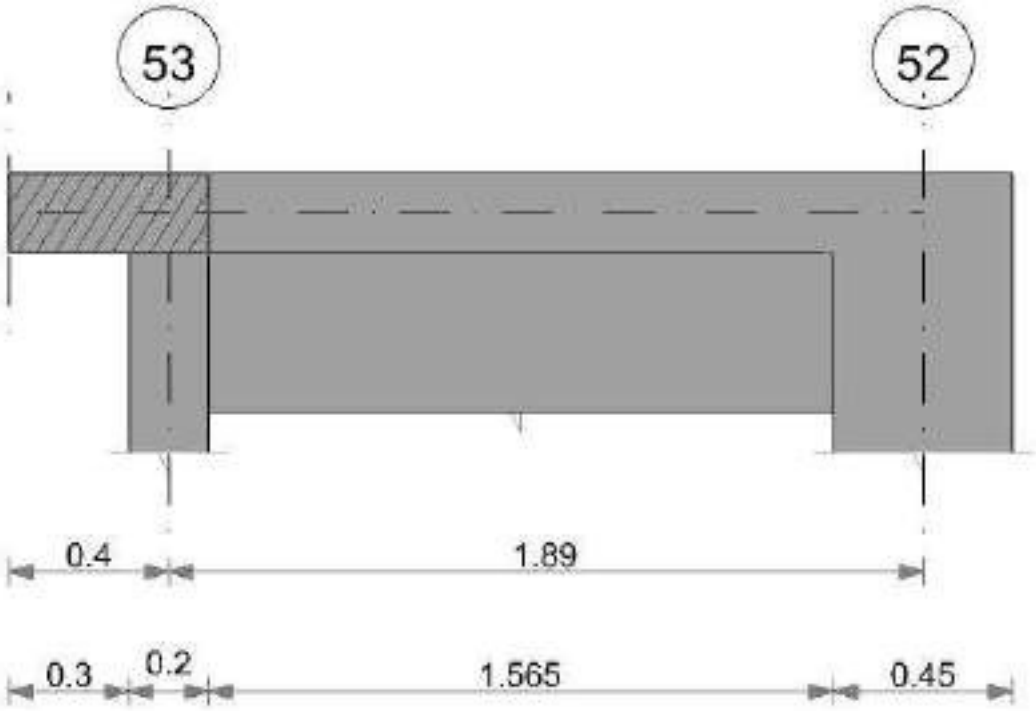
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Rialzato" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

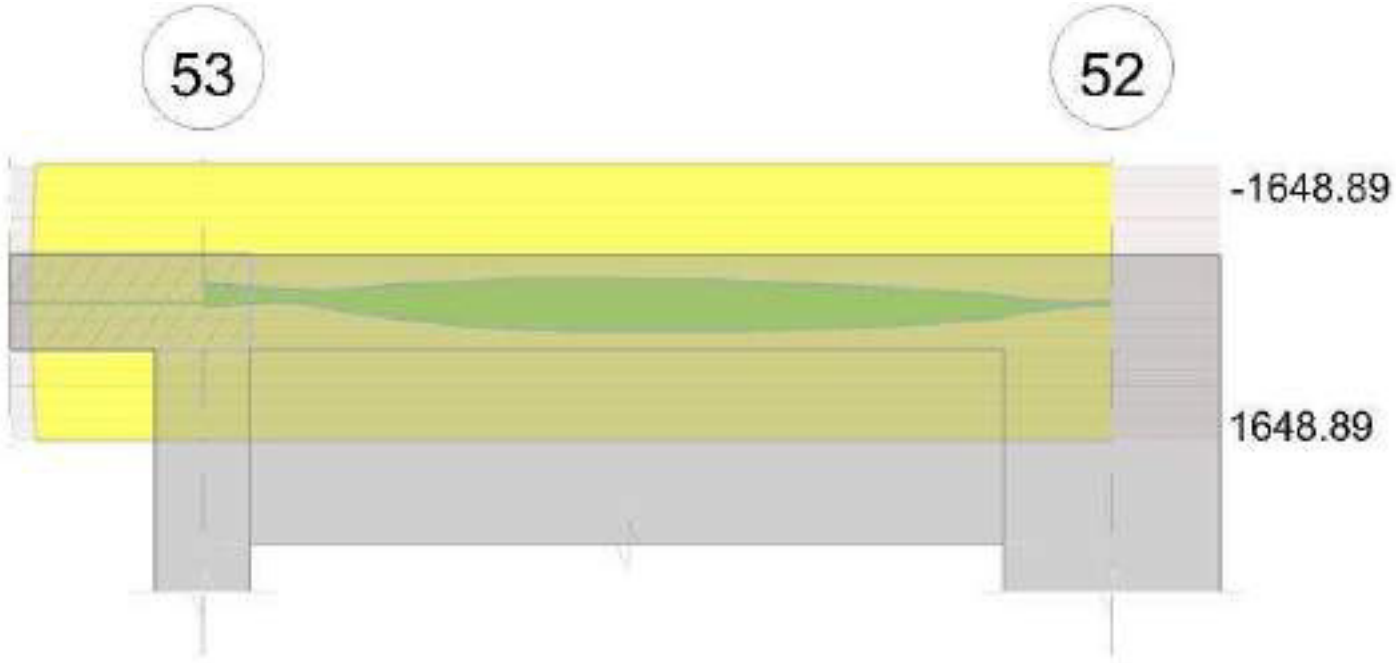


Diagramma verifica stato limite ultimo taglio

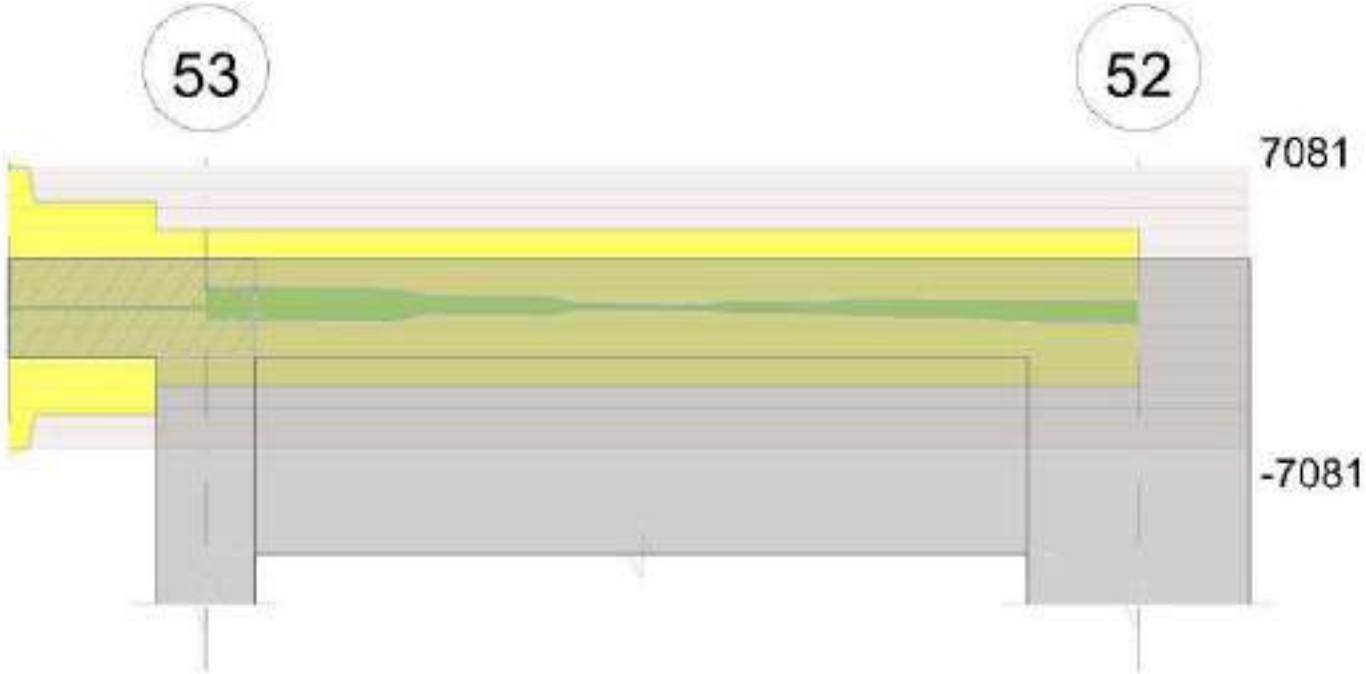
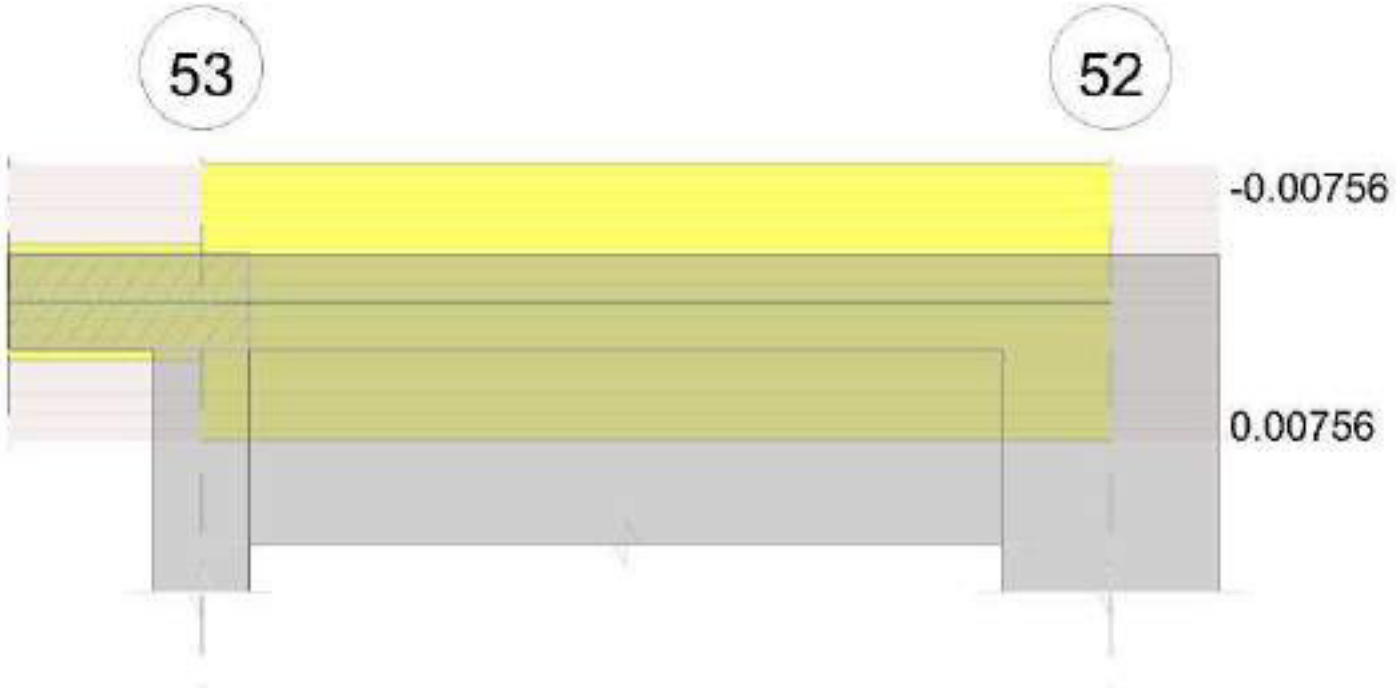


Diagramma verifica stato limite esercizio quasi permanente freccia



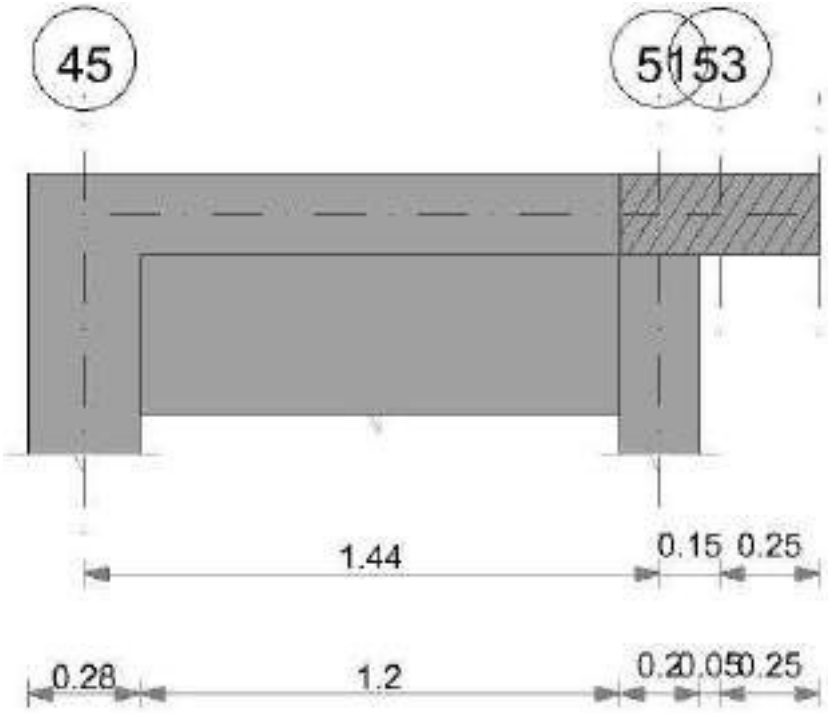
Output campate

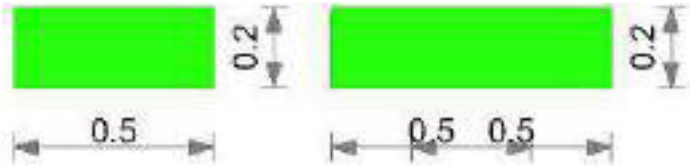
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Secondo" 45-53

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

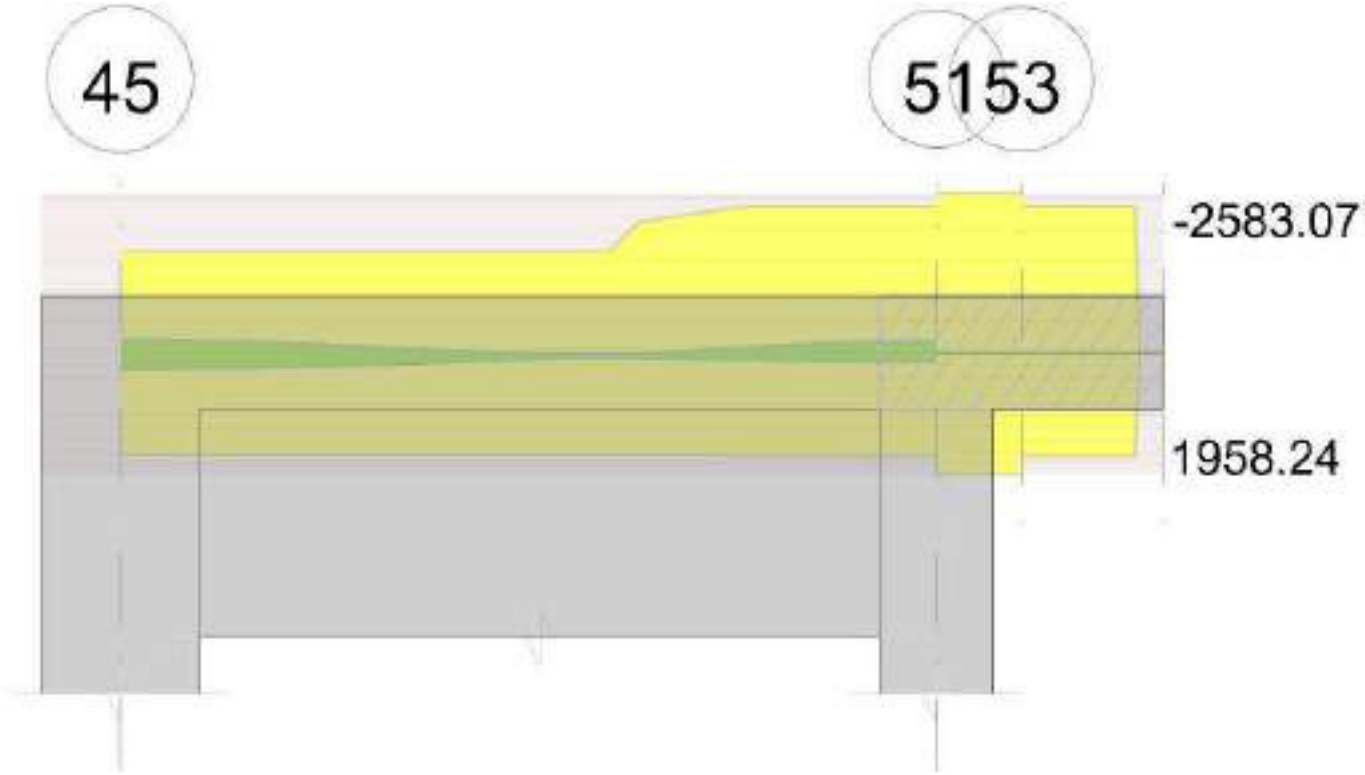


Diagramma verifica stato limite ultimo taglio

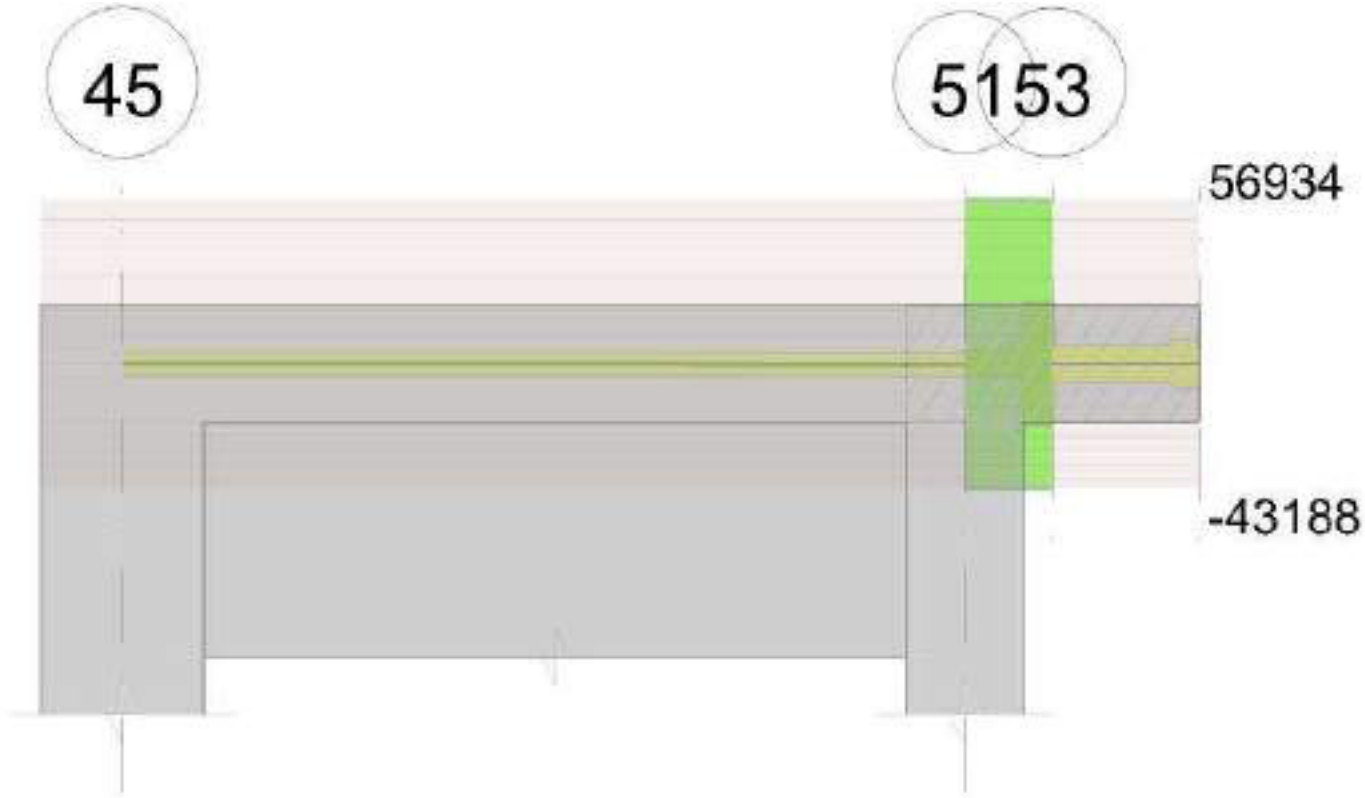
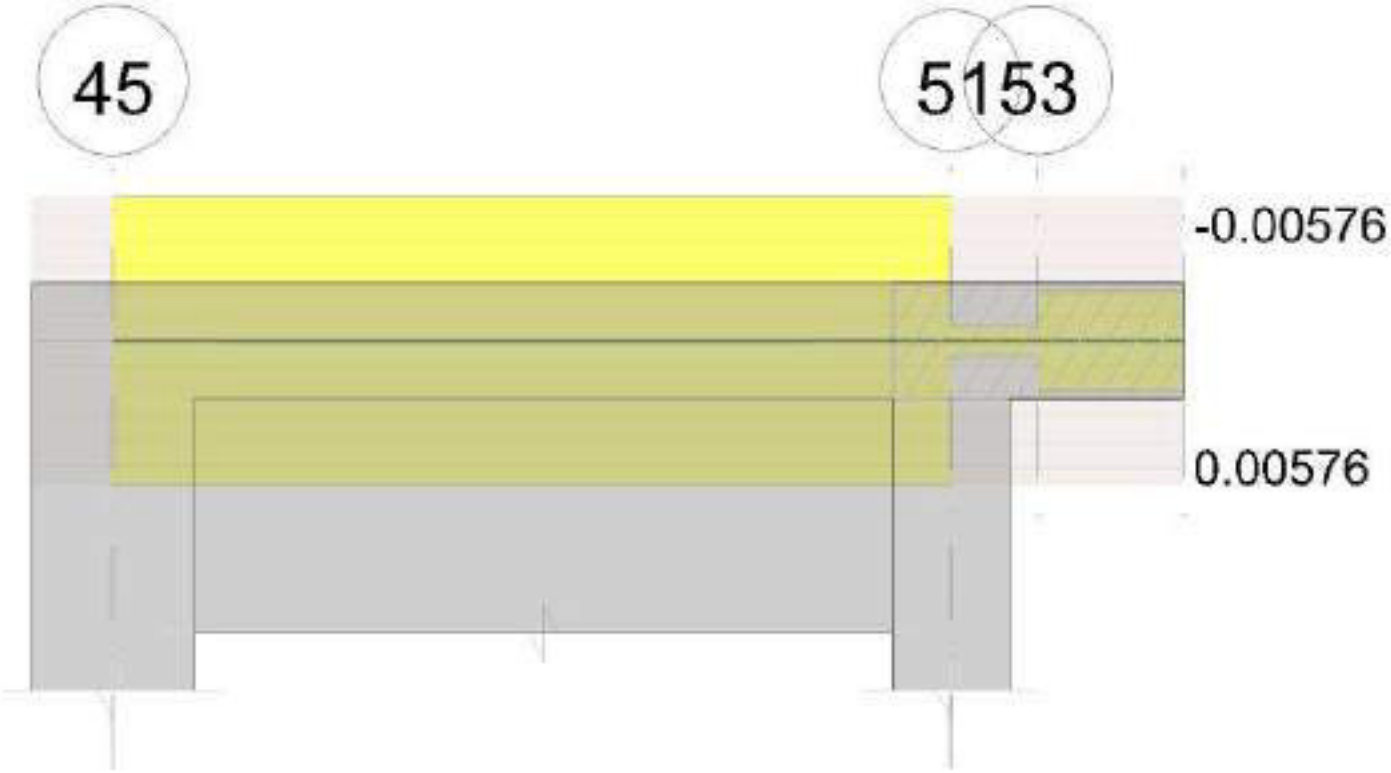


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 2 tra i fili 51 - 53, sezione R 50x20, asta 400; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05							-17.41	SLU 81	-3.72	-2583.07	0.272	694.33	Si
0.07	0.000462	0.05	0.000308	0.05							-2.79	SLU 83	-2.06	-2583.07	0.272	1251.53	Si
0.1	0.000462	0.05	0.000308	0.05	-0.36	SLU 4	0.43	1958.24	0.258	4569.46	-0.54	SLU 83	-0.54	-2583.07	0.272	4804.73	Si
0.15	0.000462	0.05	0.000308	0.05	0.02	SLU 82	0.43	1958.24	0.258	4569.46	0.01	SLU 8	-0.54	-2583.07	0.272	4804.73	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05							-9.79	SLV 4	-2.21	-2583.07	0.272	1168.5	Si
0.07	0.000462	0.05	0.000308	0.05							-1.66	SLV 4	-1.18	-2583.07	0.272	2187.09	Si
0.1	0.000462	0.05	0.000308	0.05	-0.37	SLV 13	0.2	1958.24	0.258	9628.92	-0.38	SLV 4	-0.38	-2583.07	0.272	6798.14	Si
0.15	0.000462	0.05	0.000308	0.05	0.01	SLV 8	0.2	1958.24	0.258	9628.92	0.01	SLV 9	-0.38	-2583.07	0.272	6798.14	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05							-9.79	SLD 4	-7.62	-2583.07	0.272	339.01	Si
0.07	0.000462	0.05	0.000308	0.05							-1.65	SLD 4	-1.18	-2583.07	0.272	2190.36	Si
0.1	0.000462	0.05	0.000308	0.05	-0.38	SLD 13	0.2	1958.24	0.258	9670.44	-0.38	SLD 4	-0.38	-2583.07	0.272	6818.01	Si
0.15	0.000462	0.05	0.000308	0.05	0.01	SLD 9	0.2	1958.24	0.258	9670.44	0.01	SLD 8	-0.38	-2583.07	0.272	6818.01	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000462	0	274	SLU 81	274	4472	23811	0	4472	1	16.33	Si
0.07	0	0.000462	0	116	SLU 81	116	4472	23811	0	4472	1	38.48	Si
0.1	0.0000402	0.000462	0	64	SLU 81	64	4472	23811	21248	21248	1	333.82	Si
0.15	0.0000402	0.000308	0	-41	SLU 84	-41	-3906	-23811	-21248	-21248	1	513.58	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000462	0	152	Ger.	56934	4472	23811	0	4472	1	0.08	Si
0	0	0.000462	0	152	Ger.	-43015	-4472	-23811	0	-4472	1	0.1	Si
0.07	0	0.000462	0	65	Ger.	56847	4472	23811	0	4472	1	0.08	Si
0.07	0	0.000462	0	65	Ger.	-43101	-4472	-23811	0	-4472	1	0.1	Si
0.1	0.0000402	0.000462	0	37	Ger.	56819	4472	23811	21248	21248	1	0.37	Si
0.1	0.0000402	0.000462	0	36	Ger.	-43130	-4472	-23811	-21248	-21248	1	0.49	Si
0.15	0.0000402	0.000308	0	-21	Ger.	56761	3906	23811	21248	21248	1	0.37	Si
0.15	0.0000402	0.000308	0	-21	Ger.	-43188	-3906	-23811	-21248	-21248	1	0.49	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000462	0	152	SLD 4	152	4472	23811	0	4472	1	29.48	Si
0.07	0	0.000462	0	65	SLD 4	65	4472	23811	0	4472	1	68.42	Si
0.1	0.0000402	0.000462	0	37	SLD 4	37	4472	23811	21248	21248	1	580.84	Si
0.15	0.0000402	0.000308	0	-21	SLD 13	-21	-3906	-23811	-21248	-21248	1	1010.65	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-12.12	18	-2.63	734	1494000	10784	36000000	-9.79	2	-2.2	615	1120500			Si
0.07	-1.97	20	-1.38	384	1494000	5643	36000000	-1.65	2	-1.18	328	1120500			Si
0.1	-0.4	20	-0.4	112	1494000	1643	36000000	-0.38	2	-0.38	105	1120500			Si
0.15	0.01	19	0.28	77	1494000	1186	36000000	0.01	2	0.2	55	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.05	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si
0.07	0	0	0	0	0	0	0	0	0	0	0	2	0	2	9999	Si
0.1	0	0	0	0	0	0	0	0	0	0	0	2	0	2	9999	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	86	-43015	-39183	152	86	56934	51679	152
0.07	0	-43101	-39183	65	0	56847	51679	65
0.1	-29	-43130	-39183	36	-29	56819	51679	37
0.15	-86	-43188	-39183	-21	-86	56761	51679	-21

Momenti resistenti a filo appoggi

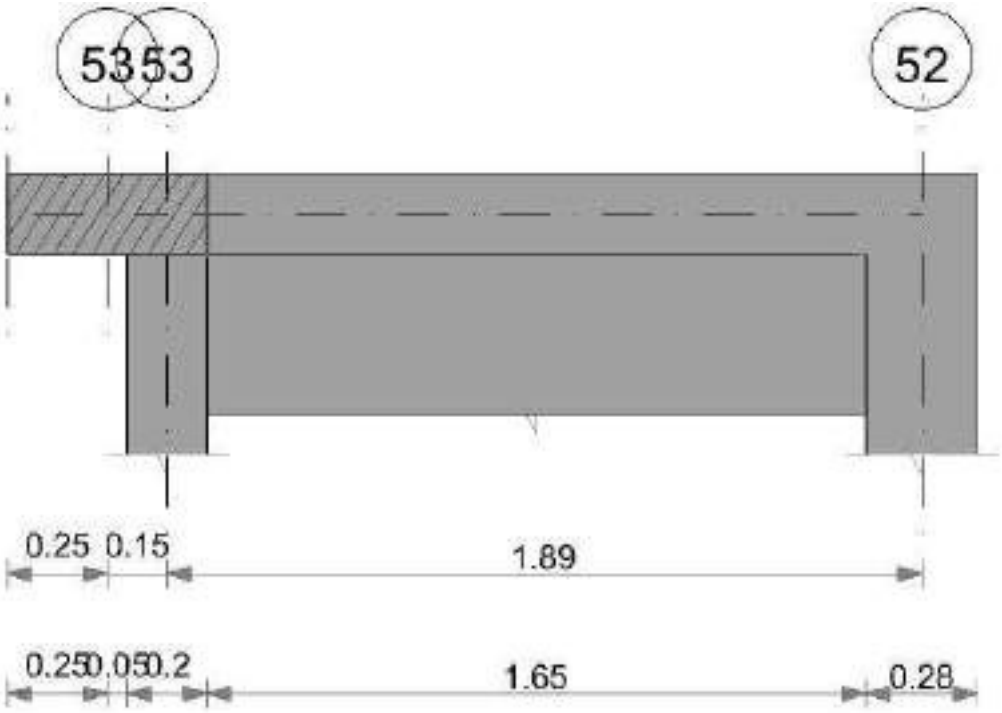
campata	x	appoggio	momento positivo	momento negativo
2	0.1	51	1958.24	-2583.07
2	0.15	53	1958.24	-2583.07

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Secondo" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

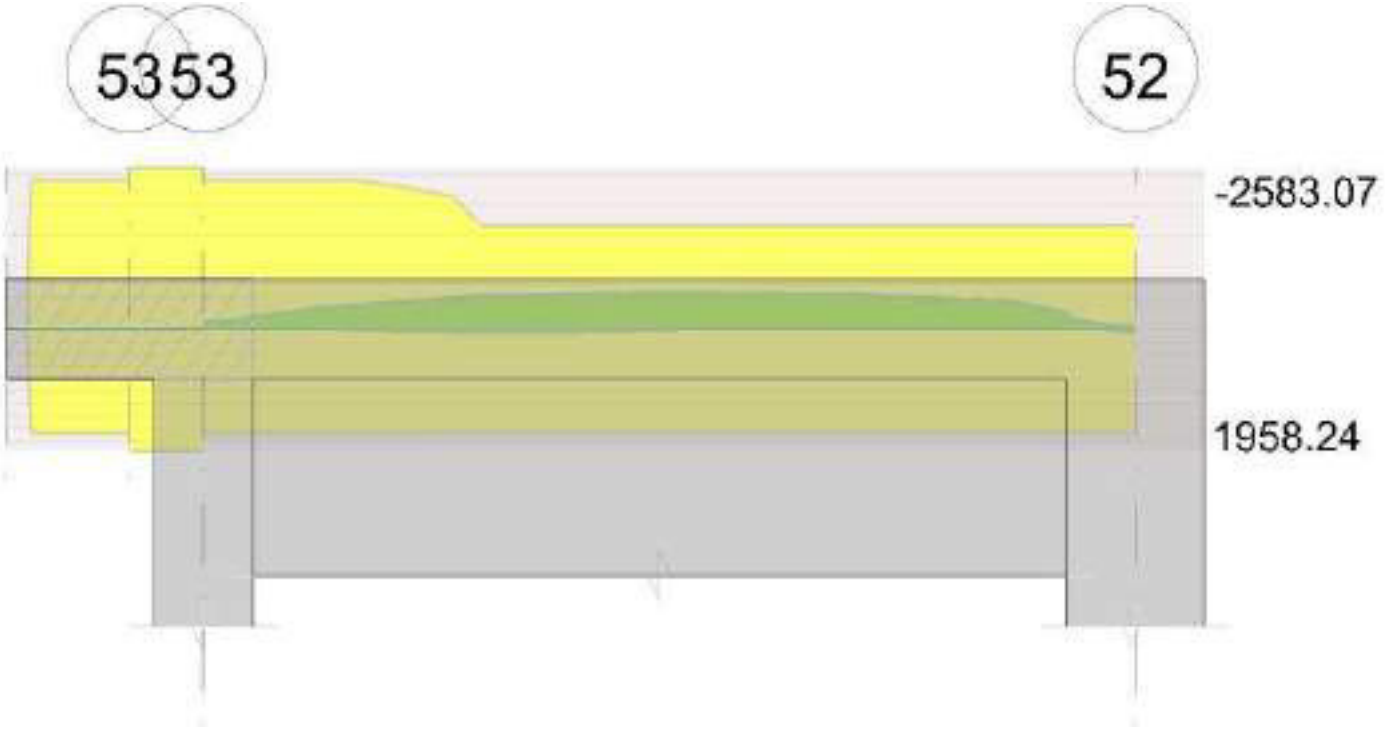


Diagramma verifica stato limite ultimo taglio

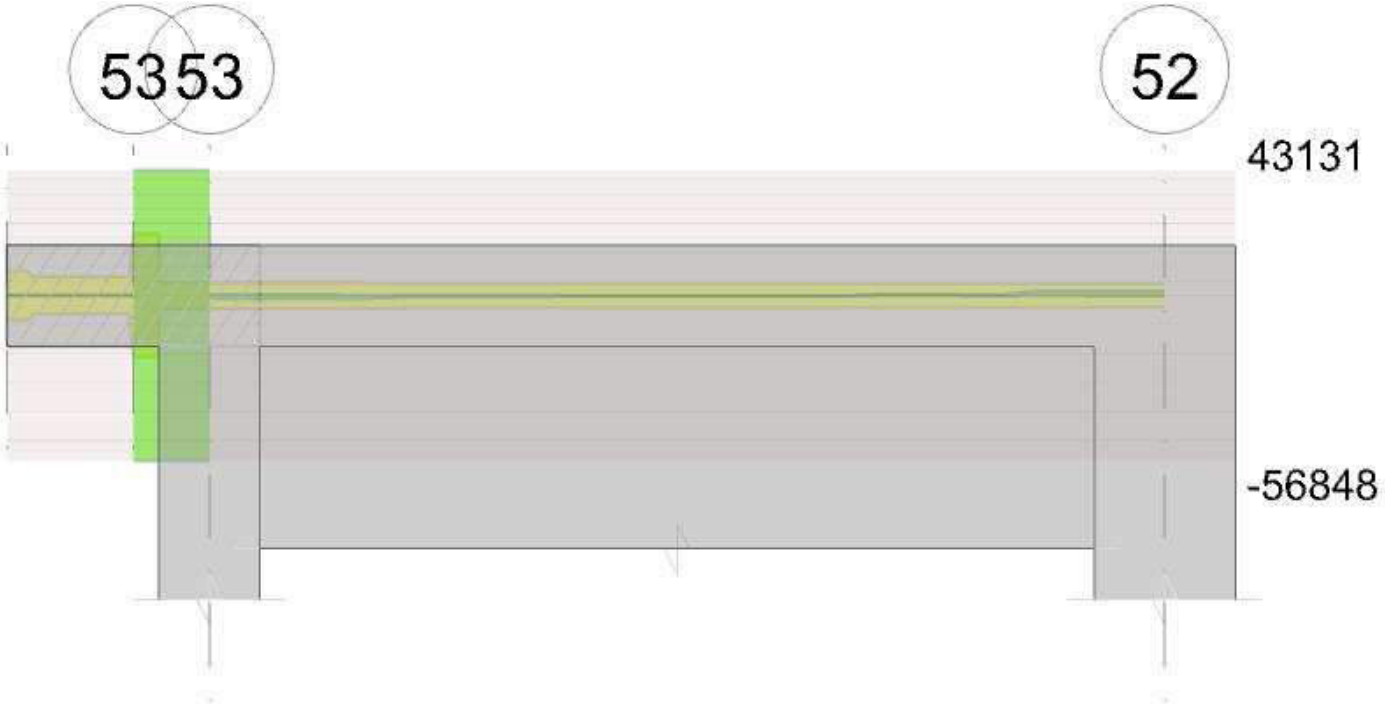
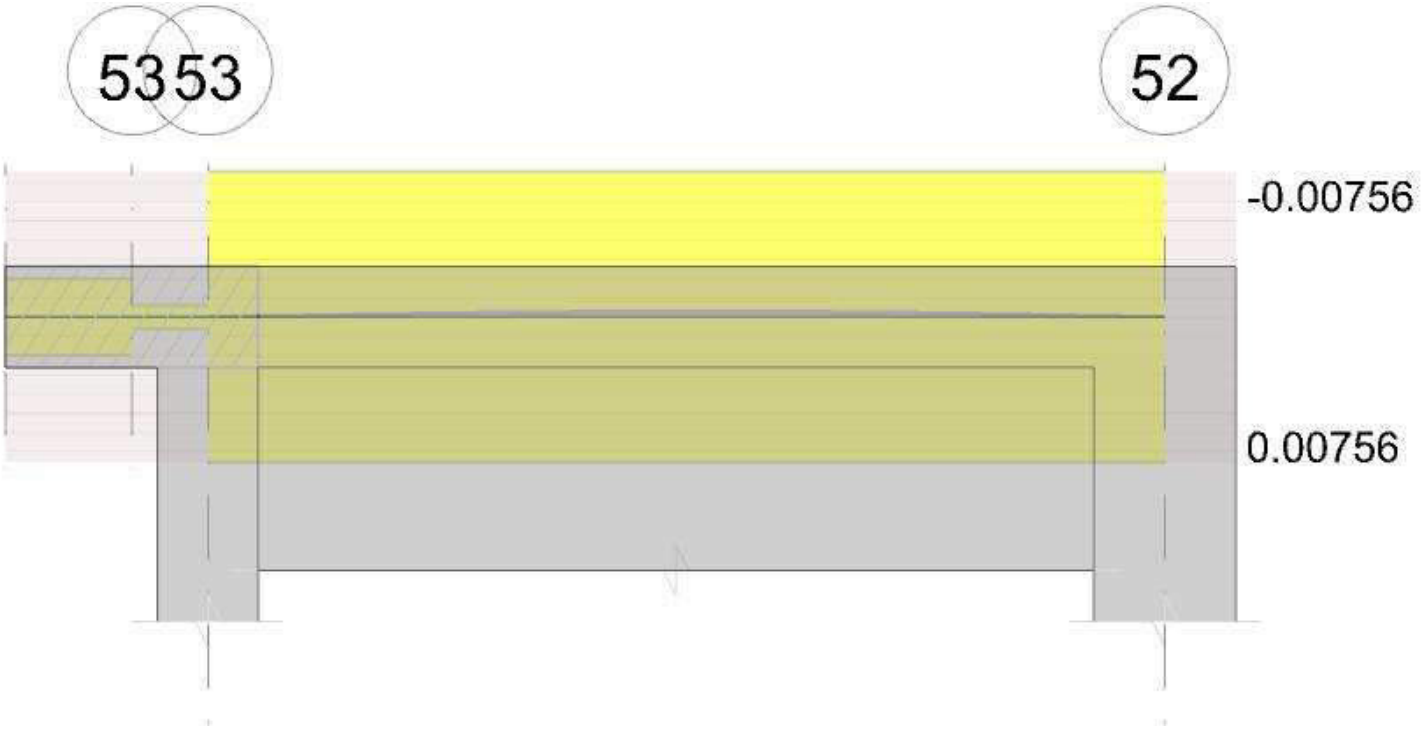


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 2 tra i fili 53 - 53, sezione R 50x20, asta 394; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05	0.04	SLU 81	0.04	1958.24	0.258	+∞	0.02	SLU 9	-2.44	-2583.07	0.272	1058.71	Si
0.05	0.000462	0.05	0.000308	0.05	-1.05	SLU 7	0.04	1958.24	0.258	+∞	-2.44	SLU 81	-2.44	-2583.07	0.272	1058.71	Si
0.07	0.000462	0.05	0.000308	0.05							-3.98	SLU 81	-3.7	-2583.07	0.272	698.06	Si
0.15	0.000462	0.05	0.000308	0.05							-9.83	SLU 81	-5.32	-2583.07	0.272	485.45	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05	0.02	SLV 16	0.02	1958.24	0.258	+∞	0.02	SLV 1	-1.34	-2583.07	0.272	1924.38	Si
0.05	0.000462	0.05	0.000308	0.05	-1.34	SLV 16	0.02	1958.24	0.258	+∞	-1.34	SLV 1	-1.34	-2583.07	0.272	1924.38	Si
0.07	0.000462	0.05	0.000308	0.05							-2.26	SLV 1	-2.08	-2583.07	0.272	1244.41	Si
0.15	0.000462	0.05	0.000308	0.05							-5.95	SLV 4	-3.02	-2583.07	0.272	855.41	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000462	0.05	0.000308	0.05	0.02	SLD 16	0.02	1958.24	0.258	+∞	0.02	SLD 1	-1.34	-2583.07	0.272	1924.61	Si
0.05	0.000462	0.05	0.000308	0.05	-1.34	SLD 16	0.02	1958.24	0.258	+∞	-1.34	SLD 1	-1.34	-2583.07	0.272	1924.61	Si
0.07	0.000462	0.05	0.000308	0.05							-2.26	SLD 1	-2.08	-2583.07	0.272	1244.52	Si
0.15	0.000462	0.05	0.000308	0.05							-5.95	SLD 1	-3.02	-2583.07	0.272	855.73	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000402	0.000308	0	-41	SLU 81	-41	-3906	-23811	-21243	-21243	1	513.45	Si
0.05	0.0000402	0.000462	0	-58	SLU 81	-58	-4472	-23811	-21243	-21243	1	368.66	Si
0.07	0	0.000462	0	-66	SLU 81	-66	-4472	-23811	0	-4472	1	68.01	Si
0.15	0	0.000462	0	-90	SLU 81	-90	-4472	-23811	0	-4472	1	49.62	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000402	0.000308	0	-21	Ger.	43131	3906	23811	21243	21243	1	0.49	Si
0	0.0000402	0.000308	0	-21	Ger.	-56811	-3906	-23811	-21243	-21243	1	0.37	Si
0.05	0.0000402	0.000462	0	-33	Ger.	43118	4472	23811	21243	21243	1	0.49	Si
0.05	0.0000402	0.000462	0	-34	Ger.	-56823	-4472	-23811	-21243	-21243	1	0.37	Si
0.07	0	0.000462	0	-40	Ger.	43112	4472	23811	0	4472	1	0.1	Si
0.07	0	0.000462	0	-40	Ger.	-56830	-4472	-23811	0	-4472	1	0.08	Si
0.15	0	0.000462	0	-58	Ger.	43093	4472	23811	0	4472	1	0.1	Si
0.15	0	0.000462	0	-59	Ger.	-56848	-4472	-23811	0	-4472	1	0.08	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000402	0.000308	0	-21	SLD 4	-21	-3906	-23811	-21243	-21243	1	1010.14	Si
0.05	0.0000402	0.000462	0	-34	SLD 4	-34	-4472	-23811	-21243	-21243	1	633.56	Si
0.07	0	0.000462	0	-40	SLD 4	-40	-4472	-23811	0	-4472	1	112.41	Si
0.15	0	0.000462	0	-59	SLD 4	-59	-4472	-23811	0	-4472	1	76.4	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	0.02	18	0.02	7	1494000	102	36000000	0.02	2	0.02	5	1120500			Si
0.05	-1.69	18	-1.69	471	1494000	6923	36000000	-1.34	2	-1.34	374	1120500			Si
0.07	-2.78	18	-2.57	718	1494000	10556	36000000	-2.26	2	-2.07	579	1120500			Si
0.15	-6.99	18	-3.71	1036	1494000	15227	36000000	-5.94	2	-3.02	842	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.05	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si
0.07	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si
0.09	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	19	-56811	-51663	-21	19	43131	39193	-21
0.05	6	-56823	-51663	-34	6	43118	39193	-33
0.07	0	-56830	-51663	-40	0	43112	39193	-40
0.15	-19	-56848	-51663	-59	-19	43093	39193	-58

Momenti resistenti a filo appoggi

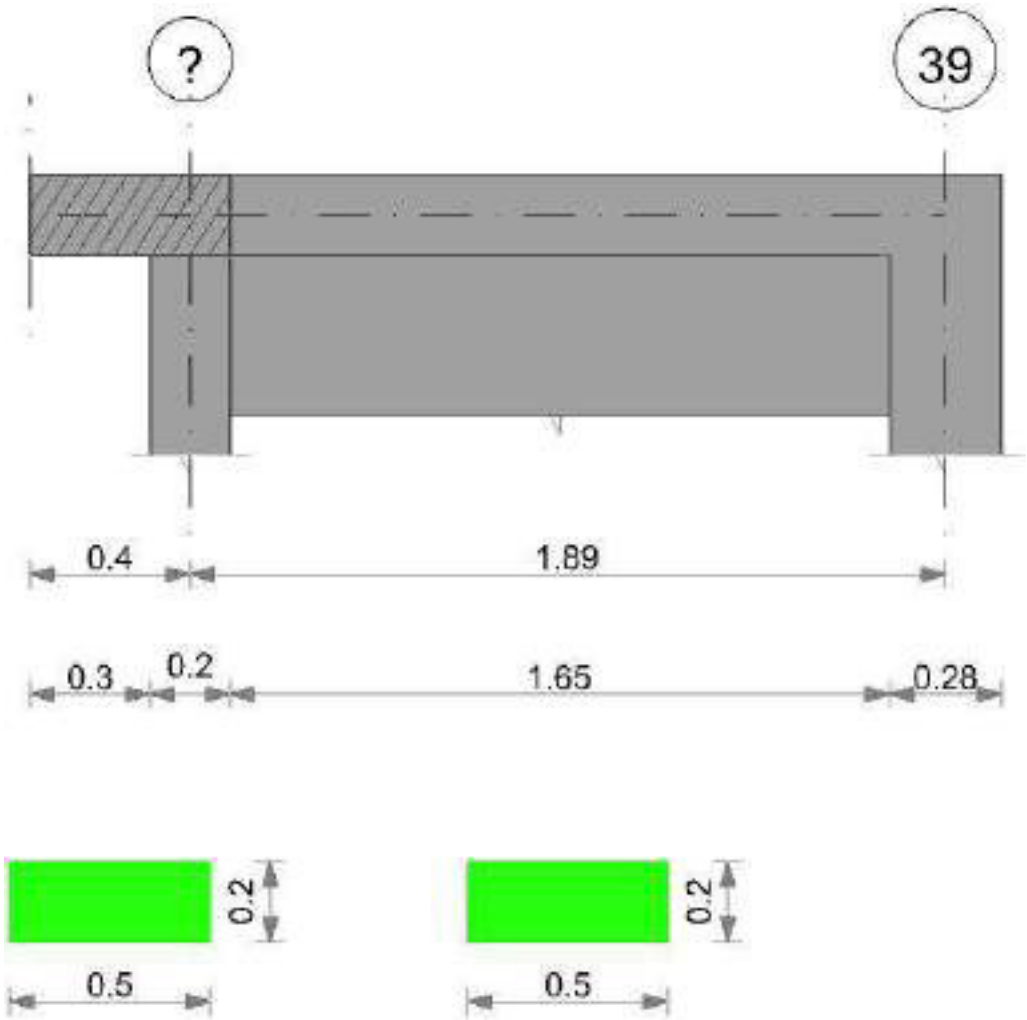
campata	x	appoggio	momento positivo	momento negativo
2	0	53	1958.24	-2583.07
2	0.05	53	1958.24	-2583.07

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 45-39

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

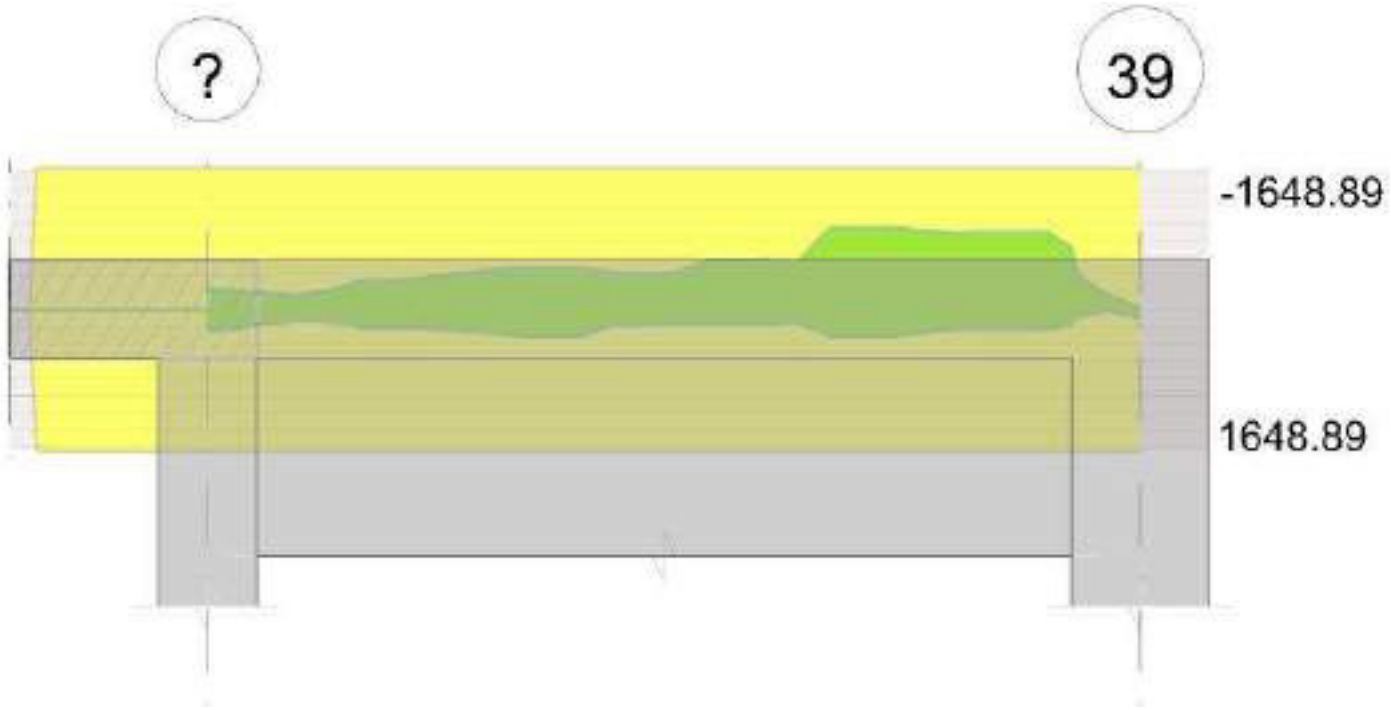


Diagramma verifica stato limite ultimo taglio

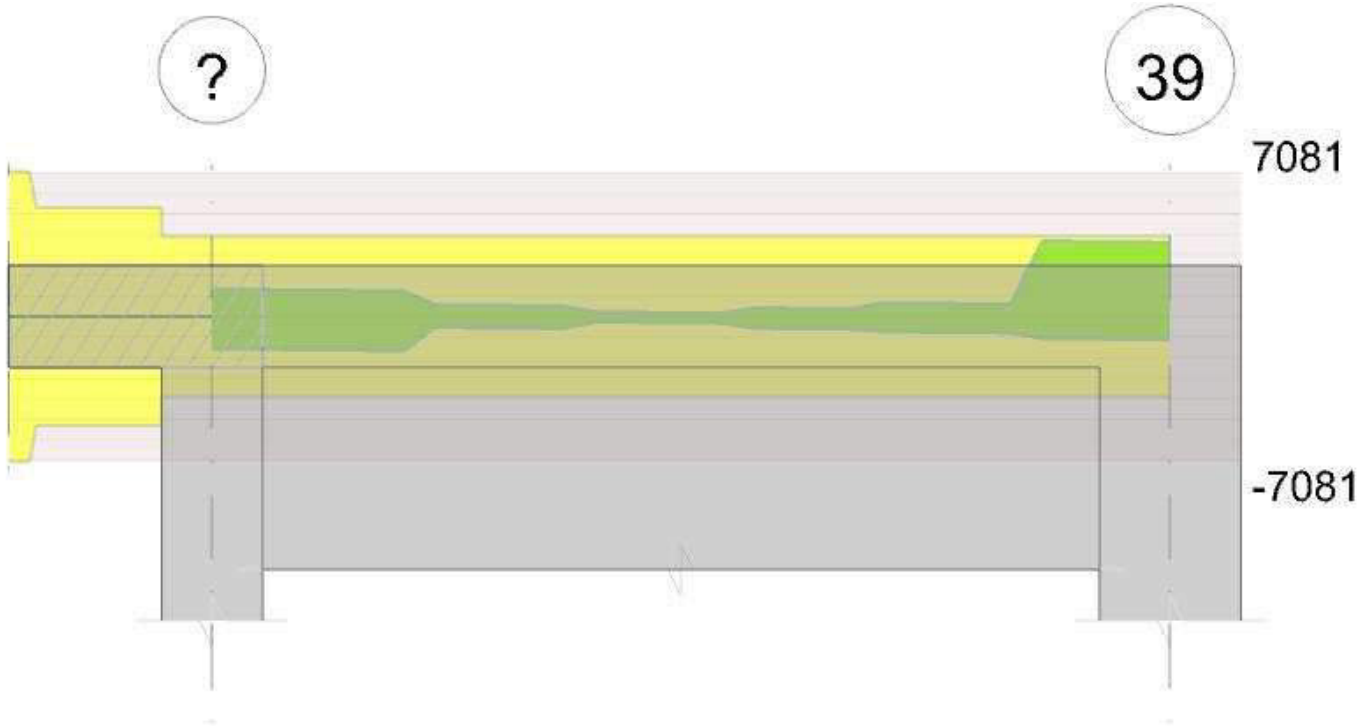
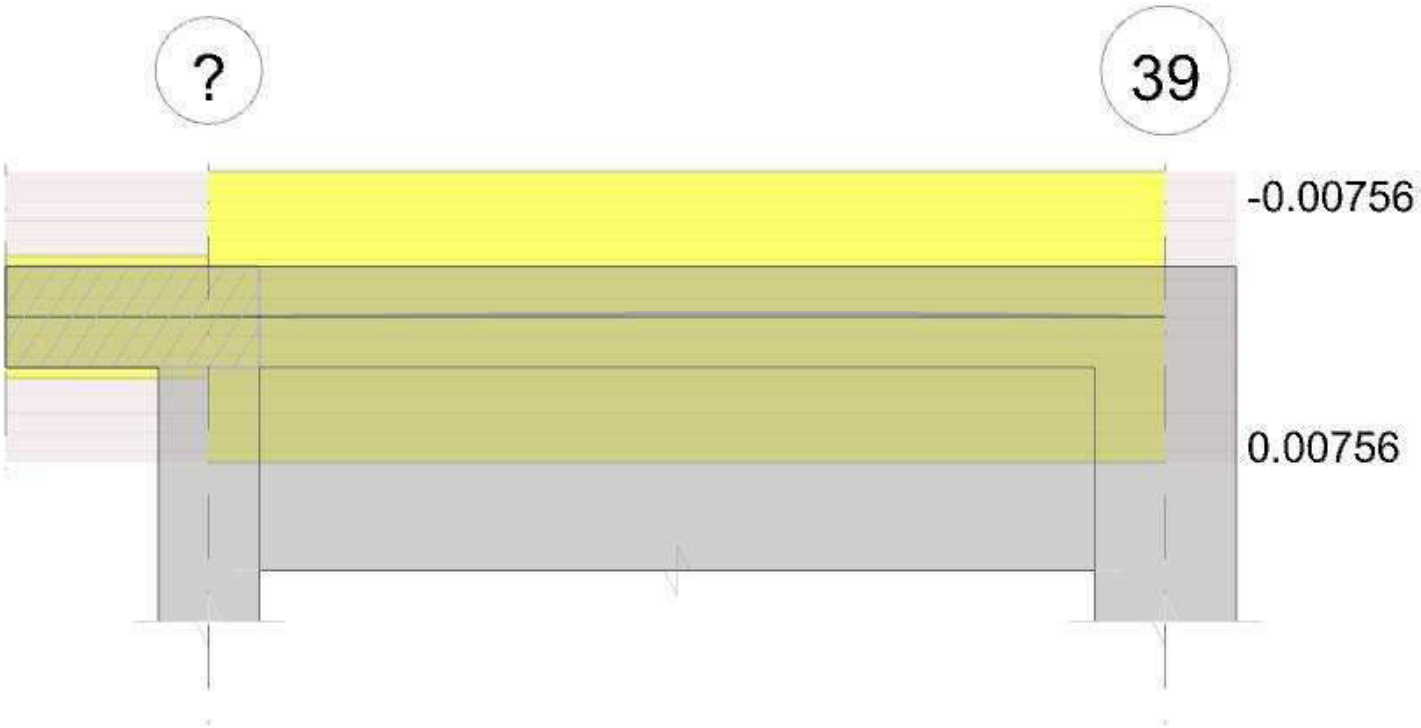


Diagramma verifica stato limite esercizio quasi permanente freccia



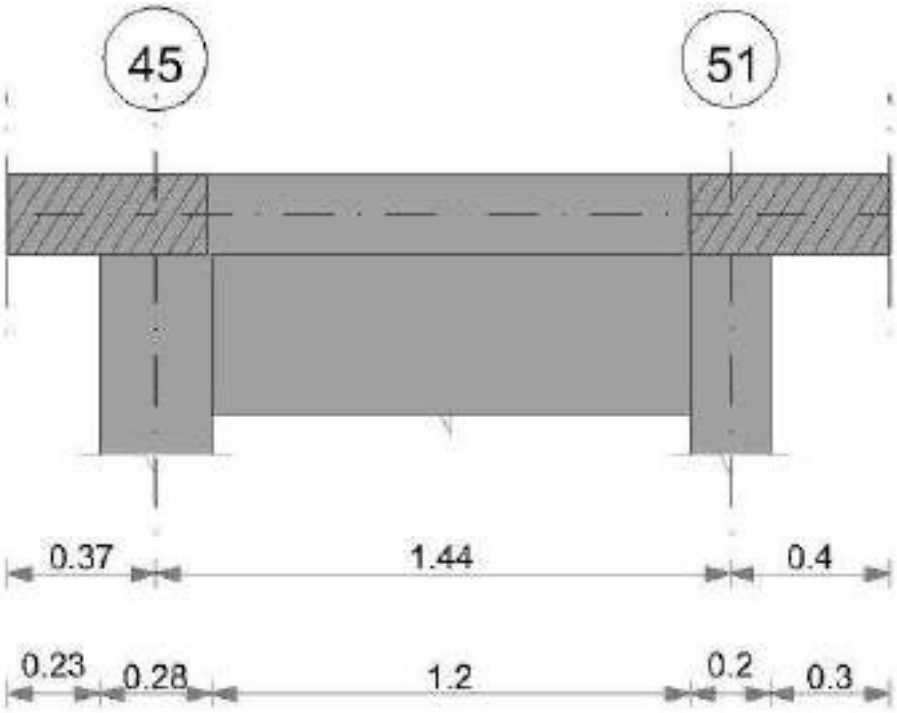
Output campate

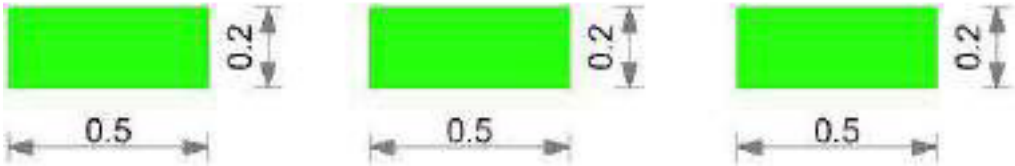
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 45-53

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

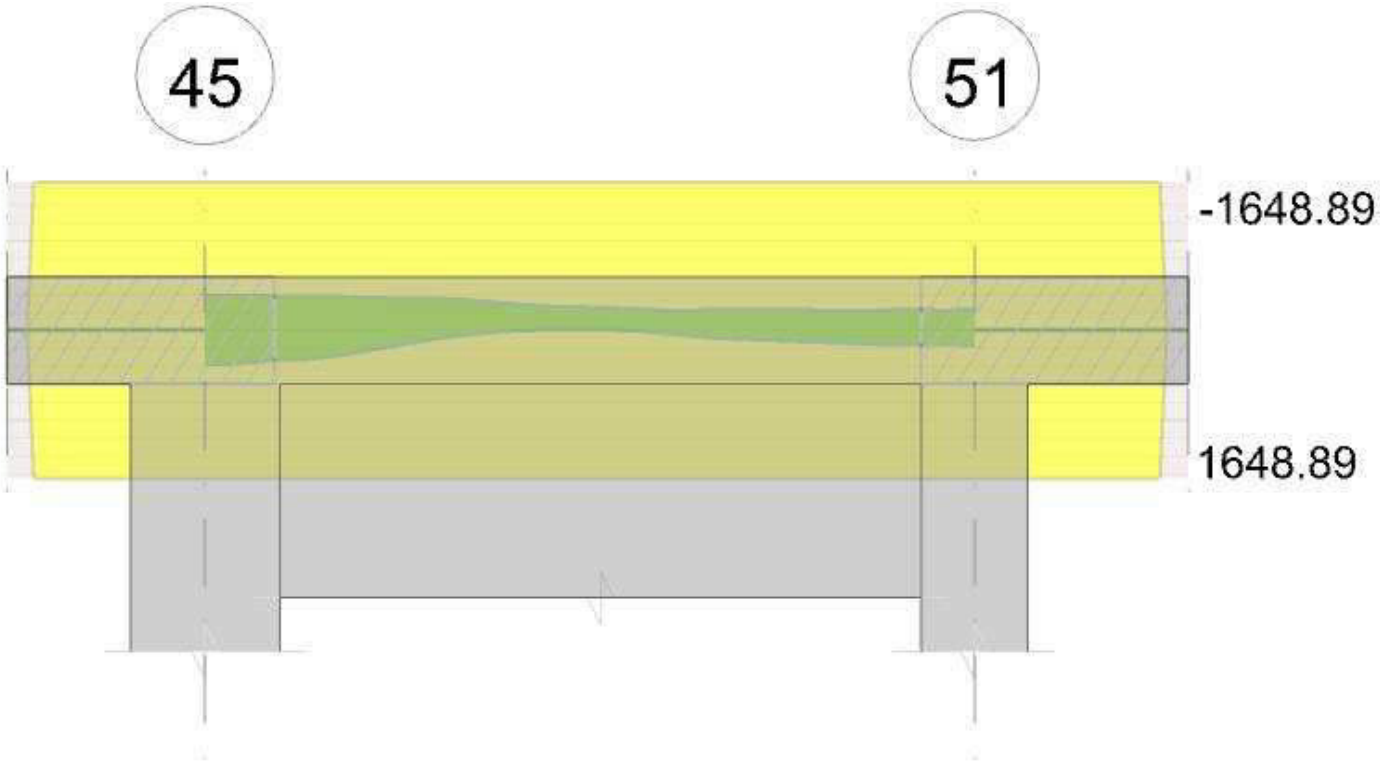


Diagramma verifica stato limite ultimo taglio

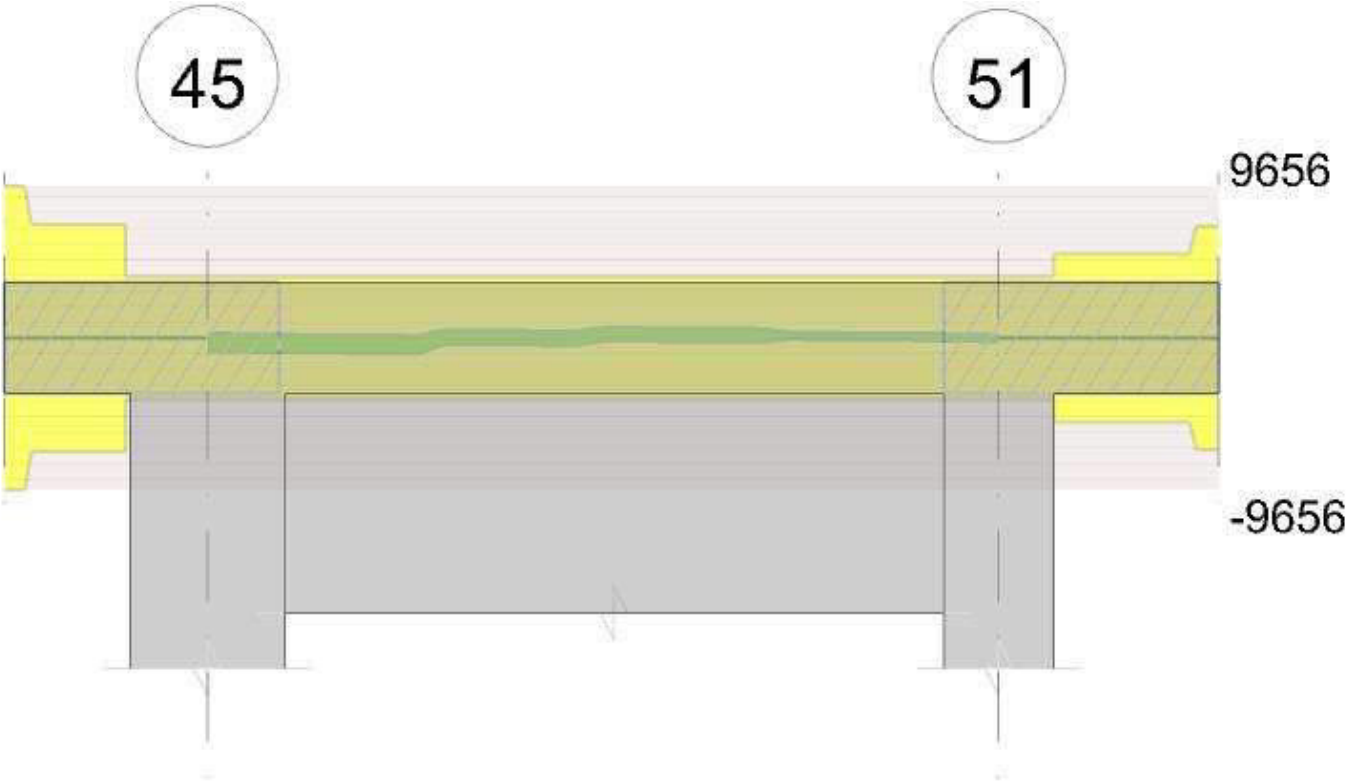
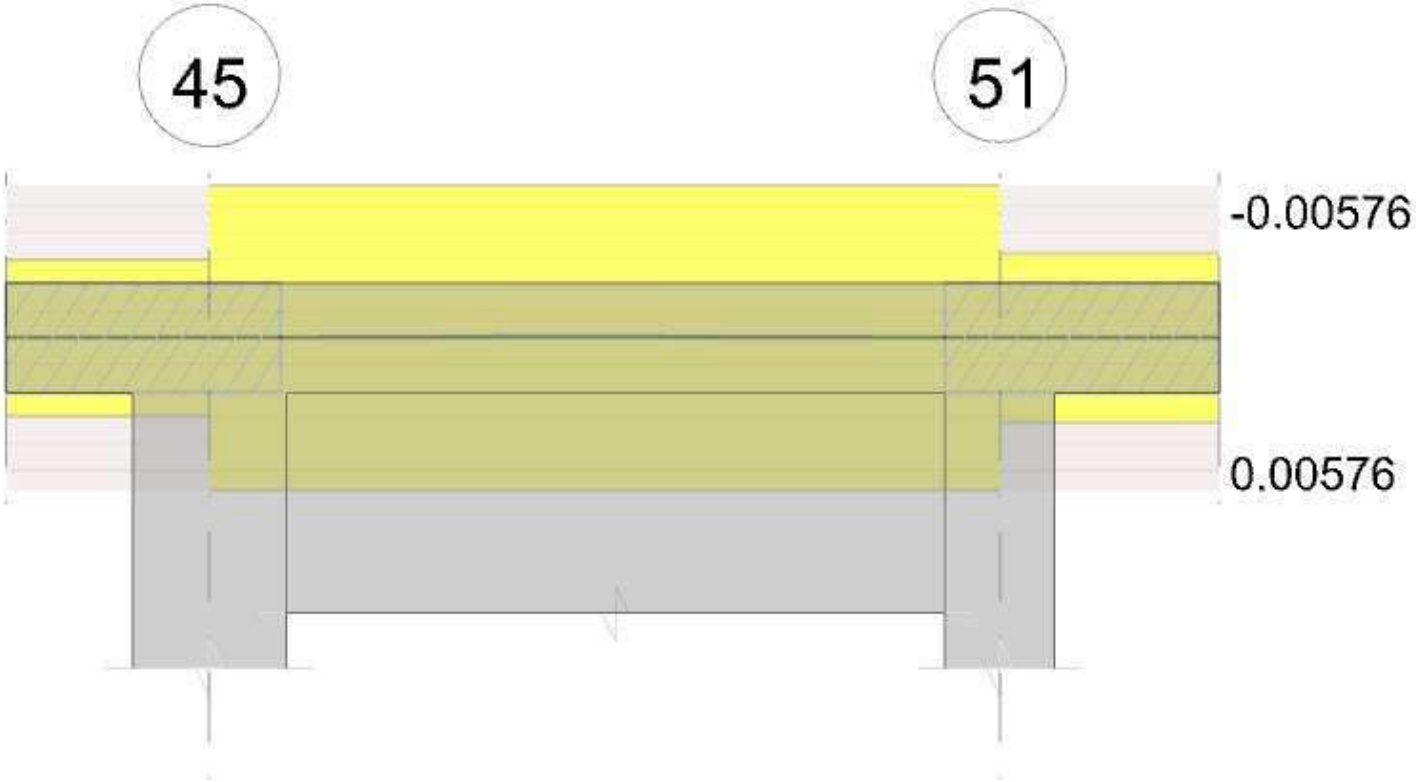


Diagramma verifica stato limite esercizio quasi permanente freccia



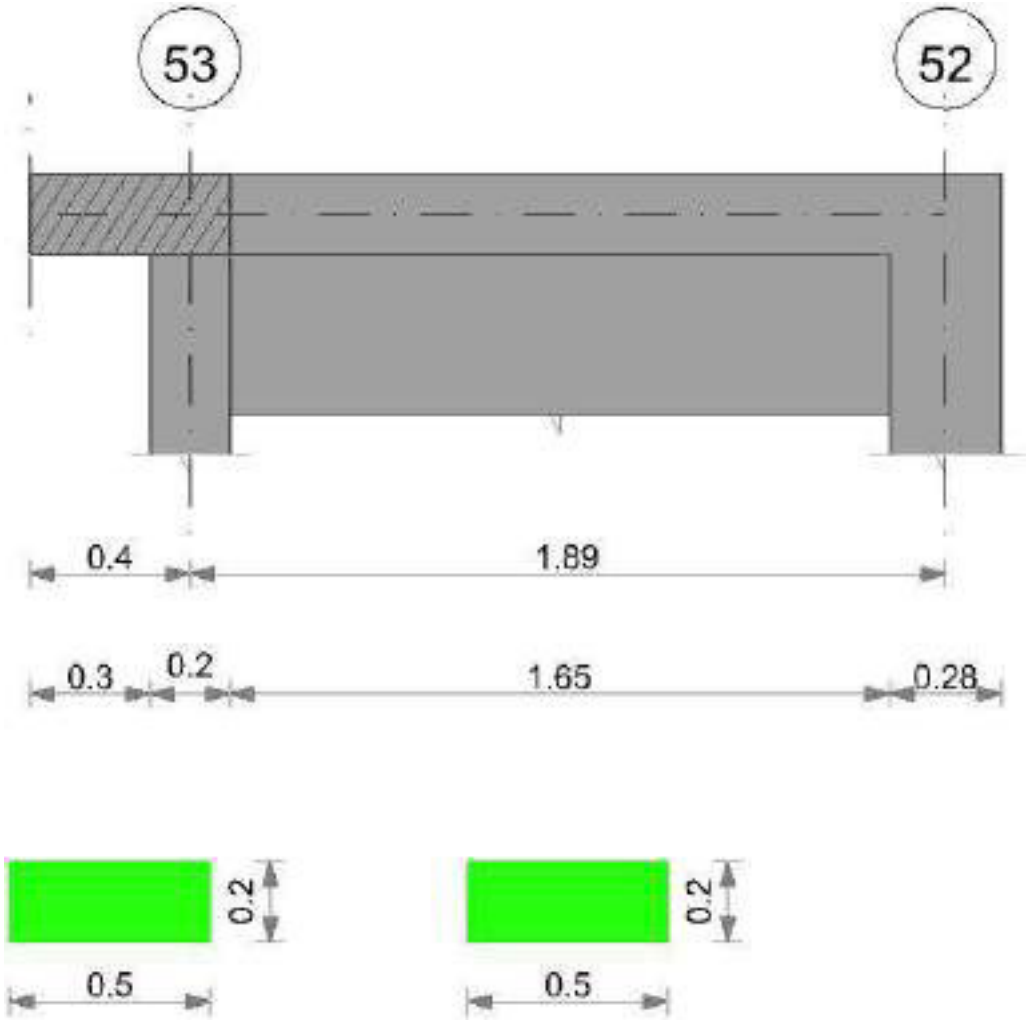
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

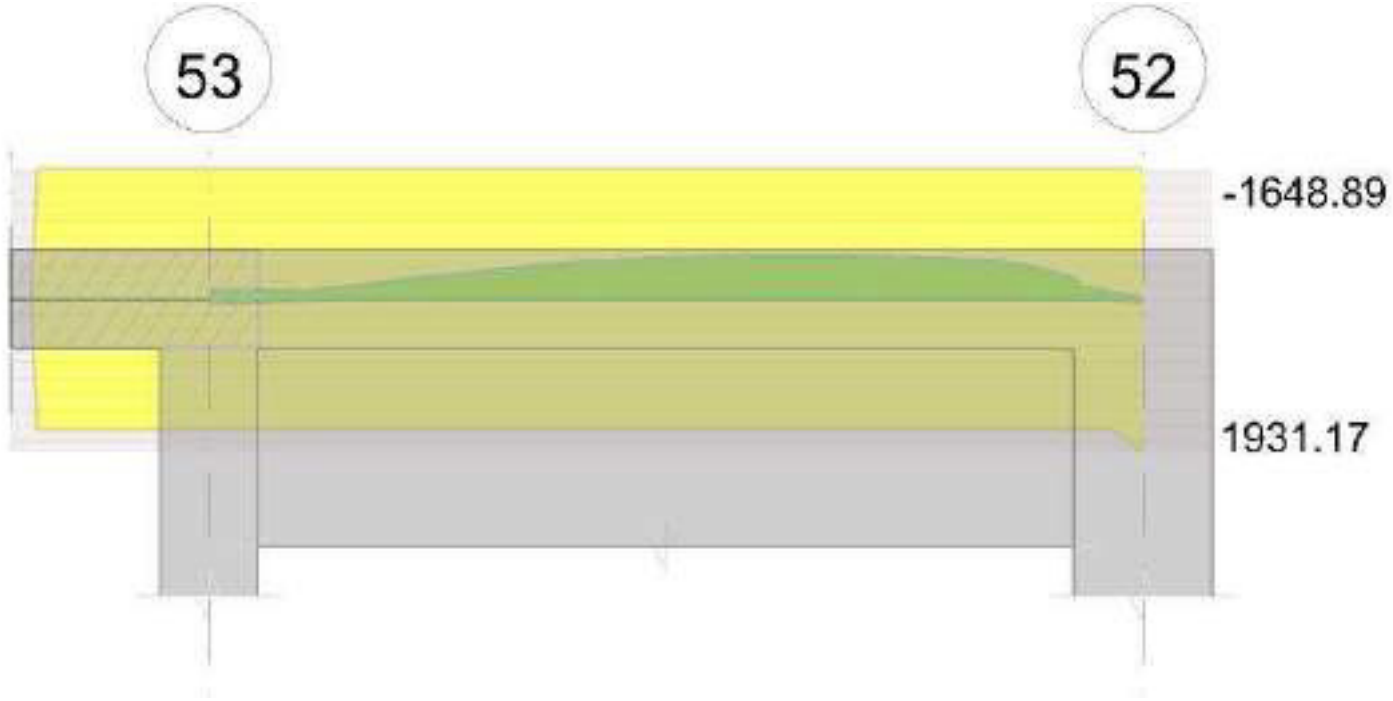


Diagramma verifica stato limite ultimo taglio

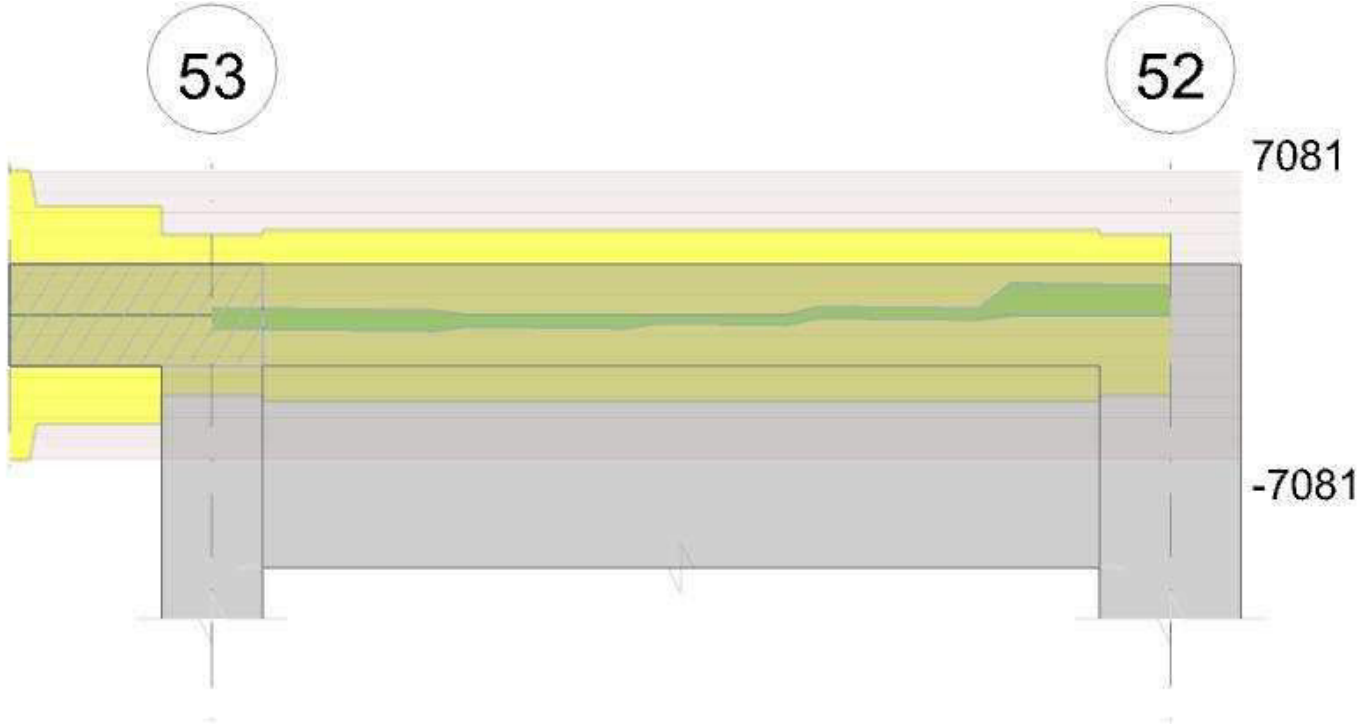
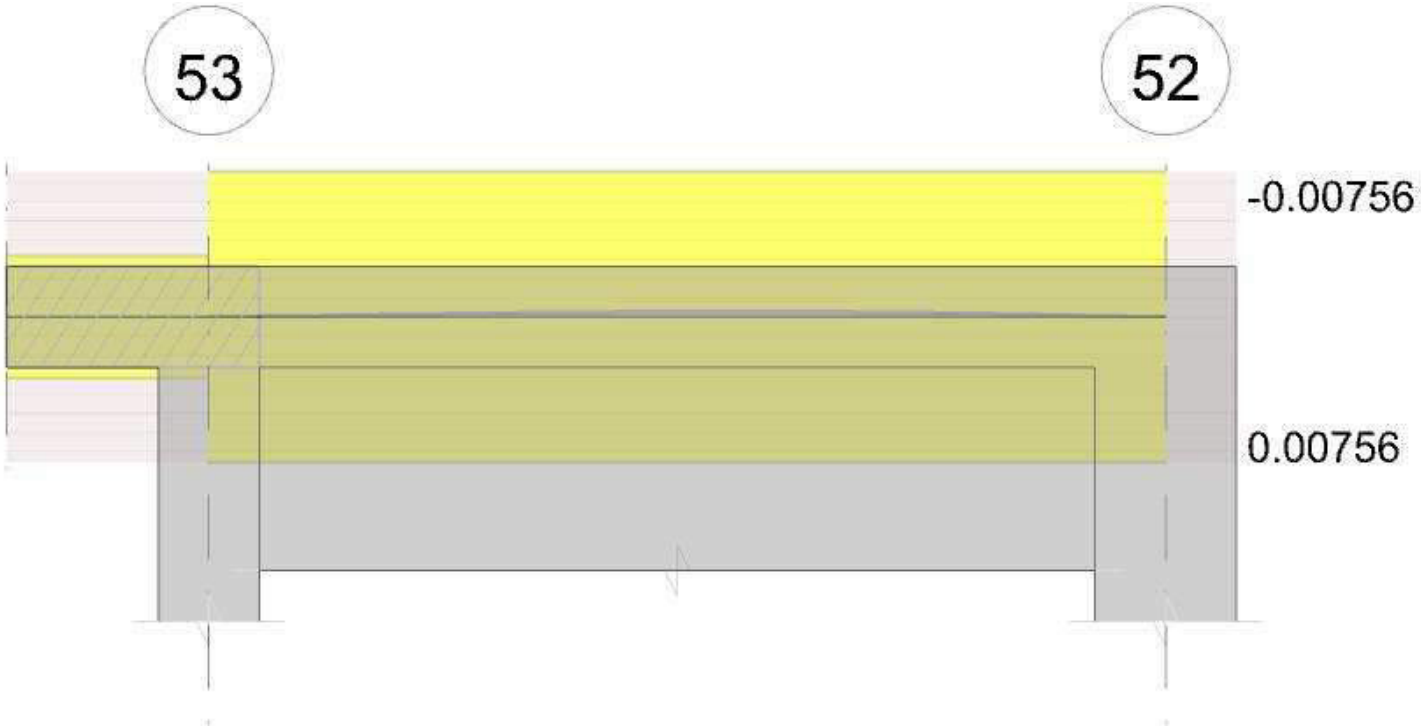


Diagramma verifica stato limite esercizio quasi permanente freccia



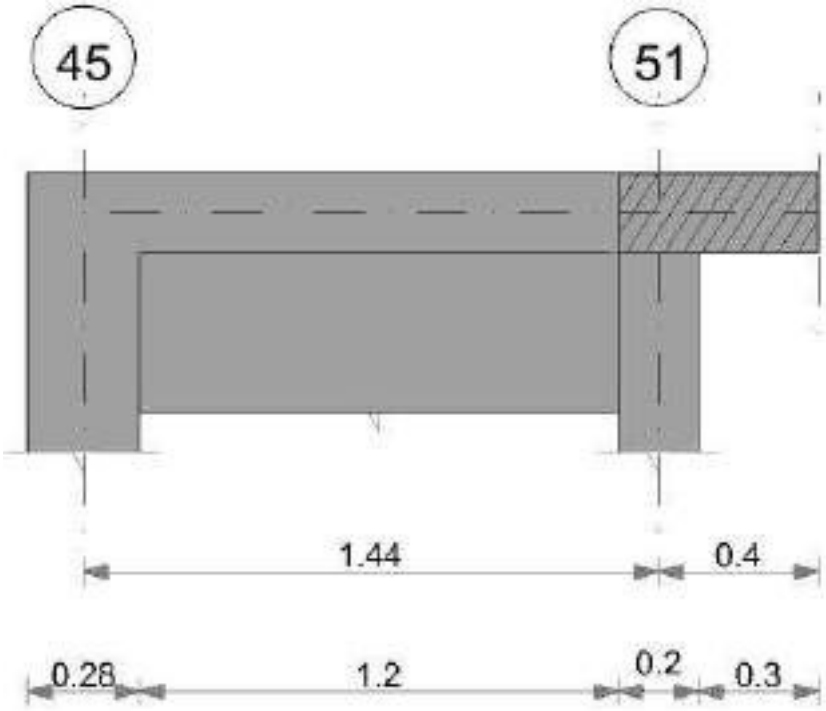
Output campate

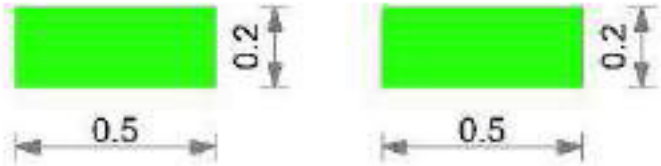
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Terzo" 45-53

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

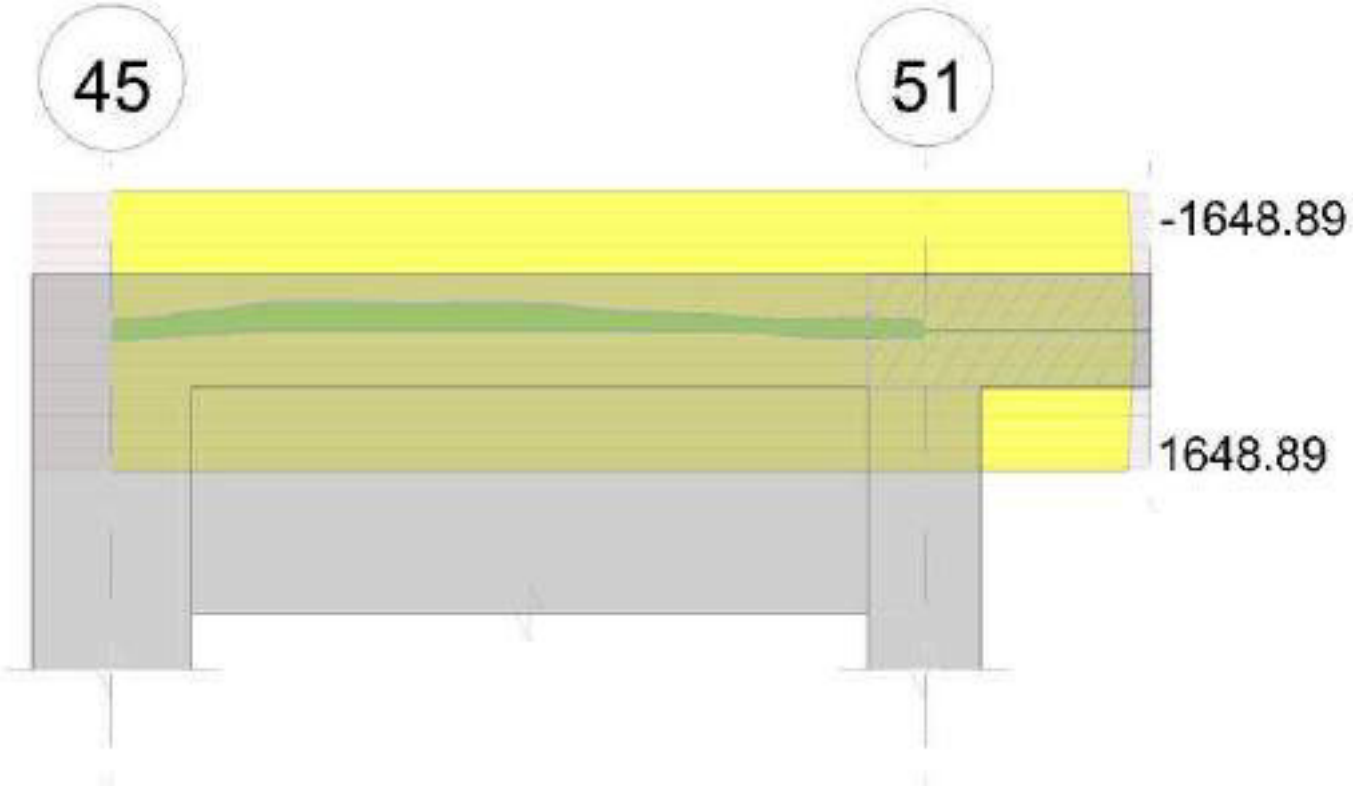


Diagramma verifica stato limite ultimo taglio

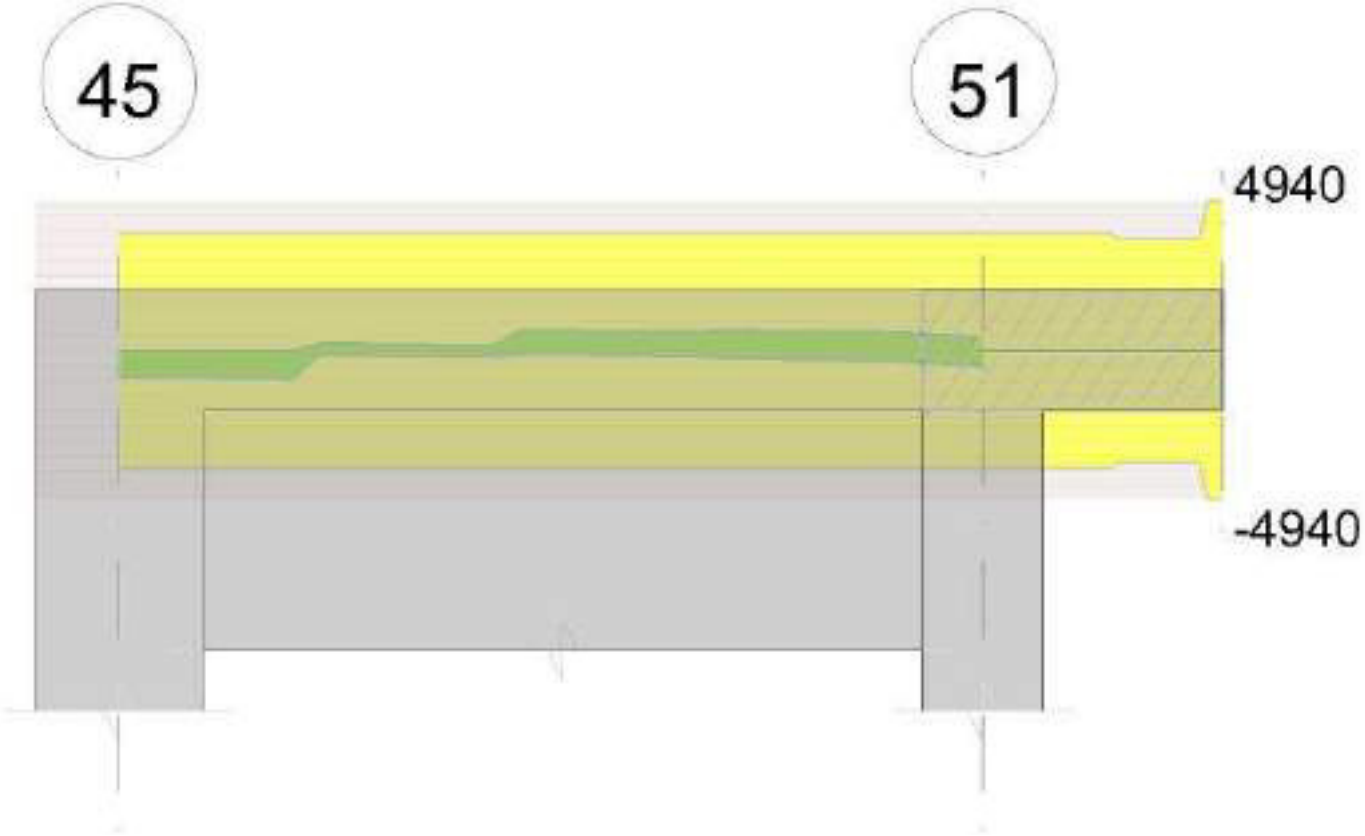
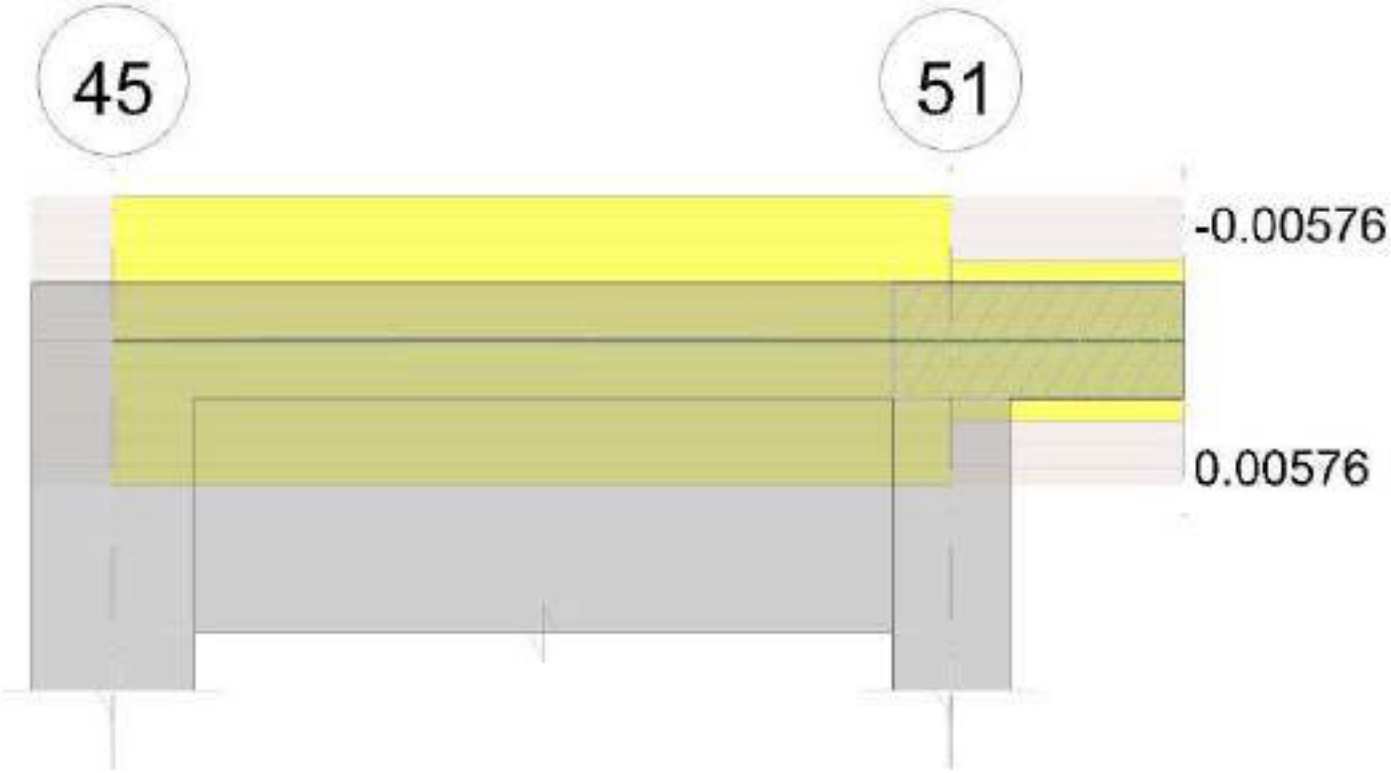


Diagramma verifica stato limite esercizio quasi permanente freccia



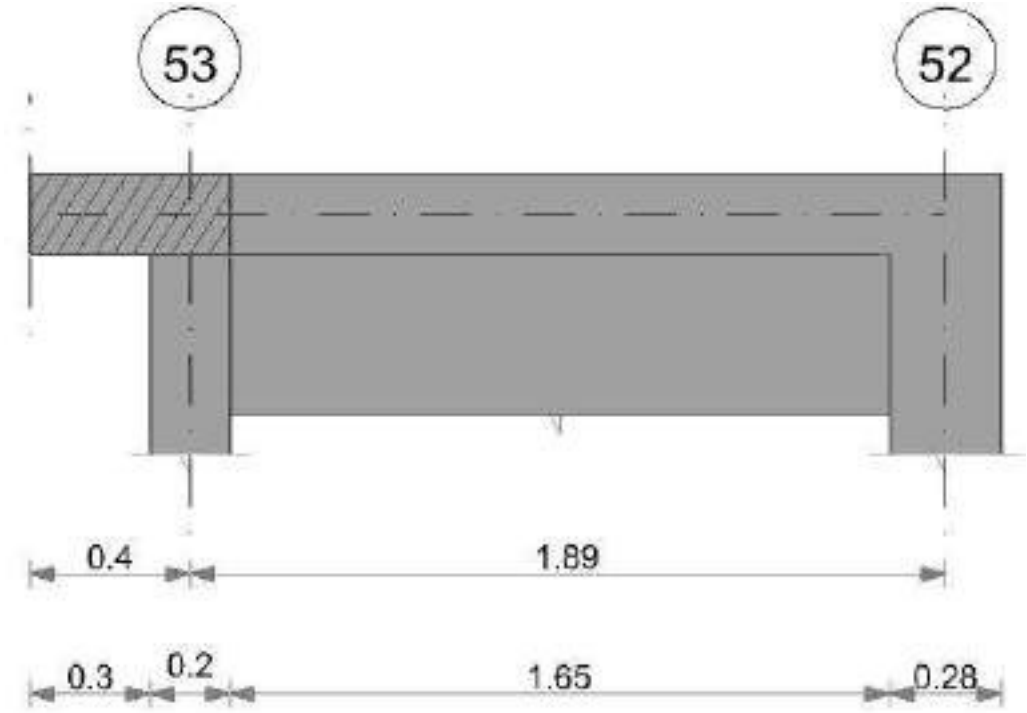
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Terzo" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

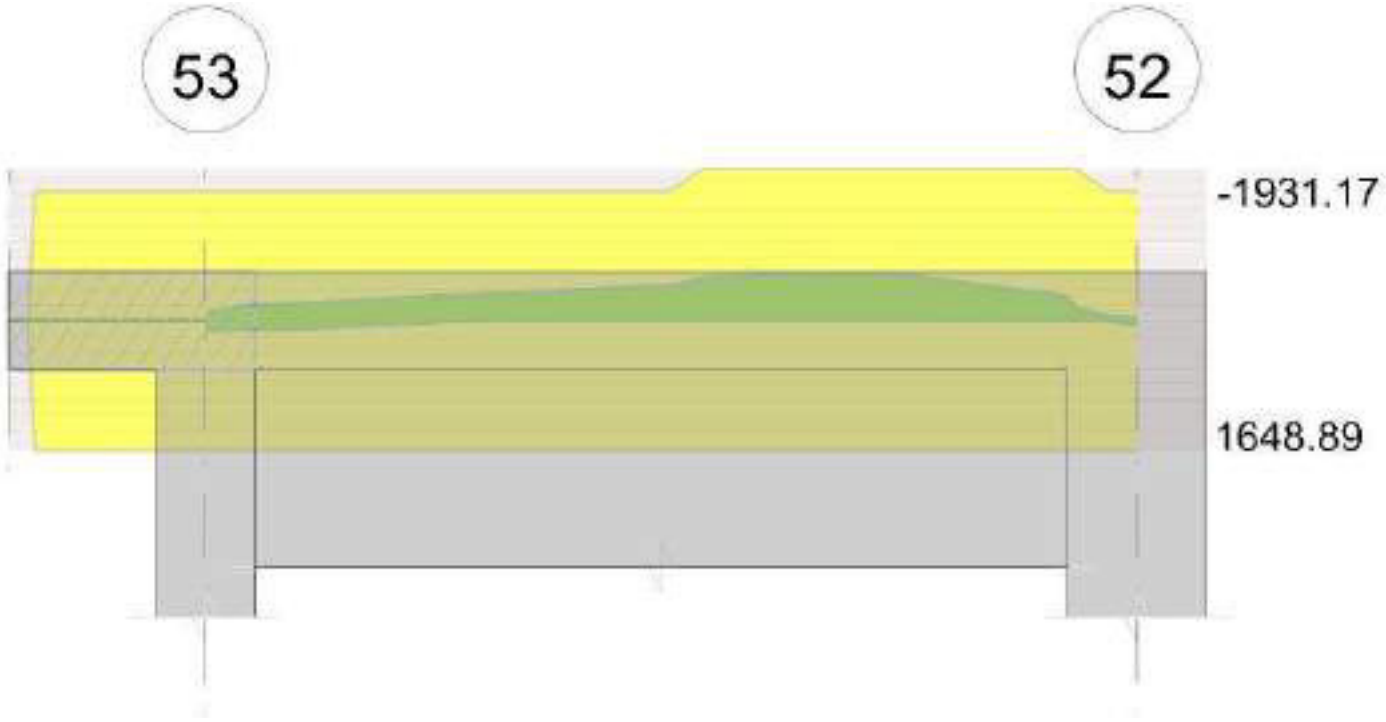


Diagramma verifica stato limite ultimo taglio

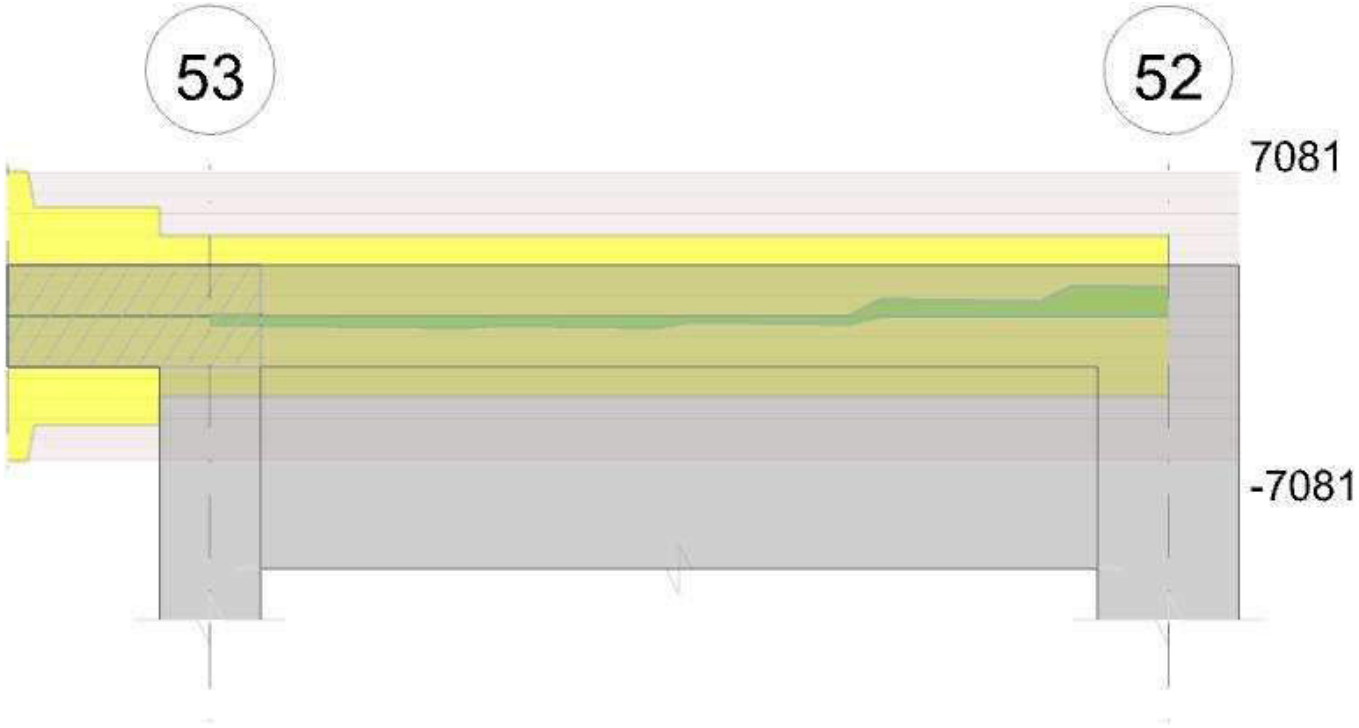
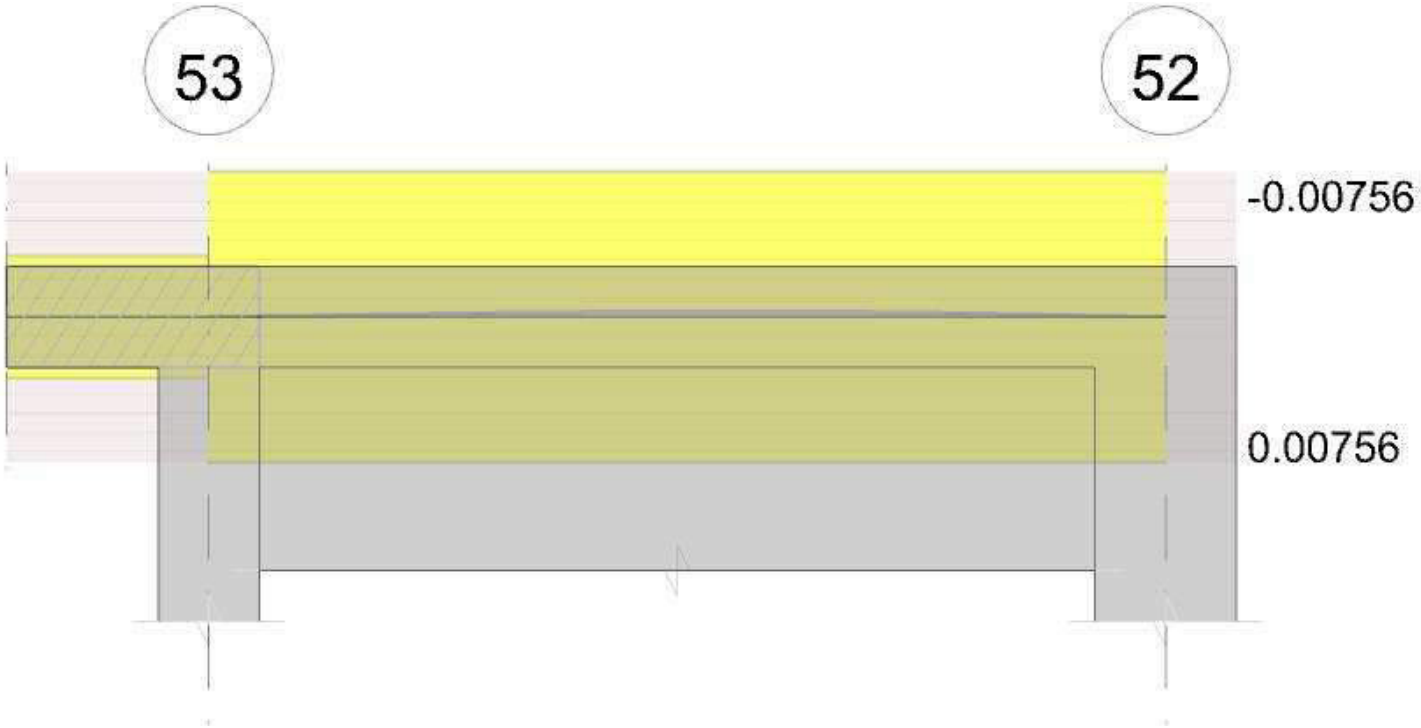


Diagramma verifica stato limite esercizio quasi permanente freccia



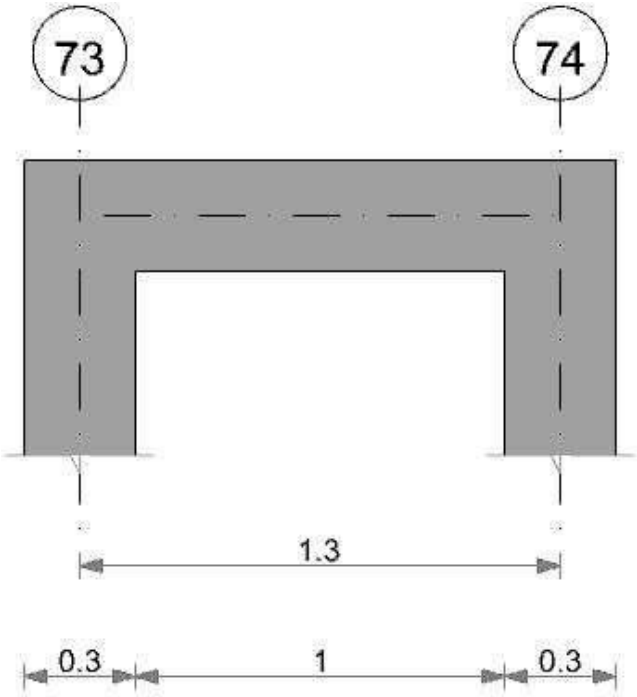
Output campate

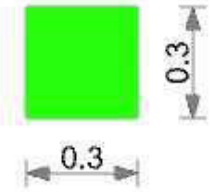
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

TRAVE PIANO TERRA

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 30x30	Rettangolare	0.3	0.3	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

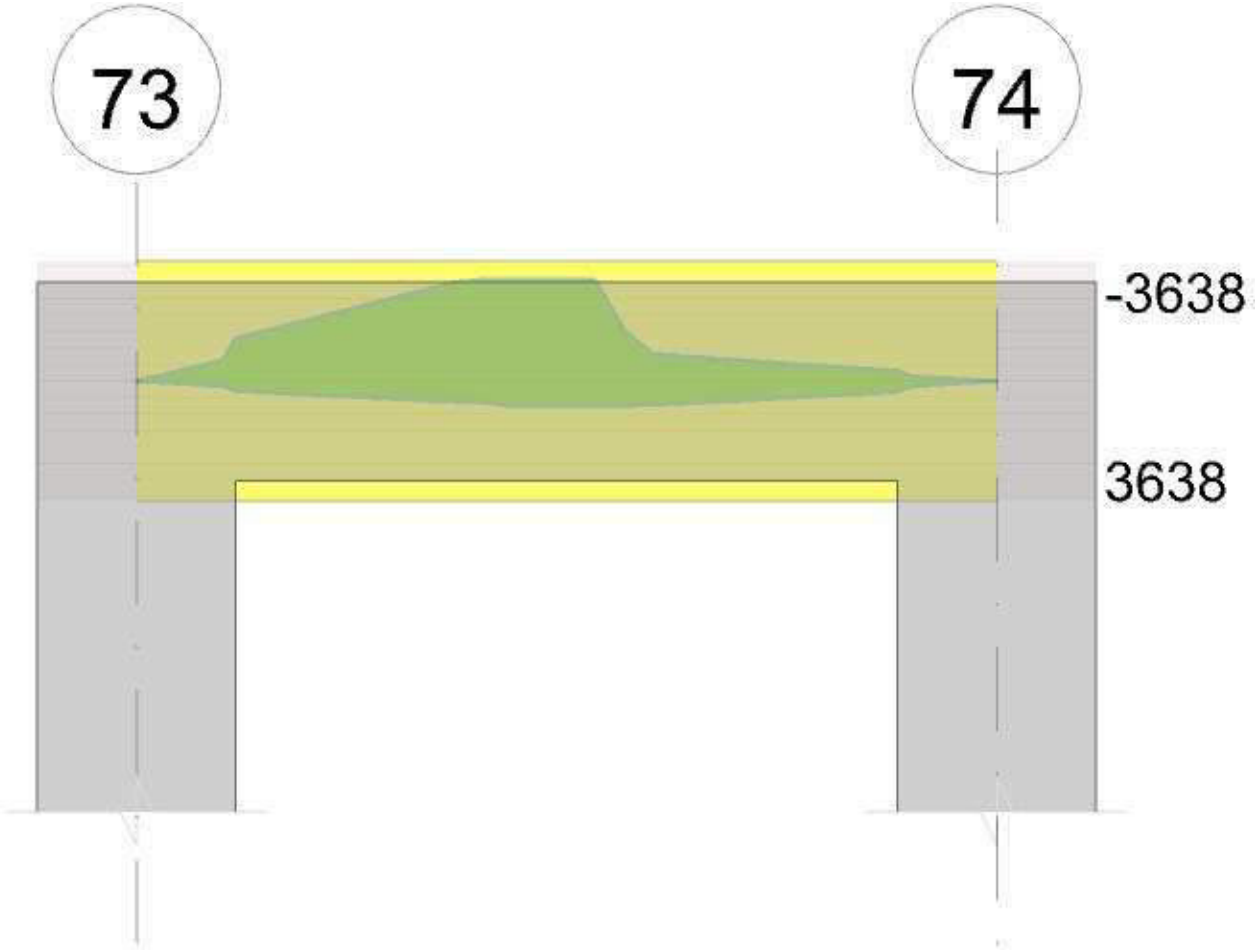


Diagramma verifica stato limite ultimo taglio

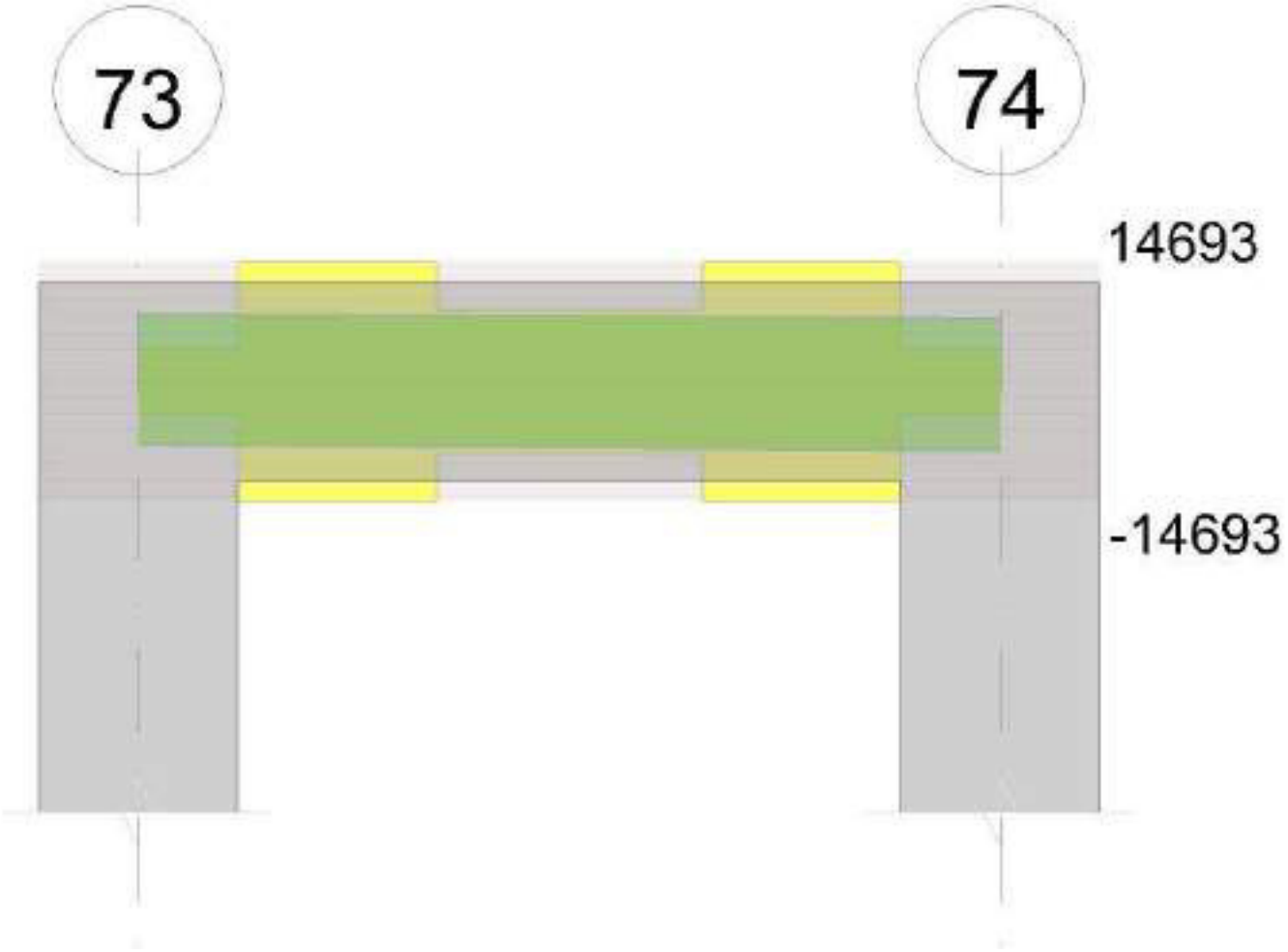
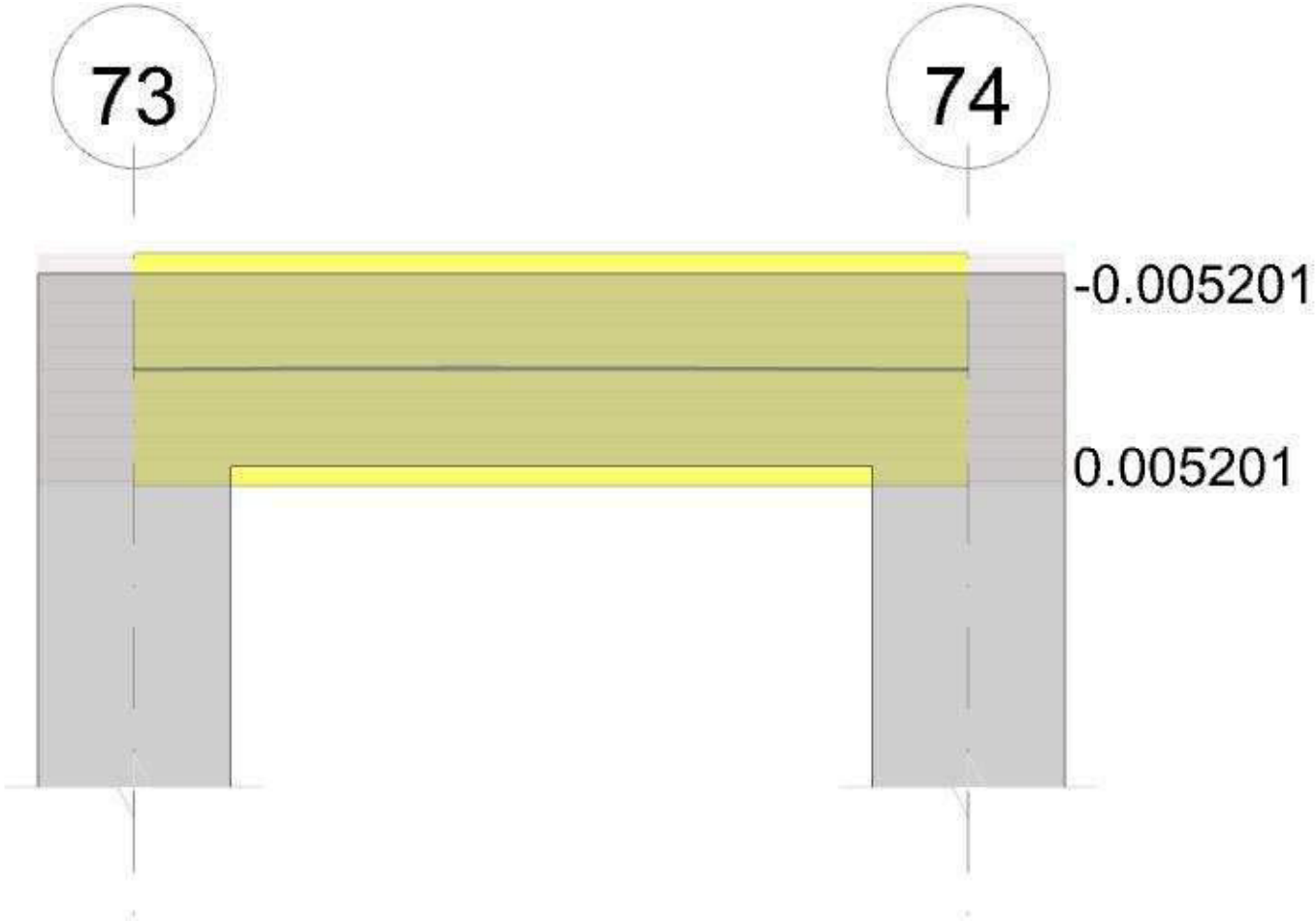


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 1 tra i fili 73 - 74, sezione R 30x30, aste 791, 792; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	5.02	SLU 77	5.02	3638	0.198	724.91							Si
0.15	0.000402	0.051	0.000402	0.051							-403.76	SLU 77	-723.82	-3638	0.198	5.03	Si
0.61	0.000402	0.051	0.000402	0.051	-1096.5	SLU 2	167.59	3638	0.198	21.71	-1787.07	SLU 77	-1787.07	-3638	0.198	2.04	Si
0.65	0.000402	0.051	0.000402	0.051	163.54	SLU 42	168.11	3638	0.198	21.64	-180.67	SLU 43	-1787.07	-3638	0.198	2.04	Si
1.15	0.000402	0.051	0.000402	0.051	77.85	SLU 42	120.59	3638	0.198	30.17	-23.09	SLU 43	-47.48	-3638	0.198	76.62	Si
1.3	0.000402	0.051	0.000402	0.051							-0.73	SLU 83	-0.73	-3638	0.198	5011.42	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	13	SLV 15	13	3638	0.198	279.84	-6.33	SLV 2	-6.33	-3638	0.198	574.35	Si
0.15	0.000402	0.051	0.000402	0.051	175.77	SLV 2	299.85	3638	0.198	12.13	-735.84	SLV 15	-1299.45	-3638	0.198	2.8	Si
0.61	0.000402	0.051	0.000402	0.051	638.32	SLV 2	746.55	3638	0.198	4.87	-3076.67	SLV 15	-3076.67	-3638	0.198	1.18	Si
0.65	0.000402	0.051	0.000402	0.051	746.55	SLV 13	746.55	3638	0.198	4.87	-851.53	SLV 4	-3076.67	-3638	0.198	1.18	Si
1.15	0.000402	0.051	0.000402	0.051	191.98	SLV 13	328.2	3638	0.198	11.08	-175.49	SLV 4	-315	-3638	0.198	11.55	Si
1.3	0.000402	0.051	0.000402	0.051	0.55	SLV 2	0.55	3638	0.198	6611.9	-1.32	SLV 15	-1.32	-3638	0.198	2749	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	9.47	SLD 15	9.47	3638	0.198	384.11	-2.81	SLD 2	-2.81	-3638	0.198	1296.83	Si
0.15	0.000402	0.051	0.000402	0.051	7.79	SLD 2	7.82	3638	0.198	465.42	-567.86	SLD 15	-1004.73	-3638	0.198	3.62	Si
0.61	0.000402	0.051	0.000402	0.051	-46.31	SLD 2	456.53	3638	0.198	7.97	-2392.05	SLD 15	-2392.05	-3638	0.198	1.52	Si
0.65	0.000402	0.051	0.000402	0.051	456.53	SLD 13	456.53	3638	0.198	7.97	-561.51	SLD 4	-2392.05	-3638	0.198	1.52	Si
1.15	0.000402	0.051	0.000402	0.051	125.29	SLD 13	211.46	3638	0.198	17.2	-108.8	SLD 4	-198.27	-3638	0.198	18.35	Si
1.3	0.000402	0.051	0.000402	0.051	0.21	SLD 2	0.21	3638	0.198	17311.86	-0.98	SLD 15	-0.98	-3638	0.198	3699.73	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	-2659	SLU 69	-2659	-4038	-23715	0	-4038	1	1.52	Si
0.13	0	0.000402	0	-2780	SLU 77	-2780	-4038	-23715	0	-4038	1	1.45	Si
0.15	0.0000168	0.000402	0	-2800	SLU 77	-2800	-4038	-23715	-14693	-14693	1	5.25	Si
0.65	0.00001	0.000402	0	441	SLU 43	441	4038	23715	8812	8812	1	19.99	Si
1.15	0.0000168	0.000402	0	189	SLU 43	189	4038	23715	14693	14693	1	77.58	Si
1.15	0.0000168	0.000402	0	-442	SLU 42	-442	-4038	-23715	-14693	-14693	1	33.21	Si
1.3	0	0.000402	0	114	SLU 43	114	4038	23715	0	4038	1	35.43	Si
1.3	0	0.000402	0	-605	SLU 42	-605	-4038	-23715	0	-4038	1	6.67	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	1221	Ger.	8361	4038	23715	0	4038	1	0.48	Si
0	0	0.000402	0	-4917	Ger.	-7643	-4038	-23715	0	-4038	1	0.53	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.15	0.0000168	0.000402	0	1139	Ger.	8278	4038	23715	14693	14693	1	1.77	Si
0.15	0.0000168	0.000402	0	-4999	Ger.	-7727	-4038	-23715	-14693	-14693	1	1.9	Si
0.65	0.00001	0.000402	0	1490	Ger.	8002	4038	23715	8812	8812	1	1.1	Si
0.65	0.00001	0.000402	0	-971	Ger.	-8002	-4038	-23715	-8812	-8812	1	1.1	Si
1.15	0.0000168	0.000402	0	1214	Ger.	7727	4038	23715	14693	14693	1	1.9	Si
1.15	0.0000168	0.000402	0	-1247	Ger.	-8278	-4038	-23715	-14693	-14693	1	1.77	Si
1.3	0	0.000402	0	1131	Ger.	7643	4038	23715	0	4038	1	0.53	Si
1.3	0	0.000402	0	-1329	Ger.	-8361	-4038	-23715	0	-4038	1	0.48	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	90	SLD 2	90	4038	23715	0	4038	1	44.83	Si
0	0	0.000402	0	-3786	SLD 15	-3786	-4038	-23715	0	-4038	1	1.07	Si
0.13	0	0.000402	0	18	SLD 2	18	4038	23715	0	4038	1	218.93	Si
0.13	0	0.000402	0	-3857	SLD 15	-3857	-4038	-23715	0	-4038	1	1.05	Si
0.15	0.0000168	0.000402	0	7	SLD 2	7	4038	23715	14693	14693	1	1976.14	Si
0.15	0.0000168	0.000402	0	-3868	SLD 15	-3868	-4038	-23715	-14693	-14693	1	3.8	Si
0.65	0.00001	0.000402	0	1043	SLD 4	1043	4038	23715	8812	8812	1	8.45	Si
0.65	0.00001	0.000402	0	-525	SLD 13	-525	-4038	-23715	-8812	-8812	1	16.8	Si
1.15	0.0000168	0.000402	0	768	SLD 4	768	4038	23715	14693	14693	1	19.14	Si
1.15	0.0000168	0.000402	0	-800	SLD 13	-800	-4038	-23715	-14693	-14693	1	18.36	Si
1.3	0	0.000402	0	685	SLD 4	685	4038	23715	0	4038	1	5.9	Si
1.3	0	0.000402	0	-883	SLD 13	-883	-4038	-23715	0	-4038	1	4.57	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	3.62	14	3.62	684	1494000	10256	36000000	3.33	2	3.33	630	1120500			Si
0.15	-295.77	14	-529.82	100189	1494000	1502828	36000000	-280.03	2	-499.8	94512	1120500			Si
0.65	34.12	21	52.9	10004	1494000	150063	36000000								Si
0.65	-85.39	1	-1305.57	246881	1494000	3703214	36000000	-85.39	1	-1219.18	230545	1120500			Si
1.15	38.51	21	55.49	10493	1494000	157395	36000000	8.24	2	8.48	1604	1120500			Si
1.15	-3.76	1	-12.66	2394	1494000	35913	36000000	-3.76	1	-12.66	2394	1120500			Si
1.3	-0.5	20	-0.5	94	1494000	1412	36000000	-0.39	2	-0.39	73	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.15	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00004	2	-0.00004	2	9999	Si
0.52	-0.00005	-0.00005	-0.00004	-0.00004	-0.00005	-0.00005	-0.00004	-0.00004	-0.00005	-0.00005	-0.00011	2	-0.00011	2	9999	Si
0.65	-0.00005	-0.00005	-0.00003	-0.00004	-0.00005	-0.00005	-0.00004	-0.00004	-0.00005	-0.00005	-0.0001	2	-0.0001	2	9999	Si
1.15	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00002	2	-0.00002	2	9999	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	ρ,tot	θ,m	θ,y	μΔ,pl	Vrd	VRcd(cotθ=1)	VRsd	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.3	1.3	0.049	0.3	0.009	0.00017	0.00824	0	4038	23715	14693	14693	13847	14693	8278	0	SLV 1	Si
1.3	0.65	0.049	0.3	0.009	0.00017	0.00824	0	4038	23715	14693	14693	15055	15055	-8278	0	SLV 9	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	359	-7643	-7275	-4917	359	8361	7275	1221
0.15	275	-7727	-7275	-4999	275	8278	7275	1139
0.65	0	-8002	-7275	-971	0	8002	7275	1490
1.15	-275	-8278	-7275	-1247	-275	7727	7275	1214
1.3	-359	-8361	-7275	-1329	-359	7643	7275	1131

Momenti resistenti a filo appoggi

campata	x	appoggio	momento positivo	momento negativo
1	0.15	73	3638	-3638
1	1.15	74	3638	-3638

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

1.3 Verifiche pareti C.A.

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

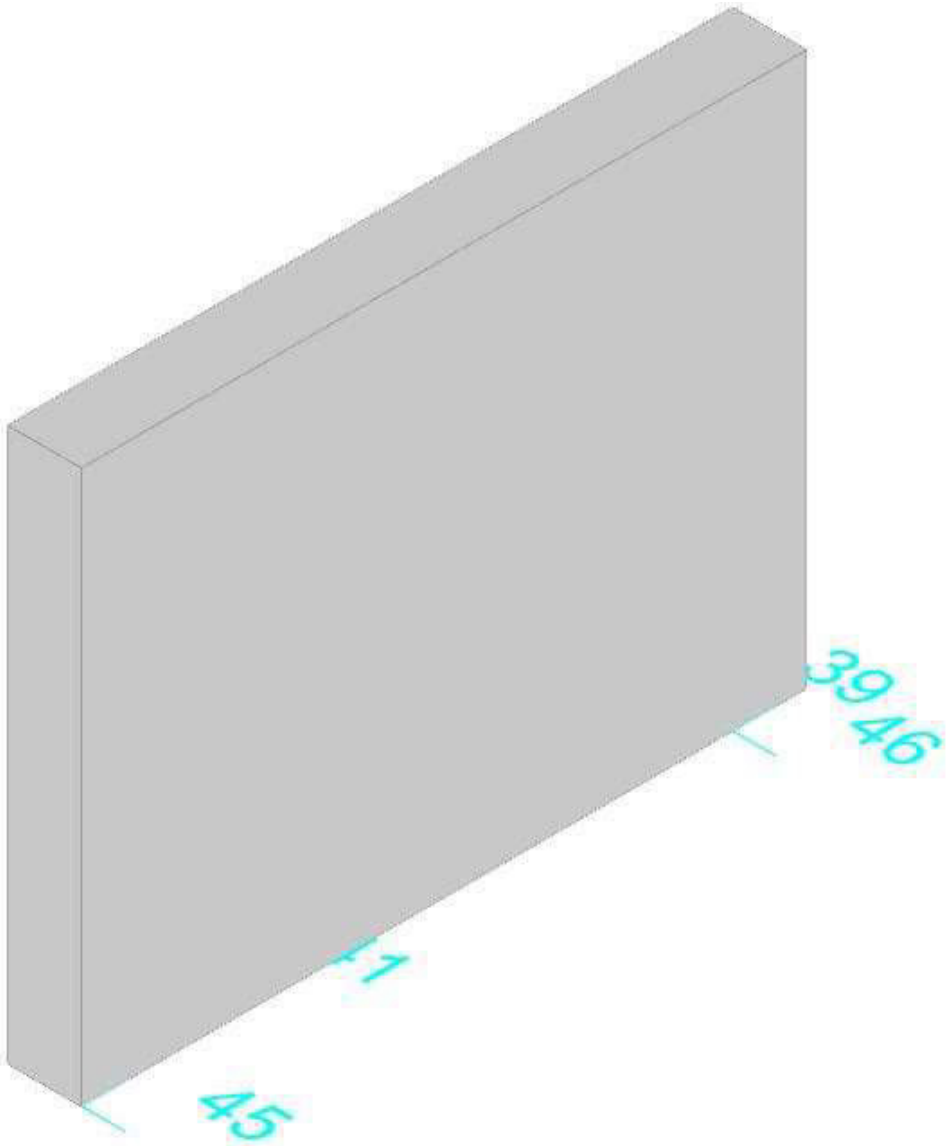
Descrizione breve: *nome sintetico assegnato al livello.*
Descrizione: *nome assegnato al livello.*
Quota: *quota superiore espressa nel sistema di riferimento assoluto. [m]*
Spessore: *spessore del livello. [m]*
Descrizione: *descrizione della sezione di verifica.*
Dir.: *direzione della sezione di verifica.*
Base: *base della sezione. [m]*
Altezza: *altezza della sezione. [m]*
As,sup: *area di acciaio efficace superiore. [m²]*
As,inf: *area di acciaio efficace inferiore. [m²]*
c,sup: *copriferro medio superiore. [m]*
c,inf: *copriferro medio inferiore. [m]*

Comb.: *combinazione di verifica.*
MEd: *momento agente. [daN*m]*
NEd: *sforzo normale agente, positivo se di trazione. [daN]*
MRd: *momento resistente. [daN*m]*
NRd: *sforzo normale resistente, positivo se di trazione. [daN]*
c.s.: *coefficiente di sicurezza.*
Verifica: *stato di verifica.*
d: *altezza utile. [m]*
bw: *minima larghezza anima. [m]*
Armatura a taglio: *necessità di armatura a taglio.*
Asw/s: *rapporto tra l'area dell'armatura trasversale e l'interasse tra due armature consecutive.*
VEd: *taglio agente. [daN]*
Vrd,c: *resistenza di calcolo a taglio per elementi privi di armature trasversali. [daN]*
Vrcd: *valore resistente di calcolo a taglio compressione del calcestruzzo d'anima. [daN]*
Vrsd: *valore resistente di calcolo a taglio trazione dell'armatura trasversale. [daN]*
VRd: *resistenza a taglio. [daN]*
cotg(ϑ): *cotangente dell'angolo dei puntoni rispetto all'asse.*
Asl: *area armatura longitudinale. [m²]*
Sezione fessurata: *sezione fessurata.*
σc: *tensione del calcestruzzo. [daN/m²]*
σc limite: *tensione limite del calcestruzzo. [daN/m²]*
Es/Ec: *coefficiente di omogenizzazione.*
σf: *tensione dell'armatura. [daN/m²]*
σf limite: *tensione limite dell'armatura. [daN/m²]*
Spessore: *spessore della parete in corrispondenza della barra. [m]*
Φ: *diametro barra. [m]*
Φ max: *diametro massimo ammissibile. [m]*
Passo: *passo massimo delle barre. [m]*
Passo max.: *passo massimo delle barre ammissibile da norma. [m]*
Ac: *area sezione. [m²]*
As,eff: *area efficace delle barre presenti nella sezione. [m²]*
As,min: *area minima richiesta. [m²]*
% min: *percentuale minima di area da prevedere.*

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
513 Prosp.A	Verticale	0.5	0.2	0.000184	0.000248	0.041	0.041
129 Prosp.A	Verticale	0.875	0.2	0.000294	0.000397	0.041	0.041
107 Prosp.A	Verticale	1	0.2	0.000367	0.000496	0.041	0.041
136 Prosp.A	Verticale	0.875	0.2	0.001018	0.001018	0.041	0.041
140 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
138 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
136 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
129 Prosp.A	Orizzontale	0.6	0.2	0.000679	0.000679	0.0439	0.0439

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
129 Prosp.A	Verticale	SLV 6	367.99	11710	582.34	18531	1.5825	Si
513 Prosp.A	Verticale	SLV 4	-152.62	3888	-515.06	13122	3.3748	Si
129 Prosp.A	Verticale	SLV 7	-415.84	2392	-1792.72	10311	4.3111	Si
107 Prosp.A	Verticale	SLV 7	-532.95	2388	-2404.75	10776	4.5121	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
513 Prosp.A	Verticale	SLD 6	289.97	11545	306.09	12187	1.0556	Si
129 Prosp.A	Verticale	SLD 6	289.97	11545	490.33	19522	1.691	Si
513 Prosp.A	Verticale	SLD 4	-120	3264	-491.47	13369	4.0954	Si
129 Prosp.A	Verticale	SLD 4	-327.79	1803	-1818.92	10006	5.5491	Si

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
107 Prosp.A	Verticale	SLD 3	-406.08	2161	-2287.62	12174	5.6334	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
129 Prosp.A	Orizzontale	0.156	0.6	Non necessaria	0	SLV 2	5259	3166	179.9	5896	20511	0	5896	2.5	0.0006786	1.1213	Si
136 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLV 2	5533	6078	626.91	9947	34813	0	9947	2.5	0.001131	1.7976	Si
513 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 6	-1263	12643	349.6	3927	17406	0	3927	2.5	0.0001837	3.1085	Si
142 Prosp.A	Orizzontale	0.157	0.744	Non necessaria	0	SLV 11	-1641	-9872	-52.39	8677	26765	0	8677	2.5	0.0009048	5.2874	Si
129 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 6	-1263	12643	349.6	6873	30461	0	6873	2.5	0.000294	5.4398	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
129 Prosp.A	Orizzontale	0.156	0.6	Non necessaria	0	SLD 2	4541	2264	130.66	5896	20511	0	5896	2.5	0.0006786	1.2984	Si
136 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLD 2	4628	2455	388.11	9947	34813	0	9947	2.5	0.001131	2.1495	Si
513 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 6	-1056	11545	289.97	3927	17406	0	3927	2.5	0.0001837	3.7187	Si
129 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 6	-1056	11545	289.97	6873	30461	0	6873	2.5	0.000294	6.5077	Si
136 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 6	-1373	-7742	142.9	9709	31416	0	9709	2.5	0.0010179	7.0699	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
136 Prosp.A	Verticale	SLE QP 2	272.86	-9649	No	-86510	1120500	15	12.9522	Si
136 Prosp.A	Verticale	SLE RA 20	295.9	-10527	No	-94124	1494000	15	15.8726	Si
140 Prosp.A	Orizzontale	SLE QP 2	182.62	-10080	No	-66361	1120500	15	16.885	Si
138 Prosp.A	Orizzontale	SLE QP 2	305.49	-4661	No	-58851	1120500	15	19.0395	Si
140 Prosp.A	Orizzontale	SLE RA 20	195.81	-11086	No	-72343	1494000	15	20.6517	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
513 Prosp.A	Verticale	SLE RA 21	186.9	8159	No	1629317	36000000	15	22.0951	Si
129 Prosp.A	Verticale	SLE RA 21	186.9	8159	No	935266	36000000	15	38.4917	Si
136 Prosp.A	Orizzontale	SLE RA 21	342.85	6590	No	809218	36000000	15	44.4874	Si
129 Prosp.A	Orizzontale	SLE RA 21	137.63	4331	No	724741	36000000	15	49.6729	Si
513 Prosp.A	Verticale	SLE RA 20	-74.75	1996	No	462823	36000000	15	77.7834	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
20 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
116 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
116 Prosp.A	Verticale	0.2	0.012	0.02	Si
118 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
118 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
85 Prosp.A	Verticale	0.2	0.3	Si
20 Prosp.A	Verticale	0.2	0.3	Si
513 Prosp.A	Verticale	0.2	0.3	Si
129 Prosp.A	Verticale	0.2	0.3	Si
107 Prosp.A	Verticale	0.2	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

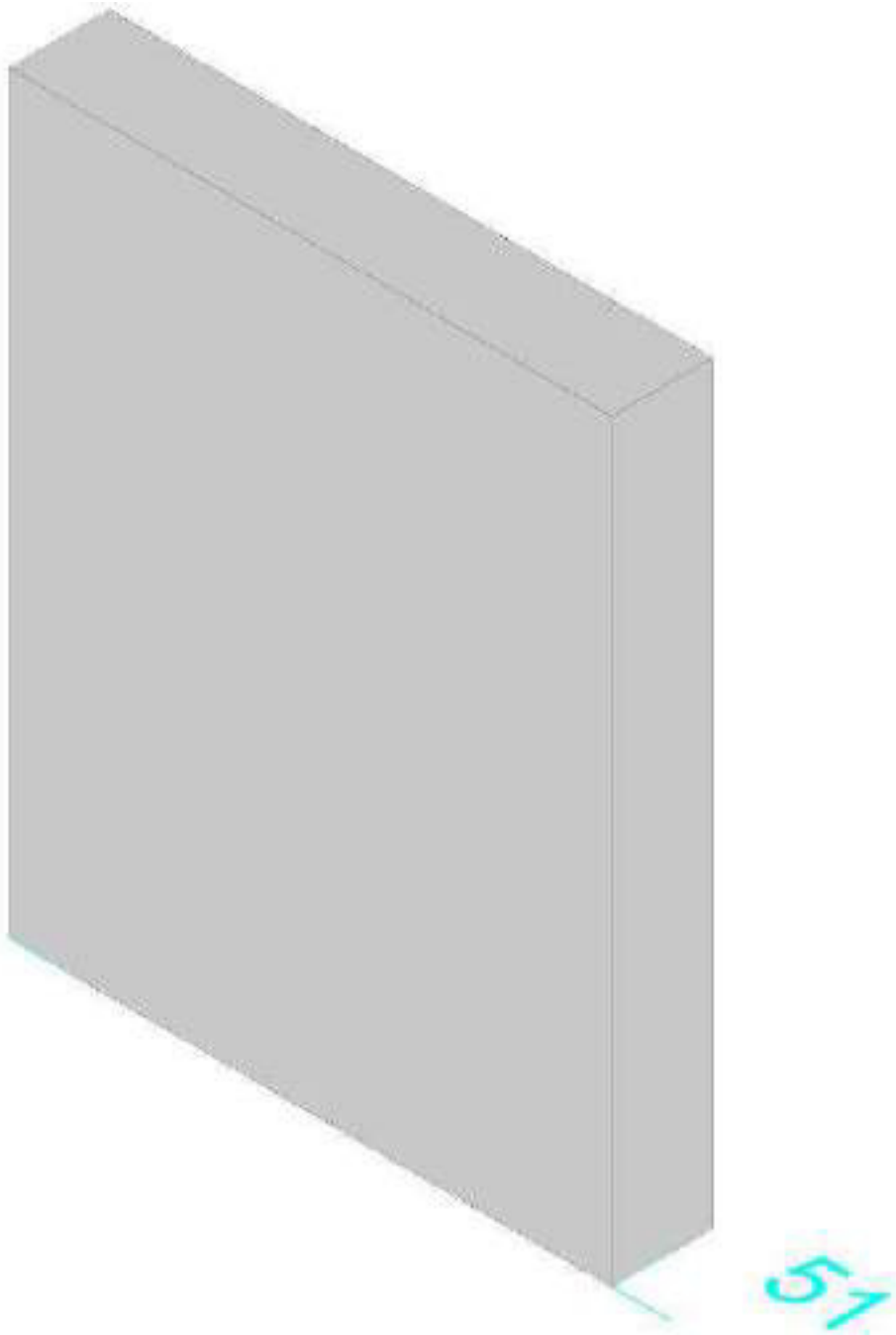
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
129 Prosp.A	Verticale	0.175	0.000691	0.00035	0.2	Si
20 Prosp.A	Verticale	0.1	0.000432	0.0002	0.2	Si
513 Prosp.A	Verticale	0.1	0.000432	0.0002	0.2	Si
107 Prosp.A	Verticale	0.2	0.000863	0.0004	0.2	Si
85 Prosp.A	Verticale	0.175	0.000777	0.00035	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
514 Prosp.A	Verticale	0.5	0.2	0.000333	0.000333	0.041	0.041
108 Prosp.A	Verticale	1	0.2	0.000665	0.000665	0.041	0.041
130 Prosp.A	Verticale	0.875	0.2	0.000599	0.000599	0.041	0.041
517 Prosp.A	Verticale	0.5	0.2	0.000333	0.000333	0.041	0.041
130 Prosp.A	Orizzontale	0.68	0.2	0.000792	0.000792	0.0435	0.0435
131 Prosp.A	Orizzontale	0.96	0.2	0.001131	0.001131	0.0427	0.0427
132 Prosp.A	Orizzontale	0.96	0.2	0.001131	0.001131	0.0427	0.0427
111 Prosp.A	Orizzontale	0.68	0.2	0.000792	0.000792	0.0435	0.0435
110 Prosp.A	Orizzontale	0.96	0.2	0.001131	0.001131	0.0427	0.0427

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
514 Prosp.A	Verticale	SLV 4	-76.52	3949	-420.2	21687	5.4914	Si
108 Prosp.A	Verticale	SLV 7	316.05	4709	2019.93	30099	6.3912	Si
108 Prosp.A	Verticale	SLV 2	-196.67	5880	-1287.84	38505	6.5484	Si
130 Prosp.A	Verticale	SLV 2	-215.05	4603	-1459.31	31239	6.7859	Si
517 Prosp.A	Verticale	SLV 11	-294.68	-335	-2210.16	-2509	7.5002	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
514 Prosp.A	Verticale	SLD 4	-81.9	3243	-520.51	20607	6.3552	Si
108 Prosp.A	Verticale	SLD 7	234.92	4262	1800.97	32673	7.6662	Si
108 Prosp.A	Verticale	SLD 2	-162.9	5064	-1251.57	38905	7.683	Si
130 Prosp.A	Verticale	SLD 2	-174.88	4117	-1370.35	32256	7.8358	Si
517 Prosp.A	Verticale	SLD 11	-218.51	-173	-2158.66	-1705	9.8789	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
514 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 6	2169	-5768	-110.54	4855	18118	0	4855	2.5	0.0003326	2.238	Si
130 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 6	2169	-5768	-110.54	8049	31173	0	8049	2.5	0.0005986	3.7104	Si
130 Prosp.A	Orizzontale	0.157	0.68	Non necessaria	0	SLU 84	-1740	-11067	-462.51	8058	24650	0	8058	2.5	0.0007917	4.6324	Si
517 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 11	-822	-335	-294.68	4207	17448	0	4207	2.5	0.0003325	5.1192	Si
108 Prosp.A	Verticale	0.159	1	Non necessaria	0	SLU 84	-1473	4263	-67.86	8334	34813	0	8334	2.5	0.0006651	5.656	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
514 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 6	1706	-5410	-66.3	4812	18074	0	4812	2.5	0.0003326	2.8201	Si
130 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 6	1706	-5410	-66.3	8006	31129	0	8006	2.5	0.0005986	4.692	Si
130 Prosp.A	Orizzontale	0.157	0.68	Non necessaria	0	SLD 2	-1392	-7251	-257.26	7610	24187	0	7610	2.5	0.0007917	5.4661	Si
108 Prosp.A	Verticale	0.159	1	Non necessaria	0	SLD 2	-1253	4359	-89.79	8334	34813	0	8334	2.5	0.0006651	6.6484	Si
517 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	-615	8	-165.63	4167	17406	0	4167	2.5	0.0003325	6.7787	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
130 Prosp.A	Orizzontale	SLE QP 2	-310.94	-7238	No	-103961	1120500	15	10.778	Si
131 Prosp.A	Orizzontale	SLE QP 2	-424.04	-9450	No	-98197	1120500	15	11.4107	Si
130 Prosp.A	Orizzontale	SLE RA 20	-340.71	-8066	No	-114760	1494000	15	13.0185	Si
132 Prosp.A	Orizzontale	SLE QP 2	-374.4	-8086	No	-85563	1120500	15	13.0955	Si
131 Prosp.A	Orizzontale	SLE RA 20	-464.2	-10494	No	-108157	1494000	15	13.8132	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
514 Prosp.A	Verticale	SLE RA 20	-97.26	2089	No	518768	36000000	15	69.3952	Si
130 Prosp.A	Verticale	SLE RA 20	-130.47	3319	No	436767	36000000	15	82.4237	Si
108 Prosp.A	Verticale	SLE RA 21	-127.69	3880	No	418131	36000000	15	86.0974	Si
111 Prosp.A	Orizzontale	SLE RA 1	-50.2	-5007	No	-386328	36000000	15	93.1851	Si
110 Prosp.A	Orizzontale	SLE RA 1	-56.33	-6156	No	-342448	36000000	15	105.1256	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
21 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
110 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
110 Prosp.A	Verticale	0.2	0.012	0.02	Si
111 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
111 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
21 Prosp.A	Orizzontale	0.1	0.3	Si
110 Prosp.A	Orizzontale	0.1	0.3	Si
110 Prosp.A	Verticale	0.1	0.3	Si
111 Prosp.A	Orizzontale	0.1	0.3	Si
111 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

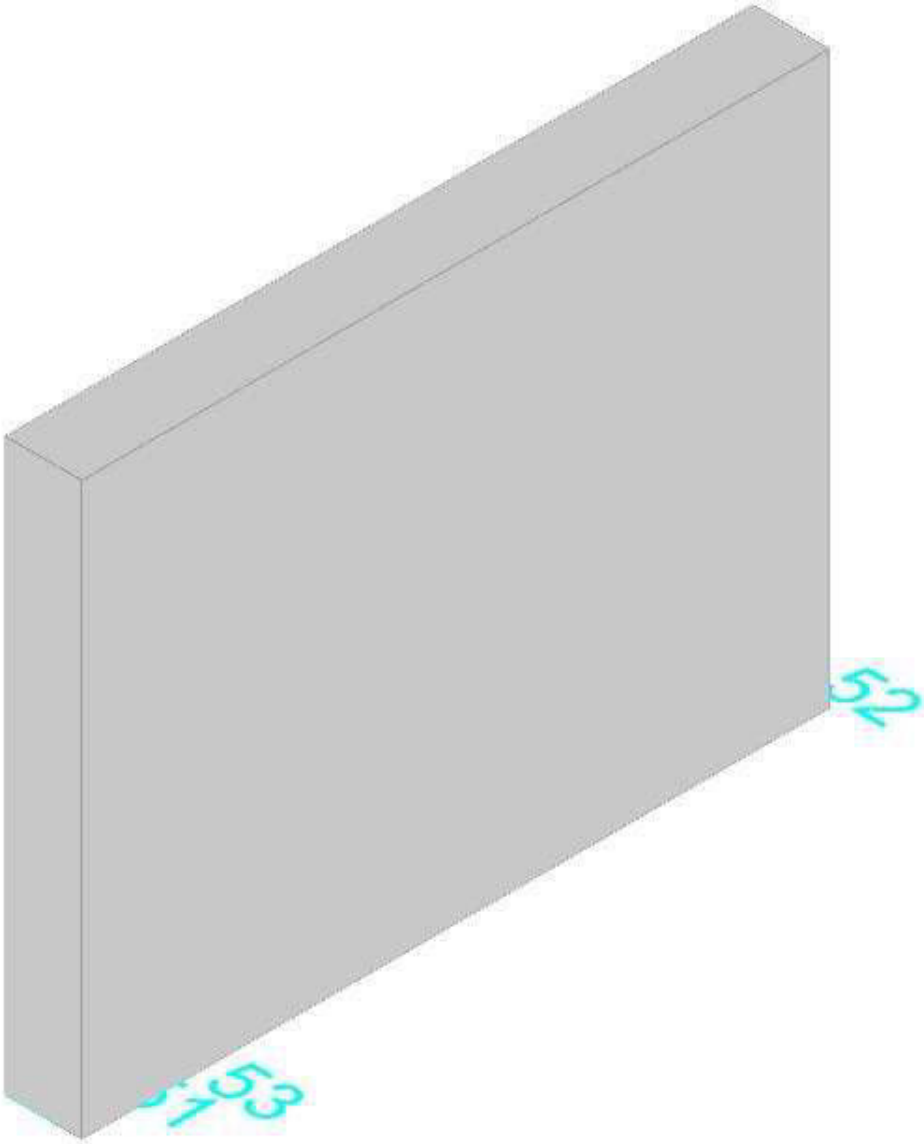
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
517 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
111 Prosp.A	Verticale	0.2	0.00133	0.0004	0.2	Si
24 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
514 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
108 Prosp.A	Verticale	0.2	0.00133	0.0004	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
518 Prosp.A	Verticale	0.5	0.2	0.000184	0.000248	0.041	0.041
121 Prosp.A	Verticale	1	0.2	0.000745	0.000745	0.041	0.041
134 Prosp.A	Verticale	0.875	0.2	0.000294	0.000397	0.041	0.041
99 Prosp.A	Verticale	0.875	0.2	0.00067	0.00067	0.041	0.041
143 Prosp.A	Verticale	0.875	0.2	0.00067	0.00067	0.041	0.041
25 Prosp.A	Orizzontale	0.6	0.2	0.000679	0.000679	0.0439	0.0439
593 Prosp.A	Verticale	0.5	0.2	0.000372	0.000372	0.041	0.041
577 Prosp.A	Verticale	0.5	0.2	0.000565	0.000565	0.041	0.041
139 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
141 Prosp.A	Orizzontale	1	0.2	0.001244	0.001244	0.0426	0.0426
119 Prosp.A	Verticale	1	0.2	0.001131	0.001131	0.041	0.041

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
518 Prosp.A	Verticale	SLV 11	-453.09	-753	-1815.19	-3018	4.0063	Si
121 Prosp.A	Verticale	SLV 11	344.97	10697	1401.97	43472	4.064	Si
134 Prosp.A	Verticale	SLV 11	-583.7	-551	-2810.32	-2655	4.8147	Si
518 Prosp.A	Verticale	SLV 6	179.69	717	1015.82	4052	5.6531	Si
134 Prosp.A	Verticale	SLV 6	278.73	1002	1678.76	6037	6.0229	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
121 Prosp.A	Verticale	SLD 11	239.34	8683	1246.22	45208	5.2068	Si
518 Prosp.A	Verticale	SLD 11	-329.39	-449	-1775.43	-2423	5.39	Si
134 Prosp.A	Verticale	SLD 11	-414.41	-230	-2733.59	-1516	6.5964	Si
99 Prosp.A	Verticale	SLD 11	150.09	3706	1481.93	36593	9.8739	Si
143 Prosp.A	Verticale	SLD 1	33.63	4564	359.6	48803	10.6919	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
593 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 6	-913	-1968	-175.87	4562	17649	0	4562	2.5	0.0003724	4.998	Si
518 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 11	633	-753	-453.09	4017	17499	0	4017	2.5	0.000248	6.3421	Si
527 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 11	633	-1509	-189.22	5153	17592	0	5153	2.5	0.0005655	8.1363	Si
143 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 11	951	-2149	353.35	7900	30726	0	7900	2.5	0.0006704	8.3039	Si
134 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 11	721	-551	-583.7	6938	30529	0	6938	2.5	0.0003968	9.6177	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
593 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 6	-565	-3077	-95.46	4694	17786	0	4694	2.5	0.0003724	8.3046	Si
518 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	469	-449	-329.39	3981	17462	0	3981	2.5	0.000248	8.483	Si
527 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	469	-1190	-135.88	5115	17553	0	5115	2.5	0.0005655	10.901	Si
143 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 11	609	-1091	243.82	7774	30596	0	7774	2.5	0.0006704	12.7612	Si
134 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 11	510	-230	-414.41	6900	30490	0	6900	2.5	0.0003968	13.532	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
25 Prosp.A	Orizzontale	SLE QP 2	95.86	-3751	No	-47340	1120500	15	23.6694	Si
593 Prosp.A	Verticale	SLE QP 2	69.27	-3035	No	-45907	1120500	15	24.4079	Si
577 Prosp.A	Verticale	SLE QP 2	33.8	-4125	No	-43880	1120500	15	25.5358	Si
139 Prosp.A	Orizzontale	SLE QP 2	-40.9	-8948	No	-43461	1120500	15	25.7819	Si
518 Prosp.A	Verticale	SLE QP 2	-150.23	-18	No	-42618	1120500	15	26.2916	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
121 Prosp.A	Verticale	SLE RA 20	98.7	6389	No	548364	36000000	15	65.6498	Si
139 Prosp.A	Orizzontale	SLE RA 1	-42.55	-7494	No	-432552	36000000	15	83.2269	Si
518 Prosp.A	Verticale	SLE RA 18	-160.43	-12	No	393697	36000000	15	91.441	Si
141 Prosp.A	Orizzontale	SLE RA 1	-54.96	-6985	No	-379959	36000000	15	94.747	Si
119 Prosp.A	Verticale	SLE RA 20	40.03	4647	No	343090	36000000	15	104.9287	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
25 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
115 Prosp.A	Verticale	0.2	0.012	0.02	Si
117 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
117 Prosp.A	Verticale	0.2	0.012	0.02	Si
119 Prosp.A	Orizzontale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
90 Prosp.A	Verticale	0.2	0.3	Si
25 Prosp.A	Verticale	0.2	0.3	Si
112 Prosp.A	Verticale	0.2	0.3	Si
518 Prosp.A	Verticale	0.2	0.3	Si
134 Prosp.A	Verticale	0.2	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

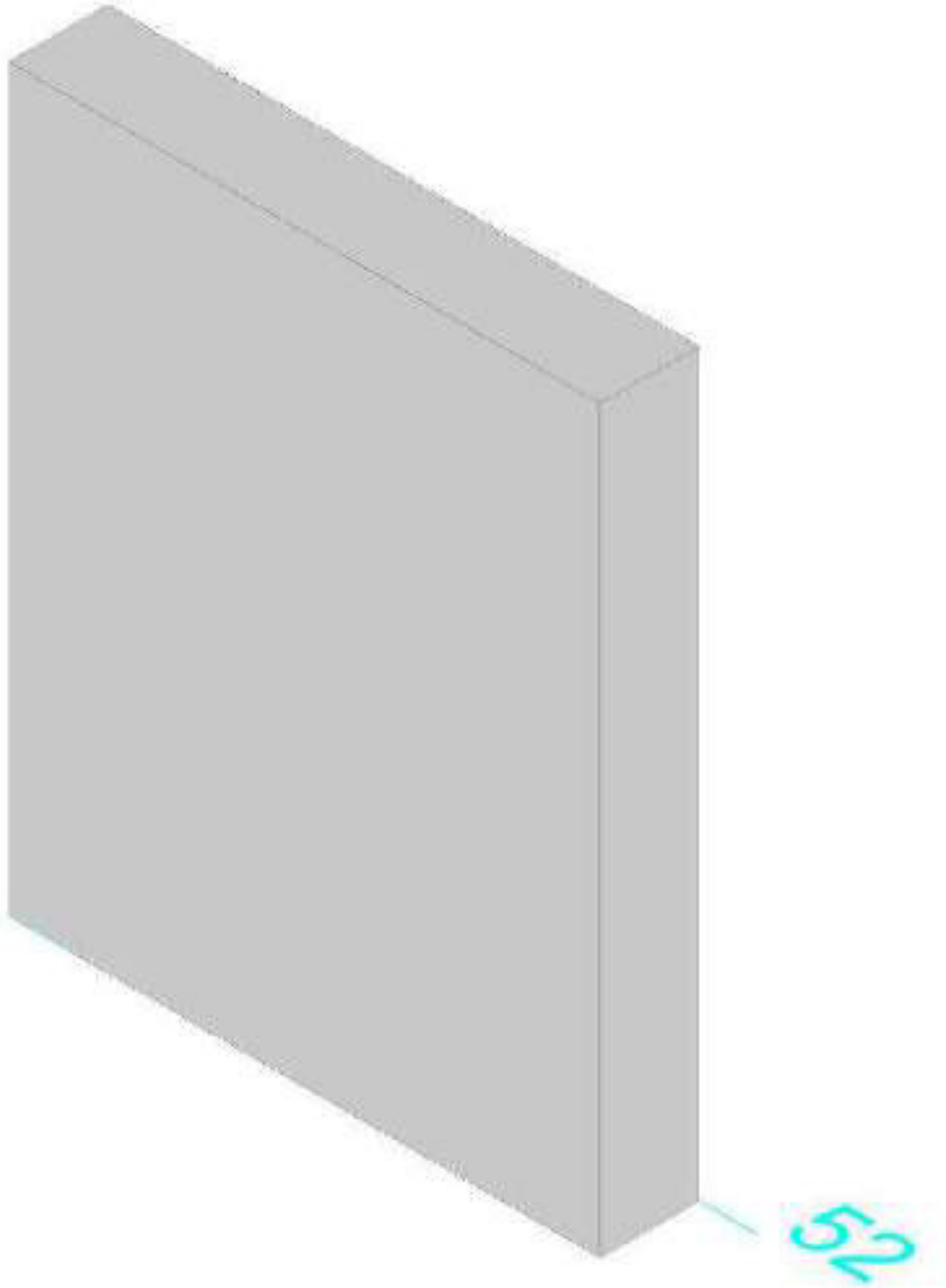
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
134 Prosp.A	Verticale	0.175	0.000691	0.00035	0.2	Si
25 Prosp.A	Verticale	0.1	0.000432	0.0002	0.2	Si
518 Prosp.A	Verticale	0.1	0.000432	0.0002	0.2	Si
112 Prosp.A	Verticale	0.2	0.000863	0.0004	0.2	Si
90 Prosp.A	Verticale	0.175	0.000777	0.00035	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
646 Prosp.A	Verticale	0.5	0.2	0.000373	0.000373	0.041	0.041
146 Prosp.A	Orizzontale	1	0.2	0.0012	0.0012	0.042	0.042
648 Prosp.A	Verticale	0.5	0.2	0.000565	0.000565	0.041	0.041
145 Prosp.A	Orizzontale	0.7256	0.2	0.000905	0.000905	0.0432	0.0432
147 Prosp.A	Orizzontale	0.7953	0.2	0.000905	0.000905	0.0432	0.0432
647 Prosp.A	Verticale	0.5	0.2	0.000565	0.000565	0.041	0.041

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
646 Prosp.A	Verticale	SLV 12	371.08	2170	1635.8	9567	4.4083	Si
146 Prosp.A	Orizzontale	SLV 11	1448.03	-1869	7214.23	-9313	4.9821	Si
648 Prosp.A	Verticale	SLV 8	158.68	6884	818.59	35515	5.1588	Si
145 Prosp.A	Orizzontale	SLV 11	1117.36	-3103	5930.4	-16471	5.3075	Si

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
147 Prosp.A	Orizzontale	SLV 11	1360.45	-7250	7241.09	-38590	5.3226	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
646 Prosp.A	Verticale	SLD 12	297.87	1843	1610.5	9962	5.4067	Si
648 Prosp.A	Verticale	SLD 8	132.05	5665	825.95	35431	6.2547	Si
146 Prosp.A	Orizzontale	SLD 11	1168.98	-3239	7966.74	-22072	6.8151	Si
147 Prosp.A	Orizzontale	SLD 11	1118.92	-7025	7754.42	-48685	6.9303	Si
145 Prosp.A	Orizzontale	SLD 11	891.49	-3768	6555.98	-27710	7.3539	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
147 Prosp.A	Orizzontale	0.157	0.795	Non necessaria	0	SLV 11	5353	-7860	694.95	8779	28269	0	8779	2.5	0.0009048	1.64	Si
146 Prosp.A	Orizzontale	0.158	1	Non necessaria	0	SLV 11	3746	-4819	1093.88	10674	35186	0	10674	2.5	0.0012001	2.8495	Si
125 Prosp.A	Orizzontale	0.157	0.77	Non necessaria	0	SLV 7	2724	-6549	96.22	8457	27237	0	8457	2.5	0.0009048	3.1043	Si
646 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 7	1244	1004	387.42	4330	17406	0	4330	2.5	0.0003732	3.4797	Si
145 Prosp.A	Orizzontale	0.157	0.726	Non necessaria	0	SLV 11	1842	-3602	976.95	7813	25356	0	7813	2.5	0.0009048	4.2411	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
147 Prosp.A	Orizzontale	0.157	0.795	Non necessaria	0	SLD 11	4230	-7454	551.74	8732	28219	0	8732	2.5	0.0009048	2.0641	Si
146 Prosp.A	Orizzontale	0.158	1	Non necessaria	0	SLD 11	3033	-5686	909.71	10777	35292	0	10777	2.5	0.0012001	3.5535	Si
125 Prosp.A	Orizzontale	0.157	0.77	Non necessaria	0	SLD 7	2235	-6158	74.43	8411	27190	0	8411	2.5	0.0009048	3.7629	Si
646 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 7	1071	1102	308.24	4330	17406	0	4330	2.5	0.0003732	4.0415	Si
145 Prosp.A	Orizzontale	0.157	0.726	Non necessaria	0	SLD 11	1548	-4150	824.27	7877	25423	0	7877	2.5	0.0009048	5.0885	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
147 Prosp.A	Orizzontale	SLE QP 2	779.68	-6758	No	-162287	1120500	15	6.9044	Si
147 Prosp.A	Orizzontale	SLE RA 20	860.04	-7593	No	-179759	1494000	15	8.3111	Si
145 Prosp.A	Orizzontale	SLE QP 2	571.21	-4755	No	-127404	1120500	15	8.7948	Si
146 Prosp.A	Orizzontale	SLE QP 2	738.39	-7353	No	-124814	1120500	15	8.9774	Si
145 Prosp.A	Orizzontale	SLE RA 20	626.67	-5206	No	-139715	1494000	15	10.6932	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
648 Prosp.A	Verticale	SLE RA 20	106.24	4318	No	793373	36000000	15	45.3759	Si
646 Prosp.A	Verticale	SLE RA 20	213.47	1557	No	717467	36000000	15	50.1765	Si
647 Prosp.A	Verticale	SLE RA 20	127.57	2845	No	652613	36000000	15	55.1629	Si
147 Prosp.A	Orizzontale	SLE RA 20	860.04	-7593	No	618352	36000000	15	58.2192	Si
146 Prosp.A	Orizzontale	SLE RA 20	850.31	-5769	No	587843	36000000	15	61.2409	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
72 Prosp.A	Verticale	0.2	0.012	0.02	Si
646 Prosp.A	Verticale	0.2	0.012	0.02	Si
147 Prosp.A	Verticale	0.2	0.012	0.02	Si
147 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
146 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
72 Prosp.A	Verticale	0.1	0.3	Si
646 Prosp.A	Verticale	0.1	0.3	Si
147 Prosp.A	Verticale	0.1	0.3	Si
147 Prosp.A	Orizzontale	0.1	0.3	Si
146 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
646 Prosp.A	Verticale	0.1	0.000746	0.0002	0.2	Si
145 Prosp.A	Verticale	0.175	0.00141	0.00035	0.2	Si
123 Prosp.A	Verticale	0.2	0.00162	0.0004	0.2	Si
72 Prosp.A	Verticale	0.1	0.000846	0.0002	0.2	Si
74 Prosp.A	Verticale	0.1	0.000848	0.0002	0.2	Si

Verifiche generali

1.4 Verifiche piastre C.A.

Le unità di misura elencate nel capitolo sono in [m, daN, deg] ove non espressamente specificato.

Nodo: *indice del nodo di verifica.*
Dir.: *direzione della sezione di verifica.*
B: *base della sezione rettangolare di verifica. [m]*

H: altezza della sezione rettangolare di verifica. [m]
A. sup.: area barre armatura superiori. [m²]
C. sup.: distanza media delle barre superiori dal bordo superiore della sezione. [m]
A. inf.: area barre armatura inferiori. [m²]
C. inf.: distanza media delle barre inferiori dal bordo inferiore della sezione. [m]
Comb.: combinazione di verifica.
*M: momento flettente. [daN*m]*
N: sforzo normale. [daN]
*Mu: momento flettente ultimo. [daN*m]*
Nu: sforzo normale ultimo. [daN]
c.s.: coefficiente di sicurezza.
Verifica: stato di verifica.
σc: tensione nel calcestruzzo. [daN/m²]
σlim: tensione limite. [daN/m²]
Es/Ec: coefficiente di omogenizzazione.
σf: tensione nell'acciaio d'armatura. [daN/m²]
Comb.: combinazione.
Fh: componente orizzontale del carico. [daN]
Fv: componente verticale del carico. [daN]
Cnd: resistenza valutata a breve o lungo termine (BT - LT).
Ad: adesione di progetto. [daN/m²]
Phi: angolo di attrito di progetto. [deg]
RPl: resistenza passiva laterale unitaria di progetto. [daN/m²]
γR: coefficiente parziale sulla resistenza di progetto.
Rd: resistenza alla traslazione di progetto. [daN]
Ed: azione di progetto. [daN]
Rd/Ed: coefficiente di sicurezza allo scorrimento.
ID: indice della verifica di capacità portante.
Fx: componente lungo x del carico. [daN]
Fy: componente lungo y del carico. [daN]
Fz: componente verticale del carico. [daN]
*Mx: componente lungo x del momento. [daN*m]*
*My: componente lungo y del momento. [daN*m]*
ix: inclinazione del carico in x. [deg]
iy: inclinazione del carico in y. [deg]
ex: eccentricità del carico in x. [m]
ey: eccentricità del carico in y. [m]
B': larghezza efficace. [m]
L': lunghezza efficace. [m]
C: coesione di progetto. [daN/m²]
Qs: sovraccarico laterale da piano di posa. [daN/m²]
Rd: resistenza alla rottura del complesso di progetto. [daN]
Ed: azione di progetto (sforzo normale al piano di posa). [daN]
Rd/Ed: coefficiente di sicurezza alla capacità portante.
N:
Nq: fattore di capacità portante per il termine di sovraccarico.
Nc: fattore di capacità portante per il termine coesivo.
Ng: fattore di capacità portante per il termine attritivo.
S:
Sq: fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.
Sc: fattore correttivo di capacità portante per forma (shape), per il termine coesivo.
Sg: fattore correttivo di capacità portante per forma (shape), per il termine attritivo.
D:
Dq: fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.
Dc: fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.
Dg: fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.
I:
Iq: fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.
Ic: fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.
Ig: fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.
B:
Bq: fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.
Bc: fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.
Bg: fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.
G:
Gq: fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.
Gc: fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.
Gg: fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.
P:
Pq: fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.
Pc: fattore correttivo di capacità portante per punzonamento, per il termine coesivo.
Pg: fattore correttivo di capacità portante per punzonamento, per il termine attritivo.

E:
Eq: fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.
Ec: fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.
Eg: fattore correttivo di capacità portante per sisma (earthquake), per il termine attritivo.
εsm: deformazione unitaria media delle barre di armatura.
Δmax: distanza massima tra le fessure. [m]
Wd: valore di calcolo di apertura delle fessure. [m]

Platea 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-17.056; -4.784; -1.95), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).
Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
292	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLV FO 9	9807.03	0	9876.5	0	1.0071	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
208	X	0.5	0.45	0.000623	0.048	0.001436	0.048	SLD 9	-8689.61	0	-8855.57	0	1.0191	Si
325	X	0.96	0.45	0.001108	0.048	0.001087	0.048	SLD 9	14592.49	0	15344.34	0	1.0515	Si
160	X	0.5	0.45	0.00078	0.048	0.000942	0.048	SLD 9	-10211.38	0	-11038.21	0	1.081	Si
292	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLD 9	8012.03	0	9876.5	0	1.2327	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
327	X	0.5	0.45	0.000622	0.048	0.000595	0.048	SLE QP 2	8609.3	0	-820011	1120500	15	Si
327	X	0.5	0.45	0.000622	0.048	0.000595	0.048	SLE RA 21	9532.01	0	-907896	1494000	15	Si
325	X	0.96	0.45	0.001108	0.048	0.001087	0.048	SLE QP 2	11373.34	0	-579383	1120500	15	Si
292	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLE QP 2	5970.62	0	-528580	1120500	15	Si
160	X	0.5	0.45	0.00078	0.048	0.000942	0.048	SLE QP 2	-6431.08	0	-525781	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
325	X	0.96	0.45	0.001108	0.048	0.001087	0.048	SLE RA 21	12584.72	0	31451753	36000000	15	Si
208	X	0.5	0.45	0.000623	0.048	0.001436	0.048	SLE RA 21	-6024.69	0	26397344	36000000	15	Si
292	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLE RA 21	6610.49	0	25265976	36000000	15	Si
160	X	0.5	0.45	0.00078	0.048	0.000942	0.048	SLE RA 21	-7136.32	0	25112194	36000000	15	Si

Verifiche SLE fessurazione nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	εsm	Δmax	Wd	Es/Ec	Verifica
325	X	0.96	0.45	0.001108	0.048	0.001087	0.048	SLE QP 2	11373.34	0	0.00083	0.336	0.000278	15	Si
325	X	0.96	0.45	0.001108	0.048	0.001087	0.048	SLE FR 6	11678.33	0	0.00085	0.336	0.000286	15	Si
208	X	0.5	0.45	0.000623	0.048	0.001436	0.048	SLE QP 2	-5411.3	0	0.00069	0.307	0.000212	15	Si

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente
Centro impronta, nel sistema globale: -15.4; -4; -2.4
Lato minore B dell'impronta: 1.5
Lato maggiore L dell'impronta: 3.3
Area dell'impronta rettangolare di calcolo: 4.9

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 0

Comb.	Fh	Fv	Cnd	Ad	Phi	RPl	γR	Rd	Ed	Rd/Ed	Verifica
SLU 50	644	-52503	LT	0	19	0	1.1	15970	644	24.81	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 1.5 m
Peso specifico efficace del terreno di progetto γs: 2060 daN/m3
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 1.18

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	γR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	463	468	-66150	1642.2	1419.22	0	0	0.02	0.02	1.45	3.25	LT	0	37	0	2.3	162262	66150	2.45	Si
2	SLV FO 9	3543	-6937	-91031	7716.37	3333.09	2	-4	0.04	0.08	1.33	3.22	LT	0	37	0	2.3	107546	91031	1.18	Si
3	SLD 9	2162	-3521	-69224	4605.42	2275.45	2	-3	0.03	0.07	1.37	3.23	LT	0	37	0	2.3	124687	69224	1.8	Si

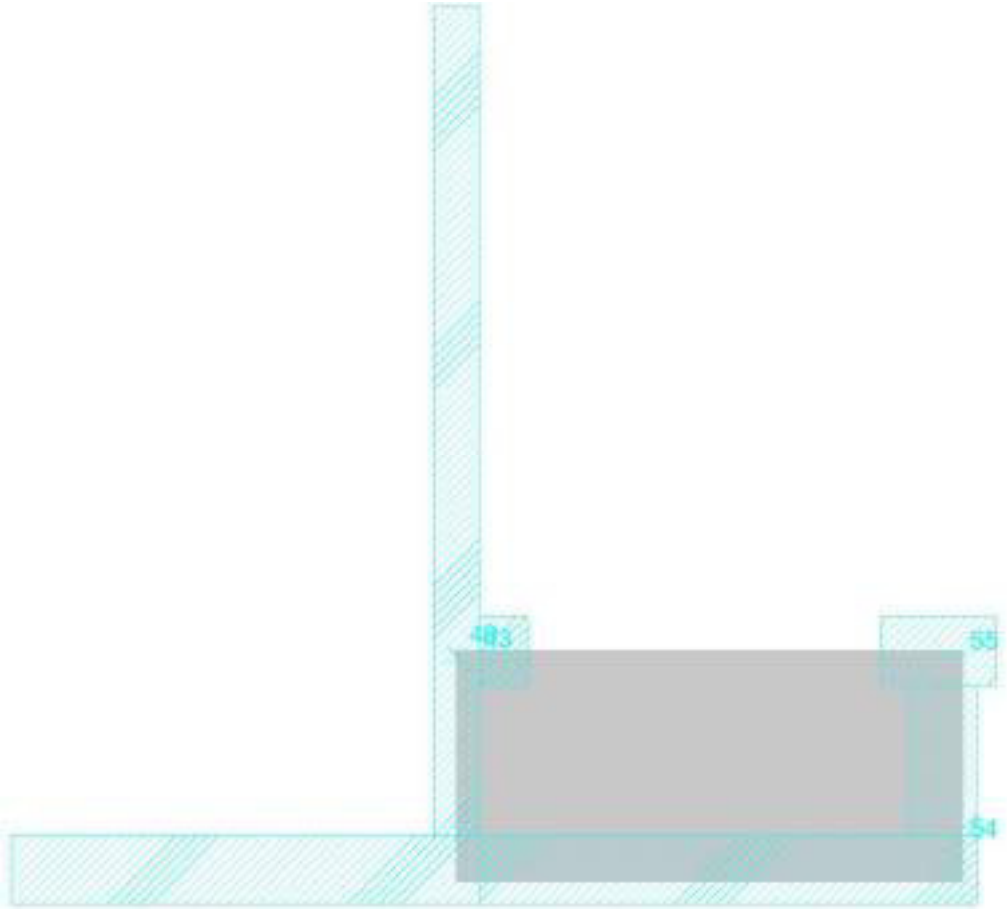
Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	43	56	66	1.34	1.34	0.82	1	1	1	0.99	0.98	0.98	1	1	1	1	1	1	1	1	1	1	1	1
2	43	56	66	1.31	1.32	0.83	1	1	1	0.86	0.86	0.79	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
3	43	56	66	1.32	1.33	0.83	1	1	1	0.91	0.9	0.85	1	1	1	1	1	1	1	1	1	0.99	0.99	0.99

Platea 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-11.013; -4.784; -1.95), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).
Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
256	Y	1	0.45	0.001131	0.048	0.00115	0.044	SLV FO 6	10679.75	0	16151.77	0	1.5124	Si
335	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLV FO 6	5505.85	0	8372.76	0	1.5207	Si
361	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLV FO 10	-5231.31	0	-8385.71	0	1.603	Si
161	Y	0.5	0.45	0.000622	0.049	0.000614	0.045	SLV FO 6	5071.9	0	8314.26	0	1.6393	Si
211	Y	0.875	0.45	0.00106	0.049	0.001056	0.045	SLV FO 6	8957.25	0	14719.47	0	1.6433	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
335	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLD 6	4695.51	0	8372.76	0	1.7831	Si
256	Y	1	0.45	0.001131	0.048	0.00115	0.044	SLD 6	8214.76	0	16151.77	0	1.9662	Si
333	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLD 6	6035.32	0	12238.6	0	2.0278	Si
335	Y	0.5	0.45	0.000283	0.036	0.000377	0.036	SLD 9	2535.41	0	5326.59	0	2.1009	Si
361	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLD 10	-3954.91	0	-8385.71	0	2.1203	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
335	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE QP 2	3767.11	0	-193534	1120500	15	Si
333	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLE QP 2	4850.28	0	-164275	1120500	15	Si
335	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE RA 21	4132.21	0	-212291	1494000	15	Si
256	Y	1	0.45	0.001131	0.048	0.00115	0.044	SLE QP 2	5395.32	0	-139788	1120500	15	Si
333	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLE RA 21	5316.92	0	-180079	1494000	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
335	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE RA 21	4132.21	0	2507085	36000000	15	Si
333	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLE RA 21	5316.92	0	2123612	36000000	15	Si
256	Y	1	0.45	0.001131	0.048	0.00115	0.044	SLE RA 21	5943.58	0	1935856	36000000	15	Si
361	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLE RA 21	-2717.77	0	1750394	36000000	15	Si
269	Y	0.875	0.45	0.00106	0.049	0.001225	0.047	SLE RA 21	4793.64	0	1749163	36000000	15	Si

Verifiche SLE fessurazione nei nodi

La piastra non presenta nodi con apertura delle fessure.

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente
Centro impronta, nel sistema globale: -9.4; -4; -2.4
Lato minore B dell'impronta: 1.5
Lato maggiore L dell'impronta: 3.3
Area dell'impronta rettangolare di calcolo: 4.9

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 0

Comb.	Fh	Fv	Cnd	Ad	Phi	RPl	γR	Rd	Ed	Rd/Ed	Verifica
SLU 8	756	-41536	LT	0	19	0	1.1	12634	756	16.71	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 1.5 m
Profondità massima del bulbo di rottura considerato (per condizione non drenata): 0.75 m
Peso specifico efficace del terreno di progetto γs: 2060 daN/m3
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 0

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	γR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	-135	1019	-65004	1132.86	489.63	0	1	0.01	0.02	1.47	3.27	LT	0	37	0	2.3	163935	65004	2.52	Si
3	SLD 6	-2145	-3200	-67282	4262.71	-313.5	-2	-3	0	0.06	1.37	3.28	LT	0	37	0	2.3	129291	67282	1.92	Si

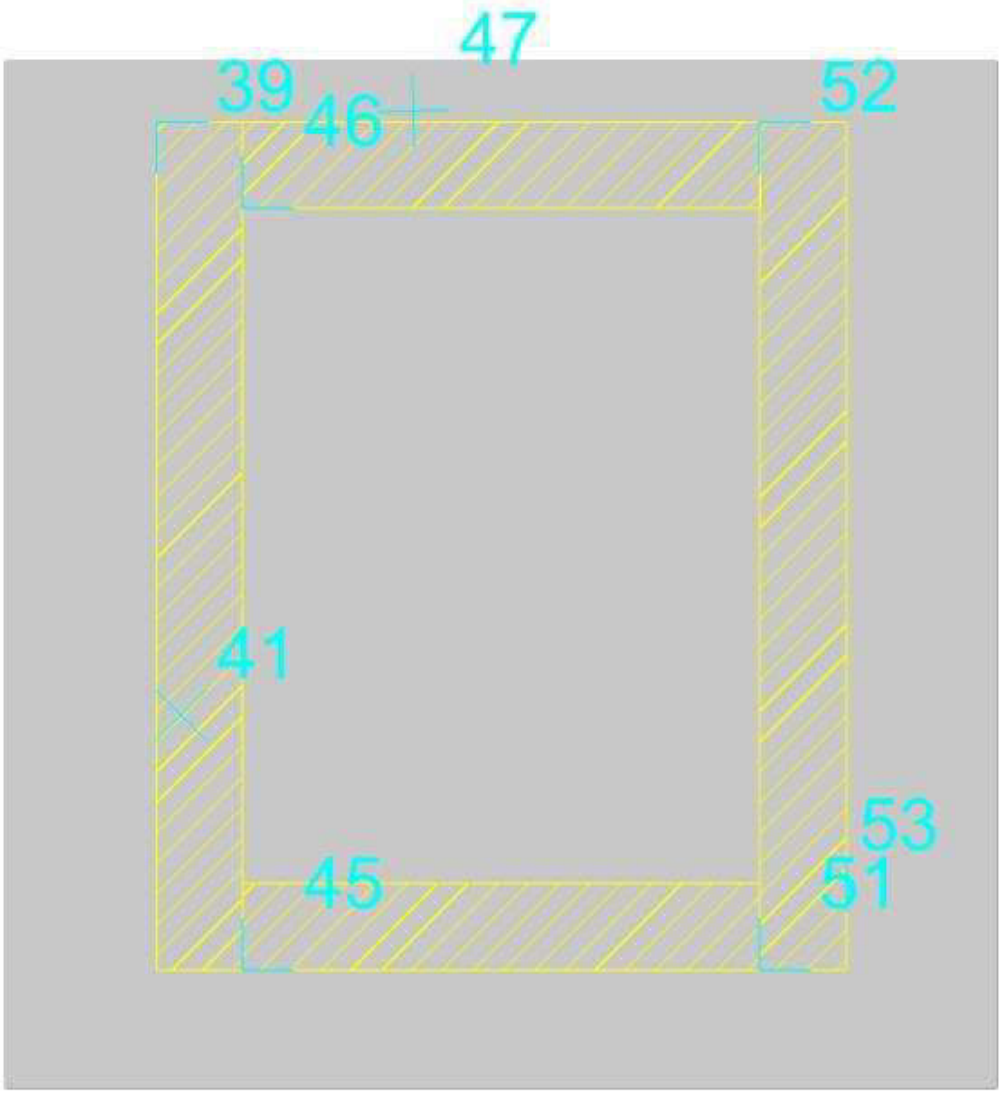
Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	43	56	66	1.34	1.35	0.82	1	1	1	0.97	0.97	0.96	1	1	1	1	1	1	1	1	1	1	1	1
2	1	5	0	0	1.22	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
3	43	56	66	1.32	1.32	0.83	1	1	1	0.91	0.91	0.86	1	1	1	1	1	1	1	1	1	0.99	0.99	0.99

Platea a "Fondazione ascensore"

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-11.413; -1.219; -3.45), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).
Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
79	Y	0.5	0.3	0.000622	0.036	0.000716	0.036	SLV FO 11	883.89	0	6043.55	0	6.8374	Si
71	Y	0.74	0.3	0.000871	0.036	0.00101	0.036	SLV FO 11	1206.46	0	9165.43	0	7.597	Si
62	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLV FO 11	1527.8	0	11670.81	0	7.639	Si
77	Y	0.52	0.3	0.000633	0.036	0.000731	0.036	SLV FO 10	816.52	0	6323.01	0	7.7438	Si
64	Y	0.851	0.3	0.000934	0.036	0.001094	0.036	SLV FO 10	1282.93	0	9965.43	0	7.7677	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
79	Y	0.5	0.3	0.000622	0.036	0.000716	0.036	SLD 11	752.84	0	6043.55	0	8.0276	Si
62	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLD 11	1312.67	0	11670.81	0	8.8909	Si
71	Y	0.74	0.3	0.000871	0.036	0.00101	0.036	SLD 11	1029.67	0	9165.43	0	8.9013	Si
77	Y	0.52	0.3	0.000633	0.036	0.000731	0.036	SLD 10	696.2	0	6323.01	0	9.0821	Si
64	Y	0.851	0.3	0.000934	0.036	0.001094	0.036	SLD 10	1087.37	0	9965.43	0	9.1647	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
79	Y	0.5	0.3	0.000622	0.036	0.000716	0.036	SLE QP 2	602.95	0	-65679	1120500	15	Si
71	Y	0.74	0.3	0.000871	0.036	0.00101	0.036	SLE QP 2	828.76	0	-61583	1120500	15	Si
77	Y	0.52	0.3	0.000633	0.036	0.000731	0.036	SLE QP 2	565.68	0	-59468	1120500	15	Si
62	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	1072.91	0	-59384	1120500	15	Si
64	Y	0.851	0.3	0.000934	0.036	0.001094	0.036	SLE QP 2	865.59	0	-56583	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
79	Y	0.5	0.3	0.000622	0.036	0.000716	0.036	SLE RA 20	657.45	0	804545	36000000	15	Si
71	Y	0.74	0.3	0.000871	0.036	0.00101	0.036	SLE RA 20	904.12	0	754676	36000000	15	Si
77	Y	0.52	0.3	0.000633	0.036	0.000731	0.036	SLE RA 21	631.07	0	745291	36000000	15	Si
62	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 20	1172.55	0	728989	36000000	15	Si
64	Y	0.851	0.3	0.000934	0.036	0.001094	0.036	SLE RA 21	964.86	0	708436	36000000	15	Si

Verifiche SLE fessurazione nei nodi

La piastra non presenta nodi con apertura delle fessure.

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente
Centro impronta, nel sistema globale: -10.3; 0; -3.8
Lato minore B dell'impronta: 2.3
Lato maggiore L dell'impronta: 2.4
Area dell'impronta rettangolare di calcolo: 5.5

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 2.16

Comb.	Fh	Fv	Cnd	Ad	Phi	RPI	γR	Rd	Ed	Rd/Ed	Verifica
SLU 43	2126	-52846	LT	0	19	0	1.1	16075	2126	7.56	Si
SLV FO 4	5889	-41885	LT	0	19	0	1.1	12740	5889	2.16	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 2.1 m
Peso specifico efficace del terreno di progetto γs: 2046 daN/m3
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 1.77

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	γR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	-1901	1372	-67458	441.45	77.85	-2	1	0	0.01	2.3	2.37	LT	0	34	0	2.3	119503	67458	1.77	Si
2	SLV FO 6	-3839	-2587	-48945	4406.67	-344.24	-4	-3	-0.01	0.09	2.2	2.29	LT	0	34	0	2.3	87056	48945	1.78	Si
3	SLD 2	-4085	565	-44809	848.02	-1222.91	-5	1	-0.03	0.02	2.25	2.34	LT	0	34	0	2.3	96008	44809	2.14	Si

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	28	41	38	1.64	1.67	0.61	1	1	1	0.95	0.95	0.92	1	1	1	1	1	1	1	1	1	1	1	1
2	28	41	38	1.64	1.66	0.62	1	1	1	0.86	0.86	0.78	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
3	28	41	38	1.64	1.66	0.62	1	1	1	0.86	0.86	0.78	1	1	1	1	1	1	1	1	1	0.98	0.99	0.98

1.5 Verifica sismica globale

Le unità di misura elencate nel capitolo sono in [m] ove non espressamente specificato.

***Desc.**: descrizione.*
***Stato limite**: (muratura) V=Taglio; PF=Pressoflessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.*
***Molt.**: moltiplicatore minimo della azione sismica che produce lo stato limite.*
***Comb.**: combinazione.*
***PGA**: accelerazione al suolo.*
***iPGA (ζE)**: indicatore di rischio sismico in termini di PGA ovvero rapporto tra l'azione sismica massima sopportabile dall'elemento e l'azione sismica massima che si utilizzerebbe nel progetto nuovo (§C8.3).*
***TR**: tempo di ritorno.*
***(TR/TRrif)^.41**: indicatore di rischio sismico in termini di periodo di ritorno.*
***fa**: fattore di accelerazione.*
***Stato limite**: (muratura) V=Taglio; PF=Presso flessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.*
***Coeff.s.**: coefficiente minimo prodotto dallo stato limite.*
***Verifica**: stato di verifica.*
***Trave**: titolo della trave.*
***Pressoflessione**: dati della verifica a pressoflessione.*
***Coeff.s.**: coefficiente di sicurezza a flessione.*
***iTR**: indicatore di rischio sismico in termini di tempo di ritorno.*

***campata**: campata di riferimento.*
***dist.**: ascissa relativa all'inizio della campata. [m]*
***Taglio**: dati della verifica a taglio.*
***Coeff.s.**: coefficiente di sicurezza a taglio.*
***Maschio**: maschio.*
***Stato limite**: (maschio muratura) V=Taglio; PF=Presso flessione; PFFP=Presso flessione fuori piano; R=Ribaltamento.*
***Trave**: trave di collegamento in muratura.*
***Stato limite**: (trave muratura) V=Taglio; F=Flessione.*
***S. L.**: stato limite di riferimento.*
***TR,C**: periodo di ritorno di capacità.*
***PGA,C**: accelerazione di aggancio di capacità.*
***TR,Rif**: periodo di ritorno di riferimento.*
***PGA,Rif**: accelerazione di aggancio di riferimento.*
***Tipo rottura**: tipo di rottura che fornisce il valore minimo degli elementi considerati.*
***PAM**: perdita media annua attesa.*
***Classe PAM**: classe di rischio PAM.*
***IS-V**: indice di sicurezza.*
***Classe IS-V**: classe di rischio IS-V.*
***λ,SLR**: frequenza media annua di superamento in Stato Limite di Ricostruzione.*
***λ,SLC**: frequenza media annua di superamento in Stato Limite di Collasso.*
***λ,SLV**: frequenza media annua di superamento in Stato Limite di salvaguardia della Vita.*
***λ,SLD**: frequenza media annua di superamento in Stato Limite di Danno.*
***λ,SLO**: frequenza media annua di superamento in Stato Limite di Operatività.*
***λ,SLID**: frequenza media annua di superamento in Stato Limite di Inizio Danno.*

Verifica di elementi dotati di indicatori di rischio sismico mediante analisi con fattore q

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.) § C8.7.1

Accelerazioni e tempi di ritorno

Accelerazione di aggancio SLO (ag/g_SLO*S*ST) PGA,SLOrif = 0.081
Accelerazione di aggancio SLD (ag/g_SLD*S*ST) PGA,SLDrif = 0.101
Accelerazione di aggancio SLV (ag/g_SLV*S*ST) PGA,SLVrif = 0.244
Tr,SLOrif = 30 anni
Tr,SLDrif = 50 anni
Tr,SLVrif = 475 anni

Moltiplicatori minimi delle condizioni sismiche

(Il valore di ζE corrisponde al valore di I.R. PGA secondo quanto riportato nella Circolare 7 21-01-19 §C8.3)

Indicatori minimi riferiti al solo materiale muratura

Desc.	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	fa
Maschio 218	PF	0.123	SLV 13	0.0261	0.1068	2	0.1062	0.1039
Maschio 198	V	0.621	SLV 2	0.1476	0.6041	133	0.5934	0.6038
Maschio 242	PFFP	0.124	SLV 2	0.0261	0.1068	2	0.1062	0.1039
Maschio 283	R	0.577	SLV 13	0.1368	0.56	111	0.551	0.5581
Trave di accoppiamento 10	PF	0.154	SLV 6	0.0441	0.1806	7	0.1774	0.1757
Trave di accoppiamento 19	V	0.16	SLV 10	0.0441	0.1806	7	0.1774	0.1757

Coefficienti di sicurezza riferiti al solo materiale muratura

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PF SLU	8.579	SLU 77	Si
Maschio 1	V SLU	74.447	SLU 76	Si
Maschio 1	PF	1.17	SLV 12	Si
Maschio 1	V	4.084	SLV 12	Si
Maschio 1	PFFP	12.823	SLV 12	Si
Maschio 1	R	1.843	SLV 1	Si
Maschio 2	PF SLU	3.716	SLU 47	Si
Maschio 2	V SLU	44.812	SLU 77	Si
Maschio 2	PF	0	SLV 9	No
Maschio 2	V	7.157	SLV 9	Si
Maschio 2	PFFP	0	SLV 9	No
Maschio 2	R	2.112	SLV 8	Si
Maschio 3	PF SLU	11.773	SLU 81	Si
Maschio 3	V SLU	2.687	SLU 77	Si
Maschio 3	PF	0	SLV 9	No
Maschio 3	V	1.831	SLV 8	Si
Maschio 3	PFFP	0	SLV 10	No
Maschio 3	R	2.286	SLV 8	Si
Maschio 4	PF SLU	4.63	SLU 48	Si
Maschio 4	V SLU	5.1	SLU 83	Si
Maschio 4	PF	1.068	SLV 9	Si
Maschio 4	V	3.771	SLV 16	Si
Maschio 4	PFFP	4.91	SLV 9	Si
Maschio 4	R	2.245	SLV 8	Si
Maschio 6	PF SLU	9.102	SLU 78	Si
Maschio 6	V SLU	13.893	SLU 44	Si
Maschio 6	PF	1.122	SLV 9	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 6	V	2.068	SLV 5	Si
Maschio 6	PFFP	36.433	SLV 9	Si
Maschio 6	R	1.7	SLV 8	Si
Maschio 8	PF SLU	5.476	SLU 76	Si
Maschio 8	V SLU	2.075	SLU 84	Si
Maschio 8	PF	0	SLV 11	No
Maschio 8	V	1.436	SLV 5	Si
Maschio 8	PFFP	0	SLV 12	No
Maschio 8	R	3.552	SLV 5	Si
Maschio 9	PF SLU	2.32	SLU 69	Si
Maschio 9	V SLU	2.888	SLU 84	Si
Maschio 9	PF	1.726	SLV 13	Si
Maschio 9	V	1.384	SLV 15	Si
Maschio 9	PFFP	3.801	SLV 12	Si
Maschio 9	R	2.459	SLV 5	Si
Maschio 10	PF SLU	1.265	SLU 83	Si
Maschio 10	V SLU	2.961	SLU 83	Si
Maschio 10	PF	0.954	SLV 8	No
Maschio 10	V	2.141	SLV 4	Si
Maschio 10	PFFP	23.012	SLV 12	Si
Maschio 10	R	1.31	SLV 9	Si
Maschio 12	PF SLU	4.031	SLU 81	Si
Maschio 12	V SLU	16.669	SLU 76	Si
Maschio 12	PF	2.226	SLV 12	Si
Maschio 12	V	1.08	SLV 12	Si
Maschio 12	PFFP	15.258	SLV 12	Si
Maschio 12	R	2.897	SLV 5	Si
Maschio 13	PF SLU	2.864	SLU 83	Si
Maschio 13	V SLU	3.867	SLU 83	Si
Maschio 13	PF	0	SLV 9	No
Maschio 13	V	2.217	SLV 12	Si
Maschio 13	PFFP	0	SLV 10	No
Maschio 13	R	2.127	SLV 8	Si
Maschio 15	PF SLU	2.217	SLU 82	Si
Maschio 15	V SLU	2.49	SLU 84	Si
Maschio 15	PF	0	SLV 7	No
Maschio 15	V	1.287	SLV 6	Si
Maschio 15	PFFP	0	SLV 12	No
Maschio 15	R	3.391	SLV 10	Si
Maschio 16	PF SLU	8.441	SLU 35	Si
Maschio 16	V SLU	4.562	SLU 76	Si
Maschio 16	PF	1.301	SLV 12	Si
Maschio 16	V	1.559	SLV 5	Si
Maschio 16	PFFP	33.248	SLV 10	Si
Maschio 16	R	2.29	SLV 8	Si
Maschio 17	PF SLU	1.828	SLU 84	Si
Maschio 17	V SLU	7.333	SLU 69	Si
Maschio 17	PF	0	SLV 7	No
Maschio 17	V	2.206	SLV 8	Si
Maschio 17	PFFP	0	SLV 8	No
Maschio 17	R	1.607	SLV 9	Si
Maschio 18	PF SLU	2.502	SLU 83	Si
Maschio 18	V SLU	3.539	SLU 83	Si
Maschio 18	PF	0	SLV 7	No
Maschio 18	V	0.656	SLV 8	No
Maschio 18	PFFP	0	SLV 12	No
Maschio 18	R	2.246	SLV 9	Si
Maschio 19	PF SLU	1.237	SLU 83	Si
Maschio 19	V SLU	3.894	SLU 83	Si
Maschio 19	PF	1.035	SLV 8	Si
Maschio 19	V	1.66	SLV 8	Si
Maschio 19	PFFP	22.564	SLV 8	Si
Maschio 19	R	2.419	SLV 13	Si
Maschio 21	PF SLU	11.607	SLU 49	Si
Maschio 21	V SLU	6.298	SLU 83	Si
Maschio 21	PF	2.864	SLV 14	Si
Maschio 21	V	3.129	SLV 3	Si
Maschio 21	PFFP	20.29	SLV 5	Si
Maschio 21	R	7.21	SLV 3	Si
Maschio 22	PF SLU	41.87	SLU 48	Si
Maschio 22	V SLU	14.455	SLU 48	Si
Maschio 22	PF	2.6	SLV 10	Si
Maschio 22	V	2.115	SLV 16	Si
Maschio 22	PFFP	5.933	SLV 9	Si
Maschio 22	R	1.792	SLV 7	Si
Maschio 23	PF SLU	19.899	SLU 83	Si
Maschio 23	V SLU	3.934	SLU 84	Si
Maschio 23	PF	4.187	SLV 13	Si
Maschio 23	V	3.947	SLV 14	Si
Maschio 23	PFFP	49.684	SLV 16	Si
Maschio 23	R	1.686	SLV 1	Si
Maschio 24	PF SLU	9.676	SLU 84	Si
Maschio 24	V SLU	7.252	SLU 83	Si
Maschio 24	PF	2.62	SLV 13	Si
Maschio 24	V	3.71	SLV 3	Si
Maschio 24	PFFP	63.55	SLV 10	Si
Maschio 24	R	1.619	SLV 3	Si
Maschio 27	PF SLU	24.746	SLU 39	Si
Maschio 27	V SLU	15.925	SLU 62	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 27	PF	3.584	SLV 13	Si
Maschio 27	V	2.863	SLV 15	Si
Maschio 27	PFFP	62.829	SLV 7	Si
Maschio 27	R	1.768	SLV 10	Si
Maschio 29	PF SLU	9.894	SLU 84	Si
Maschio 29	V SLU	3.945	SLU 83	Si
Maschio 29	PF	4.854	SLV 2	Si
Maschio 29	V	4.408	SLV 3	Si
Maschio 29	PFFP	58.801	SLV 3	Si
Maschio 29	R	1.881	SLV 14	Si
Maschio 30	PF SLU	1.551	SLU 84	Si
Maschio 30	V SLU	1.664	SLU 83	Si
Maschio 30	PF	0	SLV 7	No
Maschio 30	V	2.136	SLV 13	Si
Maschio 30	PFFP	2.473	SLV 7	Si
Maschio 30	R	1.351	SLV 9	Si
Maschio 31	PF SLU	12.305	SLU 44	Si
Maschio 31	V SLU	7.757	SLU 76	Si
Maschio 31	PF	2.75	SLV 7	Si
Maschio 31	V	2.187	SLV 11	Si
Maschio 31	PFFP	30.355	SLV 7	Si
Maschio 31	R	2.324	SLV 13	Si
Maschio 33	PF SLU	3.346	SLU 83	Si
Maschio 33	V SLU	2.556	SLU 83	Si
Maschio 33	PF	1.147	SLV 6	Si
Maschio 33	V	0.941	SLV 11	No
Maschio 33	PFFP	28.014	SLV 6	Si
Maschio 33	R	1.416	SLV 15	Si
Maschio 34	PF SLU	28.886	SLU 48	Si
Maschio 34	V SLU	51.753	SLU 48	Si
Maschio 34	PF	2.266	SLV 5	Si
Maschio 34	V	2.507	SLV 14	Si
Maschio 34	PFFP	2.393	SLV 6	Si
Maschio 34	R	1.352	SLV 12	Si
Maschio 35	PF SLU	4.993	SLU 79	Si
Maschio 35	V SLU	5.637	SLU 83	Si
Maschio 35	PF	0	SLV 5	No
Maschio 35	V	3.715	SLV 3	Si
Maschio 35	PFFP	1.829	SLV 5	Si
Maschio 35	R	3.044	SLV 7	Si
Maschio 36	PF SLU	2.157	SLU 83	Si
Maschio 36	V SLU	607.499	SLU 83	Si
Maschio 36	PFFP	50.258	SLV 6	Si
Maschio 36	R	4.735	SLV 16	Si
Maschio 37	PF SLU	4.083	SLU 77	Si
Maschio 37	V SLU	3.507	SLU 84	Si
Maschio 37	PF	1.36	SLV 7	Si
Maschio 37	V	1.608	SLV 10	Si
Maschio 37	PFFP	20.061	SLV 5	Si
Maschio 37	R	2.609	SLV 7	Si
Maschio 38	PF SLU	2.133	SLU 84	Si
Maschio 38	V SLU	326.257	SLU 84	Si
Maschio 38	PFFP	38.558	SLV 11	Si
Maschio 38	R	5.298	SLV 2	Si
Maschio 39	PF SLU	2.05	SLU 52	Si
Maschio 39	V SLU	4.211	SLU 84	Si
Maschio 39	PF	0	SLV 7	No
Maschio 39	V	1.427	SLV 13	Si
Maschio 39	PFFP	0	SLV 7	No
Maschio 39	R	3.415	SLV 9	Si
Maschio 41	PF SLU	1.179	SLU 84	Si
Maschio 41	V SLU	2.147	SLU 84	Si
Maschio 41	PF	1.167	SLV 6	Si
Maschio 41	V	1.616	SLV 6	Si
Maschio 41	PFFP	36.111	SLV 11	Si
Maschio 41	R	1.646	SLV 6	Si
Maschio 42	PF SLU	2.287	SLU 84	Si
Maschio 42	V SLU	2.546	SLU 83	Si
Maschio 42	PF	0.351	SLV 11	No
Maschio 42	V	0.528	SLV 11	No
Maschio 42	PFFP	898.729	SLV 11	Si
Maschio 42	R	3.486	SLV 6	Si
Maschio 43	PF SLU	3.636	SLU 84	Si
Maschio 43	V SLU	3.723	SLU 83	Si
Maschio 43	PF	0.683	SLV 11	No
Maschio 43	V	0	SLV 11	No
Maschio 43	PFFP	312.348	SLV 11	Si
Maschio 43	R	5.041	SLV 6	Si
Maschio 44	PF SLU	1.018	SLU 83	Si
Maschio 44	V SLU	1.933	SLU 83	Si
Maschio 44	PF	0.541	SLV 7	No
Maschio 44	V	1.731	SLV 15	Si
Maschio 44	PFFP	10.408	SLV 7	Si
Maschio 44	R	6.679	SLV 13	Si
Maschio 45	PF SLU	7.149	SLU 82	Si
Maschio 45	V SLU	11.101	SLU 83	Si
Maschio 45	PF	2.086	SLV 7	Si
Maschio 45	V	2.336	SLV 7	Si
Maschio 45	PFFP	24.975	SLV 7	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 45	R	2.036	SLV 6	Si
Maschio 46	PF SLU	8.509	SLU 52	Si
Maschio 46	V SLU	5.201	SLU 84	Si
Maschio 46	PF	1.09	SLV 6	Si
Maschio 46	V	2.171	SLV 10	Si
Maschio 46	PFFP	27.069	SLV 6	Si
Maschio 46	R	1.437	SLV 11	Si
Maschio 48	PF SLU	2.529	SLU 77	Si
Maschio 48	V SLU	4.279	SLU 82	Si
Maschio 48	PF	1.556	SLV 11	Si
Maschio 48	V	1.222	SLV 2	Si
Maschio 48	PFFP	2.421	SLV 7	Si
Maschio 48	R	2.61	SLV 6	Si
Maschio 49	PF SLU	4.674	SLU 73	Si
Maschio 49	V SLU	2.888	SLU 83	Si
Maschio 49	PF	2.764	SLV 4	Si
Maschio 49	V	1.672	SLV 6	Si
Maschio 49	PFFP	0	SLV 7	No
Maschio 49	R	4.4	SLV 10	Si
Maschio 50	PF SLU	3.472	SLU 48	Si
Maschio 50	V SLU	4.42	SLU 83	Si
Maschio 50	PF	0.371	SLV 6	No
Maschio 50	V	3.795	SLV 3	Si
Maschio 50	PFFP	3.367	SLV 6	Si
Maschio 50	R	2.373	SLV 11	Si
Maschio 51	PF SLU	7.101	SLU 81	Si
Maschio 51	V SLU	2.245	SLU 77	Si
Maschio 51	PF	0	SLV 5	No
Maschio 51	V	1.553	SLV 11	Si
Maschio 51	PFFP	0	SLV 6	No
Maschio 51	R	2.238	SLV 11	Si
Maschio 52	PF SLU	6.536	SLU 52	Si
Maschio 52	V SLU	65.204	SLU 47	Si
Maschio 52	PF	1.383	SLV 6	Si
Maschio 52	V	2.369	SLV 7	Si
Maschio 52	PFFP	16.69	SLV 2	Si
Maschio 52	R	2.313	SLV 15	Si
Maschio 53	PF SLU	11.081	SLU 52	Si
Maschio 53	V SLU	16.248	SLU 83	Si
Maschio 53	PF	1.335	SLV 9	Si
Maschio 53	V	1.876	SLV 12	Si
Maschio 53	PFFP	8.694	SLV 15	Si
Maschio 53	R	1.752	SLV 1	Si
Maschio 54	PF SLU	31.316	SLU 34	Si
Maschio 54	V SLU	10.954	SLU 84	Si
Maschio 54	PF	0	SLV 5	No
Maschio 54	V	2.758	SLV 5	Si
Maschio 54	PFFP	0	SLV 10	No
Maschio 54	R	1.892	SLV 7	Si
Maschio 55	PF SLU	2.83	SLU 83	Si
Maschio 55	V SLU	2.671	SLU 83	Si
Maschio 55	PF	0	SLV 5	No
Maschio 55	V	1.546	SLV 16	Si
Maschio 55	PFFP	0	SLV 5	No
Maschio 55	R	1.374	SLV 12	Si
Maschio 56	PF SLU	2.35	SLU 81	Si
Maschio 56	V SLU	2.606	SLU 83	Si
Maschio 56	PF	0	SLV 7	No
Maschio 56	V	1.341	SLV 4	Si
Maschio 56	PFFP	0	SLV 12	No
Maschio 56	R	1.93	SLV 2	Si
Maschio 57	PF SLU	2.395	SLU 83	Si
Maschio 57	V SLU	2.666	SLU 84	Si
Maschio 57	PF	0.69	SLV 8	No
Maschio 57	V	1.538	SLV 13	Si
Maschio 57	PFFP	2.126	SLV 12	Si
Maschio 57	R	2.196	SLV 5	Si
Maschio 58	PF SLU	2.907	SLU 77	Si
Maschio 58	V SLU	5.322	SLU 77	Si
Maschio 58	PF	0.456	SLV 15	No
Maschio 58	V	1.478	SLV 13	Si
Maschio 58	PFFP	4.579	SLV 12	Si
Maschio 58	R	3.303	SLV 6	Si
Maschio 59	PF SLU	10.038	SLU 77	Si
Maschio 59	V SLU	9.229	SLU 73	Si
Maschio 59	PF	6.07	SLV 9	Si
Maschio 59	V	1.92	SLV 5	Si
Maschio 59	PFFP	5.642	SLV 9	Si
Maschio 59	R	1.183	SLV 4	Si
Maschio 60	PF SLU	2.903	SLU 84	Si
Maschio 60	V SLU	2.03	SLU 84	Si
Maschio 60	PF	0	SLD 5	No
Maschio 60	V	0.977	SLV 5	No
Maschio 60	PFFP	0	SLV 10	No
Maschio 60	R	0.999	SLV 12	No
Maschio 61	PF SLU	1.511	SLU 84	Si
Maschio 61	V SLU	68.419	SLU 70	Si
Maschio 61	PFFP	0	SLV 11	No
Maschio 61	R	1.941	SLV 9	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 62	PF SLU	5.241	SLU 81	Si
Maschio 62	V SLU	6.523	SLU 83	Si
Maschio 62	PF	1.16	SLV 12	Si
Maschio 62	V	2.726	SLV 11	Si
Maschio 62	PFFP	2.352	SLV 12	Si
Maschio 62	R	1.693	SLV 1	Si
Maschio 65	PF SLU	1.171	SLU 84	Si
Maschio 65	V SLU	2.62	SLU 84	Si
Maschio 65	PF	0.903	SLV 11	No
Maschio 65	V	2.389	SLV 13	Si
Maschio 65	PFFP	0	SLV 8	No
Maschio 65	R	2.37	SLV 6	Si
Maschio 69	PF SLU	12.379	SLU 44	Si
Maschio 69	V SLU	3.033	SLU 84	Si
Maschio 69	PF	2.132	SLV 12	Si
Maschio 69	V	3.035	SLV 5	Si
Maschio 69	PFFP	10.585	SLV 14	Si
Maschio 69	R	1.791	SLV 3	Si
Maschio 70	PF SLU	18.856	SLU 40	Si
Maschio 70	V SLU	7.371	SLU 84	Si
Maschio 70	PF	0	SLV 7	No
Maschio 70	V	2.142	SLV 9	Si
Maschio 70	PFFP	0	SLV 12	No
Maschio 70	R	1.537	SLV 6	Si
Maschio 71	PF SLU	19.747	SLU 40	Si
Maschio 71	V SLU	6.975	SLU 77	Si
Maschio 71	PF	0	SLV 11	No
Maschio 71	V	2.545	SLV 8	Si
Maschio 71	PFFP	8.369	SLV 11	Si
Maschio 71	R	1.878	SLV 6	Si
Maschio 72	PF SLU	14.108	SLU 69	Si
Maschio 72	V SLU	4.125	SLU 83	Si
Maschio 72	PF	1.612	SLV 7	Si
Maschio 72	V	1.316	SLV 8	Si
Maschio 72	PFFP	9.665	SLV 8	Si
Maschio 72	R	1.545	SLV 13	Si
Maschio 73	PF SLU	25.738	SLU 65	Si
Maschio 73	V SLU	6.696	SLU 84	Si
Maschio 73	PF	0.449	SLV 5	No
Maschio 73	V	1.449	SLV 1	Si
Maschio 73	PFFP	3.854	SLV 10	Si
Maschio 73	R	1.261	SLV 3	Si
Maschio 74	PF SLU	28.241	SLU 79	Si
Maschio 74	V SLU	24.32	SLU 84	Si
Maschio 74	PF	2.112	SLV 14	Si
Maschio 74	V	2.351	SLV 1	Si
Maschio 74	PFFP	5.536	SLV 10	Si
Maschio 74	R	1.409	SLV 7	Si
Maschio 75	PF SLU	16.517	SLU 81	Si
Maschio 75	V SLU	19.926	SLU 77	Si
Maschio 75	PF	1.88	SLV 10	Si
Maschio 75	V	2.383	SLV 3	Si
Maschio 75	PFFP	4.567	SLV 5	Si
Maschio 75	R	1.565	SLV 12	Si
Maschio 76	PF SLU	3.315	SLU 83	Si
Maschio 76	V SLU	7.681	SLU 82	Si
Maschio 76	PF	0.361	SLV 1	No
Maschio 76	V	1.786	SLV 3	Si
Maschio 76	PFFP	3.643	SLV 1	Si
Maschio 76	R	1.248	SLV 16	Si
Maschio 77	PF SLU	9.04	SLU 84	Si
Maschio 77	V SLU	6.372	SLU 69	Si
Maschio 77	PF	3.628	SLV 13	Si
Maschio 77	V	3.075	SLV 15	Si
Maschio 77	PFFP	13.426	SLV 16	Si
Maschio 77	R	1.226	SLV 1	Si
Maschio 78	PF SLU	4.972	SLU 84	Si
Maschio 78	V SLU	8.722	SLU 83	Si
Maschio 78	PF	2.353	SLV 2	Si
Maschio 78	V	2.509	SLV 4	Si
Maschio 78	PFFP	20.513	SLV 10	Si
Maschio 78	R	1.253	SLV 3	Si
Maschio 79	PF SLU	25.211	SLU 51	Si
Maschio 79	V SLU	854.596	SLU 83	Si
Maschio 79	PFFP	15.338	SLV 7	Si
Maschio 79	R	1.528	SLV 14	Si
Maschio 80	PF SLU	4.697	SLU 84	Si
Maschio 80	V SLU	6.432	SLU 70	Si
Maschio 80	PF	2.763	SLV 2	Si
Maschio 80	V	4.04	SLV 2	Si
Maschio 80	PFFP	15.637	SLV 4	Si
Maschio 80	R	1.249	SLV 15	Si
Maschio 81	PF SLU	24.861	SLU 71	Si
Maschio 81	V SLU	4.23	SLU 77	Si
Maschio 81	PF	0	SLV 7	No
Maschio 81	V	2.563	SLV 11	Si
Maschio 81	PFFP	1.437	SLV 8	Si
Maschio 81	R	1.73	SLV 6	Si
Maschio 82	PF SLU	11.663	SLU 81	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 82	V SLU	2.83	SLU 83	Si
Maschio 82	PF	0.935	SLV 11	No
Maschio 82	V	2.169	SLV 11	Si
Maschio 82	PFFP	17.89	SLV 8	Si
Maschio 82	R	1.867	SLV 9	Si
Maschio 84	PF SLU	9.069	SLU 81	Si
Maschio 84	V SLU	4.209	SLU 83	Si
Maschio 84	PF	7.348	SLV 9	Si
Maschio 84	V	1.1	SLV 11	Si
Maschio 84	PFFP	126.384	SLV 11	Si
Maschio 84	R	2.753	SLV 2	Si
Maschio 85	PF SLU	11.767	SLU 77	Si
Maschio 85	V SLU	4.309	SLU 83	Si
Maschio 85	PF	1.822	SLV 7	Si
Maschio 85	V	2.236	SLV 11	Si
Maschio 85	PFFP	22.419	SLV 3	Si
Maschio 85	R	1.97	SLV 14	Si
Maschio 88	PF SLU	11.452	SLU 82	Si
Maschio 88	V SLU	5.041	SLU 84	Si
Maschio 88	PF	1.719	SLV 6	Si
Maschio 88	V	1.714	SLV 10	Si
Maschio 88	PFFP	8.01	SLV 5	Si
Maschio 88	R	1.681	SLV 3	Si
Maschio 92	PF SLU	2.803	SLU 50	Si
Maschio 92	V SLU	59.373	SLU 78	Si
Maschio 92	PFFP	1.979	SLV 11	Si
Maschio 92	R	2.607	SLV 13	Si
Maschio 93	PF SLU	2.785	SLU 83	Si
Maschio 93	V SLU	4.111	SLU 83	Si
Maschio 93	PF	0	SLV 11	No
Maschio 93	V	1.763	SLV 15	Si
Maschio 93	PFFP	4.68	SLV 7	Si
Maschio 93	R	1.628	SLV 10	Si
Maschio 95	PF SLU	7.021	SLU 82	Si
Maschio 95	V SLU	4.089	SLU 83	Si
Maschio 95	PF	1.964	SLV 11	Si
Maschio 95	V	2.071	SLV 11	Si
Maschio 95	PFFP	4.775	SLV 11	Si
Maschio 95	R	1.53	SLV 14	Si
Maschio 96	PF SLU	6.004	SLU 83	Si
Maschio 96	V SLU	8.094	SLU 76	Si
Maschio 96	PF	3.95	SLV 12	Si
Maschio 96	V	2.847	SLV 6	Si
Maschio 96	PFFP	5.58	SLV 6	Si
Maschio 96	R	1.094	SLV 15	Si
Maschio 98	PF SLU	3.467	SLU 83	Si
Maschio 98	V SLU	6.066	SLU 81	Si
Maschio 98	PF	0.847	SLV 2	No
Maschio 98	V	1.715	SLV 2	Si
Maschio 98	PFFP	2.645	SLV 7	Si
Maschio 98	R	1.822	SLV 13	Si
Maschio 99	PF SLU	2.373	SLU 83	Si
Maschio 99	V SLU	2.464	SLU 84	Si
Maschio 99	PF	0.087	SLV 11	No
Maschio 99	V	1.41	SLV 2	Si
Maschio 99	PFFP	1.231	SLV 11	Si
Maschio 99	R	1.938	SLV 6	Si
Maschio 100	PF SLU	3.675	SLU 83	Si
Maschio 100	V SLU	2.89	SLU 83	Si
Maschio 100	PF	0	SLV 7	No
Maschio 100	V	1.326	SLV 15	Si
Maschio 100	PFFP	0	SLV 7	No
Maschio 100	R	2.018	SLV 13	Si
Maschio 101	PF SLU	3.369	SLU 43	Si
Maschio 101	V SLU	2.846	SLU 77	Si
Maschio 101	PF	0.368	SLV 10	No
Maschio 101	V	2.049	SLV 3	Si
Maschio 101	PFFP	0	SLV 6	No
Maschio 101	R	1.497	SLV 7	Si
Maschio 102	PF SLU	10.23	SLU 42	Si
Maschio 102	V SLU	7.027	SLU 84	Si
Maschio 102	PF	0	SLV 5	No
Maschio 102	V	2.618	SLV 14	Si
Maschio 102	PFFP	0	SLV 6	No
Maschio 102	R	1.826	SLV 12	Si
Maschio 103	PF SLU	10.094	SLU 52	Si
Maschio 103	V SLU	24.033	SLU 81	Si
Maschio 103	PF	1.366	SLV 6	Si
Maschio 103	V	0.636	SLV 6	No
Maschio 103	PFFP	7.776	SLV 2	Si
Maschio 103	R	1.656	SLV 16	Si
Maschio 104	PF SLU	21.212	SLU 52	Si
Maschio 104	V SLU	28.852	SLU 83	Si
Maschio 104	PF	2.577	SLV 9	Si
Maschio 104	V	2.61	SLV 8	Si
Maschio 104	PFFP	6.816	SLV 14	Si
Maschio 104	R	2.373	SLV 3	Si
Maschio 105	PF SLU	7.144	SLU 43	Si
Maschio 105	V SLU	32.245	SLU 40	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 105	PF	0	SLV 5	No
Maschio 105	V	2.57	SLV 5	Si
Maschio 105	PFFP	1.915	SLV 10	Si
Maschio 105	R	2.686	SLV 7	Si
Maschio 106	PF SLU	11.588	SLU 60	Si
Maschio 106	V SLU	7.333	SLU 81	Si
Maschio 106	PF	0	SLV 5	No
Maschio 106	V	3.765	SLV 16	Si
Maschio 106	PFFP	0	SLV 5	No
Maschio 106	R	1.6	SLV 12	Si
Maschio 107	PF SLU	7.658	SLU 39	Si
Maschio 107	V SLU	5.9	SLU 81	Si
Maschio 107	PF	0	SLV 11	No
Maschio 107	V	2.72	SLV 8	Si
Maschio 107	PFFP	2.383	SLV 11	Si
Maschio 107	R	2.185	SLV 2	Si
Maschio 108	PF SLU	8.204	SLU 81	Si
Maschio 108	V SLU	18.538	SLU 51	Si
Maschio 108	PF	2.124	SLV 8	Si
Maschio 108	V	2.893	SLV 13	Si
Maschio 108	PFFP	2.48	SLV 12	Si
Maschio 108	R	2.298	SLV 5	Si
Maschio 109	PF SLU	4.031	SLU 46	Si
Maschio 109	V SLU	14.833	SLU 84	Si
Maschio 109	PF	0.23	SLV 15	No
Maschio 109	V	2.535	SLV 13	Si
Maschio 109	PFFP	2.091	SLV 15	Si
Maschio 109	R	2.048	SLV 2	Si
Maschio 110	PF SLU	15.378	SLU 73	Si
Maschio 110	V SLU	11.857	SLU 44	Si
Maschio 110	PF	2.627	SLV 9	Si
Maschio 110	V	2.524	SLV 5	Si
Maschio 110	PFFP	3.349	SLV 9	Si
Maschio 110	R	1.696	SLV 3	Si
Maschio 111	PF SLU	5.406	SLU 69	Si
Maschio 111	V SLU	5.844	SLU 77	Si
Maschio 111	PF	0	SLD 5	No
Maschio 111	V	1.895	SLV 5	Si
Maschio 111	PFFP	0	SLV 10	No
Maschio 111	R	1.472	SLV 3	Si
Maschio 112	PF SLU	5.608	SLU 49	Si
Maschio 112	V SLU	19.886	SLU 70	Si
Maschio 112	PF	0.174	SLV 8	No
Maschio 112	V	1.779	SLV 4	Si
Maschio 112	PFFP	0	SLV 11	No
Maschio 112	R	2.13	SLV 13	Si
Maschio 113	PF SLU	5.819	SLU 69	Si
Maschio 113	V SLU	7.854	SLU 81	Si
Maschio 113	PF	1.417	SLV 12	Si
Maschio 113	V	2.998	SLV 11	Si
Maschio 113	PFFP	1.977	SLV 12	Si
Maschio 113	R	2.336	SLV 1	Si
Maschio 116	PF SLU	4.231	SLU 81	Si
Maschio 116	V SLU	3.084	SLU 83	Si
Maschio 116	PF	0	SLV 7	No
Maschio 116	V	1.911	SLV 13	Si
Maschio 116	PFFP	1.132	SLV 8	Si
Maschio 116	R	2.322	SLV 6	Si
Maschio 120	PF SLU	2.672	SLU 84	Si
Maschio 120	V SLU	5.986	SLU 84	Si
Maschio 120	PF	1.779	SLV 6	Si
Maschio 120	V	4.852	SLV 5	Si
Maschio 120	PFFP	4.579	SLV 10	Si
Maschio 120	R	2.607	SLV 3	Si
Maschio 121	PF SLU	9.664	SLU 84	Si
Maschio 121	V SLU	2.702	SLU 84	Si
Maschio 121	PF	3.81	SLV 11	Si
Maschio 121	V	1.702	SLV 9	Si
Maschio 121	PFFP	12.104	SLV 8	Si
Maschio 121	R	2.256	SLV 9	Si
Maschio 122	PF SLU	15.666	SLU 73	Si
Maschio 122	V SLU	6.446	SLU 84	Si
Maschio 122	PF	2.075	SLV 8	Si
Maschio 122	V	2.408	SLV 9	Si
Maschio 122	PFFP	14.88	SLV 11	Si
Maschio 122	R	2.812	SLV 9	Si
Maschio 124	PF SLU	14.376	SLU 77	Si
Maschio 124	V SLU	9.91	SLU 43	Si
Maschio 124	PF	3.098	SLV 11	Si
Maschio 124	V	1.753	SLV 8	Si
Maschio 124	PFFP	9.375	SLV 12	Si
Maschio 124	R	2.405	SLV 5	Si
Maschio 125	PF SLU	5.456	SLU 62	Si
Maschio 125	V SLU	3.345	SLU 83	Si
Maschio 125	PF	2.81	SLV 8	Si
Maschio 125	V	1.677	SLV 8	Si
Maschio 125	PFFP	8.359	SLV 12	Si
Maschio 125	R	1.745	SLV 2	Si
Maschio 126	PF SLU	8.84	SLU 48	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 126	V SLU	48.692	SLU 48	Si
Maschio 126	PF	0.839	SLV 16	No
Maschio 126	V	3.149	SLV 16	Si
Maschio 126	PFFP	3.834	SLV 14	Si
Maschio 126	R	1.956	SLV 3	Si
Maschio 127	PF SLU	56.355	SLU 80	Si
Maschio 127	V SLU	55.52	SLU 84	Si
Maschio 127	PF	3.236	SLV 14	Si
Maschio 127	V	2.969	SLV 1	Si
Maschio 127	PFFP	5.928	SLV 10	Si
Maschio 127	R	1.849	SLV 7	Si
Maschio 128	PF SLU	26.989	SLU 71	Si
Maschio 128	V SLU	17.849	SLU 81	Si
Maschio 128	PF	2.496	SLV 1	Si
Maschio 128	V	2.827	SLV 3	Si
Maschio 128	PFFP	6.167	SLV 5	Si
Maschio 128	R	1.96	SLV 12	Si
Maschio 129	PF SLU	7.205	SLU 71	Si
Maschio 129	V SLU	23.277	SLU 69	Si
Maschio 129	PF	0.45	SLV 3	No
Maschio 129	V	3.817	SLV 3	Si
Maschio 129	PFFP	1.614	SLV 3	Si
Maschio 129	R	1.741	SLV 14	Si
Maschio 130	PF SLU	8.215	SLU 84	Si
Maschio 130	V SLU	14.551	SLU 43	Si
Maschio 130	PF	4.724	SLV 14	Si
Maschio 130	V	5.161	SLV 15	Si
Maschio 130	PFFP	8.63	SLV 13	Si
Maschio 130	R	1.6	SLV 4	Si
Maschio 131	PF SLU	13.917	SLU 83	Si
Maschio 131	V SLU	23.709	SLU 83	Si
Maschio 131	PF	5.341	SLV 3	Si
Maschio 131	V	4.024	SLV 4	Si
Maschio 131	PFFP	13.192	SLV 12	Si
Maschio 131	R	1.481	SLV 1	Si
Maschio 132	PF SLU	17.847	SLU 44	Si
Maschio 132	V SLU	6736.228	SLU 83	Si
Maschio 132	PFFP	13.101	SLV 3	Si
Maschio 132	R	1.394	SLV 14	Si
Maschio 133	PF SLU	11.077	SLU 83	Si
Maschio 133	V SLU	9.257	SLU 83	Si
Maschio 133	PF	2.33	SLV 7	Si
Maschio 133	V	4.328	SLV 4	Si
Maschio 133	PFFP	12.019	SLV 11	Si
Maschio 133	R	1.56	SLV 16	Si
Maschio 134	PF SLU	8.655	SLU 43	Si
Maschio 134	V SLU	30.345	SLU 47	Si
Maschio 134	PF	0.968	SLV 2	No
Maschio 134	V	2.407	SLV 2	Si
Maschio 134	PFFP	10.048	SLV 4	Si
Maschio 134	R	1.415	SLV 13	Si
Maschio 135	PF SLU	10.711	SLU 48	Si
Maschio 135	V SLU	21.568	SLU 43	Si
Maschio 135	PF	4.643	SLV 2	Si
Maschio 135	V	7.521	SLV 4	Si
Maschio 135	PFFP	7.452	SLV 2	Si
Maschio 135	R	1.571	SLV 15	Si
Maschio 136	PF SLU	35.334	SLU 64	Si
Maschio 136	V SLU	84.545	SLU 43	Si
Maschio 136	PF	3.77	SLV 8	Si
Maschio 136	V	5.309	SLV 6	Si
Maschio 136	PFFP	22.868	SLV 11	Si
Maschio 136	R	2.04	SLV 6	Si
Maschio 137	PF SLU	34.586	SLU 79	Si
Maschio 137	V SLU	24.018	SLU 83	Si
Maschio 137	PF	1.606	SLV 11	Si
Maschio 137	V	6.469	SLV 15	Si
Maschio 137	PFFP	8.821	SLV 11	Si
Maschio 137	R	1.985	SLV 6	Si
Maschio 138	PF SLU	24.284	SLU 39	Si
Maschio 138	V SLU	2057.075	SLU 77	Si
Maschio 138	PFFP	6.349	SLV 11	Si
Maschio 138	R	1.559	SLV 2	Si
Maschio 141	PF SLU	4.17	SLU 82	Si
Maschio 141	V SLU	10.484	SLU 82	Si
Maschio 141	PF	0.492	SLV 10	No
Maschio 141	V	2.469	SLV 10	Si
Maschio 141	PFFP	0.487	SLV 10	No
Maschio 141	R	2.002	SLV 7	Si
Maschio 145	PF SLU	3.194	SLU 23	Si
Maschio 145	V SLU	538.074	SLU 82	Si
Maschio 145	PFFP	0	SLV 4	No
Maschio 145	R	3.13	SLV 13	Si
Maschio 147	PF SLU	10.981	SLU 72	Si
Maschio 147	V SLU	7.541	SLU 81	Si
Maschio 147	PF	4.583	SLV 7	Si
Maschio 147	V	2.414	SLV 11	Si
Maschio 147	PFFP	2.828	SLV 7	Si
Maschio 147	R	1.91	SLV 13	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 148	PF SLU	5.632	SLU 65	Si
Maschio 148	V SLU	21.231	SLU 81	Si
Maschio 148	PF	0.039	SLV 4	No
Maschio 148	V	2.028	SLV 2	Si
Maschio 148	PFFP	0	SLV 4	No
Maschio 148	R	2.342	SLV 13	Si
Maschio 149	PF SLU	9.999	SLU 81	Si
Maschio 149	V SLU	11.797	SLU 47	Si
Maschio 149	PF	5.667	SLV 10	Si
Maschio 149	V	2.858	SLV 6	Si
Maschio 149	PFFP	3.209	SLV 6	Si
Maschio 149	R	1.672	SLV 15	Si
Maschio 151	PF SLU	3.547	SLU 65	Si
Maschio 151	V SLU	12.103	SLU 81	Si
Maschio 151	PF	0.293	SLV 4	No
Maschio 151	V	2.285	SLV 2	Si
Maschio 151	PFFP	2.306	SLV 8	Si
Maschio 151	R	2.16	SLV 13	Si
Maschio 152	PF SLU	9.17	SLU 74	Si
Maschio 152	V SLU	9.268	SLU 65	Si
Maschio 152	PF	1.54	SLV 11	Si
Maschio 152	V	2.53	SLV 2	Si
Maschio 152	PFFP	2.339	SLV 7	Si
Maschio 152	R	2.294	SLV 10	Si
Maschio 153	PF SLU	9.891	SLU 41	Si
Maschio 153	V SLU	8.516	SLU 83	Si
Maschio 153	PF	0.61	SLV 11	No
Maschio 153	V	2.128	SLV 11	Si
Maschio 153	PFFP	3.295	SLV 8	Si
Maschio 153	R	2.241	SLV 13	Si
Maschio 154	PF SLU	16.598	SLU 81	Si
Maschio 154	V SLU	8.448	SLU 81	Si
Maschio 154	PF	0.686	SLV 10	No
Maschio 154	V	4.055	SLV 3	Si
Maschio 154	PFFP	0	SLV 10	No
Maschio 154	R	1.741	SLV 7	Si
Maschio 155	PF SLU	8.12	SLU 50	Si
Maschio 155	V SLU	17.28	SLU 42	Si
Maschio 155	PF	0	SLV 6	No
Maschio 155	V	2.967	SLV 10	Si
Maschio 155	PFFP	2.107	SLV 5	Si
Maschio 155	R	2.526	SLV 12	Si
Maschio 156	PF SLU	20.822	SLU 61	Si
Maschio 156	V SLU	67.742	SLU 39	Si
Maschio 156	PF	2.872	SLV 6	Si
Maschio 156	V	1.42	SLV 6	Si
Maschio 156	PFFP	6.178	SLV 1	Si
Maschio 156	R	2.234	SLV 16	Si
Maschio 157	PF SLU	32.052	SLU 61	Si
Maschio 157	V SLU	132.589	SLU 52	Si
Maschio 157	PF	5.805	SLV 6	Si
Maschio 157	V	3.781	SLV 5	Si
Maschio 157	PFFP	4.471	SLV 14	Si
Maschio 157	R	3.841	SLV 15	Si
Maschio 158	PF SLU	8.573	SLU 40	Si
Maschio 158	V SLU	17.252	SLU 42	Si
Maschio 158	PF	0.372	SLV 5	No
Maschio 158	V	3.268	SLV 5	Si
Maschio 158	PFFP	2.608	SLV 10	Si
Maschio 158	R	3.929	SLV 15	Si
Maschio 159	PF SLU	8.097	SLU 50	Si
Maschio 159	V SLU	21.274	SLU 81	Si
Maschio 159	PF	1.388	SLV 5	Si
Maschio 159	V	7.822	SLV 12	Si
Maschio 159	PFFP	1.547	SLV 5	Si
Maschio 159	R	2.757	SLV 8	Si
Maschio 160	PF SLU	6.982	SLU 39	Si
Maschio 160	V SLU	8.665	SLU 81	Si
Maschio 160	PF	1.057	SLV 8	Si
Maschio 160	V	3.511	SLV 8	Si
Maschio 160	PFFP	2.718	SLV 15	Si
Maschio 160	R	3.269	SLV 4	Si
Maschio 161	PF SLU	10.337	SLU 39	Si
Maschio 161	V SLU	24.823	SLU 51	Si
Maschio 161	PF	2.056	SLV 8	Si
Maschio 161	V	4.178	SLV 13	Si
Maschio 161	PFFP	1.975	SLV 12	Si
Maschio 161	R	3.552	SLV 6	Si
Maschio 162	PF SLU	3.888	SLU 44	Si
Maschio 162	V SLU	31.142	SLU 83	Si
Maschio 162	PF	0.164	SLV 13	No
Maschio 162	V	3.325	SLV 13	Si
Maschio 162	PFFP	1.576	SLV 15	Si
Maschio 162	R	3.115	SLV 2	Si
Maschio 163	PF SLU	12.647	SLU 52	Si
Maschio 163	V SLU	22.831	SLU 47	Si
Maschio 163	PF	2.937	SLV 10	Si
Maschio 163	V	3.695	SLV 5	Si
Maschio 163	PFFP	1.96	SLV 10	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 163	R	2.538	SLV 3	Si
Maschio 164	PF SLU	2.866	SLU 81	Si
Maschio 164	V SLU	8.414	SLU 77	Si
Maschio 164	PF	0	SLD 5	No
Maschio 164	V	4.008	SLV 12	Si
Maschio 164	PFFP	0	SLV 10	No
Maschio 164	R	2.11	SLV 1	Si
Maschio 165	PF SLU	3.498	SLU 65	Si
Maschio 165	V SLU	18.508	SLU 65	Si
Maschio 165	PF	0.312	SLV 15	No
Maschio 165	V	2.62	SLV 13	Si
Maschio 165	PFFP	0	SLV 15	No
Maschio 165	R	3.06	SLV 13	Si
Maschio 166	PF SLU	7.394	SLU 43	Si
Maschio 166	V SLU	20.354	SLU 81	Si
Maschio 166	PF	1.683	SLV 11	Si
Maschio 166	V	4.882	SLV 11	Si
Maschio 166	PFFP	0.789	SLV 11	No
Maschio 166	R	3.739	SLV 1	Si
Maschio 169	PF SLU	3.692	SLU 40	Si
Maschio 169	V SLU	4.224	SLU 82	Si
Maschio 169	PF	0.569	SLV 15	No
Maschio 169	V	2.449	SLV 13	Si
Maschio 169	PFFP	1.98	SLV 8	Si
Maschio 169	R	3.584	SLV 2	Si
Maschio 173	PF SLU	3.166	SLU 41	Si
Maschio 173	V SLU	19.87	SLU 84	Si
Maschio 173	PF	2.746	SLV 8	Si
Maschio 173	V	12.649	SLV 5	Si
Maschio 173	PFFP	1.85	SLV 5	Si
Maschio 173	R	5.902	SLV 15	Si
Maschio 174	PF SLU	7.814	SLU 40	Si
Maschio 174	V SLU	3.398	SLU 84	Si
Maschio 174	PF	4.095	SLV 9	Si
Maschio 174	V	2.201	SLV 9	Si
Maschio 174	PFFP	14.919	SLV 8	Si
Maschio 174	R	3.654	SLV 13	Si
Maschio 175	PF SLU	6.272	SLU 40	Si
Maschio 175	V SLU	5.797	SLU 82	Si
Maschio 175	PF	0.756	SLV 9	No
Maschio 175	V	3.051	SLV 9	Si
Maschio 175	PFFP	10.268	SLV 6	Si
Maschio 175	R	4.389	SLV 7	Si
Maschio 177	PF SLU	10.676	SLU 42	Si
Maschio 177	V SLU	23.556	SLU 42	Si
Maschio 177	PF	4.585	SLV 10	Si
Maschio 177	V	2.826	SLV 7	Si
Maschio 177	PFFP	4.504	SLV 11	Si
Maschio 177	R	3.629	SLV 1	Si
Maschio 178	PF SLU	7.671	SLU 28	Si
Maschio 178	V SLU	5.099	SLU 78	Si
Maschio 178	PF	1.804	SLV 11	Si
Maschio 178	V	2.438	SLV 10	Si
Maschio 178	PFFP	3.238	SLV 11	Si
Maschio 178	R	2.013	SLV 2	Si
Maschio 179	PF SLU	11.084	SLU 42	Si
Maschio 179	V SLU	100.411	SLU 42	Si
Maschio 179	PF	1.699	SLV 16	Si
Maschio 179	V	6.743	SLV 1	Si
Maschio 179	PFFP	3.279	SLV 14	Si
Maschio 179	R	2.712	SLV 11	Si
Maschio 180	PF SLU	140.583	SLU 30	Si
Maschio 180	V SLU	174.786	SLU 36	Si
Maschio 180	PF	2.997	SLV 1	Si
Maschio 180	V	3.964	SLV 1	Si
Maschio 180	PFFP	3.923	SLV 10	Si
Maschio 180	R	2.583	SLV 7	Si
Maschio 181	PF SLU	34.324	SLU 50	Si
Maschio 181	V SLU	36.525	SLU 81	Si
Maschio 181	PF	2.649	SLV 3	Si
Maschio 181	V	4.094	SLV 3	Si
Maschio 181	PFFP	4.403	SLV 1	Si
Maschio 181	R	2.695	SLV 16	Si
Maschio 182	PF SLU	12.942	SLU 38	Si
Maschio 182	V SLU	105.724	SLU 43	Si
Maschio 182	PF	1.976	SLV 3	Si
Maschio 182	V	9.856	SLV 3	Si
Maschio 182	PFFP	3.027	SLV 3	Si
Maschio 182	R	3.753	SLV 2	Si
Maschio 183	PF SLU	9.288	SLU 77	Si
Maschio 183	V SLU	40.601	SLU 44	Si
Maschio 183	PF	4.803	SLV 8	Si
Maschio 183	V	9.616	SLV 14	Si
Maschio 183	PFFP	4.726	SLV 13	Si
Maschio 183	R	2.325	SLV 4	Si
Maschio 184	PF SLU	27.451	SLU 20	Si
Maschio 184	V SLU	31.391	SLU 65	Si
Maschio 184	PF	2.847	SLV 15	Si
Maschio 184	V	5.154	SLV 14	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 184	PFFP	5.328	SLV 11	Si
Maschio 184	R	1.779	SLV 2	Si
Maschio 185	PF SLU	16.166	SLU 83	Si
Maschio 185	V SLU	5633.16	SLU 77	Si
Maschio 185	PFFP	7.887	SLV 3	Si
Maschio 185	R	1.576	SLV 16	Si
Maschio 186	PF SLU	7.34	SLU 39	Si
Maschio 186	V SLU	10.768	SLU 77	Si
Maschio 186	PF	1.399	SLV 3	Si
Maschio 186	V	4.031	SLV 3	Si
Maschio 186	PFFP	7.997	SLV 6	Si
Maschio 186	R	1.593	SLV 15	Si
Maschio 187	PF SLU	10.072	SLU 44	Si
Maschio 187	V SLU	24.143	SLU 51	Si
Maschio 187	PF	1.227	SLV 1	Si
Maschio 187	V	3.941	SLV 1	Si
Maschio 187	PFFP	5.677	SLV 4	Si
Maschio 187	R	1.951	SLV 15	Si
Maschio 188	PF SLU	11.673	SLU 35	Si
Maschio 188	V SLU	15.291	SLU 42	Si
Maschio 188	PF	4.741	SLV 14	Si
Maschio 188	V	9.807	SLV 14	Si
Maschio 188	PFFP	4.365	SLV 4	Si
Maschio 188	R	2.165	SLV 13	Si
Maschio 189	PF SLU	9.545	SLU 40	Si
Maschio 189	V SLU	5.871	SLU 82	Si
Maschio 189	PF	4.733	SLV 11	Si
Maschio 189	V	2.37	SLV 2	Si
Maschio 189	PFFP	7.072	SLV 15	Si
Maschio 189	R	2.952	SLV 2	Si
Maschio 190	PF SLU	9.237	SLU 16	Si
Maschio 190	V SLU	15.333	SLU 82	Si
Maschio 190	PF	2.021	SLV 15	Si
Maschio 190	V	3.39	SLV 2	Si
Maschio 190	PFFP	9.343	SLV 15	Si
Maschio 190	R	5.098	SLV 4	Si
Maschio 191	PF SLU	15.105	SLU 35	Si
Maschio 191	V SLU	5.427	SLU 78	Si
Maschio 191	PF	1.851	SLV 11	Si
Maschio 191	V	8.196	SLV 12	Si
Maschio 191	PFFP	2.182	SLV 11	Si
Maschio 191	R	2.816	SLV 6	Si
Maschio 192	PF SLU	3.844	SLU 28	Si
Maschio 192	V SLU	6.434	SLU 81	Si
Maschio 192	PF	1.188	SLV 9	Si
Maschio 192	V	4.903	SLV 8	Si
Maschio 192	PFFP	3.705	SLV 11	Si
Maschio 192	R	2.195	SLV 14	Si
Maschio 194	PF SLU	5.789	SLU 82	Si
Maschio 194	V SLU	50.315	SLU 35	Si
Maschio 194	PF	0.51	SLV 10	No
Maschio 194	V	4.09	SLV 10	Si
Maschio 194	PFFP	0	SLV 5	No
Maschio 194	R	2.995	SLV 11	Si
Maschio 198	PF SLU	2.631	SLU 82	Si
Maschio 198	V SLU	2.326	SLU 82	Si
Maschio 198	PF	0	SLD 1	No
Maschio 198	V	0.706	SLV 2	No
Maschio 198	PFFP	0	SLV 12	No
Maschio 198	R	3.494	SLV 13	Si
Maschio 200	PF SLU	8.595	SLU 50	Si
Maschio 200	V SLU	25.565	SLU 43	Si
Maschio 200	PF	2.778	SLV 8	Si
Maschio 200	V	3.365	SLV 8	Si
Maschio 200	PFFP	2.003	SLV 4	Si
Maschio 200	R	2.806	SLV 13	Si
Maschio 201	PF SLU	4.638	SLU 65	Si
Maschio 201	V SLU	12.622	SLU 65	Si
Maschio 201	PF	0	SLD 1	No
Maschio 201	V	1.72	SLV 2	Si
Maschio 201	PFFP	0	SLV 6	No
Maschio 201	R	3.564	SLV 10	Si
Maschio 202	PF SLU	13.427	SLU 82	Si
Maschio 202	V SLU	24.611	SLU 51	Si
Maschio 202	PF	2.851	SLV 5	Si
Maschio 202	V	3.593	SLV 5	Si
Maschio 202	PFFP	2.389	SLV 5	Si
Maschio 202	R	2.389	SLV 16	Si
Maschio 204	PF SLU	4.418	SLU 65	Si
Maschio 204	V SLU	52.183	SLU 62	Si
Maschio 204	PF	0	SLV 1	No
Maschio 204	V	2.5	SLV 2	Si
Maschio 204	PFFP	0	SLV 1	No
Maschio 204	R	2.619	SLV 15	Si
Maschio 205	PF SLU	10.393	SLU 41	Si
Maschio 205	V SLU	22.747	SLU 44	Si
Maschio 205	PF	1.141	SLV 11	Si
Maschio 205	V	3.866	SLV 2	Si
Maschio 205	PFFP	1.893	SLV 7	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 205	R	3.464	SLV 9	Si
Maschio 206	PF SLU	6.147	SLU 41	Si
Maschio 206	V SLU	10.292	SLU 83	Si
Maschio 206	PF	1.28	SLV 11	Si
Maschio 206	V	2.937	SLV 11	Si
Maschio 206	PFFP	2.79	SLV 4	Si
Maschio 206	R	3.359	SLV 15	Si
Maschio 207	PF SLU	12.027	SLU 50	Si
Maschio 207	V SLU	43.23	SLU 43	Si
Maschio 207	PF	2.588	SLV 10	Si
Maschio 207	V	11.295	SLV 3	Si
Maschio 207	PFFP	2.518	SLV 10	Si
Maschio 207	R	2.893	SLV 11	Si
Maschio 208	PF SLU	5.479	SLU 40	Si
Maschio 208	V SLU	11.079	SLU 84	Si
Maschio 208	PF	1.263	SLV 10	Si
Maschio 208	V	3.783	SLV 10	Si
Maschio 208	PFFP	3.025	SLV 9	Si
Maschio 208	R	3.832	SLV 4	Si
Maschio 209	PF SLU	39.444	SLU 61	Si
Maschio 209	V SLU	34.011	SLU 52	Si
Maschio 209	PF	6.558	SLV 9	Si
Maschio 209	V	2.042	SLV 6	Si
Maschio 209	PFFP	3.969	SLV 1	Si
Maschio 209	R	3.578	SLV 4	Si
Maschio 210	PF SLU	16.209	SLU 51	Si
Maschio 210	V SLU	164.829	SLU 59	Si
Maschio 210	PF	4.469	SLV 11	Si
Maschio 210	V	8.854	SLV 5	Si
Maschio 210	PFFP	2.194	SLV 2	Si
Maschio 210	R	12.666	SLV 3	Si
Maschio 211	PF SLU	6.342	SLU 40	Si
Maschio 211	V SLU	13.528	SLU 78	Si
Maschio 211	PF	0.645	SLV 9	No
Maschio 211	V	5.056	SLV 9	Si
Maschio 211	PFFP	1.535	SLV 5	Si
Maschio 211	R	7.061	SLV 15	Si
Maschio 212	PF SLU	1.418	SLU 60	Si
Maschio 212	V SLU	30.944	SLU 69	Si
Maschio 212	PF	0	SLV 14	No
Maschio 212	V	10.909	SLV 12	Si
Maschio 212	PFFP	0	SLV 9	No
Maschio 212	R	8.59	SLV 3	Si
Maschio 213	PF SLU	5.353	SLU 39	Si
Maschio 213	V SLU	10.839	SLU 81	Si
Maschio 213	PF	0.334	SLV 8	No
Maschio 213	V	4.197	SLV 8	Si
Maschio 213	PFFP	1.398	SLV 11	Si
Maschio 213	R	6.233	SLV 14	Si
Maschio 214	PF SLU	15.55	SLU 44	Si
Maschio 214	V SLU	37.475	SLU 49	Si
Maschio 214	PF	1.292	SLV 8	Si
Maschio 214	V	6.138	SLV 9	Si
Maschio 214	PFFP	1.163	SLV 13	Si
Maschio 214	R	9.728	SLV 5	Si
Maschio 215	PF SLU	2.989	SLU 44	Si
Maschio 215	V SLU	76.485	SLU 44	Si
Maschio 215	PF	0	SLV 9	No
Maschio 215	V	5.191	SLV 9	Si
Maschio 215	PFFP	0	SLV 3	No
Maschio 215	R	6.041	SLV 8	Si
Maschio 216	PF SLU	2.364	SLU 51	Si
Maschio 216	V SLU	25.8	SLU 51	Si
Maschio 216	PF	0.914	SLV 10	No
Maschio 216	V	4.675	SLV 5	Si
Maschio 216	PFFP	0.98	SLV 10	No
Maschio 216	R	10.064	SLV 16	Si
Maschio 218	PF SLU	1.284	SLU 82	Si
Maschio 218	V SLU	12.697	SLU 73	Si
Maschio 218	PF	0	SLV 13	No
Maschio 218	V	3.682	SLV 13	Si
Maschio 218	PFFP	0	SLV 16	No
Maschio 218	R	10.111	SLV 2	Si
Maschio 219	PF SLU	4.055	SLU 38	Si
Maschio 219	V SLU	42.639	SLU 61	Si
Maschio 219	PF	2.379	SLV 10	Si
Maschio 219	V	13.949	SLV 11	Si
Maschio 219	PFFP	0.628	SLV 12	No
Maschio 219	R	20.16	SLV 2	Si
Maschio 221	PF SLU	1.442	SLU 40	Si
Maschio 221	V SLU	5.029	SLU 82	Si
Maschio 221	PF	0.427	SLV 15	No
Maschio 221	V	3.506	SLV 13	Si
Maschio 221	PFFP	0	SLV 8	No
Maschio 221	R	9.285	SLV 1	Si
Maschio 223	PF SLU	13.032	SLU 83	Si
Maschio 223	V SLU	392.079	SLU 72	Si
Maschio 223	PF	2.069	SLV 5	Si
Maschio 223	V	49.071	SLV 8	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 223	PFFP	0.814	SLV 6	No
Maschio 223	R	21.364	SLV 15	Si
Maschio 224	PF SLU	1.987	SLU 38	Si
Maschio 224	V SLU	6.206	SLU 78	Si
Maschio 224	PF	0.868	SLV 13	No
Maschio 224	V	2.969	SLV 10	Si
Maschio 224	PFFP	1.04	SLV 11	Si
Maschio 224	R	11.253	SLV 2	Si
Maschio 225	PF SLU	5.949	SLU 78	Si
Maschio 225	V SLU	11.113	SLU 78	Si
Maschio 225	PF	0	SLD 1	No
Maschio 225	V	2.586	SLV 5	Si
Maschio 225	PFFP	0	SLV 10	No
Maschio 225	R	4.536	SLV 12	Si
Maschio 226	PF SLU	23.548	SLU 38	Si
Maschio 226	V SLU	107.498	SLU 78	Si
Maschio 226	PF	3.332	SLV 16	Si
Maschio 226	V	7.247	SLV 1	Si
Maschio 226	PFFP	2.428	SLV 10	Si
Maschio 226	R	7.292	SLV 3	Si
Maschio 227	PF SLU	20.166	SLU 60	Si
Maschio 227	V SLU	50.516	SLU 81	Si
Maschio 227	PF	2.975	SLV 3	Si
Maschio 227	V	7.623	SLV 3	Si
Maschio 227	PFFP	2.321	SLV 1	Si
Maschio 227	R	7.884	SLV 16	Si
Maschio 228	PF SLU	3.654	SLU 80	Si
Maschio 228	V SLU	7.973	SLU 80	Si
Maschio 228	PF	0	SLD 10	No
Maschio 228	V	4.217	SLV 10	Si
Maschio 228	PFFP	0	SLV 14	No
Maschio 228	R	5.036	SLV 7	Si
Maschio 229	PF SLU	3.839	SLU 79	Si
Maschio 229	V SLU	14.051	SLU 35	Si
Maschio 229	PF	1.386	SLV 10	Si
Maschio 229	V	15.869	SLV 7	Si
Maschio 229	PFFP	1.833	SLV 9	Si
Maschio 229	R	5.39	SLV 7	Si
Maschio 230	PF SLU	23.084	SLU 28	Si
Maschio 230	V SLU	32.377	SLU 73	Si
Maschio 230	PF	0.378	SLV 11	No
Maschio 230	V	7.454	SLV 13	Si
Maschio 230	PFFP	1.859	SLV 11	Si
Maschio 230	R	2.454	SLV 6	Si
Maschio 231	PF SLU	2.404	SLU 39	Si
Maschio 231	V SLU	22.541	SLU 83	Si
Maschio 231	PF	0.167	SLV 6	No
Maschio 231	V	3.651	SLV 11	Si
Maschio 231	PFFP	5.589	SLV 15	Si
Maschio 231	R	3.649	SLV 4	Si
Maschio 232	PF SLU	4.269	SLU 39	Si
Maschio 232	V SLU	12.98	SLU 77	Si
Maschio 232	PF	0.237	SLV 2	No
Maschio 232	V	5.661	SLV 3	Si
Maschio 232	PFFP	1.068	SLV 6	Si
Maschio 232	R	2.274	SLV 11	Si
Maschio 233	PF SLU	9.023	SLU 44	Si
Maschio 233	V SLU	29.27	SLU 51	Si
Maschio 233	PF	1	SLV 1	Si
Maschio 233	V	6.103	SLV 1	Si
Maschio 233	PFFP	2.924	SLV 4	Si
Maschio 233	R	2.596	SLV 13	Si
Maschio 234	PF SLU	12.317	SLU 48	Si
Maschio 234	V SLU	10.627	SLU 78	Si
Maschio 234	PF	3.581	SLV 16	Si
Maschio 234	V	14.479	SLV 14	Si
Maschio 234	PFFP	3.57	SLV 3	Si
Maschio 234	R	3.883	SLV 2	Si
Maschio 235	PF SLU	1.228	SLU 69	Si
Maschio 235	V SLU	7.335	SLU 78	Si
Maschio 235	PF	0	SLD 1	No
Maschio 235	V	7.971	SLV 6	Si
Maschio 235	PFFP	0	SLV 3	No
Maschio 235	R	10.311	SLV 13	Si
Maschio 236	PF SLU	1.055	SLU 36	Si
Maschio 236	V SLU	14.963	SLU 78	Si
Maschio 236	PF	0	SLV 7	No
Maschio 236	V	7.395	SLV 9	Si
Maschio 236	PFFP	1.059	SLV 11	Si
Maschio 236	R	5.543	SLV 6	Si
Maschio 238	PF SLU	4.372	SLU 77	Si
Maschio 238	V SLU	8.23	SLU 77	Si
Maschio 238	PF	0	SLV 5	No
Maschio 238	V	6.507	SLV 7	Si
Maschio 238	PFFP	0	SLV 5	No
Maschio 238	R	12.722	SLV 11	Si
Maschio 240	PF SLU	4.949	SLU 82	Si
Maschio 240	V SLU	3.699	SLU 82	Si
Maschio 240	PF	0	SLV 1	No

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 240	V	1.226	SLV 2	Si
Maschio 240	PFFP	0	SLV 12	No
Maschio 240	R	7.767	SLV 6	Si
Maschio 241	PF SLU	3.159	SLU 80	Si
Maschio 241	V SLU	26.198	SLU 36	Si
Maschio 241	PF	1.529	SLV 9	Si
Maschio 241	V	5.474	SLV 9	Si
Maschio 241	PFFP	0.852	SLV 3	No
Maschio 241	R	15.453	SLV 13	Si
Maschio 242	PF SLU	7.474	SLU 73	Si
Maschio 242	V SLU	6.079	SLU 82	Si
Maschio 242	PF	0	SLD 1	No
Maschio 242	V	1.245	SLV 6	Si
Maschio 242	PFFP	0	SLV 10	No
Maschio 242	R	8.741	SLV 15	Si
Maschio 243	PF SLU	1.852	SLU 50	Si
Maschio 243	V SLU	15.718	SLU 50	Si
Maschio 243	PF	1.651	SLV 3	Si
Maschio 243	V	8.495	SLV 9	Si
Maschio 243	PFFP	1.682	SLV 5	Si
Maschio 243	R	8.421	SLV 3	Si
Maschio 245	PF SLU	2.662	SLU 65	Si
Maschio 245	V SLU	40.47	SLU 65	Si
Maschio 245	PF	0	SLD 2	No
Maschio 245	V	3.443	SLV 6	Si
Maschio 245	PFFP	0	SLV 15	No
Maschio 245	R	4.73	SLV 11	Si
Maschio 246	PF SLU	8.294	SLU 44	Si
Maschio 246	V SLU	31.758	SLU 44	Si
Maschio 246	PF	1.587	SLV 11	Si
Maschio 246	V	6.401	SLV 11	Si
Maschio 246	PFFP	1.136	SLV 4	Si
Maschio 246	R	9.581	SLV 10	Si
Maschio 247	PF SLU	3.236	SLU 41	Si
Maschio 247	V SLU	13.584	SLU 81	Si
Maschio 247	PF	0.734	SLV 11	No
Maschio 247	V	4.954	SLV 11	Si
Maschio 247	PFFP	1.228	SLV 7	Si
Maschio 247	R	9.364	SLV 15	Si
Maschio 248	PF SLU	14.546	SLU 43	Si
Maschio 248	V SLU	61.838	SLU 38	Si
Maschio 248	PF	0	SLV 5	No
Maschio 248	V	13.873	SLV 6	Si
Maschio 248	PFFP	0	SLV 1	No
Maschio 248	R	5.868	SLV 16	Si
Maschio 249	PF SLU	2.726	SLU 40	Si
Maschio 249	V SLU	10.34	SLU 78	Si
Maschio 249	PF	1.109	SLV 10	Si
Maschio 249	V	6.114	SLV 10	Si
Maschio 249	PFFP	1.296	SLV 10	Si
Maschio 249	R	8.375	SLV 2	Si
Maschio 250	PF SLU	83.808	SLU 60	Si
Maschio 250	V SLU	49.804	SLU 60	Si
Maschio 250	PF	7.644	SLV 6	Si
Maschio 250	V	5.135	SLV 10	Si
Maschio 250	PFFP	1.538	SLV 15	Si
Maschio 250	R	13.385	SLV 4	Si
Maschio 253	PF SLU	6.057	SLU 39	Si
Maschio 253	V SLU	5.428	SLU 82	Si
Maschio 253	PF	2.826	SLV 9	Si
Maschio 253	V	3.126	SLV 9	Si
Maschio 253	PFFP	2.544	SLV 4	Si
Maschio 253	R	10.884	SLV 4	Si
Maschio 254	PF SLU	5.679	SLU 65	Si
Maschio 254	V SLU	13.662	SLU 82	Si
Maschio 254	PF	1.217	SLV 6	Si
Maschio 254	V	3.992	SLV 2	Si
Maschio 254	PFFP	2.118	SLV 13	Si
Maschio 254	R	11.225	SLV 15	Si
Maschio 261	PF SLU	2.504	SLU 84	Si
Maschio 261	V SLU	4.892	SLU 84	Si
Maschio 261	PF	0	SLV 7	No
Maschio 261	V	4.269	SLV 10	Si
Maschio 261	PFFP	0	SLV 12	No
Maschio 261	R	1.256	SLV 9	Si
Maschio 262	PF SLU	2.225	SLU 84	Si
Maschio 262	V SLU	3.735	SLU 84	Si
Maschio 262	PF	0	SLD 11	No
Maschio 262	V	1.659	SLV 15	Si
Maschio 262	PFFP	0	SLV 12	No
Maschio 262	R	1.242	SLV 9	Si
Maschio 265	PF SLU	3.726	SLU 84	Si
Maschio 265	V SLU	6.438	SLU 84	Si
Maschio 265	PF	0	SLV 4	No
Maschio 265	V	1.578	SLV 13	Si
Maschio 265	PFFP	0	SLV 8	No
Maschio 265	R	1.65	SLV 2	Si
Maschio 266	PF SLU	2.042	SLU 84	Si
Maschio 266	V SLU	3.556	SLU 84	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 266	PF	0.267	SLV 4	No
Maschio 266	V	1.354	SLV 13	Si
Maschio 266	PFFP	2.912	SLV 11	Si
Maschio 266	R	1.408	SLV 9	Si
Maschio 271	PF SLU	4.991	SLU 84	Si
Maschio 271	V SLU	4.211	SLU 84	Si
Maschio 271	PF	0	SLD 13	No
Maschio 271	V	1.868	SLV 13	Si
Maschio 271	PFFP	4.12	SLV 8	Si
Maschio 271	R	1.977	SLV 4	Si
Maschio 272	PF SLU	3.11	SLU 84	Si
Maschio 272	V SLU	5.986	SLU 84	Si
Maschio 272	PF	0	SLV 15	No
Maschio 272	V	1.888	SLV 13	Si
Maschio 272	PFFP	2.079	SLV 15	Si
Maschio 272	R	1.888	SLV 13	Si
Maschio 276	PF SLU	3.187	SLU 83	Si
Maschio 276	V SLU	2.334	SLU 84	Si
Maschio 276	PF	0	SLV 7	No
Maschio 276	V	0.763	SLV 15	No
Maschio 276	PFFP	0	SLV 12	No
Maschio 276	R	3.117	SLV 6	Si
Maschio 278	PF SLU	2.45	SLU 40	Si
Maschio 278	V SLU	4.271	SLU 84	Si
Maschio 278	PF	0	SLD 9	No
Maschio 278	V	2.228	SLV 13	Si
Maschio 278	PFFP	0	SLV 5	No
Maschio 278	R	4.994	SLV 13	Si
Maschio 279	PF SLU	2.627	SLU 40	Si
Maschio 279	V SLU	7.545	SLU 78	Si
Maschio 279	PF	0	SLD 4	No
Maschio 279	V	1.944	SLV 4	Si
Maschio 279	PFFP	1.225	SLV 9	Si
Maschio 279	R	5.612	SLV 4	Si
Maschio 283	PF SLU	14.919	SLU 69	Si
Maschio 283	V SLU	61.122	SLU 83	Si
Maschio 283	PFFP	2.307	SLV 7	Si
Maschio 283	R	0.53	SLV 14	No

Verifica maschi in muratura

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
1	PF	1.051	SLV 12	0.256	1.048	545	1.058	Si
	V	3.985	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.387	SLV 12	0.332	1.358	1209	1.467	Si
	R	1.562	SLV 1	0.362	1.483	1618	1.653	Si
2	PF	0.822	SLV 9	0.205	0.84	299	0.827	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.955	SLV 9	0.235	0.96	426	0.956	No
	R	1.658	SLV 8	0.362	1.483	1618	1.653	Si
3	PF	0.918	SLV 9	0.226	0.926	387	0.919	No
	V	2.235	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	0.879	SLV 9	0.218	0.891	350	0.882	No
	R	1.724	SLV 8	0.362	1.483	1618	1.653	Si
4	PF	1.006	SLV 9	0.246	1.006	483	1.007	Si
	V	3.711	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	1.117	SLV 9	0.271	1.109	646	1.134	Si
	R	1.726	SLV 8	0.362	1.483	1618	1.653	Si
6	PF	1.067	SLV 9	0.26	1.062	569	1.077	Si
	V	2.165	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	2.095	SLV 9	0.362	1.483	1618	1.653	Si
	R	1.499	SLV 8	0.357	1.46	1538	1.619	Si
8	PF	0.961	SLV 12	0.236	0.965	432	0.962	No
	V	1.759	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.848	SLV 12	0.211	0.863	321	0.852	No
	R	2.244	SLV 5	0.362	1.483	1618	1.653	Si
9	PF	1.184	SLV 8	0.286	1.17	760	1.213	Si
	V	1.133	SLV 13	0.275	1.124	673	1.154	Si
	PFFP	1.133	SLV 12	0.274	1.123	672	1.153	Si
	R	1.806	SLV 5	0.362	1.483	1618	1.653	Si
10	PF	0.97	SLV 8	0.238	0.973	441	0.97	No
	V	2.066	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.469	SLV 12	0.35	1.433	1444	1.578	Si
	R	1.213	SLV 9	0.292	1.197	813	1.247	Si
12	PF	1.27	SLV 12	0.305	1.25	925	1.314	Si
	V	1.066	SLV 12	0.259	1.062	567	1.075	Si
	PFFP	1.662	SLV 12	0.362	1.483	1618	1.653	Si
	R	2.112	SLV 5	0.362	1.483	1618	1.653	Si
13	PF	0.888	SLV 5	0.22	0.9	359	0.892	No
	V	2.38	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.876	SLV 9	0.217	0.889	347	0.879	No
	R	1.646	SLV 8	0.362	1.483	1618	1.653	Si
15	PF	0.632	SLV 12	0.157	0.644	154	0.63	No
	V	1.426	SLV 2	0.341	1.394	1318	1.52	Si
	PFFP	0.829	SLV 8	0.207	0.845	304	0.833	No
	R	2.327	SLV 10	0.362	1.483	1618	1.653	Si
16	PF	1.231	SLV 9	0.297	1.214	847	1.268	Si
	V	1.707	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	3.504	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.958	SLV 8	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
17	PF	0.79	SLV 8	0.198	0.809	271	0.794	No
	V	2.303	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	0.966	SLV 8	0.237	0.97	437	0.966	No
	R	1.403	SLV 9	0.335	1.373	1253	1.488	Si
18	PF	0.663	SLV 8	0.166	0.68	174	0.662	No
	V	0.658	SLV 8	0.165	0.674	171	0.658	No
	PFFP	0.837	SLV 8	0.208	0.853	311	0.841	No
	R	1.77	SLV 8	0.362	1.483	1618	1.653	Si
19	PF	1.13	SLV 8	0.274	1.121	668	1.15	Si
	V	1.767	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	3.89	SLV 8	0.362	1.483	1618	1.653	Si
	R	2.032	SLV 9	0.362	1.483	1618	1.653	Si
21	PF	2.567	SLV 14	0.362	1.483	1618	1.653	Si
	V	3.753	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
22	PF	1.118	SLV 10	0.271	1.11	648	1.136	Si
	V	2.025	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1.15	SLV 9	0.278	1.139	701	1.173	Si
	R	1.503	SLV 7	0.358	1.464	1550	1.624	Si
23	PF	2.354	SLV 15	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.784	SLV 16	0.362	1.483	1618	1.653	Si
	R	1.537	SLV 1	0.362	1.483	1618	1.653	Si
24	PF	1.92	SLV 9	0.362	1.483	1618	1.653	Si
	V	3.798	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.527	SLV 3	0.362	1.483	1618	1.653	Si
27	PF	3.034	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.794	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.586	SLV 10	0.362	1.483	1618	1.653	Si
29	PF	2.715	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.731	SLV 14	0.362	1.483	1618	1.653	Si
30	PF	0.815	SLV 8	0.203	0.833	292	0.819	No
	V	3.767	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.033	SLV 7	0.252	1.031	519	1.037	Si
	R	1.23	SLV 9	0.296	1.212	845	1.266	Si
31	PF	1.388	SLV 7	0.332	1.359	1212	1.468	Si
	V	1.799	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.31	SLV 7	0.362	1.483	1618	1.653	Si
	R	2.079	SLV 9	0.362	1.483	1618	1.653	Si
33	PF	1.072	SLV 6	0.261	1.067	576	1.082	Si
	V	0.928	SLV 11	0.229	0.936	398	0.93	No
	PFFP	2.892	SLV 6	0.362	1.483	1618	1.653	Si
	R	1.307	SLV 15	0.314	1.284	1006	1.36	Si
34	PF	1.074	SLV 5	0.261	1.069	579	1.085	Si
	V	1.778	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.033	SLV 6	0.252	1.031	519	1.037	Si
	R	1.232	SLV 11	0.297	1.214	849	1.269	Si
35	PF	0.976	SLV 6	0.239	0.978	447	0.975	No
	V	3.63	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	1.043	SLV 5	0.254	1.04	534	1.049	Si
	R	2.087	SLV 7	0.362	1.483	1618	1.653	Si
37	PF	1.217	SLV 6	0.293	1.201	820	1.251	Si
	V	1.864	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	2.079	SLV 5	0.362	1.483	1618	1.653	Si
	R	2.031	SLV 7	0.362	1.483	1618	1.653	Si
39	PF	0.659	SLV 8	0.165	0.674	171	0.658	No
	V	1.586	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.968	SLV 8	0.237	0.971	439	0.968	No
	R	2.368	SLV 9	0.362	1.483	1618	1.653	Si
41	PF	1.151	SLV 11	0.279	1.14	702	1.174	Si
	V	1.452	SLV 6	0.346	1.418	1394	1.555	Si
	PFFP	1.427	SLV 11	0.341	1.395	1321	1.521	Si
	R	1.455	SLV 6	0.347	1.42	1402	1.559	Si
42	PF	0.959	SLV 11	0.235	0.963	429	0.959	No
	V	0.911	SLV 11	0.225	0.921	381	0.914	No
	PFFP	1.444	SLV 11	0.345	1.41	1370	1.544	Si
	R	3.005	SLV 6	0.362	1.483	1618	1.653	Si
43	PF	0.962	SLV 11	0.236	0.966	433	0.963	No
	V	0.871	SLV 11	0.216	0.884	342	0.874	No
	PFFP	1.06	SLV 11	0.258	1.056	558	1.068	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
44	PF	0.309	SLV 11	0.081	0.332	31	0.327	No
	V	2.158	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.551	SLV 7	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
45	PF	1.43	SLV 7	0.341	1.397	1329	1.525	Si
	V	1.938	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.081	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.664	SLV 6	0.362	1.483	1618	1.653	Si
46	PF	1.046	SLV 6	0.255	1.043	538	1.052	Si
	V	2.584	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.678	SLV 6	0.362	1.483	1618	1.653	Si
	R	1.317	SLV 11	0.316	1.293	1030	1.373	Si
48	PF	1.061	SLV 11	0.258	1.057	560	1.07	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	1.323	SLV 2	0.317	1.299	1045	1.382	Si
	PFFP	1.059	SLV 7	0.258	1.055	556	1.067	Si
	R	1.854	SLV 6	0.362	1.483	1618	1.653	Si
49	PF	1.057	SLV 7	0.257	1.053	554	1.065	Si
	V	2.13	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	0.951	SLV 7	0.234	0.956	422	0.953	No
	R	2.609	SLV 10	0.362	1.483	1618	1.653	Si
50	PF	0.918	SLV 6	0.226	0.926	387	0.919	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.066	SLV 6	0.259	1.062	567	1.075	Si
	R	1.815	SLV 11	0.362	1.483	1618	1.653	Si
51	PF	0.804	SLV 6	0.201	0.822	282	0.808	No
	V	1.825	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	0.832	SLV 6	0.207	0.849	307	0.836	No
	R	1.696	SLV 11	0.362	1.483	1618	1.653	Si
52	PF	1.372	SLV 6	0.328	1.344	1169	1.447	Si
	V	1.173	SLV 7	0.283	1.16	740	1.199	Si
	PFFP	1.963	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.882	SLV 15	0.362	1.483	1618	1.653	Si
53	PF	1.327	SLV 9	0.318	1.303	1054	1.387	Si
	V	1.696	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	2.064	SLV 15	0.362	1.483	1618	1.653	Si
	R	1.536	SLV 1	0.362	1.483	1618	1.653	Si
54	PF	0.645	SLV 5	0.161	0.66	162	0.643	No
	V	2.985	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.855	SLV 9	0.212	0.87	328	0.859	No
	R	1.526	SLV 7	0.362	1.483	1618	1.653	Si
55	PF	0.855	SLV 5	0.212	0.87	328	0.859	No
	V	1.849	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	0.944	SLV 9	0.232	0.95	414	0.945	No
	R	1.234	SLV 12	0.297	1.216	852	1.271	Si
56	PF	0.41	SLV 8	0.105	0.43	58	0.422	No
	V	1.487	SLV 4	0.354	1.45	1500	1.602	Si
	PFFP	0.84	SLV 11	0.209	0.856	315	0.845	No
	R	1.568	SLV 6	0.362	1.483	1618	1.653	Si
57	PF	0.9	SLV 8	0.222	0.91	369	0.902	No
	V	1.754	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.139	SLV 12	0.276	1.129	682	1.16	Si
	R	1.713	SLV 5	0.362	1.483	1618	1.653	Si
58	PF	0.58	SLV 15	0.137	0.562	112	0.553	No
	V	1.583	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.222	SLV 12	0.294	1.205	830	1.257	Si
	R	2.253	SLV 6	0.362	1.483	1618	1.653	Si
59	PF	1.491	SLV 9	0.355	1.453	1512	1.608	Si
	V	1.602	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.458	SLV 9	0.348	1.423	1412	1.563	Si
	R	1.143	SLV 4	0.277	1.133	689	1.165	Si
60	PF	0.355	SLV 5	0.093	0.38	43	0.373	No
	V	0.967	SLV 5	0.237	0.97	438	0.967	No
	PFFP	0.895	SLV 9	0.221	0.906	365	0.898	No
	R	0.999	SLV 12	0.244	0.999	473	0.998	No
61	PFFP	0.985	SLV 12	0.241	0.986	458	0.985	No
	R	1.547	SLV 9	0.362	1.483	1618	1.653	Si
62	PF	1.053	SLV 12	0.256	1.049	548	1.06	Si
	V	3.301	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.13	SLV 12	0.274	1.121	668	1.15	Si
	R	1.51	SLV 1	0.359	1.471	1573	1.634	Si
65	PF	0.861	SLV 11	0.214	0.875	333	0.864	No
	V	3.453	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.977	SLV 8	0.239	0.979	448	0.976	No
	R	1.688	SLV 6	0.362	1.483	1618	1.653	Si
69	PF	1.995	SLV 10	0.362	1.483	1618	1.653	Si
	V	3.842	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.676	SLV 3	0.362	1.483	1618	1.653	Si
70	PF	0.601	SLV 7	0.15	0.612	137	0.601	No
	V	2.05	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	0.787	SLV 11	0.197	0.807	268	0.791	No
	R	1.354	SLV 6	0.324	1.328	1122	1.423	Si
71	PF	0.888	SLV 11	0.22	0.9	359	0.892	No
	V	2.465	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.111	SLV 11	0.27	1.103	637	1.128	Si
	R	1.576	SLV 6	0.362	1.483	1618	1.653	Si
72	PF	1.393	SLV 8	0.333	1.363	1226	1.475	Si
	V	1.34	SLV 8	0.321	1.314	1086	1.404	Si
	PFFP	2.791	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.445	SLV 13	0.345	1.411	1373	1.545	Si
73	PF	0.894	SLV 5	0.221	0.905	364	0.897	No
	V	1.509	SLV 1	0.359	1.47	1570	1.633	Si
	PFFP	1.294	SLV 10	0.311	1.272	975	1.343	Si
	R	1.177	SLV 3	0.284	1.164	747	1.204	Si
74	PF	1.304	SLV 5	0.313	1.281	999	1.356	Si
	V	1.649	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.455	SLV 10	0.347	1.42	1402	1.559	Si
	R	1.276	SLV 7	0.307	1.255	937	1.321	Si
75	PF	1.126	SLV 10	0.273	1.117	661	1.145	Si
	V	1.863	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.305	SLV 5	0.313	1.282	1001	1.357	Si
	R	1.379	SLV 12	0.33	1.35	1188	1.456	Si

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76	PF	0.743	SLV 1	0.18	0.735	210	0.716	No
	V	1.501	SLV 14	0.357	1.463	1545	1.622	Si
	PFFP	1.266	SLV 1	0.304	1.246	917	1.31	Si
	R	1.165	SLV 16	0.282	1.153	726	1.19	Si
77	PF	2.268	SLV 16	0.362	1.483	1618	1.653	Si
	V	2.98	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	2.344	SLV 16	0.362	1.483	1618	1.653	Si
	R	1.183	SLV 1	0.286	1.17	759	1.212	Si
78	PF	2.696	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.668	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.233	SLV 3	0.297	1.216	851	1.27	Si
79	PFFP	3.773	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.482	SLV 14	0.353	1.445	1485	1.596	Si
80	PF	2.68	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.955	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.2	SLV 15	0.29	1.185	789	1.231	Si
81	PF	0.724	SLV 8	0.183	0.748	220	0.729	No
	V	2.789	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.006	SLV 8	0.246	1.006	483	1.007	Si
	R	1.482	SLV 6	0.353	1.445	1484	1.595	Si
82	PF	0.989	SLV 11	0.242	0.99	462	0.989	No
	V	2.595	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.292	SLV 8	0.31	1.27	971	1.341	Si
	R	1.596	SLV 9	0.362	1.483	1618	1.653	Si
84	PF	2.987	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.109	SLV 11	0.269	1.101	634	1.126	Si
	PFFP	3.781	SLV 11	0.362	1.483	1618	1.653	Si
	R	2.196	SLV 2	0.362	1.483	1618	1.653	Si
85	PF	1.851	SLV 7	0.362	1.483	1618	1.653	Si
	V	2.508	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.829	SLV 14	0.362	1.483	1618	1.653	Si
88	PF	1.281	SLV 10	0.308	1.26	948	1.328	Si
	V	1.885	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	2.148	SLV 5	0.362	1.483	1618	1.653	Si
	R	1.447	SLV 7	0.345	1.413	1379	1.548	Si
92	PFFP	1.184	SLV 11	0.286	1.17	760	1.213	Si
	R	1.877	SLV 13	0.362	1.483	1618	1.653	Si
93	PF	0.727	SLV 11	0.184	0.751	222	0.732	No
	V	2.015	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.233	SLV 7	0.297	1.215	851	1.27	Si
	R	1.388	SLV 10	0.332	1.359	1212	1.468	Si
95	PF	1.274	SLV 11	0.306	1.253	933	1.319	Si
	V	3.171	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.48	SLV 11	0.353	1.443	1478	1.593	Si
	R	1.373	SLV 10	0.329	1.345	1172	1.448	Si
96	PF	1.238	SLV 6	0.298	1.22	861	1.276	Si
	V	2.442	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.432	SLV 6	0.342	1.399	1335	1.528	Si
	R	1.071	SLV 15	0.261	1.066	575	1.081	Si
98	PF	0.831	SLV 2	0.201	0.825	285	0.811	No
	V	1.878	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.091	SLV 7	0.265	1.085	605	1.104	Si
	R	1.562	SLV 9	0.362	1.483	1618	1.653	Si
99	PF	0.757	SLV 11	0.19	0.779	245	0.762	No
	V	1.572	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.024	SLV 11	0.25	1.022	507	1.027	Si
	R	1.561	SLV 6	0.362	1.483	1618	1.653	Si
100	PF	0.475	SLV 11	0.12	0.49	81	0.484	No
	V	1.443	SLV 15	0.344	1.409	1367	1.542	Si
	PFFP	0.946	SLV 7	0.232	0.951	415	0.946	No
	R	1.61	SLV 9	0.362	1.483	1618	1.653	Si
101	PF	0.927	SLV 10	0.228	0.934	396	0.928	No
	V	2.64	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	0.967	SLV 6	0.237	0.97	438	0.967	No
	R	1.313	SLV 7	0.315	1.289	1020	1.368	Si
102	PF	0.678	SLV 6	0.17	0.698	185	0.679	No
	V	3.002	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	0.796	SLV 6	0.199	0.815	276	0.8	No
	R	1.491	SLV 12	0.355	1.453	1512	1.608	Si
103	PF	1.342	SLV 6	0.322	1.316	1092	1.407	Si
	V	0.827	SLV 6	0.206	0.844	303	0.832	No
	PFFP	2.189	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.478	SLV 15	0.352	1.441	1473	1.59	Si
104	PF	2.423	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.032	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	2.79	SLV 14	0.362	1.483	1618	1.653	Si
	R	2.002	SLV 3	0.362	1.483	1618	1.653	Si
105	PF	0.694	SLV 5	0.175	0.715	196	0.696	No
	V	2.58	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.151	SLV 10	0.279	1.14	702	1.174	Si
	R	2.04	SLV 7	0.362	1.483	1618	1.653	Si
106	PF	0.826	SLV 5	0.206	0.843	302	0.831	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.898	SLV 5	0.222	0.908	368	0.901	No
	R	1.368	SLV 12	0.327	1.34	1159	1.442	Si
107	PF	0.803	SLV 8	0.201	0.821	281	0.806	No

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	V	2.468	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.234	SLV 11	0.297	1.216	852	1.271	Si
	R	1.79	SLV 2	0.362	1.483	1618	1.653	Si
108	PF	1.421	SLV 8	0.339	1.389	1303	1.512	Si
	V	3.041	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.255	SLV 12	0.302	1.236	894	1.296	Si
	R	1.774	SLV 5	0.362	1.483	1618	1.653	Si
109	PF	0.766	SLV 15	0.185	0.758	228	0.74	No
	V	2.425	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.155	SLV 15	0.279	1.144	709	1.178	Si
	R	1.656	SLV 2	0.362	1.483	1618	1.653	Si
110	PF	1.617	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.148	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.363	SLV 9	0.326	1.336	1146	1.435	Si
	R	1.498	SLV 3	0.357	1.46	1535	1.618	Si
111	PF	0.37	SLV 5	0.096	0.392	46	0.384	No
	V	2.031	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.77	SLV 5	0.193	0.792	255	0.775	No
	R	1.298	SLV 3	0.312	1.276	985	1.349	Si
112	PF	0.56	SLV 15	0.132	0.542	103	0.534	No
	V	1.788	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	0.95	SLV 11	0.233	0.956	421	0.952	No
	R	1.686	SLV 9	0.362	1.483	1618	1.653	Si
113	PF	1.247	SLV 12	0.3	1.228	878	1.286	Si
	V	3.721	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.117	SLV 12	0.271	1.109	646	1.134	Si
	R	1.907	SLV 1	0.362	1.483	1618	1.653	Si
116	PF	0.623	SLV 11	0.155	0.635	149	0.622	No
	V	2.315	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.016	SLV 8	0.248	1.015	496	1.018	Si
	R	1.806	SLV 6	0.362	1.483	1618	1.653	Si
120	PF	2.321	SLV 6	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.639	SLV 10	0.362	1.483	1618	1.653	Si
	R	2.345	SLV 3	0.362	1.483	1618	1.653	Si
121	PF	1.232	SLV 11	0.297	1.214	849	1.269	Si
	V	1.984	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.333	SLV 8	0.32	1.308	1069	1.395	Si
	R	1.792	SLV 9	0.362	1.483	1618	1.653	Si
122	PF	1.279	SLV 8	0.307	1.258	944	1.325	Si
	V	2.487	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.909	SLV 11	0.362	1.483	1618	1.653	Si
	R	2.16	SLV 9	0.362	1.483	1618	1.653	Si
124	PF	1.872	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.74	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	2.474	SLV 12	0.362	1.483	1618	1.653	Si
	R	1.953	SLV 5	0.362	1.483	1618	1.653	Si
125	PF	2.296	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.795	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.588	SLV 2	0.362	1.483	1618	1.653	Si
126	PF	0.901	SLV 16	0.219	0.896	355	0.887	No
	V	3.124	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	1.464	SLV 14	0.349	1.429	1430	1.571	Si
	R	1.665	SLV 3	0.362	1.483	1618	1.653	Si
127	PF	1.968	SLV 5	0.362	1.483	1618	1.653	Si
	V	2.041	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.908	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.551	SLV 7	0.362	1.483	1618	1.653	Si
128	PF	1.856	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.014	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	2.188	SLV 5	0.362	1.483	1618	1.653	Si
	R	1.626	SLV 12	0.362	1.483	1618	1.653	Si
129	PF	0.826	SLV 3	0.2	0.82	280	0.805	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.074	SLV 3	0.261	1.069	579	1.085	Si
	R	1.486	SLV 14	0.354	1.449	1498	1.601	Si
130	PF	2.229	SLV 13	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.334	SLV 13	0.362	1.483	1618	1.653	Si
	R	1.484	SLV 4	0.354	1.447	1491	1.598	Si
131	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.458	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.416	SLV 1	0.338	1.385	1290	1.506	Si
132	PFFP	3.421	SLV 3	0.362	1.483	1618	1.653	Si
	R	1.328	SLV 14	0.318	1.304	1057	1.388	Si
133	PF	1.61	SLV 7	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.579	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.541	SLV 15	0.362	1.483	1618	1.653	Si
134	PF	0.975	SLV 2	0.238	0.973	441	0.97	No
	V	2.352	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	2.298	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.335	SLV 13	0.32	1.31	1074	1.397	Si
135	PF	1.864	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.939	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.442	SLV 15	0.344	1.408	1364	1.541	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
136	PF	1.491	SLV 8	0.355	1.453	1512	1.608	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.854	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.685	SLV 6	0.362	1.483	1618	1.653	Si
137	PF	1.084	SLV 11	0.263	1.078	594	1.096	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.258	SLV 11	0.303	1.239	901	1.3	Si
	R	1.615	SLV 6	0.362	1.483	1618	1.653	Si
138	PFFP	2.239	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.414	SLV 2	0.338	1.383	1285	1.504	Si
141	PF	0.748	SLV 10	0.188	0.771	238	0.753	No
	V	2.726	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	0.91	SLV 10	0.225	0.919	379	0.912	No
	R	1.611	SLV 7	0.362	1.483	1618	1.653	Si
145	PFFP	0.744	SLV 4	0.18	0.735	210	0.716	No
	R	1.976	SLV 13	0.362	1.483	1618	1.653	Si
147	PF	1.248	SLV 7	0.3	1.229	880	1.288	Si
	V	2.4	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.285	SLV 7	0.309	1.264	956	1.332	Si
	R	1.635	SLV 13	0.362	1.483	1618	1.653	Si
148	PF	0.623	SLV 2	0.148	0.606	134	0.595	No
	V	1.972	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	0.853	SLV 4	0.207	0.848	306	0.835	No
	R	1.798	SLV 13	0.362	1.483	1618	1.653	Si
149	PF	1.46	SLV 6	0.348	1.425	1417	1.565	Si
	V	2.351	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.316	SLV 6	0.316	1.292	1028	1.372	Si
	R	1.48	SLV 15	0.353	1.443	1479	1.593	Si
151	PF	0.686	SLV 2	0.164	0.671	169	0.655	No
	V	2.268	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.2	SLV 8	0.29	1.185	789	1.231	Si
	R	1.748	SLV 13	0.362	1.483	1618	1.653	Si
152	PF	1.157	SLV 11	0.28	1.145	712	1.181	Si
	V	2.767	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.211	SLV 7	0.292	1.195	809	1.244	Si
	R	1.766	SLV 10	0.362	1.483	1618	1.653	Si
153	PF	0.878	SLV 11	0.218	0.89	349	0.881	No
	V	2.258	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.479	SLV 8	0.352	1.442	1475	1.591	Si
	R	1.848	SLV 13	0.362	1.483	1618	1.653	Si
154	PF	0.939	SLV 10	0.231	0.945	408	0.94	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.946	SLV 10	0.232	0.951	415	0.946	No
	R	1.461	SLV 7	0.348	1.426	1420	1.567	Si
155	PF	0.842	SLV 10	0.21	0.858	316	0.846	No
	V	3.078	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.178	SLV 5	0.285	1.165	749	1.205	Si
	R	1.955	SLV 12	0.362	1.483	1618	1.653	Si
156	PF	2.503	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.402	SLV 6	0.335	1.372	1250	1.487	Si
	PFFP	2.945	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.928	SLV 16	0.362	1.483	1618	1.653	Si
157	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.919	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	3.132	SLV 14	0.362	1.483	1618	1.653	Si
	R	3.117	SLV 15	0.362	1.483	1618	1.653	Si
158	PF	0.81	SLV 5	0.202	0.828	288	0.815	No
	V	3.447	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.742	SLV 10	0.362	1.483	1618	1.653	Si
	R	3.4	SLV 15	0.362	1.483	1618	1.653	Si
159	PF	1.091	SLV 5	0.265	1.085	605	1.104	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.126	SLV 5	0.273	1.117	661	1.145	Si
	R	1.966	SLV 8	0.362	1.483	1618	1.653	Si
160	PF	1.026	SLV 8	0.25	1.024	510	1.03	Si
	V	3.169	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.748	SLV 15	0.362	1.483	1618	1.653	Si
	R	2.492	SLV 4	0.362	1.483	1618	1.653	Si
161	PF	1.606	SLV 8	0.362	1.483	1618	1.653	Si
	V	3.938	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.337	SLV 12	0.32	1.312	1079	1.4	Si
	R	2.428	SLV 5	0.362	1.483	1618	1.653	Si
162	PF	0.652	SLV 13	0.155	0.635	149	0.622	No
	V	3.245	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.169	SLV 15	0.283	1.157	733	1.195	Si
	R	2.207	SLV 2	0.362	1.483	1618	1.653	Si
163	PF	1.798	SLV 10	0.362	1.483	1618	1.653	Si
	V	3.1	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.157	SLV 10	0.28	1.145	712	1.181	Si
	R	1.987	SLV 3	0.362	1.483	1618	1.653	Si
164	PF	0.503	SLV 5	0.126	0.516	91	0.508	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.954	SLV 10	0.234	0.959	424	0.954	No
	R	1.708	SLV 1	0.362	1.483	1618	1.653	Si
165	PF	0.575	SLV 13	0.136	0.558	110	0.549	No
	V	2.777	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.852	SLV 15	0.207	0.846	305	0.834	No
	R	2.279	SLV 9	0.362	1.483	1618	1.653	Si
166	PF	1.239	SLV 12	0.298	1.221	863	1.277	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.9	SLV 11	0.222	0.91	369	0.902	No
	R	2.639	SLV 1	0.362	1.483	1618	1.653	Si
169	PF	0.681	SLV 15	0.163	0.667	167	0.651	No
	V	2.933	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.25	SLV 8	0.301	1.231	884	1.29	Si
	R	2.687	SLV 6	0.362	1.483	1618	1.653	Si
173	PF	2.092	SLV 5	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.204	SLV 5	0.29	1.189	796	1.236	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
174	PF	2.424	SLV 8	0.362	1.483	1618	1.653	Si
	V	2.682	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	2.285	SLV 8	0.362	1.483	1618	1.653	Si
	R	2.731	SLV 13	0.362	1.483	1618	1.653	Si
175	PF	0.85	SLV 9	0.211	0.865	323	0.854	No
	V	2.821	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	4.05	SLV 6	0.362	1.483	1618	1.653	Si
	R	2.831	SLV 7	0.362	1.483	1618	1.653	Si
177	PF	2.135	SLV 11	0.362	1.483	1618	1.653	Si
	V	2.357	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.054	SLV 11	0.362	1.483	1618	1.653	Si
	R	2.606	SLV 1	0.362	1.483	1618	1.653	Si
178	PF	1.209	SLV 11	0.292	1.193	805	1.241	Si
	V	2.191	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.666	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.65	SLV 2	0.362	1.483	1618	1.653	Si
179	PF	1.565	SLV 16	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.938	SLV 14	0.362	1.483	1618	1.653	Si
	R	1.963	SLV 11	0.362	1.483	1618	1.653	Si
180	PF	2.089	SLV 5	0.362	1.483	1618	1.653	Si
	V	2.823	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.968	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.983	SLV 7	0.362	1.483	1618	1.653	Si
181	PF	2.034	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.111	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	2.682	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.252	SLV 16	0.362	1.483	1618	1.653	Si
182	PF	1.428	SLV 3	0.341	1.396	1324	1.522	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.882	SLV 3	0.362	1.483	1618	1.653	Si
	R	2.918	SLV 6	0.362	1.483	1618	1.653	Si
183	PF	2.146	SLV 13	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.05	SLV 13	0.362	1.483	1618	1.653	Si
	R	2.006	SLV 4	0.362	1.483	1618	1.653	Si
184	PF	1.756	SLV 11	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.02	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.596	SLV 1	0.362	1.483	1618	1.653	Si
185	PFFP	3.194	SLV 3	0.362	1.483	1618	1.653	Si
	R	1.46	SLV 15	0.348	1.425	1418	1.566	Si
186	PF	1.426	SLV 3	0.341	1.394	1318	1.52	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.866	SLV 6	0.362	1.483	1618	1.653	Si
	R	1.444	SLV 15	0.345	1.41	1370	1.544	Si
187	PF	1.178	SLV 1	0.285	1.165	750	1.206	Si
	V	3.961	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.067	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.722	SLV 15	0.362	1.483	1618	1.653	Si
188	PF	2.039	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.783	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.896	SLV 13	0.362	1.483	1618	1.653	Si
189	PF	1.282	SLV 11	0.308	1.261	950	1.329	Si
	V	2.605	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.287	SLV 15	0.309	1.266	960	1.334	Si
	R	2.153	SLV 2	0.362	1.483	1618	1.653	Si
190	PF	1.442	SLV 15	0.344	1.408	1364	1.541	Si
	V	3.081	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	2.792	SLV 15	0.362	1.483	1618	1.653	Si
	R	3.837	SLV 4	0.362	1.483	1618	1.653	Si
191	PF	1.203	SLV 11	0.29	1.188	794	1.234	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.328	SLV 11	0.318	1.303	1057	1.388	Si
	R	2	SLV 6	0.362	1.483	1618	1.653	Si
192	PF	1.178	SLV 9	0.285	1.165	749	1.205	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.445	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.856	SLV 14	0.362	1.483	1618	1.653	Si
194	PF	0.786	SLV 10	0.197	0.805	267	0.79	No
	V	4.072	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	0.743	SLV 10	0.187	0.766	234	0.748	No
	R	2.035	SLV 11	0.362	1.483	1618	1.653	Si
198	PF	0.207	SLV 2	0.049	0.201	9	0.197	No
	V	0.621	SLV 2	0.148	0.604	133	0.593	No
	PFFP	0.736	SLV 11	0.186	0.759	229	0.741	No
	R	2.324	SLV 13	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
200	PF	1.763	SLV 8	0.362	1.483	1618	1.653	Si
	V	3.262	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.188	SLV 4	0.287	1.174	768	1.218	Si
	R	2.127	SLV 13	0.362	1.483	1618	1.653	Si
201	PF	0.186	SLV 2	0.041	0.169	6	0.167	No
	V	1.78	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.238	SLV 2	0.055	0.226	12	0.221	No
	R	2.389	SLV 10	0.362	1.483	1618	1.653	Si
202	PF	1.612	SLV 5	0.362	1.483	1618	1.653	Si
	V	3.787	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.315	SLV 5	0.316	1.292	1025	1.371	Si
	R	1.919	SLV 16	0.362	1.483	1618	1.653	Si
204	PF	0.457	SLV 2	0.107	0.439	62	0.434	No
	V	2.488	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.832	SLV 4	0.202	0.826	286	0.812	No
	R	1.902	SLV 15	0.362	1.483	1618	1.653	Si
205	PF	1.059	SLV 11	0.258	1.055	556	1.067	Si
	V	3.435	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.285	SLV 7	0.309	1.264	956	1.332	Si
	R	2.349	SLV 9	0.362	1.483	1618	1.653	Si
206	PF	1.135	SLV 11	0.275	1.125	676	1.156	Si
	V	3.25	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.856	SLV 4	0.362	1.483	1618	1.653	Si
	R	2.535	SLV 15	0.362	1.483	1618	1.653	Si
207	PF	1.371	SLV 10	0.328	1.343	1167	1.446	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.461	SLV 10	0.348	1.426	1420	1.567	Si
	R	2.089	SLV 11	0.362	1.483	1618	1.653	Si
208	PF	1.087	SLV 10	0.264	1.081	599	1.1	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.048	SLV 9	0.362	1.483	1618	1.653	Si
	R	3.32	SLV 4	0.362	1.483	1618	1.653	Si
209	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.049	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	3.386	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.946	SLV 4	0.362	1.483	1618	1.653	Si
210	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.447	SLV 2	0.345	1.413	1379	1.548	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
211	PF	0.781	SLV 9	0.196	0.802	264	0.786	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.338	SLV 5	0.321	1.313	1082	1.401	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
212	PF	0.28	SLV 16	0.066	0.269	19	0.267	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.852	SLV 14	0.207	0.846	305	0.834	No
	R	3.966	SLV 3	0.362	1.483	1618	1.653	Si
213	PF	0.627	SLV 8	0.156	0.639	151	0.625	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.24	SLV 11	0.299	1.222	864	1.278	Si
	R	3.97	SLV 14	0.362	1.483	1618	1.653	Si
214	PF	1.115	SLV 8	0.27	1.107	643	1.132	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.112	SLV 13	0.27	1.104	638	1.129	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
215	PF	0.348	SLV 9	0.091	0.372	41	0.366	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.723	SLV 8	0.183	0.747	219	0.728	No
	R	3.004	SLV 8	0.362	1.483	1618	1.653	Si
216	PF	0.943	SLV 10	0.232	0.949	413	0.944	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.986	SLV 10	0.241	0.988	459	0.986	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
218	PF	0.123	SLV 13	0.026	0.107	2	0.106	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.434	SLV 13	0.102	0.417	54	0.41	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
219	PF	1.654	SLV 11	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.748	SLV 12	0.188	0.771	238	0.753	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
221	PF	0.473	SLV 15	0.111	0.454	67	0.448	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.934	SLV 8	0.23	0.94	403	0.935	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
223	PF	1.594	SLV 5	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.828	SLV 6	0.206	0.844	303	0.832	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
224	PF	0.799	SLV 9	0.2	0.817	278	0.803	No
	V	2.723	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.016	SLV 11	0.248	1.015	496	1.018	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
225	PF	0.314	SLV 5	0.082	0.337	33	0.335	No
	V	2.841	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.274	SLV 5	0.074	0.303	25	0.299	No
	R	2.56	SLV 12	0.362	1.483	1618	1.653	Si
226	PF	2.986	SLV 5	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.037	SLV 10	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
227	PF	2.489	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.054	SLV 1	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
228	PF	0.481	SLV 10	0.121	0.495	83	0.489	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.359	SLV 10	0.094	0.384	44	0.377	No
	R	2.344	SLV 7	0.362	1.483	1618	1.653	Si
229	PF	1.09	SLV 10	0.265	1.084	603	1.103	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.125	SLV 9	0.273	1.116	659	1.144	Si
	R	3.083	SLV 7	0.362	1.483	1618	1.653	Si
230	PF	0.805	SLV 11	0.201	0.825	285	0.811	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.084	SLV 11	0.263	1.078	594	1.096	Si
	R	1.784	SLV 6	0.362	1.483	1618	1.653	Si
231	PF	0.34	SLV 15	0.08	0.328	31	0.327	No
	V	3.87	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	2.655	SLV 15	0.362	1.483	1618	1.653	Si
	R	2.555	SLV 4	0.362	1.483	1618	1.653	Si
232	PF	0.633	SLV 2	0.151	0.617	139	0.604	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.018	SLV 6	0.248	1.017	499	1.02	Si
	R	1.711	SLV 11	0.362	1.483	1618	1.653	Si
233	PF	0.999	SLV 1	0.244	0.999	474	0.999	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.36	SLV 4	0.326	1.333	1138	1.431	Si
	R	1.93	SLV 13	0.362	1.483	1618	1.653	Si
234	PF	2.693	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.96	SLV 3	0.362	1.483	1618	1.653	Si
	R	2.965	SLV 6	0.362	1.483	1618	1.653	Si
235	PF	0.324	SLV 4	0.077	0.313	27	0.309	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.728	SLV 7	0.184	0.751	222	0.732	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
236	PF	0.171	SLV 9	0.047	0.191	8	0.187	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.023	SLV 11	0.25	1.021	506	1.026	Si
	R	2.979	SLV 6	0.362	1.483	1618	1.653	Si
238	PF	0.683	SLV 6	0.172	0.703	188	0.684	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.674	SLV 6	0.169	0.692	182	0.675	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
240	PF	0.656	SLV 2	0.156	0.639	151	0.625	No
	V	1.299	SLV 2	0.312	1.277	987	1.35	Si
	PFFP	0.578	SLV 11	0.144	0.589	125	0.578	No
	R	3.883	SLV 6	0.362	1.483	1618	1.653	Si
241	PF	1.995	SLV 5	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.895	SLV 3	0.218	0.891	350	0.882	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
242	PF	0.355	SLV 2	0.083	0.342	34	0.339	No
	V	1.288	SLV 6	0.309	1.266	962	1.336	Si
	PFFP	0.124	SLV 2	0.026	0.107	2	0.106	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
243	PF	2.349	SLV 10	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.126	SLV 5	0.273	1.117	661	1.145	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
245	PF	0.222	SLV 6	0.061	0.249	16	0.249	No
	V	3.546	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	0.381	SLV 11	0.098	0.403	50	0.397	No
	R	2.475	SLV 11	0.362	1.483	1618	1.653	Si
246	PF	1.232	SLV 11	0.297	1.214	849	1.269	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.095	SLV 4	0.266	1.089	612	1.109	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
247	PF	0.827	SLV 11	0.206	0.844	303	0.832	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.165	SLV 7	0.282	1.153	726	1.19	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
248	PF	0.812	SLV 5	0.203	0.83	290	0.817	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.975	SLV 1	0.238	0.973	441	0.97	No
	R	2.997	SLV 12	0.362	1.483	1618	1.653	Si
249	PF	1.059	SLV 10	0.258	1.055	556	1.067	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.205	SLV 10	0.291	1.19	798	1.237	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
250	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.412	SLV 15	0.337	1.381	1279	1.501	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
253	PF	1.815	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.991	SLV 9	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	2.29	SLV 4	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
254	PF	1.089	SLV 6	0.265	1.083	602	1.102	Si
	V	3.535	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.751	SLV 13	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
261	PF	0.615	SLV 11	0.153	0.627	144	0.613	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.718	SLV 11	0.181	0.743	216	0.724	No
	R	1.166	SLV 9	0.282	1.154	728	1.191	Si
262	PF	0.336	SLV 15	0.079	0.323	30	0.322	No
	V	1.71	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.709	SLV 8	0.179	0.733	208	0.713	No
	R	1.161	SLV 9	0.281	1.149	719	1.185	Si
265	PF	0.472	SLV 15	0.111	0.454	67	0.448	No
	V	1.611	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.796	SLV 8	0.199	0.815	276	0.8	No
	R	1.435	SLV 2	0.343	1.402	1344	1.532	Si
266	PF	0.715	SLV 15	0.172	0.703	188	0.684	No
	V	1.445	SLV 13	0.345	1.411	1373	1.545	Si
	PFFP	1.134	SLV 11	0.275	1.124	674	1.154	Si
	R	1.278	SLV 9	0.307	1.257	941	1.324	Si
271	PF	0.303	SLV 13	0.071	0.292	23	0.289	No
	V	1.978	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.543	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.59	SLV 4	0.362	1.483	1618	1.653	Si
272	PF	0.423	SLV 15	0.099	0.407	51	0.401	No
	V	1.803	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.165	SLV 15	0.282	1.153	726	1.19	Si
	R	1.601	SLV 13	0.362	1.483	1618	1.653	Si
276	PF	0.592	SLV 11	0.148	0.604	133	0.593	No
	V	0.653	SLV 15	0.156	0.637	150	0.623	No
	PFFP	0.692	SLV 11	0.174	0.713	194	0.693	No
	R	2.122	SLV 6	0.362	1.483	1618	1.653	Si
278	PF	0.212	SLV 13	0.049	0.201	9	0.197	No
	V	2.007	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.981	SLV 6	0.24	0.982	453	0.981	No
	R	3.262	SLV 13	0.362	1.483	1618	1.653	Si
279	PF	0.226	SLV 13	0.053	0.218	11	0.214	No
	V	1.958	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.115	SLV 9	0.27	1.107	643	1.132	Si
	R	3.444	SLV 4	0.362	1.483	1618	1.653	Si
283	PFFP	2.073	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.577	SLV 13	0.137	0.56	111	0.551	No

Verifica travi di collegamento in muratura

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
2	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.833	SLV 12	0.208	0.85	308	0.837	No
4	F	0.355	SLV 8	0.093	0.38	43	0.373	No
	V	0.305	SLV 8	0.08	0.328	31	0.327	No
6	F	2.936	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.521	SLV 9	0.131	0.535	100	0.528	No
8	F	3.477	SLV 4	0.362	1.483	1618	1.653	Si
	V	0.498	SLV 4	0.117	0.479	77	0.474	No
10	F	0.154	SLV 6	0.044	0.181	7	0.177	No
	V	0.866	SLV 2	0.21	0.86	318	0.848	No
11	F	3.856	SLV 16	0.362	1.483	1618	1.653	Si
	V	0.852	SLV 16	0.207	0.846	305	0.834	No
12	F	0.198	SLV 12	0.055	0.226	12	0.221	No
	V	1.084	SLV 12	0.263	1.078	594	1.096	Si
19	F	0.273	SLV 10	0.073	0.298	24	0.294	No
	V	0.16	SLV 10	0.044	0.181	7	0.177	No
21	F	4.006	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.094	SLV 16	0.266	1.087	610	1.108	Si
22	F	0.273	SLV 16	0.064	0.262	18	0.261	No
	V	1.064	SLV 16	0.259	1.06	564	1.073	Si
23	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.415	SLV 3	0.338	1.384	1287	1.505	Si
24	F	0.238	SLV 3	0.055	0.226	12	0.221	No
	V	1.377	SLV 3	0.33	1.349	1183	1.454	Si
25	F	0.42	SLV 7	0.107	0.439	62	0.434	No
	V	0.363	SLV 7	0.095	0.388	45	0.381	No
26	F	2.971	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.58	SLV 4	0.362	1.483	1618	1.653	Si
27	F	0.259	SLV 7	0.07	0.286	22	0.284	No
	V	0.414	SLV 7	0.106	0.433	59	0.425	No
28	F	2.044	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.434	SLV 15	0.102	0.417	54	0.41	No
30	F	3.718	SLV 6	0.362	1.483	1618	1.653	Si
	V	0.812	SLV 6	0.203	0.83	290	0.817	No
32	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.442	SLV 11	0.112	0.46	69	0.453	No
34	F	1.149	SLV 12	0.278	1.138	699	1.172	Si
	V	1.066	SLV 12	0.259	1.062	567	1.075	Si
35	F	1.498	SLV 12	0.357	1.46	1535	1.618	Si
	V	0.368	SLV 12	0.096	0.392	46	0.384	No
36	F	1.074	SLV 13	0.261	1.069	579	1.085	Si
	V	0.741	SLV 4	0.179	0.731	207	0.711	No

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
37	F	0.992	SLV 4	0.242	0.992	464	0.99	No
	V	0.547	SLV 13	0.129	0.528	97	0.521	No
39	F	2.148	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.369	SLV 9	0.096	0.392	46	0.384	No
40	F	1.139	SLV 13	0.276	1.129	682	1.16	Si
	V	1.089	SLV 9	0.265	1.083	602	1.102	Si
41	F	1.622	SLV 4	0.362	1.483	1618	1.653	Si
	V	0.775	SLV 4	0.187	0.767	235	0.749	No
42	F	1.816	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.635	SLV 12	0.158	0.648	156	0.633	No
44	F	3.353	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.338	SLV 13	0.321	1.313	1082	1.401	Si
46	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
47	F	0.826	SLV 16	0.2	0.82	280	0.805	No
	V	0.699	SLV 16	0.168	0.687	178	0.669	No
48	F	1.369	SLV 1	0.328	1.341	1162	1.443	Si
	V	0.286	SLV 16	0.067	0.275	20	0.273	No
49	F	1.13	SLV 16	0.274	1.121	668	1.15	Si
	V	0.662	SLV 3	0.157	0.644	154	0.63	No
50	F	0.916	SLV 3	0.223	0.913	373	0.906	No
	V	0.471	SLV 3	0.111	0.454	67	0.448	No
51	F	1.069	SLV 3	0.26	1.064	572	1.079	Si
	V	0.896	SLV 3	0.218	0.892	351	0.883	No
52	F	0.924	SLV 3	0.225	0.921	381	0.914	No
	V	0.619	SLV 3	0.147	0.602	132	0.592	No
53	F	1.253	SLV 13	0.302	1.234	891	1.294	Si
	V	0.426	SLV 13	0.1	0.41	52	0.404	No
54	F	0.988	SLV 15	0.241	0.988	459	0.986	No
	V	1.095	SLV 15	0.266	1.089	612	1.109	Si
55	F	2.883	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.923	SLV 4	0.362	1.483	1618	1.653	Si
57	F	2.049	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.654	SLV 15	0.362	1.483	1618	1.653	Si
59	F	1.627	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.684	SLV 15	0.163	0.669	168	0.653	No
60	F	1.956	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.744	SLV 15	0.18	0.735	210	0.716	No
64	F	1.899	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.267	SLV 6	0.071	0.292	23	0.289	No
65	F	1.284	SLV 2	0.309	1.263	954	1.331	Si
	V	0.844	SLV 15	0.205	0.838	297	0.825	No
66	F	0.909	SLV 2	0.221	0.905	364	0.897	No
	V	0.621	SLV 2	0.148	0.604	133	0.593	No
67	F	1.915	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.235	SLV 3	0.297	1.217	855	1.273	Si
68	F	2.131	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.5	SLV 7	0.125	0.513	90	0.506	No
69	F	2.56	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.759	SLV 12	0.191	0.78	246	0.764	No
70	F	2.91	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.679	SLV 12	0.17	0.698	185	0.679	No
71	F	1.431	SLV 4	0.342	1.398	1333	1.527	Si
	V	1.008	SLV 4	0.246	1.007	485	1.009	Si
72	F	1.543	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.936	SLV 4	0.228	0.933	395	0.927	No
73	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.693	SLV 13	0.166	0.68	174	0.662	No
74	F	2.996	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.399	SLV 2	0.334	1.369	1243	1.484	Si
75	F	1.945	SLV 4	0.362	1.483	1618	1.653	Si
	V	0.88	SLV 4	0.214	0.876	334	0.866	No
76	F	2.636	SLV 4	0.362	1.483	1618	1.653	Si
	V	0.933	SLV 4	0.227	0.93	392	0.924	No
77	F	2.272	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.073	SLV 11	0.261	1.068	577	1.083	Si
79	F	1.715	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.748	SLV 13	0.181	0.74	213	0.72	No
81	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
82	F	1.22	SLV 1	0.294	1.204	826	1.255	Si
	V	0.826	SLV 16	0.2	0.82	280	0.805	No
83	F	2.045	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.577	SLV 16	0.137	0.56	111	0.551	No
84	F	1.267	SLV 3	0.305	1.247	919	1.311	Si
	V	0.692	SLV 3	0.166	0.678	173	0.661	No
85	F	1.446	SLV 14	0.345	1.412	1376	1.547	Si
	V	0.665	SLV 3	0.159	0.65	157	0.635	No
86	F	1.578	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.072	SLV 14	0.261	1.067	577	1.083	Si
87	F	1.44	SLV 3	0.344	1.407	1359	1.539	Si
	V	1.045	SLV 3	0.255	1.042	537	1.052	Si
88	F	1.531	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.647	SLV 9	0.162	0.661	164	0.647	No
89	F	1.885	SLV 2	0.362	1.483	1618	1.653	Si
	V	2.386	SLV 15	0.362	1.483	1618	1.653	Si
90	F	1.791	SLV 10	0.362	1.483	1618	1.653	Si
	V	0.727	SLV 7	0.184	0.751	222	0.732	No
91	F	1.841	SLV 4	0.362	1.483	1618	1.653	Si

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	0.738	SLV 4	0.178	0.728	205	0.709	No
92	F	2.036	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.013	SLV 2	0.247	1.012	492	1.015	Si
94	F	2.19	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.213	SLV 2	0.292	1.197	813	1.247	Si
96	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.642	SLV 7	0.16	0.656	160	0.64	No
97	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.955	SLV 12	0.362	1.483	1618	1.653	Si
98	F	1.254	SLV 15	0.302	1.235	892	1.295	Si
	V	0.63	SLV 6	0.157	0.642	153	0.628	No
99	F	2.334	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.857	SLV 15	0.208	0.852	310	0.839	No
100	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.563	SLV 2	0.133	0.546	105	0.539	No
101	F	2.186	SLV 2	0.362	1.483	1618	1.653	Si
	V	2.599	SLV 4	0.362	1.483	1618	1.653	Si
102	F	1.508	SLV 2	0.359	1.469	1567	1.631	Si
	V	0.941	SLV 15	0.229	0.938	401	0.933	No
103	F	1.354	SLV 15	0.324	1.328	1123	1.423	Si
	V	0.874	SLV 2	0.212	0.869	327	0.858	No
104	F	3.104	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.013	SLV 7	0.247	1.012	492	1.015	Si
105	F	3.996	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.856	SLV 7	0.213	0.871	329	0.86	No
106	F	3.981	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.344	SLV 12	0.322	1.318	1097	1.409	Si
107	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.435	SLV 12	0.343	1.402	1344	1.532	Si
108	F	2.103	SLV 8	0.362	1.483	1618	1.653	Si
	V	1.472	SLV 9	0.351	1.436	1454	1.582	Si
109	F	1.968	SLV 8	0.362	1.483	1618	1.653	Si
	V	1.414	SLV 8	0.338	1.383	1283	1.503	Si
110	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.241	SLV 13	0.299	1.223	867	1.28	Si
111	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.596	SLV 4	0.362	1.483	1618	1.653	Si
112	F	2.105	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.274	SLV 13	0.306	1.254	934	1.319	Si
113	F	3.684	SLV 4	0.362	1.483	1618	1.653	Si
	V	1.627	SLV 4	0.362	1.483	1618	1.653	Si
114	F	3.437	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.83	SLV 11	0.362	1.483	1618	1.653	Si
116	F	3.071	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.011	SLV 13	0.247	1.01	489	1.012	Si
118	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
119	F	2.932	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.239	SLV 1	0.298	1.221	863	1.277	Si
120	F	2.049	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.236	SLV 16	0.298	1.218	857	1.274	Si
121	F	1.978	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.147	SLV 3	0.278	1.136	696	1.17	Si
122	F	2.151	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.242	SLV 3	0.299	1.224	868	1.28	Si
123	F	2.451	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.821	SLV 14	0.362	1.483	1618	1.653	Si
124	F	2.923	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.797	SLV 3	0.362	1.483	1618	1.653	Si
125	F	1.951	SLV 10	0.362	1.483	1618	1.653	Si
	V	0.818	SLV 7	0.204	0.836	295	0.823	No
126	F	1.431	SLV 2	0.342	1.398	1333	1.527	Si
	V	1.762	SLV 15	0.362	1.483	1618	1.653	Si
127	F	2.021	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.727	SLV 11	0.362	1.483	1618	1.653	Si
128	F	2.63	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.158	SLV 3	0.28	1.146	714	1.182	Si
129	F	3.233	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.807	SLV 1	0.362	1.483	1618	1.653	Si
131	F	1.02	SLV 2	0.249	1.019	501	1.022	Si
	V	0.432	SLV 2	0.102	0.417	54	0.41	No
133	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.985	SLV 12	0.362	1.483	1618	1.653	Si
134	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
135	F	1.228	SLV 2	0.296	1.211	841	1.264	Si
	V	0.846	SLV 6	0.21	0.861	319	0.849	No
136	F	2.212	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.086	SLV 11	0.264	1.08	597	1.098	Si
137	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.136	SLV 2	0.275	1.126	678	1.157	Si
138	F	2.883	SLV 2	0.362	1.483	1618	1.653	Si
	V	2.624	SLV 13	0.362	1.483	1618	1.653	Si
139	F	2.075	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.332	SLV 15	0.319	1.307	1067	1.393	Si
140	F	2.206	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.466	SLV 11	0.349	1.43	1435	1.573	Si
141	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.747	SLV 7	0.362	1.483	1618	1.653	Si

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
142	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.069	SLV 7	0.362	1.483	1618	1.653	Si
143	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.387	SLV 12	0.362	1.483	1618	1.653	Si
144	F	1.525	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.535	SLV 9	0.362	1.483	1618	1.653	Si
145	F	2.538	SLV 8	0.362	1.483	1618	1.653	Si
	V	1.822	SLV 8	0.362	1.483	1618	1.653	Si
146	F	1.188	SLV 8	0.287	1.174	767	1.217	Si
	V	1.759	SLV 8	0.362	1.483	1618	1.653	Si
147	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.223	SLV 9	0.362	1.483	1618	1.653	Si
148	F	0.812	SLV 5	0.203	0.83	290	0.817	No
	V	1.767	SLV 9	0.362	1.483	1618	1.653	Si
149	F	2.962	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.921	SLV 13	0.362	1.483	1618	1.653	Si
150	F	2.626	SLV 13	0.362	1.483	1618	1.653	Si
	V	2.545	SLV 8	0.362	1.483	1618	1.653	Si
151	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.595	SLV 6	0.362	1.483	1618	1.653	Si
152	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.126	SLV 13	0.362	1.483	1618	1.653	Si
153	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
154	F	2.182	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.895	SLV 5	0.362	1.483	1618	1.653	Si
155	F	1.487	SLV 12	0.354	1.45	1500	1.602	Si
	V	2.645	SLV 12	0.362	1.483	1618	1.653	Si
156	F	3.439	SLV 3	0.362	1.483	1618	1.653	Si
	V	2.21	SLV 3	0.362	1.483	1618	1.653	Si
157	F	1.472	SLV 3	0.351	1.436	1454	1.582	Si
	V	2.545	SLV 3	0.362	1.483	1618	1.653	Si
158	F	3.65	SLV 14	0.362	1.483	1618	1.653	Si
	V	3.233	SLV 14	0.362	1.483	1618	1.653	Si
159	F	3.308	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
160	F	3.573	SLV 10	0.362	1.483	1618	1.653	Si
	V	1.287	SLV 7	0.309	1.266	960	1.334	Si
161	F	1.062	SLV 2	0.258	1.058	561	1.071	Si
	V	1.581	SLV 2	0.362	1.483	1618	1.653	Si
162	F	1.324	SLV 11	0.318	1.3	1047	1.383	Si
	V	1.758	SLV 6	0.362	1.483	1618	1.653	Si
163	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.291	SLV 13	0.362	1.483	1618	1.653	Si
164	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
165	F	2.21	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.843	SLV 6	0.21	0.859	317	0.847	No
166	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
167	F	0.422	SLV 10	0.108	0.442	63	0.437	No
	V	0.403	SLV 14	0.095	0.388	45	0.381	No
168	F	1.466	SLV 6	0.349	1.43	1435	1.573	Si
	V	0.95	SLV 6	0.233	0.956	421	0.952	No
169	F	1.3	SLV 6	0.312	1.278	989	1.351	Si
	V	1.299	SLV 11	0.312	1.277	987	1.35	Si
170	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.92	SLV 2	0.362	1.483	1618	1.653	Si
171	F	1.019	SLV 10	0.249	1.018	500	1.021	Si
	V	2.376	SLV 6	0.362	1.483	1618	1.653	Si
172	F	3.27	SLV 11	0.362	1.483	1618	1.653	Si
	V	2.259	SLV 11	0.362	1.483	1618	1.653	Si
173	F	1.56	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.682	SLV 6	0.362	1.483	1618	1.653	Si
174	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.098	SLV 10	0.362	1.483	1618	1.653	Si
175	F	1.703	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.93	SLV 6	0.362	1.483	1618	1.653	Si
181	F	1.565	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.01	SLV 13	0.247	1.009	488	1.011	Si
182	F	0.401	SLV 13	0.095	0.388	45	0.381	No
	V	0.471	SLV 13	0.111	0.454	67	0.448	No
183	F	1.05	SLV 13	0.256	1.047	544	1.057	Si
	V	0.81	SLV 13	0.196	0.803	265	0.787	No
184	F	0.751	SLV 13	0.181	0.743	216	0.724	No
	V	0.783	SLV 13	0.189	0.775	242	0.758	No
185	F	1.291	SLV 13	0.31	1.269	969	1.34	Si
	V	1.093	SLV 13	0.265	1.086	608	1.107	Si
186	F	3.281	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.599	SLV 13	0.362	1.483	1618	1.653	Si

Periodi di ritorno e accelerazioni di aggancio per gli Stati Limite

S. L.	TR,C	PGA,C	TR,Rif	PGA,Rif	Tipo rottura
Stato limite di salvaguardia della vita	2	0.026	475	0.244	pressoflessione maschio muratura

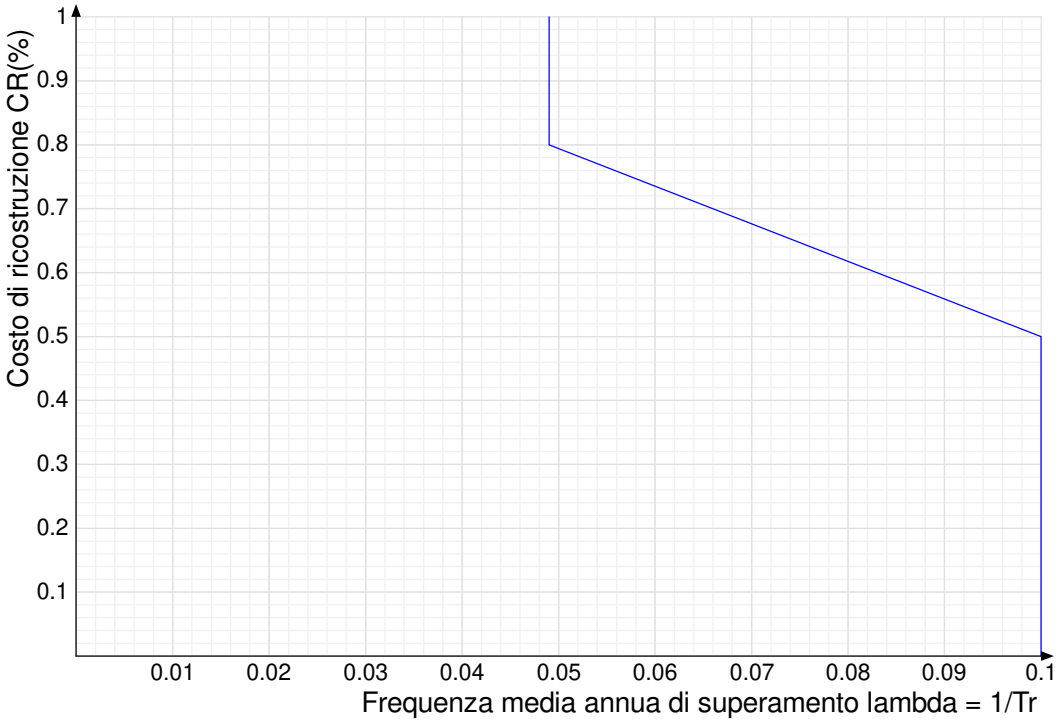
Coefficienti relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

TR,C	TR,Rif	PAM	Classe PAM	IS-V	Classe IS-V	Tipo rottura
2	475	8.215	G	10.678	F	pressoflessione maschio muratura

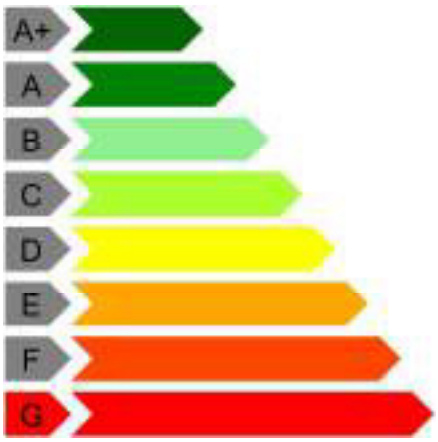
Coefficienti λ relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

λ,SLR	λ,SLC	λ,SLV	λ,SLD	λ,SLO	λ,SLID
0.049	0.049	0.1	0.1	0.1	0.1

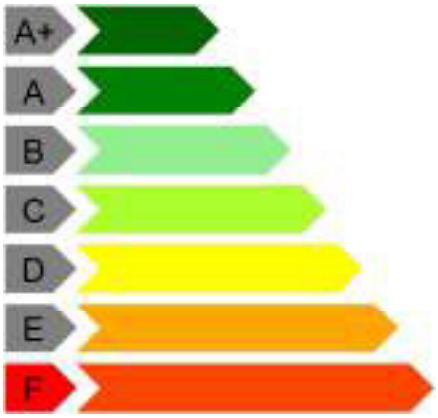
Andamento della curva che individua il PAM (Perdita Annuale Media Attesa)



Classe PAM



Classe IS-V



1.6 Verifiche maschi in muratura

Le unità di misura elencate nel capitolo sono in [m, daN, s] ove non espressamente specificato.

X ini.: *coordinate del punto iniziale del maschio. [m]*
Y ini.: *coordinate del punto iniziale del maschio. [m]*
X fin.: *coordinate del punto finale del maschio. [m]*
Y fin.: *coordinate del punto finale del maschio. [m]*
Quota i.: *livello o falda inferiore.*
Quota.s: *livello o falda superiore.*
l: *lunghezza del maschio. [m]*
Sp.: *spessore. [m]*
h netta: *altezza netta (a filo solai). [m]*
h ini.: *altezza nel modello al punto iniziale. [m]*
h fin.: *altezza nel modello al punto finale. [m]*
a: *distanza tra irrigidimenti laterali. [m]*
a.s.,sx: *lunghezza di appoggio del solaio di sinistra. [m]*
a.s.,dx: *lunghezza di appoggio del solaio di destra. [m]*
fb: *resistenza normalizzata a compressione verticale dei blocchi. [daN/m²]*
fk: *resistenza caratteristica a compressione della muratura utilizzata. [daN/m²]*
fvk0: *resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]*
fmedio: *resistenza media a compressione della muratura utilizzata. [daN/m²]*
τ0: *resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]*
fv0: *resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]*
μ: *coefficiente di attrito [C8.7.1.17].*
φ: *coefficiente di ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.*
fv,lim: *valore massimo della resistenza a taglio che può essere impiegata nel calcolo. [daN/m²]*
E: *modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]*
G: *modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]*
FC: *fattore di confidenza della muratura.*
Materiale: *descrizione del materiale.*
Fu Verticale: *carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]*
Fu Orizzontale: *carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]*
tfv: *spessore di calcolo equivalente verticale di uno strato di rinforzo.*
tfo: *spessore di calcolo equivalente orizzontale di uno strato di rinforzo.*
E: *modulo di elasticità longitudinale. [daN/m²]*
εu: *dilatazione a rottura.*
Tipo fibra: *natura della fibra.*
materiale: *materiale fibra del rinforzo.*
lato applicazione: *lato di applicazione del rinforzo.*
esposizione: *condizione di esposizione secondo CNR-DT 215 §3.2.*
ancoraggio verticale iniziale: *grado di ancoraggio iniziale dei rinforzi verticali.*
ancoraggio verticale finale: *grado di ancoraggio finale dei rinforzi verticali.*
ancoraggio orizzontale iniziale: *grado di ancoraggio iniziale dei rinforzi orizzontali.*
ancoraggio orizzontale finale: *grado di ancoraggio finale dei rinforzi orizzontali.*
strati: *numero strati del rinforzo.*
verifica taglio: *tipo di verifica a taglio.*
εlim,conv / ε,CNR DT-200: *dati relativi ai parametri per il calcolo della deformazione di progetto.*
αt: *coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a tagliosecondo CNR-DT 215 §4.1.1.*
α: *coeffiicente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.*
εlim,conv: *deformazione limite convenzionale del rinforzo FRCM.*
ε,fd: *deformazione di progetto del rinforzo FRCM ovvero CRM.*
γF,d: *fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.*

connettori: presenza di connettori per la prevenzione del distacco del rinforzo.
tipo di muratura: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.
CRM / Fibrenet?: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.
CRM: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.
intonaco: materiale intonaco FRCM ovvero CRM.
spessore intonaco: spessore intonaco. [m]
tipo blocco fibrenet: tipo blocco muratura per verifica a tglio tipo Fibrenet.
Comb.: combinazione.
Quota: quota della sezione di verifica. [m]
*M: momento flettente nel piano. [daN*m]*
N: sforzo normale. [daN]
εm: deformazione della muratura.
εm_: deformazione elastica della muratura.
εmu: deformazione ultima della muratura.
df: distanza tra il lembo compresso e la fibra tesa più lontana. [m]
*M0d: momento resistente della sezione non rinforzata. [daN*m]*
*M1d: momento resistente della sezione rinforzata. [daN*m]*
*MRd: momento resistente della sezione. [daN*m]*
c.s.: coefficiente di sicurezza.
incremento > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.
Verifica: stato di verifica.
Nmur: aliquota di sforzo normale recepito dalla sola muratura. [daN]
V: taglio nel piano. [daN]
df: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]
l': lunghezza della parte compressa della parete. [m]
σN: tensione media nella zona compressa. [daN/m²]
fvd: resistenza a taglio di calcolo. [daN/m²]
Vt: resistenza a taglio della muratura non rinforzata. [daN]
Vt,f: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]
Vt,c: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]
Vt,c int.: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]
Vt,R: resistenza a taglio della sezione rinforzata. [daN]
res. > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.
Sa: accelerazione massima adimensionalizzata rispetto a quella di gravità.
*M: momento flettente fuori piano. [daN*m]*
Coeff.s.: coefficiente di sicurezza.
N top: sforzo normale in sommità. [daN]
N base: sforzo normale al piede. [daN]
V orto: taglio fuori piano. [daN]
α0: moltiplicatore secondo [C8.7.1.1].
M: massa partecipante al cinematismo. [daN/(m/s²)]*
e: frazione di massa partecipante della muratura [C8.7.1.5].*
a0: accelerazione spettrale di attivazione del meccanismo [C8.7.1.8]. [m/s²]*
aLim: accelerazione limite [C7.2.11]. [m/s²]
Stato limite: pF_SLU=Presso flessione per azioni non sismiche; V_SLU=Taglio per azioni non sismiche; PF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche; PFFP_SLV=Presso flessione fuori piano per azioni sismiche; R_SLV=Ribaltamento per azioni sismiche.
fd: resistenza a compressione di calcolo. [daN/m²]
Sa: accelerazione massima, adimensionalizzata rispetto a g, che l'elemento strutturale subisce durante il sisma.
σ0: tensione media di compressione. [daN/m²]
*Mc: momento di collasso per azioni perpendicolari al piano. [daN*m]*
*Mu: momento flettente ultimo. [daN*m]*
V par: taglio nel piano. [daN]
σN: tensione media di compressione sulla parte reagente. [daN/m²]
Vt scorr.: taglio ultimo per verifica a scorrimento. [daN]
Vt fess.diag.: taglio ultimo per verifica a fessurazione diagonale regolare [C8.7.1.17]. [daN]
Vt,lim: taglio limite [C8.7.1.18]. [daN]
c.s.: coefficiente di sicurezza a taglio.

Maschio 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.603	1.574	-24.603	-3.284	L2	L4	4.857	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	-1.95	-7512.43	-62305	-0.0000492	0.0004492	0.0035	4.8573	116016.33	141252.86	141252.86	18.8	No	Si
SLU 79	0.15	-20908.24	-86721	-0.0000799	0.0004492	0.0035	4.8573	142226.3	179603.83	179603.83	8.59	No	Si
SLU 83	-1.95	-7628.17	-64002	-0.0000506	0.0004492	0.0035	4.8573	118188.82	144066.92	144066.92	18.89	No	Si
SLU 83	0.15	-21188.42	-89030	-0.000082	0.0004492	0.0035	4.8573	144143.55	182915.2	182915.2	8.63	No	Si
SLU 84	-1.95	-7193.44	-64277	-0.0000504	0.0004492	0.0035	4.8573	118536.09	144523.13	144523.13	20.09	No	Si
SLU 84	0.15	-21205.27	-89313	-0.0000822	0.0004492	0.0035	4.8573	144372.12	183321.51	183321.51	8.65	No	Si
SLU 77	-1.95	-7582.67	-62643	-0.0000495	0.0004492	0.0035	4.8573	116453.25	141813.4	141813.4	18.7	No	Si
SLU 77	0.15	-21031.04	-87300	-0.0000805	0.0004492	0.0035	4.8573	142716.16	180434.15	180434.15	8.58	No	Si
SLU 80	-1.95	-7077.71	-62580	-0.0000491	0.0004492	0.0035	4.8573	116372.09	141709.07	141709.07	20.02	No	Si
SLU 80	0.15	-20925.08	-87005	-0.0000801	0.0004492	0.0035	4.8573	142466.77	180010.14	180010.14	8.6	No	Si
SLU 78	-1.95	-7147.94	-62918	-0.0000494	0.0004492	0.0035	4.8573	116807.32	142269.61	142269.61	19.9	No	Si
SLU 78	0.15	-21047.89	-87584	-0.0000807	0.0004492	0.0035	4.8573	142953.64	180840.46	180840.46	8.59	No	Si
SLU 74	-1.95	-7412.04	-62092	-0.000049	0.0004492	0.0035	4.8573	115739.45	140899.02	140899.02	19.01	No	Si
SLU 74	0.15	-20659.83	-86360	-0.0000794	0.0004492	0.0035	4.8573	141917.52	179085.67	179085.67	8.67	No	Si
SLU 75	-1.95	-6977.32	-62367	-0.0000488	0.0004492	0.0035	4.8573	116096.27	141355.23	141355.23	20.26	No	Si
SLU 75	0.15	-20676.67	-86643	-0.0000796	0.0004492	0.0035	4.8573	142159.85	179491.97	179491.97	8.68	No	Si
SLU 71	-1.95	-6844.26	-57058	-0.0000449	0.0004492	0.0035	4.8573	108968.72	132028.08	132028.08	19.29	No	Si
SLU 71	0.15	-19388.31	-79141	-0.0000726	0.0004492	0.0035	4.8573	135249.24	168373.33	168373.33	8.68	No	Si
SLU 69	-1.95	-6914.5	-57396	-0.0000452	0.0004492	0.0035	4.8573	109437.9	132626.45	132626.45	19.18	No	Si
SLU 69	0.15	-19511.11	-79720	-0.0000732	0.0004492	0.0035	4.8573	135818.91	169268.43	169268.43	8.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	-1.95	-32937.73	-15343	-0.0001092	0.0006738	0.0035	3.8858		49351.76	49351.76	1.5		Si
SLV 12	0.15	-39388.37	-13909	-0.000364	0.0006738	0.0035	3.8858		46087.21	46087.21	1.17		Si
SLV 16	-1.95	-9945.78	-15097	-0.0000181	0.0006738	0.0035	4.8573		48792.33	48792.33	4.91		Si
SLV 16	0.15	-17319.44	-19973	-0.0000275	0.0006738	0.0035	4.8573		59771.76	59771.76	3.45		Si
SLD 12	-1.95	-21283.96	-26508	-0.0000352	0.0006738	0.0035	4.8573		74111.48	74111.48	3.48		Si
SLD 12	0.15	-28873.41	-32367	-0.0000458	0.0006738	0.0035	4.8573		86737.05	86737.05	3		Si
SLD 7	-1.95	-22179.92	-34977	-0.0000418	0.0006738	0.0035	4.8573		92362.28	92362.28	4.16		Si
SLD 7	0.15	-31175.93	-43583	-0.0000555	0.0006738	0.0035	4.8573		110184.94	110184.94	3.53		Si
SLV 11	-1.95	-31414.6	-15750	-0.0000779	0.0006738	0.0035	3.8858		50274.21	50274.21	1.6		Si
SLV 11	0.15	-40548.93	-14764	-0.0003535	0.0006738	0.0035	3.8858		48032.87	48032.87	1.18		Si
SLV 7	-1.95	-34246.66	-28585	-0.0000506	0.0006738	0.0035	4.8573		78587.36	78587.36	2.29		Si
SLV 7	0.15	-43041.47	-31487	-0.0000652	0.0006738	0.0035	3.8858		84840.78	84840.78	1.97		Si
SLV 15	-1.95	-7683.34	-15702	-0.0000166	0.0006738	0.0035	4.8573		50166.07	50166.07	6.53		Si
SLV 15	0.15	-19043.33	-21242	-0.0000298	0.0006738	0.0035	4.8573		62591.77	62591.77	3.29		Si
SLD 11	-1.95	-20359.66	-26755	-0.0000346	0.0006738	0.0035	4.8573		74643.92	74643.92	3.67		Si
SLD 11	0.15	-29577.69	-32885	-0.0000468	0.0006738	0.0035	4.8573		87854.37	87854.37	2.97		Si
SLD 8	-1.95	-23104.22	-34730	-0.0000424	0.0006738	0.0035	4.8573		91829.84	91829.84	3.97		Si
SLD 8	0.15	-30471.65	-43064	-0.0000545	0.0006738	0.0035	4.8573		109120.54	109120.54	3.58		Si
SLV 8	-1.95	-35769.79	-28178	-0.000053	0.0006738	0.0035	4.8573		77709.98	77709.98	2.17		Si
SLV 8	0.15	-41880.91	-30632	-0.0000633	0.0006738	0.0035	3.8858		82999.58	82999.58	1.98		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-1.95	-6617.27	-62212	-49770	1388	4.8573	4.8573	-22770	10833	32534	81562	78551	24772	103323	No	74.45	Si
SLU 76	0.15	-20565.1	-86253	-69003	686	4.8573	4.8573	-31569	10833	40227	81562	78551	24772	103323	No	150.71	Si
SLU 73	-1.95	-6446.65	-61661	-49329	1330	4.8573	4.8573	-22568	10833	32357	81562	78551	24772	103323	No	77.68	Si
SLU 73	0.15	-20193.89	-85313	-68251	634	4.8573	4.8573	-31225	10833	39926	81562	78551	24772	103323	No	162.97	Si
SLU 82	-1.95	-7022.82	-63726	-50981	1221	4.8573	4.8573	-23324	10833	33018	81562	78551	24772	103323	No	84.63	Si
SLU 82	0.15	-20834.06	-88373	-70699	500	4.8573	4.8573	-32345	10833	40905	81562	78551	24772	103323	No	206.55	Si
SLU 78	-1.95	-7147.94	-62918	-50335	1282	4.8573	4.8573	-23028	10833	32760	81562	78551	24772	103323	No	80.59	Si
SLU 78	0.15	-21047.89	-87584	-70067	571	4.8573	4.8573	-32056	10833	40652	81562	78551	24772	103323	No	181.03	Si
SLU 34	-1.95	-5689.53	-52442	-41954	1313	4.8573	4.8573	-19194	10833	29407	81562	78551	24772	103323	No	78.71	Si
SLU 34	0.15	-17460.94	-73078	-58463	721	4.8573	4.8573	-26747	10833	36011	81562	78551	24772	103323	No	143.33	Si
SLU 80	-1.95	-7077.71	-62580	-50064	1267	4.8573	4.8573	-22905	10833	32652	81562	78551	24772	103323	No	81.57	Si
SLU 80	0.15	-20925.08	-87005	-69604	559	4.8573	4.8573	-31844	10833	40467	81562	78551	24772	103323	No	184.7	Si
SLU 68	-1.95	-5949.1	-56965	-45572	1225	4.8573	4.8573	-20850	10833	30855	81562	78551	24772	103323	No	84.35	Si
SLU 68	0.15	-19045.17	-78673	-62938	583	4.8573	4.8573	-28794	10833	37801	81562	78551	24772	103323	No	177.26	Si
SLU 75	-1.95	-6977.32	-62367	-49894	1224	4.8573	4.8573	-22826	10833	32583	81562	78551	24772	103323	No	84.4	Si
SLU 75	0.15	-20676.67	-86643	-69315	519	4.8573	4.8573	-31712	10833	40351	81562	78551	24772	103323	No	199.03	Si
SLU 31	-1.95	-5518.9	-51891	-41512	1255	4.8573	4.8573	-18992	10833	29231	81562	78551	24772	103323	No	82.34	Si
SLU 31	0.15	-17089.73	-72138	-57710	669	4.8573	4.8573	-26403	10833	35710	81562	78551	24772	103323	No	154.38	Si
SLU 84	-1.95	-7193.44	-64277	-51422	1279	4.8573	4.8573	-23526	10833	33195	81562	78551	24772	103323	No	80.8	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.15	-21205.27	-89313	-71451	552	4.8573	4.8573	-32689	10833	41206	81562	78551	24772	103323	No	187.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	-1.95	23060.57	-70947	-56758	20575	4.8573	4.8573	-25967	16250	41642	81562	117827	24772	123204		5.99	Si
SLV 5	0.15	10899.41	-105148	-84118	20113	4.8573	4.8573	-38484	16250	52586	81562	117827	24772	134148		6.67	Si
SLV 6	-1.95	21537.44	-70540	-56432	17894	4.8573	4.8573	-25818	16250	41512	81562	117827	24772	123073		6.88	Si
SLV 6	0.15	12059.97	-104293	-83434	17438	4.8573	4.8573	-38172	16250	52313	81562	117827	24772	133874		7.68	Si
SLV 10	-1.95	24369.51	-57705	-46164	18484	4.8573	4.8573	-21120	16250	37405	81562	117827	24772	118967		6.44	Si
SLV 10	0.15	14552.51	-87570	-70056	17113	4.8573	4.8573	-32051	16250	46961	81562	117827	24772	128523		7.51	Si
SLD 12	-1.95	-21283.96	-26508	-21206	-11167	4.8573	4.8573	-9702	14440	31563	81562	117827	24772	113125		10.13	Si
SLD 12	0.15	-28873.41	-32367	-25893	-11696	4.8573	4.6097	-12548	15010	31135	81562	117827	24772	112697		9.64	Si
SLV 9	-1.95	25892.63	-58112	-46490	21165	4.8573	4.8573	-21269	16250	37535	81562	117827	24772	119097		5.63	Si
SLV 9	0.15	13391.94	-88425	-70740	19788	4.8573	4.8573	-32364	16250	47235	81562	117827	24772	128796		6.51	Si
SLV 7	-1.95	-34246.66	-28585	-22868	-17365	4.8573	3.6917	-13837	15268	28087	81562	117827	24772	109648		6.31	Si
SLV 7	0.15	-43041.47	-31487	-25189	-16970	3.8858	3.185	0	0	0	81562	94261	19818	81562		4.81	Si
SLV 12	-1.95	-32937.73	-15343	-12274	-19455	3.8858	0.8456	0	0	0	81562	94261	19818	81562		4.19	Si
SLV 12	0.15	-39388.37	-13909	-11127	-19970	3.8858	0	0	0	0	81562	94261	19818	81562		4.08	Si
SLV 11	-1.95	-31414.6	-15750	-12600	-16774	3.8858	1.3022	0	0	0	81562	94261	19818	81562		4.86	Si
SLV 11	0.15	-40548.93	-14764	-11811	-17295	3.8858	0	0	0	0	81562	94261	19818	81562		4.72	Si
SLV 8	-1.95	-35769.79	-28178	-22542	-20045	4.8573	3.4776	-14491	15399	27957	81562	117827	24772	109518		5.46	Si
SLV 8	0.15	-41880.91	-30632	-24506	-19645	3.8858	3.1843	0	0	0	81562	94261	19818	81562		4.15	Si
SLD 9	-1.95	13227.06	-51560	-41248	12673	4.8573	4.8573	-18871	16250	35519	81562	117827	24772	117080		9.24	Si
SLD 9	0.15	1982.69	-75993	-60794	11641	4.8573	4.8573	-27814	16250	43257	81562	117827	24772	124818		10.72	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-14477	0.24	294.48	3139.51	4412.87	3776.19	12.82	Si
SLV 11	-15118	0.24	294.48	3273.09	4564.62	3918.86	13.31	Si
SLV 16	-17618	0.24	294.48	3789.7	5155.54	4472.62	15.19	Si
SLV 15	-18570	0.24	294.48	3984.59	5380.67	4682.63	15.9	Si
SLV 8	-29796	0.24	294.48	6205.57	8010.23	7107.9	24.14	Si
SLV 7	-30438	0.24	294.48	6328.12	8159.26	7243.69	24.6	Si
SLV 14	-35764	0.24	294.48	7328.51	9397.3	8362.91	28.4	Si
SLV 13	-36716	0.24	294.48	7503.99	9618.52	8561.25	29.07	Si
SLV 4	-68685	0.24	294.48	12804.44	16878.52	14841.48	50.4	Si
SLV 3	-69637	0.24	294.48	12944.72	17088.98	15016.85	50.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-98405	-71193	1580	0.336	10844.2	0.976	5.00314	2.7151	Si
SLV 2	-97668	-70588	1580	0.338	10769.2	0.976	5.03088	2.7151	Si
SLV 5	-105727	-70947	1109	0.324	11590.1	0.978	4.81158	2.58901	Si
SLV 6	-105231	-70540	1109	0.325	11539.6	0.978	4.82808	2.58901	Si
SLV 9	-88810	-58112	528	0.373	9866.9	0.974	5.56495	2.58901	Si
SLV 10	-88314	-57705	528	0.375	9816.4	0.974	5.58858	2.58901	Si
SLV 3	-75109	-58484	1403	0.411	8471.6	0.97	6.1628	2.7151	Si
SLV 4	-74372	-57879	1402	0.414	8396.6	0.97	6.20986	2.7151	Si
SLV 13	-42015	-28411	-357	0.663	5104.9	0.953	10.10878	2.7151	Si
SLV 14	-41279	-27806	-358	0.672	5030.1	0.952	10.25494	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.579	SLU 77	Si
V_SLU	74.447	SLU 76	Si
PF_SLV	1.17	SLV 12	Si
V_SLV	4.084	SLV 12	Si
PFFP_SLV	12.823	SLV 12	Si
R_SLV	1.843	SLV 1	Si

Maschio 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.603	5.876	-24.603	2.374	L2	L4	3.503	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	-1.95	-9170.29	-38309	-0.0000515	0.0004492	0.0035	3.5027	53747.11	65258.68	65258.68	7.12	No	Si
SLU 65	0.15	-16548.42	-35775	-0.0000615	0.0004492	0.0035	3.5027	51016.7	61895.93	61895.93	3.74	No	Si
SLU 68	-1.95	-9325.68	-38847	-0.0000523	0.0004492	0.0035	3.5027	54312.79	65943.34	65943.34	7.07	No	Si
SLU 68	0.15	-16832.99	-36446	-0.0000626	0.0004492	0.0035	3.5027	51751.33	62803.42	62803.42	3.73	No	Si
SLU 44	-1.95	-7790.11	-33530	-0.0000444	0.0004492	0.0035	3.5027	48500.22	58860.86	58860.86	7.56	No	Si
SLU 44	0.15	-14690.22	-30484	-0.0000529	0.0004492	0.0035	3.5027	44938.4	54741.79	54741.79	3.73	No	Si
SLU 49	-1.95	-8321.95	-35069	-0.0000468	0.0004492	0.0035	3.5027	50234.48	60940.59	60940.59	7.32	No	Si
SLU 49	0.15	-15381.43	-32465	-0.0000561	0.0004492	0.0035	3.5027	47273.84	57420.42	57420.42	3.73	No	Si
SLU 51	-1.95	-8243.98	-34793	-0.0000464	0.0004492	0.0035	3.5027	49926.87	60567.91	60567.91	7.35	No	Si
SLU 51	0.15	-15256.16	-32121	-0.0000555	0.0004492	0.0035	3.5027	46873.49	56955.36	56955.36	3.73	No	Si
SLU 70	-1.95	-9702.13	-39847	-0.000054	0.0004492	0.0035	3.5027	55347.71	67212.82	67212.82	6.93	No	Si
SLU 70	0.15	-17239.63	-37756	-0.0000647	0.0004492	0.0035	3.5027	53161.52	64556.58	64556.58	3.74	No	Si
SLU 46	-1.95	-8166.56	-34530	-0.000046	0.0004492	0.0035	3.5027	49631.76	60211.93	60211.93	7.37	No	Si
SLU 46	0.15	-15096.86	-31794	-0.0000549	0.0004492	0.0035	3.5027	46490.61	56512.93	56512.93	3.74	No	Si
SLU 76	-1.95	-10313.42	-42374	-0.0000576	0.0004492	0.0035	3.5027	57884.79	70424.39	70424.39	6.83	No	Si
SLU 76	0.15	-18040.26	-40224	-0.0000687	0.0004492	0.0035	3.5027	55733.39	67691.7	67691.7	3.75	No	Si
SLU 72	-1.95	-9624.16	-39571	-0.0000536	0.0004492	0.0035	3.5027	55064.05	66862.64	66862.64	6.95	No	Si
SLU 72	0.15	-17114.36	-37412	-0.0000641	0.0004492	0.0035	3.5027	52794.26	64109.5	64109.5	3.75	No	Si
SLU 47	-1.95	-7945.5	-34069	-0.0000452	0.0004492	0.0035	3.5027	49112.73	59589.52	59589.52	7.5	No	Si
SLU 47	0.15	-14974.79	-31155	-0.0000541	0.0004492	0.0035	3.5027	45737.62	55649.28	55649.28	3.72	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	-1.95	698.34	-15802	-0.0000156	0.0006738	0.0035	3.5027		27659.62	27659.62	39.61		Si
SLD 10	0.15	-6916.85	-7887	-0.0000193	0.0006738	0.0035	3.5027		20670.69	20670.69	2.99		Si
SLV 5	-1.95	4221.45	-14871	-0.0000203	0.0006738	0.0035	3.5027		26162.41	26162.41	6.2		Si
SLV 5	0.15	-5580.35	-2917	-0.0000777	0.0006738	0.0035	2.8022		12378.62	12378.62	2.22		Si
SLV 13	-1.95	1799.02	-8564	-0.0000106	0.0006738	0.0035	3.5027		15810.09	15810.09	8.79		Si
SLV 13	0.15	-8290.6	-872	-0.0002377	0.0006738	0.0035	2.8022		8919.73	8919.73	1.08		Si
SLV 10	-1.95	6224.43	-6348	-0.0000176	0.0006738	0.0035	3.5027		12091.31	12091.31	1.94		Si
SLV 10	0.15	-2925.27	5864	-0.0015825	0.0006738	0.0035	2.8022		0	0	0		No
SLD 13	-1.95	-1676	-16499	-0.0000178	0.0006738	0.0035	3.5027		34666.17	34666.17	20.68		Si
SLD 13	0.15	-10002.56	-11111	-0.0000281	0.0006738	0.0035	3.5027		25970.99	25970.99	2.6		Si
SLD 14	-1.95	-2461.96	-16992	-0.0000195	0.0006738	0.0035	3.5027		35454.96	35454.96	14.4		Si
SLD 14	0.15	-8994.28	-12539	-0.000026	0.0006738	0.0035	3.5027		28291.51	28291.51	3.15		Si
SLV 9	-1.95	7058.47	-5825	-0.0000231	0.0006738	0.0035	3.5027		11211.69	11211.69	1.59		Si
SLV 9	0.15	-3995.23	7380	-0.0020749	0.0006738	0.0035	2.8022		0	0	0		No
SLV 14	-1.95	560.15	-9341	-0.0000094	0.0006738	0.0035	3.5027		17097.43	17097.43	30.52		Si
SLV 14	0.15	-6701.28	-3123	-0.0001163	0.0006738	0.0035	2.8022		12726	12726	1.9		Si
SLD 9	-1.95	1204.47	-15485	-0.0000161	0.0006738	0.0035	3.5027		27149.38	27149.38	22.54		Si
SLD 9	0.15	-7566.15	-6967	-0.0000224	0.0006738	0.0035	2.8022		19146.03	19146.03	2.53		Si
SLV 15	-1.95	-5719.61	-20067	-0.0000275	0.0006738	0.0035	3.5027		40244.82	40244.82	7.04		Si
SLV 15	0.15	-13334.87	-18558	-0.0000389	0.0006738	0.0035	3.5027		37903	37903	2.84		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	-1.95	-11094.45	-44348	-35478	-1630	3.5027	3.5027	-22508	10833	23296	81562	56646	17864	74510	No	45.7	Si
SLU 83	0.15	-18549.65	-42579	-34064	-1287	3.5027	3.5027	-21611	10833	22730	81562	56646	17864	74510	No	57.89	Si
SLU 77	-1.95	-10904.49	-43651	-34921	-1663	3.5027	3.5027	-22155	10833	23073	81562	56646	17864	74510	No	44.81	Si
SLU 77	0.15	-18442.09	-41976	-33580	-1327	3.5027	3.5027	-21304	10833	22537	81562	56646	17864	74510	No	56.14	Si
SLU 66	-1.95	-9761.37	-39585	-31668	-1476	3.5027	3.5027	-20091	10833	21772	81562	56646	17864	74510	No	50.47	Si
SLU 66	0.15	-16950.26	-37527	-30022	-1172	3.5027	3.5027	-19047	10833	21114	81562	56646	17864	74510	No	63.57	Si
SLU 35	-1.95	-9388.23	-37066	-29653	-1498	3.5027	3.5027	-18813	10833	20966	81562	56646	17864	74510	No	49.73	Si
SLU 35	0.15	-15543.97	-36166	-28933	-1214	3.5027	3.5027	-18356	10781	20678	81562	56646	17864	74510	No	61.37	Si
SLU 69	-1.95	-9916.76	-40124	-32099	-1529	3.5027	3.5027	-20364	10833	21945	81562	56646	17864	74510	No	48.73	Si
SLU 69	0.15	-17234.83	-38198	-30559	-1222	3.5027	3.5027	-19387	10833	21328	81562	56646	17864	74510	No	60.97	Si
SLU 79	-1.95	-10826.52	-43375	-34700	-1626	3.5027	3.5027	-22015	10833	22985	81562	56646	17864	74510	No	45.82	Si
SLU 79	0.15	-18316.83	-41632	-33305	-1292	3.5027	3.5027	-21130	10833	22427	81562	56646	17864	74510	No	57.66	Si
SLU 81	-1.95	-10939.06	-43809	-35047	-1578	3.5027	3.5027	-22235	10833	23124	81562	56646	17864	74510	No	47.23	Si
SLU 81	0.15	-18265.08	-41908	-33527	-1237	3.5027	3.5027	-21270	10833	22516	81562	56646	17864	74510	No	60.23	Si
SLU 41	-1.95	-9578.18	-37764	-30211	-1466	3.5027	3.5027	-19167	10833	21189	81562	56646	17864	74510	No	50.83	Si
SLU 41	0.15	-15651.52	-36770	-29416	-1174	3.5027	3.5027	-18662	10822	20871	81562	56646	17864	74510	No	63.46	Si
SLU 71	-1.95	-9838.79	-39848	-31878	-1493	3.5027	3.5027	-20225	10833	21856	81562	56646	17864	74510	No	49.92	Si
SLU 71	0.15	-17109.56	-37854	-30283	-1187	3.5027	3.5027	-19213	10833	21218	81562	56646	17864	74510	No	62.76	Si
SLU 74	-1.95	-10749.1	-43112	-34489	-1610	3.5027	3.5027	-21881	10833	22901	81562	56646	17864	74510	No	46.29	Si
SLU 74	0.15	-18157.52	-41304	-33044	-1277	3.5027	3.5027	-20964	10833	22322	81562	56646	17864	74510	No	58.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.95	3387.41	-15394	-12315	8388	3.5027	3.5027	-7813	14063	22166	81562	84968	17864	102832		12.26	Si
SLV 6	0.15	-4510.38	-4433	-3546	7938	2.8022	2.2018	0	0	0	81562	67975	14291	81562		10.28	Si
SLV 10	-1.95	6224.43	-6348	-5078	9440	3.5027	2.3123	-3222	13144	15689	81562	84968	17864	97251		10.3	Si
SLV 10	0.15	-2925.27	5864	4691	9660	2.8022	3.5027	0	0	0	81562	67975	14291	81562		8.44	Si
SLV 8	-1.95	-21674.69	-53737	-42990	-13248	3.5027	3.5027	-27274	16250	30853	81562	84968	17864	102832		7.76	Si
SLV 8	0.15	-21324.63	-63385	-50708	-13006	3.5027	3.5027	-32170	16250	33941	81562	84968	17864	102832		7.91	Si
SLV 11	-1.95	-18003.63	-44168	-35334	-10460	3.5027	3.5027	-22417	16250	27791	81562	84968	17864	102832		9.83	Si
SLV 11	0.15	-20809.48	-51572	-41258	-9547	3.5027	3.5027	-26175	16250	30161	81562	84968	17864	102832		10.77	Si
SLD 8	-1.95	-15820.69	-44077	-35262	-8251	3.5027	3.5027	-22371	16250	27762	81562	84968	17864	102832		12.46	Si
SLD 8	0.15	-17753.72	-49038	-39230	-8028	3.5027	3.5027	-24889	16250	29350	81562	84968	17864	102832		12.81	Si
SLV 12	-1.95	-18837.67	-44691	-35753	-12196	3.5027	3.5027	-22683	16250	27959	81562	84968	17864	102832		8.43	Si
SLV 12	0.15	-19739.52	-53088	-42470	-11284	3.5027	3.5027	-26944	16250	30646	81562	84968	17864	102832		9.11	Si
SLV 13	-1.95	1799.02	-8564	-6851	5253	3.5027	3.5027	-4347	13369	21073	81562	84968	17864	102635		19.54	Si
SLV 13	0.15	-8290.6	-872	-698	6497	2.8022	0	0	0	0	81562	67975	14291	81562		12.55	Si
SLV 5	-1.95	4221.45	-14871	-11897	10125	3.5027	3.5027	-7548	14010	22082	81562	84968	17864	102832		10.16	Si
SLV 5	0.15	-5580.35	-2917	-2334	9674	2.8022	0	0	0	0	81562	67975	14291	81562		8.43	Si
SLV 7	-1.95	-20840.65	-53214	-42571	-11511	3.5027	3.5027	-27008	16250	30686	81562	84968	17864	102832		8.93	Si
SLV 7	0.15	-22394.59	-61869	-49495	-11269	3.5027	3.5027	-31401	16250	33456	81562	84968	17864	102832		9.12	Si
SLV 9	-1.95	7058.47	-5825	-4660	11177	3.5027	1.6186	-2956	13091	15522	81562	84968	17864	97084		8.69	Si
SLV 9	0.15	-3995.23	7380	5904	11397	2.8022	3.5027	0	0	0	81562	67975	14291	81562		7.16	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	838	0.24	212.36	0	0	0	0	No
SLV 9	1911	0.24	212.36	0	0	0	0	No
SLV 13	-3810	0.24	212.36	845.86	1619.69	1232.78	5.81	Si
SLV 14	-5402	0.24	212.36	1192.79	2002.64	1597.71	7.52	Si
SLV 5	-7704	0.24	212.36	1687.08	2553.04	2120.06	9.98	Si
SLV 6	-8776	0.24	212.36	1914.58	2809	2361.79	11.12	Si
SLV 15	-18550	0.24	212.36	3905.7	5112.41	4509.05	21.23	Si
SLV 16	-20142	0.24	212.36	4216.06	5485.41	4850.73	22.84	Si
SLD 9	-10195	0.1	87.87	2213	3145.59	2679.29	30.49	Si
SLD 10	-10846	0.1	87.87	2348.74	3299.47	2824.1	32.14	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-63777	-53737	904	0.366	7088.2	0.974	5.46697	2.58901	Si
SLV 7	-62521	-53214	895	0.372	6960.2	0.974	5.55149	2.58901	Si
SLV 4	-54585	-50998	1309	0.404	6152	0.97	6.04988	2.7151	Si
SLV 3	-52718	-50221	1295	0.415	5962	0.97	6.21748	2.7151	Si
SLV 12	-54015	-44691	358	0.424	6094	0.97	6.34518	2.58901	Si
SLV 11	-52759	-44168	348	0.431	5966.1	0.97	6.46466	2.58901	Si
SLV 2	-36682	-39495	1108	0.55	4330.1	0.959	8.34054	2.7151	Si
SLV 1	-34815	-38718	1094	0.573	4140.3	0.958	8.70294	2.7151	Si
SLV 16	-22044	-20844	-512	0.838	2843.8	0.941	12.93871	2.7151	Si
SLV 15	-20178	-20067	-526	0.896	2654.9	0.937	13.88758	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.716	SLU 47	Si
V_SLU	44.812	SLU 77	Si
PF_SLV	0	SLV 9	No
V_SLV	7.157	SLV 9	Si
PFFP_SLV	0	SLV 9	No
R_SLV	2.112	SLV 8	Si

Maschio 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.863	5.876	-24.603	5.876	L2	L4	1.74	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

											εlim,conv / ε,CNR DT-200					CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	0.05	-1242.85	-20344	-0.0000507	0.0003743	0.0035	1.74	13182.3	15132.96	15132.96	12.18	No	Si
SLU 40	0.45	476.54	-17946	-0.0000398	0.0003743	0.0035	1.74	12098.4	13042.36	13042.36	27.37	No	Si
SLU 39	0.05	-1270.01	-20546	-0.0000513	0.0003743	0.0035	1.74	13267.99	15240.99	15240.99	12	No	Si
SLU 39	0.45	489.5	-18102	-0.0000402	0.0003743	0.0035	1.74	12172.76	13120.06	13120.06	26.8	No	Si
SLU 81	0.05	-1432.84	-23705	-0.0000597	0.0003743	0.0035	1.74	14490.93	16868.42	16868.42	11.77	No	Si
SLU 81	0.45	658.21	-20745	-0.0000472	0.0003743	0.0035	1.74	13351.34	14454.91	14454.91	21.96	No	Si
SLU 42	0.05	-1246.36	-20653	-0.0000514	0.0003743	0.0035	1.74	13312.81	15298.09	15298.09	12.27	No	Si
SLU 42	0.45	509.51	-18209	-0.0000406	0.0003743	0.0035	1.74	12223.16	13173.12	13173.12	25.85	No	Si
SLU 82	0.05	-1405.68	-23503	-0.0000591	0.0003743	0.0035	1.74	14419.19	16767.78	16767.78	11.93	No	Si
SLU 82	0.45	645.25	-20589	-0.0000468	0.0003743	0.0035	1.74	13285.98	14375.1	14375.1	22.28	No	Si
SLU 79	0.05	-1352.66	-23291	-0.0000582	0.0003743	0.0035	1.74	14342.8	16661.48	16661.48	12.32	No	Si
SLU 79	0.45	756.54	-20291	-0.000047	0.0003743	0.0035	1.74	13159.71	14223.06	14223.06	18.8	No	Si
SLU 83	0.05	-1436.35	-24014	-0.0000605	0.0003743	0.0035	1.74	14598.78	17017.83	17017.83	11.85	No	Si
SLU 83	0.45	691.18	-21007	-0.0000481	0.0003743	0.0035	1.74	13460.06	14589.43	14589.43	21.11	No	Si
SLU 84	0.05	-1409.19	-23812	-0.0000598	0.0003743	0.0035	1.74	14528.4	16920.52	16920.52	12.01	No	Si
SLU 84	0.45	678.22	-20851	-0.0000476	0.0003743	0.0035	1.74	13395.6	14509.41	14509.41	21.39	No	Si
SLU 41	0.05	-1273.52	-20855	-0.0000521	0.0003743	0.0035	1.74	13397.13	15406.65	15406.65	12.1	No	Si
SLU 41	0.45	522.47	-18365	-0.000041	0.0003743	0.0035	1.74	12296.62	13251.03	13251.03	25.36	No	Si
SLU 74	0.05	-1351.41	-23134	-0.0000578	0.0003743	0.0035	1.74	14285.73	16583.19	16583.19	12.27	No	Si
SLU 74	0.45	739.56	-20157	-0.0000465	0.0003743	0.0035	1.74	13102.22	14154.74	14154.74	19.14	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	0.05	165.24	-2860	-0.0000066	0.0005615	0.0035	1.74		2594.66	2594.66	15.7		Si
SLV 6	0.45	-907.23	-3412	-0.0000126	0.0005615	0.0035	1.74		3721.13	3721.13	4.1		Si
SLV 10	0.05	-452.55	835	0.1203968	0.0005615	0.0035	1.392		0	0	0		No
SLV 10	0.45	-1600.53	-74	-0.0009243	0.0005615	0.0035	1.392		918.71	918.71	0.57		No
SLV 15	0.05	-1972.56	-13468	-0.0000402	0.0005615	0.0035	1.74		11476.71	11476.71	5.82		Si
SLV 15	0.45	-39.2	-11231	-0.0000223	0.0005615	0.0035	1.74		9853.28	9853.28	251.37		Si
SLD 13	0.05	-1261.82	-8772	-0.0000257	0.0005615	0.0035	1.74		7984.67	7984.67	6.33		Si
SLD 13	0.45	-485.08	-7661	-0.0000182	0.0005615	0.0035	1.74		7124.79	7124.79	14.69		Si
SLV 9	0.05	-159.74	1430	0.2037003	0.0005615	0.0035	1.392		0	0	0		No
SLV 9	0.45	-1589.23	278	0.0425718	0.0005615	0.0035	1.392		0	0	0		No
SLD 14	0.05	-1537.74	-9332	-0.0000287	0.0005615	0.0035	1.74		8413.64	8413.64	5.47		Si
SLD 14	0.45	-495.72	-7993	-0.0000189	0.0005615	0.0035	1.74		7382.47	7382.47	14.89		Si
SLV 13	0.05	-1435.74	-4536	-0.0000184	0.0005615	0.0035	1.74		4643.04	4643.04	3.23		Si
SLV 13	0.45	-1126.65	-4082	-0.0000154	0.0005615	0.0035	1.74		4271.66	4271.66	3.79		Si
SLV 16	0.05	-2407.5	-14352	-0.000045	0.0005615	0.0035	1.74		12109.31	12109.31	5.03		Si
SLV 16	0.45	-55.98	-11754	-0.0000235	0.0005615	0.0035	1.74		10232.44	10232.44	182.8		Si
SLV 14	0.05	-1870.67	-5420	-0.0000233	0.0005615	0.0035	1.74		5357.56	5357.56	2.86		Si
SLV 14	0.45	-1143.43	-4605	-0.0000166	0.0005615	0.0035	1.74		4699.33	4699.33	4.11		Si
SLV 5	0.05	458.05	-2265	-0.0000074	0.0005615	0.0035	1.74		2094.14	2094.14	4.57		Si
SLV 5	0.45	-895.93	-3060	-0.0000119	0.0005615	0.0035	1.74		3430.39	3430.39	3.83		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.05	-1432.84	-23705	-21071	-10150	1.74	1.74	-26911	10533	8247	28547	23446	4437	27883	No	2.75	Si
SLU 81	0.45	658.21	-20745	-18440	-9979	1.74	1.74	-23550	10084	7896	28547	23446	4437	27883	No	2.79	Si
SLU 79	0.05	-1352.66	-23291	-20703	-10280	1.74	1.74	-26440	10470	8198	28547	23446	4437	27883	No	2.71	Si
SLU 79	0.45	756.54	-20291	-18036	-10109	1.74	1.74	-23035	10016	7842	28547	23446	4437	27883	No	2.76	Si
SLU 82	0.05	-1405.68	-23503	-20892	-9949	1.74	1.74	-26682	10502	8223	28547	23446	4437	27883	No	2.8	Si
SLU 82	0.45	645.25	-20589	-18301	-9779	1.74	1.74	-23373	10061	7878	28547	23446	4437	27883	No	2.85	Si
SLU 78	0.05	-1327.76	-23240	-20658	-10176	1.74	1.74	-26383	10462	8192	28547	23446	4437	27883	No	2.74	Si
SLU 78	0.45	759.56	-20263	-18012	-10005	1.74	1.74	-23003	10012	7839	28547	23446	4437	27883	No	2.79	Si
SLU 77	0.05	-1354.92	-23442	-20838	-10377	1.74	1.74	-26613	10493	8216	28547	23446	4437	27883	No	2.69	Si
SLU 77	0.45	772.53	-20419	-18150	-10204	1.74	1.74	-23180	10035	7858	28547	23446	4437	27883	No	2.73	Si
SLU 83	0.05	-1436.35	-24014	-21346	-10342	1.74	1.74	-27262	10579	8284	28547	23446	4437	27883	No	2.7	Si
SLU 83	0.45	691.18	-21007	-18673	-10168	1.74	1.74	-23848	10124	7927	28547	23446	4437	27883	No	2.74	Si
SLU 75	0.05	-1324.25	-22931	-20383	-9983	1.74	1.74	-26032	10415	8155	28547	23446	4437	27883	No	2.79	Si
SLU 75	0.45	726.6	-20001	-17778	-9815	1.74	1.74	-22705	9972	7808	28547	23446	4437	27883	No	2.84	Si
SLU 84	0.05	-1409.19	-23812	-21166	-10141	1.74	1.74	-27032	10549	8260	28547	23446	4437	27883	No	2.75	Si
SLU 84	0.45	678.22	-20851	-18534	-9969	1.74	1.74	-23671	10101	7909	28547	23446	4437	27883	No	2.8	Si
SLU 74	0.05	-1351.41	-23134	-20563	-10184	1.74	1.74	-26262	10446	8179	28547	23446	4437	27883	No	2.74	Si
SLU 74	0.45	739.56	-20157	-17917	-10015	1.74	1.74	-22882	9995	7826	28547	23446	4437	27883	No	2.78	Si
SLU 80	0.05	-1325.5	-23088	-20523	-10079	1.74	1.74	-26211	10439	8174	28547	23446	4437	27883	No	2.77	Si
SLU 80	0.45	743.58	-20135	-17898	-9909	1.74	1.74	-22858	9992	7824	28547	23446	4437	27883	No	2.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	0.05	-1712.29	-23344	-20750	-15236	1.74	1.74	-26500	15717	12306	28547	35170	4437	39607		2.6	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	0.45	1385.8	-19523	-17354	-15009	1.74	1.74	-22163	14849	11627	28547	35170	4437	39607		2.64	Si
SLV 8	0.05	-1624.17	-32633	-29007	-21627	1.74	1.74	-37046	16250	12724	28547	35170	4437	39607		1.83	Si
SLV 8	0.45	2717.6	-27241	-24215	-21446	1.74	1.74	-30925	16250	12724	28547	35170	4437	39607		1.85	Si
SLD 8	0.05	-1311.96	-25700	-22845	-15640	1.74	1.74	-29176	16250	12724	28547	35170	4437	39607		2.53	Si
SLD 8	0.45	1830.06	-21656	-19250	-15489	1.74	1.74	-24584	15334	12006	28547	35170	4437	39607		2.56	Si
SLV 4	0.05	-348.17	-26667	-23704	-13136	1.74	1.74	-30274	16250	12724	28547	35170	4437	39607		3.02	Si
SLV 4	0.45	2255.02	-22881	-20339	-13183	1.74	1.74	-25975	15612	12224	28547	35170	4437	39607		3	Si
SLV 12	0.05	-2241.97	-28939	-25723	-20995	1.74	1.74	-32852	16250	12724	28547	35170	4437	39607		1.89	Si
SLV 12	0.45	2024.31	-23903	-21247	-20692	1.74	1.74	-27136	15844	12406	28547	35170	4437	39607		1.91	Si
SLD 11	0.05	-1534.6	-22982	-20429	-14489	1.74	1.74	-26090	15635	12242	28547	35170	4437	39607		2.73	Si
SLD 11	0.45	1392.65	-19309	-17164	-14263	1.74	1.74	-21921	14801	11589	28547	35170	4437	39607		2.78	Si
SLV 11	0.05	-1949.16	-28344	-25194	-19763	1.74	1.74	-32177	16250	12724	28547	35170	4437	39607		2	Si
SLV 11	0.45	2035.6	-23551	-20934	-19463	1.74	1.74	-26736	15764	12343	28547	35170	4437	39607		2.03	Si
SLV 7	0.05	-1331.36	-32038	-28478	-20395	1.74	1.74	-36371	16250	12724	28547	35170	4437	39607		1.94	Si
SLV 7	0.45	2728.9	-26889	-23902	-20216	1.74	1.74	-30526	16250	12724	28547	35170	4437	39607		1.96	Si
SLD 7	0.05	-1134.27	-25339	-22524	-14892	1.74	1.74	-28766	16170	12661	28547	35170	4437	39607		2.66	Si
SLD 7	0.45	1836.91	-21442	-19060	-14743	1.74	1.74	-24342	15285	11968	28547	35170	4437	39607		2.69	Si
SLV 3	0.05	86.76	-25783	-22919	-11306	1.74	1.74	-29270	16250	12724	28547	35170	4437	39607		3.5	Si
SLV 3	0.45	2271.8	-22358	-19874	-11357	1.74	1.74	-25382	15493	12131	28547	35170	4437	39607		3.49	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	0	1638	105.49	0	0	No, Trazione
SLV 10	179667	0.24	0	1065	105.49	0	0	No, Trazione
SLV 5	179667	0.24	2941	-2303	105.49	508.22	4.82	Si
SLV 6	179667	0.24	3673	-2876	105.49	631.59	5.99	Si
SLV 13	179667	0.24	5056	-3959	105.49	861.21	8.16	Si
SLV 14	179667	0.24	6143	-4810	105.49	1038.71	9.85	Si
SLV 15	179667	0.24	16369	-12817	105.49	2574.68	24.41	Si
SLV 16	179667	0.24	17456	-13668	105.49	2723.8	25.82	Si
SLV 1	179667	0.24	21835	-17097	105.49	3296.8	31.25	Si
SLV 2	179667	0.24	22922	-17948	105.49	3432.2	32.54	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-26380	-32220	1144	0.395	2981.2	0.97	5.91724	2.58901	Si
SLV 7	-25949	-31764	1123	0.4	2937.4	0.969	6.00322	2.58901	Si
SLV 12	-23237	-27786	1001	0.439	2661.3	0.966	6.60819	2.58901	Si
SLV 11	-22807	-27330	980	0.446	2617.4	0.966	6.71781	2.58901	Si
SLV 4	-21591	-27591	912	0.468	2493.8	0.964	7.05493	2.7151	Si
SLV 3	-20952	-26913	881	0.48	2428.7	0.963	7.24426	2.7151	Si
SLV 2	-14254	-19094	566	0.664	1747.8	0.951	10.15107	2.7151	Si
SLV 1	-13614	-18417	535	0.69	1682.8	0.949	10.56624	2.7151	Si
SLV 16	-11115	-12811	435	0.814	1429.4	0.942	12.56854	2.7151	Si
SLV 15	-10475	-12133	404	0.855	1364.5	0.939	13.22362	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.773	SLU 81	Si
V_SLU	2.687	SLU 77	Si
PF_SLV	0	SLV 9	No
V_SLV	1.831	SLV 8	Si
PFFP_SLV	0	SLV 10	No
R_SLV	2.286	SLV 8	Si

Maschio 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.876	-21.863	5.876	L2	L4	2.245	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 66	0.05	-5319.5	-26376	-0.0000655	0.0003743	0.0035	2.245	22014.61	25226.26	25226.26	4.74	No	Si
SLU 66	0.45	-4138.99	-26604	-0.0000606	0.0003743	0.0035	2.245	22138.83	25386.01	25386.01	6.13	No	Si
SLU 49	0.05	-4795.05	-22502	-0.0000563	0.0003743	0.0035	2.245	19732.74	22412.33	22412.33	4.67	No	Si
SLU 49	0.45	-3695.46	-22611	-0.0000516	0.0003743	0.0035	2.245	19801.31	22492.73	22492.73	6.09	No	Si
SLU 51	0.05	-4745.87	-22309	-0.0000557	0.0003743	0.0035	2.245	19610.05	22268.54	22268.54	4.69	No	Si
SLU 51	0.45	-3642.79	-22409	-0.000051	0.0003743	0.0035	2.245	19674.02	22343.82	22343.82	6.13	No	Si
SLU 43	0.05	-4624.42	-21739	-0.0000542	0.0003743	0.0035	2.245	19244.47	21830.17	21830.17	4.72	No	Si
SLU 43	0.45	-3497.07	-21816	-0.0000494	0.0003743	0.0035	2.245	19294.15	21889.63	21889.63	6.26	No	Si
SLU 50	0.05	-4826.95	-22533	-0.0000565	0.0003743	0.0035	2.245	19751.86	22434.72	22434.72	4.65	No	Si
SLU 50	0.45	-3717.53	-22645	-0.0000518	0.0003743	0.0035	2.245	19822.72	22517.91	22517.91	6.06	No	Si
SLU 71	0.05	-5371.58	-26579	-0.0000661	0.0003743	0.0035	2.245	22125.23	25368.43	25368.43	4.72	No	Si
SLU 71	0.45	-4196.55	-26817	-0.0000612	0.0003743	0.0035	2.245	22253.76	25535.53	25535.53	6.08	No	Si
SLU 69	0.05	-5420.76	-26773	-0.0000667	0.0003743	0.0035	2.245	22229.87	25504.3	25504.3	4.7	No	Si
SLU 69	0.45	-4249.22	-27019	-0.0000618	0.0003743	0.0035	2.245	22361.65	25677.41	25677.41	6.04	No	Si
SLU 48	0.05	-4876.14	-22726	-0.000057	0.0003743	0.0035	2.245	19873.61	22577.93	22577.93	4.63	No	Si
SLU 48	0.45	-3770.2	-22847	-0.0000523	0.0003743	0.0035	2.245	19948.97	22667.24	22667.24	6.01	No	Si
SLU 46	0.05	-4693.79	-22105	-0.0000551	0.0003743	0.0035	2.245	19480.5	22112.98	22112.98	4.71	No	Si
SLU 46	0.45	-3585.23	-22196	-0.0000504	0.0003743	0.0035	2.245	19538.59	22182.71	22182.71	6.19	No	Si
SLU 45	0.05	-4774.87	-22329	-0.0000559	0.0003743	0.0035	2.245	19623.3	22284.47	22284.47	4.67	No	Si
SLU 45	0.45	-3659.96	-22432	-0.0000511	0.0003743	0.0035	2.245	19688.39	22360.55	22360.55	6.11	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.05	2933.59	-6392	-0.0000217	0.0005615	0.0035	2.245		7204.13	7204.13	2.46		Si
SLV 5	0.45	3115.12	-4835	-0.0000228	0.0005615	0.0035	2.245		5561.03	5561.03	1.79		Si
SLV 15	0.05	-7034.76	-18799	-0.0000583	0.0005615	0.0035	2.245		20358.02	20358.02	2.89		Si
SLV 15	0.45	-5339.55	-20537	-0.0000539	0.0005615	0.0035	2.245		21924.04	21924.04	4.11		Si
SLD 16	0.05	-6227.49	-19126	-0.0000554	0.0005615	0.0035	2.245		20651.6	20651.6	3.32		Si
SLD 16	0.45	-4556.59	-20384	-0.0000504	0.0005615	0.0035	2.245		21785.22	21785.22	4.78		Si
SLV 6	0.05	2492.54	-6569	-0.0000199	0.0005615	0.0035	2.245		7389.8	7389.8	2.96		Si
SLV 6	0.45	2941.13	-5149	-0.0000211	0.0005615	0.0035	2.245		5896.29	5896.29	2		Si
SLV 11	0.05	-10377.99	-33182	-0.0000976	0.0005615	0.0035	2.245		32351.56	32351.56	3.12		Si
SLV 11	0.45	-8979.74	-34916	-0.0000944	0.0005615	0.0035	2.245		33626.66	33626.66	3.74		Si
SLV 9	0.05	1995.44	-3120	-0.0000145	0.0005615	0.0035	2.245		3718.11	3718.11	1.86		Si
SLV 9	0.45	2696.28	-2347	-0.0003756	0.0005615	0.0035	1.796		2878.99	2878.99	1.07		Si
SLV 10	0.05	1554.39	-3296	-0.0000113	0.0005615	0.0035	2.245		3909.88	3909.88	2.52		Si
SLV 10	0.45	2522.29	-2661	-0.0000347	0.0005615	0.0035	2.245		3219.92	3219.92	1.28		Si
SLV 12	0.05	-10819.04	-33358	-0.0000999	0.0005615	0.0035	2.245		32488.81	32488.81	3		Si
SLV 12	0.45	-9153.74	-35230	-0.0000958	0.0005615	0.0035	2.245		33854.85	33854.85	3.7		Si
SLV 14	0.05	-3977.86	-10043	-0.0000314	0.0005615	0.0035	2.245		11971.23	11971.23	3.01		Si
SLV 14	0.45	-2095.19	-11233	-0.0000255	0.0005615	0.0035	2.245		13153.61	13153.61	6.28		Si
SLV 16	0.05	-7689.89	-19062	-0.0000616	0.0005615	0.0035	2.245		20594.04	20594.04	2.68		Si
SLV 16	0.45	-5598	-21004	-0.0000558	0.0005615	0.0035	2.245		22342.55	22342.55	3.99		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	-5519.14	-30209	-26852	-6354	2.245	2.245	-26580	10488	13071	28547	30251	5725	35976	No	5.66	Si
SLU 82	0.45	-4231.63	-30546	-27152	-6976	2.245	2.245	-26876	10528	13171	28547	30251	5725	35976	No	5.16	Si
SLU 75	0.05	-5540.24	-29405	-26138	-6200	2.245	2.245	-25873	10394	12832	28547	30251	5725	35976	No	5.8	Si
SLU 75	0.45	-4295.44	-29724	-26421	-6815	2.245	2.245	-26153	10432	12927	28547	30251	5725	35976	No	5.28	Si
SLU 78	0.05	-5641.51	-29802	-26491	-6221	2.245	2.245	-26222	10441	12950	28547	30251	5725	35976	No	5.78	Si
SLU 78	0.45	-4405.68	-30139	-26790	-6847	2.245	2.245	-26518	10480	13050	28547	30251	5725	35976	No	5.25	Si
SLU 79	0.05	-5673.4	-29832	-26518	-6253	2.245	2.245	-26248	10444	12959	28547	30251	5725	35976	No	5.75	Si
SLU 79	0.45	-4427.75	-30173	-26820	-6878	2.245	2.245	-26548	10484	13060	28547	30251	5725	35976	No	5.23	Si
SLU 74	0.05	-5621.32	-29629	-26337	-6243	2.245	2.245	-26070	10420	12898	28547	30251	5725	35976	No	5.76	Si
SLU 74	0.45	-4370.18	-29960	-26631	-6863	2.245	2.245	-26361	10459	12997	28547	30251	5725	35976	No	5.24	Si
SLU 83	0.05	-5701.49	-30830	-27404	-6417	2.245	2.245	-27126	10561	13256	28547	30251	5725	35976	No	5.61	Si
SLU 83	0.45	-4416.6	-31196	-27730	-7055	2.245	2.245	-27449	10604	13365	28547	30251	5725	35976	No	5.1	Si
SLU 77	0.05	-5722.59	-30026	-26690	-6263	2.245	2.245	-26419	10467	13017	28547	30251	5725	35976	No	5.74	Si
SLU 77	0.45	-4480.41	-30375	-27000	-6894	2.245	2.245	-26726	10508	13120	28547	30251	5725	35976	No	5.22	Si
SLU 84	0.05	-5620.41	-30606	-27205	-6374	2.245	2.245	-26929	10535	13189	28547	30251	5725	35976	No	5.64	Si
SLU 84	0.45	-4341.86	-30961	-27521	-7008	2.245	2.245	-27241	10577	13295	28547	30251	5725	35976	No	5.13	Si
SLU 80	0.05	-5592.32	-29608	-26318	-6210	2.245	2.245	-26051	10418	12892	28547	30251	5725	35976	No	5.79	Si
SLU 80	0.45	-4353.01	-29937	-26611	-6831	2.245	2.245	-26341	10457	12990	28547	30251	5725	35976	No	5.27	Si
SLU 81	0.05	-5600.23	-30433	-27051	-6396	2.245	2.245	-26777	10515	13138	28547	30251	5725	35976	No	5.62	Si
SLU 81	0.45	-4306.37	-30782	-27361	-7024	2.245	2.245	-27084	10556	13242	28547	30251	5725	35976	No	5.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.05	-7689.89	-19062	-16944	-10952	2.245	2.1572	-16772	13771	13368	28547	45377	5725	41915		3.83	Si
SLV 16	0.45	-5598	-21004	-18670	-11352	2.245	2.245	-18481	14113	14257	28547	45377	5725	42804		3.77	Si
SLV 15	0.05	-7034.76	-18799	-16710	-9440	2.245	2.2449	-16541	13725	13865	28547	45377	5725	42411		4.49	Si
SLV 15	0.45	-5339.55	-20537	-18256	-9835	2.245	2.245	-18070	14031	14175	28547	45377	5725	42721		4.34	Si
SLD 14	0.05	-4047.27	-13839	-12301	-7820	2.245	2.245	-12177	12852	12984	28547	45377	5725	41530		5.31	Si
SLD 14	0.45	-2512.69	-14641	-13015	-8089	2.245	2.245	-12882	12993	13126	28547	45377	5725	41673		5.15	Si
SLV 14	0.05	-3977.86	-10043	-8927	-9714	2.245	2.1793	-8837	12184	11948	28547	45377	5725	40495		4.17	Si
SLV 14	0.45	-2095.19	-11233	-9985	-9882	2.245	2.245	-9884	12393	12520	28547	45377	5725	41067		4.16	Si
SLV 12	0.05	-10819.04	-33358	-29652	-8569	2.245	2.245	-29351	16250	16417	28547	45377	5725	44963		5.25	Si
SLV 12	0.45	-9153.74	-35230	-31315	-9338	2.245	2.245	-30998	16250	16603	28547	45377	5725	45150		4.84	Si
SLV 13	0.05	-3322.73	-9781	-8694	-8201	2.245	2.245	-8606	12138	12262	28547	45377	5725	40809		4.98	Si
SLV 13	0.45	-1836.75	-10767	-9570	-8364	2.245	2.245	-9473	12311	12438	28547	45377	5725	40984		4.9	Si
SLD 16	0.05	-6227.49	-19126	-17001	-8548	2.245	2.245	-16828	13782	13924	28547	45377	5725	42470		4.97	Si
SLD 16	0.45	-4556.59	-20384	-18119	-8954	2.245	2.245	-17935	14004	14147	28547	45377	5725	42694		4.77	Si
SLV 11	0.05	-10377.99	-33182	-29495	-7551	2.245	2.245	-29196	16250	16417	28547	45377	5725	44963		5.95	Si
SLV 11	0.45	-8979.74	-34916	-31036	-8316	2.245	2.245	-30721	16250	16510	28547	45377	5725	45057		5.42	Si
SLD 12	0.05	-8006.31	-27697	-24620	-6957	2.245	2.245	-24370	15291	15447	28547	45377	5725	43994		6.32	Si
SLD 12	0.45	-6608.61	-28899	-25688	-7582	2.245	2.245	-25427	15502	15661	28547	45377	5725	44208		5.83	Si
SLD 15	0.05	-5811.87	-18959	-16853	-7589	2.245	2.245	-16682	13753	13894	28547	45377	5725	42441		5.59	Si
SLD 15	0.45	-4392.63	-20088	-17856	-7991	2.245	2.245	-17675	13952	14095	28547	45377	5725	42641		5.34	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	2999	-3030	136.11	668.28	4.91	Si
SLV 10	179667	0.24	3219	-3252	136.11	716.35	5.26	Si
SLV 5	179667	0.24	7087	-7160	136.11	1536.18	11.29	Si
SLV 6	179667	0.24	7308	-7382	136.11	1581.56	11.62	Si
SLV 13	179667	0.24	10528	-10636	136.11	2228.11	16.37	Si
SLV 14	179667	0.24	10855	-10967	136.11	2292.12	16.84	Si
SLV 15	179667	0.24	21116	-21332	136.11	4136.08	30.39	Si
SLV 16	179667	0.24	21443	-21663	136.11	4189.76	30.78	Si
SLV 1	179667	0.24	24155	-24403	136.11	4622.19	33.96	Si
SLV 2	179667	0.24	24483	-24734	136.11	4672.92	34.33	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-34059	-48215	1721	0.388	3848.8	0.97	5.81333	2.58901	Si
SLV 7	-33858	-48006	1715	0.39	3828.3	0.97	5.842	2.58901	Si
SLV 12	-31420	-43193	1559	0.416	3580.1	0.968	6.25365	2.58901	Si
SLV 11	-31219	-42984	1553	0.419	3559.6	0.968	6.28733	2.58901	Si
SLV 4	-26706	-41343	1377	0.476	3100.3	0.963	7.18928	2.7151	Si
SLV 3	-26407	-41033	1368	0.481	3069.9	0.963	7.25789	2.7151	Si
SLV 16	-17909	-24602	837	0.673	2206.1	0.95	10.29116	2.7151	Si
SLV 2	-17722	-30387	919	0.674	2187.1	0.95	10.31687	2.7151	Si
SLV 15	-17610	-24292	828	0.682	2175.8	0.949	10.43901	2.7151	Si
SLV 1	-17423	-30077	910	0.683	2156.8	0.949	10.46655	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.63	SLU 48	Si
V_SLU	5.1	SLU 83	Si
PF_SLV	1.068	SLV 9	Si
V_SLV	3.771	SLV 16	Si
PFFP_SLV	4.91	SLV 9	Si
R_SLV	2.245	SLV 8	Si

Maschio 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	2.071	-19.618	4.851	L2	L4	2.78	0.3	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	-1.95	1378.9	-83171	-0.0001706	0.0004492	0.0035	2.78	21252.42	66186.45	66186.45	48	No	Si
SLU 82	0.05	7054.7	-79094	-0.0001903	0.0004492	0.0035	2.78	24609.5	64953.06	64953.06	9.21	No	Si
SLU 84	-1.95	1510.54	-84148	-0.0001738	0.0004492	0.0035	2.78	20381.09	66481.85	66481.85	44.01	No	Si
SLU 84	0.05	7146.92	-80070	-0.0001934	0.0004492	0.0035	2.78	23846.8	65248.45	65248.45	9.13	No	Si
SLU 73	-1.95	802.82	-79826	-0.0001594	0.0004492	0.0035	2.78	24039.86	65174.62	65174.62	81.18	No	Si
SLU 73	0.05	6963.56	-75749	-0.0001812	0.0004492	0.0035	2.78	27024.86	63941.23	63941.23	9.18	No	Si
SLU 80	-1.95	1472.45	-81992	-0.0001682	0.0004492	0.0035	2.78	22270.22	65829.64	65829.64	44.71	No	Si
SLU 80	0.05	7073.07	-77914	-0.0001873	0.0004492	0.0035	2.78	25496.09	64596.25	64596.25	9.13	No	Si
SLU 78	-1.95	1525.73	-82490	-0.0001697	0.0004492	0.0035	2.78	21844.73	65980.43	65980.43	43.25	No	Si
SLU 78	0.05	7113.37	-78413	-0.0001889	0.0004492	0.0035	2.78	25126.05	64747.03	64747.03	9.1	No	Si
SLU 76	-1.95	934.45	-80803	-0.0001624	0.0004492	0.0035	2.78	23257.64	65470.02	65470.02	70.06	No	Si
SLU 76	0.05	7055.79	-76725	-0.0001842	0.0004492	0.0035	2.78	26351.27	64236.62	64236.62	9.1	No	Si
SLU 79	-1.95	2081.99	-82310	-0.0001722	0.0004492	0.0035	2.78	21999.14	65925.99	65925.99	31.66	No	Si
SLU 79	0.05	6960.67	-78233	-0.0001876	0.0004492	0.0035	2.78	25260.44	64692.59	64692.59	9.29	No	Si
SLU 83	-1.95	2120.08	-84466	-0.0001779	0.0004492	0.0035	2.78	20091.27	66578.19	66578.19	31.4	No	Si
SLU 83	0.05	7034.52	-80389	-0.0001937	0.0004492	0.0035	2.78	23592.41	65344.8	65344.8	9.29	No	Si
SLU 77	-1.95	2135.28	-82809	-0.0001737	0.0004492	0.0035	2.78	21569.32	66076.78	66076.78	30.95	No	Si
SLU 77	0.05	7000.97	-78731	-0.0001891	0.0004492	0.0035	2.78	24886.07	64843.38	64843.38	9.26	No	Si
SLU 75	-1.95	1394.1	-81513	-0.0001666	0.0004492	0.0035	2.78	22671.9	65685.04	65685.04	47.12	No	Si
SLU 75	0.05	7021.15	-77436	-0.0001858	0.0004492	0.0035	2.78	25844.6	64451.64	64451.64	9.18	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	-1.95	36633.45	-81899	-0.0003229	0.0006738	0.0035	2.78		76810.63	76810.63	2.1		Si
SLV 7	0.05	2848.44	-78890	-0.0001561	0.0006738	0.0035	2.78		75117.68	75117.68	26.37		Si
SLV 9	-1.95	-36232.82	-30193	-0.0006643	0.0006738	0.0035	2.224		40651.9	40651.9	1.12		Si
SLV 9	0.05	7520.26	-26981	-0.0000743	0.0006738	0.0035	2.78		33344.78	33344.78	4.43		Si
SLV 6	-1.95	-33770.02	-36627	-0.0002818	0.0006738	0.0035	2.224		47109.97	47109.97	1.4		Si
SLV 6	0.05	8682	-33132	-0.0000901	0.0006738	0.0035	2.78		39647.88	39647.88	4.57		Si
SLV 5	-1.95	-35443.47	-36311	-0.0003239	0.0006738	0.0035	2.224		46812.42	46812.42	1.32		Si
SLV 5	0.05	9259.02	-32817	-0.0000918	0.0006738	0.0035	2.78		39324.57	39324.57	4.25		Si
SLV 11	-1.95	35844.1	-75780	-0.000303	0.0006738	0.0035	2.78		73367.78	73367.78	2.05		Si
SLV 11	0.05	1109.69	-73054	-0.0001365	0.0006738	0.0035	2.78		71833.98	71833.98	64.73		Si
SLV 10	-1.95	-34559.37	-30508	-0.0004626	0.0006738	0.0035	2.224		40986.1	40986.1	1.19		Si
SLV 10	0.05	6943.25	-27297	-0.0000727	0.0006738	0.0035	2.78		33668.09	33668.09	4.85		Si
SLV 12	-1.95	37517.56	-76096	-0.0003133	0.0006738	0.0035	2.78		73545.32	73545.32	1.96		Si
SLV 12	0.05	532.67	-73370	-0.0001346	0.0006738	0.0035	2.78		72011.52	72011.52	135.19		Si
SLV 8	-1.95	38306.9	-82214	-0.000333	0.0006738	0.0035	2.78		76988.18	76988.18	2.01		Si
SLV 8	0.05	2271.43	-79206	-0.0001542	0.0006738	0.0035	2.78		75295.22	75295.22	33.15		Si
SLD 10	-1.95	-19838.98	-40981	-0.0001504	0.0006738	0.0035	2.78		51216.49	51216.49	2.58		Si
SLD 10	0.05	6057.72	-37826	-0.0000886	0.0006738	0.0035	2.78		44457.46	44457.46	7.34		Si
SLD 9	-1.95	-20854.5	-40790	-0.0001547	0.0006738	0.0035	2.78		51035.92	51035.92	2.45		Si
SLD 9	0.05	6407.88	-37635	-0.0000896	0.0006738	0.0035	2.78		44261.26	44261.26	6.91		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-1.95	934.45	-80803	-58766	-3060	2.78	2.78	-70462	10833	28323	81562	29972	14178	44150	No	14.43	Si
SLU 76	0.05	7055.79	-76725	-55800	-3060	2.78	2.78	-66907	10833	27137	81562	29972	14178	44150	No	14.43	Si
SLU 68	-1.95	538.43	-73493	-53450	-3065	2.78	2.78	-64088	10833	26197	81562	29972	14178	44150	No	14.41	Si
SLU 68	0.05	6668.3	-69416	-50484	-3065	2.78	2.78	-60533	10833	25011	81562	29972	14178	44150	No	14.41	Si
SLU 52	-1.95	27.07	-70383	-51188	-3174	2.78	2.78	-61376	10833	25292	81562	29972	14178	44150	No	13.91	Si
SLU 52	0.05	6375.34	-66426	-48310	-3174	2.78	2.78	-57925	10833	24141	81562	29972	14178	44150	No	13.91	Si
SLU 44	-1.95	-368.95	-63074	-45872	-3178	2.78	2.78	-55002	10833	23166	81562	29972	14178	44150	No	13.89	Si
SLU 44	0.05	5987.85	-59117	-42994	-3178	2.78	2.78	-51551	10833	22015	81562	29972	14178	44150	No	13.89	Si
SLU 65	-1.95	406.8	-72517	-52739	-3084	2.78	2.78	-63237	10833	25913	81562	29972	14178	44150	No	14.31	Si
SLU 65	0.05	6576.08	-68439	-49774	-3084	2.78	2.78	-59681	10833	24727	81562	29972	14178	44150	No	14.31	Si
SLU 47	-1.95	-237.32	-64050	-46582	-3158	2.78	2.78	-55854	10833	23450	81562	29972	14178	44150	No	13.98	Si
SLU 47	0.05	6080.07	-60093	-43704	-3158	2.78	2.78	-52403	10833	22299	81562	29972	14178	44150	No	13.98	Si
SLU 55	-1.95	158.7	-71360	-51898	-3154	2.78	2.78	-62228	10833	25576	81562	29972	14178	44150	No	14	Si
SLU 55	0.05	6467.56	-67403	-49020	-3154	2.78	2.78	-58777	10833	24425	81562	29972	14178	44150	No	14	Si
SLU 61	-1.95	603.15	-73728	-53621	-2931	2.78	2.78	-64293	10833	26265	81562	29972	14178	44150	No	15.06	Si
SLU 61	0.05	6466.47	-69771	-50743	-2931	2.78	2.78	-60842	10833	25114	81562	29972	14178	44150	No	15.06	Si
SLU 63	-1.95	734.78	-74705	-54331	-2911	2.78	2.78	-65145	10833	26549	81562	29972	14178	44150	No	15.16	Si
SLU 63	0.05	6558.69	-70748	-51453	-2911	2.78	2.78	-61694	10833	25398	81562	29972	14178	44150	No	15.16	Si
SLU 73	-1.95	802.82	-79826	-58055	-3080	2.78	2.78	-69611	10833	28039	81562	29972	14178	44150	No	14.33	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	0.05	6963.56	-75749	-55090	-3080	2.78	2.78	-66055	10833	26853	81562	29972	14178	44150	No	14.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-1.95	-36232.82	-30193	-21958	-22289	2.224	0.5698	0	0	0	81562	35966	11342	47309		2.12	Si
SLV 9	0.05	7520.26	-26981	-19623	-22413	2.78	2.78	-23528	16250	15075	81562	44958	14178	59136		2.64	Si
SLD 5	-1.95	-20345.68	-44707	-32514	-14238	2.78	2.78	-38986	16250	20232	81562	44958	14178	59136		4.15	Si
SLD 5	0.05	7523.45	-41374	-30090	-14185	2.78	2.78	-36079	16250	19262	81562	44958	14178	59136		4.17	Si
SLD 9	-1.95	-20854.5	-40790	-29665	-13863	2.78	2.6362	-38218	16250	19092	81562	44958	14178	59136		4.27	Si
SLD 9	0.05	6407.88	-37635	-27371	-13940	2.78	2.78	-32818	16250	18175	81562	44958	14178	59136		4.24	Si
SLV 7	-1.95	36633.45	-81899	-59563	17306	2.78	2.78	-71418	16250	31051	81562	44958	14178	59136		3.42	Si
SLV 7	0.05	2848.44	-78890	-57375	17430	2.78	2.78	-68795	16250	30176	81562	44958	14178	59136		3.39	Si
SLV 10	-1.95	-34559.37	-30508	-22188	-21164	2.224	0.7716	0	0	0	81562	35966	11342	47309		2.24	Si
SLV 10	0.05	6943.25	-27297	-19852	-21288	2.78	2.78	-23803	16250	15167	81562	44958	14178	59136		2.78	Si
SLV 11	-1.95	35844.1	-75780	-55113	17894	2.78	2.751	-66083	16250	29271	81562	44958	14178	59136		3.3	Si
SLV 11	0.05	1109.69	-73054	-53130	17813	2.78	2.78	-63706	16250	28478	81562	44958	14178	59136		3.32	Si
SLV 6	-1.95	-33770.02	-36627	-26638	-21753	2.224	1.404	0	0	0	81562	35966	11342	47309		2.17	Si
SLV 6	0.05	8682	-33132	-24096	-21671	2.78	2.78	-28892	16250	16865	81562	44958	14178	59136		2.73	Si
SLV 5	-1.95	-35443.47	-36311	-26408	-22878	2.224	1.2417	0	0	0	81562	35966	11342	47309		2.07	Si
SLV 5	0.05	9259.02	-32817	-23867	-22796	2.78	2.78	-28617	16250	16773	81562	44958	14178	59136		2.59	Si
SLV 8	-1.95	38306.9	-82214	-59792	18431	2.78	2.7722	-71693	16250	31143	81562	44958	14178	59136		3.21	Si
SLV 8	0.05	2271.43	-79206	-57604	18555	2.78	2.78	-69070	16250	30267	81562	44958	14178	59136		3.19	Si
SLV 12	-1.95	37517.56	-76096	-55342	19020	2.78	2.6909	-66358	16250	29363	81562	44958	14178	59136		3.11	Si
SLV 12	0.05	532.67	-73370	-53360	18938	2.78	2.78	-63981	16250	28570	81562	44958	14178	59136		3.12	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-28771	0.24	116.41	3503.39	4978.76	4241.08	36.43	Si
SLV 10	-29087	0.24	116.41	3532.8	5026.97	4279.88	36.77	Si
SLV 5	-34604	0.24	116.41	4015.52	5870.36	4942.94	42.46	Si
SLV 6	-34919	0.24	116.41	4041.33	5918.63	4979.98	42.78	Si
SLV 13	-37621	0.24	116.41	4254.23	6320.48	5287.35	45.42	Si
SLV 14	-38089	0.24	116.41	4289.71	6389.25	5339.48	45.87	Si
SLV 15	-51104	0.24	116.41	5102.77	8169.02	6635.9	57.01	Si
SLV 16	-51572	0.24	116.41	5125.85	8226.94	6676.4	57.35	Si
SLV 1	-57062	0.24	116.41	5364.07	8886.48	7125.27	61.21	Si
SLV 2	-57531	0.24	116.41	5381.67	8941.28	7161.47	61.52	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-58345	-82214	-36	0.316	6256.8	0.984	4.66578	2.74522	Si
SLV 7	-58064	-81899	-36	0.317	6228.2	0.984	4.68403	2.74522	Si
SLV 4	-51199	-73474	-118	0.349	5528.6	0.982	5.16922	2.95341	Si
SLV 3	-50783	-73005	-118	0.352	5486.2	0.982	5.20416	2.95341	Si
SLV 12	-54105	-76096	34	0.336	5824.7	0.983	4.96207	2.74522	Si
SLV 11	-53824	-75780	34	0.337	5796.1	0.983	4.98327	2.74522	Si
SLV 2	-40776	-59797	-117	0.421	4466.7	0.978	6.25273	2.95341	Si
SLV 1	-40360	-59329	-117	0.424	4424.2	0.978	6.3073	2.95341	Si
SLV 16	-37067	-53078	118	0.455	4088.7	0.976	6.78028	2.95341	Si
SLV 15	-36650	-52610	118	0.46	4046.3	0.976	6.84607	2.95341	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.102	SLU 78	Si
V_SLU	13.893	SLU 44	Si
PF_SLV	1.122	SLV 9	Si
V_SLV	2.068	SLV 5	Si
PFFP_SLV	36.433	SLV 9	Si
R_SLV	1.7	SLV 8	Si

Maschio 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.573	-3.284	-24.603	-3.284	L2	L4	2.03	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	0.05	-3205.39	-19289	-0.0000504	0.0003743	0.0035	2.03	15518.1	17584.26	17584.26	5.49	No	Si
SLU 73	0.45	-1057.05	-14693	-0.0000305	0.0003743	0.0035	2.03	12557.22	14182.81	14182.81	13.42	No	Si
SLU 80	0.05	-3163.72	-19312	-0.0000502	0.0003743	0.0035	2.03	15531.59	17600.73	17600.73	5.56	No	Si
SLU 80	0.45	-968.9	-14638	-0.00003	0.0003743	0.0035	2.03	12518.8	14139.92	14139.92	14.59	No	Si
SLU 34	0.05	-2814.57	-16770	-0.0000435	0.0003743	0.0035	2.03	13952.1	15760.26	15760.26	5.6	No	Si
SLU 34	0.45	-1008.12	-12924	-0.0000271	0.0003743	0.0035	2.03	11295.13	12781.7	12781.7	12.68	No	Si
SLU 84	0.05	-3294.21	-20126	-0.0000525	0.0003743	0.0035	2.03	16007.44	18167.48	18167.48	5.51	No	Si
SLU 84	0.45	-1059.95	-15368	-0.0000318	0.0003743	0.0035	2.03	13020.89	14699.14	14699.14	13.87	No	Si
SLU 31	0.05	-2791.9	-16643	-0.0000432	0.0003743	0.0035	2.03	13870.04	15664.98	15664.98	5.61	No	Si
SLU 31	0.45	-1008.36	-12841	-0.000027	0.0003743	0.0035	2.03	11233.93	12715.58	12715.58	12.61	No	Si
SLU 68	0.05	-2870.71	-17222	-0.0000447	0.0003743	0.0035	2.03	14243.39	16099.34	16099.34	5.61	No	Si
SLU 68	0.45	-844.91	-12878	-0.0000262	0.0003743	0.0035	2.03	11260.99	12744.8	12744.8	15.08	No	Si
SLU 82	0.05	-3271.54	-20000	-0.0000521	0.0003743	0.0035	2.03	15934.62	18083.32	18083.32	5.53	No	Si
SLU 82	0.45	-1060.19	-15284	-0.0000316	0.0003743	0.0035	2.03	12964.14	14636.48	14636.48	13.81	No	Si
SLU 76	0.05	-3228.06	-19416	-0.0000508	0.0003743	0.0035	2.03	15592.88	17675.83	17675.83	5.48	No	Si
SLU 76	0.45	-1056.82	-14776	-0.0000307	0.0003743	0.0035	2.03	12615.05	14247.42	14247.42	13.48	No	Si
SLU 78	0.05	-3177.58	-19403	-0.0000505	0.0003743	0.0035	2.03	15585.15	17666.34	17666.34	5.56	No	Si
SLU 78	0.45	-966.92	-14698	-0.0000301	0.0003743	0.0035	2.03	12560.8	14186.81	14186.81	14.67	No	Si
SLU 75	0.05	-3154.91	-19276	-0.0000501	0.0003743	0.0035	2.03	15510.34	17574.78	17574.78	5.57	No	Si
SLU 75	0.45	-967.16	-14615	-0.0000299	0.0003743	0.0035	2.03	12502.83	14122.08	14122.08	14.6	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	0.05	-451	230	0.0301479	0.0005615	0.0035	1.624		0	0	0		No
SLV 11	0.45	-804.25	-774	-0.0000399	0.0005615	0.0035	1.624		1878.05	1878.05	2.34		Si
SLD 16	0.05	-2342.46	-8142	-0.0000252	0.0005615	0.0035	2.03		8911.35	8911.35	3.8		Si
SLD 16	0.45	-504.89	-5747	-0.000012	0.0005615	0.0035	2.03		6692.56	6692.56	13.26		Si
SLV 14	0.05	-3738.37	-12411	-0.0000397	0.0005615	0.0035	2.03		12749.07	12749.07	3.41		Si
SLV 14	0.45	-360.01	-8000	-0.0000151	0.0005615	0.0035	2.03		8780.2	8780.2	24.39		Si
SLV 15	0.05	-2937.68	-5670	-0.0000258	0.0005615	0.0035	2.03		6620.61	6620.61	2.25		Si
SLV 15	0.45	-657.5	-3613	-0.0000092	0.0005615	0.0035	2.03		4652.7	4652.7	7.08		Si
SLV 8	0.05	653.85	-1692	-0.000006	0.0005615	0.0035	2.03		1913.87	1913.87	2.93		Si
SLV 8	0.45	-700.57	-2843	-0.0000081	0.0005615	0.0035	2.03		3906.99	3906.99	5.58		Si
SLD 15	0.05	-2649.45	-8466	-0.0000273	0.0005615	0.0035	2.03		9211.76	9211.76	3.48		Si
SLD 15	0.45	-597.34	-5900	-0.0000127	0.0005615	0.0035	2.03		6837.09	6837.09	11.45		Si
SLV 13	0.05	-4222.27	-12922	-0.000043	0.0005615	0.0035	2.03		13201.21	13201.21	3.13		Si
SLV 13	0.45	-505.74	-8242	-0.0000162	0.0005615	0.0035	2.03		9004.28	9004.28	17.8		Si
SLV 12	0.05	-125.23	574	0	0.0005615	0.0035	1.624		0	0	0		No
SLV 12	0.45	-706.14	-611	-0.0000527	0.0005615	0.0035	1.624		1716.41	1716.41	2.43		Si
SLD 13	0.05	-3400.82	-12706	-0.0000385	0.0005615	0.0035	2.03		13010.55	13010.55	3.83		Si
SLD 13	0.45	-504.3	-8609	-0.0000169	0.0005615	0.0035	2.03		9344.06	9344.06	18.53		Si
SLV 16	0.05	-2453.78	-5159	-0.0000216	0.0005615	0.0035	2.03		6136.29	6136.29	2.5		Si
SLV 16	0.45	-511.77	-3370	-0.0000081	0.0005615	0.0035	2.03		4418.95	4418.95	8.63		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.05	-3177.58	-19403	-17247	-15481	2.03	2.03	-18880	9462	8643	28547	27354	5177	32531	No	2.1	Si
SLU 78	0.45	-966.92	-14698	-13065	-15457	2.03	2.03	-14302	8851	8086	28547	27354	5177	32531	No	2.1	Si
SLU 79	0.05	-3033.22	-18968	-16860	-15340	2.03	2.03	-18457	9405	8592	28547	27354	5177	32531	No	2.12	Si
SLU 79	0.45	-837.37	-14304	-12715	-15313	2.03	2.03	-13919	8800	8039	28547	27354	5177	32531	No	2.12	Si
SLU 81	0.05	-3141.04	-19655	-17472	-15485	2.03	2.03	-19126	9495	8673	28547	27354	5177	32531	No	2.1	Si
SLU 81	0.45	-928.66	-14951	-13290	-15458	2.03	2.03	-14548	8884	8116	28547	27354	5177	32531	No	2.1	Si
SLU 77	0.05	-3047.08	-19058	-16941	-15455	2.03	2.03	-18545	9417	8602	28547	27354	5177	32531	No	2.1	Si
SLU 77	0.45	-835.39	-14365	-12769	-15429	2.03	2.03	-13978	8808	8046	28547	27354	5177	32531	No	2.11	Si
SLU 82	0.05	-3271.54	-20000	-17778	-15511	2.03	2.03	-19461	9539	8717	28547	27354	5177	32531	No	2.1	Si
SLU 82	0.45	-1060.19	-15284	-13586	-15485	2.03	2.03	-14873	8927	8155	28547	27354	5177	32531	No	2.1	Si
SLU 74	0.05	-3024.41	-18932	-16828	-15290	2.03	2.03	-18422	9401	8588	28547	27354	5177	32531	No	2.13	Si
SLU 74	0.45	-835.63	-14281	-12695	-15263	2.03	2.03	-13897	8797	8036	28547	27354	5177	32531	No	2.13	Si
SLU 83	0.05	-3163.71	-19782	-17584	-15650	2.03	2.03	-19249	9511	8688	28547	27354	5177	32531	No	2.08	Si
SLU 83	0.45	-928.42	-15035	-13364	-15623	2.03	2.03	-14630	8895	8126	28547	27354	5177	32531	No	2.08	Si
SLU 84	0.05	-3294.21	-20126	-17890	-15676	2.03	2.03	-19584	9556	8751	28547	27354	5177	32531	No	2.08	Si
SLU 84	0.45	-1059.95	-15368	-13660	-15651	2.03	2.03	-14954	8938	8165	28547	27354	5177	32531	No	2.08	Si
SLU 75	0.05	-3154.91	-19276	-17135	-15316	2.03	2.03	-18757	9445	8628	28547	27354	5177	32531	No	2.12	Si
SLU 75	0.45	-967.16	-14615	-12991	-15291	2.03	2.03	-14221	8841	8076	28547	27354	5177	32531	No	2.13	Si
SLU 80	0.05	-3163.72	-19312	-17166	-15366	2.03	2.03	-18792	9450	8633	28547	27354	5177	32531	No	2.12	Si
SLU 80	0.45	-968.9	-14638	-13011	-15341	2.03	2.03	-14243	8844	8079	28547	27354	5177	32531	No	2.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	0.05	-2943.37	-20498	-18220	-20657	2.03	2.03	-19945	14406	13160	28547	41031	5177	41706		2.02	Si
SLD 6	0.45	-313.11	-14694	-13061	-20663	2.03	2.03	-14298	13276	12128	28547	41031	5177	40674		1.97	Si
SLV 9	0.05	-4732.98	-23943	-21282	-28188	2.03	2.03	-23298	15076	13772	28547	41031	5177	42319		1.5	Si
SLV 9	0.45	-298.38	-16207	-14406	-28252	2.03	2.03	-15771	13571	12397	28547	41031	5177	40943		1.45	Si
SLV 6	0.05	-3628.13	-25865	-22991	-27740	2.03	2.03	-25168	15450	14114	28547	41031	5177	42660		1.54	Si
SLV 6	0.45	-194.71	-18275	-16245	-27757	2.03	2.03	-17783	13973	12765	28547	41031	5177	41311		1.49	Si
SLV 10	0.05	-4407.2	-23599	-20977	-27160	2.03	2.03	-22963	15009	13711	28547	41031	5177	42258		1.56	Si
SLV 10	0.45	-200.27	-16044	-14262	-27222	2.03	2.03	-15612	13539	12368	28547	41031	5177	40915		1.5	Si
SLV 13	0.05	-4222.27	-12922	-11486	-15669	2.03	2.03	-12574	12931	11813	28547	41031	5177	40359		2.58	Si
SLV 13	0.45	-505.74	-8242	-7327	-15745	2.03	2.03	-8020	12021	10981	28547	41031	5177	39528		2.51	Si
SLV 1	0.05	-1625.35	-20475	-18200	-17601	2.03	2.03	-19923	14401	13156	28547	41031	5177	41702		2.37	Si
SLV 1	0.45	-487.19	-15679	-13937	-17528	2.03	2.03	-15257	13468	12303	28547	41031	5177	40850		2.33	Si
SLD 10	0.05	-3442.62	-19062	-16944	-20309	2.03	2.03	-18548	14126	12904	28547	41031	5177	41451		2.04	Si
SLD 10	0.45	-316.18	-13286	-11809	-20343	2.03	2.03	-12928	13002	11878	28547	41031	5177	40424		1.99	Si
SLD 5	0.05	-3141.07	-20706	-18406	-21281	2.03	2.03	-20149	14446	13197	28547	41031	5177	41743		1.96	Si
SLD 5	0.45	-372.65	-14793	-13149	-21288	2.03	2.03	-14394	13295	12145	28547	41031	5177	40692		1.91	Si
SLV 5	0.05	-3953.9	-26209	-23297	-28767	2.03	2.03	-25502	15517	14175	28547	41031	5177	42722		1.49	Si
SLV 5	0.45	-292.82	-18438	-16390	-28786	2.03	2.03	-17942	14005	12794	28547	41031	5177	41340		1.44	Si
SLD 9	0.05	-3640.31	-19271	-17130	-20932	2.03	2.03	-18751	14167	12942	28547	41031	5177	41488		1.98	Si
SLD 9	0.45	-375.72	-13384	-11897	-20968	2.03	2.03	-13024	13021	11895	28547	41031	5177	40442		1.93	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	0	1617	123.07	0	0	No, Trazione
SLV 12	179667	0.24	0	2012	123.07	0	0	No, Trazione
SLV 8	179667	0.24	1182	-1079	123.07	240.97	1.96	Si
SLV 7	179667	0.24	1615	-1475	123.07	328.39	2.67	Si
SLV 16	179667	0.24	4959	-4530	123.07	986.17	8.01	Si
SLV 15	179667	0.24	5603	-5118	123.07	1109.31	9.01	Si
SLV 14	179667	0.24	14572	-13312	123.07	2709.38	22.01	Si
SLV 13	179667	0.24	15216	-13900	123.07	2815.86	22.88	Si
SLV 4	179667	0.24	16241	-14836	123.07	2983.06	24.24	Si
SLV 3	179667	0.24	16884	-15424	123.07	3086.64	25.08	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-17791	-34503	1207	0.603	2157	0.953	9.19551	2.58901	Si
SLV 6	-17568	-34044	1189	0.61	2134.4	0.953	9.30282	2.58901	Si
SLV 9	-16020	-30472	1118	0.658	1977.1	0.95	10.07846	2.58901	Si
SLV 10	-15797	-30012	1100	0.667	1954.5	0.949	10.20805	2.58901	Si
SLV 1	-14200	-28256	867	0.738	1792.5	0.945	11.34199	2.7151	Si
SLV 2	-13869	-27573	840	0.753	1758.9	0.944	11.58548	2.7151	Si
SLV 3	-9304	-18774	483	1.049	1297.2	0.928	16.42453	2.7151	Si
SLV 4	-8973	-18091	457	1.08	1263.9	0.927	16.93656	2.7151	Si
SLV 13	-8296	-14817	571	1.133	1195.7	0.923	17.83489	2.7151	Si
SLV 14	-7965	-14134	545	1.17	1162.4	0.922	18.447	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.476	SLU 76	Si
V_SLU	2.075	SLU 84	Si
PF_SLV	0	SLV 11	No
V_SLV	1.436	SLV 5	Si
PFFP_SLV	0	SLV 12	No
R_SLV	3.552	SLV 5	Si

Maschio 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.273	-3.284	-21.573	-3.284	L2	L4	3.3	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 71	0.05	-21639.48	-34778	-0.0000827	0.0003743	0.0035	3.3	44183.76	50339.15	50339.15	2.33	No	Si
SLU 71	0.45	-15669.39	-33507	-0.0000678	0.0003743	0.0035	3.3	43033.86	48958.63	48958.63	3.12	No	Si
SLU 69	0.05	-21798.88	-34989	-0.0000833	0.0003743	0.0035	3.3	44370.87	50569.62	50569.62	2.32	No	Si
SLU 69	0.45	-15796.83	-33718	-0.0000683	0.0003743	0.0035	3.3	43226.81	49186.32	49186.32	3.11	No	Si
SLU 79	0.05	-23628.83	-39241	-0.0000926	0.0003743	0.0035	3.3	47942.25	55042.08	55042.08	2.33	No	Si
SLU 79	0.45	-17083.08	-37970	-0.0000763	0.0003743	0.0035	3.3	46916.15	53750.2	53750.2	3.15	No	Si
SLU 74	0.05	-23598.63	-39182	-0.0000924	0.0003743	0.0035	3.3	47895.97	54982.54	54982.54	2.33	No	Si
SLU 74	0.45	-17046.04	-37912	-0.0000762	0.0003743	0.0035	3.3	46868.25	53691.28	53691.28	3.15	No	Si
SLU 50	0.05	-19169.6	-29881	-0.0000714	0.0003743	0.0035	3.3	39559.56	44820.33	44820.33	2.34	No	Si
SLU 50	0.45	-13900.52	-28635	-0.0000582	0.0003743	0.0035	3.3	38299.3	43381.58	43381.58	3.12	No	Si
SLU 83	0.05	-24291.81	-40884	-0.0000962	0.0003743	0.0035	3.3	49217.07	56723.18	56723.18	2.34	No	Si
SLU 83	0.45	-17524.47	-39614	-0.0000794	0.0003743	0.0035	3.3	48236.56	55423.6	55423.6	3.16	No	Si
SLU 66	0.05	-21609.28	-34720	-0.0000825	0.0003743	0.0035	3.3	44131.8	50275.42	50275.42	2.33	No	Si
SLU 66	0.45	-15632.35	-33449	-0.0000676	0.0003743	0.0035	3.3	42980.28	48895.67	48895.67	3.13	No	Si
SLU 77	0.05	-23788.24	-39451	-0.0000932	0.0003743	0.0035	3.3	48108.85	55257.42	55257.42	2.32	No	Si
SLU 77	0.45	-17210.52	-38180	-0.0000769	0.0003743	0.0035	3.3	47088.59	53963.31	53963.31	3.14	No	Si
SLU 48	0.05	-19329.01	-30092	-0.000072	0.0003743	0.0035	3.3	39769.18	45063.68	45063.68	2.33	No	Si
SLU 48	0.45	-14027.96	-28846	-0.0000587	0.0003743	0.0035	3.3	38514.64	43628.6	43628.6	3.11	No	Si
SLU 45	0.05	-19139.4	-29823	-0.0000713	0.0003743	0.0035	3.3	39501.37	44753.07	44753.07	2.34	No	Si
SLU 45	0.45	-13863.47	-28577	-0.0000581	0.0003743	0.0035	3.3	38239.52	43312.97	43312.97	3.12	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	0.05	-17382.04	-18967	-0.00006	0.0005615	0.0035	3.3		32025.07	32025.07	1.84		Si
SLV 16	0.45	-10261.65	-17554	-0.0000376	0.0005615	0.0035	3.3		29988.33	29988.33	2.92		Si
SLD 14	0.05	-22990.41	-28929	-0.0000797	0.0005615	0.0035	3.3		45758.26	45758.26	1.99		Si
SLD 14	0.45	-15106.21	-27843	-0.0000583	0.0005615	0.0035	3.3		44331.38	44331.38	2.93		Si
SLD 9	0.05	-27512.12	-38058	-0.0000982	0.0005615	0.0035	3.3		57447.75	57447.75	2.09		Si
SLD 9	0.45	-19263.35	-37295	-0.0000774	0.0005615	0.0035	3.3		56495.39	56495.39	2.93		Si
SLV 10	0.05	-34057.24	-45506	-0.0001232	0.0005615	0.0035	3.3		66239.9	66239.9	1.94		Si
SLV 10	0.45	-23864.18	-44834	-0.0000958	0.0005615	0.0035	3.3		65484.62	65484.62	2.74		Si
SLD 13	0.05	-24006.32	-29594	-0.0000834	0.0005615	0.0035	3.3		46636.42	46636.42	1.94		Si
SLD 13	0.45	-15708.71	-28509	-0.0000602	0.0005615	0.0035	3.3		45205.18	45205.18	2.88		Si
SLV 14	0.05	-27111.8	-30766	-0.0000955	0.0005615	0.0035	3.3		48190.25	48190.25	1.78		Si
SLV 14	0.45	-17248.11	-29591	-0.0000646	0.0005615	0.0035	3.3		46632.84	46632.84	2.7		Si
SLD 15	0.05	-18289.99	-22678	-0.0000625	0.0005615	0.0035	3.3		37272.13	37272.13	2.04		Si
SLD 15	0.45	-11636.44	-21432	-0.0000444	0.0005615	0.0035	3.3		35555.13	35555.13	3.06		Si
SLV 9	0.05	-35135.3	-46212	-0.0001272	0.0005615	0.0035	3.3		67035.6	67035.6	1.91		Si
SLV 9	0.45	-24503.54	-45540	-0.000098	0.0005615	0.0035	3.3		66278.33	66278.33	2.7		Si
SLV 15	0.05	-18983.39	-20016	-0.0000666	0.0005615	0.0035	2.64		33543.19	33543.19	1.77		Si
SLV 15	0.45	-11211.35	-18602	-0.0000406	0.0005615	0.0035	3.3		31498.43	31498.43	2.81		Si
SLV 13	0.05	-28713.15	-31815	-0.0001021	0.0005615	0.0035	3.3		49570.32	49570.32	1.73		Si
SLV 13	0.45	-18197.81	-30640	-0.0000678	0.0005615	0.0035	3.3		48022.26	48022.26	2.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	0.05	-23127.42	-39692	-35282	-16909	3.3	3.202	-24996	10277	21261	28547	44467	8415	49808	No	2.95	Si
SLU 73	0.45	-16353.17	-38421	-34152	-16909	3.3	3.3	-22998	10011	20809	28547	44467	8415	49356	No	2.92	Si
SLU 83	0.05	-24291.81	-40884	-36342	-16892	3.3	3.1675	-26054	10418	21685	28547	44467	8415	50231	No	2.97	Si
SLU 83	0.45	-17524.47	-39614	-35212	-16892	3.3	3.3	-23712	10106	21233	28547	44467	8415	49780	No	2.95	Si
SLU 80	0.05	-23555.52	-39834	-35408	-16756	3.3	3.176	-25299	10318	21311	28547	44467	8415	49858	No	2.98	Si
SLU 80	0.45	-16842.51	-38563	-34279	-16756	3.3	3.3	-23083	10022	20860	28547	44467	8415	49406	No	2.95	Si
SLU 82	0.05	-24028.88	-41209	-36630	-17247	3.3	3.2007	-25987	10409	21800	28547	44467	8415	50347	No	2.92	Si
SLU 82	0.45	-17119.42	-39938	-35501	-17247	3.3	3.3	-23906	10132	21348	28547	44467	8415	49895	No	2.89	Si
SLU 76	0.05	-23317.03	-39961	-35521	-16972	3.3	3.1995	-25190	10303	21357	28547	44467	8415	49903	No	2.94	Si
SLU 76	0.45	-16517.65	-38690	-34391	-16972	3.3	3.3	-23159	10032	20905	28547	44467	8415	49451	No	2.91	Si
SLU 84	0.05	-24218.49	-41478	-36869	-17310	3.3	3.1983	-26181	10435	21896	28547	44467	8415	50442	No	2.91	Si
SLU 84	0.45	-17283.9	-40207	-35740	-17310	3.3	3.3	-24067	10153	21444	28547	44467	8415	49991	No	2.89	Si
SLU 77	0.05	-23788.24	-39451	-35068	-16417	3.3	3.1411	-25335	10322	21175	28547	44467	8415	49722	No	3.03	Si
SLU 77	0.45	-17210.52	-38180	-33938	-16417	3.3	3.3	-22854	9992	20723	28547	44467	8415	49270	No	3	Si
SLU 75	0.05	-23525.31	-39776	-35356	-16773	3.3	3.1757	-25263	10313	21291	28547	44467	8415	49837	No	2.97	Si
SLU 75	0.45	-16805.47	-38505	-34227	-16773	3.3	3.3	-23048	10018	20839	28547	44467	8415	49385	No	2.94	Si
SLU 81	0.05	-24102.2	-40616	-36103	-16829	3.3	3.1697	-25860	10392	21589	28547	44467	8415	50136	No	2.98	Si
SLU 81	0.45	-17359.99	-39345	-34973	-16829	3.3	3.3	-23551	10085	21137	28547	44467	8415	49684	No	2.95	Si
SLU 78	0.05	-23714.92	-40045	-35595	-16836	3.3	3.1734	-25457	10339	21386	28547	44467	8415	49933	No	2.97	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.45	-16969.95	-38774	-34466	-16836	3.3	3.3	-23209	10039	20934	28547	44467	8415	49481	No	2.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	0.05	-18289.99	-22678	-20158	-17414	3.3	2.5305	-17851	13987	18786	28547	66701	8415	47333		2.72	Si
SLD 15	0.45	-11636.44	-21432	-19051	-17278	3.3	3.3	-12829	12982	19279	28547	66701	8415	47825		2.77	Si
SLV 15	0.05	-18983.39	-20016	-17792	-20629	2.64	2.1047	0	0	0	28547	53361	6732	28547		1.38	Si
SLV 15	0.45	-11211.35	-18602	-16535	-20399	3.3	3.142	-11760	12769	18053	28547	66701	8415	46600		2.28	Si
SLD 13	0.05	-24006.32	-29594	-26306	-20883	3.3	2.5164	-23512	15119	21245	28547	66701	8415	49792		2.38	Si
SLD 13	0.45	-15708.71	-28509	-25341	-20757	3.3	3.2969	-17065	13830	20859	28547	66701	8415	49406		2.38	Si
SLV 16	0.05	-17382.04	-18967	-16860	-19000	3.3	2.2007	-17166	13850	17467	28547	66701	8415	46013		2.42	Si
SLV 16	0.45	-10261.65	-17554	-15603	-18770	3.3	3.1963	-10507	12518	18005	28547	66701	8415	46552		2.48	Si
SLV 9	0.05	-35135.3	-46212	-41077	-25168	3.3	2.6691	-34846	16250	27153	28547	66701	8415	55700		2.21	Si
SLV 9	0.45	-24503.54	-45540	-40480	-25134	3.3	3.3	-27259	15869	26914	28547	66701	8415	55461		2.21	Si
SLV 14	0.05	-27111.8	-30766	-27348	-24891	3.3	2.3063	-26717	15760	21662	28547	66701	8415	50208		2.02	Si
SLV 14	0.45	-17248.11	-29591	-26303	-24681	3.3	3.2014	-17713	13959	21244	28547	66701	8415	49791		2.02	Si
SLV 13	0.05	-28713.15	-31815	-28280	-26521	3.3	2.2425	-28441	16105	22035	28547	66701	8415	50581		1.91	Si
SLV 13	0.45	-18197.81	-30640	-27235	-26310	3.3	3.1682	-19284	14273	21617	28547	66701	8415	50163		1.91	Si
SLD 14	0.05	-22990.41	-28929	-25714	-19849	3.3	2.5658	-22518	14921	21008	28547	66701	8415	49555		2.5	Si
SLD 14	0.45	-15106.21	-27843	-24750	-19723	3.3	3.3	-16666	13750	20623	28547	66701	8415	49169		2.49	Si
SLD 9	0.05	-27512.12	-38058	-33829	-19676	3.3	2.7813	-27420	15901	24254	28547	66701	8415	52801		2.68	Si
SLD 9	0.45	-19263.35	-37295	-33151	-19653	3.3	3.3	-22324	14881	23983	28547	66701	8415	52530		2.67	Si
SLV 10	0.05	-34057.24	-45506	-40450	-24071	3.3	2.7048	-33842	16250	26902	28547	66701	8415	55449		2.3	Si
SLV 10	0.45	-23864.18	-44834	-39853	-24038	3.3	3.3	-26837	15784	26663	28547	66701	8415	55210		2.3	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	2311	-3432	200.07	760.46	3.8	Si
SLV 11	179667	0.24	2655	-3942	200.07	871.57	4.36	Si
SLV 8	179667	0.24	3337	-4955	200.07	1090.45	5.45	Si
SLV 7	179667	0.24	3680	-5465	200.07	1200.02	6	Si
SLV 16	179667	0.24	9086	-13493	200.07	2855.24	14.27	Si
SLV 15	179667	0.24	9597	-14251	200.07	3004.96	15.02	Si
SLV 4	179667	0.24	12505	-18569	200.07	3835.96	19.17	Si
SLV 3	179667	0.24	13015	-19327	200.07	3978.05	19.88	Si
SLV 14	179667	0.24	15990	-23745	200.07	4783.32	23.91	Si
SLV 13	179667	0.24	16501	-24504	200.07	4917.62	24.58	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-39676	-45398	4215	0.422	4600	0.963	6.36537	2.58901	Si
SLV 9	-39376	-42658	4204	0.425	4569.5	0.963	6.40656	2.58901	Si
SLV 6	-39107	-44843	4138	0.428	4542.1	0.963	6.46358	2.58901	Si
SLV 10	-38807	-42103	4126	0.431	4511.6	0.963	6.50605	2.58901	Si
SLV 1	-28404	-34111	2936	0.581	3454	0.953	8.86487	2.7151	Si
SLV 2	-27560	-33288	2820	0.598	3368.2	0.952	9.13724	2.7151	Si
SLV 13	-27405	-24980	2897	0.598	3352.4	0.951	9.14083	2.7151	Si
SLV 14	-26560	-24156	2781	0.617	3266.7	0.95	9.43056	2.7151	Si
SLV 3	-18325	-21583	1811	0.861	2431.9	0.936	13.37113	2.7151	Si
SLV 4	-17481	-20759	1696	0.898	2346.6	0.934	13.96852	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.32	SLU 69	Si
V_SLU	2.888	SLU 84	Si
PF_SLV	1.726	SLV 13	Si
V_SLV	1.384	SLV 15	Si
PFFP_SLV	3.801	SLV 12	Si
R_SLV	2.459	SLV 5	Si

Maschio 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.523	-3.284	-17.273	-3.284	L2	L4	0.75	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	0.05	3322.56	-19752	-0.0003274	0.0003743	0.0035	0.75	3149.21	4278.58	4278.58	1.29	No	Si
SLU 77	0.45	2735.25	-19147	-0.0002523	0.0003743	0.0035	0.75	3179.15	4235.3	4235.3	1.55	No	Si
SLU 84	0.05	3423.21	-20534	-0.0003508	0.0003743	0.0035	0.75	3098.65	4335.48	4335.48	1.27	No	Si
SLU 84	0.45	2846.32	-19886	-0.0002687	0.0003743	0.0035	0.75	3141.5	4288.24	4288.24	1.51	No	Si
SLU 75	0.05	3295.99	-19704	-0.0003227	0.0003743	0.0035	0.75	3151.85	4275.15	4275.15	1.3	No	Si
SLU 75	0.45	2736.92	-19110	-0.0002521	0.0003743	0.0035	0.75	3180.74	4232.64	4232.64	1.55	No	Si
SLU 79	0.05	3306.06	-19648	-0.0003239	0.0003743	0.0035	0.75	3154.92	4271.1	4271.1	1.29	No	Si
SLU 79	0.45	2718.78	-19041	-0.0002499	0.0003743	0.0035	0.75	3183.6	4227.73	4227.73	1.56	No	Si
SLU 83	0.05	3421.28	-20441	-0.0003497	0.0003743	0.0035	0.75	3105.38	4328.64	4328.64	1.27	No	Si
SLU 83	0.45	2825.55	-19782	-0.0002658	0.0003743	0.0035	0.75	3147.5	4280.75	4280.75	1.52	No	Si
SLU 81	0.05	3392.79	-20300	-0.0003433	0.0003743	0.0035	0.75	3115.18	4318.34	4318.34	1.27	No	Si
SLU 81	0.45	2806.45	-19641	-0.0002628	0.0003743	0.0035	0.75	3155.3	4270.58	4270.58	1.52	No	Si
SLU 74	0.05	3294.07	-19611	-0.0003218	0.0003743	0.0035	0.75	3156.89	4268.44	4268.44	1.3	No	Si
SLU 74	0.45	2716.15	-19006	-0.0002494	0.0003743	0.0035	0.75	3184.99	4225.29	4225.29	1.56	No	Si
SLU 80	0.05	3307.99	-19741	-0.0003249	0.0003743	0.0035	0.75	3149.8	4277.81	4277.81	1.29	No	Si
SLU 80	0.45	2739.55	-19144	-0.0002526	0.0003743	0.0035	0.75	3179.27	4235.09	4235.09	1.55	No	Si
SLU 82	0.05	3394.72	-20393	-0.0003444	0.0003743	0.0035	0.75	3108.74	4325.16	4325.16	1.27	No	Si
SLU 82	0.45	2827.22	-19745	-0.0002657	0.0003743	0.0035	0.75	3149.62	4278.05	4278.05	1.51	No	Si
SLU 78	0.05	3324.49	-19845	-0.0003282	0.0003743	0.0035	0.75	3143.88	4285.3	4285.3	1.29	No	Si
SLU 78	0.45	2756.01	-19251	-0.000255	0.0003743	0.0035	0.75	3174.58	4242.68	4242.68	1.54	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	0.05	2373.68	-11462	-0.0001737	0.0005615	0.0035	0.75		3578.02	3578.02	1.51		Si
SLD 4	0.45	1020.43	-10240	-0.0000876	0.0005615	0.0035	0.75		3241.69	3241.69	3.18		Si
SLV 9	0.05	3024.49	-22707	-0.0002566	0.0005615	0.0035	0.75		5669.83	5669.83	1.87		Si
SLV 9	0.45	3868.27	-23082	-0.000323	0.0005615	0.0035	0.75		5726.96	5726.96	1.48		Si
SLV 8	0.05	1490.67	-3948	-0.0051526	0.0005615	0.0035	0.6		1422.78	1422.78	0.95		No
SLV 8	0.45	-177.31	-2788	-0.000019	0.0005615	0.0035	0.75		1124.31	1124.31	6.34		Si
SLV 7	0.05	1477.31	-4246	-0.000554	0.0005615	0.0035	0.6		1520.93	1520.93	1.03		Si
SLV 7	0.45	-46.4	-3202	-0.0000161	0.0005615	0.0035	0.75		1264.98	1264.98	27.26		Si
SLV 11	0.05	1227.74	-4356	-0.0001132	0.0005615	0.0035	0.75		1557.11	1557.11	1.27		Si
SLV 11	0.45	382.87	-3973	-0.000032	0.0005615	0.0035	0.75		1431.1	1431.1	3.74		Si
SLD 7	0.05	1808.39	-8013	-0.0001319	0.0005615	0.0035	0.75		2624.08	2624.08	1.45		Si
SLD 7	0.45	727.58	-7220	-0.0000607	0.0005615	0.0035	0.75		2408.04	2408.04	3.31		Si
SLD 8	0.05	1816.5	-7832	-0.0001349	0.0005615	0.0035	0.75		2574.63	2574.63	1.42		Si
SLD 8	0.45	648.14	-6969	-0.0000565	0.0005615	0.0035	0.75		2340	2340	3.61		Si
SLV 3	0.05	2394.09	-10613	-0.000182	0.0005615	0.0035	0.75		3346.8	3346.8	1.4		Si
SLV 3	0.45	704.46	-9090	-0.0000693	0.0005615	0.0035	0.75		2920.71	2920.71	4.15		Si
SLV 4	0.05	2413.94	-10170	-0.0001907	0.0005615	0.0035	0.75		3222.1	3222.1	1.33		Si
SLV 4	0.45	510	-8476	-0.0000587	0.0005615	0.0035	0.75		2751.13	2751.13	5.39		Si
SLV 12	0.05	1241.11	-4058	-0.0001458	0.0005615	0.0035	0.75		1458.96	1458.96	1.18		Si
SLV 12	0.45	251.95	-3560	-0.0000253	0.0005615	0.0035	0.75		1293.76	1293.76	5.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.05	3307.99	-19741	-17548	3868	0.75	0.6223	-51994	10833	5762	28547	10106	1912	12019	No	3.11	Si
SLU 80	0.45	2739.55	-19144	-17017	-1803	0.75	0.6957	-50422	10833	5621	28547	10106	1912	12019	No	6.67	Si
SLU 75	0.05	3295.99	-19704	-17515	3835	0.75	0.6232	-51896	10833	5754	28547	10106	1912	12019	No	3.13	Si
SLU 75	0.45	2736.92	-19110	-16987	-1815	0.75	0.6953	-50331	10833	5613	28547	10106	1912	12019	No	6.62	Si
SLU 81	0.05	3392.79	-20300	-18044	4017	0.75	0.6236	-53465	10833	5895	28547	10106	1912	12019	No	2.99	Si
SLU 81	0.45	2806.45	-19641	-17459	-1786	0.75	0.6963	-51729	10833	5739	28547	10106	1912	12019	No	6.73	Si
SLU 79	0.05	3306.06	-19648	-17465	3908	0.75	0.6202	-51748	10833	5740	28547	10106	1912	12019	No	3.08	Si
SLU 79	0.45	2718.78	-19041	-16925	-1729	0.75	0.6966	-50148	10833	5596	28547	10106	1912	12019	No	6.95	Si
SLU 78	0.05	3324.49	-19845	-17640	3878	0.75	0.6224	-52267	10833	5787	28547	10106	1912	12019	No	3.1	Si
SLU 78	0.45	2756.01	-19251	-17112	-1823	0.75	0.6955	-50702	10833	5646	28547	10106	1912	12019	No	6.59	Si
SLU 82	0.05	3394.72	-20393	-18127	3977	0.75	0.6256	-53710	10833	5917	28547	10106	1912	12019	No	3.02	Si
SLU 82	0.45	2827.22	-19745	-17551	-1860	0.75	0.6954	-52002	10833	5763	28547	10106	1912	12019	No	6.46	Si
SLU 77	0.05	3322.56	-19752	-17557	3918	0.75	0.6204	-52022	10833	5765	28547	10106	1912	12019	No	3.07	Si
SLU 77	0.45	2735.25	-19147	-17020	-1749	0.75	0.6964	-50429	10833	5622	28547	10106	1912	12019	No	6.87	Si
SLU 83	0.05	3421.28	-20441	-18169	4059	0.75	0.6229	-53836	10833	5928	28547	10106	1912	12019	No	2.96	Si
SLU 83	0.45	2825.55	-19782	-17584	-1795	0.75	0.6965	-52101	10833	5772	28547	10106	1912	12019	No	6.7	Si
SLU 84	0.05	3423.21	-20534	-18252	4019	0.75	0.6249	-54081	10833	5950	28547	10106	1912	12019	No	2.99	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.45	2846.32	-19886	-17676	-1868	0.75	0.6956	-52374	10833	5797	28547	10106	1912	12019	No	6.43	Si
SLU 74	0.05	3294.07	-19611	-17432	3875	0.75	0.6211	-51651	10833	5732	28547	10106	1912	12019	No	3.1	Si
SLU 74	0.45	2716.15	-19006	-16894	-1741	0.75	0.6963	-50057	10833	5588	28547	10106	1912	12019	No	6.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	0.05	2361.09	-11743	-10438	5586	0.75	0.5218	-30928	16250	4408	28547	15159	1912	17072		3.06	Si
SLD 3	0.45	1143.8	-10630	-9448	990	0.75	0.75	-27996	16016	5405	28547	15159	1912	17072		17.24	Si
SLD 4	0.05	2373.68	-11462	-10188	6032	0.75	0.5037	-30188	16250	4342	28547	15159	1912	17072		2.83	Si
SLD 4	0.45	1020.43	-10240	-9102	1368	0.75	0.75	-26969	15811	5336	28547	15159	1912	17072		12.48	Si
SLV 7	0.05	1477.31	-4246	-3774	5265	0.6	0.0813	0	0	0	28547	12127	1530	13657		2.59	Si
SLV 7	0.45	-46.4	-3202	-2846	3700	0.75	0.75	-8432	12103	4085	28547	15159	1912	17072		4.61	Si
SLV 1	0.05	2933.12	-16118	-14328	6369	0.75	0.5791	-42452	16250	5445	28547	15159	1912	17072		2.68	Si
SLV 1	0.45	1750.09	-14823	-13176	-285	0.75	0.75	-39039	16250	5484	28547	15159	1912	17072		59.98	Si
SLV 3	0.05	2394.09	-10613	-9434	7270	0.75	0.4483	-27952	16007	4140	28547	15159	1912	17072		2.35	Si
SLV 3	0.45	704.46	-9090	-8080	2315	0.75	0.75	-23940	15205	5132	28547	15159	1912	17072		7.38	Si
SLV 9	0.05	3024.49	-22707	-20184	-457	0.75	0.7254	-59805	16250	7007	28547	15159	1912	17072		37.35	Si
SLV 9	0.45	3868.27	-23082	-20518	-6460	0.75	0.6222	-60793	16250	7096	28547	15159	1912	17072		2.64	Si
SLV 8	0.05	1490.67	-3948	-3509	5739	0.6	0	0	0	0	28547	12127	1530	13657		2.38	Si
SLV 8	0.45	-177.31	-2788	-2478	4100	0.75	0.75	-7343	11885	4011	28547	15159	1912	17072		4.16	Si
SLV 4	0.05	2413.94	-10170	-9040	7973	0.75	0.4129	-26786	15774	4035	28547	15159	1912	17072		2.14	Si
SLV 4	0.45	510	-8476	-7534	2909	0.75	0.75	-22323	14881	5022	28547	15159	1912	17072		5.87	Si
SLV 10	0.05	3037.86	-22409	-19919	16	0.75	0.7183	-59019	16250	6936	28547	15159	1912	17072		1037.44	Si
SLV 10	0.45	3737.36	-22669	-20150	-6060	0.75	0.6304	-59704	16250	6998	28547	15159	1912	17072		2.82	Si
SLV 2	0.05	2952.97	-15675	-13934	7072	0.75	0.5599	-41285	16250	5340	28547	15159	1912	17072		2.41	Si
SLV 2	0.45	1555.62	-14208	-12630	310	0.75	0.75	-37421	16250	5484	28547	15159	1912	17072		55.09	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	15316	-5169	45.47	1046.39	23.01	Si
SLV 11	179667	0.24	15572	-5255	45.47	1061.91	23.35	Si
SLV 8	179667	0.24	17315	-5844	45.47	1165.77	25.64	Si
SLV 7	179667	0.24	17571	-5930	45.47	1180.78	25.97	Si
SLV 16	179667	0.24	33672	-11364	45.47	1993.17	43.83	Si
SLV 15	179667	0.24	34052	-11493	45.47	2009.26	44.19	Si
SLV 4	179667	0.24	40336	-13613	45.47	2253.99	49.57	Si
SLV 3	179667	0.24	40716	-13742	45.47	2267.55	49.87	Si
SLV 14	179667	0.24	51458	-17367	45.47	2590.92	56.98	Si
SLV 13	179667	0.24	51838	-17495	45.47	2600.27	57.19	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-20792	-34291	1142	0.229	2244.7	0.982	3.39205	2.58901	Si
SLV 5	-20482	-32835	1151	0.231	2213.2	0.982	3.41779	2.58901	Si
SLV 10	-20460	-34037	1125	0.232	2210.9	0.982	3.43847	2.58901	Si
SLV 6	-20150	-32580	1134	0.234	2179.3	0.982	3.46532	2.58901	Si
SLV 13	-15105	-27178	779	0.304	1665.3	0.976	4.52426	2.7151	Si
SLV 14	-14611	-26800	754	0.313	1615	0.976	4.65693	2.7151	Si
SLV 1	-14073	-22323	810	0.317	1560.2	0.975	4.72803	2.7151	Si
SLV 2	-13579	-21945	784	0.327	1509.9	0.974	4.87755	2.7151	Si
SLV 15	-9851	-19571	474	0.441	1130.3	0.966	6.63365	2.7151	Si
SLV 16	-9358	-19193	449	0.461	1080.1	0.964	6.9423	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.265	SLU 83	Si
V_SLU	2.961	SLU 83	Si
PF_SLV	0.954	SLV 8	No
V_SLV	2.141	SLV 4	Si
PFFP_SLV	23.012	SLV 12	Si
R_SLV	1.31	SLV 9	Si

Maschio 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.448	1.141	-18.448	-3.284	L2	L4	4.425	0.3	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	-1.95	27693.24	-98946	-0.0001886	0.0004492	0.0035	4.425	85376.01	124297.23	124297.23	4.49	No	Si
SLU 73	0.73	18497.48	-42012	-0.0000809	0.0004492	0.0035	4.425	68876.41	75223.93	75223.93	4.07	No	Si
SLU 74	-1.95	26768.7	-99362	-0.0001874	0.0004492	0.0035	4.425	85171.19	124486.91	124486.91	4.65	No	Si
SLU 74	0.73	18750.99	-42571	-0.000082	0.0004492	0.0035	4.425	69467.85	75944.83	75944.83	4.05	No	Si
SLU 77	-1.95	26900.76	-100184	-0.0001892	0.0004492	0.0035	4.425	84752.26	124863.4	124863.4	4.64	No	Si
SLU 77	0.73	18868.48	-42994	-0.0000828	0.0004492	0.0035	4.425	69910.31	76492.56	76492.56	4.05	No	Si
SLU 83	-1.95	27760.7	-102629	-0.0001958	0.0004492	0.0035	4.425	83398.11	125993.55	125993.55	4.54	No	Si
SLU 83	0.73	19278.46	-43985	-0.0000849	0.0004492	0.0035	4.425	70927.69	77780.79	77780.79	4.03	No	Si
SLU 79	-1.95	26785.69	-99688	-0.000188	0.0004492	0.0035	4.425	85007.28	124635.97	124635.97	4.65	No	Si
SLU 79	0.73	18731.69	-42709	-0.0000822	0.0004492	0.0035	4.425	69612.7	76123.33	76123.33	4.06	No	Si
SLU 75	-1.95	27471.71	-99903	-0.00019	0.0004492	0.0035	4.425	84897.33	124734.68	124734.68	4.54	No	Si
SLU 75	0.73	18751.45	-42661	-0.0000822	0.0004492	0.0035	4.425	69562.25	76061.07	76061.07	4.06	No	Si
SLU 82	-1.95	28331.65	-102348	-0.0001966	0.0004492	0.0035	4.425	83561.9	125862.93	125862.93	4.44	No	Si
SLU 82	0.73	19161.43	-43652	-0.0000842	0.0004492	0.0035	4.425	70588.64	77346.89	77346.89	4.04	No	Si
SLU 78	-1.95	27603.77	-100726	-0.0001918	0.0004492	0.0035	4.425	84466.24	125112.41	125112.41	4.53	No	Si
SLU 78	0.73	18868.94	-43084	-0.0000829	0.0004492	0.0035	4.425	70003.67	76609.07	76609.07	4.06	No	Si
SLU 81	-1.95	27628.64	-101806	-0.0001939	0.0004492	0.0035	4.425	83871.9	125611.48	125611.48	4.55	No	Si
SLU 81	0.73	19160.97	-43562	-0.0000841	0.0004492	0.0035	4.425	70496.68	77230	77230	4.03	No	Si
SLU 84	-1.95	28463.71	-103170	-0.0001985	0.0004492	0.0035	4.425	83075.96	126246.24	126246.24	4.44	No	Si
SLU 84	0.73	19278.92	-44075	-0.000085	0.0004492	0.0035	4.425	71018.62	77897.96	77897.96	4.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	-1.95	-27509.35	-27714	-0.0000778	0.0006738	0.0035	4.425		61230.8	61230.8	2.23		Si
SLV 12	0.73	2410.47	-13435	-0.0000188	0.0006738	0.0035	4.425		29340.96	29340.96	12.17		Si
SLD 10	-1.95	45259.16	-88032	-0.0001884	0.0006738	0.0035	4.425		142334.59	142334.59	3.14		Si
SLD 10	0.73	19831.85	-36973	-0.0000742	0.0006738	0.0035	4.425		71747.17	71747.17	3.62		Si
SLV 6	-1.95	63247.05	-109183	-0.0002576	0.0006738	0.0035	4.425		162024.14	162024.14	2.56		Si
SLV 6	0.73	23213.98	-44407	-0.0000891	0.0006738	0.0035	4.425		84170.18	84170.18	3.63		Si
SLV 10	-1.95	64070.39	-101875	-0.0002467	0.0006738	0.0035	4.425		155140.29	155140.29	2.42		Si
SLV 10	0.73	24553.66	-42528	-0.0000889	0.0006738	0.0035	4.425		81006.52	81006.52	3.3		Si
SLV 8	-1.95	-28332.69	-35022	-0.0000859	0.0006738	0.0035	4.425		74267.61	74267.61	2.62		Si
SLV 8	0.73	1070.79	-15314	-0.0000189	0.0006738	0.0035	4.425		33119.95	33119.95	30.93		Si
SLV 7	-1.95	-26875.6	-36024	-0.0000845	0.0006738	0.0035	4.425		76032.18	76032.18	2.83		Si
SLV 7	0.73	1560.03	-15944	-0.0000204	0.0006738	0.0035	4.425		34373.07	34373.07	22.03		Si
SLV 5	-1.95	64704.15	-110184	-0.0002623	0.0006738	0.0035	4.425		162971.92	162971.92	2.52		Si
SLV 5	0.73	23703.22	-45037	-0.0000908	0.0006738	0.0035	4.425		85234.22	85234.22	3.6		Si
SLD 9	-1.95	46143.39	-88640	-0.000191	0.0006738	0.0035	4.425		142888.47	142888.47	3.1		Si
SLD 9	0.73	20128.74	-37356	-0.0000752	0.0006738	0.0035	4.425		72379.81	72379.81	3.6		Si
SLV 9	-1.95	65527.49	-102876	-0.0002513	0.0006738	0.0035	4.425		156081.48	156081.48	2.38		Si
SLV 9	0.73	25042.9	-43158	-0.0000905	0.0006738	0.0035	4.425		82065.08	82065.08	3.28		Si
SLV 11	-1.95	-26052.26	-28715	-0.0000752	0.0006738	0.0035	4.425		63064.21	63064.21	2.42		Si
SLV 11	0.73	2899.71	-14065	-0.0000203	0.0006738	0.0035	4.425		30608.17	30608.17	10.56		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 34	-1.95	23549.36	-84170	-70880	3350	4.425	4.425	-53393	10833	36019	28547	47707	11284	58991	No	17.61	Si
SLU 34	0.73	15653.61	-36047	-30356	-490	4.425	4.425	-22867	10833	19810	28547	47707	11284	48357	No	98.7	Si
SLU 31	-1.95	23417.29	-83347	-70187	3302	4.425	4.425	-52872	10833	35742	28547	47707	11284	58991	No	17.86	Si
SLU 31	0.73	15536.13	-35624	-29999	-495	4.425	4.425	-22598	10833	19668	28547	47707	11284	48214	No	97.49	Si
SLU 80	-1.95	27488.7	-100229	-84404	3144	4.425	4.425	-63581	10833	41429	28547	47707	11284	58991	No	18.76	Si
SLU 80	0.73	18732.15	-42799	-36041	-1435	4.425	4.425	-27149	10833	22084	28547	47707	11284	50631	No	35.3	Si
SLU 82	-1.95	28331.65	-102348	-86188	3320	4.425	4.425	-64925	10833	42142	28547	47707	11284	58991	No	17.77	Si
SLU 82	0.73	19161.43	-43652	-36760	-1347	4.425	4.425	-27691	10833	22372	28547	47707	11284	50918	No	37.8	Si
SLU 73	-1.95	27693.24	-98946	-83323	3492	4.425	4.425	-62767	10833	40996	28547	47707	11284	58991	No	16.89	Si
SLU 73	0.73	18497.48	-42012	-35379	-1006	4.425	4.425	-26650	10833	21819	28547	47707	11284	50366	No	50.08	Si
SLU 78	-1.95	27603.77	-100726	-84822	3159	4.425	4.425	-63896	10833	41596	28547	47707	11284	58991	No	18.68	Si
SLU 78	0.73	18868.94	-43084	-36281	-1452	4.425	4.425	-27330	10833	22180	28547	47707	11284	50727	No	34.92	Si
SLU 76	-1.95	27825.31	-99768	-84015	3539	4.425	4.425	-63288	10833	41273	28547	47707	11284	58991	No	16.67	Si
SLU 76	0.73	18614.96	-42435	-35735	-1001	4.425	4.425	-26919	10833	21962	28547	47707	11284	50509	No	50.46	Si
SLU 42	-1.95	24187.76	-87572	-73745	3178	4.425	4.425	-55552	10833	37165	28547	47707	11284	58991	No	18.56	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	0.73	16317.57	-37687	-31737	-831	4.425	4.425	-23907	10833	20363	28547	47707	11284	48909	No	58.84	Si
SLU 84	-1.95	28463.71	-103170	-86880	3367	4.425	4.425	-65447	10833	42419	28547	47707	11284	58991	No	17.52	Si
SLU 84	0.73	19278.92	-44075	-37116	-1342	4.425	4.425	-27959	10833	22514	28547	47707	11284	51061	No	38.04	Si
SLU 40	-1.95	24055.7	-86749	-73052	3131	4.425	4.425	-55030	10833	36888	28547	47707	11284	58991	No	18.84	Si
SLU 40	0.73	16200.08	-37264	-31380	-836	4.425	4.425	-23639	10833	20220	28547	47707	11284	48767	No	58.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	-1.95	-27509.35	-27714	-23338	-43701	4.425	3.6597	-21445	16250	20838	28547	71561	11284	49384		1.13	Si
SLV 12	0.73	2410.47	-13435	-11314	-43899	4.425	4.425	-8523	14205	18856	28547	71561	11284	47403		1.08	Si
SLV 11	-1.95	-26052.26	-28715	-24181	-41834	4.425	3.9157	-20763	16250	21175	28547	71561	11284	49722		1.19	Si
SLV 11	0.73	2899.71	-14065	-11844	-42133	4.425	4.425	-8922	14284	18963	28547	71561	11284	47509		1.13	Si
SLV 6	-1.95	63247.05	-109183	-91944	44705	4.425	4.425	-69261	16250	48279	28547	71561	11284	76826		1.72	Si
SLV 6	0.73	23213.98	-44407	-37396	38706	4.425	4.425	-28170	16250	26461	28547	71561	11284	55007		1.42	Si
SLV 5	-1.95	64704.15	-110184	-92787	46573	4.425	4.425	-69896	16250	48616	28547	71561	11284	77163		1.66	Si
SLV 5	0.73	23703.22	-45037	-37926	40472	4.425	4.425	-28570	16250	26673	28547	71561	11284	55219		1.36	Si
SLV 10	-1.95	64070.39	-101875	-85789	42599	4.425	4.425	-64625	16250	45817	28547	71561	11284	74364		1.75	Si
SLV 10	0.73	24553.66	-42528	-35813	37062	4.425	4.425	-26978	16250	25828	28547	71561	11284	54374		1.47	Si
SLV 8	-1.95	-28332.69	-35022	-29493	-41595	4.425	4.2105	-23570	16250	23300	28547	71561	11284	51846		1.25	Si
SLV 8	0.73	1070.79	-15314	-12896	-42255	4.425	4.425	-9715	14443	19173	28547	71561	11284	47720		1.13	Si
SLD 11	-1.95	-7529.31	-45191	-38056	-23954	4.425	4.425	-28667	16250	26725	28547	71561	11284	55271		2.31	Si
SLD 11	0.73	7174.75	-20315	-17107	-25432	4.425	4.425	-12887	15077	20015	28547	71561	11284	48562		1.91	Si
SLV 7	-1.95	-26875.6	-36024	-30336	-39728	4.425	4.3993	-22852	16250	23637	28547	71561	11284	52183		1.31	Si
SLV 7	0.73	1560.03	-15944	-13426	-40490	4.425	4.425	-10114	14523	19279	28547	71561	11284	47826		1.18	Si
SLV 9	-1.95	65527.49	-102876	-86632	44467	4.425	4.425	-65260	16250	46155	28547	71561	11284	74701		1.68	Si
SLV 9	0.73	25042.9	-43158	-36344	38828	4.425	4.425	-27378	16250	26040	28547	71561	11284	54586		1.41	Si
SLD 12	-1.95	-8413.54	-44583	-37544	-25087	4.425	4.425	-28282	16250	26520	28547	71561	11284	55067		2.2	Si
SLD 12	0.73	6877.85	-19933	-16785	-26504	4.425	4.425	-12644	15029	19951	28547	71561	11284	48497		1.83	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	215625	0.24	15510	-20590	185.29	2827.08	15.26	Si
SLV 11	215625	0.24	16160	-21452	185.29	2934.1	15.84	Si
SLV 8	215625	0.24	19021	-25250	185.29	3394.41	18.32	Si
SLV 7	215625	0.24	19670	-26112	185.29	3496.48	18.87	Si
SLV 16	215625	0.24	24537	-32573	185.29	4231.85	22.84	Si
SLV 15	215625	0.24	25502	-33854	185.29	4371.57	23.59	Si
SLV 14	215625	0.24	35920	-47684	185.29	5750.85	31.04	Si
SLV 4	215625	0.24	36239	-48107	185.29	5789.28	31.24	Si
SLV 13	215625	0.24	36886	-48966	185.29	5866.69	31.66	Si
SLV 3	215625	0.24	37204	-49388	185.29	5904.46	31.87	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-45037	-110184	2128	0.531	5086.1	0.97	7.9538	2.74522	Si
SLV 6	-44407	-109183	2097	0.538	5022	0.97	8.06039	2.74522	Si
SLV 9	-43158	-102876	1996	0.553	4894.8	0.969	8.29396	2.74522	Si
SLV 10	-42528	-101875	1966	0.56	4830.7	0.968	8.40986	2.74522	Si
SLV 1	-37200	-92998	1767	0.632	4288.4	0.965	9.51825	2.95341	Si
SLV 2	-36264	-91511	1722	0.647	4193.2	0.964	9.74842	2.95341	Si
SLV 13	-30936	-68636	1330	0.75	3651.1	0.959	11.3686	2.95341	Si
SLV 14	-30000	-67149	1285	0.771	3556	0.958	11.69749	2.95341	Si
SLV 3	-28472	-70749	1321	0.805	3400.6	0.957	12.22577	2.95341	Si
SLV 4	-27536	-69262	1276	0.829	3305.5	0.955	12.60888	2.95341	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.031	SLU 81	Si
V_SLU	16.669	SLU 76	Si
PF_SLV	2.226	SLV 12	Si
V_SLV	1.08	SLV 12	Si
PFFP_SLV	15.258	SLV 12	Si
R_SLV	2.897	SLV 5	Si

Maschio 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.693	6.576	-17.813	6.576	L2	L4	1.88	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.05	-2515.27	-22486	-0.0000585	0.0003743	0.0035	1.88	15618.68	17887.38	17887.38	7.11	No	Si
SLU 78	0.45	-6232.25	-22575	-0.000083	0.0003743	0.0035	1.88	15658.54	17940.8	17940.8	2.88	No	Si
SLU 84	0.05	-2562.82	-22822	-0.0000596	0.0003743	0.0035	1.88	15768.69	18084.82	18084.82	7.06	No	Si
SLU 84	0.45	-6321.97	-22902	-0.0000843	0.0003743	0.0035	1.88	15803.59	18129.17	18129.17	2.87	No	Si
SLU 77	0.05	-2504.91	-22679	-0.0000589	0.0003743	0.0035	1.88	15705.28	18003.82	18003.82	7.19	No	Si
SLU 77	0.45	-6275.75	-22761	-0.0000837	0.0003743	0.0035	1.88	15741.66	18050.52	18050.52	2.88	No	Si
SLU 79	0.05	-2484.96	-22505	-0.0000584	0.0003743	0.0035	1.88	15627.35	17898.98	17898.98	7.2	No	Si
SLU 79	0.45	-6225.67	-22580	-0.0000829	0.0003743	0.0035	1.88	15660.69	17943.69	17943.69	2.88	No	Si
SLU 81	0.05	-2517.69	-22648	-0.0000589	0.0003743	0.0035	1.88	15691.44	17985.1	17985.1	7.14	No	Si
SLU 81	0.45	-6259.77	-22708	-0.0000835	0.0003743	0.0035	1.88	15718.16	18020.73	18020.73	2.88	No	Si
SLU 80	0.05	-2495.32	-22311	-0.000058	0.0003743	0.0035	1.88	15540.01	17782.82	17782.82	7.13	No	Si
SLU 80	0.45	-6182.17	-22393	-0.0000822	0.0003743	0.0035	1.88	15576.83	17831.63	17831.63	2.88	No	Si
SLU 82	0.05	-2528.05	-22455	-0.0000586	0.0003743	0.0035	1.88	15604.7	17868.71	17868.71	7.07	No	Si
SLU 82	0.45	-6216.26	-22522	-0.0000828	0.0003743	0.0035	1.88	15634.82	17908.98	17908.98	2.88	No	Si
SLU 74	0.05	-2470.14	-22312	-0.0000579	0.0003743	0.0035	1.88	15540.14	17783	17783	7.2	No	Si
SLU 74	0.45	-6170.05	-22382	-0.0000821	0.0003743	0.0035	1.88	15571.73	17824.85	17824.85	2.89	No	Si
SLU 75	0.05	-2480.5	-22118	-0.0000575	0.0003743	0.0035	1.88	15451.98	17667.16	17667.16	7.12	No	Si
SLU 75	0.45	-6126.55	-22195	-0.0000814	0.0003743	0.0035	1.88	15487.07	17713.09	17713.09	2.89	No	Si
SLU 83	0.05	-2552.46	-23016	-0.0000599	0.0003743	0.0035	1.88	15853.87	18193.19	18193.19	7.13	No	Si
SLU 83	0.45	-6365.47	-23088	-0.000085	0.0003743	0.0035	1.88	15885.37	18233.37	18233.37	2.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	0.05	-5322.28	-11719	-0.0000558	0.0005615	0.0035	1.88		11082.35	11082.35	2.08		Si
SLV 1	0.45	-4683.6	-13989	-0.0000534	0.0005615	0.0035	1.88		12875.05	12875.05	2.75		Si
SLV 2	0.05	-4788.13	-12097	-0.0000513	0.0005615	0.0035	1.88		11379.18	11379.18	2.38		Si
SLV 2	0.45	-4600.07	-14077	-0.000053	0.0005615	0.0035	1.88		12943.89	12943.89	2.81		Si
SLV 5	0.05	-3054	-550	-0.0013942	0.0005615	0.0035	1.504		1413.41	1413.41	0.46		No
SLV 5	0.45	-1033.04	-1681	-0.0000115	0.0005615	0.0035	1.504		2447.43	2447.43	2.37		Si
SLV 10	0.05	-701.45	-74	-0.0002775	0.0005615	0.0035	1.504		972.43	972.43	1.39		Si
SLV 10	0.45	-42.62	179	0.0256993	0.0005615	0.0035	1.504		0	0	0		No
SLV 7	0.05	-2642.32	-30204	-0.0000733	0.0005615	0.0035	1.88		24133.67	24133.67	9.13		Si
SLV 7	0.45	-8310.29	-30490	-0.0001101	0.0005615	0.0035	1.88		24311.42	24311.42	2.93		Si
SLV 3	0.05	-5198.78	-20615	-0.0000696	0.0005615	0.0035	1.88		17820.56	17820.56	3.43		Si
SLV 3	0.45	-6866.78	-22631	-0.0000841	0.0005615	0.0035	1.88		19225.5	19225.5	2.8		Si
SLV 6	0.05	-2694.39	-804	-0.0009255	0.0005615	0.0035	1.504		1647.24	1647.24	0.61		No
SLV 6	0.45	-976.8	-1740	-0.0000103	0.0005615	0.0035	1.504		2501.34	2501.34	2.56		Si
SLD 5	0.05	-2536.29	-6612	-0.0000269	0.0005615	0.0035	1.88		6807.62	6807.62	2.68		Si
SLD 5	0.45	-2358.3	-7312	-0.0000268	0.0005615	0.0035	1.88		7407.49	7407.49	3.14		Si
SLV 4	0.05	-4664.62	-20993	-0.0000671	0.0005615	0.0035	1.88		18088.89	18088.89	3.88		Si
SLV 4	0.45	-6783.24	-22720	-0.0000838	0.0005615	0.0035	1.88		19286.34	19286.34	2.84		Si
SLV 9	0.05	-1061.05	180	0.0274147	0.0005615	0.0035	1.504		0	0	0		No
SLV 9	0.45	-98.86	238	0.034352	0.0005615	0.0035	1.504		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	0.05	-2470.14	-22312	-19833	7185	1.88	1.88	-23443	10070	8519	28547	25333	4794	30127	No	4.19	Si
SLU 74	0.45	-6170.05	-22382	-19895	7507	1.88	1.88	-23516	10080	8528	28547	25333	4794	30127	No	4.01	Si
SLU 82	0.05	-2528.05	-22455	-19960	7162	1.88	1.88	-23593	10090	8536	28547	25333	4794	30127	No	4.21	Si
SLU 82	0.45	-6216.26	-22522	-20019	7484	1.88	1.88	-23664	10100	8544	28547	25333	4794	30127	No	4.03	Si
SLU 83	0.05	-2552.46	-23016	-20459	7459	1.88	1.88	-24183	10169	8603	28547	25333	4794	30127	No	4.04	Si
SLU 83	0.45	-6365.47	-23088	-20523	7791	1.88	1.88	-24259	10179	8615	28547	25333	4794	30127	No	3.87	Si
SLU 81	0.05	-2517.69	-22648	-20132	7312	1.88	1.88	-23797	10117	8559	28547	25333	4794	30127	No	4.12	Si
SLU 81	0.45	-6259.77	-22708	-20185	7638	1.88	1.88	-23860	10126	8566	28547	25333	4794	30127	No	3.94	Si
SLU 80	0.05	-2495.32	-22311	-19832	7125	1.88	1.88	-23442	10070	8519	28547	25333	4794	30127	No	4.23	Si
SLU 80	0.45	-6182.17	-22393	-19905	7447	1.88	1.88	-23528	10082	8529	28547	25333	4794	30127	No	4.05	Si
SLU 75	0.05	-2480.5	-22118	-19660	7035	1.88	1.88	-23239	10043	8496	28547	25333	4794	30127	No	4.28	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.45	-6126.55	-22195	-19729	7353	1.88	1.88	-23320	10054	8506	28547	25333	4794	30127	No	4.1	Si
SLU 78	0.05	-2515.27	-22486	-19987	7182	1.88	1.88	-23626	10095	8540	28547	25333	4794	30127	No	4.19	Si
SLU 78	0.45	-6232.25	-22575	-20066	7507	1.88	1.88	-23719	10107	8551	28547	25333	4794	30127	No	4.01	Si
SLU 79	0.05	-2484.96	-22505	-20005	7275	1.88	1.88	-23646	10097	8542	28547	25333	4794	30127	No	4.14	Si
SLU 79	0.45	-6225.67	-22580	-20071	7601	1.88	1.88	-23724	10108	8551	28547	25333	4794	30127	No	3.96	Si
SLU 77	0.05	-2504.91	-22679	-20160	7332	1.88	1.88	-23829	10122	8563	28547	25333	4794	30127	No	4.11	Si
SLU 77	0.45	-6275.75	-22761	-20232	7660	1.88	1.88	-23915	10133	8573	28547	25333	4794	30127	No	3.93	Si
SLU 84	0.05	-2562.82	-22822	-20287	7309	1.88	1.88	-23979	10142	8580	28547	25333	4794	30127	No	4.12	Si
SLU 84	0.45	-6321.97	-22902	-20357	7637	1.88	1.88	-24063	10153	8589	28547	25333	4794	30127	No	3.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.05	-289.77	-29728	-26425	18612	1.88	1.88	-31235	16250	13747	28547	37999	4794	42294		2.27	Si
SLV 12	0.45	-7319.87	-28630	-25449	19081	1.88	1.88	-30081	16250	13747	28547	37999	4794	42294		2.22	Si
SLV 5	0.05	-3054	-550	-489	-9066	1.504	0	0	0	0	28547	30400	3835	28547		3.15	Si
SLV 5	0.45	-1033.04	-1681	-1494	-9100	1.504	0.9765	0	0	0	28547	30400	3835	28547		3.14	Si
SLV 7	0.05	-2642.32	-30204	-26848	12242	1.88	1.88	-31735	16250	13747	28547	37999	4794	42294		3.45	Si
SLV 7	0.45	-8310.29	-30490	-27102	12758	1.88	1.88	-32035	16250	13747	28547	37999	4794	42294		3.32	Si
SLV 11	0.05	-649.37	-29473	-26199	17398	1.88	1.88	-30968	16250	13747	28547	37999	4794	42294		2.43	Si
SLV 11	0.45	-7376.11	-28570	-25396	17862	1.88	1.88	-30019	16250	13747	28547	37999	4794	42294		2.37	Si
SLD 11	0.05	-1025.7	-23511	-20899	12309	1.88	1.88	-24703	15357	12992	28547	37999	4794	41539		3.37	Si
SLD 11	0.45	-6028.73	-22963	-20411	12669	1.88	1.88	-24127	15242	12895	28547	37999	4794	41441		3.27	Si
SLV 15	0.05	1444.36	-18181	-16161	15660	1.88	1.88	-19103	14237	12045	28547	37999	4794	40591		2.59	Si
SLV 15	0.45	-3752.84	-16234	-14430	15869	1.88	1.88	-17057	13828	11699	28547	37999	4794	40245		2.54	Si
SLD 16	0.05	663.44	-17065	-15169	12713	1.88	1.88	-17930	14003	11846	28547	37999	4794	40393		3.18	Si
SLD 16	0.45	-3796.64	-15668	-13927	12926	1.88	1.88	-16463	13709	11598	28547	37999	4794	40145		3.11	Si
SLV 8	0.05	-2282.71	-30458	-27074	13456	1.88	1.88	-32002	16250	13747	28547	37999	4794	42294		3.14	Si
SLV 8	0.45	-8254.05	-30549	-27155	13978	1.88	1.88	-32098	16250	13747	28547	37999	4794	42294		3.03	Si
SLD 12	0.05	-807.47	-23665	-21036	13046	1.88	1.88	-24865	15390	13020	28547	37999	4794	41566		3.19	Si
SLD 12	0.45	-5994.6	-22999	-20443	13409	1.88	1.88	-24165	15250	12901	28547	37999	4794	41448		3.09	Si
SLV 16	0.05	1978.52	-18558	-16496	17463	1.88	1.88	-19499	14317	12112	28547	37999	4794	40658		2.33	Si
SLV 16	0.45	-3669.3	-16322	-14509	17681	1.88	1.88	-17150	13847	11714	28547	37999	4794	40261		2.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	0	1247	113.98	0	0	No, Trazione
SLV 5	179667	0.24	0	490	113.98	0	0	No, Trazione
SLV 6	179667	0.24	0	220	113.98	0	0	No, Trazione
SLV 10	179667	0.24	0	976	113.98	0	0	No, Trazione
SLV 13	179667	0.24	8405	-7111	113.98	1511.84	13.26	Si
SLV 14	179667	0.24	8880	-7512	113.98	1591.95	13.97	Si
SLV 1	179667	0.24	11387	-9633	113.98	2005.92	17.6	Si
SLV 2	179667	0.24	11862	-10035	113.98	2082.49	18.27	Si
SLV 15	179667	0.24	17834	-15087	113.98	2998.21	26.3	Si
SLV 16	179667	0.24	18308	-15489	113.98	3067.16	26.91	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-29665	-19809	-1729	0.368	3339.4	0.971	5.50748	2.58901	Si
SLV 7	-29507	-19561	-1723	0.37	3323.4	0.971	5.53269	2.58901	Si
SLV 12	-28350	-18842	-1643	0.383	3205.6	0.97	5.74044	2.58901	Si
SLV 11	-28193	-18594	-1636	0.385	3189.5	0.969	5.76802	2.58901	Si
SLV 4	-21032	-13122	-1253	0.495	2460.8	0.961	7.48022	2.7151	Si
SLV 3	-20798	-12754	-1243	0.499	2437	0.961	7.55325	2.7151	Si
SLV 16	-16650	-9898	-966	0.606	2015.3	0.954	9.24149	2.7151	Si
SLV 15	-16417	-9530	-956	0.614	1991.5	0.953	9.35558	2.7151	Si
SLV 2	-12285	-6372	-758	0.78	1572.3	0.942	12.03093	2.7151	Si
SLV 1	-12051	-6004	-747	0.792	1548.6	0.942	12.22992	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.864	SLU 83	Si
V_SLU	3.867	SLU 83	Si
PF_SLV	0	SLV 9	No
V_SLV	2.217	SLV 12	Si
PFFP_SLV	0	SLV 10	No
R_SLV	2.127	SLV 8	Si

Maschio 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.709	-16.928	-4.709	L2	L4	3.165	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	-1.95	-2320.24	-18012	-0.0000244	0.0003743	0.0035	3.165	24963.54	28573.43	28573.43	12.31	No	Si
SLU 80	0.73	-17636.11	-27036	-0.0000697	0.0003743	0.0035	3.165	34807.5	39553.27	39553.27	2.24	No	Si
SLU 84	-1.95	-2365.18	-18604	-0.0000252	0.0003743	0.0035	3.165	25664.04	29343.18	29343.18	12.41	No	Si
SLU 84	0.73	-18275.09	-27933	-0.0000726	0.0003743	0.0035	3.165	35689	40578.45	40578.45	2.22	No	Si
SLU 76	-1.95	-2341.46	-18088	-0.0000245	0.0003743	0.0035	3.165	25054.11	28672.19	28672.19	12.25	No	Si
SLU 76	0.73	-17652.18	-26843	-0.0000696	0.0003743	0.0035	3.165	34615.89	39330.01	39330.01	2.23	No	Si
SLU 81	-1.95	-2350.71	-18195	-0.0000247	0.0003743	0.0035	3.165	25180.55	28810.4	28810.4	12.26	No	Si
SLU 81	0.73	-17908.59	-27408	-0.0000709	0.0003743	0.0035	3.165	35175.22	39981.32	39981.32	2.23	No	Si
SLU 75	-1.95	-2326.5	-17961	-0.0000244	0.0003743	0.0035	3.165	24902.84	28507.37	28507.37	12.25	No	Si
SLU 75	0.73	-17651.56	-26821	-0.0000696	0.0003743	0.0035	3.165	34593.84	39304.31	39304.31	2.23	No	Si
SLU 74	-1.95	-2305.08	-17670	-0.000024	0.0003743	0.0035	3.165	24555.04	28130.52	28130.52	12.2	No	Si
SLU 74	0.73	-17422.03	-26622	-0.0000688	0.0003743	0.0035	3.165	34394.56	39069.9	39069.9	2.24	No	Si
SLU 82	-1.95	-2372.12	-18486	-0.0000251	0.0003743	0.0035	3.165	25525.02	29189.09	29189.09	12.31	No	Si
SLU 82	0.73	-18138.13	-27608	-0.0000717	0.0003743	0.0035	3.165	35371.08	40209.08	40209.08	2.22	No	Si
SLU 78	-1.95	-2319.55	-18079	-0.0000245	0.0003743	0.0035	3.165	25043.22	28660.31	28660.31	12.36	No	Si
SLU 78	0.73	-17788.52	-27147	-0.0000703	0.0003743	0.0035	3.165	34917.35	39681.2	39681.2	2.23	No	Si
SLU 83	-1.95	-2343.76	-18313	-0.0000248	0.0003743	0.0035	3.165	25320.33	28963.64	28963.64	12.36	No	Si
SLU 83	0.73	-18045.55	-27734	-0.0000717	0.0003743	0.0035	3.165	35494.57	40352.59	40352.59	2.24	No	Si
SLU 73	-1.95	-2348.41	-17970	-0.0000244	0.0003743	0.0035	3.165	24913.76	28519.24	28519.24	12.14	No	Si
SLU 73	0.73	-17515.22	-26518	-0.0000689	0.0003743	0.0035	3.165	34290.22	38947.15	38947.15	2.22	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	-1.95	-1570.09	-31864	-0.0000381	0.0005615	0.0035	3.165		47407.18	47407.18	30.19		Si
SLV 5	0.73	-28399.3	-31613	-0.0001117	0.0005615	0.0035	2.532		47097.2	47097.2	1.66		Si
SLV 8	-1.95	600.56	6837	0.5151475	0.0005615	0.0035	2.532		0	0	0		No
SLV 8	0.73	3879.06	-4445	-0.000014	0.0005615	0.0035	3.165		7392.09	7392.09	1.91		Si
SLV 11	-1.95	-2066.18	7086	0.5382208	0.0005615	0.0035	2.532		0	0	0		No
SLV 11	0.73	4786.32	-4520	-0.0000194	0.0005615	0.0035	3.165		7505.93	7505.93	1.57		Si
SLD 6	-1.95	-1409.65	-23654	-0.0000285	0.0005615	0.0035	3.165		36940.54	36940.54	26.21		Si
SLD 6	0.73	-21685.52	-26024	-0.000082	0.0005615	0.0035	3.165		40057.03	40057.03	1.85		Si
SLV 10	-1.95	-3740.24	-31218	-0.000042	0.0005615	0.0035	3.165		46607.39	46607.39	12.46		Si
SLV 10	0.73	-27857.71	-31756	-0.0001086	0.0005615	0.0035	2.532		47274.18	47274.18	1.7		Si
SLD 5	-1.95	-1560.33	-23774	-0.000029	0.0005615	0.0035	3.165		37099.67	37099.67	23.78		Si
SLD 5	0.73	-21574.56	-26003	-0.0000815	0.0005615	0.0035	3.165		40030.28	40030.28	1.86		Si
SLV 12	-1.95	-1817.89	7284	0.5528271	0.0005615	0.0035	2.532		0	0	0		No
SLV 12	0.73	4603.48	-4554	-0.0000179	0.0005615	0.0035	3.165		7558.21	7558.21	1.64		Si
SLV 6	-1.95	-1321.79	-31666	-0.0000373	0.0005615	0.0035	3.165		47162.26	47162.26	35.68		Si
SLV 6	0.73	-28582.14	-31647	-0.0001127	0.0005615	0.0035	2.532		47139.59	47139.59	1.65		Si
SLV 9	-1.95	-3988.54	-31417	-0.0000427	0.0005615	0.0035	3.165		46853.7	46853.7	11.75		Si
SLV 9	0.73	-27674.87	-31722	-0.0001077	0.0005615	0.0035	3.165		47231.85	47231.85	1.71		Si
SLV 7	-1.95	352.27	6639	0.5006005	0.0005615	0.0035	2.532		0	0	0		No
SLV 7	0.73	4061.89	-4411	-0.000015	0.0005615	0.0035	3.165		7339.82	7339.82	1.81		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	-1.95	-2298.13	-17788	-15811	16183	3.165	3.165	-11102	8425	13181	28547	42648	8071	41727	No	2.58	Si
SLU 77	0.73	-17558.99	-26948	-23953	11621	3.165	2.7927	-19292	9517	16437	28547	42648	8071	44984	No	3.87	Si
SLU 80	-1.95	-2320.24	-18012	-16011	16197	3.165	3.165	-11242	8443	13260	28547	42648	8071	41807	No	2.58	Si
SLU 80	0.73	-17636.11	-27036	-24032	11578	3.165	2.7906	-19370	9527	16469	28547	42648	8071	45015	No	3.89	Si
SLU 81	-1.95	-2350.71	-18195	-16173	16600	3.165	3.165	-11356	8459	13325	28547	42648	8071	41872	No	2.52	Si
SLU 81	0.73	-17908.59	-27408	-24363	12058	3.165	2.7873	-19663	9566	16601	28547	42648	8071	45148	No	3.74	Si
SLU 76	-1.95	-2341.46	-18088	-16079	16150	3.165	3.165	-11289	8450	13287	28547	42648	8071	41834	No	2.59	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	0.73	-17652.18	-26843	-23861	11523	3.165	2.7747	-19336	9523	16400	28547	42648	8071	44947	No	3.9	Si
SLU 79	-1.95	-2298.82	-17721	-15752	16062	3.165	3.165	-11060	8419	13157	28547	42648	8071	41703	No	2.6	Si
SLU 79	0.73	-17406.57	-26837	-23855	11524	3.165	2.8017	-19152	9498	16398	28547	42648	8071	44944	No	3.9	Si
SLU 75	-1.95	-2326.5	-17961	-15965	16182	3.165	3.165	-11210	8439	13242	28547	42648	8071	41789	No	2.58	Si
SLU 75	0.73	-17651.56	-26821	-23841	11584	3.165	2.7732	-19330	9522	16392	28547	42648	8071	44939	No	3.88	Si
SLU 82	-1.95	-2372.12	-18486	-16432	16736	3.165	3.165	-11538	8483	13429	28547	42648	8071	41976	No	2.51	Si
SLU 82	0.73	-18138.13	-27608	-24540	12113	3.165	2.7765	-19882	9595	16672	28547	42648	8071	45219	No	3.73	Si
SLU 78	-1.95	-2319.55	-18079	-16070	16319	3.165	3.165	-11283	8449	13284	28547	42648	8071	41831	No	2.56	Si
SLU 78	0.73	-17788.52	-27147	-24131	11676	3.165	2.7817	-19510	9546	16508	28547	42648	8071	45055	No	3.86	Si
SLU 84	-1.95	-2365.18	-18604	-16537	16873	3.165	3.165	-11611	8493	13471	28547	42648	8071	42017	No	2.49	Si
SLU 84	0.73	-18275.09	-27933	-24830	12204	3.165	2.7848	-20133	9629	16788	28547	42648	8071	45334	No	3.71	Si
SLU 83	-1.95	-2343.76	-18313	-16278	16738	3.165	3.165	-11429	8468	13367	28547	42648	8071	41914	No	2.5	Si
SLU 83	0.73	-18045.55	-27734	-24652	12150	3.165	2.7955	-19909	9599	16717	28547	42648	8071	45263	No	3.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.95	-1321.79	-31666	-28147	28113	3.165	3.165	-19763	14369	21543	28547	63973	8071	50089		1.78	Si
SLV 6	0.73	-28582.14	-31647	-28131	22182	2.532	2.0381	0	0	0	28547	51178	6457	28547		1.29	Si
SLV 5	-1.95	-1570.09	-31864	-28324	26498	3.165	3.165	-19887	14394	21613	28547	63973	8071	50160		1.89	Si
SLV 5	0.73	-28399.3	-31613	-28101	20123	2.532	2.0525	0	0	0	28547	51178	6457	28547		1.42	Si
SLV 3	-1.95	2440.71	-7407	-6584	20290	3.165	3.165	-4623	11341	16153	28547	63973	8071	44699		2.2	Si
SLV 3	0.73	-8100.32	-13796	-12263	20279	3.165	2.9861	-9164	12250	16460	28547	63973	8071	45007		2.22	Si
SLD 1	-1.95	599.67	-16242	-14437	21385	3.165	3.165	-10137	12444	17723	28547	63973	8071	46270		2.16	Si
SLD 1	0.73	-15422.08	-20335	-18075	18874	3.165	2.4723	-16373	13691	17514	28547	63973	8071	46061		2.44	Si
SLV 4	-1.95	2809.53	-7113	-6323	22689	3.165	3.165	-4439	11305	16100	28547	63973	8071	44647		1.97	Si
SLV 4	0.73	-8371.9	-13847	-12308	23337	3.165	2.9337	-9361	12289	16223	28547	63973	8071	44770		1.92	Si
SLD 6	-1.95	-1409.65	-23654	-21025	21224	3.165	3.165	-14762	13369	19041	28547	63973	8071	47588		2.24	Si
SLD 6	0.73	-21685.52	-26024	-23132	16474	3.165	2.2476	-23141	15045	19537	28547	63973	8071	48083		2.92	Si
SLV 2	-1.95	2232.82	-18664	-16590	29979	3.165	3.165	-11648	12746	18154	28547	63973	8071	46700		1.56	Si
SLV 2	0.73	-18110.26	-22008	-19562	28411	3.165	2.2788	-19260	14269	18109	28547	63973	8071	46656		1.64	Si
SLV 10	-1.95	-3740.24	-31218	-27750	19560	3.165	3.165	-19484	14313	21384	28547	63973	8071	49930		2.55	Si
SLV 10	0.73	-27857.71	-31756	-28228	12198	2.532	2.1158	0	0	0	28547	51178	6457	28547		2.34	Si
SLD 2	-1.95	833.66	-16055	-14271	22907	3.165	3.165	-10020	12421	17690	28547	63973	8071	46237		2.02	Si
SLD 2	0.73	-15594.37	-20367	-18104	20814	3.165	2.4505	-16545	13726	17526	28547	63973	8071	46072		2.21	Si
SLV 1	-1.95	1864	-18958	-16852	27580	3.165	3.165	-11832	12783	18206	28547	63973	8071	46753		1.7	Si
SLV 1	0.73	-17838.68	-21957	-19517	25353	3.165	2.3102	-18952	14207	18091	28547	63973	8071	46638		1.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	0	1899	191.89	0	0	No, Trazione
SLV 8	179667	0.24	0	2224	191.89	0	0	No, Trazione
SLV 11	179667	0.24	0	1779	191.89	0	0	No, Trazione
SLV 7	179667	0.24	0	2104	191.89	0	0	No, Trazione
SLV 4	179667	0.24	6509	-9271	191.89	1997.06	10.41	Si
SLV 3	179667	0.24	6634	-9449	191.89	2033.62	10.6	Si
SLV 16	179667	0.24	7270	-10355	191.89	2218.94	11.56	Si
SLV 15	179667	0.24	7395	-10533	191.89	2255.1	11.75	Si
SLV 2	179667	0.24	13673	-19474	191.89	3989.36	20.79	Si
SLV 1	179667	0.24	13798	-19652	191.89	4022.16	20.96	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-31756	-31218	657	0.579	3771.4	0.958	8.78001	2.58901	Si
SLV 9	-31722	-31417	653	0.579	3767.9	0.958	8.7895	2.58901	Si
SLV 6	-31647	-31666	678	0.58	3760.3	0.958	8.79562	2.58901	Si
SLV 5	-31613	-31864	673	0.58	3756.8	0.958	8.80516	2.58901	Si
SLV 14	-22371	-17172	407	0.768	2818.2	0.945	11.80949	2.7151	Si
SLV 13	-22320	-17467	401	0.77	2813	0.945	11.83515	2.7151	Si
SLV 2	-22008	-18664	474	0.775	2781.4	0.945	11.92682	2.7151	Si
SLV 1	-21957	-18958	468	0.777	2776.2	0.945	11.95311	2.7151	Si
SLV 16	-14210	-5621	212	1.096	1992.7	0.927	17.17392	2.7151	Si
SLV 15	-14159	-5916	206	1.099	1987.6	0.927	17.22821	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.217	SLU 82	Si
V_SLU	2.49	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	1.287	SLV 6	Si
PFFP_SLV	0	SLV 12	No
R_SLV	3.391	SLV 10	Si

Maschio 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.071	-15.058	6.351	L2	L4	4.28	0.3	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	-1.95	14484.34	-83102	-0.0001256	0.0004492	0.0035	4.28	83639.52	128092.75	128092.75	8.84	No	Si
SLU 81	0.05	-12686.55	-80252	-0.0001182	0.0004492	0.0035	4.28	83890.9	131560.49	131560.49	10.37	No	Si
SLU 37	-1.95	13277.21	-69475	-0.0001045	0.0004492	0.0035	4.28	82838.06	113229.86	113229.86	8.53	No	Si
SLU 37	0.05	-10381.28	-67494	-0.0000966	0.0004492	0.0035	4.28	82299.97	119239.5	119239.5	11.49	No	Si
SLU 35	-1.95	13478.61	-69930	-0.0001055	0.0004492	0.0035	4.28	82946.64	113773.25	113773.25	8.44	No	Si
SLU 35	0.05	-10417.11	-67975	-0.0000973	0.0004492	0.0035	4.28	82440.38	119801.64	119801.64	11.5	No	Si
SLU 74	-1.95	14509.29	-81373	-0.0001232	0.0004492	0.0035	4.28	83818.5	126666.01	126666.01	8.73	No	Si
SLU 74	0.05	-12228.71	-78467	-0.0001148	0.0004492	0.0035	4.28	83935.47	130154.86	130154.86	10.64	No	Si
SLU 39	-1.95	12930	-70813	-0.0001057	0.0004492	0.0035	4.28	83141.01	114826.66	114826.66	8.88	No	Si
SLU 39	0.05	-10824.72	-68869	-0.0000992	0.0004492	0.0035	4.28	82684.72	120792.29	120792.29	11.16	No	Si
SLU 77	-1.95	15032.96	-82220	-0.0001254	0.0004492	0.0035	4.28	83741.05	127364.7	127364.7	8.47	No	Si
SLU 77	0.05	-12278.95	-79359	-0.0001162	0.0004492	0.0035	4.28	83924.08	130856.86	130856.86	10.66	No	Si
SLU 79	-1.95	14831.56	-81765	-0.0001244	0.0004492	0.0035	4.28	83785.12	126989.13	126989.13	8.56	No	Si
SLU 79	0.05	-12243.12	-78878	-0.0001154	0.0004492	0.0035	4.28	83932.92	130478.46	130478.46	10.66	No	Si
SLU 41	-1.95	13453.67	-71660	-0.0001078	0.0004492	0.0035	4.28	83307.57	115837.58	115837.58	8.61	No	Si
SLU 41	0.05	-10874.95	-69760	-0.0001005	0.0004492	0.0035	4.28	82906.78	121747.79	121747.79	11.2	No	Si
SLU 83	-1.95	15008.01	-83949	-0.0001278	0.0004492	0.0035	4.28	83522.11	128791.44	128791.44	8.58	No	Si
SLU 83	0.05	-12736.79	-81144	-0.0001195	0.0004492	0.0035	4.28	83836.09	132262.49	132262.49	10.38	No	Si
SLU 32	-1.95	12954.94	-69083	-0.0001034	0.0004492	0.0035	4.28	82740.12	112762.34	112762.34	8.7	No	Si
SLU 32	0.05	-10366.88	-67083	-0.000096	0.0004492	0.0035	4.28	82174.89	118758.78	118758.78	11.46	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	-1.95	89103.79	-65055	-0.0003115	0.0006738	0.0035	4.28		115905.52	115905.52	1.3		Si
SLV 12	0.05	-8451.39	-67464	-0.00009	0.0006738	0.0035	4.28		127409.33	127409.33	15.08		Si
SLV 11	-1.95	87958.15	-65283	-0.0003018	0.0006738	0.0035	4.28		116260.57	116260.57	1.32		Si
SLV 11	0.05	-8122.68	-67481	-0.0000894	0.0006738	0.0035	4.28		127432.22	127432.22	15.69		Si
SLV 10	-1.95	-66359.69	-42552	-0.0002582	0.0006738	0.0035	3.424		89921.18	89921.18	1.36		Si
SLV 10	0.05	-10392.28	-37695	-0.0000579	0.0006738	0.0035	4.28		81855.93	81855.93	7.88		Si
SLV 9	-1.95	-67505.33	-42779	-0.0002698	0.0006738	0.0035	3.424		90291.89	90291.89	1.34		Si
SLV 9	0.05	-10063.56	-37712	-0.0000574	0.0006738	0.0035	4.28		81884.83	81884.83	8.14		Si
SLD 12	-1.95	56151.66	-61243	-0.0001683	0.0006738	0.0035	4.28		109950.73	109950.73	1.96		Si
SLD 12	0.05	-8496.88	-61694	-0.0000831	0.0006738	0.0035	4.28		119341.91	119341.91	14.05		Si
SLV 6	-1.95	-69442.23	-47013	-0.0002496	0.0006738	0.0035	3.424		97196.09	97196.09	1.4		Si
SLV 6	0.05	-8755.54	-39818	-0.0000577	0.0006738	0.0035	4.28		85462.44	85462.44	9.76		Si
SLV 5	-1.95	-70587.87	-47240	-0.0002588	0.0006738	0.0035	3.424		97566.8	97566.8	1.38		Si
SLV 5	0.05	-8426.83	-39835	-0.0000572	0.0006738	0.0035	4.28		85489.84	85489.84	10.14		Si
SLV 7	-1.95	84875.61	-69743	-0.0002713	0.0006738	0.0035	4.28		122515.99	122515.99	1.44		Si
SLV 7	0.05	-6485.94	-69603	-0.0000893	0.0006738	0.0035	4.28		130324.73	130324.73	20.09		Si
SLV 8	-1.95	86021.25	-69516	-0.0002777	0.0006738	0.0035	4.28		122240.07	122240.07	1.42		Si
SLV 8	0.05	-6814.66	-69587	-0.0000898	0.0006738	0.0035	4.28		130301.83	130301.83	19.12		Si
SLD 11	-1.95	55456.43	-61381	-0.0001667	0.0006738	0.0035	4.28		110166.2	110166.2	1.99		Si
SLD 11	0.05	-8297.4	-61704	-0.0000827	0.0006738	0.0035	4.28		119356.72	119356.72	14.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	-1.95	13789.53	-83807	-60950	-14448	4.28	4.28	-47469	10833	31796	81562	46144	21828	67972	No	4.7	Si
SLU 84	0.05	-12690.87	-80922	-58852	-14819	4.28	4.28	-45835	10833	30957	81562	46144	21828	67972	No	4.59	Si
SLU 73	-1.95	11753.41	-79833	-58060	-14488	4.28	4.28	-45218	10833	30640	81562	46144	21828	67972	No	4.69	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	0.05	-12066.11	-76724	-55800	-14842	4.28	4.28	-43458	10833	29736	81562	46144	21828	67972	No	4.58	Si
SLU 68	-1.95	10643.45	-73605	-53531	-13816	4.28	4.28	-41691	10833	28829	81562	46144	21828	67972	No	4.92	Si
SLU 68	0.05	-10847.24	-70249	-51090	-14145	4.28	4.28	-39790	10833	27853	81562	46144	21828	67972	No	4.81	Si
SLU 82	-1.95	13265.86	-82960	-60334	-14392	4.28	4.28	-46989	10833	31550	81562	46144	21828	67972	No	4.72	Si
SLU 82	0.05	-12640.63	-80030	-58204	-14761	4.28	4.28	-45330	10833	30698	81562	46144	21828	67972	No	4.6	Si
SLU 80	-1.95	13613.07	-81622	-59361	-14192	4.28	4.28	-46232	10833	31161	81562	46144	21828	67972	No	4.79	Si
SLU 80	0.05	-12197.2	-78656	-57204	-14553	4.28	4.28	-44552	10833	30298	81562	46144	21828	67972	No	4.67	Si
SLU 76	-1.95	12277.08	-80680	-58676	-14543	4.28	4.28	-45698	10833	30887	81562	46144	21828	67972	No	4.67	Si
SLU 76	0.05	-12116.35	-77616	-56448	-14900	4.28	4.28	-43963	10833	29996	81562	46144	21828	67972	No	4.56	Si
SLU 75	-1.95	13290.81	-81230	-59076	-14191	4.28	4.28	-46010	10833	31047	81562	46144	21828	67972	No	4.79	Si
SLU 75	0.05	-12182.79	-78245	-56905	-14551	4.28	4.28	-44319	10833	30179	81562	46144	21828	67972	No	4.67	Si
SLU 83	-1.95	15008.01	-83949	-61054	-13837	4.28	4.28	-47550	10833	31838	81562	46144	21828	67972	No	4.91	Si
SLU 83	0.05	-12736.79	-81144	-59014	-14211	4.28	4.28	-45961	10833	31022	81562	46144	21828	67972	No	4.78	Si
SLU 81	-1.95	14484.34	-83102	-60438	-13782	4.28	4.28	-47070	10833	31592	81562	46144	21828	67972	No	4.93	Si
SLU 81	0.05	-12686.55	-80252	-58365	-14153	4.28	4.28	-45456	10833	30763	81562	46144	21828	67972	No	4.8	Si
SLU 78	-1.95	13814.48	-82077	-59692	-14246	4.28	4.28	-46489	10833	31293	81562	46144	21828	67972	No	4.77	Si
SLU 78	0.05	-12233.03	-79136	-57554	-14609	4.28	4.28	-44824	10833	30438	81562	46144	21828	67972	No	4.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	-1.95	-37635.74	-51052	-37129	-31527	4.28	4.2084	-28917	16250	25977	81562	69216	21828	91044		2.89	Si
SLD 5	0.05	-8381.34	-45605	-33167	-31810	4.28	4.28	-25831	16250	24393	81562	69216	21828	91044		2.86	Si
SLD 9	-1.95	-35664.01	-48197	-35053	-30093	4.28	4.2001	-27300	16250	25147	81562	69216	21828	91044		3.03	Si
SLD 9	0.05	-9420.61	-44243	-32177	-30198	4.28	4.28	-25060	16250	23996	81562	69216	21828	91044		3.01	Si
SLV 11	-1.95	87958.15	-65283	-47478	26223	4.28	2.378	-36977	16250	30117	81562	69216	21828	91044		3.47	Si
SLV 11	0.05	-8122.68	-67481	-49077	26019	4.28	4.28	-38222	16250	30756	81562	69216	21828	91044		3.5	Si
SLD 6	-1.95	-36940.51	-50914	-37029	-30998	4.28	4.2434	-28839	16250	25937	81562	69216	21828	91044		2.94	Si
SLD 6	0.05	-8580.82	-45595	-33160	-31286	4.28	4.28	-25826	16250	24390	81562	69216	21828	91044		2.91	Si
SLD 10	-1.95	-34968.78	-48059	-34952	-29564	4.28	4.2372	-27221	16250	25106	81562	69216	21828	91044		3.08	Si
SLD 10	0.05	-9620.09	-44233	-32169	-29674	4.28	4.28	-25054	16250	23993	81562	69216	21828	91044		3.07	Si
SLV 12	-1.95	89103.79	-65055	-47313	27094	4.28	2.311	-36848	16250	30050	81562	69216	21828	91044		3.36	Si
SLV 12	0.05	-8451.39	-67464	-49065	26883	4.28	4.28	-38212	16250	30751	81562	69216	21828	91044		3.39	Si
SLV 5	-1.95	-70587.87	-47240	-34356	-46729	3.424	1.9373	0	0	0	81562	55372	17462	72835		1.56	Si
SLV 5	0.05	-8426.83	-39835	-28971	-47028	4.28	4.28	-22563	16250	22714	81562	69216	21828	91044		1.94	Si
SLV 6	-1.95	-69442.23	-47013	-34191	-45857	3.424	1.9887	0	0	0	81562	55372	17462	72835		1.59	Si
SLV 6	0.05	-8755.54	-39818	-28959	-46164	4.28	4.28	-22553	16250	22709	81562	69216	21828	91044		1.97	Si
SLV 10	-1.95	-66359.69	-42552	-30947	-43614	3.424	1.7415	0	0	0	81562	55372	17462	72835		1.67	Si
SLV 10	0.05	-10392.28	-37695	-27415	-43631	4.28	4.28	-21351	16250	22092	81562	69216	21828	91044		2.09	Si
SLV 9	-1.95	-67505.33	-42779	-31112	-44485	3.424	1.686	0	0	0	81562	55372	17462	72835		1.64	Si
SLV 9	0.05	-10063.56	-37712	-27427	-44495	4.28	4.28	-21361	16250	22096	81562	69216	21828	91044		2.05	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-39794	0.24	179.22	4959.78	6957.35	5958.57	33.25	Si
SLV 9	-39872	0.24	179.22	4967.49	6969.45	5968.47	33.3	Si
SLV 6	-42333	0.24	179.22	5207.69	7349.02	6278.35	35.03	Si
SLV 5	-42411	0.24	179.22	5215.15	7360.91	6288.03	35.09	Si
SLV 14	-45849	0.24	179.22	5537.48	7887.21	6712.34	37.45	Si
SLV 13	-45965	0.24	179.22	5548.04	7904.88	6726.46	37.53	Si
SLV 16	-53594	0.24	179.22	6208.29	9073.69	7640.99	42.64	Si
SLV 15	-53709	0.24	179.22	6217.71	9091.39	7654.55	42.71	Si
SLV 2	-54311	0.24	179.22	6266.57	9183.69	7725.13	43.1	Si
SLV 1	-54427	0.24	179.22	6275.88	9201.38	7738.63	43.18	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-62855	-69516	1	0.423	6884.5	0.978	6.28671	2.74522	Si
SLV 7	-62837	-69743	2	0.423	6882.7	0.978	6.28792	2.74522	Si
SLV 12	-61740	-65055	166	0.427	6771	0.978	6.34487	2.74522	Si
SLV 11	-61722	-65283	168	0.427	6769.2	0.978	6.34612	2.74522	Si
SLV 4	-55314	-66789	-198	0.467	6116.3	0.976	6.95941	2.95341	Si
SLV 3	-55287	-67127	-196	0.467	6113.7	0.975	6.96272	2.95341	Si
SLV 16	-51599	-51920	353	0.492	5737.9	0.974	7.34471	2.95341	Si
SLV 15	-51572	-52257	355	0.492	5735.3	0.974	7.3474	2.95341	Si
SLV 2	-47732	-60038	-203	0.528	5344.1	0.972	7.89857	2.95341	Si
SLV 1	-47705	-60376	-201	0.529	5341.5	0.972	7.90288	2.95341	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.441	SLU 35	Si
V_SLU	4.562	SLU 76	Si
PF_SLV	1.301	SLV 12	Si
V_SLV	1.559	SLV 5	Si
PFFP_SLV	33.248	SLV 10	Si
R_SLV	2.29	SLV 8	Si

Maschio 17

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.709	-13.763	-3.034	L2	L3	1.675	0.3	1.95	1.95	1.95			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	-1.95	8466.47	-34357	-0.0002658	0.0003743	0.0035	1.675	9450.55	15480.81	15480.81	1.83	No	Si
SLU 84	0	3000.14	-34390	-0.0001687	0.0003743	0.0035	1.675	9440.99	15479.88	15479.88	5.16	No	Si
SLU 83	-1.95	8453	-34073	-0.0002635	0.0003743	0.0035	1.675	9530.92	15478.87	15478.87	1.83	No	Si
SLU 83	0	2988.6	-34048	-0.0001668	0.0003743	0.0035	1.675	9537.7	15477.38	15477.38	5.18	No	Si
SLU 79	-1.95	8215.51	-32955	-0.0002507	0.0003743	0.0035	1.675	9821.24	15319.07	15319.07	1.86	No	Si
SLU 79	0	2843.25	-32840	-0.0001583	0.0003743	0.0035	1.675	9848.83	15298.59	15298.59	5.38	No	Si
SLU 77	-1.95	8251.27	-33108	-0.0002525	0.0003743	0.0035	1.675	9783.97	15346.34	15346.34	1.86	No	Si
SLU 77	0	2855.47	-33038	-0.0001595	0.0003743	0.0035	1.675	9801.08	15333.88	15333.88	5.37	No	Si
SLU 81	-1.95	8386.08	-33813	-0.0002602	0.0003743	0.0035	1.675	9602.06	15461.32	15461.32	1.84	No	Si
SLU 81	0	2968.38	-33743	-0.0001648	0.0003743	0.0035	1.675	9620.95	15455.93	15455.93	5.21	No	Si
SLU 75	-1.95	8197.82	-33132	-0.0002516	0.0003743	0.0035	1.675	9777.93	15350.72	15350.72	1.87	No	Si
SLU 75	0	2846.79	-33074	-0.0001595	0.0003743	0.0035	1.675	9792.24	15340.33	15340.33	5.39	No	Si
SLU 80	-1.95	8228.97	-33239	-0.000253	0.0003743	0.0035	1.675	9751.28	15369.89	15369.89	1.87	No	Si
SLU 80	0	2854.78	-33182	-0.0001602	0.0003743	0.0035	1.675	9765.65	15359.58	15359.58	5.38	No	Si
SLU 78	-1.95	8264.73	-33392	-0.0002547	0.0003743	0.0035	1.675	9712.58	15397.34	15397.34	1.86	No	Si
SLU 78	0	2867.01	-33380	-0.0001614	0.0003743	0.0035	1.675	9715.68	15395.16	15395.16	5.37	No	Si
SLU 74	-1.95	8184.35	-32848	-0.0002494	0.0003743	0.0035	1.675	9846.9	15300.03	15300.03	1.87	No	Si
SLU 74	0	2835.25	-32732	-0.0001576	0.0003743	0.0035	1.675	9874.22	15279.5	15279.5	5.39	No	Si
SLU 82	-1.95	8399.55	-34097	-0.0002625	0.0003743	0.0035	1.675	9524.1	15480.34	15480.34	1.84	No	Si
SLU 82	0	2979.92	-34084	-0.0001668	0.0003743	0.0035	1.675	9527.66	15479.58	15479.58	5.19	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	-1.95	4300.41	-3668	-0.0130478	0.0005615	0.0035	1.34		3119.48	3119.48	0.73		No
SLV 11	0	910.1	1026	0.1041171	0.0005615	0.0035	1.34		0	0	0		No
SLV 4	-1.95	5906.77	-13359	-0.000121	0.0005615	0.0035	1.675		9679.4	9679.4	1.64		Si
SLV 4	0	2619.42	-11683	-0.0000648	0.0005615	0.0035	1.675		8609.27	8609.27	3.29		Si
SLD 8	-1.95	5096.46	-10244	-0.0001066	0.0005615	0.0035	1.675		7705.33	7705.33	1.51		Si
SLD 8	0	1671.33	-7303	-0.0000401	0.0005615	0.0035	1.675		5835.08	5835.08	3.49		Si
SLV 8	-1.95	4652.01	-1548	-0.0313822	0.0005615	0.0035	1.34		1441.01	1441.01	0.31		No
SLV 8	0	1485.04	3197	0.3417451	0.0005615	0.0035	1.34		0	0	0		No
SLV 3	-1.95	5888.05	-13738	-0.0001202	0.0005615	0.0035	1.675		9924.21	9924.21	1.69		Si
SLV 3	0	2569.25	-12209	-0.000066	0.0005615	0.0035	1.675		8942.83	8942.83	3.48		Si
SLD 12	-1.95	4879.59	-11442	-0.0000978	0.0005615	0.0035	1.675		8456.57	8456.57	1.73		Si
SLD 12	0	1325.95	-8472	-0.00004	0.0005615	0.0035	1.675		6611.35	6611.35	4.99		Si
SLV 7	-1.95	4639.41	-1803	-0.0292708	0.0005615	0.0035	1.34		1647.82	1647.82	0.36		No
SLV 7	0	1451.26	2843	0.3026172	0.0005615	0.0035	1.34		0	0	0		No
SLD 7	-1.95	5088.81	-10399	-0.0001056	0.0005615	0.0035	1.675		7801.98	7801.98	1.53		Si
SLD 7	0	1650.83	-7518	-0.0000405	0.0005615	0.0035	1.675		5988.49	5988.49	3.63		Si
SLD 11	-1.95	4871.94	-11597	-0.0000976	0.0005615	0.0035	1.675		8554.42	8554.42	1.76		Si
SLD 11	0	1305.45	-8687	-0.0000404	0.0005615	0.0035	1.675		6742.84	6742.84	5.17		Si
SLV 12	-1.95	4313.01	-3413	-0.0148702	0.0005615	0.0035	1.34		2921.36	2921.36	0.68		No
SLV 12	0	943.87	1380	0.1441289	0.0005615	0.0035	1.34		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	-1.95	7460.74	-29955	-25225	763	1.675	1.675	-50199	10833	10745	21410	15047	4271	19318	No	25.3	Si
SLU 68	0	2455.92	-29571	-24902	2584	1.675	1.675	-49556	10833	10634	21410	15047	4271	19318	No	7.48	Si
SLU 66	-1.95	7474.06	-29634	-24955	956	1.675	1.675	-49661	10833	10652	21410	15047	4271	19318	No	20.21	Si
SLU 66	0	2448.91	-29199	-24589	2616	1.675	1.675	-48933	10833	10526	21410	15047	4271	19318	No	7.38	Si
SLU 67	-1.95	7487.52	-29918	-25194	832	1.675	1.675	-50138	10833	10734	21410	15047	4271	19318	No	23.21	Si
SLU 67	0	2460.45	-29541	-24877	2598	1.675	1.675	-49506	10833	10625	21410	15047	4271	19318	No	7.44	Si
SLU 65	-1.95	7393.82	-29695	-25006	805	1.675	1.675	-49764	10833	10669	21410	15047	4271	19318	No	23.99	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	0	2435.7	-29265	-24644	2566	1.675	1.675	-49043	10833	10545	21410	15047	4271	19318	No	7.53	Si
SLU 70	-1.95	7554.44	-30178	-25413	791	1.675	1.675	-50573	10833	10809	21410	15047	4271	19318	No	24.44	Si
SLU 70	0	2480.67	-29847	-25134	2617	1.675	1.675	-50018	10833	10713	21410	15047	4271	19318	No	7.38	Si
SLU 72	-1.95	7518.68	-30025	-25284	804	1.675	1.675	-50317	10833	10765	21410	15047	4271	19318	No	24.02	Si
SLU 72	0	2468.45	-29649	-24967	2614	1.675	1.675	-49686	10833	10656	21410	15047	4271	19318	No	7.39	Si
SLU 69	-1.95	7540.97	-29894	-25174	914	1.675	1.675	-50097	10833	10727	21410	15047	4271	19318	No	21.13	Si
SLU 69	0	2469.13	-29505	-24846	2634	1.675	1.675	-49445	10833	10614	21410	15047	4271	19318	No	7.33	Si
SLU 64	-1.95	7371.38	-29221	-24607	1011	1.675	1.675	-48970	10833	10532	21410	15047	4271	19318	No	19.1	Si
SLU 64	0	2416.47	-28695	-24164	2595	1.675	1.675	-48088	10833	10380	21410	15047	4271	19318	No	7.44	Si
SLU 48	-1.95	6749.75	-26625	-22421	1150	1.675	1.675	-44620	10833	9781	21410	15047	4271	19318	No	16.79	Si
SLU 48	0	2174.56	-25928	-21835	2543	1.675	1.675	-43452	10833	9580	21410	15047	4271	19318	No	7.6	Si
SLU 71	-1.95	7505.21	-29741	-25045	928	1.675	1.675	-49841	10833	10683	21410	15047	4271	19318	No	20.82	Si
SLU 71	0	2456.91	-29307	-24679	2632	1.675	1.675	-49113	10833	10557	21410	15047	4271	19318	No	7.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-1.95	6746.66	-43808	-36891	-8249	1.675	1.675	-73414	16250	15792	21410	22571	4271	26842		3.25	Si
SLV 9	0	2323.89	-47790	-40245	-94	1.675	1.675	-80089	16250	16944	21410	22571	4271	26842		285.87	Si
SLV 4	-1.95	5906.77	-13359	-11250	8871	1.675	1.186	-22388	14894	6982	21410	22571	4271	26842		3.03	Si
SLV 4	0	2619.42	-11683	-9839	4510	1.675	1.675	-19579	14332	7202	21410	22571	4271	26842		5.95	Si
SLV 11	-1.95	4300.41	-3668	-3089	5846	1.34	0	0	0	0	21410	18056	3417	21410		3.66	Si
SLV 11	0	910.1	1026	864	2575	1.34	0	0	0	0	21410	18056	3417	21410		8.31	Si
SLV 7	-1.95	4639.41	-1803	-1519	9267	1.34	0	0	0	0	21410	18056	3417	21410		2.31	Si
SLV 7	0	1451.26	2843	2394	3818	1.34	0.9811	0	0	0	21410	18056	3417	21410		5.61	Si
SLV 8	-1.95	4652.01	-1548	-1304	9706	1.34	0	0	0	0	21410	18056	3417	21410		2.21	Si
SLV 8	0	1485.04	3197	2692	3960	1.34	1.119	0	0	0	21410	18056	3417	21410		5.41	Si
SLV 12	-1.95	4313.01	-3413	-2874	6285	1.34	0	0	0	0	21410	18056	3417	21410		3.41	Si
SLV 12	0	943.87	1380	1162	2717	1.34	0.4607	0	0	0	21410	18056	3417	21410		7.88	Si
SLV 13	-1.95	5491.91	-31997	-26945	-7414	1.675	1.675	-53621	16250	12374	21410	22571	4271	26842		3.62	Si
SLV 13	0	1189.5	-32910	-27714	-644	1.675	1.675	-55152	16250	12639	21410	22571	4271	26842		41.67	Si
SLV 3	-1.95	5888.05	-13738	-11569	8219	1.675	1.2268	-23023	15021	7092	21410	22571	4271	26842		3.27	Si
SLV 3	0	2569.25	-12209	-10281	4299	1.675	1.675	-20460	14509	7291	21410	22571	4271	26842		6.24	Si
SLV 14	-1.95	5510.63	-31618	-26625	-6761	1.675	1.675	-52986	16250	12265	21410	22571	4271	26842		3.97	Si
SLV 14	0	1239.67	-32385	-27271	-433	1.675	1.675	-54271	16250	12487	21410	22571	4271	26842		61.96	Si
SLV 10	-1.95	6759.26	-43552	-36676	-7810	1.675	1.675	-72987	16250	15718	21410	22571	4271	26842		3.44	Si
SLV 10	0	2357.66	-47437	-39947	48	1.675	1.675	-79496	16250	16841	21410	22571	4271	26842		558.21	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.975 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	0	217	37.13	0	0	No, Trazione
SLV 8	179667	0.24	0	503	37.13	0	0	No, Trazione
SLV 12	179667	0.24	2358	-1185	37.13	175.01	4.71	Si
SLV 11	179667	0.24	2929	-1472	37.13	216.55	5.83	Si
SLV 4	179667	0.24	24537	-12330	37.13	1552.33	41.81	Si
SLV 3	179667	0.24	25385	-12756	37.13	1595.35	42.96	Si
SLV 16	179667	0.24	35737	-17958	37.13	2063.35	55.57	Si
SLV 15	179667	0.24	36585	-18384	37.13	2096.99	56.47	Si
SLV 2	179667	0.24	49907	-25078	37.13	2532.41	68.2	Si
SLV 1	179667	0.24	50755	-25504	37.13	2554.2	68.79	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.975 Wa = 0.05 Ta = 0.0212

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-47790	-43808	33	0.271	5006.9	0.991	3.97264	2.47205	Si
SLV 10	-47437	-43552	32	0.272	4970.8	0.991	3.99402	2.47205	Si
SLV 5	-45973	-41943	30	0.279	4821.7	0.991	4.08547	2.47205	Si
SLV 6	-45620	-41688	29	0.28	4785.6	0.991	4.10856	2.47205	Si
SLV 13	-32910	-31997	31	0.356	3490.2	0.987	5.2462	2.5662	Si
SLV 14	-32385	-31618	29	0.361	3436.6	0.987	5.31285	2.5662	Si
SLV 1	-26854	-25780	18	0.418	2873	0.985	6.16734	2.5662	Si
SLV 2	-26328	-25401	17	0.425	2819.4	0.985	6.2671	2.5662	Si
SLV 15	-18265	-19955	25	0.571	1997.8	0.979	8.47437	2.5662	Si
SLV 16	-17740	-19576	23	0.585	1944.2	0.978	8.68747	2.5662	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.828	SLU 84	Si
V_SLU	7.333	SLU 69	Si
PF_SLV	0	SLV 7	No
V_SLV	2.206	SLV 8	Si
PFFP_SLV	0	SLV 8	No
R_SLV	1.607	SLV 9	Si

Maschio 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.709	-13.763	-3.034	L3	L4	1.675	0.3	0.73	0.73	0.73			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0	6114.54	-38533	-0.0002495	0.0003743	0.0035	1.675	7964.94	15350.15	15350.15	2.51	No	Si
SLU 84	0.73	1810.3	-35405	-0.0001551	0.0003743	0.0035	1.675	9131.32	15452.22	15452.22	8.54	No	Si
SLU 78	0	5999.94	-37495	-0.0002398	0.0003743	0.0035	1.675	8387.57	15393.81	15393.81	2.57	No	Si
SLU 78	0.73	1771.87	-34392	-0.0001494	0.0003743	0.0035	1.675	9440.52	15479.83	15479.83	8.74	No	Si
SLU 74	0	5967.46	-36773	-0.0002342	0.0003743	0.0035	1.675	8660.73	15417.16	15417.16	2.58	No	Si
SLU 74	0.73	1746.66	-33694	-0.0001456	0.0003743	0.0035	1.675	9634.01	15451.8	15451.8	8.85	No	Si
SLU 83	0	6142.24	-38177	-0.0002474	0.0003743	0.0035	1.675	8113.83	15364.96	15364.96	2.5	No	Si
SLU 83	0.73	1813.09	-35045	-0.0001533	0.0003743	0.0035	1.675	9245.18	15461.89	15461.89	8.53	No	Si
SLU 77	0	6027.63	-37139	-0.0002379	0.0003743	0.0035	1.675	8524.37	15408.2	15408.2	2.56	No	Si
SLU 77	0.73	1774.66	-34031	-0.0001477	0.0003743	0.0035	1.675	9542.41	15476.32	15476.32	8.72	No	Si
SLU 80	0	5969.09	-37257	-0.0002376	0.0003743	0.0035	1.675	8479.39	15404.01	15404.01	2.58	No	Si
SLU 80	0.73	1762.63	-34161	-0.0001482	0.0003743	0.0035	1.675	9506.28	15484.01	15484.01	8.78	No	Si
SLU 82	0	6054.37	-38167	-0.0002456	0.0003743	0.0035	1.675	8118.01	15365.39	15365.39	2.54	No	Si
SLU 82	0.73	1782.3	-35068	-0.000153	0.0003743	0.0035	1.675	9238.11	15461.27	15461.27	8.67	No	Si
SLU 81	0	6082.07	-37811	-0.0002436	0.0003743	0.0035	1.675	8262.64	15380.37	15380.37	2.53	No	Si
SLU 81	0.73	1785.09	-34707	-0.0001512	0.0003743	0.0035	1.675	9347.98	15471.1	15471.1	8.67	No	Si
SLU 75	0	5939.77	-37129	-0.0002361	0.0003743	0.0035	1.675	8528.2	15408.45	15408.45	2.59	No	Si
SLU 75	0.73	1743.87	-34054	-0.0001473	0.0003743	0.0035	1.675	9536.1	15477.73	15477.73	8.88	No	Si
SLU 79	0	5996.78	-36901	-0.0002357	0.0003743	0.0035	1.675	8613.42	15414	15414	2.57	No	Si
SLU 79	0.73	1765.42	-33800	-0.0001464	0.0003743	0.0035	1.675	9605.45	15460.37	15460.37	8.76	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	0	4806.87	-10675	-0.0000968	0.0005615	0.0035	1.675		7974.59	7974.59	1.66		Si
SLD 11	0.73	1952.58	-7777	-0.0000446	0.0005615	0.0035	1.675		6167.33	6167.33	3.16		Si
SLD 8	0	5108.41	-8571	-0.0001278	0.0005615	0.0035	1.675		6671.86	6671.86	1.31		Si
SLD 8	0.73	1656.94	-6606	-0.0000377	0.0005615	0.0035	1.675		5329.6	5329.6	3.22		Si
SLV 8	0	5756.45	2959	0.191937	0.0005615	0.0035	1.34		0	0	0		No
SLV 8	0.73	2012.9	4818	0.5171621	0.0005615	0.0035	1.34		0	0	0		No
SLD 7	0	5102.21	-8843	-0.0001216	0.0005615	0.0035	1.675		6838.35	6838.35	1.34		Si
SLD 7	0.73	1725.06	-6744	-0.0000389	0.0005615	0.0035	1.675		5430.08	5430.08	3.15		Si
SLD 12	0	4813.07	-10404	-0.0000975	0.0005615	0.0035	1.675		7804.8	7804.8	1.62		Si
SLD 12	0.73	1884.45	-7639	-0.0000435	0.0005615	0.0035	1.675		6073.18	6073.18	3.22		Si
SLV 11	0	5285.41	-345	-0.0477717	0.0005615	0.0035	1.34		459.82	459.82	0.09		No
SLV 11	0.73	2478.81	2979	0.30507	0.0005615	0.0035	1.34		0	0	0		No
SLV 3	0	5327.71	-12735	-0.0001076	0.0005615	0.0035	1.675		9278.37	9278.37	1.74		Si
SLV 3	0.73	1000.39	-12330	-0.0000487	0.0005615	0.0035	1.675		9020.07	9020.07	9.02		Si
SLV 4	0	5342.88	-12070	-0.0001083	0.0005615	0.0035	1.675		8854.53	8854.53	1.66		Si
SLV 4	0.73	833.63	-11992	-0.0000457	0.0005615	0.0035	1.675		8805.18	8805.18	10.56		Si
SLV 7	0	5746.24	2512	0.1092414	0.0005615	0.0035	1.34		0	0	0		No
SLV 7	0.73	2125.16	4591	0.4908048	0.0005615	0.0035	1.34		0	0	0		No
SLV 12	0	5295.63	102	-0.0518545	0.0005615	0.0035	1.34		0	0	0		No
SLV 12	0.73	2366.55	3207	0.3327174	0.0005615	0.0035	1.34		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0	5999.94	-37495	-31575	5177	1.675	1.675	-62836	10833	15048	7137	15047	4271	19318	No	3.73	Si
SLU 78	0.73	1771.87	-34392	-28962	5313	1.675	1.675	-57635	10833	14003	7137	15047	4271	19318	No	3.64	Si
SLU 77	0	6027.63	-37139	-31275	5297	1.675	1.675	-62239	10833	14929	7137	15047	4271	19318	No	3.65	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.73	1774.66	-34031	-28658	5412	1.675	1.675	-57031	10833	13882	7137	15047	4271	19318	No	3.57	Si
SLU 75	0	5939.77	-37129	-31267	5145	1.675	1.675	-62222	10833	14925	7137	15047	4271	19318	No	3.75	Si
SLU 75	0.73	1743.87	-34054	-28677	5276	1.675	1.675	-57069	10833	13889	7137	15047	4271	19318	No	3.66	Si
SLU 74	0	5967.46	-36773	-30967	5265	1.675	1.675	-61625	10833	14805	7137	15047	4271	19318	No	3.67	Si
SLU 74	0.73	1746.66	-33694	-28374	5375	1.675	1.675	-56465	10833	13768	7137	15047	4271	19318	No	3.59	Si
SLU 81	0	6082.07	-37811	-31841	5308	1.675	1.675	-63365	10833	15155	7137	15047	4271	19318	No	3.64	Si
SLU 81	0.73	1785.09	-34707	-29227	5422	1.675	1.675	-58163	10833	14109	7137	15047	4271	19318	No	3.56	Si
SLU 83	0	6142.24	-38177	-32149	5340	1.675	1.675	-63979	10833	15278	7137	15047	4271	19318	No	3.62	Si
SLU 83	0.73	1813.09	-35045	-29511	5459	1.675	1.675	-58729	10833	14223	7137	15047	4271	19318	No	3.54	Si
SLU 80	0	5969.09	-37257	-31375	5164	1.675	1.675	-62437	10833	14968	7137	15047	4271	19318	No	3.74	Si
SLU 80	0.73	1762.63	-34161	-28767	5295	1.675	1.675	-57248	10833	13925	7137	15047	4271	19318	No	3.65	Si
SLU 79	0	5996.78	-36901	-31075	5283	1.675	1.675	-61841	10833	14848	7137	15047	4271	19318	No	3.66	Si
SLU 79	0.73	1765.42	-33800	-28463	5394	1.675	1.675	-56644	10833	13804	7137	15047	4271	19318	No	3.58	Si
SLU 82	0	6054.37	-38167	-32141	5188	1.675	1.675	-63962	10833	15275	7137	15047	4271	19318	No	3.72	Si
SLU 82	0.73	1782.3	-35068	-29531	5323	1.675	1.675	-58767	10833	14231	7137	15047	4271	19318	No	3.63	Si
SLU 84	0	6114.54	-38533	-32449	5220	1.675	1.675	-64575	10833	15398	7137	15047	4271	19318	No	3.7	Si
SLU 84	0.73	1810.3	-35405	-29815	5360	1.675	1.675	-59333	10833	14345	7137	15047	4271	19318	No	3.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	0	5285.41	-345	-291	8844	1.34	0	0	0	0	7137	18056	3417	7137		0.81	No
SLV 11	0.73	2478.81	2979	2509	6884	1.34	0.0165	0	0	0	7137	18056	3417	7137		1.04	Si
SLD 8	0	5108.41	-8571	-7218	8017	1.675	0.7245	-14364	13289	6516	7137	22571	4271	13652		1.7	Si
SLD 8	0.73	1656.94	-6606	-5563	7028	1.675	1.675	-11071	12631	6347	7137	22571	4271	13484		1.92	Si
SLD 7	0	5102.21	-8843	-7446	7903	1.675	0.7815	-14819	13380	6607	7137	22571	4271	13744		1.74	Si
SLD 7	0.73	1725.06	-6744	-5679	6912	1.675	1.675	-11302	12677	6370	7137	22571	4271	13507		1.95	Si
SLD 12	0	4813.07	-10404	-8761	6837	1.675	1.1246	-17435	13904	7133	7137	22571	4271	14269		2.09	Si
SLD 12	0.73	1884.45	-7639	-6433	5707	1.675	1.675	-12802	12977	6521	7137	22571	4271	13658		2.39	Si
SLV 4	0	5342.88	-12070	-10164	8854	1.675	1.1845	-20227	14462	7694	7137	22571	4271	14831		1.67	Si
SLV 4	0.73	833.63	-11992	-10099	8707	1.675	1.675	-20097	14436	7668	7137	22571	4271	14805		1.7	Si
SLV 12	0	5295.63	102	86	9032	1.34	0	0	0	0	7137	18056	3417	7137		0.79	No
SLV 12	0.73	2366.55	3207	2700	7074	1.34	0.2986	0	0	0	7137	18056	3417	7137		1.01	Si
SLV 8	0	5756.45	2959	2492	10873	1.34	0	0	0	0	7137	18056	3417	7137		0.66	No
SLV 8	0.73	2012.9	4818	4057	9137	1.34	1.2592	0	0	0	7137	18056	3417	7137		0.78	No
SLV 7	0	5746.24	2512	2115	10684	1.34	0	0	0	0	7137	18056	3417	7137		0.67	No
SLV 7	0.73	2125.16	4591	3866	8947	1.34	1.1237	0	0	0	7137	18056	3417	7137		0.8	No
SLV 3	0	5327.71	-12735	-10724	8574	1.675	1.2574	-21341	14685	7918	7137	22571	4271	15055		1.76	Si
SLV 3	0.73	1000.39	-12330	-10383	8425	1.675	1.675	-20663	14549	7782	7137	22571	4271	14918		1.77	Si
SLD 11	0	4806.87	-10675	-8990	6723	1.675	1.1616	-17890	13995	7224	7137	22571	4271	14361		2.14	Si
SLD 11	0.73	1952.58	-7777	-6549	5592	1.675	1.675	-13033	13023	6544	7137	22571	4271	13681		2.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.365 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.25	0	4252	5.37	0	0	No, Trazione
SLV 8	179667	0.25	0	4478	5.37	0	0	No, Trazione
SLV 11	179667	0.25	0	2686	5.37	0	0	No, Trazione
SLV 12	179667	0.25	0	2912	5.37	0	0	No, Trazione
SLV 4	179667	0.25	24578	-12351	5.37	1554.43	289.41	Si
SLV 3	179667	0.25	25247	-12686	5.37	1588.37	295.73	Si
SLV 16	179667	0.25	34963	-17569	5.37	2032	378.33	Si
SLV 15	179667	0.25	35632	-17905	5.37	2059.1	383.37	Si
SLV 9	179667	0.25	101035	-50770	5.37	2577.2	479.83	Si
SLV 10	179667	0.25	100585	-50544	5.37	2588.06	481.86	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.365 Wa = 0.05 Ta = 0.003

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-50579	-53120	497	0.382	5206.4	0.997	5.56752	2.47862	Si
SLV 10	-50351	-52673	495	0.383	5183.2	0.997	5.57984	2.47862	Si
SLV 5	-48968	-50263	378	0.39	5042.1	0.997	5.68747	2.47862	Si
SLV 6	-48740	-49816	375	0.391	5019	0.997	5.70076	2.47862	Si
SLV 13	-33769	-38091	475	0.469	3492.8	0.995	6.85556	2.4912	Si
SLV 14	-33431	-37426	471	0.472	3458.4	0.995	6.89604	2.4912	Si
SLV 1	-28398	-28567	77	0.533	2945.3	0.994	7.78542	2.4912	Si
SLV 2	-28060	-27903	73	0.537	2910.9	0.994	7.84472	2.4912	Si
SLV 15	-17701	-22258	336	0.712	1855	0.991	10.44667	2.4912	Si
SLV 16	-17363	-21594	332	0.722	1820.6	0.991	10.5934	2.4912	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.502	SLU 83	Si
V_SLU	3.539	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	0.656	SLV 8	No
PFFP_SLV	0	SLV 12	No
R_SLV	2.246	SLV 9	Si

Maschio 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-3.034	-13.763	1.141	L2	L4	4.175	0.3	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	-1.95	56078.3	-43777	-0.0002389	0.0003743	0.0035	4.175	60011.95	69659.46	69659.46	1.24	No	Si
SLU 84	0.73	-2543.11	-65004	-0.0000931	0.0003743	0.0035	4.175	66523.33	89733.01	89733.01	35.28	No	Si
SLU 77	-1.95	55190.66	-42929	-0.000234	0.0003743	0.0035	4.175	59445.92	68540.48	68540.48	1.24	No	Si
SLU 77	0.73	-2230.76	-63305	-0.0000898	0.0003743	0.0035	4.175	66545.29	88555.18	88555.18	39.7	No	Si
SLU 83	-1.95	56358.14	-43821	-0.0002416	0.0003743	0.0035	4.175	60040.86	69718.09	69718.09	1.24	No	Si
SLU 83	0.73	-2355.88	-64859	-0.0000925	0.0003743	0.0035	4.175	66528.88	89631.45	89631.45	38.05	No	Si
SLU 80	-1.95	54571.67	-42622	-0.0002293	0.0003743	0.0035	4.175	59234.74	68136.36	68136.36	1.25	No	Si
SLU 80	0.73	-2401.33	-63017	-0.0000897	0.0003743	0.0035	4.175	66539.65	88358.97	88358.97	36.8	No	Si
SLU 75	-1.95	54245.36	-42377	-0.0002273	0.0003743	0.0035	4.175	59064.44	67815.41	67815.41	1.25	No	Si
SLU 75	0.73	-2490.95	-62615	-0.0000892	0.0003743	0.0035	4.175	66527.24	88086.24	88086.24	35.36	No	Si
SLU 74	-1.95	54525.2	-42422	-0.0002298	0.0003743	0.0035	4.175	59095.38	67873.38	67873.38	1.24	No	Si
SLU 74	0.73	-2303.72	-62470	-0.0000886	0.0003743	0.0035	4.175	66521.48	87988.47	87988.47	38.19	No	Si
SLU 78	-1.95	54910.82	-42885	-0.0002314	0.0003743	0.0035	4.175	59415.72	68482.27	68482.27	1.25	No	Si
SLU 78	0.73	-2417.99	-63449	-0.0000904	0.0003743	0.0035	4.175	66547.1	88654.28	88654.28	36.66	No	Si
SLU 79	-1.95	54851.51	-42666	-0.0002319	0.0003743	0.0035	4.175	59265.32	68194.45	68194.45	1.24	No	Si
SLU 79	0.73	-2214.1	-62872	-0.000089	0.0003743	0.0035	4.175	66535.8	88260.55	88260.55	39.86	No	Si
SLU 82	-1.95	55412.84	-43269	-0.0002346	0.0003743	0.0035	4.175	59675.5	68987.84	68987.84	1.24	No	Si
SLU 82	0.73	-2616.07	-64169	-0.000092	0.0003743	0.0035	4.175	66545.92	89150.78	89150.78	34.08	No	Si
SLU 81	-1.95	55692.68	-43313	-0.0002373	0.0003743	0.0035	4.175	59705.14	69046.23	69046.23	1.24	No	Si
SLU 81	0.73	-2428.84	-64025	-0.0000913	0.0003743	0.0035	4.175	66547.52	89050.53	89050.53	36.66	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	-1.95	47617.76	-30752	-0.0002221	0.0005615	0.0035	4.175		55981.55	55981.55	1.18		Si
SLD 12	0.73	8555.89	-36714	-0.0000608	0.0005615	0.0035	4.175		65514.97	65514.97	7.66		Si
SLV 4	-1.95	39380.52	-26589	-0.0001623	0.0005615	0.0035	4.175		49462.42	49462.42	1.26		Si
SLV 4	0.73	960.02	-32981	-0.0000421	0.0005615	0.0035	4.175		59519.69	59519.69	62		Si
SLV 7	-1.95	52723.46	-30022	-0.0004254	0.0005615	0.0035	4.175		54830.69	54830.69	1.04		Si
SLV 7	0.73	14312.82	-29561	-0.0000618	0.0005615	0.0035	4.175		54105.16	54105.16	3.78		Si
SLV 3	-1.95	39106.82	-26659	-0.0001586	0.0005615	0.0035	4.175		49570.37	49570.37	1.27		Si
SLV 3	0.73	866.34	-33512	-0.0000426	0.0005615	0.0035	4.175		60366.98	60366.98	69.68		Si
SLD 8	-1.95	46443.89	-29580	-0.0002227	0.0005615	0.0035	4.175		54135.16	54135.16	1.17		Si
SLD 8	0.73	7651.31	-34527	-0.0000562	0.0005615	0.0035	4.175		61990.74	61990.74	8.1		Si
SLV 8	-1.95	52907.72	-29976	-0.000445	0.0005615	0.0035	4.175		54756.99	54756.99	1.03		Si
SLV 8	0.73	14375.89	-29204	-0.0000614	0.0005615	0.0035	4.175		53543.8	53543.8	3.72		Si
SLV 12	-1.95	54743	-31806	-0.0003963	0.0005615	0.0035	4.175		57649.51	57649.51	1.05		Si
SLV 12	0.73	15793.08	-32618	-0.0000686	0.0005615	0.0035	4.175		58940.95	58940.95	3.73		Si
SLV 11	-1.95	54558.74	-31853	-0.0003832	0.0005615	0.0035	4.175		57723.78	57723.78	1.06		Si
SLV 11	0.73	15730.01	-32976	-0.0000689	0.0005615	0.0035	4.175		59510.45	59510.45	3.78		Si
SLD 11	-1.95	47505.95	-30781	-0.0002198	0.0005615	0.0035	4.175		56026.42	56026.42	1.18		Si
SLD 11	0.73	8517.61	-36931	-0.000061	0.0005615	0.0035	4.175		65866.28	65866.28	7.73		Si
SLD 7	-1.95	46332.07	-29609	-0.0002202	0.0005615	0.0035	4.175		54179.81	54179.81	1.17		Si
SLD 7	0.73	7613.03	-34744	-0.0000565	0.0005615	0.0035	4.175		62338.86	62338.86	8.19		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	-1.95	56078.3	-43777	-36864	8474	4.175	2.4195	-29433	10833	20775	28547	37505	10646	48152	No	5.68	Si
SLU 84	0.73	-2543.11	-65004	-54740	12031	4.175	4.175	-43704	10833	27925	28547	37505	10646	48152	No	4	Si
SLU 82	-1.95	55412.84	-43269	-36437	8366	4.175	2.4205	-29091	10823	20604	28547	37505	10646	48152	No	5.76	Si
SLU 82	0.73	-2616.07	-64169	-54037	11946	4.175	4.175	-43144	10833	27644	28547	37505	10646	48152	No	4.03	Si
SLU 74	-1.95	54525.2	-42422	-35723	8454	4.175	2.4065	-28522	10747	20318	28547	37505	10646	48152	No	5.7	Si
SLU 74	0.73	-2303.72	-62470	-52607	12008	4.175	4.175	-42001	10833	27071	28547	37505	10646	48152	No	4.01	Si
SLU 77	-1.95	55190.66	-42929	-36151	8561	4.175	2.4057	-28863	10793	20489	28547	37505	10646	48152	No	5.62	Si
SLU 77	0.73	-2230.76	-63305	-53309	12092	4.175	4.175	-42562	10833	27352	28547	37505	10646	48152	No	3.98	Si
SLU 81	-1.95	55692.68	-43313	-36474	8573	4.175	2.405	-29121	10827	20619	28547	37505	10646	48152	No	5.62	Si
SLU 81	0.73	-2428.84	-64025	-53915	12282	4.175	4.175	-43046	10833	27595	28547	37505	10646	48152	No	3.92	Si
SLU 78	-1.95	54910.82	-42885	-36114	8354	4.175	2.4212	-28833	10789	20474	28547	37505	10646	48152	No	5.76	Si
SLU 78	0.73	-2417.99	-63449	-53431	11756	4.175	4.175	-42659	10833	27401	28547	37505	10646	48152	No	4.1	Si
SLU 79	-1.95	54851.51	-42666	-35929	8497	4.175	2.4057	-28686	10769	20401	28547	37505	10646	48152	No	5.67	Si
SLU 79	0.73	-2214.1	-62872	-52945	12020	4.175	4.175	-42271	10833	27207	28547	37505	10646	48152	No	4.01	Si
SLU 80	-1.95	54571.67	-42622	-35892	8290	4.175	2.4214	-28656	10765	20386	28547	37505	10646	48152	No	5.81	Si
SLU 80	0.73	-2401.33	-63017	-53067	11685	4.175	4.175	-42369	10833	27255	28547	37505	10646	48152	No	4.12	Si
SLU 83	-1.95	56358.14	-43821	-36902	8681	4.175	2.4042	-29462	10833	20790	28547	37505	10646	48152	No	5.55	Si
SLU 83	0.73	-2355.88	-64859	-54618	12367	4.175	4.175	-43607	10833	27876	28547	37505	10646	48152	No	3.89	Si
SLU 75	-1.95	54245.36	-42377	-35686	8247	4.175	2.4223	-28492	10743	20303	28547	37505	10646	48152	No	5.84	Si
SLU 75	0.73	-2490.95	-62615	-52728	11672	4.175	4.175	-42099	10833	27120	28547	37505	10646	48152	No	4.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	-1.95	46332.07	-29609	-24934	12645	4.175	1.5681	-19907	14398	19017	28547	56258	10646	47564		3.76	Si
SLD 7	0.73	7613.03	-34744	-29258	20063	4.175	4.175	-23360	15089	20747	28547	56258	10646	49293		2.46	Si
SLD 11	-1.95	47505.95	-30781	-25920	12215	4.175	1.6324	-20695	14556	19412	28547	56258	10646	47959		3.93	Si
SLD 11	0.73	8517.61	-36931	-31099	17130	4.175	4.175	-24830	15383	21484	28547	56258	10646	50030		2.92	Si
SLD 8	-1.95	46443.89	-29580	-24910	12745	4.175	1.5522	-19888	14394	19008	28547	56258	10646	47554		3.73	Si
SLD 8	0.73	7651.31	-34527	-29075	20353	4.175	4.175	-23214	15059	20674	28547	56258	10646	49220		2.42	Si
SLV 11	-1.95	54558.74	-31853	-26823	16744	4.175	1.1239	-84742	16250	19773	28547	56258	10646	48320		2.89	Si
SLV 11	0.73	15730.01	-32976	-27769	23516	4.175	4.175	-22171	14851	20151	28547	56258	10646	48698		2.07	Si
SLV 12	-1.95	54743	-31806	-26784	16910	4.175	1.099	-86759	16250	19757	28547	56258	10646	48304		2.86	Si
SLV 12	0.73	15793.08	-32618	-27468	23994	4.175	4.175	-21931	14803	20031	28547	56258	10646	48578		2.02	Si
SLV 7	-1.95	52723.46	-30022	-25282	17415	4.175	0.9941	-91040	16250	19157	28547	56258	10646	47703		2.74	Si
SLV 7	0.73	14312.82	-29561	-24894	28093	4.175	4.175	-19875	14392	19001	28547	56258	10646	47548		1.69	Si
SLV 3	-1.95	39106.82	-26659	-22450	10235	4.175	1.8617	-17924	14001	18024	28547	56258	10646	46570		4.55	Si
SLV 3	0.73	866.34	-33512	-28221	20968	4.175	4.175	-22532	14923	20332	28547	56258	10646	48879		2.33	Si
SLD 12	-1.95	47617.76	-30752	-25897	12316	4.175	1.6172	-20676	14552	19402	28547	56258	10646	47949		3.89	Si
SLD 12	0.73	8555.89	-36714	-30917	17420	4.175	4.175	-24684	15353	21410	28547	56258	10646	49957		2.87	Si
SLV 4	-1.95	39380.52	-26589	-22391	10480	4.175	1.8193	-17877	13992	18000	28547	56258	10646	46547		4.44	Si
SLV 4	0.73	960.02	-32981	-27774	21677	4.175	4.175	-22175	14852	20153	28547	56258	10646	48700		2.25	Si
SLV 8	-1.95	52907.72	-29976	-25243	17580	4.175	0.9674	-93772	16250	19141	28547	56258	10646	47687		2.71	Si
SLV 8	0.73	14375.89	-29204	-24593	28571	4.175	4.175	-19635	14344	18881	28547	56258	10646	47427		1.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	25132	-31478	174.82	3944.68	22.56	Si
SLV 7	179667	0.24	25321	-31714	174.82	3968.36	22.7	Si
SLV 12	179667	0.24	26860	-33642	174.82	4158.75	23.79	Si
SLV 11	179667	0.24	27048	-33878	174.82	4181.64	23.92	Si
SLV 4	179667	0.24	27587	-34553	174.82	4246.64	24.29	Si
SLV 3	179667	0.24	27867	-34903	174.82	4280.1	24.48	Si
SLV 2	179667	0.24	31458	-39401	174.82	4692.69	26.84	Si
SLV 1	179667	0.24	31737	-39751	174.82	4723.49	27.02	Si
SLV 16	179667	0.24	33346	-41765	174.82	4896.89	28.01	Si
SLV 15	179667	0.24	33625	-42116	174.82	4926.39	28.18	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-51621	-31697	506	0.479	5728.4	0.975	7.14288	2.95341	Si
SLV 14	-51090	-31627	502	0.483	5674.3	0.974	7.20764	2.95341	Si
SLV 9	-55399	-28310	376	0.454	6113.2	0.976	6.75772	2.74522	Si
SLV 10	-55041	-28264	373	0.456	6076.8	0.976	6.79587	2.74522	Si
SLV 5	-51984	-26480	203	0.482	5765.4	0.975	7.1824	2.74522	Si
SLV 6	-51627	-26434	200	0.485	5729	0.975	7.22583	2.74522	Si
SLV 15	-44894	-32759	444	0.54	5043.3	0.971	8.07464	2.95341	Si
SLV 16	-44363	-32690	440	0.545	4989.2	0.971	8.15952	2.95341	Si
SLV 1	-40239	-25596	-71	0.6	4569.4	0.969	9.00807	2.95341	Si
SLV 2	-39708	-25527	-75	0.607	4515.3	0.968	9.11136	2.95341	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.237	SLU 83	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	3.894	SLU 83	Si
PF_SLV	1.035	SLV 8	Si
V_SLV	1.66	SLV 8	Si
PFFP_SLV	22.564	SLV 8	Si
R_SLV	2.419	SLV 13	Si

Maschio 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.778	3.316	-13.858	3.316	L2	L4	4.08	0.2	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 45	-1.95	-6264.24	-39377	-0.0000832	0.0004492	0.0035	4.08	48604.16	73630.72	73630.72	11.75	No	Si
SLU 45	0.05	-435.41	-26102	-0.0000441	0.0004492	0.0035	4.08	39308.37	55095.04	55095.04	126.54	No	Si
SLU 51	-1.95	-6320.36	-39501	-0.0000836	0.0004492	0.0035	4.08	48657.25	73792.85	73792.85	11.68	No	Si
SLU 51	0.05	-442.94	-26190	-0.0000443	0.0004492	0.0035	4.08	39393.34	55225.36	55225.36	124.68	No	Si
SLU 46	-1.95	-6258.13	-39281	-0.000083	0.0004492	0.0035	4.08	48562.83	73505.83	73505.83	11.75	No	Si
SLU 46	0.05	-412.1	-26046	-0.0000439	0.0004492	0.0035	4.08	39253.42	55011.02	55011.02	133.49	No	Si
SLU 69	-1.95	-6995.37	-45918	-0.0000977	0.0004492	0.0035	4.08	50532.8	81656.8	81656.8	11.67	No	Si
SLU 69	0.05	-353.25	-31207	-0.0000528	0.0004492	0.0035	4.08	43736.13	62600.55	62600.55	177.21	No	Si
SLU 72	-1.95	-6925.34	-45586	-0.0000969	0.0004492	0.0035	4.08	50477.18	81256.36	81256.36	11.73	No	Si
SLU 72	0.05	-301.55	-30996	-0.0000523	0.0004492	0.0035	4.08	43574.87	62307.47	62307.47	206.62	No	Si
SLU 50	-1.95	-6326.47	-39597	-0.0000838	0.0004492	0.0035	4.08	48697.72	73917.73	73917.73	11.68	No	Si
SLU 50	0.05	-466.24	-26246	-0.0000444	0.0004492	0.0035	4.08	39447.96	55309.39	55309.39	118.63	No	Si
SLU 49	-1.95	-6384.28	-39737	-0.0000842	0.0004492	0.0035	4.08	48755.88	74099.33	74099.33	11.61	No	Si
SLU 49	0.05	-471.34	-26344	-0.0000446	0.0004492	0.0035	4.08	39541.67	55454.02	55454.02	117.65	No	Si
SLU 71	-1.95	-6931.45	-45682	-0.0000971	0.0004492	0.0035	4.08	50493.74	81372.29	81372.29	11.74	No	Si
SLU 71	0.05	-324.85	-31053	-0.0000524	0.0004492	0.0035	4.08	43618.38	62386.22	62386.22	192.04	No	Si
SLU 48	-1.95	-6390.39	-39833	-0.0000844	0.0004492	0.0035	4.08	48795.42	74224.22	74224.22	11.61	No	Si
SLU 48	0.05	-494.64	-26400	-0.0000448	0.0004492	0.0035	4.08	39595.93	55538.05	55538.05	112.28	No	Si
SLU 70	-1.95	-6989.26	-45822	-0.0000975	0.0004492	0.0035	4.08	50517.16	81540.87	81540.87	11.67	No	Si
SLU 70	0.05	-329.95	-31150	-0.0000526	0.0004492	0.0035	4.08	43692.97	62521.79	62521.79	189.49	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 14	-1.95	-15535.18	-31113	-0.0000898	0.0006738	0.0035	4.08		64503.46	64503.46	4.15		Si
SLD 14	0.05	2178.83	-23435	-0.0000433	0.0006738	0.0035	4.08		44920.34	44920.34	20.62		Si
SLV 1	-1.95	11695.99	-36003	-0.0000888	0.0006738	0.0035	4.08		63656.66	63656.66	5.44		Si
SLV 1	0.05	-2750.88	-21473	-0.0000414	0.0006738	0.0035	4.08		48926.22	48926.22	17.79		Si
SLV 13	-1.95	-21066.31	-29090	-0.0001004	0.0006738	0.0035	4.08		61360.66	61360.66	2.91		Si
SLV 13	0.05	3481.7	-23207	-0.0000461	0.0006738	0.0035	4.08		44579.48	44579.48	12.8		Si
SLV 2	-1.95	11386.64	-35911	-0.0000879	0.0006738	0.0035	4.08		63520.52	63520.52	5.58		Si
SLV 2	0.05	-2707.34	-21499	-0.0000413	0.0006738	0.0035	4.08		48971.48	48971.48	18.09		Si
SLV 15	-1.95	-21602.19	-33206	-0.0001091	0.0006738	0.0035	4.08		67755.79	67755.79	3.14		Si
SLV 15	0.05	2488.37	-25699	-0.0000479	0.0006738	0.0035	4.08		48295.92	48295.92	19.41		Si
SLV 14	-1.95	-21375.66	-28999	-0.0001012	0.0006738	0.0035	4.08		61218.76	61218.76	2.86		Si
SLV 14	0.05	3525.25	-23233	-0.0000462	0.0006738	0.0035	4.08		44618.62	44618.62	12.66		Si
SLD 13	-1.95	-15338.93	-31171	-0.0000895	0.0006738	0.0035	4.08		64593.49	64593.49	4.21		Si
SLD 13	0.05	2151.2	-23419	-0.0000432	0.0006738	0.0035	4.08		44895.51	44895.51	20.87		Si
SLD 16	-1.95	-15843.34	-33527	-0.000095	0.0006738	0.0035	4.08		68254.9	68254.9	4.31		Si
SLD 16	0.05	1596.72	-24897	-0.0000443	0.0006738	0.0035	4.08		47099.34	47099.34	29.5		Si
SLD 15	-1.95	-15647.08	-33585	-0.0000946	0.0006738	0.0035	4.08		68344.92	68344.92	4.37		Si
SLD 15	0.05	1569.09	-24880	-0.0000442	0.0006738	0.0035	4.08		47074.52	47074.52	30		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	-1.95	-21911.55	-33115	-0.0001098	0.0006738	0.0035	4.08		67613.89	67613.89	3.09		Si
SLV 16	0.05	2531.92	-25726	-0.000048	0.0006738	0.0035	4.08		48335.05	48335.05	19.09		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-1.95	-7285.6	-50688	-32440	7823	4.08	4.08	-39755	10833	17689	81562	29325	20808	50133	No	6.41	Si
SLU 80	0.05	-20.33	-35290	-22586	7682	4.08	4.08	-27679	10833	13748	81562	29325	20808	50133	No	6.53	Si
SLU 84	-1.95	-7313.85	-52418	-33547	7911	4.08	4.08	-41112	10833	18132	81562	29325	20808	50133	No	6.34	Si
SLU 84	0.05	159.42	-36833	-23573	7768	4.08	4.08	-28888	10833	14143	81562	29325	20808	50133	No	6.45	Si
SLU 77	-1.95	-7355.63	-51019	-32652	7938	4.08	4.08	-40015	10833	17774	81562	29325	20808	50133	No	6.32	Si
SLU 77	0.05	-72.04	-35500	-22720	7796	4.08	4.08	-27843	10833	13802	81562	29325	20808	50133	No	6.43	Si
SLU 83	-1.95	-7319.95	-52514	-33609	7960	4.08	4.08	-41187	10833	18157	81562	29325	20808	50133	No	6.3	Si
SLU 83	0.05	136.12	-36889	-23609	7816	4.08	4.08	-28933	10833	14157	81562	29325	20808	50133	No	6.41	Si
SLU 74	-1.95	-7229.48	-50563	-32360	7809	4.08	4.08	-39657	10833	17657	81562	29325	20808	50133	No	6.42	Si
SLU 74	0.05	-12.8	-35203	-22530	7669	4.08	4.08	-27610	10833	13725	81562	29325	20808	50133	No	6.54	Si
SLU 82	-1.95	-7187.7	-51962	-33255	7782	4.08	4.08	-40754	10833	18015	81562	29325	20808	50133	No	6.44	Si
SLU 82	0.05	218.66	-36535	-23382	7641	4.08	4.08	-28655	10833	14066	81562	29325	20808	50133	No	6.56	Si
SLU 79	-1.95	-7291.71	-50784	-32501	7872	4.08	4.08	-39830	10833	17714	81562	29325	20808	50133	No	6.37	Si
SLU 79	0.05	-43.64	-35347	-22622	7731	4.08	4.08	-27723	10833	13762	81562	29325	20808	50133	No	6.48	Si
SLU 78	-1.95	-7349.52	-50923	-32591	7888	4.08	4.08	-39940	10833	17750	81562	29325	20808	50133	No	6.36	Si
SLU 78	0.05	-48.73	-35444	-22684	7747	4.08	4.08	-27799	10833	13787	81562	29325	20808	50133	No	6.47	Si
SLU 75	-1.95	-7223.37	-50467	-32299	7760	4.08	4.08	-39582	10833	17633	81562	29325	20808	50133	No	6.46	Si
SLU 75	0.05	10.5	-35146	-22494	7621	4.08	4.08	-27566	10833	13711	81562	29325	20808	50133	No	6.58	Si
SLU 81	-1.95	-7193.81	-52058	-33317	7831	4.08	4.08	-40829	10833	18040	81562	29325	20808	50133	No	6.4	Si
SLU 81	0.05	195.36	-36591	-23419	7690	4.08	4.08	-28699	10833	14081	81562	29325	20808	50133	No	6.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	-1.95	11695.99	-36003	-23042	18802	4.08	4.08	-28237	16250	16287	81562	43988	20808	64796		3.45	Si
SLV 1	0.05	-2750.88	-21473	-13743	18715	4.08	4.08	-16841	15868	12949	81562	43988	20808	64796		3.46	Si
SLV 7	-1.95	-982.44	-42486	-27191	12968	4.08	4.08	-33322	16250	17947	81562	43988	20808	64796		5	Si
SLV 7	0.05	-2714.58	-27485	-17590	12810	4.08	4.08	-21557	16250	14107	81562	43988	20808	64796		5.06	Si
SLV 8	-1.95	-1190.71	-42424	-27152	12769	4.08	4.08	-33274	16250	17931	81562	43988	20808	64796		5.07	Si
SLV 8	0.05	-2685.26	-27503	-17602	12611	4.08	4.08	-21571	16250	14111	81562	43988	20808	64796		5.14	Si
SLD 3	-1.95	5319.62	-38005	-24323	15158	4.08	4.08	-29807	16250	16800	81562	43988	20808	64796		4.27	Si
SLD 3	0.05	-2397.79	-23763	-15208	15045	4.08	4.08	-18638	16228	13242	81562	43988	20808	64796		4.31	Si
SLV 4	-1.95	10850.75	-40027	-25617	20410	4.08	4.08	-31394	16250	17317	81562	43988	20808	64796		3.17	Si
SLV 4	0.05	-3700.67	-23992	-15355	20288	4.08	4.08	-18817	16250	13260	81562	43988	20808	64796		3.19	Si
SLV 3	-1.95	11160.1	-40118	-25676	20707	4.08	4.08	-31465	16250	17341	81562	43988	20808	64796		3.13	Si
SLV 3	0.05	-3744.21	-23965	-15338	20584	4.08	4.08	-18796	16250	13260	81562	43988	20808	64796		3.15	Si
SLV 2	-1.95	11386.64	-35911	-22983	18505	4.08	4.08	-28166	16250	16264	81562	43988	20808	64796		3.5	Si
SLV 2	0.05	-2707.34	-21499	-13759	18418	4.08	4.08	-16862	15872	12952	81562	43988	20808	64796		3.52	Si
SLD 2	-1.95	5431.53	-35532	-22741	13849	4.08	4.08	-27868	16250	16167	81562	43988	20808	64796		4.68	Si
SLD 2	0.05	-1788.05	-22318	-14284	13758	4.08	4.08	-17504	16001	13057	81562	43988	20808	64796		4.71	Si
SLD 4	-1.95	5123.37	-37947	-24286	14970	4.08	4.08	-29762	16250	16785	81562	43988	20808	64796		4.33	Si
SLD 4	0.05	-2370.17	-23780	-15219	14857	4.08	4.08	-18651	16230	13244	81562	43988	20808	64796		4.36	Si
SLD 1	-1.95	5627.78	-35590	-22778	14037	4.08	4.08	-27914	16250	16181	81562	43988	20808	64796		4.62	Si
SLD 1	0.05	-1815.68	-22302	-14273	13946	4.08	4.08	-17491	15998	13055	81562	43988	20808	64796		4.65	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.06 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-22063	0.24	117.15	1880.8	2873.1	2376.95	20.29	Si
SLV 6	-22067	0.24	117.15	1881.09	2873.55	2377.32	20.29	Si
SLV 9	-22076	0.24	117.15	1881.72	2874.53	2378.12	20.3	Si
SLV 10	-22080	0.24	117.15	1882	2874.98	2378.49	20.3	Si
SLV 1	-25401	0.24	117.15	2108.66	3238.61	2673.64	22.82	Si
SLV 2	-25407	0.24	117.15	2109.06	3239.28	2674.17	22.83	Si
SLV 13	-25444	0.24	117.15	2111.51	3243.35	2677.43	22.86	Si
SLV 14	-25450	0.24	117.15	2111.91	3244.01	2677.96	22.86	Si
SLV 3	-28275	0.24	117.15	2292.96	3548.84	2920.9	24.93	Si
SLV 4	-28281	0.24	117.15	2293.34	3549.49	2921.41	24.94	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.04 Ta = 0.06

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-12938	-40118	-6	1.579	1626.9	0.946	24.26682	3.36567	Si
SLV 4	-12935	-40027	-6	1.58	1626.6	0.946	24.27233	3.36567	Si
SLV 15	-12551	-33206	-3	1.621	1587.7	0.945	24.93167	3.36567	Si
SLV 16	-12548	-33115	-3	1.621	1587.3	0.945	24.93749	3.36567	Si
SLV 7	-14223	-42486	-8	1.457	1757.3	0.949	22.30205	3.00418	Si
SLV 8	-14221	-42424	-8	1.457	1757.1	0.949	22.30518	3.00418	Si
SLV 11	-14107	-40412	-7	1.467	1745.5	0.949	22.46688	3.00418	Si
SLV 12	-14105	-40351	-7	1.467	1745.3	0.949	22.47006	3.00418	Si
SLV 1	-11720	-36003	-4	1.717	1503.4	0.942	26.48378	3.36567	Si
SLV 2	-11717	-35911	-4	1.717	1503.1	0.942	26.49034	3.36567	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.607	SLU 49	Si
V_SLU	6.298	SLU 83	Si
PF_SLV	2.864	SLV 14	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	3.129	SLV 3	Si
PFFP_SLV	20.29	SLV 5	Si
R_SLV	7.21	SLV 3	Si

Maschio 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.813	6.576	-12.888	6.576	L2	L4	3.925	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 46	0.05	87.83	-46646	-0.0000424	0.0003743	0.0035	3.925	67796.83	73347.32	73347.32	835.1	No	Si
SLU 46	0.45	-1793.68	-47295	-0.0000455	0.0003743	0.0035	3.925	68405.02	78933.05	78933.05	44.01	No	Si
SLU 44	0.05	168.72	-44959	-0.0000409	0.0003743	0.0035	3.925	66173.01	71398.63	71398.63	423.18	No	Si
SLU 44	0.45	-1631.98	-45564	-0.0000436	0.0003743	0.0035	3.925	66761.77	76874.09	76874.09	47.1	No	Si
SLU 47	0.05	125.13	-45876	-0.0000417	0.0003743	0.0035	3.925	67063.17	72455.82	72455.82	579.04	No	Si
SLU 47	0.45	-1724.01	-46515	-0.0000446	0.0003743	0.0035	3.925	67673.07	78011.77	78011.77	45.25	No	Si
SLU 51	0.05	73.56	-47100	-0.0000428	0.0003743	0.0035	3.925	68222.9	73873.83	73873.83	1004.23	No	Si
SLU 51	0.45	-1842.24	-47766	-0.000046	0.0003743	0.0035	3.925	68840.54	79492.23	79492.23	43.15	No	Si
SLU 45	0.05	75.86	-47107	-0.0000428	0.0003743	0.0035	3.925	68229.41	73881.92	73881.92	973.89	No	Si
SLU 45	0.45	-1832.99	-47743	-0.000046	0.0003743	0.0035	3.925	68819.88	79465.52	79465.52	43.35	No	Si
SLU 49	0.05	44.24	-47563	-0.0000432	0.0003743	0.0035	3.925	68653.25	74412.43	74412.43	1682.01	No	Si
SLU 49	0.45	-1885.71	-48247	-0.0000465	0.0003743	0.0035	3.925	69280.36	80065.26	80065.26	42.46	No	Si
SLU 48	0.05	32.27	-48023	-0.0000436	0.0003743	0.0035	3.925	69076.61	74949.19	74949.19	2322.38	No	Si
SLU 48	0.45	-1925.02	-48695	-0.000047	0.0003743	0.0035	3.925	69685.9	80601.29	80601.29	41.87	No	Si
SLU 6	0.05	67.35	-39606	-0.0000356	0.0003743	0.0035	3.925	60607.08	65302.65	65302.65	969.55	No	Si
SLU 6	0.45	-1495.48	-40204	-0.0000382	0.0003743	0.0035	3.925	61260.57	70068.3	70068.3	46.85	No	Si
SLU 43	0.05	148.78	-45727	-0.0000416	0.0003743	0.0035	3.925	66919.65	72283.61	72283.61	485.86	No	Si
SLU 43	0.45	-1697.5	-46311	-0.0000444	0.0003743	0.0035	3.925	67478.99	77770.57	77770.57	45.81	No	Si
SLU 50	0.05	61.59	-47560	-0.0000432	0.0003743	0.0035	3.925	68650.92	74409.5	74409.5	1208.04	No	Si
SLU 50	0.45	-1881.56	-48214	-0.0000465	0.0003743	0.0035	3.925	69250.78	80026.46	80026.46	42.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	0.05	5250.92	-6708	-0.0000127	0.0005615	0.0035	3.925		13651.96	13651.96	2.6		Si
SLV 10	0.45	2641.18	-7601	-0.00001	0.0005615	0.0035	3.925		15319.94	15319.94	5.8		Si
SLV 5	0.05	-3123.65	-8644	-0.0000115	0.0005615	0.0035	3.925		20963.03	20963.03	6.71		Si
SLV 5	0.45	432.1	-9509	-0.0000087	0.0005615	0.0035	3.925		18871.77	18871.77	43.67		Si
SLV 14	0.05	13597.46	-28093	-0.0000429	0.0005615	0.0035	3.925		51265.93	51265.93	3.77		Si
SLV 14	0.45	3128.8	-28885	-0.0000294	0.0005615	0.0035	3.925		52410.18	52410.18	16.75		Si
SLV 1	0.05	-12415.1	-34436	-0.0000472	0.0005615	0.0035	3.925		65122.41	65122.41	5.25		Si
SLV 1	0.45	-3754.54	-35062	-0.0000359	0.0005615	0.0035	3.925		66093.12	66093.12	17.6		Si
SLV 13	0.05	12068.09	-28182	-0.0000409	0.0005615	0.0035	3.925		51394.19	51394.19	4.26		Si
SLV 13	0.45	2742.77	-29034	-0.000029	0.0005615	0.0035	3.925		52624.61	52624.61	19.19		Si
SLV 15	0.05	11663.13	-48400	-0.0000593	0.0005615	0.0035	3.925		81239.86	81239.86	6.97		Si
SLV 15	0.45	1157.47	-49107	-0.0000452	0.0005615	0.0035	3.925		82306.17	82306.17	71.11		Si
SLV 2	0.05	-10885.73	-34347	-0.000045	0.0005615	0.0035	3.925		64984.73	64984.73	5.97		Si
SLV 2	0.45	-3368.5	-34913	-0.0000352	0.0005615	0.0035	3.925		65862.94	65862.94	19.55		Si
SLV 9	0.05	4221.31	-6768	-0.0000113	0.0005615	0.0035	3.925		13763.88	13763.88	3.26		Si
SLV 9	0.45	2381.29	-7701	-0.0000097	0.0005615	0.0035	3.925		15506.36	15506.36	6.51		Si
SLV 16	0.05	13192.5	-48312	-0.0000613	0.0005615	0.0035	3.925		81105.81	81105.81	6.15		Si
SLV 16	0.45	1543.51	-48958	-0.0000456	0.0005615	0.0035	3.925		82082.15	82082.15	53.18		Si
SLD 14	0.05	8824.95	-33388	-0.0000413	0.0005615	0.0035	3.925		58954.04	58954.04	6.68		Si
SLD 14	0.45	1559.5	-34109	-0.000032	0.0005615	0.0035	3.925		60007.08	60007.08	38.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	0.05	32.27	-48023	-42687	3744	3.925	3.925	-24168	10167	25577	28547	52889	10009	54123	No	14.45	Si
SLU 48	0.45	-1925.02	-48695	-43284	3737	3.925	3.925	-24506	10212	25816	28547	52889	10009	54362	No	14.55	Si
SLU 71	0.05	324.79	-55654	-49471	3889	3.925	3.925	-28009	10679	28290	28547	52889	10009	56837	No	14.62	Si
SLU 71	0.45	-1738.19	-56542	-50260	3881	3.925	3.925	-28456	10739	28606	28547	52889	10009	57152	No	14.73	Si
SLU 69	0.05	295.47	-56118	-49882	3915	3.925	3.925	-28242	10710	28455	28547	52889	10009	57001	No	14.56	Si
SLU 69	0.45	-1781.65	-57023	-50687	3907	3.925	3.925	-28698	10771	28777	28547	52889	10009	57323	No	14.67	Si
SLU 70	0.05	307.43	-55657	-49473	3840	3.925	3.925	-28010	10679	28291	28547	52889	10009	56838	No	14.8	Si
SLU 70	0.45	-1742.34	-56575	-50289	3832	3.925	3.925	-28472	10741	28617	28547	52889	10009	57164	No	14.92	Si
SLU 45	0.05	75.86	-47107	-41873	3641	3.925	3.925	-23707	10105	25251	28547	52889	10009	53798	No	14.77	Si
SLU 45	0.45	-1832.99	-47743	-42439	3635	3.925	3.925	-24027	10148	25477	28547	52889	10009	54024	No	14.86	Si
SLU 51	0.05	73.56	-47100	-41866	3643	3.925	3.925	-23704	10105	25249	28547	52889	10009	53795	No	14.76	Si
SLU 51	0.45	-1842.24	-47766	-42458	3637	3.925	3.925	-24039	10150	25485	28547	52889	10009	54032	No	14.86	Si
SLU 72	0.05	336.76	-55194	-49061	3814	3.925	3.925	-27777	10648	28126	28547	52889	10009	56673	No	14.86	Si
SLU 72	0.45	-1698.88	-56094	-49861	3806	3.925	3.925	-28230	10708	28446	28547	52889	10009	56993	No	14.97	Si
SLU 49	0.05	44.24	-47563	-42278	3670	3.925	3.925	-23937	10136	25413	28547	52889	10009	53960	No	14.7	Si
SLU 49	0.45	-1885.71	-48247	-42886	3663	3.925	3.925	-24281	10182	25656	28547	52889	10009	54203	No	14.8	Si
SLU 66	0.05	339.06	-55201	-49067	3812	3.925	3.925	-27781	10649	28129	28547	52889	10009	56675	No	14.87	Si
SLU 66	0.45	-1689.62	-56071	-49841	3804	3.925	3.925	-28219	10707	28438	28547	52889	10009	56985	No	14.98	Si
SLU 50	0.05	61.59	-47560	-42276	3718	3.925	3.925	-23935	10136	25412	28547	52889	10009	53959	No	14.51	Si
SLU 50	0.45	-1881.56	-48214	-42857	3711	3.925	3.925	-24264	10180	25645	28547	52889	10009	54191	No	14.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	0.05	8824.95	-33388	-29679	16668	3.925	3.925	-16803	13777	24625	28547	79334	10009	53172		3.19	Si
SLD 14	0.45	1559.5	-34109	-30319	16556	3.925	3.925	-17166	13850	24881	28547	79334	10009	53428		3.23	Si
SLD 15	0.05	7639.76	-45313	-40278	16748	3.925	3.925	-22804	14978	28865	28547	79334	10009	57411		3.43	Si
SLD 15	0.45	421.14	-45993	-40883	16692	3.925	3.925	-23147	15046	29106	28547	79334	10009	57653		3.45	Si
SLV 1	0.05	-12415.1	-34436	-30610	-22074	3.925	3.925	-17330	13883	24997	28547	79334	10009	53544		2.43	Si
SLV 1	0.45	-3754.54	-35062	-31166	-21995	3.925	3.925	-17645	13946	25220	28547	79334	10009	53766		2.44	Si
SLD 16	0.05	8610	-45256	-40228	18581	3.925	3.925	-22776	14972	28845	28547	79334	10009	57391		3.09	Si
SLD 16	0.45	666.05	-45899	-40799	18525	3.925	3.925	-23099	15036	29073	28547	79334	10009	57619		3.11	Si
SLV 15	0.05	11663.13	-48400	-43023	24756	3.925	3.925	-24358	15288	29962	28547	79334	10009	58509		2.36	Si
SLV 15	0.45	1157.47	-49107	-43650	24666	3.925	3.925	-24714	15359	30213	28547	79334	10009	58760		2.38	Si
SLV 16	0.05	13192.5	-48312	-42944	27645	3.925	3.925	-24313	15279	29931	28547	79334	10009	58477		2.12	Si
SLV 16	0.45	1543.51	-48958	-43519	27555	3.925	3.925	-24639	15344	30161	28547	79334	10009	58707		2.13	Si
SLV 14	0.05	13597.46	-28093	-24972	24345	3.925	3.925	-14138	13244	23393	28547	79334	10009	51939		2.13	Si
SLV 14	0.45	3128.8	-28885	-25676	24169	3.925	3.925	-14537	13324	23534	28547	79334	10009	52080		2.15	Si
SLV 3	0.05	-12820.07	-54654	-48582	-18774	3.925	3.925	-27506	15918	32186	28547	79334	10009	60732		3.23	Si
SLV 3	0.45	-5339.83	-55135	-49009	-18609	3.925	3.925	-27747	15966	32357	28547	79334	10009	60903		3.27	Si
SLV 2	0.05	-10885.73	-34347	-30531	-19185	3.925	3.925	-17286	13874	24966	28547	79334	10009	53512		2.79	Si
SLV 2	0.45	-3368.5	-34913	-31034	-19107	3.925	3.925	-17571	13931	25167	28547	79334	10009	53714		2.81	Si
SLV 13	0.05	12068.09	-28182	-25051	21455	3.925	3.925	-14183	13253	23409	28547	79334	10009	51955		2.42	Si
SLV 13	0.45	2742.77	-29034	-25808	21281	3.925	3.925	-14612	13339	23560	28547	79334	10009	52107		2.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	3639	-6428	237.96	1411.79	5.93	Si
SLV 10	179667	0.24	3663	-6470	237.96	1420.83	5.97	Si
SLV 5	179667	0.24	4783	-8448	237.96	1841.22	7.74	Si
SLV 6	179667	0.24	4807	-8490	237.96	1850.12	7.77	Si
SLV 13	179667	0.24	15564	-27490	237.96	5554.8	23.34	Si
SLV 14	179667	0.24	15599	-27552	237.96	5566.03	23.39	Si
SLV 1	179667	0.24	19376	-34223	237.96	6723.17	28.25	Si
SLV 2	179667	0.24	19411	-34285	237.96	6733.7	28.3	Si
SLV 15	179667	0.24	26933	-47571	237.96	8815.82	37.05	Si
SLV 16	179667	0.24	26969	-47634	237.96	8824.95	37.09	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-75386	-69130	-4299	0.311	8342	0.975	4.63847	2.58901	Si
SLV 8	-75217	-69362	-4280	0.312	8324.7	0.975	4.64944	2.58901	Si
SLV 11	-73260	-67240	-4140	0.32	8125.4	0.975	4.76496	2.58901	Si
SLV 12	-73090	-67472	-4121	0.32	8108.1	0.975	4.77651	2.58901	Si
SLV 3	-54999	-48283	-3358	0.405	6266	0.968	6.08784	2.7151	Si
SLV 4	-54747	-48628	-3330	0.407	6240.3	0.968	6.1163	2.7151	Si
SLV 15	-47909	-41982	-2829	0.459	5544.4	0.964	6.92369	2.7151	Si
SLV 16	-47657	-42327	-2801	0.462	5518.7	0.964	6.96033	2.7151	Si
SLV 1	-35362	-28572	-2389	0.589	4268.5	0.954	8.97252	2.7151	Si
SLV 2	-35110	-28917	-2361	0.593	4242.8	0.954	9.03487	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	41.87	SLU 48	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	14.455	SLU 48	Si
PF_SLV	2.6	SLV 10	Si
V_SLV	2.115	SLV 16	Si
PFFP_SLV	5.933	SLV 9	Si
R_SLV	1.792	SLV 7	Si

Maschio 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.638	1.141	-24.603	1.141	L2	L4	4.965	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	-1.95	-12777.4	-179138	-0.0001465	0.0004492	0.0035	4.965	152896.16	273226.65	273226.65	21.38	No	Si
SLU 74	0.15	-12164.66	-145925	-0.0001167	0.0004492	0.0035	4.965	168620.99	251963.02	251963.02	20.71	No	Si
SLU 84	-1.95	-13519.05	-185046	-0.0001528	0.0004492	0.0035	4.965	147997.19	275791.18	275791.18	20.4	No	Si
SLU 84	0.15	-12881.39	-151386	-0.000122	0.0004492	0.0035	4.965	167413.52	256402.59	256402.59	19.9	No	Si
SLU 78	-1.95	-13040.65	-181028	-0.0001485	0.0004492	0.0035	4.965	151397.65	274372.73	274372.73	21.04	No	Si
SLU 78	0.15	-12307.83	-147603	-0.0001182	0.0004492	0.0035	4.965	168307.71	253498.07	253498.07	20.6	No	Si
SLU 83	-1.95	-13375.97	-184984	-0.0001526	0.0004492	0.0035	4.965	148051.57	275773.86	275773.86	20.62	No	Si
SLU 83	0.15	-12882.87	-151305	-0.000122	0.0004492	0.0035	4.965	167435.6	256353	256353	19.9	No	Si
SLU 80	-1.95	-12974.55	-180009	-0.0001475	0.0004492	0.0035	4.965	152213.84	273754.67	273754.67	21.1	No	Si
SLU 80	0.15	-12246.33	-146721	-0.0001174	0.0004492	0.0035	4.965	168478.74	252691.33	252691.33	20.63	No	Si
SLU 82	-1.95	-13398.88	-183217	-0.0001509	0.0004492	0.0035	4.965	149581.5	275277.31	275277.31	20.54	No	Si
SLU 82	0.15	-12736.74	-149790	-0.0001205	0.0004492	0.0035	4.965	167822.54	255434.9	255434.9	20.05	No	Si
SLU 81	-1.95	-13255.8	-183155	-0.0001507	0.0004492	0.0035	4.965	149633.83	275259.99	275259.99	20.77	No	Si
SLU 81	0.15	-12738.22	-149708	-0.0001205	0.0004492	0.0035	4.965	167842.25	255385.31	255385.31	20.05	No	Si
SLU 75	-1.95	-12920.48	-179200	-0.0001467	0.0004492	0.0035	4.965	152848.33	273264.01	273264.01	21.15	No	Si
SLU 75	0.15	-12163.18	-146007	-0.0001167	0.0004492	0.0035	4.965	168606.91	252037.85	252037.85	20.72	No	Si
SLU 77	-1.95	-12897.57	-180967	-0.0001483	0.0004492	0.0035	4.965	151447.52	274335.36	274335.36	21.27	No	Si
SLU 77	0.15	-12309.31	-147521	-0.0001182	0.0004492	0.0035	4.965	168324.17	253423.24	253423.24	20.59	No	Si
SLU 79	-1.95	-12831.47	-179947	-0.0001473	0.0004492	0.0035	4.965	152262.57	273717.31	273717.31	21.33	No	Si
SLU 79	0.15	-12247.8	-146640	-0.0001174	0.0004492	0.0035	4.965	168493.88	252616.5	252616.5	20.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	-1.95	-33703.1	-101586	-0.0000972	0.0006738	0.0035	4.965		221787.13	221787.13	6.58		Si
SLD 13	0.15	-10043.11	-79991	-0.0000615	0.0006738	0.0035	4.965		184600.19	184600.19	18.38		Si
SLV 15	-1.95	-42390.2	-84565	-0.0000921	0.0006738	0.0035	4.965		192734.83	192734.83	4.55		Si
SLV 15	0.15	-10685.69	-64203	-0.0000511	0.0006738	0.0035	4.965		155180.75	155180.75	14.52		Si
SLV 14	-1.95	-47615.55	-89523	-0.0001003	0.0006738	0.0035	4.965		201550.9	201550.9	4.23		Si
SLV 14	0.15	-10793.03	-68619	-0.0000542	0.0006738	0.0035	4.965		163499.72	163499.72	15.15		Si
SLV 9	-1.95	-29243.69	-120826	-0.0001076	0.0006738	0.0035	4.965		251630.98	251630.98	8.6		Si
SLV 9	0.15	-9813.98	-98117	-0.0000741	0.0006738	0.0035	4.965		215984.05	215984.05	22.01		Si
SLD 15	-1.95	-30346.21	-98684	-0.0000921	0.0006738	0.0035	4.965		216933.66	216933.66	7.15		Si
SLD 15	0.15	-9730.42	-77045	-0.0000592	0.0006738	0.0035	4.965		179363.03	179363.03	18.43		Si
SLV 10	-1.95	-28893.73	-120829	-0.0001073	0.0006738	0.0035	4.965		251636.58	251636.58	8.71		Si
SLV 10	0.15	-9522.78	-97700	-0.0000735	0.0006738	0.0035	4.965		215286.43	215286.43	22.61		Si
SLV 16	-1.95	-41870.37	-84571	-0.0000917	0.0006738	0.0035	4.965		192744.94	192744.94	4.6		Si
SLV 16	0.15	-10253.14	-63583	-0.0000503	0.0006738	0.0035	4.965		153983.78	153983.78	15.02		Si
SLD 14	-1.95	-33373.31	-101589	-0.0000969	0.0006738	0.0035	4.965		221793.17	221793.17	6.65		Si
SLD 14	0.15	-9768.69	-79598	-0.000061	0.0006738	0.0035	4.965		183901.38	183901.38	18.83		Si
SLV 13	-1.95	-48135.38	-89517	-0.0001007	0.0006738	0.0035	4.965		201540.78	201540.78	4.19		Si
SLV 13	0.15	-11225.58	-69239	-0.000055	0.0006738	0.0035	4.965		164666.51	164666.51	14.67		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	-1.95	-30016.42	-98688	-0.0000918	0.0006738	0.0035	4.965		216939.7	216939.7	7.23		Si
SLD 16	0.15	-9456	-76652	-0.0000587	0.0006738	0.0035	4.965		178631.05	178631.05	18.89		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-1.95	-12974.55	-180009	-144007	-26203	4.965	4.965	-64454	10833	70507	81562	80293	25321	105615	No	4.03	Si
SLU 80	0.15	-12246.33	-146721	-117377	-26447	4.965	4.965	-52535	10833	59856	81562	80293	25321	105615	No	3.99	Si
SLU 78	-1.95	-13040.65	-181028	-144823	-26366	4.965	4.965	-64819	10833	70833	81562	80293	25321	105615	No	4.01	Si
SLU 78	0.15	-12307.83	-147603	-118083	-26612	4.965	4.965	-52851	10833	60138	81562	80293	25321	105615	No	3.97	Si
SLU 77	-1.95	-12897.57	-180967	-144773	-26322	4.965	4.965	-64797	10833	70814	81562	80293	25321	105615	No	4.01	Si
SLU 77	0.15	-12309.31	-147521	-118017	-26566	4.965	4.965	-52822	10833	60112	81562	80293	25321	105615	No	3.98	Si
SLU 84	-1.95	-13519.05	-185046	-148037	-26594	4.965	4.965	-66258	10833	72119	81562	80293	25321	105615	No	3.97	Si
SLU 84	0.15	-12881.39	-151386	-121109	-26845	4.965	4.965	-54206	10833	61348	81562	80293	25321	105615	No	3.93	Si
SLU 82	-1.95	-13398.88	-183217	-146574	-26333	4.965	4.965	-65603	10833	71534	81562	80293	25321	105615	No	4.01	Si
SLU 82	0.15	-12736.74	-149790	-119832	-26582	4.965	4.965	-53634	10833	60838	81562	80293	25321	105615	No	3.97	Si
SLU 81	-1.95	-13255.8	-183155	-146524	-26289	4.965	4.965	-65581	10833	71514	81562	80293	25321	105615	No	4.02	Si
SLU 81	0.15	-12738.22	-149708	-119767	-26536	4.965	4.965	-53605	10833	60811	81562	80293	25321	105615	No	3.98	Si
SLU 75	-1.95	-12920.48	-179200	-143360	-26105	4.965	4.965	-64165	10833	70248	81562	80293	25321	105615	No	4.05	Si
SLU 75	0.15	-12163.18	-146007	-116806	-26349	4.965	4.965	-52280	10833	59627	81562	80293	25321	105615	No	4.01	Si
SLU 74	-1.95	-12777.4	-179138	-143310	-26061	4.965	4.965	-64142	10833	70229	81562	80293	25321	105615	No	4.05	Si
SLU 74	0.15	-12164.66	-145925	-116740	-26303	4.965	4.965	-52250	10833	59601	81562	80293	25321	105615	No	4.02	Si
SLU 83	-1.95	-13375.97	-184984	-147987	-26550	4.965	4.965	-66236	10833	72099	81562	80293	25321	105615	No	3.98	Si
SLU 83	0.15	-12882.87	-151305	-121044	-26799	4.965	4.965	-54176	10833	61322	81562	80293	25321	105615	No	3.94	Si
SLU 79	-1.95	-12831.47	-179947	-143958	-26158	4.965	4.965	-64432	10833	70488	81562	80293	25321	105615	No	4.04	Si
SLU 79	0.15	-12247.8	-146640	-117312	-26402	4.965	4.965	-52506	10833	59829	81562	80293	25321	105615	No	4	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	-1.95	-33703.1	-101586	-81269	-26291	4.965	4.965	-36374	16250	51866	81562	120440	25321	133428		5.08	Si
SLD 13	0.15	-10043.11	-79991	-63992	-26137	4.965	4.965	-28642	16250	44956	81562	120440	25321	126518		4.84	Si
SLV 13	-1.95	-48135.38	-89517	-71614	-30879	4.965	4.965	-32053	16250	48004	81562	120440	25321	129566		4.2	Si
SLV 13	0.15	-11225.58	-69239	-55391	-30439	4.965	4.965	-24792	16250	41516	81562	120440	25321	123077		4.04	Si
SLV 16	-1.95	-41870.37	-84571	-67657	-29036	4.965	4.965	-30282	16250	46422	81562	120440	25321	127983		4.41	Si
SLV 16	0.15	-10253.14	-63583	-50867	-28616	4.965	4.965	-22767	16250	39706	81562	120440	25321	121268		4.24	Si
SLV 15	-1.95	-42390.2	-84565	-67652	-28340	4.965	4.965	-30280	16250	46420	81562	120440	25321	127981		4.52	Si
SLV 15	0.15	-10685.69	-64203	-51362	-27922	4.965	4.965	-22989	16250	39904	81562	120440	25321	121466		4.35	Si
SLD 16	-1.95	-30016.42	-98688	-78950	-25242	4.965	4.965	-35336	16250	50939	81562	120440	25321	132501		5.25	Si
SLD 16	0.15	-9456	-76652	-61322	-25100	4.965	4.965	-27446	16250	43888	81562	120440	25321	125450		5	Si
SLD 15	-1.95	-30346.21	-98684	-78947	-24800	4.965	4.965	-35335	16250	50938	81562	120440	25321	132499		5.34	Si
SLD 15	0.15	-9730.42	-77045	-61636	-24659	4.965	4.965	-27587	16250	44014	81562	120440	25321	125575		5.09	Si
SLV 9	-1.95	-29243.69	-120826	-96660	-25926	4.965	4.965	-43263	16250	58023	81562	120440	25321	139584		5.38	Si
SLV 9	0.15	-9813.98	-98117	-78493	-25880	4.965	4.965	-35132	16250	50756	81562	120440	25321	132318		5.11	Si
SLD 14	-1.95	-33373.31	-101589	-81271	-26732	4.965	4.965	-36375	16250	51867	81562	120440	25321	133429		4.99	Si
SLD 14	0.15	-9768.69	-79598	-63678	-26578	4.965	4.965	-28501	16250	44830	81562	120440	25321	126392		4.76	Si
SLV 14	-1.95	-47615.55	-89523	-71618	-31575	4.965	4.965	-32055	16250	48006	81562	120440	25321	129568		4.1	Si
SLV 14	0.15	-10793.03	-68619	-54895	-31134	4.965	4.965	-24570	16250	41317	81562	120440	25321	122879		3.95	Si
SLV 10	-1.95	-28893.73	-120829	-96664	-26394	4.965	4.965	-43264	16250	58024	81562	120440	25321	139586		5.29	Si
SLV 10	0.15	-9522.78	-97700	-78160	-26348	4.965	4.965	-34983	16250	50623	81562	120440	25321	132184		5.02	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-70323	0.24	305.92	13105.44	17292.8	15199.12	49.68	Si
SLV 15	-70763	0.24	305.92	13170.39	17390.14	15280.26	49.95	Si
SLV 14	-75177	0.24	305.92	13809.55	18365.76	16087.66	52.59	Si
SLV 13	-75618	0.24	305.92	13872.16	18463.13	16167.65	52.85	Si
SLV 12	-89265	0.24	305.92	15706.44	21331.01	18518.73	60.54	Si
SLV 11	-89562	0.24	305.92	15744.03	21389.65	18566.84	60.69	Si
SLV 10	-105446	0.24	305.92	17615.99	24463.77	21039.88	68.78	Si
SLV 9	-105742	0.24	305.92	17648.3	24519.2	21083.75	68.92	Si
SLV 8	-110294	0.24	305.92	18132.12	25370.17	21751.14	71.1	Si
SLV 7	-110590	0.24	305.92	18162.85	25425.61	21794.23	71.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-120530	-162460	-44	0.309	13116.5	0.98	4.57805	2.7151	Si
SLV 2	-119775	-162466	-48	0.31	13039.5	0.98	4.59813	2.7151	Si
SLV 3	-114353	-157508	48	0.32	12487.1	0.979	4.75408	2.7151	Si
SLV 4	-113597	-157514	44	0.322	12410.1	0.979	4.77757	2.7151	Si
SLV 5	-108329	-142708	-138	0.332	11873.4	0.978	4.93342	2.58901	Si
SLV 6	-107820	-142712	-141	0.333	11821.6	0.978	4.95002	2.58901	Si
SLV 9	-91799	-120826	-126	0.374	10189.5	0.974	5.58178	2.58901	Si
SLV 10	-91290	-120829	-129	0.376	10137.7	0.974	5.60477	2.58901	Si
SLV 7	-87737	-126201	169	0.386	9775.8	0.973	5.76984	2.58901	Si
SLV 8	-87228	-126205	165	0.388	9724	0.973	5.79597	2.58901	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	19.899	SLU 83	Si
V_SLU	3.934	SLU 84	Si
PF_SLV	4.187	SLV 13	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	3.947	SLV 14	Si
PFFP_SLV	49.684	SLV 16	Si
R_SLV	1.686	SLV 1	Si

Maschio 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-14.963	1.141	-18.838	1.141	L2	L4	3.875	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	-1.95	-16938.93	-136143	-0.0001584	0.0004492	0.0035	3.875	95230.01	164561.76	164561.76	9.72	No	Si
SLU 82	0.15	-15647.3	-143253	-0.0001648	0.0004492	0.0035	3.875	90941.44	167378.41	167378.41	10.7	No	Si
SLU 75	-1.95	-16509.99	-133059	-0.0001539	0.0004492	0.0035	3.875	96804.46	163045.27	163045.27	9.88	No	Si
SLU 75	0.15	-15278.65	-139686	-0.0001597	0.0004492	0.0035	3.875	93207.75	166303.9	166303.9	10.88	No	Si
SLU 84	-1.95	-17088.27	-137727	-0.0001606	0.0004492	0.0035	3.875	94353.96	165340.78	165340.78	9.68	No	Si
SLU 84	0.15	-15921.45	-144987	-0.0001675	0.0004492	0.0035	3.875	89755.89	167786.61	167786.61	10.54	No	Si
SLU 77	-1.95	-16332.77	-135101	-0.0001561	0.0004492	0.0035	3.875	95781.08	164049.61	164049.61	10.04	No	Si
SLU 77	0.15	-15879.74	-141555	-0.0001631	0.0004492	0.0035	3.875	92049.12	166978.77	166978.77	10.52	No	Si
SLU 78	-1.95	-16659.32	-134643	-0.0001561	0.0004492	0.0035	3.875	96017.28	163824.29	163824.29	9.83	No	Si
SLU 78	0.15	-15552.8	-141420	-0.0001624	0.0004492	0.0035	3.875	92134.7	166947.08	166947.08	10.73	No	Si
SLU 81	-1.95	-16612.38	-136601	-0.0001584	0.0004492	0.0035	3.875	94981.32	164787.08	164787.08	9.92	No	Si
SLU 81	0.15	-15974.24	-143387	-0.0001656	0.0004492	0.0035	3.875	90851.37	167410.1	167410.1	10.48	No	Si
SLU 73	-1.95	-16494.01	-130382	-0.0001507	0.0004492	0.0035	3.875	98030.82	161728.96	161728.96	9.81	No	Si
SLU 73	0.15	-14690.38	-136997	-0.0001554	0.0004492	0.0035	3.875	94763.18	164981.92	164981.92	11.23	No	Si
SLU 83	-1.95	-16761.72	-138185	-0.0001606	0.0004492	0.0035	3.875	94092.06	165566.1	165566.1	9.88	No	Si
SLU 83	0.15	-16248.39	-145122	-0.0001682	0.0004492	0.0035	3.875	89661.57	167818.3	167818.3	10.33	No	Si
SLU 80	-1.95	-16574.99	-133856	-0.000155	0.0004492	0.0035	3.875	96414.12	163437.21	163437.21	9.86	No	Si
SLU 80	0.15	-15456.63	-140556	-0.0001611	0.0004492	0.0035	3.875	92676.52	166731.48	166731.48	10.79	No	Si
SLU 76	-1.95	-16643.35	-131966	-0.0001528	0.0004492	0.0035	3.875	97320.78	162507.98	162507.98	9.76	No	Si
SLU 76	0.15	-14964.53	-138732	-0.000158	0.0004492	0.0035	3.875	93774.93	165834.64	165834.64	11.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 14	-1.95	-34789.46	-82291	-0.0001205	0.0006738	0.0035	3.875		138480.4	138480.4	3.98		Si
SLD 14	0.15	-960.64	-86922	-0.0000765	0.0006738	0.0035	3.875		144209.29	144209.29	150.12		Si
SLV 13	-1.95	-49695.12	-75795	-0.0001358	0.0006738	0.0035	3.875		130183.6	130183.6	2.62		Si
SLV 13	0.15	5158.67	-82690	-0.0000785	0.0006738	0.0035	3.875		132571.14	132571.14	25.7		Si
SLV 16	-1.95	-37286.96	-93476	-0.0001353	0.0006738	0.0035	3.875		151959.48	151959.48	4.08		Si
SLV 16	0.15	-7702.52	-87084	-0.0000862	0.0006738	0.0035	3.875		144409.86	144409.86	18.75		Si
SLD 13	-1.95	-35504.13	-81841	-0.0001211	0.0006738	0.0035	3.875		137922.64	137922.64	3.88		Si
SLD 13	0.15	-869.28	-87226	-0.0000766	0.0006738	0.0035	3.875		144585.4	144585.4	166.33		Si
SLD 10	-1.95	-28119.07	-73654	-0.0001026	0.0006738	0.0035	3.875		127362.72	127362.72	4.53		Si
SLD 10	0.15	3611.34	-88141	-0.0000814	0.0006738	0.0035	3.875		138927.94	138927.94	38.47		Si
SLV 14	-1.95	-48568.62	-76506	-0.0001348	0.0006738	0.0035	3.875		131120.11	131120.11	2.7		Si
SLV 14	0.15	5014.65	-82211	-0.0000779	0.0006738	0.0035	3.875		131895.37	131895.37	26.3		Si
SLV 15	-1.95	-38413.47	-92765	-0.0001362	0.0006738	0.0035	3.875		151137.62	151137.62	3.93		Si
SLV 15	0.15	-7558.51	-87563	-0.0000864	0.0006738	0.0035	3.875		145002.7	145002.7	19.18		Si
SLV 9	-1.95	-39995.62	-60846	-0.0001072	0.0006738	0.0035	3.875		109826.27	109826.27	2.75		Si
SLV 9	0.15	13472.87	-83957	-0.0000915	0.0006738	0.0035	3.875		134356.9	134356.9	9.97		Si
SLD 9	-1.95	-28579.29	-73364	-0.000103	0.0006738	0.0035	3.875		126980.11	126980.11	4.44		Si
SLD 9	0.15	3670.18	-88337	-0.0000816	0.0006738	0.0035	3.875		139141.73	139141.73	37.91		Si
SLV 10	-1.95	-39237.23	-61324	-0.0001066	0.0006738	0.0035	3.875		110495.34	110495.34	2.82		Si
SLV 10	0.15	13375.92	-83634	-0.0000911	0.0006738	0.0035	3.875		133901.95	133901.95	10.01		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-1.95	-16574.99	-133856	-107085	10491	3.875	3.875	-61411	10833	52905	81562	62666	19763	82429	No	7.86	Si
SLU 80	0.15	-15456.63	-140556	-112445	10949	3.875	3.875	-64484	10833	55049	81562	62666	19763	82429	No	7.53	Si
SLU 78	-1.95	-16659.32	-134643	-107714	10544	3.875	3.875	-61772	10833	53157	81562	62666	19763	82429	No	7.82	Si
SLU 78	0.15	-15552.8	-141420	-113136	11005	3.875	3.875	-64881	10833	55326	81562	62666	19763	82429	No	7.49	Si
SLU 75	-1.95	-16509.99	-133059	-106447	10399	3.875	3.875	-61045	10833	52650	81562	62666	19763	82429	No	7.93	Si
SLU 75	0.15	-15278.65	-139686	-111749	10855	3.875	3.875	-64085	10833	54771	81562	62666	19763	82429	No	7.59	Si
SLU 77	-1.95	-16332.77	-135101	-108081	10565	3.875	3.875	-61982	10833	53304	81562	62666	19763	82429	No	7.8	Si
SLU 77	0.15	-15879.74	-141555	-113244	11022	3.875	3.875	-64943	10833	55369	81562	62666	19763	82429	No	7.48	Si
SLU 74	-1.95	-16183.43	-133517	-106814	10420	3.875	3.875	-61255	10833	52797	81562	62666	19763	82429	No	7.91	Si
SLU 74	0.15	-15605.59	-139821	-111857	10872	3.875	3.875	-64147	10833	54814	81562	62666	19763	82429	No	7.58	Si
SLU 83	-1.95	-16761.72	-138185	-110548	10898	3.875	3.875	-63397	10833	54291	81562	62666	19763	82429	No	7.56	Si
SLU 83	0.15	-16248.39	-145122	-116097	11366	3.875	3.875	-66579	10833	56510	81562	62666	19763	82429	No	7.25	Si
SLU 79	-1.95	-16248.43	-134314	-107451	10512	3.875	3.875	-61621	10833	53052	81562	62666	19763	82429	No	7.84	Si
SLU 79	0.15	-15783.57	-140690	-112552	10966	3.875	3.875	-64546	10833	55092	81562	62666	19763	82429	No	7.52	Si
SLU 81	-1.95	-16612.38	-136601	-109281	10752	3.875	3.875	-62670	10833	53784	81562	62666	19763	82429	No	7.67	Si
SLU 81	0.15	-15974.24	-143387	-114710	11216	3.875	3.875	-65783	10833	55955	81562	62666	19763	82429	No	7.35	Si
SLU 82	-1.95	-16938.93	-136143	-108914	10731	3.875	3.875	-62460	10833	53637	81562	62666	19763	82429	No	7.68	Si
SLU 82	0.15	-15647.3	-143253	-114602	11199	3.875	3.875	-65722	10833	55912	81562	62666	19763	82429	No	7.36	Si
SLU 84	-1.95	-17088.27	-137727	-110182	10876	3.875	3.875	-63187	10833	54144	81562	62666	19763	82429	No	7.58	Si
SLU 84	0.15	-15921.45	-144987	-115990	11350	3.875	3.875	-66517	10833	56467	81562	62666	19763	82429	No	7.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	-1.95	12599.88	-100502	-80402	21947	3.875	3.875	-46109	16250	47269	81562	93999	19763	113762		5.18	Si
SLD 3	0.15	-20151.71	-102938	-82350	22240	3.875	3.875	-47226	16250	48049	81562	93999	19763	113762		5.12	Si
SLV 3	-1.95	26379.04	-106288	-85030	30384	3.875	3.875	-48763	16250	49121	81562	93999	19763	113762		3.74	Si
SLV 3	0.15	-26127.01	-107648	-86119	30663	3.875	3.875	-49387	16250	49556	81562	93999	19763	113762		3.71	Si
SLV 4	-1.95	27505.54	-106999	-85599	30034	3.875	3.875	-49089	16250	49348	81562	93999	19763	113762		3.79	Si
SLV 4	0.15	-26271.02	-107169	-85735	30297	3.875	3.875	-49167	16250	49403	81562	93999	19763	113762		3.75	Si
SLD 1	-1.95	5980.9	-90554	-72443	21599	3.875	3.875	-41544	16250	44086	81562	93999	19763	113762		5.27	Si
SLD 1	0.15	-12698.15	-100080	-80064	21988	3.875	3.875	-45915	16250	47134	81562	93999	19763	113762		5.17	Si
SLV 1	-1.95	15097.38	-89318	-71454	29797	3.875	3.875	-40977	16250	43690	81562	93999	19763	113762		3.82	Si
SLV 1	0.15	-13409.83	-102775	-82220	30240	3.875	3.875	-47151	16250	47997	81562	93999	19763	113762		3.76	Si
SLV 13	-1.95	-49695.12	-75795	-60636	-15933	3.875	3.8455	-34773	16250	39363	81562	93999	19763	113762		7.14	Si
SLV 13	0.15	5158.67	-82690	-66152	-15578	3.875	3.875	-37937	16250	41570	81562	93999	19763	113762		7.3	Si
SLD 4	-1.95	13314.55	-100953	-80762	21725	3.875	3.875	-46315	16250	47413	81562	93999	19763	113762		5.24	Si
SLD 4	0.15	-20243.08	-102634	-82107	22008	3.875	3.875	-47086	16250	47951	81562	93999	19763	113762		5.17	Si
SLV 2	-1.95	16223.88	-90029	-72023	29448	3.875	3.875	-41303	16250	43918	81562	93999	19763	113762		3.86	Si
SLV 2	0.15	-13553.84	-102296	-81837	29873	3.875	3.875	-46932	16250	47843	81562	93999	19763	113762		3.81	Si
SLV 14	-1.95	-48568.62	-76506	-61205	-16283	3.875	3.875	-35099	16250	39591	81562	93999	19763	113762		6.99	Si
SLV 14	0.15	5014.65	-82211	-65769	-15945	3.875	3.875	-37717	16250	41416	81562	93999	19763	113762		7.13	Si
SLD 2	-1.95	6695.57	-91005	-72804	21377	3.875	3.875	-41751	16250	44230	81562	93999	19763	113762		5.32	Si
SLD 2	0.15	-12789.51	-99776	-79821	21755	3.875	3.875	-45775	16250	47037	81562	93999	19763	113762		5.23	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-74188	0.24	238.76	12817.56	17528.14	15172.85	63.55	Si
SLV 9	-74216	0.24	238.76	12820.91	17533.62	15177.26	63.57	Si
SLV 14	-78339	0.24	238.76	13305.72	18344.98	15825.35	66.28	Si
SLV 13	-78380	0.24	238.76	13310.44	18352.72	15831.58	66.31	Si
SLV 6	-79514	0.24	238.76	13439.56	18565.68	16002.62	67.02	Si
SLV 5	-79542	0.24	238.76	13442.69	18570.88	16006.79	67.04	Si
SLV 16	-87228	0.24	238.76	14269.62	20002.71	17136.16	71.77	Si
SLV 15	-87269	0.24	238.76	14273.82	20010	17141.91	71.8	Si
SLV 2	-96091	0.24	238.76	15119.98	21559.5	18339.74	76.81	Si
SLV 1	-96132	0.24	238.76	15123.68	21566.39	18345.03	76.84	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-99315	-106288	91	0.297	10771.4	0.981	4.39671	2.7151	Si
SLV 4	-98933	-106999	81	0.298	10732.5	0.981	4.41013	2.7151	Si
SLV 1	-96360	-89318	136	0.303	10470.3	0.98	4.48519	2.7151	Si
SLV 2	-95978	-90029	126	0.303	10431.4	0.98	4.49935	2.7151	Si
SLV 7	-92546	-121469	7	0.313	10081.7	0.98	4.63611	2.58901	Si
SLV 8	-92289	-121948	0	0.313	10055.5	0.98	4.64642	2.58901	Si
SLV 11	-83841	-117412	-19	0.335	9194.8	0.978	4.97875	2.58901	Si
SLV 12	-83584	-117891	-26	0.336	9168.6	0.978	4.98884	2.58901	Si
SLV 5	-82694	-64903	156	0.337	9077.9	0.977	5.00602	2.58901	Si
SLV 6	-82436	-65381	149	0.338	9051.7	0.977	5.01865	2.58901	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.676	SLU 84	Si
V_SLU	7.252	SLU 83	Si
PF_SLV	2.62	SLV 13	Si
V_SLV	3.71	SLV 3	Si
PFFP_SLV	63.55	SLV 10	Si
R_SLV	1.619	SLV 3	Si

Maschio 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.428	1.141	-11.238	1.141	L2	L4	3.81	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	-1.95	-5661.17	-129731	-0.000134	0.0004492	0.0035	3.81	94093.09	157172.54	157172.54	27.76	No	Si
SLU 84	0.21	-5858.67	-109024	-0.0001113	0.0004492	0.0035	3.81	99603.38	146157.81	146157.81	24.95	No	Si
SLU 81	-1.95	-5533.92	-128359	-0.0001322	0.0004492	0.0035	3.81	94699.31	156519.88	156519.88	28.28	No	Si
SLU 81	0.21	-5851.27	-107492	-0.0001096	0.0004492	0.0035	3.81	99701.25	145063.87	145063.87	24.79	No	Si
SLU 82	-1.95	-5638.59	-128267	-0.0001323	0.0004492	0.0035	3.81	94738.82	156476.02	156476.02	27.75	No	Si
SLU 82	0.21	-5834.58	-107694	-0.0001098	0.0004492	0.0035	3.81	99690.75	145208.61	145208.61	24.89	No	Si
SLU 39	-1.95	-4605.08	-109678	-0.0001099	0.0004492	0.0035	3.81	99548.53	146625.33	146625.33	31.84	No	Si
SLU 39	0.21	-5433.25	-92625	-0.0000932	0.0004492	0.0035	3.81	98433.9	134448.86	134448.86	24.75	No	Si
SLU 74	-1.95	-5244.84	-125508	-0.0001285	0.0004492	0.0035	3.81	95849.67	155163.58	155163.58	29.58	No	Si
SLU 74	0.21	-5512.73	-104966	-0.0001063	0.0004492	0.0035	3.81	99769.39	143260.78	143260.78	25.99	No	Si
SLU 42	-1.95	-4732.33	-111050	-0.0001116	0.0004492	0.0035	3.81	99408.34	147604.76	147604.76	31.19	No	Si
SLU 42	0.21	-5440.64	-94157	-0.0000948	0.0004492	0.0035	3.81	98750.3	135542.8	135542.8	24.91	No	Si
SLU 79	-1.95	-5271.88	-126257	-0.0001294	0.0004492	0.0035	3.81	95561.64	155520.05	155520.05	29.5	No	Si
SLU 79	0.21	-5523.49	-105642	-0.0001071	0.0004492	0.0035	3.81	99762.52	143743.63	143743.63	26.02	No	Si
SLU 83	-1.95	-5556.49	-129823	-0.000134	0.0004492	0.0035	3.81	94051.12	157216.4	157216.4	28.29	No	Si
SLU 83	0.21	-5875.37	-108821	-0.0001111	0.0004492	0.0035	3.81	99618.78	146013.07	146013.07	24.85	No	Si
SLU 41	-1.95	-4627.65	-111142	-0.0001115	0.0004492	0.0035	3.81	99397.69	147670.58	147670.58	31.91	No	Si
SLU 41	0.21	-5457.34	-93954	-0.0000946	0.0004492	0.0035	3.81	98710.89	135398.06	135398.06	24.81	No	Si
SLU 40	-1.95	-4709.75	-109586	-0.0001099	0.0004492	0.0035	3.81	99556.72	146559.51	146559.51	31.12	No	Si
SLU 40	0.21	-5416.55	-92827	-0.0000934	0.0004492	0.0035	3.81	98478.22	134593.6	134593.6	24.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	-1.95	-37517.61	-94337	-0.00014	0.0006738	0.0035	3.81		149799.77	149799.77	3.99		Si
SLV 15	0.21	8745.43	-67909	-0.0000715	0.0006738	0.0035	3.81		109588.91	109588.91	12.53		Si
SLV 14	-1.95	-40960	-91969	-0.0001429	0.0006738	0.0035	3.81		147122.34	147122.34	3.59		Si
SLV 14	0.21	8443.12	-77357	-0.0000799	0.0006738	0.0035	3.81		122714.86	122714.86	14.53		Si
SLD 14	-1.95	-27447.71	-89912	-0.0001202	0.0006738	0.0035	3.81		144795.64	144795.64	5.28		Si
SLD 14	0.21	4153.26	-74917	-0.0000714	0.0006738	0.0035	3.81		119325.19	119325.19	28.73		Si
SLV 16	-1.95	-37484.76	-94514	-0.0001401	0.0006738	0.0035	3.81		150000.49	150000.49	4		Si
SLV 16	0.21	8737.58	-68503	-0.0000721	0.0006738	0.0035	3.81		110414.06	110414.06	12.64		Si
SLV 2	-1.95	30269.14	-77766	-0.0001124	0.0006738	0.0035	3.81		123282.55	123282.55	4.07		Si
SLV 2	0.21	-15749.02	-74603	-0.0000879	0.0006738	0.0035	3.81		126098.49	126098.49	8.01		Si
SLV 3	-1.95	33711.52	-80134	-0.0001198	0.0006738	0.0035	3.81		126572.11	126572.11	3.75		Si
SLV 3	0.21	-15446.71	-65155	-0.0000786	0.0006738	0.0035	3.81		113647.06	113647.06	7.36		Si
SLV 13	-1.95	-40992.85	-91792	-0.0001427	0.0006738	0.0035	3.81		146921.62	146921.62	3.58		Si
SLV 13	0.21	8450.97	-76763	-0.0000793	0.0006738	0.0035	3.81		121889.71	121889.71	14.42		Si
SLV 4	-1.95	33744.37	-80311	-0.00012	0.0006738	0.0035	3.81		126818.72	126818.72	3.76		Si
SLV 4	0.21	-15454.56	-65749	-0.0000792	0.0006738	0.0035	3.81		114461.15	114461.15	7.41		Si
SLD 13	-1.95	-27468.55	-89799	-0.0001201	0.0006738	0.0035	3.81		144668.3	144668.3	5.27		Si
SLD 13	0.21	4158.24	-74541	-0.000071	0.0006738	0.0035	3.81		118801.71	118801.71	28.57		Si
SLV 1	-1.95	30236.29	-77588	-0.0001121	0.0006738	0.0035	3.81		123035.94	123035.94	4.07		Si
SLV 1	0.21	-15741.17	-74009	-0.0000874	0.0006738	0.0035	3.81		125331.9	125331.9	7.96		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 62	-1.95	-5330.18	-115521	-92417	-5089	3.81	3.81	-53903	10833	46870	81562	61615	19431	81046	No	15.93	Si
SLU 62	0.21	-4574.96	-95735	-76588	-1394	3.81	3.81	-44671	10833	40538	81562	61615	19431	81046	No	58.15	Si
SLU 83	-1.95	-5556.49	-129823	-103858	-4782	3.81	3.81	-60576	10833	51446	81562	61615	19431	81046	No	16.95	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.21	-5875.37	-108821	-87057	-584	3.81	3.81	-50777	10833	44726	81562	61615	19431	81046	No	138.79	Si
SLU 59	-1.95	-5150.23	-111863	-89491	-4815	3.81	3.81	-52196	10833	45699	81562	61615	19431	81046	No	16.83	Si
SLU 59	0.21	-4206.38	-92759	-74207	-1251	3.81	3.81	-43282	10833	39586	81562	61615	19431	81046	No	64.78	Si
SLU 61	-1.95	-5412.28	-113965	-91172	-4835	3.81	3.81	-53177	10833	46372	81562	61615	19431	81046	No	16.76	Si
SLU 61	0.21	-4534.17	-94608	-75687	-1190	3.81	3.81	-44145	10833	40178	81562	61615	19431	81046	No	68.09	Si
SLU 57	-1.95	-5145.78	-112578	-90063	-4837	3.81	3.81	-52530	10833	45928	81562	61615	19431	81046	No	16.76	Si
SLU 57	0.21	-4219.72	-93412	-74730	-1244	3.81	3.81	-43587	10833	39795	81562	61615	19431	81046	No	65.15	Si
SLU 63	-1.95	-5434.85	-115429	-92343	-4913	3.81	3.81	-53860	10833	46840	81562	61615	19431	81046	No	16.5	Si
SLU 63	0.21	-4558.26	-95938	-76750	-1201	3.81	3.81	-44765	10833	40603	81562	61615	19431	81046	No	67.47	Si
SLU 58	-1.95	-5045.56	-111956	-89565	-4990	3.81	3.81	-52239	10833	45729	81562	61615	19431	81046	No	16.24	Si
SLU 58	0.21	-4223.08	-92556	-74045	-1444	3.81	3.81	-43188	10833	39521	81562	61615	19431	81046	No	56.14	Si
SLU 60	-1.95	-5307.6	-114057	-91246	-5011	3.81	3.81	-53220	10833	46401	81562	61615	19431	81046	No	16.17	Si
SLU 60	0.21	-4550.87	-94405	-75524	-1383	3.81	3.81	-44050	10833	40113	81562	61615	19431	81046	No	58.61	Si
SLU 56	-1.95	-5041.11	-112670	-90136	-5013	3.81	3.81	-52573	10833	45957	81562	61615	19431	81046	No	16.17	Si
SLU 56	0.21	-4236.41	-93210	-74568	-1437	3.81	3.81	-43492	10833	39730	81562	61615	19431	81046	No	56.41	Si
SLU 53	-1.95	-5018.53	-111206	-88965	-4935	3.81	3.81	-51890	10833	45489	81562	61615	19431	81046	No	16.42	Si
SLU 53	0.21	-4212.32	-91880	-73504	-1426	3.81	3.81	-42872	10833	39305	81562	61615	19431	81046	No	56.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	-1.95	30236.29	-77588	-62071	32021	3.81	3.81	-36203	16250	39684	81562	92422	19431	111853		3.49	Si
SLV 1	0.21	-15741.17	-74009	-59208	24308	3.81	3.81	-34533	16250	38538	81562	92422	19431	111853		4.6	Si
SLV 13	-1.95	-40992.85	-91792	-73433	-31339	3.81	3.81	-42831	16250	44229	81562	92422	19431	111853		3.57	Si
SLV 13	0.21	8450.97	-76763	-61411	-17980	3.81	3.81	-35818	16250	39420	81562	92422	19431	111853		6.22	Si
SLV 14	-1.95	-40960	-91969	-73575	-30991	3.81	3.81	-42914	16250	44285	81562	92422	19431	111853		3.61	Si
SLV 14	0.21	8443.12	-77357	-61886	-17688	3.81	3.81	-36096	16250	39610	81562	92422	19431	111853		6.32	Si
SLD 15	-1.95	-25424	-91291	-73033	-26016	3.81	3.81	-42597	16250	44068	81562	92422	19431	111853		4.3	Si
SLD 15	0.21	4327.82	-69354	-55483	-16669	3.81	3.81	-32361	16250	37049	81562	92422	19431	111853		6.71	Si
SLD 16	-1.95	-25403.15	-91403	-73123	-25795	3.81	3.81	-42650	16250	44104	81562	92422	19431	111853		4.34	Si
SLD 16	0.21	4322.84	-69731	-55785	-16483	3.81	3.81	-32537	16250	37169	81562	92422	19431	111853		6.79	Si
SLV 15	-1.95	-37517.61	-94337	-75470	-39071	3.81	3.81	-44018	16250	45043	81562	92422	19431	111853		2.86	Si
SLV 15	0.21	8745.43	-67909	-54327	-25986	3.81	3.81	-31687	16250	36586	81562	92422	19431	111853		4.3	Si
SLV 12	-1.95	-8505.49	-92484	-73987	-25625	3.81	3.81	-43154	16250	44450	81562	92422	19431	111853		4.37	Si
SLV 12	0.21	615.15	-57112	-45690	-20281	3.81	3.81	-26649	16250	33132	81562	92422	19431	111853		5.52	Si
SLV 2	-1.95	30269.14	-77766	-62213	32369	3.81	3.81	-36286	16250	39740	81562	92422	19431	111853		3.46	Si
SLV 2	0.21	-15749.02	-74603	-59683	24600	3.81	3.81	-34811	16250	38729	81562	92422	19431	111853		4.55	Si
SLV 16	-1.95	-37484.76	-94514	-75612	-38723	3.81	3.81	-44101	16250	45100	81562	92422	19431	111853		2.89	Si
SLV 16	0.21	8737.58	-68503	-54803	-25694	3.81	3.81	-31964	16250	36777	81562	92422	19431	111853		4.35	Si
SLV 11	-1.95	-8527.61	-92364	-73892	-25859	3.81	3.81	-43098	16250	44412	81562	92422	19431	111853		4.33	Si
SLV 11	0.21	620.44	-56713	-45370	-20477	3.81	3.81	-26463	16250	33004	81562	92422	19431	111853		5.46	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-71853	0.24	234.75	12470.2	17028.06	14749.13	62.83	Si
SLV 8	-72106	0.24	234.75	12501.1	17078.14	14789.62	63	Si
SLV 3	-73027	0.24	234.75	12612.54	17260	14936.27	63.63	Si
SLV 4	-73403	0.24	234.75	12657.77	17334.39	14996.08	63.88	Si
SLV 11	-74643	0.24	234.75	12805.26	17579.31	15192.28	64.72	Si
SLV 12	-74896	0.24	234.75	12835.14	17629.39	15232.27	64.89	Si
SLV 1	-76875	0.24	234.75	13065.38	18018.37	15541.87	66.21	Si
SLV 2	-77252	0.24	234.75	13108.54	18089.05	15598.79	66.45	Si
SLV 15	-82326	0.24	234.75	13670.43	19041.74	16356.08	69.67	Si
SLV 16	-82702	0.24	234.75	13710.65	19112.31	16411.48	69.91	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-91431	-83999	282	0.309	9957.1	0.98	4.57738	2.58901	Si
SLV 6	-91186	-79738	283	0.309	9932.2	0.98	4.586	2.58901	Si
SLV 9	-90830	-83880	277	0.31	9896	0.98	4.59979	2.58901	Si
SLV 5	-90586	-79619	278	0.311	9871.1	0.98	4.60852	2.58901	Si
SLV 14	-74853	-91969	107	0.358	8268.3	0.976	5.33103	2.7151	Si
SLV 2	-74038	-77766	110	0.361	8185.3	0.976	5.37421	2.7151	Si
SLV 13	-73962	-91792	99	0.361	8177.5	0.976	5.38044	2.7151	Si
SLV 1	-73147	-77588	103	0.364	8094.4	0.975	5.42466	2.7151	Si
SLV 16	-60275	-94514	-44	0.421	6783.5	0.971	6.30112	2.7151	Si
SLV 4	-59460	-80311	-41	0.425	6700.5	0.97	6.36879	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	24.746	SLU 39	Si
V_SLU	15.925	SLU 62	Si
PF_SLV	3.584	SLV 13	Si
V_SLV	2.863	SLV 15	Si
PFFP_SLV	62.829	SLV 7	Si
R_SLV	1.768	SLV 10	Si

Maschio 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-5.088	1.141	L2	L4	4.965	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	-1.95	-4030.62	-192342	-0.0001491	0.0004492	0.0035	4.965	141071.4	277841.19	277841.19	68.93	No	Si
SLU 75	0.15	24480.11	-148057	-0.0001309	0.0004492	0.0035	4.965	168214.26	246355.99	246355.99	10.06	No	Si
SLU 83	-1.95	-4069	-198477	-0.0001549	0.0004492	0.0035	4.965	134498.61	279564.94	279564.94	68.71	No	Si
SLU 83	0.15	25267.57	-153408	-0.0001364	0.0004492	0.0035	4.965	166828.98	251464.14	251464.14	9.95	No	Si
SLU 73	-1.95	-3839.95	-189241	-0.000146	0.0004492	0.0035	4.965	144133.34	276969.88	276969.88	72.13	No	Si
SLU 73	0.15	24189.26	-145554	-0.0001284	0.0004492	0.0035	4.965	168683.36	243967.11	243967.11	10.09	No	Si
SLU 84	-1.95	-3966.72	-198488	-0.0001548	0.0004492	0.0035	4.965	134486	279568.08	279568.08	70.48	No	Si
SLU 84	0.15	25419.24	-153448	-0.0001366	0.0004492	0.0035	4.965	166816.76	251502.02	251502.02	9.89	No	Si
SLU 82	-1.95	-3890.56	-196419	-0.0001527	0.0004492	0.0035	4.965	136779.39	278986.8	278986.8	71.71	No	Si
SLU 82	0.15	25144.82	-151752	-0.0001348	0.0004492	0.0035	4.965	167313.25	249883.59	249883.59	9.94	No	Si
SLU 77	-1.95	-4209.06	-194399	-0.0001512	0.0004492	0.0035	4.965	138943.19	278419.33	278419.33	66.15	No	Si
SLU 77	0.15	24602.86	-149712	-0.0001325	0.0004492	0.0035	4.965	167841.27	247936.53	247936.53	10.08	No	Si
SLU 76	-1.95	-3916.1	-191310	-0.000148	0.0004492	0.0035	4.965	142110.03	277551.16	277551.16	70.87	No	Si
SLU 76	0.15	24463.68	-147250	-0.0001302	0.0004492	0.0035	4.965	168377.99	245585.54	245585.54	10.04	No	Si
SLU 80	-1.95	-4060.45	-193371	-0.0001501	0.0004492	0.0035	4.965	140016.6	278130.35	278130.35	68.5	No	Si
SLU 80	0.15	24636.99	-148919	-0.0001318	0.0004492	0.0035	4.965	168026.33	247178.72	247178.72	10.03	No	Si
SLU 81	-1.95	-3992.85	-196408	-0.0001528	0.0004492	0.0035	4.965	136791.57	278983.66	278983.66	69.87	No	Si
SLU 81	0.15	24993.15	-151713	-0.0001346	0.0004492	0.0035	4.965	167324.25	249845.7	249845.7	10	No	Si
SLU 78	-1.95	-4106.77	-194411	-0.0001511	0.0004492	0.0035	4.965	138931.42	278422.47	278422.47	67.8	No	Si
SLU 78	0.15	24754.53	-149752	-0.0001327	0.0004492	0.0035	4.965	167831.72	247974.42	247974.42	10.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-1.95	38400.9	-102450	-0.0001019	0.0006738	0.0035	4.965		211434.64	211434.64	5.51		Si
SLV 3	0.15	17876.11	-77050	-0.000066	0.0006738	0.0035	4.965		165326.23	165326.23	9.25		Si
SLV 16	-1.95	-49929.52	-161742	-0.0001585	0.0006738	0.0035	4.965		304249.14	304249.14	6.09		Si
SLV 16	0.15	9162.29	-122354	-0.000091	0.0006738	0.0035	4.965		241157.16	241157.16	26.32		Si
SLV 13	-1.95	-44937.29	-163137	-0.0001549	0.0006738	0.0035	4.965		305596.06	305596.06	6.8		Si
SLV 13	0.15	14122.02	-124534	-0.000097	0.0006738	0.0035	4.965		244222.78	244222.78	17.29		Si
SLV 14	-1.95	-44524.87	-163321	-0.0001547	0.0006738	0.0035	4.965		305774.17	305774.17	6.87		Si
SLV 14	0.15	15219.43	-124998	-0.0000983	0.0006738	0.0035	4.965		244875.23	244875.23	16.09		Si
SLV 1	-1.95	43805.56	-104030	-0.0001077	0.0006738	0.0035	4.965		214302	214302	4.89		Si
SLV 1	0.15	23933.24	-79694	-0.0000729	0.0006738	0.0035	4.965		170125.42	170125.42	7.11		Si
SLV 15	-1.95	-50341.94	-161557	-0.0001587	0.0006738	0.0035	4.965		304071.03	304071.03	6.04		Si
SLV 15	0.15	8064.89	-121890	-0.0000897	0.0006738	0.0035	4.965		240504.71	240504.71	29.82		Si
SLV 4	-1.95	38813.32	-102635	-0.0001023	0.0006738	0.0035	4.965		211769.53	211769.53	5.46		Si
SLV 4	0.15	18973.51	-77514	-0.0000672	0.0006738	0.0035	4.965		166168.39	166168.39	8.76		Si
SLV 6	-1.95	19396.03	-126714	-0.0001033	0.0006738	0.0035	4.965		247288.72	247288.72	12.75		Si
SLV 6	0.15	28484.08	-98861	-0.0000906	0.0006738	0.0035	4.965		204918.63	204918.63	7.19		Si
SLV 5	-1.95	19118.38	-126590	-0.0001029	0.0006738	0.0035	4.965		247114.06	247114.06	12.93		Si
SLV 5	0.15	27745.28	-98548	-0.0000898	0.0006738	0.0035	4.965		204351.66	204351.66	7.37		Si
SLV 2	-1.95	44217.98	-104214	-0.0001082	0.0006738	0.0035	4.965		214636.89	214636.89	4.85		Si
SLV 2	0.15	25030.65	-80158	-0.0000742	0.0006738	0.0035	4.965		170967.58	170967.58	6.83		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-1.95	-4060.45	-193371	-154697	25857	4.965	4.965	-69239	10833	74783	81562	80293	25322	105615	No	4.08	Si
SLU 80	0.15	24636.99	-148919	-119135	26344	4.965	4.965	-53322	10833	60559	81562	80293	25322	105615	No	4.01	Si
SLU 82	-1.95	-3890.56	-196419	-157135	25945	4.965	4.965	-70330	10833	75758	81562	80293	25322	105615	No	4.07	Si
SLU 82	0.15	25144.82	-151752	-121402	26438	4.965	4.965	-54337	10833	61465	81562	80293	25322	105615	No	3.99	Si
SLU 81	-1.95	-3992.85	-196408	-157126	26003	4.965	4.965	-70326	10833	75755	81562	80293	25322	105615	No	4.06	Si
SLU 81	0.15	24993.15	-151713	-121370	26495	4.965	4.965	-54322	10833	61453	81562	80293	25322	105615	No	3.99	Si
SLU 74	-1.95	-4132.91	-192331	-153865	25807	4.965	4.965	-68866	10833	74450	81562	80293	25322	105615	No	4.09	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	0.15	24328.44	-148017	-118414	26291	4.965	4.965	-52999	10833	60270	81562	80293	25322	105615	No	4.02	Si
SLU 78	-1.95	-4106.77	-194411	-155528	26020	4.965	4.965	-69611	10833	75116	81562	80293	25322	105615	No	4.06	Si
SLU 78	0.15	24754.53	-149752	-119802	26510	4.965	4.965	-53621	10833	60825	81562	80293	25322	105615	No	3.98	Si
SLU 84	-1.95	-3966.72	-198488	-158790	26216	4.965	4.965	-71071	10833	76420	81562	80293	25322	105615	No	4.03	Si
SLU 84	0.15	25419.24	-153448	-122758	26714	4.965	4.965	-54944	10833	62008	81562	80293	25322	105615	No	3.95	Si
SLU 75	-1.95	-4030.62	-192342	-153873	25750	4.965	4.965	-68870	10833	74454	81562	80293	25322	105615	No	4.1	Si
SLU 75	0.15	24480.11	-148057	-118445	26234	4.965	4.965	-53013	10833	60283	81562	80293	25322	105615	No	4.03	Si
SLU 79	-1.95	-4162.74	-193360	-154688	25914	4.965	4.965	-69235	10833	74779	81562	80293	25322	105615	No	4.08	Si
SLU 79	0.15	24485.33	-148879	-119103	26401	4.965	4.965	-53308	10833	60546	81562	80293	25322	105615	No	4	Si
SLU 83	-1.95	-4069	-198477	-158781	26273	4.965	4.965	-71067	10833	76417	81562	80293	25322	105615	No	4.02	Si
SLU 83	0.15	25267.57	-153408	-122726	26771	4.965	4.965	-54930	10833	61995	81562	80293	25322	105615	No	3.95	Si
SLU 77	-1.95	-4209.06	-194399	-155520	26077	4.965	4.965	-69607	10833	75112	81562	80293	25322	105615	No	4.05	Si
SLU 77	0.15	24602.86	-149712	-119770	26567	4.965	4.965	-53606	10833	60813	81562	80293	25322	105615	No	3.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	-1.95	44217.98	-104214	-83371	27194	4.965	4.965	-37315	16250	52707	81562	120440	25322	134269		4.94	Si
SLV 2	0.15	25030.65	-80158	-64126	26161	4.965	4.965	-28702	16250	45010	81562	120440	25322	126571		4.84	Si
SLD 1	-1.95	26783.15	-114370	-91496	24501	4.965	4.965	-40952	16250	55957	81562	120440	25322	137519		5.61	Si
SLD 1	0.15	21085.47	-87350	-69880	24077	4.965	4.965	-31277	16250	47311	81562	120440	25322	128872		5.35	Si
SLV 3	-1.95	38400.9	-102450	-81960	29520	4.965	4.965	-36683	16250	52143	81562	120440	25322	133704		4.53	Si
SLV 3	0.15	17876.11	-77050	-61640	28487	4.965	4.965	-27589	16250	44015	81562	120440	25322	125577		4.41	Si
SLD 3	-1.95	23628.32	-113438	-90750	25483	4.965	4.965	-40618	16250	55659	81562	120440	25322	137220		5.38	Si
SLD 3	0.15	17534.62	-85796	-68637	25057	4.965	4.965	-30720	16250	46814	81562	120440	25322	128375		5.12	Si
SLD 4	-1.95	23889.96	-113555	-90844	25068	4.965	4.965	-40660	16250	55696	81562	120440	25322	137258		5.48	Si
SLD 4	0.15	18230.83	-86090	-68872	24640	4.965	4.965	-30826	16250	46908	81562	120440	25322	128470		5.21	Si
SLV 1	-1.95	43805.56	-104030	-83224	27849	4.965	4.965	-37249	16250	52648	81562	120440	25322	134210		4.82	Si
SLV 1	0.15	23933.24	-79694	-63755	26818	4.965	4.965	-28535	16250	44861	81562	120440	25322	126423		4.71	Si
SLV 7	-1.95	1102.86	-121325	-97060	24384	4.965	4.965	-43442	16250	58183	81562	120440	25322	139744		5.73	Si
SLV 7	0.15	7554.82	-89736	-71789	24308	4.965	4.965	-32131	16250	48074	81562	120440	25322	129636		5.33	Si
SLD 2	-1.95	27044.79	-114487	-91590	24086	4.965	4.965	-40994	16250	55995	81562	120440	25322	137556		5.71	Si
SLD 2	0.15	21781.68	-87644	-70115	23660	4.965	4.965	-31382	16250	47405	81562	120440	25322	128967		5.45	Si
SLV 8	-1.95	1380.51	-121449	-97159	23943	4.965	4.965	-43486	16250	58222	81562	120440	25322	139784		5.84	Si
SLV 8	0.15	8293.62	-90048	-72039	23866	4.965	4.965	-32243	16250	48174	81562	120440	25322	129736		5.44	Si
SLV 4	-1.95	38813.32	-102635	-82108	28865	4.965	4.965	-36750	16250	52202	81562	120440	25322	133763		4.63	Si
SLV 4	0.15	18973.51	-77514	-62011	27830	4.965	4.965	-27755	16250	44164	81562	120440	25322	125725		4.52	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-86110	0.24	305.92	15300.56	20675.62	17988.09	58.8	Si
SLV 4	-86465	0.24	305.92	15346.8	20749.72	18048.26	59	Si
SLV 1	-88330	0.24	305.92	15587.35	21138.89	18363.12	60.03	Si
SLV 2	-88686	0.24	305.92	15632.72	21212.99	18422.86	60.22	Si
SLV 7	-100488	0.24	305.92	17061.45	23537.02	20299.23	66.36	Si
SLV 8	-100727	0.24	305.92	17088.82	23581.71	20335.26	66.47	Si
SLV 5	-107889	0.24	305.92	17879.38	24920.64	21400.01	69.95	Si
SLV 6	-108129	0.24	305.92	17904.8	24965.35	21435.08	70.07	Si
SLV 11	-114982	0.24	305.92	18606.7	26204.48	22405.59	73.24	Si
SLV 12	-115221	0.24	305.92	18630.26	26246.83	22438.54	73.35	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-103767	-163321	20	0.343	11408.6	0.977	5.10791	2.7151	Si
SLV 13	-103349	-163137	17	0.344	11366.1	0.977	5.12367	2.7151	Si
SLV 16	-101619	-161742	122	0.348	11189.8	0.977	5.17348	2.7151	Si
SLV 15	-101201	-161557	119	0.349	11147.2	0.977	5.18982	2.7151	Si
SLV 10	-95157	-144446	-130	0.365	10531.6	0.975	5.43219	2.58901	Si
SLV 9	-94876	-144322	-132	0.365	10502.9	0.975	5.44393	2.58901	Si
SLV 12	-87998	-139181	209	0.385	9802.4	0.974	5.75035	2.58901	Si
SLV 11	-87716	-139057	207	0.386	9773.7	0.973	5.76476	2.58901	Si
SLV 6	-85688	-126714	-157	0.393	9567.2	0.973	5.87665	2.58901	Si
SLV 5	-85407	-126590	-159	0.394	9538.5	0.973	5.89105	2.58901	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.894	SLU 84	Si
V_SLU	3.945	SLU 83	Si
PF_SLV	4.854	SLV 2	Si
V_SLV	4.408	SLV 3	Si
PFFP_SLV	58.801	SLV 3	Si
R_SLV	1.881	SLV 14	Si

Maschio 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.709	-11.013	-3.379	L2	L4	1.33	0.3	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	-1.95	6043.61	-31920	-0.0003477	0.0003743	0.0035	1.3301	4548.43	9637.83	9637.83	1.59	No	Si
SLU 78	0.73	-1985.02	-24456	-0.0001528	0.0003743	0.0035	1.3301	6473.1	9590.5	9590.5	4.83	No	Si
SLU 76	-1.95	5973.05	-31756	-0.0003418	0.0003743	0.0035	1.3301	4610.53	9643.97	9643.97	1.61	No	Si
SLU 76	0.73	-1969.66	-24254	-0.0001512	0.0003743	0.0035	1.3301	6499.92	9567.73	9567.73	4.86	No	Si
SLU 82	-1.95	6140.46	-32603	-0.0003635	0.0003743	0.0035	1.3301	4281.28	9612.74	9612.74	1.57	No	Si
SLU 82	0.73	-2046.14	-24985	-0.0001576	0.0003743	0.0035	1.3301	6396.78	9651.39	9651.39	4.72	No	Si
SLU 83	-1.95	6178.86	-32541	-0.0003647	0.0003743	0.0035	1.3301	4306.33	9615.01	9615.01	1.56	No	Si
SLU 83	0.73	-2044.29	-24984	-0.0001575	0.0003743	0.0035	1.3301	6396.99	9651.23	9651.23	4.72	No	Si
SLU 77	-1.95	6029.17	-31642	-0.000343	0.0003743	0.0035	1.3301	4653.01	9648.24	9648.24	1.6	No	Si
SLU 77	0.73	-1968.58	-24250	-0.0001511	0.0003743	0.0035	1.3301	6500.44	9567.28	9567.28	4.86	No	Si
SLU 79	-1.95	6001.82	-31508	-0.0003398	0.0003743	0.0035	1.3301	4702.46	9653.29	9653.29	1.61	No	Si
SLU 79	0.73	-1956.85	-24115	-0.00015	0.0003743	0.0035	1.3301	6517.56	9552.27	9552.27	4.88	No	Si
SLU 80	-1.95	6016.26	-31786	-0.0003444	0.0003743	0.0035	1.3301	4599.1	9642.83	9642.83	1.6	No	Si
SLU 80	0.73	-1973.3	-24321	-0.0001517	0.0003743	0.0035	1.3301	6491.13	9575.28	9575.28	4.85	No	Si
SLU 81	-1.95	6126.02	-32325	-0.0003582	0.0003743	0.0035	1.3301	4392.09	9622.9	9622.9	1.57	No	Si
SLU 81	0.73	-2029.69	-24779	-0.0001559	0.0003743	0.0035	1.3301	6427.7	9627.34	9627.34	4.74	No	Si
SLU 75	-1.95	5990.77	-31704	-0.000342	0.0003743	0.0035	1.3301	4629.81	9645.9	9645.9	1.61	No	Si
SLU 75	0.73	-1970.42	-24251	-0.0001512	0.0003743	0.0035	1.3301	6500.26	9567.43	9567.43	4.86	No	Si
SLU 84	-1.95	6193.3	-32819	-0.0003702	0.0003743	0.0035	1.3301	4193.55	9604.93	9604.93	1.55	No	Si
SLU 84	0.73	-2060.74	-25191	-0.0001592	0.0003743	0.0035	1.3301	6364.68	9675.61	9675.61	4.7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	-1.95	2992.23	-2005	-0.0251083	0.0005615	0.0035	1.0641		1389.23	1389.23	0.46		No
SLV 12	0.73	-102.07	-414	-0.0000032	0.0005615	0.0035	1.3301		755.07	755.07	7.4		Si
SLD 8	-1.95	3285.3	-10438	-0.0001053	0.0005615	0.0035	1.3301		6010.35	6010.35	1.83		Si
SLD 8	0.73	68.99	-5080	-0.0000203	0.0005615	0.0035	1.3301		3252.67	3252.67	47.14		Si
SLD 12	-1.95	3477.11	-10221	-0.0001118	0.0005615	0.0035	1.3301		5901.81	5901.81	1.7		Si
SLD 12	0.73	-636.59	-7175	-0.0000383	0.0005615	0.0035	1.3301		4807.56	4807.56	7.55		Si
SLD 11	-1.95	3484.95	-10149	-0.0001122	0.0005615	0.0035	1.3301		5866.14	5866.14	1.68		Si
SLD 11	0.73	-745.68	-7432	-0.0000412	0.0005615	0.0035	1.3301		4944.97	4944.97	6.63		Si
SLD 7	-1.95	3293.14	-10366	-0.0001055	0.0005615	0.0035	1.3301		5974.57	5974.57	1.81		Si
SLD 7	0.73	-40.1	-5337	-0.0000208	0.0005615	0.0035	1.3301		3769.97	3769.97	94.01		Si
SLV 7	-1.95	2702.43	-2231	-0.0189031	0.0005615	0.0035	1.0641		1531.73	1531.73	0.57		No
SLV 7	0.73	821.66	2428	0.2991999	0.0005615	0.0035	1.0641		0	0	0		No
SLV 16	-1.95	4251.17	-15452	-0.0001446	0.0005615	0.0035	1.3301		8328.2	8328.2	1.96		Si
SLV 16	0.73	-2523.85	-16391	-0.0001121	0.0005615	0.0035	1.3301		9193.96	9193.96	3.64		Si
SLV 8	-1.95	2689.51	-2349	-0.0176837	0.0005615	0.0035	1.0641		1605.75	1605.75	0.6		No
SLV 8	0.73	1001.43	2852	0.350856	0.0005615	0.0035	1.0641		0	0	0		No
SLV 11	-1.95	3005.16	-1887	-0.0263737	0.0005615	0.0035	1.0641		1314.96	1314.96	0.44		No
SLV 11	0.73	-281.84	-838	-0.0000084	0.0005615	0.0035	1.3301		1028.38	1028.38	3.65		Si
SLV 15	-1.95	4270.37	-15276	-0.0001446	0.0005615	0.0035	1.3301		8260.51	8260.51	1.93		Si
SLV 15	0.73	-2790.89	-17021	-0.0001202	0.0005615	0.0035	1.3301		9445.9	9445.9	3.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	-1.95	6178.86	-32541	-27403	8975	1.3301	1.3301	-68675	10833	8588	28547	11948	3392	15340	No	1.71	Si
SLU 83	0.73	-2044.29	-24984	-21039	9221	1.3301	1.3301	-52727	10833	6891	28547	11948	3392	15340	No	1.66	Si
SLU 78	-1.95	6043.61	-31920	-26880	8776	1.3301	1.3301	-67366	10833	8448	28547	11948	3392	15340	No	1.75	Si
SLU 78	0.73	-1985.02	-24456	-20595	8967	1.3301	1.3301	-51614	10833	6772	28547	11948	3392	15340	No	1.71	Si
SLU 74	-1.95	5976.33	-31426	-26464	8687	1.3301	1.3301	-66322	10833	8337	28547	11948	3392	15340	No	1.77	Si
SLU 74	0.73	-1953.97	-24045	-20248	8902	1.3301	1.3301	-50744	10833	6680	28547	11948	3392	15340	No	1.72	Si
SLU 82	-1.95	6140.46	-32603	-27455	8910	1.3301	1.3301	-68807	10833	8602	28547	11948	3392	15340	No	1.72	Si
SLU 82	0.73	-2046.14	-24985	-21040	9132	1.3301	1.3301	-52730	10833	6891	28547	11948	3392	15340	No	1.68	Si
SLU 77	-1.95	6029.17	-31642	-26646	8764	1.3301	1.3301	-66778	10833	8386	28547	11948	3392	15340	No	1.75	Si
SLU 77	0.73	-1968.58	-24250	-20421	8979	1.3301	1.3301	-51177	10833	6726	28547	11948	3392	15340	No	1.71	Si
SLU 81	-1.95	6126.02	-32325	-27221	8898	1.3301	1.3301	-68219	10833	8539	28547	11948	3392	15340	No	1.72	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.73	-2029.69	-24779	-20866	9144	1.3301	1.3301	-52293	10833	6845	28547	11948	3392	15340	No	1.68	Si
SLU 79	-1.95	6001.82	-31508	-26533	8725	1.3301	1.3301	-66495	10833	8356	28547	11948	3392	15340	No	1.76	Si
SLU 79	0.73	-1956.85	-24115	-20307	8943	1.3301	1.3301	-50892	10833	6696	28547	11948	3392	15340	No	1.72	Si
SLU 75	-1.95	5990.77	-31704	-26698	8699	1.3301	1.3301	-66910	10833	8400	28547	11948	3392	15340	No	1.76	Si
SLU 75	0.73	-1970.42	-24251	-20422	8890	1.3301	1.3301	-51180	10833	6726	28547	11948	3392	15340	No	1.73	Si
SLU 84	-1.95	6193.3	-32819	-27637	8987	1.3301	1.3301	-69263	10833	8650	28547	11948	3392	15340	No	1.71	Si
SLU 84	0.73	-2060.74	-25191	-21213	9209	1.3301	1.3301	-53163	10833	6937	28547	11948	3392	15340	No	1.67	Si
SLU 80	-1.95	6016.26	-31786	-26767	8737	1.3301	1.3301	-67083	10833	8418	28547	11948	3392	15340	No	1.76	Si
SLU 80	0.73	-1973.3	-24321	-20481	8931	1.3301	1.3301	-51329	10833	6742	28547	11948	3392	15340	No	1.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	-1.95	4270.37	-15276	-12864	7087	1.3301	1.1565	-32239	16250	5638	28547	17923	3392	21314		3.01	Si
SLV 15	0.73	-2790.89	-17021	-14333	9064	1.3301	1.3301	-35921	16250	6484	28547	17923	3392	21314		2.35	Si
SLD 16	-1.95	4231.16	-18084	-15228	6621	1.3301	1.2932	-38164	16250	6304	28547	17923	3392	21314		3.22	Si
SLD 16	0.73	-2118.9	-16734	-14092	7846	1.3301	1.3301	-35315	16250	6484	28547	17923	3392	21314		2.72	Si
SLV 16	-1.95	4251.17	-15452	-13012	6897	1.3301	1.1697	-32609	16250	5702	28547	17923	3392	21314		3.09	Si
SLV 16	0.73	-2523.85	-16391	-13803	8739	1.3301	1.3301	-34591	16250	6484	28547	17923	3392	21314		2.44	Si
SLV 13	-1.95	5049.42	-27122	-22839	8335	1.3301	1.3301	-57238	16250	8011	28547	17923	3392	21314		2.56	Si
SLV 13	0.73	-3800.6	-27538	-23190	9980	1.3301	1.3301	-58116	16250	8105	28547	17923	3392	21314		2.14	Si
SLV 9	-1.95	5602	-41372	-34839	8651	1.3301	1.3301	-87312	16250	11211	28547	17923	3392	21314		2.46	Si
SLV 9	0.73	-3647.55	-35894	-30226	8769	1.3301	1.3301	-75751	16250	9981	28547	17923	3392	21314		2.43	Si
SLV 14	-1.95	5030.22	-27297	-22987	8145	1.3301	1.3301	-57608	16250	8050	28547	17923	3392	21314		2.62	Si
SLV 14	0.73	-3533.56	-26907	-22659	9656	1.3301	1.3301	-56786	16250	7963	28547	17923	3392	21314		2.21	Si
SLD 14	-1.95	4687.54	-25024	-21072	7350	1.3301	1.3301	-52810	16250	7540	28547	17923	3392	21314		2.9	Si
SLD 14	0.73	-2709.73	-22892	-19278	8379	1.3301	1.3301	-48313	16250	7061	28547	17923	3392	21314		2.54	Si
SLV 10	-1.95	5589.07	-41490	-34939	8524	1.3301	1.3301	-87561	16250	11237	28547	17923	3392	21314		2.5	Si
SLV 10	0.73	-3467.77	-35469	-29869	8551	1.3301	1.3301	-74856	16250	9886	28547	17923	3392	21314		2.49	Si
SLD 15	-1.95	4243.34	-17972	-15135	6741	1.3301	1.2868	-37929	16250	6273	28547	17923	3392	21314		3.16	Si
SLD 15	0.73	-2288.32	-17133	-14428	8052	1.3301	1.3301	-36159	16250	6484	28547	17923	3392	21314		2.65	Si
SLD 13	-1.95	4699.72	-24912	-20979	7470	1.3301	1.3301	-52576	16250	7515	28547	17923	3392	21314		2.85	Si
SLD 13	0.73	-2879.14	-23292	-19614	8585	1.3301	1.3301	-49156	16250	7151	28547	17923	3392	21314		2.48	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	2337	-933	55.69	137.75	2.47	Si
SLV 8	179667	0.24	2443	-975	55.69	143.86	2.58	Si
SLV 11	179667	0.24	3419	-1364	55.69	200.06	3.59	Si
SLV 12	179667	0.24	3524	-1406	55.69	206.08	3.7	Si
SLV 3	179667	0.24	28782	-11484	55.69	1398.01	25.1	Si
SLV 4	179667	0.24	28938	-11547	55.69	1403.83	25.21	Si
SLV 15	179667	0.24	32388	-12923	55.69	1527.39	27.42	Si
SLV 16	179667	0.24	32544	-12986	55.69	1532.78	27.52	Si
SLV 1	179667	0.24	52552	-20969	55.69	2063.02	37.04	Si
SLV 2	179667	0.24	52708	-21032	55.69	2065.93	37.09	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-35894	-41372	301	0.252	3806.7	0.987	3.70867	2.74522	Si
SLV 10	-35469	-41490	291	0.255	3763.5	0.987	3.74665	2.74522	Si
SLV 5	-32628	-41716	226	0.273	3473.8	0.986	4.02686	2.74522	Si
SLV 6	-32203	-41834	216	0.276	3430.6	0.986	4.07275	2.74522	Si
SLV 13	-27538	-27122	293	0.31	2955.1	0.984	4.57481	2.95341	Si
SLV 14	-26907	-27297	279	0.316	2890.9	0.984	4.6687	2.95341	Si
SLV 15	-17021	-15276	209	0.463	1883.6	0.975	6.89627	2.95341	Si
SLV 16	-16391	-15452	195	0.478	1819.4	0.974	7.13459	2.95341	Si
SLV 1	-16651	-28269	42	0.481	1845.9	0.975	7.16806	2.95341	Si
SLV 2	-16021	-28444	28	0.497	1781.7	0.974	7.42201	2.95341	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.551	SLU 84	Si
V_SLU	1.664	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	2.136	SLV 13	Si
PFFP_SLV	2.473	SLV 7	Si
R_SLV	1.351	SLV 9	Si

Maschio 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-3.379	-11.013	-0.354	L2	Z medio 36 cm	3.025	0.3	2.313	1.947	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	-1.95	-3535.76	-39725	-0.0000859	0.0003743	0.0035	3.0249	34249.11	43509.12	43509.12	12.31	No	Si
SLU 44	0	-720.13	-45682	-0.0000875	0.0003743	0.0035	3.0249	34930.25	46339.87	46339.87	64.35	No	Si
SLU 55	-1.95	-3635.37	-44902	-0.0000977	0.0003743	0.0035	3.0249	34907.18	45947.3	45947.3	12.64	No	Si
SLU 55	0	-669.95	-51961	-0.0001013	0.0003743	0.0035	3.0249	34390.49	48763.38	48763.38	72.79	No	Si
SLU 82	-1.95	-3775.9	-51129	-0.0001126	0.0003743	0.0035	3.0249	34536.17	48587.14	48587.14	12.87	No	Si
SLU 82	0	-612.39	-59282	-0.0001184	0.0003743	0.0035	3.0249	32131.28	50541.95	50541.95	82.53	No	Si
SLU 61	-1.95	-3670.62	-46278	-0.0001009	0.0003743	0.0035	3.0249	34934.47	46644.4	46644.4	12.71	No	Si
SLU 61	0	-592.6	-53779	-0.0001052	0.0003743	0.0035	3.0249	33993.09	49167.09	49167.09	82.97	No	Si
SLU 52	-1.95	-3700.09	-44438	-0.0000969	0.0003743	0.0035	3.0249	34883.98	45716.63	45716.63	12.36	No	Si
SLU 52	0	-729.41	-51386	-0.0001003	0.0003743	0.0035	3.0249	34493.55	48641.06	48641.06	66.69	No	Si
SLU 73	-1.95	-3805.36	-49289	-0.0001084	0.0003743	0.0035	3.0249	34777.93	48216.03	48216.03	12.67	No	Si
SLU 73	0	-749.2	-56888	-0.0001132	0.0003743	0.0035	3.0249	33062.88	49915.65	49915.65	66.63	No	Si
SLU 65	-1.95	-3641.04	-44576	-0.000097	0.0003743	0.0035	3.0249	34891.64	45785.2	45785.2	12.57	No	Si
SLU 65	0	-739.91	-51184	-0.0000998	0.0003743	0.0035	3.0249	34527.23	48598.63	48598.63	65.68	No	Si
SLU 76	-1.95	-3740.64	-49753	-0.0001092	0.0003743	0.0035	3.0249	34727.37	48307.26	48307.26	12.91	No	Si
SLU 76	0	-689.74	-57463	-0.0001143	0.0003743	0.0035	3.0249	32856.3	50062.06	50062.06	72.58	No	Si
SLU 68	-1.95	-3576.32	-45041	-0.0000977	0.0003743	0.0035	3.0249	34912.73	46016.58	46016.58	12.87	No	Si
SLU 68	0	-680.45	-51759	-0.0001009	0.0003743	0.0035	3.0249	34427.97	48720.07	48720.07	71.6	No	Si
SLU 47	-1.95	-3471.04	-40189	-0.0000867	0.0003743	0.0035	3.0249	34343.96	43715.83	43715.83	12.59	No	Si
SLU 47	0	-660.67	-46256	-0.0000885	0.0003743	0.0035	3.0249	34934.51	46633.48	46633.48	70.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-1.95	-11599.7	-54254	-0.0001422	0.0005615	0.0035	3.0249		60282.3	60282.3	5.2		Si
SLV 10	0	-15266.03	-47270	-0.0001414	0.0005615	0.0035	3.0249		55415.96	55415.96	3.63		Si
SLD 8	-1.95	2540	-22552	-0.0000467	0.0005615	0.0035	3.0249		29710.36	29710.36	11.7		Si
SLD 8	0	8404.98	-35192	-0.0000909	0.0005615	0.0035	3.0249		43061.19	43061.19	5.12		Si
SLV 5	-1.95	-11766.28	-53503	-0.0001412	0.0005615	0.0035	3.0249		59743.24	59743.24	5.08		Si
SLV 5	0	-15335	-45241	-0.0001373	0.0005615	0.0035	3.0249		54062.96	54062.96	3.53		Si
SLV 7	-1.95	6334.66	-14193	-0.0000448	0.0005615	0.0035	3.0249		20248.16	20248.16	3.2		Si
SLV 7	0	14672.59	-32118	-0.0001077	0.0005615	0.0035	3.0249		40343.37	40343.37	2.75		Si
SLV 11	-1.95	6635.08	-14814	-0.0000469	0.0005615	0.0035	3.0249		21029.8	21029.8	3.17		Si
SLV 11	0	14844.78	-34154	-0.0001124	0.0005615	0.0035	3.0249		42139.06	42139.06	2.84		Si
SLV 8	-1.95	6200.82	-14323	-0.0000446	0.0005615	0.0035	3.0249		20415.66	20415.66	3.29		Si
SLV 8	0	14569.36	-32109	-0.0001073	0.0005615	0.0035	3.0249		40336	40336	2.77		Si
SLD 7	-1.95	2621.22	-22473	-0.0000469	0.0005615	0.0035	3.0249		29619.88	29619.88	11.3		Si
SLD 7	0	8467.62	-35197	-0.0000911	0.0005615	0.0035	3.0249		43065.73	43065.73	5.09		Si
SLV 9	-1.95	-11465.86	-54124	-0.0001414	0.0005615	0.0035	3.0249		60188.57	60188.57	5.25		Si
SLV 9	0	-15162.81	-47278	-0.000141	0.0005615	0.0035	3.0249		55421.62	55421.62	3.66		Si
SLV 6	-1.95	-11900.12	-53634	-0.000142	0.0005615	0.0035	3.0249		59836.59	59836.59	5.03		Si
SLV 6	0	-15438.23	-45233	-0.0001377	0.0005615	0.0035	3.0249		54057.4	54057.4	3.5		Si
SLV 12	-1.95	6501.24	-14944	-0.0000467	0.0005615	0.0035	3.0249		21182.99	21182.99	3.26		Si
SLV 12	0	14741.55	-34146	-0.000112	0.0005615	0.0035	3.0249		42131.61	42131.61	2.86		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	-1.95	-3700.09	-44438	-37421	-4269	3.0249	3.0249	-41236	10833	19336	26168	27174	7714	34887	No	8.17	Si
SLU 52	0	-729.41	-51386	-43272	1294	3.0249	3.0249	-47684	10833	21677	26168	27174	7714	34887	No	26.95	Si
SLU 84	-1.95	-3711.18	-51593	-43447	-4466	3.0249	3.0249	-47877	10833	21747	26168	27174	7714	34887	No	7.81	Si
SLU 84	0	-552.93	-59856	-50405	2013	3.0249	3.0249	-55544	10833	24530	26168	27174	7714	34887	No	17.33	Si
SLU 55	-1.95	-3635.37	-44902	-37812	-4269	3.0249	3.0249	-41667	10833	19493	26168	27174	7714	34887	No	8.17	Si
SLU 55	0	-669.95	-51961	-43756	1344	3.0249	3.0249	-48218	10833	21870	26168	27174	7714	34887	No	25.95	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	-1.95	-3805.36	-49289	-41507	-4497	3.0249	3.0249	-45738	10833	20971	26168	27174	7714	34887	No	7.76	Si
SLU 73	0	-749.2	-56888	-47906	1678	3.0249	3.0249	-52790	10833	23530	26168	27174	7714	34887	No	20.79	Si
SLU 78	-1.95	-3583.58	-50260	-42324	-4293	3.0249	3.0249	-46639	10833	21298	26168	27174	7714	34887	No	8.13	Si
SLU 78	0	-487.36	-58271	-49070	2026	3.0249	3.0249	-54073	10833	23996	26168	27174	7714	34887	No	17.22	Si
SLU 63	-1.95	-3605.9	-46742	-39362	-4238	3.0249	3.0249	-43375	10833	20113	26168	27174	7714	34887	No	8.23	Si
SLU 63	0	-533.14	-54354	-45772	1629	3.0249	3.0249	-50438	10833	22677	26168	27174	7714	34887	No	21.41	Si
SLU 80	-1.95	-3576.03	-50038	-42137	-4292	3.0249	3.0249	-46433	10833	21223	26168	27174	7714	34887	No	8.13	Si
SLU 80	0	-489.49	-57986	-48830	1997	3.0249	3.0249	-53809	10833	23900	26168	27174	7714	34887	No	17.47	Si
SLU 76	-1.95	-3740.64	-49753	-41898	-4497	3.0249	3.0249	-46169	10833	21127	26168	27174	7714	34887	No	7.76	Si
SLU 76	0	-689.74	-57463	-48390	1728	3.0249	3.0249	-53324	10833	23724	26168	27174	7714	34887	No	20.19	Si
SLU 82	-1.95	-3775.9	-51129	-43056	-4466	3.0249	3.0249	-47446	10833	21590	26168	27174	7714	34887	No	7.81	Si
SLU 82	0	-612.39	-59282	-49921	1963	3.0249	3.0249	-55011	10833	24336	26168	27174	7714	34887	No	17.77	Si
SLU 75	-1.95	-3648.3	-49796	-41933	-4293	3.0249	3.0249	-46208	10833	21141	26168	27174	7714	34887	No	8.13	Si
SLU 75	0	-546.82	-57696	-48587	1976	3.0249	3.0249	-53540	10833	23802	26168	27174	7714	34887	No	17.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-1.95	-11465.86	-54124	-45578	-20077	3.0249	3.0249	-50225	16250	24783	26168	40761	7714	48474		2.41	Si
SLV 9	0	-15162.81	-47278	-39813	-16164	3.0249	3.0249	-43872	16250	22477	26168	40761	7714	48474		3	Si
SLV 6	-1.95	-11900.12	-53634	-45165	-19148	3.0249	3.0249	-49770	16250	24618	26168	40761	7714	48474		2.53	Si
SLV 6	0	-15438.23	-45233	-38091	-17108	3.0249	3.0249	-41975	16250	21789	26168	40761	7714	47956		2.8	Si
SLV 7	-1.95	6334.66	-14193	-11952	14546	3.0249	3.0249	-13170	13051	11843	26168	40761	7714	38011		2.61	Si
SLV 7	0	14672.59	-32118	-27047	19578	3.0249	3.0249	-29804	16250	17371	26168	40761	7714	43539		2.22	Si
SLV 10	-1.95	-11599.7	-54254	-45688	-20179	3.0249	3.0249	-50346	16250	24827	26168	40761	7714	48474		2.4	Si
SLV 10	0	-15266.03	-47270	-39806	-16468	3.0249	3.0249	-43864	16250	22475	26168	40761	7714	48474		2.94	Si
SLV 5	-1.95	-11766.28	-53503	-45055	-19045	3.0249	3.0249	-49649	16250	24574	26168	40761	7714	48474		2.55	Si
SLV 5	0	-15335	-45241	-38098	-16803	3.0249	3.0249	-41982	16250	21791	26168	40761	7714	47959		2.85	Si
SLD 11	-1.95	2810.52	-22867	-19256	6733	3.0249	3.0249	-21219	14661	14255	26168	40761	7714	40423		6	Si
SLD 11	0	8576.72	-36501	-30738	12512	3.0249	3.0249	-33871	16250	18847	26168	40761	7714	45015		3.6	Si
SLV 8	-1.95	6200.82	-14323	-12062	14443	3.0249	3.0249	-13292	13075	11865	26168	40761	7714	38033		2.63	Si
SLV 8	0	14569.36	-32109	-27039	19273	3.0249	3.0249	-29796	16250	17368	26168	40761	7714	43536		2.26	Si
SLV 12	-1.95	6501.24	-14944	-12585	13412	3.0249	3.0249	-13868	13190	11970	26168	40761	7714	38137		2.84	Si
SLV 12	0	14741.55	-34146	-28754	19913	3.0249	3.0249	-31686	16250	18054	26168	40761	7714	44222		2.22	Si
SLV 11	-1.95	6635.08	-14814	-12475	13514	3.0249	3.0249	-13747	13166	11948	26168	40761	7714	38116		2.82	Si
SLV 11	0	14844.78	-34154	-28762	20217	3.0249	3.0249	-31694	16250	18057	26168	40761	7714	44225		2.19	Si
SLD 12	-1.95	2729.3	-22946	-19323	6671	3.0249	3.0249	-21293	14675	14282	26168	40761	7714	40449		6.06	Si
SLD 12	0	8514.08	-36496	-30733	12327	3.0249	3.0249	-33867	16250	18846	26168	40761	7714	45013		3.65	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.977 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	25209	-22877	94.39	2865.09	30.35	Si
SLV 8	179667	0.24	25316	-22974	94.39	2874.78	30.46	Si
SLV 11	179667	0.24	26748	-24273	94.39	3003.24	31.82	Si
SLV 12	179667	0.24	26854	-24369	94.39	3012.64	31.92	Si
SLV 3	179667	0.24	35409	-32133	94.39	3702.37	39.23	Si
SLV 4	179667	0.24	35567	-32276	94.39	3713.89	39.35	Si
SLV 15	179667	0.24	40536	-36786	94.39	4053.24	42.94	Si
SLV 16	179667	0.24	40694	-36929	94.39	4063.31	43.05	Si
SLV 1	179667	0.24	45712	-41482	94.39	4359.85	46.19	Si
SLV 2	179667	0.24	45870	-41626	94.39	4368.47	46.28	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.977 Wa = 0.05 Ta = 0.0298

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-45063	-41058	220	0.425	4884.4	0.981	6.29076	2.7071	Si
SLV 14	-45050	-41252	218	0.425	4883.2	0.981	6.29271	2.7071	Si
SLV 9	-47278	-54124	66	0.412	5110.2	0.982	6.09182	2.56618	Si
SLV 10	-47270	-54254	65	0.412	5109.3	0.982	6.09304	2.56618	Si
SLV 5	-45241	-53503	-54	0.427	4902.7	0.981	6.32202	2.56618	Si
SLV 6	-45233	-53634	-55	0.427	4901.8	0.981	6.32266	2.56618	Si
SLV 15	-41126	-29265	230	0.457	4483.3	0.979	6.78615	2.7071	Si
SLV 16	-41113	-29459	229	0.457	4482	0.979	6.78843	2.7071	Si
SLV 1	-38274	-38989	-182	0.486	4192.8	0.978	7.2274	2.7071	Si
SLV 2	-38262	-39182	-184	0.486	4191.5	0.978	7.2288	2.7071	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.305	SLU 44	Si
V_SLU	7.757	SLU 76	Si
PF_SLV	2.75	SLV 7	Si
V_SLV	2.187	SLV 11	Si
PFFP_SLV	30.355	SLV 7	Si
R_SLV	2.324	SLV 13	Si

Maschio 33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-0.354	-11.013	1.141	L2	L4	1.495	0.3	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	-1.95	3191.73	-32338	-0.0001956	0.0003743	0.0035	1.495	7053.64	12315.54	12315.54	3.86	No	Si
SLU 82	0.73	-3544.34	-35686	-0.0002273	0.0003743	0.0035	1.495	5828.16	12386.21	12386.21	3.49	No	Si
SLU 81	-1.95	3343.68	-32484	-0.0001999	0.0003743	0.0035	1.495	7007.87	12309.56	12309.56	3.68	No	Si
SLU 81	0.73	-3674.59	-35802	-0.0002313	0.0003743	0.0035	1.495	5779.09	12386.9	12386.9	3.37	No	Si
SLU 56	-1.95	3110.06	-28918	-0.0001726	0.0003743	0.0035	1.495	7926.79	12102.55	12102.55	3.89	No	Si
SLU 56	0.73	-3507.29	-31718	-0.0001983	0.0003743	0.0035	1.495	7240.29	12398.6	12398.6	3.54	No	Si
SLU 74	-1.95	3310.99	-31733	-0.0001942	0.0003743	0.0035	1.495	7235.85	12340.65	12340.65	3.73	No	Si
SLU 74	0.73	-3604.39	-34787	-0.0002219	0.0003743	0.0035	1.495	6193.29	12382.89	12382.89	3.44	No	Si
SLU 60	-1.95	3110.81	-29324	-0.0001751	0.0003743	0.0035	1.495	7843.09	12163.27	12163.27	3.91	No	Si
SLU 60	0.73	-3549.69	-32307	-0.0002032	0.0003743	0.0035	1.495	7063.38	12392.34	12392.34	3.49	No	Si
SLU 62	-1.95	3142.74	-29668	-0.0001778	0.0003743	0.0035	1.495	7768.02	12215.22	12215.22	3.89	No	Si
SLU 62	0.73	-3577.49	-32733	-0.0002067	0.0003743	0.0035	1.495	6928.07	12388.77	12388.77	3.46	No	Si
SLU 77	-1.95	3342.93	-32078	-0.0001972	0.0003743	0.0035	1.495	7133.63	12326.3	12326.3	3.69	No	Si
SLU 77	0.73	-3632.19	-35213	-0.0002258	0.0003743	0.0035	1.495	6023.35	12384.02	12384.02	3.41	No	Si
SLU 83	-1.95	3375.61	-32828	-0.0002029	0.0003743	0.0035	1.495	6897.2	12295.55	12295.55	3.64	No	Si
SLU 83	0.73	-3702.39	-36228	-0.0002353	0.0003743	0.0035	1.495	5594.97	12389.95	12389.95	3.35	No	Si
SLU 84	-1.95	3223.66	-32682	-0.0001986	0.0003743	0.0035	1.495	6944.61	12301.47	12301.47	3.82	No	Si
SLU 84	0.73	-3572.14	-36112	-0.0002312	0.0003743	0.0035	1.495	5645.65	12389.04	12389.04	3.47	No	Si
SLU 79	-1.95	3319.59	-31908	-0.0001956	0.0003743	0.0035	1.495	7184.49	12333.36	12333.36	3.72	No	Si
SLU 79	0.73	-3619.78	-35028	-0.0002241	0.0003743	0.0035	1.495	6098.01	12383.43	12383.43	3.42	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	-1.95	-7148.44	-13314	-0.0002513	0.0005615	0.0035	1.196		9011.33	9011.33	1.26		Si
SLV 9	0.73	6241.91	-17465	-0.0001663	0.0005615	0.0035	1.495		10581.8	10581.8	1.7		Si
SLV 4	-1.95	4890.1	-23150	-0.0001591	0.0005615	0.0035	1.495		13082.83	13082.83	2.68		Si
SLV 4	0.73	-6976.03	-19007	-0.0001891	0.0005615	0.0035	1.495		11805.05	11805.05	1.69		Si
SLV 5	-1.95	-7310.68	-12475	-0.0003251	0.0005615	0.0035	1.196		8563.41	8563.41	1.17		Si
SLV 5	0.73	5083.2	-13200	-0.0001315	0.0005615	0.0035	1.495		8420.86	8420.86	1.66		Si
SLV 7	-1.95	11972.15	-30552	-0.0003898	0.0005615	0.0035	1.495		15423.97	15423.97	1.29		Si
SLV 7	0.73	-11455.76	-30031	-0.0003626	0.0005615	0.0035	1.495		15497.16	15497.16	1.35		Si
SLV 12	-1.95	12018.68	-31314	-0.0003912	0.0005615	0.0035	1.495		15660.11	15660.11	1.3		Si
SLV 12	0.73	-10262.5	-34169	-0.0003265	0.0005615	0.0035	1.495		16584.89	16584.89	1.62		Si
SLV 11	-1.95	12134.38	-31392	-0.0003976	0.0005615	0.0035	1.495		15684.05	15684.05	1.29		Si
SLV 11	0.73	-10297.04	-34296	-0.0003281	0.0005615	0.0035	1.495		16608.7	16608.7	1.61		Si
SLV 6	-1.95	-7426.38	-12398	-0.0003614	0.0005615	0.0035	1.196		8520.26	8520.26	1.15		Si
SLV 6	0.73	5117.74	-13073	-0.0001327	0.0005615	0.0035	1.495		8349.26	8349.26	1.63		Si
SLV 3	-1.95	5061.97	-23265	-0.0001624	0.0005615	0.0035	1.495		13134.58	13134.58	2.59		Si
SLV 3	0.73	-7027.34	-19195	-0.0001908	0.0005615	0.0035	1.495		11890.43	11890.43	1.69		Si
SLV 8	-1.95	11856.45	-30475	-0.0003834	0.0005615	0.0035	1.495		15400	15400	1.3		Si
SLV 8	0.73	-11421.22	-29904	-0.000361	0.0005615	0.0035	1.495		15463.86	15463.86	1.35		Si
SLV 10	-1.95	-7264.15	-13237	-0.0002685	0.0005615	0.0035	1.196		8970.24	8970.24	1.23		Si
SLV 10	0.73	6276.45	-17337	-0.0001672	0.0005615	0.0035	1.495		10527.43	10527.43	1.68		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	-1.95	3342.93	-32078	-27013	6651	1.495	1.495	-60229	10833	8642	28547	13430	3812	17242	No	2.59	Si
SLU 77	0.73	-3632.19	-35213	-29653	1628	1.495	1.495	-66117	10833	9347	28547	13430	3812	17242	No	10.59	Si
SLU 81	-1.95	3343.68	-32484	-27355	6680	1.495	1.495	-60992	10833	8734	28547	13430	3812	17242	No	2.58	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.73	-3674.59	-35802	-30149	1592	1.495	1.495	-67222	10833	9479	28547	13430	3812	17242	No	10.83	Si
SLU 74	-1.95	3310.99	-31733	-26723	6585	1.495	1.495	-59583	10833	8565	28547	13430	3812	17242	No	2.62	Si
SLU 74	0.73	-3604.39	-34787	-29294	1613	1.495	1.495	-65316	10833	9251	28547	13430	3812	17242	No	10.69	Si
SLU 62	-1.95	3142.74	-29668	-24984	6385	1.495	1.495	-55705	10833	8101	28547	13430	3812	17242	No	2.7	Si
SLU 62	0.73	-3577.49	-32733	-27565	1753	1.495	1.495	-61460	10833	8790	28547	13430	3812	17242	No	9.84	Si
SLU 83	-1.95	3375.61	-32828	-27645	6746	1.495	1.495	-61638	10833	8811	28547	13430	3812	17242	No	2.56	Si
SLU 83	0.73	-3702.39	-36228	-30508	1607	1.495	1.495	-68022	10833	9575	28547	13430	3812	17242	No	10.73	Si
SLU 82	-1.95	3191.73	-32338	-27232	6357	1.495	1.495	-60718	10833	8701	28547	13430	3812	17242	No	2.71	Si
SLU 82	0.73	-3544.34	-35686	-30051	1284	1.495	1.495	-67004	10833	9453	28547	13430	3812	17242	No	13.43	Si
SLU 60	-1.95	3110.81	-29324	-24694	6319	1.495	1.495	-55059	10833	8024	28547	13430	3812	17242	No	2.73	Si
SLU 60	0.73	-3549.69	-32307	-27206	1738	1.495	1.495	-60659	10833	8694	28547	13430	3812	17242	No	9.92	Si
SLU 78	-1.95	3190.98	-31932	-26890	6327	1.495	1.495	-59955	10833	8610	28547	13430	3812	17242	No	2.73	Si
SLU 78	0.73	-3501.93	-35097	-29556	1320	1.495	1.495	-65899	10833	9321	28547	13430	3812	17242	No	13.07	Si
SLU 79	-1.95	3319.59	-31908	-26870	6612	1.495	1.495	-59910	10833	8604	28547	13430	3812	17242	No	2.61	Si
SLU 79	0.73	-3619.78	-35028	-29497	1619	1.495	1.495	-65768	10833	9305	28547	13430	3812	17242	No	10.65	Si
SLU 84	-1.95	3223.66	-32682	-27522	6423	1.495	1.495	-61364	10833	8778	28547	13430	3812	17242	No	2.68	Si
SLU 84	0.73	-3572.14	-36112	-30410	1299	1.495	1.495	-67805	10833	9549	28547	13430	3812	17242	No	13.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-1.95	-7148.44	-13314	-11212	-14912	1.196	0.6317	0	0	0	28547	16116	3050	19166		1.29	Si
SLV 9	0.73	6241.91	-17465	-14707	-17842	1.495	1.1703	-32791	16250	6081	28547	20145	3812	23957		1.34	Si
SLV 10	-1.95	-7264.15	-13237	-11147	-15175	1.196	0.5961	0	0	0	28547	16116	3050	19166		1.26	Si
SLV 10	0.73	6276.45	-17337	-14600	-18039	1.495	1.1565	-32553	16250	6052	28547	20145	3812	23957		1.33	Si
SLV 8	-1.95	11856.45	-30475	-25663	24275	1.495	1.0754	-57220	16250	9002	28547	20145	3812	23957		0.99	No
SLV 8	0.73	-11421.22	-29904	-25182	20343	1.495	1.0967	-81174	16250	8874	28547	20145	3812	23957		1.18	Si
SLV 7	-1.95	11972.15	-30552	-25728	24537	1.495	1.0669	-57365	16250	9020	28547	20145	3812	23957		0.98	No
SLV 7	0.73	-11455.76	-30031	-25289	20540	1.495	1.0981	-81441	16250	8903	28547	20145	3812	23957		1.17	Si
SLV 11	-1.95	12134.38	-31392	-26435	25449	1.495	1.0829	-58941	16250	9208	28547	20145	3812	23957		0.94	No
SLV 11	0.73	-10297.04	-34296	-28881	20869	1.495	1.3418	-75604	16250	9860	28547	20145	3812	23957		1.15	Si
SLD 12	-1.95	8020.22	-27432	-23101	16719	1.495	1.3654	-51507	16250	8319	28547	20145	3812	23957		1.43	Si
SLD 12	0.73	-7052.19	-29937	-25210	12635	1.495	1.495	-56210	16250	8882	28547	20145	3812	23957		1.9	Si
SLV 12	-1.95	12018.68	-31314	-26370	25187	1.495	1.0911	-58796	16250	9191	28547	20145	3812	23957		0.95	No
SLV 12	0.73	-10262.5	-34169	-28774	20671	1.495	1.3415	-75319	16250	9832	28547	20145	3812	23957		1.16	Si
SLV 6	-1.95	-7426.38	-12398	-10440	-16087	1.196	0.4454	0	0	0	28547	16116	3050	19166		1.19	Si
SLV 6	0.73	5117.74	-13073	-11009	-18367	1.495	1.0681	-24545	15326	5095	28547	20145	3812	23957		1.3	Si
SLD 11	-1.95	8090.43	-27479	-23140	16878	1.495	1.3592	-51595	16250	8330	28547	20145	3812	23957		1.42	Si
SLD 11	0.73	-7073.15	-30014	-25275	12755	1.495	1.495	-56355	16250	8899	28547	20145	3812	23957		1.88	Si
SLV 5	-1.95	-7310.68	-12475	-10505	-15825	1.196	0.4844	0	0	0	28547	16116	3050	19166		1.21	Si
SLV 5	0.73	5083.2	-13200	-11116	-18170	1.495	1.0872	-24784	15373	5123	28547	20145	3812	23957		1.32	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	33350	-14958	62.6	1753.68	28.01	Si
SLV 5	179667	0.24	33552	-15048	62.6	1761.32	28.14	Si
SLV 2	179667	0.24	36920	-16559	62.6	1883.35	30.09	Si
SLV 1	179667	0.24	37221	-16694	62.6	1893.74	30.25	Si
SLV 10	179667	0.24	38382	-17215	62.6	1933.2	30.88	Si
SLV 9	179667	0.24	38584	-17305	62.6	1939.94	30.99	Si
SLV 4	179667	0.24	45055	-20207	62.6	2136.84	34.13	Si
SLV 3	179667	0.24	45355	-20342	62.6	2145.08	34.27	Si
SLV 14	179667	0.24	53694	-24082	62.6	2342.23	37.42	Si
SLV 13	179667	0.24	53994	-24216	62.6	2348.18	37.51	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-33411	-26062	610	0.284	3572.1	0.985	4.18281	2.95341	Si
SLV 16	-33222	-25947	608	0.285	3552.9	0.985	4.20237	2.95341	Si
SLV 11	-34296	-31392	399	0.284	3662.3	0.985	4.18525	2.74522	Si
SLV 12	-34169	-31314	398	0.285	3649.3	0.985	4.19806	2.74522	Si
SLV 13	-28362	-20639	561	0.324	3057.6	0.983	4.79461	2.95341	Si
SLV 14	-28173	-20524	560	0.326	3038.3	0.983	4.8216	2.95341	Si
SLV 7	-30031	-30552	170	0.322	3227.7	0.983	4.76344	2.74522	Si
SLV 8	-29904	-30475	169	0.323	3214.7	0.983	4.78045	2.74522	Si
SLV 3	-19195	-23265	-153	0.466	2123.6	0.975	6.93666	2.95341	Si
SLV 4	-19007	-23150	-155	0.469	2104.4	0.975	6.99432	2.95341	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.346	SLU 83	Si
V_SLU	2.556	SLU 83	Si
PF_SLV	1.147	SLV 6	Si
V_SLV	0.941	SLV 11	No
PFFP_SLV	28.014	SLV 6	Si
R_SLV	1.416	SLV 15	Si

Maschio 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.888	6.576	-7.963	6.576	L2	L4	3.925	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	0.05	1865.28	-59817	-0.0000581	0.0003743	0.0035	3.925	78341.64	89001.56	89001.56	47.71	No	Si
SLU 49	0.45	3165.26	-64277	-0.0000646	0.0003743	0.0035	3.925	81054.35	92956.42	92956.42	29.37	No	Si
SLU 45	0.05	1830.03	-59281	-0.0000575	0.0003743	0.0035	3.925	77986.74	88349.84	88349.84	48.28	No	Si
SLU 45	0.45	3120.99	-63665	-0.0000639	0.0003743	0.0035	3.925	80707.72	92475.03	92475.03	29.63	No	Si
SLU 43	0.05	1707	-57490	-0.0000555	0.0003743	0.0035	3.925	76753.91	86180.23	86180.23	50.49	No	Si
SLU 43	0.45	2943.34	-61712	-0.0000616	0.0003743	0.0035	3.925	79547.29	90947.84	90947.84	30.9	No	Si
SLU 50	0.05	1854.31	-59836	-0.0000581	0.0003743	0.0035	3.925	78353.97	89024.45	89024.45	48.01	No	Si
SLU 50	0.45	3173.85	-64269	-0.0000646	0.0003743	0.0035	3.925	81050.1	92950.44	92950.44	29.29	No	Si
SLU 46	0.05	1791.63	-58644	-0.0000568	0.0003743	0.0035	3.925	77556.14	87576.02	87576.02	48.88	No	Si
SLU 46	0.45	3050	-62998	-0.0000631	0.0003743	0.0035	3.925	80321	91952.33	91952.33	30.15	No	Si
SLU 51	0.05	1815.91	-59198	-0.0000574	0.0003743	0.0035	3.925	77931.08	88248.8	88248.8	48.6	No	Si
SLU 51	0.45	3102.87	-63603	-0.0000638	0.0003743	0.0035	3.925	80672.18	92426.38	92426.38	29.79	No	Si
SLU 69	0.05	1915.81	-70479	-0.0000692	0.0003743	0.0035	3.925	84104.69	97866.88	97866.88	51.08	No	Si
SLU 69	0.45	3303.23	-75774	-0.000077	0.0003743	0.0035	3.925	86044.54	102146.42	102146.42	30.92	No	Si
SLU 48	0.05	1903.68	-60454	-0.0000588	0.0003743	0.0035	3.925	78755.92	89721.51	89721.51	47.13	No	Si
SLU 48	0.45	3236.24	-64944	-0.0000654	0.0003743	0.0035	3.925	81422.46	93481.99	93481.99	28.89	No	Si
SLU 71	0.05	1866.43	-69860	-0.0000685	0.0003743	0.0035	3.925	83838.11	97373.02	97373.02	52.17	No	Si
SLU 71	0.45	3240.84	-75099	-0.0000762	0.0003743	0.0035	3.925	85831.54	101596.25	101596.25	31.35	No	Si
SLU 47	0.05	1716.65	-57600	-0.0000556	0.0003743	0.0035	3.925	76832.01	86313.64	86313.64	50.28	No	Si
SLU 47	0.45	2940.29	-61880	-0.0000618	0.0003743	0.0035	3.925	79650.28	91078.57	91078.57	30.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	0.05	14408.48	-69377	-0.0000837	0.0005615	0.0035	3.925		108474.21	108474.21	7.53		Si
SLV 16	0.45	7392.71	-74396	-0.0000785	0.0005615	0.0035	3.925		114343.16	114343.16	15.47		Si
SLD 14	0.05	8554.56	-46021	-0.0000527	0.0005615	0.0035	3.925		77659.69	77659.69	9.08		Si
SLD 14	0.45	3736.78	-49649	-0.0000493	0.0005615	0.0035	3.925		83125.7	83125.7	22.25		Si
SLV 10	0.05	2060.88	-6530	-0.0000083	0.0005615	0.0035	3.925		13318.39	13318.39	6.46		Si
SLV 10	0.45	-1574.84	-7877	-0.0000088	0.0005615	0.0035	3.925		19537.69	19537.69	12.41		Si
SLV 1	0.05	-11888.17	-34414	-0.0000464	0.0005615	0.0035	3.925		65089.2	65089.2	5.48		Si
SLV 1	0.45	-2922.38	-37128	-0.0000366	0.0005615	0.0035	3.925		69311.82	69311.82	23.72		Si
SLV 2	0.05	-10540.69	-34341	-0.0000445	0.0005615	0.0035	3.925		64975.53	64975.53	6.16		Si
SLV 2	0.45	-2580.02	-37099	-0.0000361	0.0005615	0.0035	3.925		69267.05	69267.05	26.85		Si
SLV 14	0.05	12539.55	-41526	-0.000054	0.0005615	0.0035	3.925		70944.23	70944.23	5.66		Si
SLV 14	0.45	4408.59	-44963	-0.0000459	0.0005615	0.0035	3.925		76072.84	76072.84	17.26		Si
SLV 5	0.05	-5770.34	-4424	-0.0000151	0.0005615	0.0035	3.14		13076.16	13076.16	2.27		Si
SLV 5	0.45	-3901.91	-5537	-0.0000098	0.0005615	0.0035	3.925		15171.42	15171.42	3.89		Si
SLV 6	0.05	-4863.19	-4375	-0.0000115	0.0005615	0.0035	3.14		12982.97	12982.97	2.67		Si
SLV 6	0.45	-3671.42	-5517	-0.0000095	0.0005615	0.0035	3.925		15135.29	15135.29	4.12		Si
SLV 15	0.05	13061.01	-69451	-0.0000818	0.0005615	0.0035	3.925		108559.64	108559.64	8.31		Si
SLV 15	0.45	7050.35	-74425	-0.000078	0.0005615	0.0035	3.925		114376.78	114376.78	16.22		Si
SLV 13	0.05	11192.07	-41599	-0.0000522	0.0005615	0.0035	3.925		71053.3	71053.3	6.35		Si
SLV 13	0.45	4066.23	-44992	-0.0000454	0.0005615	0.0035	3.925		76115.75	76115.75	18.72		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	0.05	1865.28	-59817	-53171	-1060	3.925	3.925	-30104	10833	29770	28547	52889	10009	58317	No	55	Si
SLU 49	0.45	3165.26	-64277	-57135	-894	3.925	3.925	-32348	10833	31356	28547	52889	10009	59902	No	66.98	Si
SLU 69	0.05	1915.81	-70479	-62648	-967	3.925	3.925	-35469	10833	33561	28547	52889	10009	62107	No	64.21	Si
SLU 69	0.45	3303.23	-75774	-67354	-776	3.925	3.925	-38134	10833	35443	28547	52889	10009	62898	No	81.06	Si
SLU 47	0.05	1716.65	-57600	-51200	-935	3.925	3.925	-28988	10810	28982	28547	52889	10009	57529	No	61.52	Si
SLU 47	0.45	2940.29	-61880	-55004	-775	3.925	3.925	-31142	10833	30503	28547	52889	10009	59050	No	76.18	Si
SLU 45	0.05	1830.03	-59281	-52695	-1066	3.925	3.925	-29834	10833	29580	28547	52889	10009	58126	No	54.54	Si
SLU 45	0.45	3120.99	-63665	-56591	-902	3.925	3.925	-32040	10833	31138	28547	52889	10009	59685	No	66.19	Si
SLU 48	0.05	1903.68	-60454	-53737	-1131	3.925	3.925	-30424	10833	29997	28547	52889	10009	58543	No	51.75	Si
SLU 48	0.45	3236.24	-64944	-57728	-964	3.925	3.925	-32684	10833	31593	28547	52889	10009	60139	No	62.39	Si
SLU 46	0.05	1791.63	-58644	-52128	-995	3.925	3.925	-29513	10833	29353	28547	52889	10009	57900	No	58.21	Si
SLU 46	0.45	3050	-62998	-55998	-832	3.925	3.925	-31705	10833	30901	28547	52889	10009	59448	No	71.44	Si
SLU 51	0.05	1815.91	-59198	-52621	-1048	3.925	3.925	-29792	10833	29550	28547	52889	10009	58097	No	55.44	Si
SLU 51	0.45	3102.87	-63603	-56536	-884	3.925	3.925	-32009	10833	31116	28547	52889	10009	59663	No	67.51	Si
SLU 6	0.05	1512.96	-49831	-44294	-860	3.925	3.925	-25078	10288	26220	28547	52889	10009	54766	No	63.68	Si
SLU 6	0.45	2574.68	-53559	-47608	-723	3.925	3.925	-26954	10538	27545	28547	52889	10009	56092	No	77.57	Si
SLU 50	0.05	1854.31	-59836	-53187	-1119	3.925	3.925	-30113	10833	29777	28547	52889	10009	58323	No	52.13	Si
SLU 50	0.45	3173.85	-64269	-57128	-953	3.925	3.925	-32344	10833	31353	28547	52889	10009	59900	No	62.84	Si
SLU 43	0.05	1707	-57490	-51102	-988	3.925	3.925	-28933	10802	28943	28547	52889	10009	57489	No	58.2	Si
SLU 43	0.45	2943.34	-61712	-54855	-829	3.925	3.925	-31057	10833	30444	28547	52889	10009	58990	No	71.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	0.05	13061.01	-69451	-61734	17187	3.925	3.925	-34952	16250	37447	28547	79334	10009	65993		3.84	Si
SLV 15	0.45	7050.35	-74425	-66156	17147	3.925	3.925	-37455	16250	39215	28547	79334	10009	67762		3.95	Si
SLD 1	0.05	-7109.87	-41442	-36838	-13642	3.925	3.925	-20856	14588	27488	28547	79334	10009	56035		4.11	Si
SLD 1	0.45	-985.08	-44613	-39656	-13388	3.925	3.925	-22452	14907	28616	28547	79334	10009	57162		4.27	Si
SLV 2	0.05	-10540.69	-34341	-30525	-18368	3.925	3.925	-17283	13873	24964	28547	79334	10009	53510		2.91	Si
SLV 2	0.45	-2580.02	-37099	-32977	-18047	3.925	3.925	-18671	14151	25944	28547	79334	10009	54491		3.02	Si
SLV 13	0.05	11192.07	-41599	-36977	19836	3.925	3.925	-20935	14604	27544	28547	79334	10009	56091		2.83	Si
SLV 13	0.45	4066.23	-44992	-39993	19925	3.925	3.925	-22643	14945	28750	28547	79334	10009	57297		2.88	Si
SLV 16	0.05	14408.48	-69377	-61669	19716	3.925	3.925	-34915	16250	37421	28547	79334	10009	65967		3.35	Si
SLV 16	0.45	7392.71	-74396	-66130	19675	3.925	3.925	-37441	16250	39205	28547	79334	10009	67752		3.44	Si
SLV 3	0.05	-10019.24	-62266	-55347	-23546	3.925	3.925	-31336	16250	34892	28547	79334	10009	63439		2.69	Si
SLV 3	0.45	61.74	-66561	-59166	-23353	3.925	3.925	-33498	16250	36419	28547	79334	10009	64966		2.78	Si
SLV 1	0.05	-11888.17	-34414	-30591	-20897	3.925	3.925	-17320	13881	24990	28547	79334	10009	53536		2.56	Si
SLV 1	0.45	-2922.38	-37128	-33003	-20575	3.925	3.925	-18685	14154	25955	28547	79334	10009	54501		2.65	Si
SLV 14	0.05	12539.55	-41526	-36912	22365	3.925	3.925	-20899	14596	27518	28547	79334	10009	56065		2.51	Si
SLV 14	0.45	4408.59	-44963	-39967	22453	3.925	3.925	-22628	14942	28740	28547	79334	10009	57287		2.55	Si
SLV 4	0.05	-8671.76	-62192	-55282	-21017	3.925	3.925	-31299	16250	34866	28547	79334	10009	63413		3.02	Si
SLV 4	0.45	404.1	-66533	-59140	-20825	3.925	3.925	-33483	16250	36409	28547	79334	10009	64956		3.12	Si
SLD 3	0.05	-6034.25	-57771	-51352	-15195	3.925	3.925	-29074	16231	33294	28547	79334	10009	61840		4.07	Si
SLD 3	0.45	733.55	-61876	-55000	-15023	3.925	3.925	-31140	16250	34753	28547	79334	10009	63300		4.21	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	1446	-2555	237.96	569.34	2.39	Si
SLV 5	179667	0.24	1499	-2648	237.96	589.92	2.48	Si
SLV 10	179667	0.24	2880	-5088	237.96	1123.13	4.72	Si
SLV 9	179667	0.24	2933	-5181	237.96	1143.31	4.8	Si
SLV 2	179667	0.24	16234	-28674	237.96	5765.81	24.23	Si
SLV 1	179667	0.24	16313	-28813	237.96	5790.34	24.33	Si
SLV 14	179667	0.24	21015	-37117	237.96	7202.22	30.27	Si
SLV 13	179667	0.24	21093	-37256	237.96	7224.79	30.36	Si
SLV 4	179667	0.24	30355	-53615	237.96	9665.49	40.62	Si
SLV 3	179667	0.24	30433	-53753	237.96	9684.25	40.7	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-101153	-74710	-6345	0.236	10967.1	0.981	3.50089	2.58901	Si
SLV 11	-101172	-74822	-6337	0.236	10969	0.981	3.50154	2.58901	Si
SLV 8	-98353	-72124	-6153	0.242	10681.8	0.98	3.59199	2.58901	Si
SLV 7	-98372	-72237	-6145	0.242	10683.7	0.98	3.59264	2.58901	Si
SLV 16	-71134	-52685	-4616	0.32	7908.9	0.974	4.77303	2.7151	Si
SLV 15	-71162	-52852	-4605	0.32	7911.7	0.974	4.7739	2.7151	Si
SLV 4	-61800	-44066	-3976	0.363	6958.3	0.971	5.43355	2.7151	Si
SLV 3	-61828	-44233	-3965	0.363	6961.2	0.971	5.43426	2.7151	Si
SLV 13	-42635	-31412	-2930	0.499	5007.8	0.96	7.55523	2.7151	Si
SLV 14	-42607	-31244	-2941	0.499	5004.9	0.96	7.55553	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	28.886	SLU 48	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	51.753	SLU 48	Si
PF_SLV	2.266	SLV 5	Si
V_SLV	2.507	SLV 14	Si
PFFP_SLV	2.393	SLV 6	Si
R_SLV	1.352	SLV 12	Si

Maschio 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.963	6.576	-5.308	6.576	L2	L4	1.655	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.05	-2339.78	-15820	-0.0000523	0.0003743	0.0035	1.655	10359.86	11713.44	11713.44	5.01	No	Si
SLU 83	0.45	-457.52	-15139	-0.0000356	0.0003743	0.0035	1.655	10026.14	11311.11	11311.11	24.72	No	Si
SLU 69	0.05	-2139.14	-14177	-0.0000469	0.0003743	0.0035	1.655	9537.85	10744.21	10744.21	5.02	No	Si
SLU 69	0.45	-419.51	-13495	-0.0000317	0.0003743	0.0035	1.655	9179.69	10332.21	10332.21	24.63	No	Si
SLU 79	0.05	-2303.26	-15456	-0.0000512	0.0003743	0.0035	1.655	10182.85	11500.12	11500.12	4.99	No	Si
SLU 79	0.45	-447.28	-14775	-0.0000347	0.0003743	0.0035	1.655	9843.72	11095.53	11095.53	24.81	No	Si
SLU 78	0.05	-2289.71	-15438	-0.000051	0.0003743	0.0035	1.655	10173.91	11489.24	11489.24	5.02	No	Si
SLU 78	0.45	-452.53	-14756	-0.0000347	0.0003743	0.0035	1.655	9834.5	11084.77	11084.77	24.5	No	Si
SLU 74	0.05	-2277.59	-15340	-0.0000507	0.0003743	0.0035	1.655	10125.76	11430.85	11430.85	5.02	No	Si
SLU 74	0.45	-448.97	-14658	-0.0000345	0.0003743	0.0035	1.655	9784.9	11027.01	11027.01	24.56	No	Si
SLU 71	0.05	-2124.88	-14058	-0.0000465	0.0003743	0.0035	1.655	9475.96	10673.4	10673.4	5.02	No	Si
SLU 71	0.45	-413.65	-13376	-0.0000314	0.0003743	0.0035	1.655	9116.02	10259.35	10259.35	24.8	No	Si
SLU 84	0.05	-2311.97	-15683	-0.0000518	0.0003743	0.0035	1.655	10293.4	11635.15	11635.15	5.03	No	Si
SLU 84	0.45	-456.91	-15001	-0.0000353	0.0003743	0.0035	1.655	9957.64	11229.61	11229.61	24.58	No	Si
SLU 77	0.05	-2317.52	-15575	-0.0000515	0.0003743	0.0035	1.655	10241.1	11571.31	11571.31	4.99	No	Si
SLU 77	0.45	-453.14	-14894	-0.0000351	0.0003743	0.0035	1.655	9903.74	11165.96	11165.96	24.64	No	Si
SLU 81	0.05	-2299.86	-15585	-0.0000514	0.0003743	0.0035	1.655	10245.77	11577.04	11577.04	5.03	No	Si
SLU 81	0.45	-453.35	-14903	-0.0000351	0.0003743	0.0035	1.655	9908.55	11171.62	11171.62	24.64	No	Si
SLU 80	0.05	-2275.45	-15319	-0.0000506	0.0003743	0.0035	1.655	10115.3	11418.21	11418.21	5.02	No	Si
SLU 80	0.45	-446.67	-14637	-0.0000344	0.0003743	0.0035	1.655	9774.12	11014.5	11014.5	24.66	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	0.05	595.31	-1026	-0.0000093	0.0005615	0.0035	1.655		1006.37	1006.37	1.69		Si
SLV 9	0.45	-409.44	-485	-0.0000308	0.0005615	0.0035	1.324		1092.08	1092.08	2.67		Si
SLD 1	0.05	-2584.96	-8118	-0.0000364	0.0005615	0.0035	1.655		6986.59	6986.59	2.7		Si
SLD 1	0.45	-169.9	-7580	-0.0000168	0.0005615	0.0035	1.655		6589.14	6589.14	38.78		Si
SLV 2	0.05	-2796.97	-6356	-0.0000374	0.0005615	0.0035	1.655		5676.11	5676.11	2.03		Si
SLV 2	0.45	-132.28	-5808	-0.0000128	0.0005615	0.0035	1.655		5262.09	5262.09	39.78		Si
SLV 3	0.05	-4141.08	-12448	-0.0000583	0.0005615	0.0035	1.655		10064.17	10064.17	2.43		Si
SLV 3	0.45	-61.46	-11914	-0.0000251	0.0005615	0.0035	1.655		9694.25	9694.25	157.74		Si
SLV 4	0.05	-3817.66	-12231	-0.0000549	0.0005615	0.0035	1.655		9914.03	9914.03	2.6		Si
SLV 4	0.45	-102.74	-11697	-0.0000249	0.0005615	0.0035	1.655		9543.26	9543.26	92.88		Si
SLV 6	0.05	-327.91	-261	-0.0000647	0.0005615	0.0035	1.324		909.99	909.99	2.78		Si
SLV 6	0.45	-309.28	292	0.0487123	0.0005615	0.0035	1.324		0	0	0		No
SLV 5	0.05	-545.65	-407	-0.0001175	0.0005615	0.0035	1.324		1028.75	1028.75	1.89		Si
SLV 5	0.45	-281.48	145	0.0245727	0.0005615	0.0035	1.324		0	0	0		No
SLV 10	0.05	813.04	-880	-0.0003825	0.0005615	0.0035	1.324		887.58	887.58	1.09		Si
SLV 10	0.45	-437.23	-339	-0.0000896	0.0005615	0.0035	1.324		973.44	973.44	2.23		Si
SLV 1	0.05	-3120.4	-6574	-0.0000427	0.0005615	0.0035	1.324		5840.33	5840.33	1.87		Si
SLV 1	0.45	-91	-6025	-0.000013	0.0005615	0.0035	1.655		5425.71	5425.71	59.63		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	0.05	-2379.78	-7980	-0.0000343	0.0005615	0.0035	1.655		6884.92	6884.92	2.89		Si
SLD 2	0.45	-196.09	-7442	-0.0000167	0.0005615	0.0035	1.655		6487.1	6487.1	33.08		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	0.05	-2277.59	-15340	-13636	-4571	1.655	1.655	-18309	9386	6990	28547	22301	4220	26521	No	5.8	Si
SLU 74	0.45	-448.97	-14658	-13030	-4571	1.655	1.655	-17495	9277	6909	28547	22301	4220	26521	No	5.8	Si
SLU 78	0.05	-2289.71	-15438	-13723	-4592	1.655	1.655	-18426	9401	7002	28547	22301	4220	26521	No	5.78	Si
SLU 78	0.45	-452.53	-14756	-13117	-4592	1.655	1.655	-17612	9293	6921	28547	22301	4220	26521	No	5.78	Si
SLU 80	0.05	-2275.45	-15319	-13617	-4571	1.655	1.655	-18284	9382	6987	28547	22301	4220	26521	No	5.8	Si
SLU 80	0.45	-446.67	-14637	-13011	-4571	1.655	1.655	-17470	9274	6907	28547	22301	4220	26521	No	5.8	Si
SLU 77	0.05	-2317.52	-15575	-13845	-4660	1.655	1.655	-18590	9423	7018	28547	22301	4220	26521	No	5.69	Si
SLU 77	0.45	-453.14	-14894	-13239	-4660	1.655	1.655	-17776	9315	6937	28547	22301	4220	26521	No	5.69	Si
SLU 83	0.05	-2339.78	-15820	-14062	-4705	1.655	1.655	-18882	9462	7047	28547	22301	4220	26521	No	5.64	Si
SLU 83	0.45	-457.52	-15139	-13457	-4705	1.655	1.655	-18069	9354	6966	28547	22301	4220	26521	No	5.64	Si
SLU 75	0.05	-2249.78	-15203	-13513	-4503	1.655	1.655	-18145	9364	6974	28547	22301	4220	26521	No	5.89	Si
SLU 75	0.45	-448.36	-14521	-12908	-4503	1.655	1.655	-17331	9255	6893	28547	22301	4220	26521	No	5.89	Si
SLU 82	0.05	-2272.05	-15448	-13731	-4547	1.655	1.655	-18437	9403	7003	28547	22301	4220	26521	No	5.83	Si
SLU 82	0.45	-452.74	-14766	-13125	-4547	1.655	1.655	-17624	9294	6922	28547	22301	4220	26521	No	5.83	Si
SLU 84	0.05	-2311.97	-15683	-13940	-4637	1.655	1.655	-18718	9440	7031	28547	22301	4220	26521	No	5.72	Si
SLU 84	0.45	-456.91	-15001	-13335	-4637	1.655	1.655	-17905	9332	6950	28547	22301	4220	26521	No	5.72	Si
SLU 81	0.05	-2299.86	-15585	-13853	-4615	1.655	1.655	-18601	9425	7019	28547	22301	4220	26521	No	5.75	Si
SLU 81	0.45	-453.35	-14903	-13247	-4615	1.655	1.655	-17788	9316	6938	28547	22301	4220	26521	No	5.75	Si
SLU 79	0.05	-2303.26	-15456	-13739	-4639	1.655	1.655	-18448	9404	7004	28547	22301	4220	26521	No	5.72	Si
SLU 79	0.45	-447.28	-14775	-13133	-4639	1.655	1.655	-17634	9296	6923	28547	22301	4220	26521	No	5.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	0.05	-2796.97	-6356	-5650	-6520	1.655	1.1624	-10857	12588	6585	28547	33452	4220	35131		5.39	Si
SLV 2	0.45	-132.28	-5808	-5162	-6485	1.655	1.655	-6932	11803	8790	28547	33452	4220	37337		5.76	Si
SLD 7	0.05	-2992.21	-16008	-14230	-6978	1.655	1.655	-19107	14238	10604	28547	33452	4220	37672		5.4	Si
SLD 7	0.45	-230.46	-15499	-13777	-6967	1.655	1.655	-18499	14116	10513	28547	33452	4220	37672		5.41	Si
SLV 3	0.05	-4141.08	-12448	-11065	-10139	1.655	1.4845	-16677	13752	9187	28547	33452	4220	37672		3.72	Si
SLV 3	0.45	-61.46	-11914	-10590	-10100	1.655	1.655	-14219	13261	9876	28547	33452	4220	37672		3.73	Si
SLV 1	0.05	-3120.4	-6574	-5843	-7432	1.324	1.0584	0	0	0	28547	26761	3376	28547		3.84	Si
SLV 1	0.45	-91	-6025	-5355	-7396	1.655	1.655	-7191	11855	8829	28547	33452	4220	37375		5.05	Si
SLV 7	0.05	-3947.93	-19988	-17767	-9518	1.655	1.655	-23857	15188	11311	28547	33452	4220	37672		3.96	Si
SLV 7	0.45	-183.02	-19484	-17319	-9501	1.655	1.655	-23255	15068	11222	28547	33452	4220	37672		3.97	Si
SLV 8	0.05	-3730.19	-19842	-17637	-8904	1.655	1.655	-23682	15153	11285	28547	33452	4220	37672		4.23	Si
SLV 8	0.45	-210.82	-19338	-17189	-8887	1.655	1.655	-23081	15033	11196	28547	33452	4220	37672		4.24	Si
SLD 3	0.05	-3181.78	-11555	-10272	-7548	1.655	1.655	-13792	13175	9812	28547	33452	4220	37672		4.99	Si
SLD 3	0.45	-151.68	-11028	-9802	-7524	1.655	1.655	-13162	13049	9718	28547	33452	4220	37672		5.01	Si
SLV 4	0.05	-3817.66	-12231	-10872	-9228	1.655	1.5461	-15741	13565	9438	28547	33452	4220	37672		4.08	Si
SLV 4	0.45	-102.74	-11697	-10397	-9189	1.655	1.655	-13960	13209	9837	28547	33452	4220	37672		4.1	Si
SLD 8	0.05	-2860.07	-15920	-14151	-6606	1.655	1.655	-19001	14217	10588	28547	33452	4220	37672		5.7	Si
SLD 8	0.45	-247.33	-15410	-13698	-6595	1.655	1.655	-18393	14095	10497	28547	33452	4220	37672		5.71	Si
SLD 4	0.05	-2976.59	-11418	-10149	-6969	1.655	1.655	-13628	13142	9788	28547	33452	4220	37672		5.41	Si
SLD 4	0.45	-177.88	-10890	-9680	-6945	1.655	1.655	-12997	13016	9694	28547	33452	4220	37672		5.42	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.24	1103	-822	100.34	183.53	1.83	Si
SLV 6	179667	0.24	1343	-1000	100.34	223.13	2.22	Si
SLV 1	179667	0.24	4029	-3000	100.34	657.27	6.55	Si
SLV 9	179667	0.24	4083	-3041	100.34	665.9	6.64	Si
SLV 10	179667	0.24	4323	-3220	100.34	703.94	7.02	Si
SLV 2	179667	0.24	4385	-3266	100.34	713.76	7.11	Si
SLV 3	179667	0.24	9566	-7124	100.34	1502.56	14.97	Si
SLV 4	179667	0.24	9923	-7390	100.34	1554.72	15.49	Si
SLV 13	179667	0.24	13962	-10398	100.34	2125.64	21.18	Si
SLV 14	179667	0.24	14318	-10664	100.34	2174.35	21.67	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-18514	-12795	-565	0.521	2166.1	0.961	7.88103	2.58901	Si
SLV 11	-18623	-17537	-514	0.521	2177.3	0.961	7.88183	2.58901	Si
SLV 8	-18296	-13416	-555	0.527	2144	0.961	7.96335	2.58901	Si
SLV 12	-18406	-18158	-504	0.527	2155.2	0.961	7.9637	2.58901	Si
SLV 15	-12164	-18781	-251	0.743	1520.9	0.947	11.39907	2.7151	Si
SLV 3	-11798	-2974	-421	0.748	1483.8	0.946	11.49289	2.7151	Si
SLV 16	-11841	-19704	-235	0.759	1488.2	0.946	11.66812	2.7151	Si
SLV 4	-11475	-3897	-405	0.765	1451.1	0.945	11.77194	2.7151	Si
SLV 13	-6472	-15234	-74	1.218	945.6	0.922	19.19966	2.7151	Si
SLV 1	-6106	572	-244	1.249	908.9	0.919	19.73843	2.7151	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.993	SLU 79	Si
V_SLU	5.637	SLU 83	Si
PF_SLV	0	SLV 5	No
V_SLV	3.715	SLV 3	Si
PFFP_SLV	1.829	SLV 5	Si
R_SLV	3.044	SLV 7	Si

Maschio 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.563	-0.749	-11.013	-0.749	L2	L4	1.45	0.2	2.68	2.68	2.68			

Caratteristiche del materiale

Forati doppiouni rapp. vuoto/pieno 40% malta bastarda

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
1000000	470000	20000				0.58	0.77	65000	620000000	248000000	

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 74	-1.95	-17949	2814.91	61895	6964.86	2.474	Si
SLU 74	0.73	-17440	3102.83	60139	6934	2.235	Si
SLU 75	-1.95	-17943	2815.96	61872	6964.53	2.473	Si
SLU 75	0.73	-17426	3097.95	60089	6932.99	2.238	Si
SLU 78	-1.95	-18025	2881.74	62157	6968.64	2.418	Si
SLU 78	0.73	-17509	3164.53	60376	6938.73	2.193	Si
SLU 77	-1.95	-18032	2880.69	62179	6968.95	2.419	Si
SLU 77	0.73	-17523	3169.41	60426	6939.7	2.19	Si
SLU 83	-1.95	-18631	2937.75	64244	6990.93	2.38	Si
SLU 83	0.73	-18129	3233.55	62514	6973.43	2.157	Si
SLU 80	-1.95	-17921	2865.94	61797	6963.39	2.43	Si
SLU 80	0.73	-17403	3147.15	60009	6931.33	2.202	Si
SLU 79	-1.95	-17928	2864.89	61819	6963.74	2.431	Si
SLU 79	0.73	-17417	3152.02	60059	6932.36	2.199	Si
SLU 81	-1.95	-18548	2871.97	63959	6988.7	2.433	Si
SLU 81	0.73	-18046	3166.98	62227	6969.61	2.201	Si
SLU 84	-1.95	-18624	2938.8	64221	6990.76	2.379	Si
SLU 84	0.73	-18115	3228.68	62464	6972.78	2.16	Si
SLU 82	-1.95	-18542	2873.02	63936	6988.51	2.432	Si
SLU 82	0.73	-18032	3162.1	62178	6968.93	2.204	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	-1.95	-17943	0	2815.96		61872	1.45	14916	4326			1000	Si
SLU 75	0.73	-17426	-7	3097.95		60089	1.45	14679	4257			621.97	Si
SLU 78	-1.95	-18025	0	2881.74		62157	1.45	14954	4337			1000	Si
SLU 78	0.73	-17509	-7	3164.53		60376	1.45	14717	4268			616.19	Si
SLU 80	-1.95	-17921	0	2865.94		61797	1.45	14906	4323			1000	Si
SLU 80	0.73	-17403	-7	3147.15		60009	1.45	14668	4254			617.24	Si
SLU 79	-1.95	-17928	0	2864.89		61819	1.45	14909	4324			1000	Si
SLU 79	0.73	-17417	-7	3152.02		60059	1.45	14674	4256			615.52	Si
SLU 83	-1.95	-18631	0	2937.75		64244	1.45	15232	4417			1000	Si
SLU 83	0.73	-18129	-7	3233.55		62514	1.45	15002	4351			607.5	Si
SLU 77	-1.95	-18032	0	2880.69		62179	1.45	14957	4338			1000	Si
SLU 77	0.73	-17523	-7	3169.41		60426	1.45	14723	4270			614.48	Si
SLU 74	-1.95	-17949	0	2814.91		61895	1.45	14919	4327			1000	Si
SLU 74	0.73	-17440	-7	3102.83		60139	1.45	14685	4259			620.22	Si
SLU 84	-1.95	-18624	0	2938.8		64221	1.45	15229	4417			1000	Si
SLU 84	0.73	-18115	-7	3228.68		62464	1.45	14995	4349			609.13	Si
SLU 81	-1.95	-18548	0	2871.97		63959	1.45	15195	4406			1000	Si
SLU 81	0.73	-18046	-7	3166.98		62227	1.45	14964	4339			612.99	Si
SLU 82	-1.95	-18542	0	2873.02		63936	1.45	15192	4406			1000	Si
SLU 82	0.73	-18032	-7	3162.1		62178	1.45	14957	4338			614.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.02 denominatore 8 γM = 2,4

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	195833	0.24	38132	-11058	16.96	852.51	50.26	Si
SLV 5	195833	0.24	38138	-11060	16.96	852.59	50.26	Si
SLV 10	195833	0.24	39173	-11360	16.96	868.68	51.21	Si
SLV 9	195833	0.24	39179	-11362	16.96	868.76	51.22	Si
SLV 2	195833	0.24	39302	-11398	16.96	870.65	51.33	Si
SLV 1	195833	0.24	39310	-11400	16.96	870.77	51.33	Si
SLV 4	195833	0.24	41346	-11990	16.96	901.22	53.13	Si
SLV 3	195833	0.24	41354	-11993	16.96	901.33	53.14	Si
SLV 14	195833	0.24	42772	-12404	16.96	921.67	54.33	Si
SLV 13	195833	0.24	42780	-12406	16.96	921.78	54.34	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.02 Ta = 0.0287

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-12864	-12999	3	0.656	1359	0.989	13.0229	2.75036	Si
SLV 15	-12859	-12990	2	0.656	1358.6	0.989	13.02841	2.75036	Si
SLV 12	-13275	-12976	24	0.636	1400.9	0.989	12.61611	2.61246	Si
SLV 11	-13271	-12970	24	0.636	1400.6	0.989	12.61961	2.61246	Si
SLV 8	-12938	-12680	40	0.65	1366.6	0.989	12.8975	2.61246	Si
SLV 7	-12935	-12674	39	0.65	1366.2	0.989	12.90116	2.61246	Si
SLV 14	-12175	-12721	0	0.691	1288.8	0.988	13.71327	2.75036	Si
SLV 13	-12170	-12712	-1	0.691	1288.3	0.988	13.71704	2.75036	Si
SLV 4	-11742	-12011	56	0.709	1244.7	0.988	14.09338	2.75036	Si
SLV 3	-11737	-12002	55	0.71	1244.2	0.988	14.09983	2.75036	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.157	SLU 83	Si
V_SLU	607.499	SLU 83	Si
PFFP_SLV	50.258	SLV 6	Si
R_SLV	4.735	SLV 16	Si

Maschio 37

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.778	2.071	-9.778	6.351	L2	L4	4.28	0.2	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	-1.95	24923.4	-69576	-0.0001885	0.0004492	0.0035	4.28	49847.4	104764.78	104764.78	4.2	No	Si
SLU 69	0.05	-6926.28	-54334	-0.0001073	0.0004492	0.0035	4.28	55872.01	97044.21	97044.21	14.01	No	Si
SLU 71	-1.95	24701.91	-69145	-0.0001869	0.0004492	0.0035	4.28	50148.94	104408.57	104408.57	4.23	No	Si
SLU 71	0.05	-6889.31	-53975	-0.0001065	0.0004492	0.0035	4.28	55899.3	96660.4	96660.4	14.03	No	Si
SLU 84	-1.95	26242.4	-78028	-0.0002127	0.0004492	0.0035	4.28	42410.24	111736.04	111736.04	4.26	No	Si
SLU 84	0.05	-7938.87	-61555	-0.0001239	0.0004492	0.0035	4.28	54202.89	104070.64	104070.64	13.11	No	Si
SLU 83	-1.95	27250.34	-78283	-0.0002165	0.0004492	0.0035	4.28	42139.97	111946.72	111946.72	4.11	No	Si
SLU 83	0.05	-7870.32	-61809	-0.0001242	0.0004492	0.0035	4.28	54105.59	104264.39	104264.39	13.25	No	Si
SLU 77	-1.95	27070.04	-76567	-0.0002117	0.0004492	0.0035	4.28	43904.87	110530.89	110530.89	4.08	No	Si
SLU 77	0.05	-7656.94	-60314	-0.0001207	0.0004492	0.0035	4.28	54641.83	103120.86	103120.86	13.47	No	Si
SLU 74	-1.95	26551.85	-75719	-0.000208	0.0004492	0.0035	4.28	44731.93	109831.74	109831.74	4.14	No	Si
SLU 74	0.05	-7594.16	-59605	-0.0001192	0.0004492	0.0035	4.28	54864.07	102578.81	102578.81	13.51	No	Si
SLU 80	-1.95	25840.6	-75879	-0.0002062	0.0004492	0.0035	4.28	44577.73	109964	109964	4.26	No	Si
SLU 80	0.05	-7688.51	-59701	-0.0001196	0.0004492	0.0035	4.28	54834.99	102652.67	102652.67	13.35	No	Si
SLU 81	-1.95	26732.15	-77435	-0.0002128	0.0004492	0.0035	4.28	43026.56	111247.57	111247.57	4.16	No	Si
SLU 81	0.05	-7807.54	-61100	-0.0001227	0.0004492	0.0035	4.28	54371.18	103722.34	103722.34	13.28	No	Si
SLU 78	-1.95	26062.09	-76311	-0.000208	0.0004492	0.0035	4.28	44157.2	110320.21	110320.21	4.23	No	Si
SLU 78	0.05	-7725.48	-60060	-0.0001204	0.0004492	0.0035	4.28	54723.63	102927.11	102927.11	13.32	No	Si
SLU 79	-1.95	26848.55	-76135	-0.0002099	0.0004492	0.0035	4.28	44329.92	110174.69	110174.69	4.1	No	Si
SLU 79	0.05	-7619.96	-59955	-0.0001199	0.0004492	0.0035	4.28	54756.92	102846.42	102846.42	13.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	-1.95	-44503.17	-29788	-0.0002235	0.0006738	0.0035	3.424		66378.32	66378.32	1.49		Si
SLV 6	0.05	-11217.71	-21582	-0.0000581	0.0006738	0.0035	4.28		52175.6	52175.6	4.65		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	-1.95	55392.04	-61772	-0.0002464	0.0006738	0.0035	4.28		103972.55	103972.55	1.88		Si
SLD 8	0.05	-2364.72	-50410	-0.0000857	0.0006738	0.0035	4.28		97715.18	97715.18	41.32		Si
SLV 9	-1.95	-45488.94	-34903	-0.0002007	0.0006738	0.0035	3.424		74712.19	74712.19	1.64		Si
SLV 9	0.05	-10148.67	-23565	-0.000059	0.0006738	0.0035	4.28		55719.24	55719.24	5.49		Si
SLV 5	-1.95	-43534.87	-29550	-0.0002138	0.0006738	0.0035	3.424		65991.14	65991.14	1.52		Si
SLV 5	0.05	-11194.55	-21564	-0.000058	0.0006738	0.0035	4.28		52142.39	52142.39	4.66		Si
SLD 7	-1.95	55979.65	-61628	-0.0002485	0.0006738	0.0035	4.28		103797.6	103797.6	1.85		Si
SLD 7	0.05	-2350.67	-50399	-0.0000856	0.0006738	0.0035	4.28		97700.01	97700.01	41.56		Si
SLV 8	-1.95	81671.75	-68957	-0.0003939	0.0006738	0.0035	4.28		112688.65	112688.65	1.38		Si
SLV 8	0.05	-299.99	-57453	-0.0000928	0.0006738	0.0035	4.28		107043.25	107043.25	356.82		Si
SLV 12	-1.95	79717.68	-74310	-0.0003754	0.0006738	0.0035	4.28		119182.66	119182.66	1.5		Si
SLV 12	0.05	745.89	-59454	-0.0000973	0.0006738	0.0035	4.28		101159.97	101159.97	135.62		Si
SLV 7	-1.95	82640.05	-68720	-0.0004025	0.0006738	0.0035	4.28		112400.34	112400.34	1.36		Si
SLV 7	0.05	-276.83	-57434	-0.0000927	0.0006738	0.0035	4.28		107019.9	107019.9	386.58		Si
SLV 11	-1.95	80685.98	-74073	-0.0003817	0.0006738	0.0035	4.28		118894.35	118894.35	1.47		Si
SLV 11	0.05	769.05	-59436	-0.0000973	0.0006738	0.0035	4.28		101137.69	101137.69	131.51		Si
SLV 10	-1.95	-46457.24	-35141	-0.0002075	0.0006738	0.0035	3.424		75099.37	75099.37	1.62		Si
SLV 10	0.05	-10171.83	-23583	-0.000059	0.0006738	0.0035	4.28		55750.8	55750.8	5.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-1.95	24650.44	-74861	-47911	-14833	4.28	4.28	-55971	10833	24109	81562	30762	21828	52590	No	3.55	Si
SLU 76	0.05	-7671.43	-58824	-37647	-14648	4.28	4.28	-43980	10833	20003	81562	30762	21828	52590	No	3.59	Si
SLU 83	-1.95	27250.34	-78283	-50101	-14593	4.28	4.28	-58529	10833	24985	81562	30762	21828	52590	No	3.6	Si
SLU 83	0.05	-7870.32	-61809	-39558	-14396	4.28	4.28	-46212	10833	20767	81562	30762	21828	52590	No	3.65	Si
SLU 81	-1.95	26732.15	-77435	-49559	-14470	4.28	4.28	-57896	10833	24768	81562	30762	21828	52590	No	3.63	Si
SLU 81	0.05	-7807.54	-61100	-39104	-14279	4.28	4.28	-45682	10833	20586	81562	30762	21828	52590	No	3.68	Si
SLU 78	-1.95	26062.09	-76311	-48839	-14772	4.28	4.28	-57055	10833	24480	81562	30762	21828	52590	No	3.56	Si
SLU 78	0.05	-7725.48	-60060	-38439	-14578	4.28	4.28	-44905	10833	20320	81562	30762	21828	52590	No	3.61	Si
SLU 80	-1.95	25840.6	-75879	-48563	-14686	4.28	4.28	-56732	10833	24369	81562	30762	21828	52590	No	3.58	Si
SLU 80	0.05	-7688.51	-59701	-38209	-14495	4.28	4.28	-44637	10833	20228	81562	30762	21828	52590	No	3.63	Si
SLU 75	-1.95	25543.9	-75464	-48297	-14649	4.28	4.28	-56421	10833	24263	81562	30762	21828	52590	No	3.59	Si
SLU 75	0.05	-7662.7	-59352	-37985	-14460	4.28	4.28	-44375	10833	20138	81562	30762	21828	52590	No	3.64	Si
SLU 84	-1.95	26242.4	-78028	-49938	-14998	4.28	4.28	-58338	10833	24919	81562	30762	21828	52590	No	3.51	Si
SLU 84	0.05	-7938.87	-61555	-39395	-14803	4.28	4.28	-46023	10833	20702	81562	30762	21828	52590	No	3.55	Si
SLU 73	-1.95	24132.25	-74014	-47369	-14710	4.28	4.28	-55338	10833	23892	81562	30762	21828	52590	No	3.58	Si
SLU 73	0.05	-7608.65	-58115	-37194	-14531	4.28	4.28	-43451	10833	19822	81562	30762	21828	52590	No	3.62	Si
SLU 77	-1.95	27070.04	-76567	-49003	-14367	4.28	4.28	-57246	10833	24545	81562	30762	21828	52590	No	3.66	Si
SLU 77	0.05	-7656.94	-60314	-38601	-14172	4.28	4.28	-45094	10833	20385	81562	30762	21828	52590	No	3.71	Si
SLU 82	-1.95	25724.2	-77180	-49395	-14875	4.28	4.28	-57705	10833	24702	81562	30762	21828	52590	No	3.54	Si
SLU 82	0.05	-7876.09	-60847	-38942	-14685	4.28	4.28	-45493	10833	20521	81562	30762	21828	52590	No	3.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.95	-44503.17	-29788	-19064	-32419	3.424	1.938	0	0	0	81562	36915	17462	54377		1.68	Si
SLV 6	0.05	-11217.71	-21582	-13813	-32541	4.28	4.28	-16136	15727	13463	81562	46144	21828	67972		2.09	Si
SLV 5	-1.95	-43534.87	-29550	-18912	-31820	3.424	2.0002	0	0	0	81562	36915	17462	54377		1.71	Si
SLV 5	0.05	-11194.55	-21564	-13801	-31942	4.28	4.28	-16122	15724	13460	81562	46144	21828	67972		2.13	Si
SLD 5	-1.95	-17982.07	-38681	-24756	-22786	4.28	4.28	-28921	16250	17319	81562	46144	21828	67972		2.98	Si
SLD 5	0.05	-8738.02	-29365	-18793	-22806	4.28	4.28	-21955	16250	14934	81562	46144	21828	67972		2.98	Si
SLD 6	-1.95	-18569.67	-38826	-24848	-23149	4.28	4.28	-29028	16250	17356	81562	46144	21828	67972		2.94	Si
SLD 6	0.05	-8752.07	-29376	-18800	-23170	4.28	4.28	-21963	16250	14937	81562	46144	21828	67972		2.93	Si
SLV 10	-1.95	-46457.24	-35141	-22490	-33827	3.424	2.4539	0	0	0	81562	36915	17462	54377		1.61	Si
SLV 10	0.05	-10171.83	-23583	-15093	-33671	4.28	4.28	-17632	16026	13719	81562	46144	21828	67972		2.02	Si
SLV 9	-1.95	-45488.94	-34903	-22338	-33228	3.424	2.5101	0	0	0	81562	36915	17462	54377		1.64	Si
SLV 9	0.05	-10148.67	-23565	-15082	-33072	4.28	4.28	-17619	16024	13716	81562	46144	21828	67972		2.06	Si
SLV 14	-1.95	-4810.76	-55153	-35298	-19668	4.28	4.28	-41236	16250	21536	81562	46144	21828	67972		3.46	Si
SLV 14	0.05	-5136.05	-38477	-24625	-19115	4.28	4.28	-28768	16250	17267	81562	46144	21828	67972		3.56	Si
SLD 10	-1.95	-19796.84	-42232	-27029	-24026	4.28	4.28	-31575	16250	18228	81562	46144	21828	67972		2.83	Si
SLD 10	0.05	-8097.99	-30619	-19596	-23890	4.28	4.28	-22893	16250	15256	81562	46144	21828	67972		2.85	Si
SLD 9	-1.95	-19209.23	-42088	-26936	-23663	4.28	4.28	-31468	16250	18191	81562	46144	21828	67972		2.87	Si
SLD 9	0.05	-8083.94	-30608	-19589	-23527	4.28	4.28	-22885	16250	15253	81562	46144	21828	67972		2.89	Si
SLV 13	-1.95	-3372.46	-54800	-35072	-18779	4.28	4.28	-40972	16250	21446	81562	46144	21828	67972		3.62	Si
SLV 13	0.05	-5101.65	-38450	-24608	-18225	4.28	4.28	-28748	16250	17260	81562	46144	21828	67972		3.73	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.06 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-22835	0.24	122.89	1951.12	2979.39	2465.25	20.06	Si
SLV 6	-22899	0.24	122.89	1955.66	2986.47	2471.07	20.11	Si
SLV 9	-26277	0.24	122.89	2187.57	3356.6	2772.09	22.56	Si
SLV 10	-26341	0.24	122.89	2191.83	3363.62	2777.73	22.6	Si
SLV 1	-31587	0.24	122.89	2522.75	3928.12	3225.44	26.25	Si
SLV 2	-31682	0.24	122.89	2528.43	3938.29	3233.36	26.31	Si
SLV 3	-42544	0.24	122.89	3100.74	5093.53	4097.13	33.34	Si
SLV 4	-42639	0.24	122.89	3105.09	5103.3	4104.19	33.4	Si
SLV 13	-43060	0.24	122.89	3124.18	5146.48	4135.33	33.65	Si
SLV 14	-43155	0.24	122.89	3128.46	5156.25	4142.36	33.71	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.04 Ta = 0.06

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-44168	-68720	1431	0.528	4820.5	0.979	7.83768	3.00418	Si
SLV 8	-44156	-68957	1429	0.528	4819.3	0.979	7.84007	3.00418	Si
SLV 11	-43768	-74073	1522	0.53	4779.7	0.979	7.87315	3.00418	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-43756	-74310	1520	0.53	4778.5	0.979	7.87557	3.00418	Si
SLV 3	-36016	-48707	969	0.645	3990	0.975	9.61708	3.36567	Si
SLV 4	-35999	-49060	967	0.646	3988.2	0.975	9.62226	3.36567	Si
SLV 15	-34683	-66551	1273	0.659	3854.2	0.974	9.83123	3.36567	Si
SLV 16	-34665	-66904	1271	0.659	3852.4	0.974	9.8367	3.36567	Si
SLV 1	-28626	-36956	665	0.801	3237.5	0.97	12.01355	3.36567	Si
SLV 2	-28609	-37309	663	0.802	3235.6	0.97	12.02143	3.36567	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.083	SLU 77	Si
V_SLU	3.507	SLU 84	Si
PF_SLV	1.36	SLV 7	Si
V_SLV	1.608	SLV 10	Si
PFFP_SLV	20.061	SLV 5	Si
R_SLV	2.609	SLV 7	Si

Maschio 38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.563	1.141	-9.563	-0.749	L2	L4	1.89	0.2	2.68	2.68	2.68			

Caratteristiche del materiale

Forati doppiouni rapp. vuoto/pieno 40% malta bastarda

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
1000000	470000	20000				0.58	0.77	65000	620000000	248000000	

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 79	-1.95	-18840	-5085.93	49840	11140.2	2.19	Si
SLU 79	0.73	-17832	-5046.96	47174	10881.68	2.156	Si
SLU 83	-1.95	-19232	-5188.02	50877	11230.44	2.165	Si
SLU 83	0.73	-18207	-5130.2	48165	10982.24	2.141	Si
SLU 77	-1.95	-18950	-5128.72	50132	11166.19	2.177	Si
SLU 77	0.73	-17944	-5091.52	47472	10912.42	2.143	Si
SLU 75	-1.95	-18798	-4998.76	49729	11130.15	2.227	Si
SLU 75	0.73	-17810	-4979.4	47116	10875.62	2.184	Si
SLU 78	-1.95	-18966	-5135.42	50173	11169.82	2.175	Si
SLU 78	0.73	-17976	-5113.69	47555	10920.93	2.136	Si
SLU 82	-1.95	-19079	-5058.05	50474	11196	2.214	Si
SLU 82	0.73	-18072	-5018.08	47810	10946.76	2.181	Si
SLU 81	-1.95	-19063	-5051.35	50432	11192.45	2.216	Si
SLU 81	0.73	-18041	-4995.92	47727	10938.36	2.189	Si
SLU 76	-1.95	-18698	-4960.43	49464	11106.05	2.239	Si
SLU 76	0.73	-17719	-4949.62	46874	10850.19	2.192	Si
SLU 80	-1.95	-18855	-5092.63	49881	11143.89	2.188	Si
SLU 80	0.73	-17863	-5069.13	47258	10890.33	2.148	Si
SLU 84	-1.95	-19247	-5194.71	50918	11233.9	2.163	Si
SLU 84	0.73	-18238	-5152.36	48249	10990.44	2.133	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	-1.95	-18966	-2	-5135.42		50173	1.89	13356	5049			1000	Si
SLU 78	0.73	-17976	-15	-5113.69		47555	1.89	13007	4917			329.76	Si
SLU 75	-1.95	-18798	-2	-4998.76		49729	1.89	13297	5026			1000	Si
SLU 75	0.73	-17810	-15	-4979.4		47116	1.89	12949	4895			333.48	Si
SLU 84	-1.95	-19247	-2	-5194.71		50918	1.89	13456	5086			1000	Si
SLU 84	0.73	-18238	-15	-5152.36		48249	1.89	13100	4952			326.26	Si
SLU 83	-1.95	-19232	-2	-5188.02		50877	1.89	13450	5084			1000	Si
SLU 83	0.73	-18207	-15	-5130.2		48165	1.89	13089	4948			334.25	Si
SLU 80	-1.95	-18855	-2	-5092.63		49881	1.89	13318	5034			1000	Si
SLU 80	0.73	-17863	-15	-5069.13		47258	1.89	12968	4902			331.13	Si
SLU 82	-1.95	-19079	-2	-5058.05		50474	1.89	13396	5064			1000	Si
SLU 82	0.73	-18072	-15	-5018.08		47810	1.89	13041	4930			329.85	Si
SLU 76	-1.95	-18698	-2	-4960.43		49464	1.89	13262	5013			1000	Si
SLU 76	0.73	-17719	-15	-4949.62		46874	1.89	12917	4882			329.43	Si
SLU 77	-1.95	-18950	-2	-5128.72		50132	1.89	13351	5047			1000	Si
SLU 77	0.73	-17944	-15	-5091.52		47472	1.89	12996	4913			337.99	Si
SLU 81	-1.95	-19063	-2	-5051.35		50432	1.89	13391	5062			1000	Si
SLU 81	0.73	-18041	-15	-4995.92		47727	1.89	13030	4925			338.07	Si
SLU 73	-1.95	-18530	-2	-4823.77		49020	1.89	13203	4991			1000	Si
SLU 73	0.73	-17553	-15	-4815.34		46436	1.89	12858	4860			333.16	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.02 denominatore 8 γM = 2,4

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	195833	0.24	26901	-10169	22.11	852.54	38.56	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	195833	0.24	27061	-10229	22.11	856.62	38.74	Si
SLV 15	195833	0.24	28798	-10886	22.11	900.24	40.72	Si
SLV 16	195833	0.24	29036	-10975	22.11	906.1	40.98	Si
SLV 7	195833	0.24	29064	-10986	22.11	906.81	41.01	Si
SLV 8	195833	0.24	29224	-11047	22.11	910.74	41.19	Si
SLV 13	195833	0.24	32620	-12331	22.11	991.41	44.84	Si
SLV 14	195833	0.24	32858	-12420	22.11	996.86	45.09	Si
SLV 3	195833	0.24	36008	-13611	22.11	1066.68	48.24	Si
SLV 4	195833	0.24	36246	-13701	22.11	1071.76	48.47	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.02 Ta = 0.0287

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-14747	-14742	-87	0.733	1565.5	0.987	14.57264	2.75036	Si
SLV 1	-14658	-14685	-87	0.737	1556.4	0.987	14.65464	2.75036	Si
SLV 6	-15335	-14930	-16	0.712	1625.5	0.988	14.13925	2.61246	Si
SLV 5	-15276	-14892	-16	0.714	1619.4	0.988	14.19058	2.61246	Si
SLV 10	-14434	-14287	47	0.751	1533.6	0.987	14.92115	2.61246	Si
SLV 9	-14375	-14248	47	0.753	1527.6	0.987	14.97932	2.61246	Si
SLV 4	-13329	-13930	-86	0.805	1420.9	0.986	16.02337	2.75036	Si
SLV 3	-13240	-13873	-86	0.81	1411.9	0.986	16.12354	2.75036	Si
SLV 14	-11743	-12597	122	0.902	1259.3	0.984	17.99019	2.75036	Si
SLV 13	-11654	-12540	122	0.909	1250.3	0.984	18.11923	2.75036	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.133	SLU 84	Si
V_SLU	326.257	SLU 84	Si
PFFP_SLV	38.558	SLV 11	Si
R_SLV	5.298	SLV 2	Si

Maschio 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.848	-4.709	-11.013	-4.709	L2	L4	3.165	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	-1.95	14239.2	-25439	-0.0000591	0.0003743	0.0035	3.165	33195.06	34643.59	34643.59	2.43	No	Si
SLU 73	0.73	17962.41	-27428	-0.0000712	0.0003743	0.0035	3.165	35194.53	37040.92	37040.92	2.06	No	Si
SLU 53	-1.95	12722.6	-22873	-0.0000525	0.0003743	0.0035	3.165	30486.89	31591.25	31591.25	2.48	No	Si
SLU 53	0.73	16284.83	-24551	-0.0000638	0.0003743	0.0035	3.165	32273.5	33581.09	33581.09	2.06	No	Si
SLU 55	-1.95	12912.29	-23346	-0.0000535	0.0003743	0.0035	3.165	30997.34	32150.73	32150.73	2.49	No	Si
SLU 55	0.73	16469.22	-24774	-0.0000645	0.0003743	0.0035	3.165	32506.52	33847.33	33847.33	2.06	No	Si
SLU 57	-1.95	12944.41	-23376	-0.0000536	0.0003743	0.0035	3.165	31028.66	32185.29	32185.29	2.49	No	Si
SLU 57	0.73	16605.21	-25036	-0.0000651	0.0003743	0.0035	3.165	32778.44	34160.07	34160.07	2.06	No	Si
SLU 75	-1.95	14271.31	-25469	-0.0000592	0.0003743	0.0035	3.165	33225.04	34678.6	34678.6	2.43	No	Si
SLU 75	0.73	18098.4	-27690	-0.0000719	0.0003743	0.0035	3.165	35451.3	37358.53	37358.53	2.06	No	Si
SLU 63	-1.95	13347.63	-24105	-0.0000554	0.0003743	0.0035	3.165	31805.02	33050.63	33050.63	2.48	No	Si
SLU 63	0.73	17092.97	-25864	-0.0000673	0.0003743	0.0035	3.165	33629.43	35153.48	35153.48	2.06	No	Si
SLU 54	-1.95	12871.33	-23213	-0.0000533	0.0003743	0.0035	3.165	30854.06	31992.98	31992.98	2.49	No	Si
SLU 54	0.73	16471.69	-24741	-0.0000645	0.0003743	0.0035	3.165	32472.25	33808.07	33808.07	2.05	No	Si
SLU 52	-1.95	12839.22	-23184	-0.0000531	0.0003743	0.0035	3.165	30822.64	31958.46	31958.46	2.49	No	Si
SLU 52	0.73	16335.7	-24479	-0.0000639	0.0003743	0.0035	3.165	32198.64	33495.89	33495.89	2.05	No	Si
SLU 61	-1.95	13274.56	-23943	-0.000055	0.0003743	0.0035	3.165	31633.02	32857.45	32857.45	2.48	No	Si
SLU 61	0.73	16959.45	-25570	-0.0000667	0.0003743	0.0035	3.165	33328.57	34799.68	34799.68	2.05	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	-1.95	13125.82	-23602	-0.0000543	0.0003743	0.0035	3.165	31271.26	32453.89	32453.89	2.47	No	Si
SLU 60	0.73	16772.59	-25379	-0.0000659	0.0003743	0.0035	3.165	33133.26	34571.54	34571.54	2.06	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-1.95	11411.45	-8178	-0.0001049	0.0005615	0.0035	3.165		13018.44	13018.44	1.14		Si
SLV 3	0.73	2135.34	-12405	-0.0000176	0.0005615	0.0035	3.165		19201.89	19201.89	8.99		Si
SLV 9	-1.95	18387.3	-40491	-0.0000847	0.0005615	0.0035	3.165		54516.54	54516.54	2.96		Si
SLV 9	0.73	27542.95	-31412	-0.0001073	0.0005615	0.0035	3.165		43727.3	43727.3	1.59		Si
SLV 8	-1.95	1316.37	5441	0.4084601	0.0005615	0.0035	2.532		0	0	0		No
SLV 8	0.73	-2791.18	-6254	-0.0000123	0.0005615	0.0035	3.165		12476.17	12476.17	4.47		Si
SLV 7	-1.95	956.9	5641	0.4242066	0.0005615	0.0035	2.532		0	0	0		No
SLV 7	0.73	-2181.65	-6476	-0.0000113	0.0005615	0.0035	3.165		12809.56	12809.56	5.87		Si
SLV 4	-1.95	11945.4	-8475	-0.0001188	0.0005615	0.0035	3.165		13459.07	13459.07	1.13		Si
SLV 4	0.73	1229.95	-12075	-0.0000154	0.0005615	0.0035	3.165		18726.17	18726.17	15.23		Si
SLV 11	-1.95	-1971.33	4138	0.3153912	0.0005615	0.0035	2.532		0	0	0		No
SLV 11	0.73	1929.04	-8357	-0.0000128	0.0005615	0.0035	3.165		13284.45	13284.45	6.89		Si
SLD 8	-1.95	4934.73	-4025	-0.0000255	0.0005615	0.0035	3.165		6751.19	6751.19	1.37		Si
SLD 8	0.73	3373.32	-11411	-0.000019	0.0005615	0.0035	3.165		17768.01	17768.01	5.27		Si
SLD 7	-1.95	4716.59	-3903	-0.0000236	0.0005615	0.0035	3.165		6565.62	6565.62	1.39		Si
SLD 7	0.73	3743.21	-11545	-0.0000199	0.0005615	0.0035	3.165		17962.74	17962.74	4.8		Si
SLV 12	-1.95	-1611.86	3938	0.2997864	0.0005615	0.0035	2.532		0	0	0		No
SLV 12	0.73	1319.51	-8135	-0.0000113	0.0005615	0.0035	3.165		12954.74	12954.74	9.82		Si
SLV 13	-1.95	7758.27	-26576	-0.0000451	0.0005615	0.0035	3.165		38086.53	38086.53	4.91		Si
SLV 13	0.73	23521.82	-25592	-0.0000918	0.0005615	0.0035	3.165		36948.11	36948.11	1.57		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-1.95	14286.19	-25538	-22700	-5334	3.165	3.0693	-15938	9070	15936	28547	42648	8071	44483	No	8.34	Si
SLU 80	0.73	18104.87	-27890	-24791	-10348	3.165	2.8001	-17407	9265	16772	28547	42648	8071	45319	No	4.38	Si
SLU 77	-1.95	14195.65	-25291	-22481	-5414	3.165	3.0636	-15784	9049	15848	28547	42648	8071	44395	No	8.2	Si
SLU 77	0.73	18045.05	-27794	-24706	-10420	3.165	2.7998	-17346	9257	16738	28547	42648	8071	45285	No	4.35	Si
SLU 81	-1.95	14525.8	-25858	-22985	-5554	3.165	3.0622	-16138	9096	16050	28547	42648	8071	44596	No	8.03	Si
SLU 81	0.73	18399.29	-28328	-25180	-10662	3.165	2.799	-17680	9302	16928	28547	42648	8071	45475	No	4.27	Si
SLU 78	-1.95	14344.38	-25631	-22783	-5380	3.165	3.0686	-15997	9077	15969	28547	42648	8071	44516	No	8.27	Si
SLU 78	0.73	18231.92	-27984	-24875	-10439	3.165	2.793	-17465	9273	16806	28547	42648	8071	45352	No	4.34	Si
SLU 84	-1.95	14747.61	-26361	-23432	-5606	3.165	3.0691	-16452	9138	16229	28547	42648	8071	44775	No	7.99	Si
SLU 84	0.73	18719.67	-28813	-25611	-10841	3.165	2.7984	-17982	9342	17100	28547	42648	8071	45647	No	4.21	Si
SLU 83	-1.95	14598.87	-26020	-23129	-5640	3.165	3.0643	-16240	9110	16108	28547	42648	8071	44654	No	7.92	Si
SLU 83	0.73	18532.81	-28623	-25442	-10822	3.165	2.805	-17864	9326	17033	28547	42648	8071	45579	No	4.21	Si
SLU 75	-1.95	14271.31	-25469	-22639	-5294	3.165	3.0665	-15895	9064	15911	28547	42648	8071	44458	No	8.4	Si
SLU 75	0.73	18098.4	-27690	-24613	-10278	3.165	2.7866	-17281	9249	16701	28547	42648	8071	45248	No	4.4	Si
SLU 74	-1.95	14122.58	-25128	-22336	-5328	3.165	3.0615	-15683	9036	15791	28547	42648	8071	44337	No	8.32	Si
SLU 74	0.73	17911.53	-27499	-24444	-10259	3.165	2.7935	-17163	9233	16633	28547	42648	8071	45180	No	4.4	Si
SLU 79	-1.95	14137.45	-25198	-22398	-5367	3.165	3.0643	-15726	9041	15815	28547	42648	8071	44362	No	8.27	Si
SLU 79	0.73	17918	-27700	-24622	-10330	3.165	2.8069	-17288	9249	16705	28547	42648	8071	45251	No	4.38	Si
SLU 82	-1.95	14674.54	-26198	-23287	-5520	3.165	3.0671	-16350	9125	16171	28547	42648	8071	44717	No	8.1	Si
SLU 82	0.73	18586.16	-28518	-25350	-10680	3.165	2.7923	-17799	9318	16996	28547	42648	8071	45542	No	4.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	-1.95	8686.11	-23153	-20580	-12686	3.165	3.165	-14450	13307	18952	28547	63973	8071	47499		3.74	Si
SLD 14	0.73	18730.99	-22764	-20235	-21540	3.165	2.279	-14207	13258	18378	28547	63973	8071	46925		2.18	Si
SLD 16	-1.95	5108.07	-15306	-13605	-12761	3.165	3.165	-9553	12327	17557	28547	63973	8071	46104		3.61	Si
SLD 16	0.73	14231.03	-18713	-16634	-20047	3.165	2.466	-11679	12752	16938	28547	63973	8071	45484		2.27	Si
SLV 16	-1.95	2184.64	-13484	-11986	-17932	3.165	3.165	-8415	12100	17233	28547	63973	8071	45780		2.55	Si
SLV 16	0.73	14932.25	-18345	-16307	-27360	3.165	2.3056	-11449	12707	16807	28547	63973	8071	45353		1.66	Si
SLV 13	-1.95	7758.27	-26576	-23623	-20193	3.165	3.165	-16586	13734	19733	28547	63973	8071	48280		2.39	Si
SLV 13	0.73	23521.82	-25592	-22748	-33598	3.165	1.9901	-15972	13611	19383	28547	63973	8071	47930		1.43	Si
SLD 15	-1.95	4769.32	-15118	-13438	-14276	3.165	3.165	-9435	12304	17524	28547	63973	8071	46070		3.23	Si
SLD 15	0.73	14805.42	-18922	-16820	-22385	3.165	2.4002	-11810	12779	17012	28547	63973	8071	45559		2.04	Si
SLV 14	-1.95	8292.22	-26873	-23887	-17805	3.165	3.165	-16772	13771	19839	28547	63973	8071	48385		2.72	Si
SLV 14	0.73	22616.43	-25261	-22455	-29912	3.165	2.0616	-15766	13570	19266	28547	63973	8071	47813		1.6	Si
SLD 13	-1.95	8347.37	-22964	-20413	-14202	3.165	3.165	-14332	13283	18919	28547	63973	8071	47465		3.34	Si
SLD 13	0.73	19305.38	-22973	-20421	-23878	3.165	2.2265	-14338	13284	18452	28547	63973	8071	46999		1.97	Si
SLV 4	-1.95	11945.4	-8475	-7533	13125	3.165	0.519	-32742	16250	13298	28547	63973	8071	41844		3.19	Si
SLV 4	0.73	1229.95	-12075	-10733	20046	3.165	3.165	-7536	11924	16983	28547	63973	8071	45529		2.27	Si
SLV 9	-1.95	18387.3	-40491	-35992	-8786	3.165	3.165	-25271	15471	24681	28547	63973	8071	53227		6.06	Si
SLV 9	0.73	27542.95	-31412	-27922	-19380	3.165	2.117	-19605	14338	21453	28547	63973	8071	49999		2.58	Si
SLV 15	-1.95	1650.68	-13187	-11722	-20320	3.165	3.165	-8230	12063	17180	28547	63973	8071	45727		2.25	Si
SLV 15	0.73	15837.64	-18675	-16600	-31046	3.165	2.2033	-11655	12748	16924	28547	63973	8071	45471		1.46	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	0	-289	191.89	0	0	No, e>t/2
SLV 7	179667	0.24	0	-392	191.89	0	0	No, e>t/2
SLV 12	179667	0.24	1508	-2148	191.89	478.56	2.49	Si
SLV 11	179667	0.24	1581	-2251	191.89	501.33	2.61	Si
SLV 4	179667	0.24	6609	-9413	191.89	2026.21	10.56	Si
SLV 3	179667	0.24	6717	-9566	191.89	2057.73	10.72	Si
SLV 16	179667	0.24	10961	-15611	191.89	3260.42	16.99	Si
SLV 15	179667	0.24	11069	-15765	191.89	3289.97	17.15	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.24	13421	-19114	191.89	3922.81	20.44	Si
SLV 1	179667	0.24	13528	-19268	191.89	3951.25	20.59	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-31412	-40491	696	0.582	3736.4	0.957	8.84037	2.58901	Si
SLV 10	-31190	-40691	683	0.586	3713.8	0.957	8.89705	2.58901	Si
SLV 5	-29531	-38989	569	0.615	3545.2	0.955	9.35082	2.58901	Si
SLV 6	-29309	-39189	555	0.619	3522.6	0.955	9.41444	2.58901	Si
SLV 13	-25592	-26576	677	0.683	3145	0.95	10.44448	2.7151	Si
SLV 14	-25261	-26873	657	0.691	3111.5	0.95	10.56582	2.7151	Si
SLV 1	-19321	-21567	252	0.867	2509.1	0.94	13.4042	2.7151	Si
SLV 15	-18675	-13187	530	0.877	2443.7	0.938	13.58301	2.7151	Si
SLV 2	-18991	-21864	232	0.879	2475.7	0.939	13.60618	2.7151	Si
SLV 16	-18345	-13484	510	0.89	2410.3	0.938	13.79398	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.05	SLU 52	Si
V_SLU	4.211	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	1.427	SLV 13	Si
PFFP_SLV	0	SLV 7	No
R_SLV	3.415	SLV 9	Si

Maschio 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.498	-3.284	L2	Z medio 5 cm	0.755	0.45	2	2	2			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	-1.95	-3523.68	-28414	-0.0005835	0.0003743	0.0035	0.755	1915.36	4325.88	4325.88	1.23	No	Si
SLU 78	0.05	-41.85	-19065	-0.0000999	0.0003743	0.0035	0.755	3230.26	4327	4327	103.39	No	Si
SLU 77	-1.95	-3481.36	-28251	-0.0005497	0.0003743	0.0035	0.755	1954.45	4338.43	4338.43	1.25	No	Si
SLU 77	0.05	-39.86	-18940	-0.000099	0.0003743	0.0035	0.755	3234.92	4318.58	4318.58	108.35	No	Si
SLU 76	-1.95	-3515.86	-28203	-0.0005641	0.0003743	0.0035	0.755	1965.88	4342.13	4342.13	1.24	No	Si
SLU 76	0.05	-43.27	-18934	-0.0000992	0.0003743	0.0035	0.755	3235.14	4318.17	4318.17	99.79	No	Si
SLU 82	-1.95	-3597.96	-29000	-0.0006924	0.0003743	0.0035	0.755	1769.31	4280.57	4280.57	1.19	No	Si
SLU 82	0.05	-48.61	-19631	-0.0001037	0.0003743	0.0035	0.755	3204.9	4365.83	4365.83	89.82	No	Si
SLU 84	-1.95	-3616.57	-29195	-0.0007338	0.0003743	0.0035	0.755	1718.98	4265.47	4265.47	1.18	No	Si
SLU 84	0.05	-49.32	-19737	-0.0001044	0.0003743	0.0035	0.755	3199.39	4373.19	4373.19	88.66	No	Si
SLU 75	-1.95	-3505.08	-28218	-0.0005595	0.0003743	0.0035	0.755	1962.36	4340.99	4340.99	1.24	No	Si
SLU 75	0.05	-41.14	-18960	-0.0000992	0.0003743	0.0035	0.755	3234.22	4319.89	4319.89	105.02	No	Si
SLU 83	-1.95	-3574.24	-29033	-0.0006758	0.0003743	0.0035	0.755	1760.84	4278.01	4278.01	1.2	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.05	-47.33	-19612	-0.0001036	0.0003743	0.0035	0.755	3205.88	4364.48	4364.48	92.22	No	Si
SLU 73	-1.95	-3497.26	-28008	-0.0005421	0.0003743	0.0035	0.755	2011.98	4357.24	4357.24	1.25	No	Si
SLU 73	0.05	-42.56	-18829	-0.0000985	0.0003743	0.0035	0.755	3238.8	4311.11	4311.11	101.3	No	Si
SLU 81	-1.95	-3555.64	-28838	-0.0006413	0.0003743	0.0035	0.755	1810.47	4293.1	4293.1	1.21	No	Si
SLU 81	0.05	-46.61	-19506	-0.0001029	0.0003743	0.0035	0.755	3211.1	4357.16	4357.16	93.48	No	Si
SLU 80	-1.95	-3506.25	-28291	-0.000565	0.0003743	0.0035	0.755	1945.03	4335.39	4335.39	1.24	No	Si
SLU 80	0.05	-42.66	-18956	-0.0000993	0.0003743	0.0035	0.755	3234.34	4319.66	4319.66	101.25	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	-1.95	-3811.83	-22874	-0.0003113	0.0005615	0.0035	0.755		5788.48	5788.48	1.52		Si
SLD 1	0.05	166.96	-15585	-0.0000808	0.0005615	0.0035	0.755		4511.56	4511.56	27.02		Si
SLD 2	-1.95	-3924.5	-23057	-0.0003224	0.0005615	0.0035	0.755		5812.53	5812.53	1.48		Si
SLD 2	0.05	180.55	-16041	-0.0000837	0.0005615	0.0035	0.755		4611.63	4611.63	25.54		Si
SLV 10	-1.95	-4617.76	-30674	-0.0004392	0.0005615	0.0035	0.755		6469.88	6469.88	1.4		Si
SLV 10	0.05	-156.54	-22861	-0.00012	0.0005615	0.0035	0.755		5786.86	5786.86	36.97		Si
SLD 6	-1.95	-4278.73	-26855	-0.0003755	0.0005615	0.0035	0.755		6198.03	6198.03	1.45		Si
SLD 6	0.05	16.07	-19383	-0.0000948	0.0005615	0.0035	0.755		5220.9	5220.9	324.84		Si
SLV 5	-1.95	-5437.23	-31817	-0.0005864	0.0005615	0.0035	0.755		6482.37	6482.37	1.19		Si
SLV 5	0.05	20.95	-23481	-0.0001176	0.0005615	0.0035	0.755		5840.86	5840.86	278.79		Si
SLV 6	-1.95	-5556.79	-32012	-0.0006245	0.0005615	0.0035	0.755		6483.95	6483.95	1.17		Si
SLV 6	0.05	35.36	-23964	-0.000121	0.0005615	0.0035	0.755		5909.69	5909.69	167.11		Si
SLV 1	-1.95	-4668.73	-25089	-0.000416	0.0005615	0.0035	0.755		6069.36	6069.36	1.3		Si
SLV 1	0.05	273.39	-17403	-0.0000947	0.0005615	0.0035	0.755		4911.67	4911.67	17.97		Si
SLD 5	-1.95	-4206.18	-26737	-0.0003676	0.0005615	0.0035	0.755		6189.6	6189.6	1.47		Si
SLD 5	0.05	7.33	-19090	-0.0000928	0.0005615	0.0035	0.755		5177.05	5177.05	706.74		Si
SLV 2	-1.95	-4846.32	-25379	-0.0004443	0.0005615	0.0035	0.755		6094.2	6094.2	1.26		Si
SLV 2	0.05	294.8	-18121	-0.0000995	0.0005615	0.0035	0.755		5033.08	5033.08	17.07		Si
SLV 9	-1.95	-4498.2	-30479	-0.0004244	0.0005615	0.0035	0.755		6460.12	6460.12	1.44		Si
SLV 9	0.05	-170.95	-22378	-0.0001179	0.0005615	0.0035	0.755		5723.93	5723.93	33.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.95	-3505.08	-28218	-25083	-5476	0.755	0.755	-87040	10833	7779	21410	10174	1925	12099	No	2.21	Si
SLU 75	0.05	-41.14	-18960	-16853	1640	0.755	0.755	-49605	10833	5584	21410	10174	1925	12099	No	7.38	Si
SLU 80	-1.95	-3506.25	-28291	-25147	-5469	0.755	0.755	-87306	10833	7796	21410	10174	1925	12099	No	2.21	Si
SLU 80	0.05	-42.66	-18956	-16850	1651	0.755	0.755	-49596	10833	5584	21410	10174	1925	12099	No	7.33	Si
SLU 84	-1.95	-3616.57	-29195	-25951	-5636	0.755	0.755	-93671	10833	8010	21410	10174	1925	12099	No	2.15	Si
SLU 84	0.05	-49.32	-19737	-17544	1709	0.755	0.755	-51638	10833	5769	21410	10174	1925	12099	No	7.08	Si
SLU 76	-1.95	-3515.86	-28203	-25070	-5515	0.755	0.755	-87264	10833	7775	21410	10174	1925	12099	No	2.19	Si
SLU 76	0.05	-43.27	-18934	-16830	1624	0.755	0.755	-49538	10833	5578	21410	10174	1925	12099	No	7.45	Si
SLU 83	-1.95	-3574.24	-29033	-25807	-5530	0.755	0.755	-91800	10833	7972	21410	10174	1925	12099	No	2.19	Si
SLU 83	0.05	-47.33	-19612	-17433	1726	0.755	0.755	-51311	10833	5739	21410	10174	1925	12099	No	7.01	Si
SLU 78	-1.95	-3523.68	-28414	-25256	-5500	0.755	0.755	-88161	10833	7825	21410	10174	1925	12099	No	2.2	Si
SLU 78	0.05	-41.85	-19065	-16947	1657	0.755	0.755	-49881	10833	5609	21410	10174	1925	12099	No	7.3	Si
SLU 77	-1.95	-3481.36	-28251	-25112	-5395	0.755	0.755	-86558	10833	7787	21410	10174	1925	12099	No	2.24	Si
SLU 77	0.05	-39.86	-18940	-16836	1673	0.755	0.755	-49554	10833	5580	21410	10174	1925	12099	No	7.23	Si
SLU 73	-1.95	-3497.26	-28008	-24896	-5491	0.755	0.755	-86173	10833	7729	21410	10174	1925	12099	No	2.2	Si
SLU 73	0.05	-42.56	-18829	-16737	1608	0.755	0.755	-49262	10833	5553	21410	10174	1925	12099	No	7.53	Si
SLU 82	-1.95	-3597.96	-29000	-25778	-5612	0.755	0.755	-92364	10833	7964	21410	10174	1925	12099	No	2.16	Si
SLU 82	0.05	-48.61	-19631	-17450	1693	0.755	0.755	-51362	10833	5744	21410	10174	1925	12099	No	7.15	Si
SLU 81	-1.95	-3555.64	-28838	-25633	-5506	0.755	0.755	-90547	10833	7926	21410	10174	1925	12099	No	2.2	Si
SLU 81	0.05	-46.61	-19506	-17339	1709	0.755	0.755	-51035	10833	5714	21410	10174	1925	12099	No	7.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	-1.95	-4278.73	-26855	-23871	-7836	0.755	0.6545	-86437	16250	8001	21410	15260	1925	17186		2.19	Si
SLD 6	0.05	16.07	-19383	-17229	557	0.755	0.755	-50711	16250	6230	21410	15260	1925	17186		30.88	Si
SLV 10	-1.95	-4617.76	-30674	-27265	-8809	0.755	0.6809	-96213	16250	8906	21410	15260	1925	17186		1.95	Si
SLV 10	0.05	-156.54	-22861	-20321	810	0.755	0.755	-59812	16250	7054	21410	15260	1925	17186		21.21	Si
SLV 2	-1.95	-4846.32	-25379	-22559	-8750	0.755	0.5596	-96928	16250	7651	21410	15260	1925	17186		1.96	Si
SLV 2	0.05	294.8	-18121	-16108	-162	0.755	0.755	-47410	16250	5931	21410	15260	1925	17186		105.97	Si
SLV 9	-1.95	-4498.2	-30479	-27092	-8518	0.755	0.6897	-94065	16250	8860	21410	15260	1925	17186		2.02	Si
SLV 9	0.05	-170.95	-22378	-19892	897	0.755	0.755	-58548	16250	6940	21410	15260	1925	17186		19.16	Si
SLD 5	-1.95	-4206.18	-26737	-23766	-7659	0.755	0.6606	-85133	16250	7973	21410	15260	1925	17186		2.24	Si
SLD 5	0.05	7.33	-19090	-16969	609	0.755	0.755	-49944	16250	6160	21410	15260	1925	17186		28.22	Si
SLD 2	-1.95	-3924.5	-23057	-20495	-6857	0.755	0.6219	-77181	16250	7101	21410	15260	1925	17186		2.51	Si
SLD 2	0.05	180.55	-16041	-14258	315	0.755	0.755	-41967	16250	5521	21410	15260	1925	17186		54.56	Si
SLD 10	-1.95	-3677.94	-26000	-23111	-6664	0.755	0.7081	-76447	16250	7798	21410	15260	1925	17186		2.58	Si
SLD 10	0.05	-106.33	-18678	-16602	962	0.755	0.755	-48866	16250	6063	21410	15260	1925	17186		17.86	Si
SLV 1	-1.95	-4668.73	-25089	-22302	-8318	0.755	0.5742	-92818	16250	7582	21410	15260	1925	17186		2.07	Si
SLV 1	0.05	273.39	-17403	-15470	-34	0.755	0.755	-45533	16250	5761	21410	15260	1925	17186		509.32	Si
SLV 6	-1.95	-5556.79	-32012	-28455	-10635	0.755	0.6117	-116926	16250	9223	21410	15260	1925	17186		1.62	Si
SLV 6	0.05	35.36	-23964	-21302	177	0.755	0.755	-62698	16250	7316	21410	15260	1925	17186		96.93	Si
SLV 5	-1.95	-5437.23	-31817	-28282	-10344	0.755	0.6198	-113570	16250	9177	21410	15260	1925	17186		1.66	Si
SLV 5	0.05	20.95	-23481	-20872	264	0.755	0.755	-61434	16250	7201	21410	15260	1925	17186		65.16	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.95 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	13179	-4478	25.49	920.54	36.11	Si
SLV 12	179667	0.24	13910	-4726	25.49	966.48	37.91	Si
SLV 7	179667	0.24	15204	-5166	25.49	1046.55	41.05	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	15935	-5414	25.49	1091.01	42.8	Si
SLV 15	179667	0.24	30469	-10352	25.49	1864.44	73.14	Si
SLV 16	179667	0.24	31554	-10720	25.49	1913.7	75.07	Si
SLV 3	179667	0.24	37218	-12645	25.49	2151.7	84.41	Si
SLV 4	179667	0.24	38303	-13013	25.49	2193.63	86.05	Si
SLV 13	179667	0.24	47464	-16126	25.49	2500.66	98.1	Si
SLV 14	179667	0.24	48549	-16495	25.49	2531.46	99.3	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.95 Wa = 0.08 Ta = 0.0148

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-23964	-32012	-448	0.27	2536.8	0.988	3.96598	2.40959	Si
SLV 5	-23481	-31817	-434	0.273	2487.5	0.988	4.0219	2.40959	Si
SLV 10	-22861	-30674	-401	0.279	2424.3	0.987	4.10653	2.40959	Si
SLV 9	-22378	-30479	-387	0.283	2375.1	0.987	4.16816	2.40959	Si
SLV 2	-18121	-25379	-355	0.324	1941.2	0.984	4.77725	2.47283	Si
SLV 1	-17403	-25089	-334	0.333	1868.1	0.984	4.92155	2.47283	Si
SLV 14	-14445	-20918	-197	0.386	1566.6	0.981	5.71392	2.47283	Si
SLV 13	-13727	-20628	-176	0.401	1493.5	0.98	5.94361	2.47283	Si
SLV 4	-11909	-18314	-225	0.439	1308.3	0.977	6.52438	2.47283	Si
SLV 3	-11192	-18025	-204	0.46	1235.2	0.976	6.85476	2.47283	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.179	SLU 84	Si
V_SLU	2.147	SLU 84	Si
PF_SLV	1.167	SLV 6	Si
V_SLV	1.616	SLV 6	Si
PFFP_SLV	36.111	SLV 11	Si
R_SLV	1.646	SLV 6	Si

Maschio 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.503	-3.284	Z medio 5 cm	Z medio 45 cm	0.75	0.45	0.4	0.4	0.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	0.05	1699.1	-23452	-0.0002233	0.0003743	0.0035	0.75	2792.1	4409.87	4409.87	2.6	No	Si
SLU 76	0.45	1848.43	-20705	-0.0002065	0.0003743	0.0035	0.75	3085.8	4347.77	4347.77	2.35	No	Si
SLU 78	0.05	1725.63	-23650	-0.0002269	0.0003743	0.0035	0.75	2764.61	4407.28	4407.28	2.55	No	Si
SLU 78	0.45	1854.47	-20842	-0.000208	0.0003743	0.0035	0.75	3075.06	4357.39	4357.39	2.35	No	Si
SLU 84	0.05	1770.6	-24457	-0.0002381	0.0003743	0.0035	0.75	2643.55	4396.75	4396.75	2.48	No	Si
SLU 84	0.45	1928.02	-21575	-0.0002192	0.0003743	0.0035	0.75	3010.65	4409.43	4409.43	2.29	No	Si
SLU 77	0.05	1730.88	-23535	-0.0002261	0.0003743	0.0035	0.75	2780.66	4408.78	4408.78	2.55	No	Si
SLU 77	0.45	1835.09	-20687	-0.0002055	0.0003743	0.0035	0.75	3087.22	4346.47	4346.47	2.37	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	0.05	1711.2	-23505	-0.0002245	0.0003743	0.0035	0.75	2784.91	4409.18	4409.18	2.58	No	Si
SLU 75	0.45	1847.05	-20732	-0.0002066	0.0003743	0.0035	0.75	3083.71	4349.67	4349.67	2.35	No	Si
SLU 80	0.05	1717.03	-23521	-0.0002251	0.0003743	0.0035	0.75	2782.62	4408.96	4408.96	2.57	No	Si
SLU 80	0.45	1842.93	-20711	-0.0002062	0.0003743	0.0035	0.75	3085.32	4348.21	4348.21	2.36	No	Si
SLU 83	0.05	1775.85	-24342	-0.0002372	0.0003743	0.0035	0.75	2661.63	4398.25	4398.25	2.48	No	Si
SLU 83	0.45	1908.64	-21419	-0.0002166	0.0003743	0.0035	0.75	3025.29	4398.31	4398.31	2.3	No	Si
SLU 73	0.05	1684.67	-23307	-0.0002209	0.0003743	0.0035	0.75	2811.77	4411.77	4411.77	2.62	No	Si
SLU 73	0.45	1841	-20595	-0.000205	0.0003743	0.0035	0.75	3094.12	4340	4340	2.36	No	Si
SLU 81	0.05	1761.41	-24197	-0.0002347	0.0003743	0.0035	0.75	2684.12	4400.14	4400.14	2.5	No	Si
SLU 81	0.45	1901.22	-21309	-0.0002151	0.0003743	0.0035	0.75	3035.33	4390.48	4390.48	2.31	No	Si
SLU 82	0.05	1756.16	-24312	-0.0002356	0.0003743	0.0035	0.75	2666.41	4398.65	4398.65	2.5	No	Si
SLU 82	0.45	1920.59	-21465	-0.0002177	0.0003743	0.0035	0.75	3021.06	4401.56	4401.56	2.29	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	0.05	1166.99	-5487	-0.0000797	0.0005615	0.0035	0.75		1918.83	1918.83	1.64		Si
SLV 12	0.45	-328.91	-721	-0.0002457	0.0005615	0.0035	0.6		397.04	397.04	1.21		Si
SLV 9	0.05	1383.77	-26336	-0.0001994	0.0005615	0.0035	0.75		6034.98	6034.98	4.36		Si
SLV 9	0.45	2442.51	-25249	-0.0002442	0.0005615	0.0035	0.75		5949.82	5949.82	2.44		Si
SLV 2	0.05	895.8	-19544	-0.0001341	0.0005615	0.0035	0.75		5194.83	5194.83	5.8		Si
SLV 2	0.45	2308.13	-21569	-0.0002112	0.0005615	0.0035	0.75		5497.82	5497.82	2.38		Si
SLV 11	0.05	1194.8	-5124	-0.0000856	0.0005615	0.0035	0.75		1804.26	1804.26	1.51		Si
SLV 11	0.45	-415.36	-33	-0.0018138	0.0005615	0.0035	0.6		145.81	145.81	0.35		No
SLV 6	0.05	1177.22	-26782	-0.0001924	0.0005615	0.0035	0.75		6070.17	6070.17	5.16		Si
SLV 6	0.45	2879.01	-27917	-0.0002884	0.0005615	0.0035	0.75		6159.08	6159.08	2.14		Si
SLV 5	0.05	1205.04	-26420	-0.0001913	0.0005615	0.0035	0.75		6041.56	6041.56	5.01		Si
SLV 5	0.45	2792.56	-27230	-0.0002781	0.0005615	0.0035	0.75		6105.55	6105.55	2.19		Si
SLV 1	0.05	937.12	-19005	-0.0001327	0.0005615	0.0035	0.75		5114.59	5114.59	5.46		Si
SLV 1	0.45	2179.71	-20548	-0.0001982	0.0005615	0.0035	0.75		5344.99	5344.99	2.45		Si
SLV 8	0.05	988.25	-5571	-0.0000658	0.0005615	0.0035	0.75		1945.24	1945.24	1.97		Si
SLV 8	0.45	21.14	-2701	-0.0000129	0.0005615	0.0035	0.75		1002.77	1002.77	47.43		Si
SLV 7	0.05	1016.07	-5208	-0.0000676	0.0005615	0.0035	0.75		1830.69	1830.69	1.8		Si
SLV 7	0.45	-65.31	-2014	-0.0000114	0.0005615	0.0035	0.75		858.67	858.67	13.15		Si
SLV 10	0.05	1355.96	-26699	-0.0002005	0.0005615	0.0035	0.75		6063.56	6063.56	4.47		Si
SLV 10	0.45	2528.96	-25937	-0.0002539	0.0005615	0.0035	0.75		6003.61	6003.61	2.37		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.05	1730.88	-23535	-20920	4585	0.75	0.75	-61986	10833	9992	2379	10106	1912	12019	No	2.62	Si
SLU 77	0.45	1835.09	-20687	-18388	1492	0.75	0.75	-54483	10833	8980	2379	10106	1912	11359	No	7.61	Si
SLU 75	0.05	1711.2	-23505	-20893	4487	0.75	0.75	-61905	10833	9982	2379	10106	1912	12019	No	2.68	Si
SLU 75	0.45	1847.05	-20732	-18429	1416	0.75	0.75	-54603	10833	8996	2379	10106	1912	11375	No	8.03	Si
SLU 82	0.05	1756.16	-24312	-21610	4624	0.75	0.75	-64031	10833	10268	2379	10106	1912	12019	No	2.6	Si
SLU 82	0.45	1920.59	-21465	-19080	1450	0.75	0.75	-56533	10833	9256	2379	10106	1912	11635	No	8.02	Si
SLU 83	0.05	1775.85	-24342	-21638	4722	0.75	0.75	-64111	10833	10279	2379	10106	1912	12019	No	2.55	Si
SLU 83	0.45	1908.64	-21419	-19039	1526	0.75	0.75	-56413	10833	9240	2379	10106	1912	11619	No	7.61	Si
SLU 80	0.05	1717.03	-23521	-20908	4524	0.75	0.75	-61949	10833	9987	2379	10106	1912	12019	No	2.66	Si
SLU 80	0.45	1842.93	-20711	-18410	1438	0.75	0.75	-54548	10833	8988	2379	10106	1912	11367	No	7.91	Si
SLU 84	0.05	1770.6	-24457	-21740	4674	0.75	0.75	-64413	10833	10320	2379	10106	1912	12019	No	2.57	Si
SLU 84	0.45	1928.02	-21575	-19178	1471	0.75	0.75	-56822	10833	9295	2379	10106	1912	11674	No	7.94	Si
SLU 78	0.05	1725.63	-23650	-21022	4537	0.75	0.75	-62288	10833	10033	2379	10106	1912	12019	No	2.65	Si
SLU 78	0.45	1854.47	-20842	-18526	1437	0.75	0.75	-54893	10833	9035	2379	10106	1912	11414	No	7.94	Si
SLU 79	0.05	1722.28	-23406	-20806	4571	0.75	0.75	-61647	10833	9947	2379	10106	1912	12019	No	2.63	Si
SLU 79	0.45	1823.55	-20556	-18272	1493	0.75	0.75	-54139	10833	8933	2379	10106	1912	11312	No	7.58	Si
SLU 81	0.05	1761.41	-24197	-21508	4672	0.75	0.75	-63728	10833	10228	2379	10106	1912	12019	No	2.57	Si
SLU 81	0.45	1901.22	-21309	-18942	1505	0.75	0.75	-56123	10833	9201	2379	10106	1912	11580	No	7.69	Si
SLU 74	0.05	1716.45	-23390	-20791	4535	0.75	0.75	-61603	10833	9941	2379	10106	1912	12019	No	2.65	Si
SLU 74	0.45	1827.67	-20577	-18290	1471	0.75	0.75	-54194	10833	8941	2379	10106	1912	11319	No	7.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	0.05	1194.8	-5124	-4555	6603	0.75	0.4255	-13496	13116	4259	2379	15159	1912	6638		1.01	Si
SLV 11	0.45	-415.36	-33	-29	4502	0.6	0	0	0	0	2379	12127	1530	2379		0.53	No
SLD 11	0.05	1197.34	-9604	-8537	5235	0.75	0.75	-25294	15475	5852	2379	15159	1912	8231		1.57	Si
SLD 11	0.45	256.45	-5748	-5109	3095	0.75	0.75	-15138	13444	4537	2379	15159	1912	6916		2.23	Si
SLD 15	0.05	1373.96	-13830	-12293	6354	0.75	0.75	-36425	16250	7354	2379	15159	1912	9733		1.53	Si
SLD 15	0.45	565.7	-9325	-8289	2773	0.75	0.75	-24559	15329	5752	2379	15159	1912	8131		2.93	Si
SLV 16	0.05	1434.9	-12902	-11468	7723	0.75	0.75	-33980	16250	7024	2379	15159	1912	9403		1.22	Si
SLV 16	0.45	283.94	-7402	-6580	3494	0.75	0.75	-19496	14316	5069	2379	15159	1912	7448		2.13	Si
SLD 12	0.05	1180.46	-9824	-8732	5031	0.75	0.75	-25874	15591	5930	2379	15159	1912	8309		1.65	Si
SLD 12	0.45	308.91	-6165	-5480	2959	0.75	0.75	-16237	13664	4629	2379	15159	1912	7008		2.37	Si
SLV 7	0.05	1016.07	-5208	-4629	4061	0.75	0.5397	-13717	13160	4289	2379	15159	1912	6668		1.64	Si
SLV 7	0.45	-65.31	-2014	-1790	3432	0.75	0.75	-5303	11477	3874	2379	15159	1912	6252		1.82	Si
SLV 15	0.05	1476.22	-12363	-10989	8222	0.75	0.75	-32560	16250	6833	2379	15159	1912	9211		1.12	Si
SLV 15	0.45	155.52	-6381	-5672	3827	0.75	0.75	-16806	13778	4706	2379	15159	1912	7085		1.85	Si
SLV 12	0.05	1166.99	-5487	-4877	6267	0.75	0.487	-14452	13307	4388	2379	15159	1912	6767		1.08	Si
SLV 12	0.45	-328.91	-721	-640	4278	0.6	0	0	0	0	2379	12127	1530	2379		0.56	No
SLV 13	0.05	1532.91	-18726	-16646	6998	0.75	0.75	-49320	16250	9095	2379	15159	1912	11474		1.64	Si
SLV 13	0.45	1012.88	-13946	-12396	2131	0.75	0.75	-36730	16250	7395	2379	15159	1912	9774		4.59	Si
SLD 16	0.05	1347.74	-14172	-12597	6037	0.75	0.75	-37325	16250	7476	2379	15159	1912	9855		1.63	Si
SLD 16	0.45	647.17	-9973	-8865	2561	0.75	0.75	-26266	15670	5983	2379	15159	1912	8362		3.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.25 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.25	13434	-4534	1.04	930.38	898.73	Si
SLV 7	179667	0.25	13873	-4682	1.04	957.76	925.18	Si
SLV 12	179667	0.25	14460	-4880	1.04	994.07	960.25	Si
SLV 8	179667	0.25	14899	-5028	1.04	1021.01	986.27	Si
SLV 15	179667	0.25	33319	-11245	1.04	1978.15	1910.86	Si
SLV 3	179667	0.25	34783	-11739	1.04	2039.74	1970.36	Si
SLV 16	179667	0.25	34843	-11760	1.04	2042.24	1972.77	Si
SLV 4	179667	0.25	36307	-12254	1.04	2101.61	2030.12	Si
SLV 13	179667	0.25	51017	-17218	1.04	2579.9	2492.14	Si
SLV 1	179667	0.25	52481	-17712	1.04	2615.73	2526.75	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.25 Wa = 0.08 Ta = 0.0006

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-27917	-26782	-3694	0.583	2864.4	0.998	8.49739	2.43792	Si
SLV 5	-27230	-26420	-3593	0.588	2794.3	0.998	8.55959	2.43792	Si
SLV 10	-25937	-26699	-3404	0.596	2662.5	0.998	8.68442	2.43792	Si
SLV 9	-25249	-26336	-3302	0.601	2592.4	0.998	8.75657	2.43792	Si
SLV 2	-21569	-19544	-2841	0.629	2217.3	0.997	9.16563	2.44038	Si
SLV 1	-20548	-19005	-2690	0.639	2113.2	0.997	9.3211	2.44038	Si
SLV 14	-14967	-19265	-1872	0.722	1544.3	0.996	10.53755	2.44038	Si
SLV 4	-14004	-13181	-1797	0.738	1446.1	0.996	10.77655	2.44038	Si
SLV 13	-13946	-18726	-1721	0.744	1440.2	0.996	10.86628	2.44038	Si
SLV 3	-12983	-12642	-1646	0.764	1342	0.995	11.14825	2.44038	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.287	SLU 84	Si
V_SLU	2.546	SLU 83	Si
PF_SLV	0.351	SLV 11	No
V_SLV	0.528	SLV 11	No
PFFP_SLV	898.729	SLV 11	Si
R_SLV	3.486	SLV 6	Si

Maschio 43

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.498	-3.284	Z medio 45 cm	L4	0.755	0.45	0.28	0.28	0.28			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	0.45	1142.79	-18955	-0.0001522	0.0003743	0.0035	0.755	3234.38	4269.32	4269.32	3.74	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	0.73	296.07	-19246	-0.000113	0.0003743	0.0035	0.755	3222.94	4289.99	4289.99	14.49	No	Si
SLU 84	0.45	1189.76	-19744	-0.0001604	0.0003743	0.0035	0.755	3199.02	4325.82	4325.82	3.64	No	Si
SLU 84	0.73	299.06	-20060	-0.0001184	0.0003743	0.0035	0.755	3181.06	4348.73	4348.73	14.54	No	Si
SLU 81	0.45	1174.8	-19509	-0.0001579	0.0003743	0.0035	0.755	3210.96	4308.89	4308.89	3.67	No	Si
SLU 81	0.73	288.95	-19819	-0.0001163	0.0003743	0.0035	0.755	3194.97	4331.22	4331.22	14.99	No	Si
SLU 82	0.45	1184.21	-19638	-0.0001594	0.0003743	0.0035	0.755	3204.55	4318.17	4318.17	3.65	No	Si
SLU 82	0.73	299.04	-19950	-0.0001177	0.0003743	0.0035	0.755	3187.52	4340.78	4340.78	14.52	No	Si
SLU 78	0.45	1149.42	-19096	-0.0001536	0.0003743	0.0035	0.755	3229.08	4279.29	4279.29	3.72	No	Si
SLU 78	0.73	293.09	-19390	-0.0001137	0.0003743	0.0035	0.755	3216.55	4300.35	4300.35	14.67	No	Si
SLU 77	0.45	1140.01	-18967	-0.0001522	0.0003743	0.0035	0.755	3233.96	4270.14	4270.14	3.75	No	Si
SLU 77	0.73	283	-19259	-0.0001124	0.0003743	0.0035	0.755	3222.39	4290.91	4290.91	15.16	No	Si
SLU 80	0.45	1142.07	-18976	-0.0001523	0.0003743	0.0035	0.755	3233.65	4270.74	4270.74	3.74	No	Si
SLU 80	0.73	289.36	-19267	-0.0001128	0.0003743	0.0035	0.755	3222.03	4291.52	4291.52	14.83	No	Si
SLU 73	0.45	1137.23	-18850	-0.0001512	0.0003743	0.0035	0.755	3238.09	4261.82	4261.82	3.75	No	Si
SLU 73	0.73	296.06	-19137	-0.0001123	0.0003743	0.0035	0.755	3227.46	4282.2	4282.2	14.46	No	Si
SLU 75	0.45	1143.86	-18990	-0.0001525	0.0003743	0.0035	0.755	3233.12	4271.76	4271.76	3.73	No	Si
SLU 75	0.73	293.08	-19281	-0.000113	0.0003743	0.0035	0.755	3221.42	4292.53	4292.53	14.65	No	Si
SLU 83	0.45	1180.36	-19615	-0.000159	0.0003743	0.0035	0.755	3205.72	4316.52	4316.52	3.66	No	Si
SLU 83	0.73	288.97	-19928	-0.000117	0.0003743	0.0035	0.755	3188.82	4339.14	4339.14	15.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	0.45	1280.08	-18246	-0.0001417	0.0005615	0.0035	0.755		5051.54	5051.54	3.95		Si
SLV 1	0.73	754.76	-18463	-0.0001206	0.0005615	0.0035	0.755		5083.75	5083.75	6.74		Si
SLV 9	0.45	1435.93	-22697	-0.0001759	0.0005615	0.0035	0.755		5720.78	5720.78	3.98		Si
SLV 9	0.73	722.99	-23128	-0.0001464	0.0005615	0.0035	0.755		5786.62	5786.62	8		Si
SLV 11	0.45	-125.97	-856	-0.0000083	0.0005615	0.0035	0.755		448.97	448.97	3.56		Si
SLV 11	0.73	-612.89	-773	-0.0011622	0.0005615	0.0035	0.604		418.55	418.55	0.68		No
SLV 2	0.45	1346.93	-19105	-0.0001497	0.0005615	0.0035	0.755		5179.38	5179.38	3.85		Si
SLV 2	0.73	821.62	-19336	-0.0001284	0.0005615	0.0035	0.755		5213.94	5213.94	6.35		Si
SLV 8	0.45	104.45	-2973	-0.0000171	0.0005615	0.0035	0.755		1103.65	1103.65	10.57		Si
SLV 8	0.73	-332.38	-2885	-0.0000248	0.0005615	0.0035	0.755		1165	1165	3.51		Si
SLV 6	0.45	1666.35	-24814	-0.0002005	0.0005615	0.0035	0.755		5982.53	5982.53	3.59		Si
SLV 6	0.73	1003.51	-25240	-0.0001722	0.0005615	0.0035	0.755		6015.83	6015.83	5.99		Si
SLV 10	0.45	1480.93	-23276	-0.0001817	0.0005615	0.0035	0.755		5809.32	5809.32	3.92		Si
SLV 10	0.73	768.01	-23716	-0.000152	0.0005615	0.0035	0.755		5876.95	5876.95	7.65		Si
SLV 12	0.45	-80.96	-1435	-0.0000092	0.0005615	0.0035	0.755		658	658	8.13		Si
SLV 12	0.73	-567.87	-1361	-0.000337	0.0005615	0.0035	0.604		631.33	631.33	1.11		Si
SLV 5	0.45	1621.35	-24236	-0.0001945	0.0005615	0.0035	0.755		5937.43	5937.43	3.66		Si
SLV 5	0.73	958.49	-24652	-0.0001664	0.0005615	0.0035	0.755		5969.85	5969.85	6.23		Si
SLV 7	0.45	59.45	-2395	-0.0000128	0.0005615	0.0035	0.755		903.42	903.42	15.2		Si
SLV 7	0.73	-377.39	-2297	-0.0000243	0.0005615	0.0035	0.755		963.71	963.71	2.55		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.45	1174.8	-19509	-17342	2071	0.755	0.755	-51042	10833	8572	0	10174	1925	8572	No	4.14	Si
SLU 81	0.73	288.95	-19819	-17617	2328	0.755	0.755	-51851	10833	8682	0	10174	1925	8682	No	3.73	Si
SLU 78	0.45	1149.42	-19096	-16974	1998	0.755	0.755	-49960	10833	8425	0	10174	1925	8425	No	4.22	Si
SLU 78	0.73	293.09	-19390	-17236	2246	0.755	0.755	-50731	10833	8530	0	10174	1925	8530	No	3.8	Si
SLU 77	0.45	1140.01	-18967	-16860	2006	0.755	0.755	-49623	10833	8379	0	10174	1925	8379	No	4.18	Si
SLU 77	0.73	283	-19259	-17119	2253	0.755	0.755	-50386	10833	8483	0	10174	1925	8483	No	3.77	Si
SLU 80	0.45	1142.07	-18976	-16867	1991	0.755	0.755	-49646	10833	8382	0	10174	1925	8382	No	4.21	Si
SLU 80	0.73	289.36	-19267	-17126	2237	0.755	0.755	-50409	10833	8486	0	10174	1925	8486	No	3.79	Si
SLU 74	0.45	1134.46	-18861	-16765	1993	0.755	0.755	-49347	10833	8341	0	10174	1925	8341	No	4.19	Si
SLU 74	0.73	282.99	-19149	-17022	2238	0.755	0.755	-50101	10833	8444	0	10174	1925	8444	No	3.77	Si
SLU 83	0.45	1180.36	-19615	-17436	2084	0.755	0.755	-51319	10833	8610	0	10174	1925	8610	No	4.13	Si
SLU 83	0.73	288.97	-19928	-17714	2342	0.755	0.755	-52137	10833	8721	0	10174	1925	8721	No	3.72	Si
SLU 84	0.45	1189.76	-19744	-17550	2077	0.755	0.755	-51656	10833	8655	0	10174	1925	8655	No	4.17	Si
SLU 84	0.73	299.06	-20060	-17831	2336	0.755	0.755	-52482	10833	8768	0	10174	1925	8768	No	3.75	Si
SLU 82	0.45	1184.21	-19638	-17456	2063	0.755	0.755	-51379	10833	8618	0	10174	1925	8618	No	4.18	Si
SLU 82	0.73	299.04	-19950	-17734	2321	0.755	0.755	-52196	10833	8729	0	10174	1925	8729	No	3.76	Si
SLU 75	0.45	1143.86	-18990	-16880	1985	0.755	0.755	-49683	10833	8387	0	10174	1925	8387	No	4.22	Si
SLU 75	0.73	293.08	-19281	-17139	2231	0.755	0.755	-50445	10833	8491	0	10174	1925	8491	No	3.81	Si
SLU 79	0.45	1132.67	-18847	-16753	1998	0.755	0.755	-49309	10833	8336	0	10174	1925	8336	No	4.17	Si
SLU 79	0.73	279.27	-19135	-17009	2244	0.755	0.755	-50064	10833	8439	0	10174	1925	8439	No	3.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	0.45	239.83	-5771	-5130	1407	0.755	0.755	-15100	13437	4565	0	15260	1925	4565		3.24	Si
SLD 11	0.73	-284.53	-5794	-5150	1540	0.755	0.755	-15158	13448	4569	0	15260	1925	4569		2.97	Si
SLV 11	0.45	-125.97	-856	-761	1444	0.755	0.6911	-2240	10865	3379	0	15260	1925	3379		2.34	Si
SLV 11	0.73	-612.89	-773	-687	1554	0.604	0	0	0	0	0	12208	1540	0		0	No
SLD 12	0.45	267.14	-6122	-5442	1402	0.755	0.755	-16018	13620	4630	0	15260	1925	4630		3.3	Si
SLD 12	0.73	-257.21	-6150	-5467	1534	0.755	0.755	-16091	13635	4640	0	15260	1925	4640		3.03	Si
SLD 8	0.45	386.22	-7106	-6316	1346	0.755	0.755	-18590	14135	4980	0	15260	1925	4980		3.7	Si
SLD 8	0.73	-106.17	-7125	-6333	1461	0.755	0.755	-18640	14145	4986	0	15260	1925	4986		3.41	Si
SLD 7	0.45	358.91	-6755	-6004	1351	0.755	0.755	-17672	13951	4855	0	15260	1925	4855		3.59	Si
SLD 7	0.73	-133.49	-6768	-6016	1467	0.755	0.755	-17707	13958	4860	0	15260	1925	4860		3.31	Si
SLV 8	0.45	104.45	-2973	-2643	1347	0.755	0.755	-7779	11972	4068	0	15260	1925	4068		3.02	Si
SLV 8	0.73	-332.38	-2885	-2564	1430	0.755	0.755	-7547	11926	4052	0	15260	1925	4052		2.83	Si
SLV 12	0.45	-80.96	-1435	-1275	1435	0.755	0.755	-3754	11167	3794	0	15260	1925	3794		2.64	Si
SLV 12	0.73	-567.87	-1361	-1209	1544	0.604	0	0	0	0	0	12208	1540	0		0	No
SLV 15	0.45	193.45	-6565	-5836	1516	0.755	0.755	-17177	13852	4788	0	15260	1925	4788		3.16	Si
SLV 15	0.73	-431	-6676	-5934	1704	0.755	0.755	-17467	13910	4827	0	15260	1925	4827		2.83	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.45	260.3	-7425	-6600	1503	0.755	0.755	-19425	14302	5093	0	15260	1925	5093		3.39	Si
SLV 16	0.73	-364.14	-7550	-6711	1689	0.755	0.755	-19752	14367	5137	0	15260	1925	5137		3.04	Si
SLV 7	0.45	59.45	-2395	-2129	1356	0.755	0.755	-6265	11670	3965	0	15260	1925	3965		2.92	Si
SLV 7	0.73	-377.39	-2297	-2042	1440	0.755	0.6396	-7117	11840	3408	0	15260	1925	3408		2.37	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.59 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.26	2179	-740	0.53	164.16	312.35	Si
SLV 12	179667	0.26	3901	-1325	0.53	290.61	552.93	Si
SLV 7	179667	0.26	6680	-2270	0.53	488.31	929.09	Si
SLV 8	179667	0.26	8403	-2855	0.53	607	1154.9	Si
SLV 15	179667	0.26	19376	-6583	0.53	1293.24	2460.57	Si
SLV 16	179667	0.26	21935	-7452	0.53	1435.93	2732.07	Si
SLV 3	179667	0.26	34381	-11681	0.53	2036.51	3874.77	Si
SLV 4	179667	0.26	36940	-12550	0.53	2140.77	4073.13	Si
SLV 13	179667	0.26	38976	-13242	0.53	2219.06	4222.09	Si
SLV 14	179667	0.26	41535	-14111	0.53	2311.54	4398.05	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.59 Wa = 0.08 Ta = 0.0003

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-25240	-24814	-2890	0.86	2586	0.998	12.51418	2.4827	Si
SLV 5	-24652	-24236	-2806	0.864	2526	0.998	12.58346	2.4827	Si
SLV 10	-23716	-23276	-2635	0.874	2430.6	0.998	12.72402	2.4827	Si
SLV 9	-23128	-22697	-2551	0.879	2370.7	0.998	12.80317	2.4827	Si
SLV 2	-19336	-19105	-2261	0.909	1984.2	0.998	13.24063	2.48392	Si
SLV 1	-18463	-18246	-2136	0.921	1895.2	0.998	13.41222	2.48392	Si
SLV 14	-14256	-13977	-1409	1.006	1466.3	0.997	14.66084	2.48392	Si
SLV 13	-13383	-13118	-1285	1.028	1377.3	0.997	14.98973	2.48392	Si
SLV 4	-12630	-12553	-1449	1.029	1300.5	0.997	14.99863	2.48392	Si
SLV 3	-11756	-11693	-1324	1.056	1211.5	0.996	15.39783	2.48392	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.636	SLU 84	Si
V_SLU	3.723	SLU 83	Si
PF_SLV	0.683	SLV 11	No
V_SLV	0	SLV 11	No
PFFP_SLV	312.348	SLV 11	Si
R_SLV	5.041	SLV 6	Si

Maschio 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.848	-3.284	-7.848	-4.709	L2	L4	1.425	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	-1.95	-9051.01	-14785	-0.0018311	0.0003743	0.0035	1.14	8148.86	9234.66	9234.66	1.02	No	Si
SLU 77	0.73	2084.06	-7014	-0.0000392	0.0003743	0.0035	1.425	4460.84	4696.15	4696.15	2.25	No	Si
SLU 78	-1.95	-9062.33	-14875	-0.0017089	0.0003743	0.0035	1.14	8183.82	9278.11	9278.11	1.02	No	Si
SLU 78	0.73	2047.39	-6993	-0.0000386	0.0003743	0.0035	1.425	4448.78	4683.22	4683.22	2.29	No	Si
SLU 75	-1.95	-8980.06	-14767	-0.001566	0.0003743	0.0035	1.14	8141.63	9225.7	9225.7	1.03	No	Si
SLU 75	0.73	1972.75	-6858	-0.0000374	0.0003743	0.0035	1.425	4373.14	4602.37	4602.37	2.33	No	Si
SLU 81	-1.95	-9189.52	-15089	-0.0018526	0.0003743	0.0035	1.14	8266.33	9381.82	9381.82	1.02	No	Si
SLU 81	0.73	1967.82	-6984	-0.0000375	0.0003743	0.0035	1.425	4444.04	4678.14	4678.14	2.38	No	Si
SLU 74	-1.95	-8968.74	-14677	-0.0016848	0.0003743	0.0035	1.14	8106.46	9182.34	9182.34	1.02	No	Si
SLU 74	0.73	2009.42	-6880	-0.0000379	0.0003743	0.0035	1.425	4385.26	4615.3	4615.3	2.3	No	Si
SLU 82	-1.95	-9200.84	-15179	-0.0017299	0.0003743	0.0035	1.14	8300.69	9425.51	9425.51	1.02	No	Si
SLU 82	0.73	1931.15	-6963	-0.000037	0.0003743	0.0035	1.425	4431.97	4665.22	4665.22	2.42	No	Si
SLU 84	-1.95	-9283.11	-15288	-0.001884	0.0003743	0.0035	1.14	8341.9	9478.08	9478.08	1.02	No	Si
SLU 84	0.73	2005.79	-7098	-0.0000383	0.0003743	0.0035	1.425	4507.3	4746.06	4746.06	2.37	No	Si
SLU 83	-1.95	-9271.79	-15198	-0.0020099	0.0003743	0.0035	1.14	8307.75	9434.54	9434.54	1.02	No	Si
SLU 83	0.73	2042.46	-7119	-0.0000388	0.0003743	0.0035	1.425	4519.3	4758.98	4758.98	2.33	No	Si
SLU 80	-1.95	-9030.47	-14819	-0.0016803	0.0003743	0.0035	1.14	8161.76	9250.66	9250.66	1.02	No	Si
SLU 80	0.73	2061.58	-6992	-0.0000388	0.0003743	0.0035	1.425	4448.54	4682.96	4682.96	2.27	No	Si
SLU 79	-1.95	-9019.15	-14729	-0.0018018	0.0003743	0.0035	1.14	8126.7	9207.26	9207.26	1.02	No	Si
SLU 79	0.73	2098.25	-7014	-0.0000394	0.0003743	0.0035	1.425	4460.59	4695.89	4695.89	2.24	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	-1.95	-5670.82	-6445	-0.0022247	0.0005615	0.0035	1.14		4826.47	4826.47	0.85		No
SLD 11	0.73	2710.91	-4586	-0.0000898	0.0005615	0.0035	1.425		3250.87	3250.87	1.2		Si
SLV 16	-1.95	-6723.69	-9606	-0.0009801	0.0005615	0.0035	1.14		6789.61	6789.61	1.01		Si
SLV 16	0.73	3212.78	-5317	-0.0001195	0.0005615	0.0035	1.425		3729.42	3729.42	1.16		Si
SLV 12	-1.95	-5035.55	-3766	-0.0040315	0.0005615	0.0035	1.14		3087.69	3087.69	0.61		No
SLV 12	0.73	3333.18	-4376	-0.0044575	0.0005615	0.0035	1.14		3111.91	3111.91	0.93		No
SLD 12	-1.95	-5556.21	-6456	-0.0019905	0.0005615	0.0035	1.14		4833.89	4833.89	0.87		No
SLD 12	0.73	2584.91	-4556	-0.0000737	0.0005615	0.0035	1.425		3231.13	3231.13	1.25		Si
SLV 8	-1.95	-4410.84	-2894	-0.0036342	0.0005615	0.0035	1.14		2502.4	2502.4	0.57		No
SLV 8	0.73	2471.28	-3921	-0.0001153	0.0005615	0.0035	1.425		2810.47	2810.47	1.14		Si
SLD 8	-1.95	-5155.7	-5897	-0.0018177	0.0005615	0.0035	1.14		4475.61	4475.61	0.87		No
SLD 8	0.73	2032.62	-4265	-0.0000414	0.0005615	0.0035	1.425		3038.29	3038.29	1.49		Si
SLD 7	-1.95	-5270.31	-5886	-0.0020357	0.0005615	0.0035	1.14		4468.16	4468.16	0.85		No
SLD 7	0.73	2158.62	-4295	-0.000047	0.0005615	0.0035	1.425		3058.14	3058.14	1.42		Si
SLV 15	-1.95	-7004.23	-9578	-0.0015148	0.0005615	0.0035	1.14		6772.47	6772.47	0.97		No
SLV 15	0.73	3521.21	-5390	-0.000242	0.0005615	0.0035	1.425		3777.2	3777.2	1.07		Si
SLV 7	-1.95	-4599.7	-2875	-0.0041095	0.0005615	0.0035	1.14		2489.42	2489.42	0.54		No
SLV 7	0.73	2678.92	-3970	-0.0002729	0.0005615	0.0035	1.425		2843.16	2843.16	1.06		Si
SLV 11	-1.95	-5224.41	-3747	-0.0044992	0.0005615	0.0035	1.14		3075.02	3075.02	0.59		No
SLV 11	0.73	3540.82	-4425	-0.0065889	0.0005615	0.0035	1.14		3144.63	3144.63	0.89		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	-1.95	-8968.74	-14677	-13046	-7809	1.14	0.3043	0	0	0	28547	15361	2907	18268	No	2.34	Si
SLU 74	0.73	2009.42	-6880	-6115	-11456	1.425	1.2613	-9537	8216	4663	28547	19202	3634	22836	No	1.99	Si
SLU 77	-1.95	-9051.01	-14785	-13143	-7941	1.14	0.301	0	0	0	28547	15361	2907	18268	No	2.3	Si
SLU 77	0.73	2084.06	-7014	-6235	-11617	1.425	1.2462	-9723	8241	4621	28547	19202	3634	22836	No	1.97	Si
SLU 75	-1.95	-8980.06	-14767	-13126	-7713	1.14	0.3131	0	0	0	28547	15361	2907	18268	No	2.37	Si
SLU 75	0.73	1972.75	-6858	-6096	-11375	1.425	1.2746	-9507	8212	4710	28547	19202	3634	22836	No	2.01	Si
SLU 78	-1.95	-9062.33	-14875	-13223	-7845	1.14	0.3099	0	0	0	28547	15361	2907	18268	No	2.33	Si
SLU 78	0.73	2047.39	-6993	-6216	-11535	1.425	1.2592	-9693	8237	4667	28547	19202	3634	22836	No	1.98	Si
SLU 84	-1.95	-9283.11	-15288	-13589	-7955	1.14	0.3158	0	0	0	28547	15361	2907	18268	No	2.3	Si
SLU 84	0.73	2005.79	-7098	-6309	-11732	1.425	1.2897	-9839	8256	4792	28547	19202	3634	22836	No	1.95	Si
SLU 79	-1.95	-9019.15	-14729	-13092	-7938	1.14	0.3004	0	0	0	28547	15361	2907	18268	No	2.3	Si
SLU 79	0.73	2098.25	-7014	-6235	-11589	1.425	1.2401	-9723	8241	4599	28547	19202	3634	22836	No	1.97	Si
SLU 82	-1.95	-9200.84	-15179	-13493	-7822	1.14	0.3191	0	0	0	28547	15361	2907	18268	No	2.34	Si
SLU 82	0.73	1931.15	-6963	-6189	-11571	1.425	1.3055	-9652	8231	4836	28547	19202	3634	22836	No	1.97	Si
SLU 83	-1.95	-9271.79	-15198	-13509	-8050	1.14	0.3073	0	0	0	28547	15361	2907	18268	No	2.27	Si
SLU 83	0.73	2042.46	-7119	-6328	-11813	1.425	1.2768	-9869	8260	4746	28547	19202	3634	22836	No	1.93	Si
SLU 80	-1.95	-9030.47	-14819	-13172	-7842	1.14	0.3093	0	0	0	28547	15361	2907	18268	No	2.33	Si
SLU 80	0.73	2061.58	-6992	-6216	-11507	1.425	1.253	-9693	8237	4644	28547	19202	3634	22836	No	1.98	Si
SLU 81	-1.95	-9189.52	-15089	-13413	-7918	1.14	0.3105	0	0	0	28547	15361	2907	18268	No	2.31	Si
SLU 81	0.73	1967.82	-6984	-6208	-11652	1.425	1.2923	-9682	8235	4789	28547	19202	3634	22836	No	1.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	-1.95	-7004.23	-9578	-8514	-14993	1.14	0	0	0	0	28547	23042	2907	25949		1.73	Si
SLV 15	0.73	3521.21	-5390	-4791	-16210	1.425	0.1777	-61435	16250	4365	28547	28803	3634	32437		2	Si
SLV 13	-1.95	-7865.78	-13707	-12184	-12154	1.14	0.416	0	0	0	28547	23042	2907	25949		2.13	Si
SLV 13	0.73	2599.31	-5753	-5113	-14708	1.425	0.7819	-7974	12011	4450	28547	28803	3634	32437		2.21	Si
SLV 16	-1.95	-6723.69	-9606	-8539	-13511	1.14	0.0377	0	0	0	28547	23042	2907	25949		1.92	Si
SLV 16	0.73	3212.78	-5317	-4726	-14908	1.425	0.3247	-32901	16250	4347	28547	28803	3634	32437		2.18	Si
SLD 11	-1.95	-5670.82	-6445	-5729	-10017	1.14	0	0	0	0	28547	23042	2907	25949		2.59	Si
SLD 11	0.73	2710.91	-4586	-4076	-11086	1.425	0.3641	-25201	15458	4174	28547	28803	3634	32437		2.93	Si
SLD 15	-1.95	-6757.97	-9917	-8815	-11514	1.14	0.0931	0	0	0	28547	23042	2907	25949		2.25	Si
SLD 15	0.73	2758.53	-5180	-4605	-13233	1.425	0.5399	-7181	11853	4315	28547	28803	3634	32437		2.45	Si
SLV 14	-1.95	-7585.24	-13736	-12209	-10673	1.14	0.4808	0	0	0	28547	23042	2907	25949		2.43	Si
SLV 14	0.73	2290.88	-5679	-5048	-13406	1.425	0.9274	-7872	11991	5004	28547	28803	3634	32437		2.42	Si
SLV 12	-1.95	-5035.55	-3766	-3348	-11958	1.14	0	0	0	0	28547	23042	2907	25949		2.17	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.73	3333.18	-4376	-3890	-12146	1.14	0	0	0	0	28547	23042	2907	25949		2.14	Si
SLV 11	-1.95	-5224.41	-3747	-3331	-12956	1.14	0	0	0	0	28547	23042	2907	25949		2	Si
SLV 11	0.73	3540.82	-4425	-3933	-13023	1.14	0	0	0	0	28547	23042	2907	25949		1.99	Si
SLD 16	-1.95	-6579.99	-9935	-8831	-10574	1.14	0.1505	0	0	0	28547	23042	2907	25949		2.45	Si
SLD 16	0.73	2562.87	-5134	-4563	-12407	1.425	0.6398	-7116	11840	4304	28547	28803	3634	32437		2.61	Si
SLD 13	-1.95	-7262.14	-12336	-10965	-9849	1.14	0.3714	0	0	0	28547	23042	2907	25949		2.63	Si
SLD 13	0.73	2217.2	-5391	-4792	-12352	1.425	0.9037	-7473	11911	4844	28547	28803	3634	32437		2.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	6510	-4174	86.39	899.2	10.41	Si
SLV 8	179667	0.24	6655	-4267	86.39	918.32	10.63	Si
SLV 11	179667	0.24	7212	-4624	86.39	991.37	11.48	Si
SLV 12	179667	0.24	7357	-4717	86.39	1010.3	11.69	Si
SLV 3	179667	0.24	12430	-7971	86.39	1647.49	19.07	Si
SLV 4	179667	0.24	12646	-8109	86.39	1673.47	19.37	Si
SLV 15	179667	0.24	14770	-9471	86.39	1924.94	22.28	Si
SLV 16	179667	0.24	14986	-9609	86.39	1949.97	22.57	Si
SLV 1	179667	0.24	18237	-11695	86.39	2317.07	26.82	Si
SLV 2	179667	0.24	18453	-11833	86.39	2340.69	27.09	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-5753	-13707	-342	1.152	832.2	0.923	18.13308	2.7151	Si
SLV 14	-5679	-13736	-351	1.161	824.9	0.922	18.29412	2.7151	Si
SLV 15	-5390	-9578	-299	1.213	795.8	0.92	19.16281	2.7151	Si
SLV 9	-5633	-17512	-386	1.163	820.2	0.922	18.33255	2.58901	Si
SLV 10	-5584	-17531	-392	1.17	815.3	0.922	18.44387	2.58901	Si
SLV 16	-5317	-9606	-308	1.224	788.5	0.92	19.34397	2.7151	Si
SLV 5	-5178	-16640	-381	1.237	774.6	0.919	19.56806	2.58901	Si
SLV 6	-5129	-16659	-387	1.245	769.7	0.918	19.6966	2.58901	Si
SLV 1	-4237	-10800	-323	1.434	680.6	0.911	22.88965	2.7151	Si
SLV 2	-4164	-10829	-332	1.45	673.3	0.91	23.15744	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.018	SLU 83	Si
V_SLU	1.933	SLU 83	Si
PF_SLV	0.541	SLV 7	No
V_SLV	1.731	SLV 15	Si
PFFP_SLV	10.408	SLV 7	Si
R_SLV	6.679	SLV 13	Si

Maschio 45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.268	1.141	-6.268	-3.284	L2	L4	4.425	0.3	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	-1.95	17923.74	-106811	-0.0001602	0.0004492	0.0035	4.425	80703.61	154689.1	154689.1	8.63	No	Si
SLU 81	0.73	15469.82	-63518	-0.0000959	0.0004492	0.0035	4.425	85501.33	110806.27	110806.27	7.16	No	Si
SLU 75	-1.95	18059.65	-104751	-0.0001574	0.0004492	0.0035	4.425	82090.12	152942.53	152942.53	8.47	No	Si
SLU 75	0.73	15107.63	-62308	-0.0000938	0.0004492	0.0035	4.425	84901.07	109319.88	109319.88	7.24	No	Si
SLU 83	-1.95	17903.36	-107681	-0.0001615	0.0004492	0.0035	4.425	80082.8	155427.3	155427.3	8.68	No	Si
SLU 83	0.73	15466.44	-64108	-0.0000967	0.0004492	0.0035	4.425	85780.03	111532.34	111532.34	7.21	No	Si
SLU 82	-1.95	18746.93	-107200	-0.0001624	0.0004492	0.0035	4.425	80428.3	155019.51	155019.51	8.27	No	Si
SLU 82	0.73	15532.15	-63708	-0.0000963	0.0004492	0.0035	4.425	85592.38	111040.76	111040.76	7.15	No	Si
SLU 84	-1.95	18726.55	-108071	-0.0001637	0.0004492	0.0035	4.425	79798.24	155757.71	155757.71	8.32	No	Si
SLU 84	0.73	15528.77	-64299	-0.000097	0.0004492	0.0035	4.425	85868.01	111766.83	111766.83	7.2	No	Si
SLU 77	-1.95	17216.08	-105232	-0.0001565	0.0004492	0.0035	4.425	81776.76	153350.32	153350.32	8.91	No	Si
SLU 77	0.73	15041.92	-62708	-0.0000942	0.0004492	0.0035	4.425	85104.01	109811.47	109811.47	7.3	No	Si
SLU 78	-1.95	18039.27	-105622	-0.0001587	0.0004492	0.0035	4.425	81518.22	153680.73	153680.73	8.52	No	Si
SLU 78	0.73	15104.25	-62899	-0.0000945	0.0004492	0.0035	4.425	85199.28	110045.95	110045.95	7.29	No	Si
SLU 73	-1.95	18581.18	-103608	-0.0001567	0.0004492	0.0035	4.425	82810.1	151972.66	151972.66	8.18	No	Si
SLU 73	0.73	15017.54	-61433	-0.0000925	0.0004492	0.0035	4.425	84442.17	108245.09	108245.09	7.21	No	Si
SLU 76	-1.95	18560.8	-104478	-0.000158	0.0004492	0.0035	4.425	82265.35	152710.86	152710.86	8.23	No	Si
SLU 76	0.73	15014.15	-62024	-0.0000933	0.0004492	0.0035	4.425	84754.47	108971.17	108971.17	7.26	No	Si
SLU 74	-1.95	17236.46	-104362	-0.0001552	0.0004492	0.0035	4.425	82339.41	152612.12	152612.12	8.85	No	Si
SLU 74	0.73	15045.3	-62117	-0.0000935	0.0004492	0.0035	4.425	84802.73	109085.39	109085.39	7.25	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-1.95	68547.1	-103357	-0.0002336	0.0006738	0.0035	4.425		170100.53	170100.53	2.48		Si
SLV 10	0.73	29000.51	-67921	-0.0001193	0.0006738	0.0035	4.425		124876.34	124876.34	4.31		Si
SLV 6	-1.95	66569.68	-98500	-0.000223	0.0006738	0.0035	4.425		164029.82	164029.82	2.46		Si
SLV 6	0.73	32098.47	-69113	-0.0001258	0.0006738	0.0035	4.425		126795.51	126795.51	3.95		Si
SLD 10	-1.95	45261.83	-90722	-0.0001753	0.0006738	0.0035	4.425		154308.56	154308.56	3.41		Si
SLD 10	0.73	21269.89	-57513	-0.0000946	0.0006738	0.0035	4.425		108120.73	108120.73	5.08		Si
SLD 6	-1.95	44002.69	-87623	-0.000169	0.0006738	0.0035	4.425		150436.28	150436.28	3.42		Si
SLD 6	0.73	23203.05	-58214	-0.0000985	0.0006738	0.0035	4.425		109247.83	109247.83	4.71		Si
SLV 9	-1.95	66809.73	-102574	-0.0002293	0.0006738	0.0035	4.425		169121.73	169121.73	2.53		Si
SLV 9	0.73	28412.45	-66881	-0.0001171	0.0006738	0.0035	4.425		123201.2	123201.2	4.34		Si
SLV 5	-1.95	64832.31	-97717	-0.0002188	0.0006738	0.0035	4.425		163051.02	163051.02	2.51		Si
SLV 5	0.73	31510.42	-68073	-0.0001235	0.0006738	0.0035	4.425		125120.37	125120.37	3.97		Si
SLV 7	-1.95	-44282.09	-41663	-0.0001181	0.0006738	0.0035	4.425		92390.37	92390.37	2.09		Si
SLV 7	0.73	-8000.48	-17642	-0.0000299	0.0006738	0.0035	4.425		47870.48	47870.48	5.98		Si
SLV 12	-1.95	-40567.3	-47303	-0.0001134	0.0006738	0.0035	4.425		101877.87	101877.87	2.51		Si
SLV 12	0.73	-10510.4	-17490	-0.0000334	0.0006738	0.0035	4.425		47573.19	47573.19	4.53		Si
SLV 11	-1.95	-42304.67	-46520	-0.000116	0.0006738	0.0035	4.425		100560.56	100560.56	2.38		Si
SLV 11	0.73	-11098.45	-16450	-0.0000331	0.0006738	0.0035	4.425		45532.4	45532.4	4.1		Si
SLV 8	-1.95	-42544.71	-42446	-0.000114	0.0006738	0.0035	4.425		93707.68	93707.68	2.2		Si
SLV 8	0.73	-7412.43	-18682	-0.0000302	0.0006738	0.0035	4.425		49911.27	49911.27	6.73		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	-1.95	15541.93	-93970	-68342	-2441	4.425	4.425	-51481	10833	35004	81562	47707	22567	70275	No	28.79	Si
SLU 64	0.73	13615.92	-55509	-40370	-5810	4.425	4.425	-30411	10833	23816	81562	47707	22567	70275	No	12.1	Si
SLU 77	-1.95	17216.08	-105232	-76533	-2457	4.425	4.425	-57652	10833	38280	81562	47707	22567	70275	No	28.6	Si
SLU 77	0.73	15041.92	-62708	-45606	-6238	4.425	4.425	-34355	10833	25910	81562	47707	22567	70275	No	11.26	Si
SLU 84	-1.95	18726.55	-108071	-78597	-1913	4.425	4.425	-59207	10833	39106	81562	47707	22567	70275	No	36.74	Si
SLU 84	0.73	15528.77	-64299	-46763	-5784	4.425	4.425	-35226	10833	26373	81562	47707	22567	70275	No	12.15	Si
SLU 74	-1.95	17236.46	-104362	-75899	-2476	4.425	4.425	-57175	10833	38027	81562	47707	22567	70275	No	28.38	Si
SLU 74	0.73	15045.3	-62117	-45176	-6228	4.425	4.425	-34031	10833	25738	81562	47707	22567	70275	No	11.28	Si
SLU 83	-1.95	17903.36	-107681	-78314	-2466	4.425	4.425	-58993	10833	38993	81562	47707	22567	70275	No	28.5	Si
SLU 83	0.73	15466.44	-64108	-46624	-6330	4.425	4.425	-35122	10833	26318	81562	47707	22567	70275	No	11.1	Si
SLU 66	-1.95	15569.19	-95373	-69362	-2446	4.425	4.425	-52250	10833	35412	81562	47707	22567	70275	No	28.74	Si
SLU 66	0.73	13747.57	-56511	-41099	-5871	4.425	4.425	-30960	10833	24108	81562	47707	22567	70275	No	11.97	Si
SLU 79	-1.95	17168.44	-104699	-76145	-2434	4.425	4.425	-57360	10833	38125	81562	47707	22567	70275	No	28.88	Si
SLU 79	0.73	14906.89	-62297	-45307	-6187	4.425	4.425	-34129	10833	25791	81562	47707	22567	70275	No	11.36	Si
SLU 81	-1.95	17923.74	-106811	-77681	-2485	4.425	4.425	-58516	10833	38740	81562	47707	22567	70275	No	28.28	Si
SLU 81	0.73	15469.82	-63518	-46195	-6320	4.425	4.425	-34798	10833	26146	81562	47707	22567	70275	No	11.12	Si
SLU 71	-1.95	15501.17	-95711	-69608	-2403	4.425	4.425	-52435	10833	35511	81562	47707	22567	70275	No	29.25	Si
SLU 71	0.73	13609.16	-56691	-41230	-5830	4.425	4.425	-31058	10833	24160	81562	47707	22567	70275	No	12.05	Si
SLU 69	-1.95	15548.81	-96243	-69995	-2427	4.425	4.425	-52727	10833	35666	81562	47707	22567	70275	No	28.96	Si
SLU 69	0.73	13744.19	-57102	-41529	-5881	4.425	4.425	-31284	10833	24280	81562	47707	22567	70275	No	11.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-1.95	-42304.67	-46520	-33833	-38741	4.425	3.9093	-29165	16250	25036	81562	71561	22567	94128		2.43	Si
SLV 11	0.73	-11098.45	-16450	-11963	-39332	4.425	4.425	-9012	14302	18986	81562	71561	22567	94128		2.39	Si
SLV 10	-1.95	68547.1	-103357	-75169	36044	4.425	4.425	-56624	16250	41569	81562	71561	22567	94128		2.61	Si
SLV 10	0.73	29000.51	-67921	-49397	31407	4.425	4.425	-37211	16250	31261	81562	71561	22567	94128		3	Si
SLV 12	-1.95	-40567.3	-47303	-34402	-37140	4.425	4.0647	-28556	16250	25263	81562	71561	22567	94128		2.53	Si
SLV 12	0.73	-10510.4	-17490	-12720	-37816	4.425	4.425	-9582	14416	19138	81562	71561	22567	94128		2.49	Si
SLD 7	-1.95	-20996.81	-54298	-39490	-24105	4.425	4.425	-29747	16250	27298	81562	71561	22567	94128		3.9	Si
SLD 7	0.73	-269.87	-28050	-20400	-25513	4.425	4.425	-15367	15573	20674	81562	71561	22567	94128		3.69	Si
SLV 9	-1.95	66809.73	-102574	-74599	34442	4.425	4.425	-56195	16250	41341	81562	71561	22567	94128		2.73	Si
SLV 9	0.73	28412.45	-66881	-48640	29891	4.425	4.425	-36641	16250	30958	81562	71561	22567	94128		3.15	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.95	66569.68	-98500	-71636	35040	4.425	4.425	-53963	16250	40156	81562	71561	22567	94128		2.69	Si
SLV 6	0.73	32098.47	-69113	-50264	30438	4.425	4.425	-37864	16250	31608	81562	71561	22567	94128		3.09	Si
SLD 11	-1.95	-19737.67	-57396	-41743	-23467	4.425	4.425	-31445	16250	28199	81562	71561	22567	94128		4.01	Si
SLD 11	0.73	-2203.03	-27349	-19891	-24874	4.425	4.425	-14983	15497	20572	81562	71561	22567	94128		3.78	Si
SLV 5	-1.95	64832.31	-97717	-71067	33438	4.425	4.425	-53534	16250	39928	81562	71561	22567	94128		2.81	Si
SLV 5	0.73	31510.42	-68073	-49507	28922	4.425	4.425	-37294	16250	31305	81562	71561	22567	94128		3.25	Si
SLV 7	-1.95	-44282.09	-41663	-30300	-39746	4.425	3.4489	-29677	16250	23623	81562	71561	22567	94128		2.37	Si
SLV 7	0.73	-8000.48	-17642	-12830	-40301	4.425	4.425	-9665	14433	19160	81562	71561	22567	94128		2.34	Si
SLV 8	-1.95	-42544.71	-42446	-30870	-38144	4.425	3.6305	-28721	16250	23850	81562	71561	22567	94128		2.47	Si
SLV 8	0.73	-7412.43	-18682	-13587	-38785	4.425	4.425	-10235	14547	19311	81562	71561	22567	94128		2.43	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-29449	0.24	185.29	3882.71	5372.44	4627.57	24.97	Si
SLV 8	-30296	0.24	185.29	3978.52	5504.91	4741.72	25.59	Si
SLV 11	-32130	0.24	185.29	4183.1	5792.17	4987.64	26.92	Si
SLV 12	-32977	0.24	185.29	4276.11	5924.82	5100.47	27.53	Si
SLV 3	-43149	0.24	185.29	5324.55	7509.2	6416.88	34.63	Si
SLV 4	-44407	0.24	185.29	5445.3	7701.61	6573.45	35.48	Si
SLV 15	-52087	0.24	185.29	6140.4	8877.51	7508.96	40.53	Si
SLV 16	-53344	0.24	185.29	6247.29	9070.2	7658.75	41.33	Si
SLV 1	-57750	0.24	185.29	6606.38	9739.22	8172.8	44.11	Si
SLV 2	-59007	0.24	185.29	6704.49	9922.88	8313.69	44.87	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-69113	-98500	-1848	0.377	7538.5	0.979	5.58907	2.74522	Si
SLV 5	-68073	-97717	-1818	0.382	7432.5	0.979	5.66641	2.74522	Si
SLV 10	-67921	-103357	-1868	0.382	7417	0.979	5.66654	2.74522	Si
SLV 9	-66881	-102574	-1838	0.387	7311	0.979	5.7464	2.74522	Si
SLV 2	-53106	-73404	-1361	0.476	5907.8	0.974	7.10928	2.95341	Si
SLV 1	-51560	-72241	-1317	0.489	5750.4	0.973	7.30354	2.95341	Si
SLV 14	-49132	-89595	-1428	0.507	5503.1	0.972	7.58074	2.95341	Si
SLV 13	-47587	-88432	-1383	0.522	5345.7	0.971	7.80526	2.95341	Si
SLV 4	-37976	-56588	-958	0.641	4367.4	0.965	9.6448	2.95341	Si
SLV 3	-36431	-55425	-913	0.665	4210.1	0.964	10.01731	2.95341	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.149	SLU 82	Si
V_SLU	11.101	SLU 83	Si
PF_SLV	2.086	SLV 7	Si
V_SLV	2.336	SLV 7	Si
PFFP_SLV	24.975	SLV 7	Si
R_SLV	2.036	SLV 6	Si

Maschio 46

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	2.071	-5.158	6.101	L2	L4	4.03	0.3	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	-1.95	-15098.6	-98664	-0.0001631	0.0004492	0.0035	4.03	66025.99	132080.48	132080.48	8.75	No	Si
SLU 61	0.15	8870.16	-92591	-0.0001389	0.0004492	0.0035	4.03	69631.72	124748.02	124748.02	14.06	No	Si
SLU 73	-1.95	-15846.78	-106865	-0.000179	0.0004492	0.0035	4.03	59560.06	136120.57	136120.57	8.59	No	Si
SLU 73	0.15	9613.19	-100612	-0.0001535	0.0004492	0.0035	4.03	64656.37	130385.63	130385.63	13.56	No	Si
SLU 55	-1.95	-15216.98	-95695	-0.0001584	0.0004492	0.0035	4.03	67914.63	130617.75	130617.75	8.58	No	Si
SLU 55	0.15	8735.66	-89622	-0.000134	0.0004492	0.0035	4.03	71028.49	122417.38	122417.38	14.01	No	Si
SLU 82	-1.95	-15681.27	-111336	-0.0001865	0.0004492	0.0035	4.03	55261.65	138323.41	138323.41	8.82	No	Si
SLU 82	0.15	9984.53	-105083	-0.0001617	0.0004492	0.0035	4.03	61120.71	132327.02	132327.02	13.25	No	Si
SLU 44	-1.95	-14261.74	-84600	-0.0001385	0.0004492	0.0035	4.03	72843.77	123417.25	123417.25	8.65	No	Si
SLU 44	0.15	7758.12	-78527	-0.0001151	0.0004492	0.0035	4.03	74119.53	113708.08	113708.08	14.66	No	Si
SLU 47	-1.95	-14214.61	-86102	-0.0001407	0.0004492	0.0035	4.03	72372.94	124523.48	124523.48	8.76	No	Si
SLU 47	0.15	7994.96	-80029	-0.0001178	0.0004492	0.0035	4.03	73897.58	114887.32	114887.32	14.37	No	Si
SLU 76	-1.95	-15799.65	-108367	-0.0001815	0.0004492	0.0035	4.03	58176.73	136860.68	136860.68	8.66	No	Si
SLU 76	0.15	9850.03	-102114	-0.0001565	0.0004492	0.0035	4.03	63529.3	131037.9	131037.9	13.3	No	Si
SLU 65	-1.95	-14844.41	-97272	-0.0001602	0.0004492	0.0035	4.03	66941.51	131394.61	131394.61	8.85	No	Si
SLU 65	0.15	8872.49	-91019	-0.0001365	0.0004492	0.0035	4.03	70401.42	123513.69	123513.69	13.92	No	Si
SLU 52	-1.95	-15264.11	-94192	-0.0001561	0.0004492	0.0035	4.03	68778.62	129877.64	129877.64	8.51	No	Si
SLU 52	0.15	8498.82	-88120	-0.0001312	0.0004492	0.0035	4.03	71643.59	121238.14	121238.14	14.27	No	Si
SLU 63	-1.95	-15051.47	-100166	-0.0001655	0.0004492	0.0035	4.03	64978.75	132820.59	132820.59	8.82	No	Si
SLU 63	0.15	9107	-94093	-0.0001418	0.0004492	0.0035	4.03	68833.37	125927.26	125927.26	13.83	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	-1.95	-66444.52	-40482	-0.0004063	0.0006738	0.0035	3.224		80456.9	80456.9	1.21		Si
SLV 9	0.15	-3628.09	-35369	-0.0000477	0.0006738	0.0035	4.03		72465.28	72465.28	19.97		Si
SLV 5	-1.95	-60070.58	-33533	-0.0005209	0.0006738	0.0035	3.224		69494.43	69494.43	1.16		Si
SLV 5	0.15	-6906.63	-27846	-0.0000444	0.0006738	0.0035	4.03		60161.73	60161.73	8.71		Si
SLD 9	-1.95	-43422.25	-55169	-0.0001492	0.0006738	0.0035	4.03		101907.35	101907.35	2.35		Si
SLD 9	0.15	829.16	-50218	-0.0000608	0.0006738	0.0035	4.03		86543.44	86543.44	104.37		Si
SLV 6	-1.95	-62606.82	-32760	-0.0008018	0.0006738	0.0035	3.224		68243.85	68243.85	1.09		Si
SLV 6	0.15	-6474.05	-27073	-0.0000427	0.0006738	0.0035	4.03		58845.83	58845.83	9.09		Si
SLD 10	-1.95	-44961.35	-54700	-0.0001526	0.0006738	0.0035	4.03		101267.37	101267.37	2.25		Si
SLD 10	0.15	1091.67	-49749	-0.0000607	0.0006738	0.0035	4.03		85849.19	85849.19	78.64		Si
SLD 5	-1.95	-39342.93	-50717	-0.0001347	0.0006738	0.0035	4.03		95664.45	95664.45	2.43		Si
SLD 5	0.15	-1269.89	-45408	-0.0000556	0.0006738	0.0035	4.03		87972.34	87972.34	69.28		Si
SLD 6	-1.95	-40882.03	-50248	-0.000138	0.0006738	0.0035	4.03		94984.83	94984.83	2.32		Si
SLD 6	0.15	-1007.38	-44939	-0.0000546	0.0006738	0.0035	4.03		87292.56	87292.56	86.65		Si
SLV 10	-1.95	-68980.76	-39709	-0.0005514	0.0006738	0.0035	3.224		79271.64	79271.64	1.15		Si
SLV 10	0.15	-3195.51	-34597	-0.000046	0.0006738	0.0035	4.03		71214.7	71214.7	22.29		Si
SLV 14	-1.95	-39167.47	-74824	-0.0001672	0.0006738	0.0035	4.03		126959.09	126959.09	3.24		Si
SLV 14	0.15	9096.94	-70823	-0.0001025	0.0006738	0.0035	4.03		114425.52	114425.52	12.58		Si
SLV 7	-1.95	48115.38	-111237	-0.0002425	0.0006738	0.0035	4.03		155306.87	155306.87	3.23		Si
SLV 7	0.15	16986.21	-106808	-0.0001683	0.0006738	0.0035	4.03		151716.23	151716.23	8.93		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-1.95	-15799.65	-108367	-78812	-12207	4.03	4.03	-65188	10833	38508	81562	43448	20553	64001	No	5.24	Si
SLU 76	0.15	9850.03	-102114	-74265	-12207	4.03	4.03	-61427	10833	36689	81562	43448	20553	64001	No	5.24	Si
SLU 75	-1.95	-15212.35	-109379	-79549	-12005	4.03	4.03	-65797	10833	38802	81562	43448	20553	64001	No	5.33	Si
SLU 75	0.15	10012.22	-103126	-75001	-12005	4.03	4.03	-62036	10833	36983	81562	43448	20553	64001	No	5.33	Si
SLU 84	-1.95	-15634.14	-112838	-82064	-12305	4.03	4.03	-67878	10833	39808	81562	43448	20553	64001	No	5.2	Si
SLU 84	0.15	10221.36	-106585	-77517	-12305	4.03	4.03	-64116	10833	37990	81562	43448	20553	64001	No	5.2	Si
SLU 78	-1.95	-15165.22	-110882	-80641	-12095	4.03	4.03	-66701	10833	39239	81562	43448	20553	64001	No	5.29	Si
SLU 78	0.15	10249.06	-104629	-76094	-12095	4.03	4.03	-62939	10833	37420	81562	43448	20553	64001	No	5.29	Si
SLU 80	-1.95	-15157.43	-110229	-80167	-12040	4.03	4.03	-66308	10833	39050	81562	43448	20553	64001	No	5.32	Si
SLU 80	0.15	10140.76	-103976	-75619	-12040	4.03	4.03	-62547	10833	37231	81562	43448	20553	64001	No	5.32	Si
SLU 81	-1.95	-14788.62	-111876	-81365	-11828	4.03	4.03	-67299	10833	39529	81562	43448	20553	64001	No	5.41	Si
SLU 81	0.15	10065.37	-105623	-76817	-11828	4.03	4.03	-63538	10833	37710	81562	43448	20553	64001	No	5.41	Si
SLU 82	-1.95	-15681.27	-111336	-80972	-12215	4.03	4.03	-66974	10833	39371	81562	43448	20553	64001	No	5.24	Si
SLU 82	0.15	9984.53	-105083	-76424	-12215	4.03	4.03	-63213	10833	37552	81562	43448	20553	64001	No	5.24	Si
SLU 77	-1.95	-14272.58	-111422	-81034	-11709	4.03	4.03	-67026	10833	39396	81562	43448	20553	64001	No	5.47	Si
SLU 77	0.15	10329.9	-105169	-76486	-11709	4.03	4.03	-63264	10833	37577	81562	43448	20553	64001	No	5.47	Si
SLU 83	-1.95	-14741.5	-113379	-82457	-11919	4.03	4.03	-68203	10833	39966	81562	43448	20553	64001	No	5.37	Si
SLU 83	0.15	10302.21	-107126	-77910	-11919	4.03	4.03	-64441	10833	38147	81562	43448	20553	64001	No	5.37	Si
SLU 73	-1.95	-15846.78	-106865	-77720	-12117	4.03	4.03	-64284	10833	38071	81562	43448	20553	64001	No	5.28	Si
SLU 73	0.15	9613.19	-100612	-73172	-12117	4.03	4.03	-60523	10833	36252	81562	43448	20553	64001	No	5.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	-1.95	-60070.58	-33533	-24388	-25554	3.224	0.6709	0	0	0	81562	52138	16442	68581		2.68	Si
SLV 5	0.15	-6906.63	-27846	-20252	-25161	4.03	4.03	-16751	15850	19163	81562	65173	20553	85726		3.41	Si
SLD 5	-1.95	-39342.93	-50717	-36885	-18258	4.03	3.7178	-33609	16250	25230	81562	65173	20553	85726		4.7	Si
SLD 5	0.15	-1269.89	-45408	-33024	-18031	4.03	4.03	-27315	16250	23685	81562	65173	20553	85726		4.75	Si
SLV 9	-1.95	-66444.52	-40482	-29441	-30183	3.224	1.121	0	0	0	81562	52138	16442	68581		2.27	Si
SLV 9	0.15	-3628.09	-35369	-25723	-29811	4.03	4.03	-21276	16250	20765	81562	65173	20553	85726		2.88	Si
SLD 9	-1.95	-43422.25	-55169	-40123	-21223	4.03	3.6838	-36965	16250	26525	81562	65173	20553	85726		4.04	Si
SLD 9	0.15	829.16	-50218	-36522	-21009	4.03	4.03	-30208	16250	25084	81562	65173	20553	85726		4.08	Si
SLV 13	-1.95	-35400.16	-75972	-55252	-21010	4.03	4.03	-45701	16250	32576	81562	65173	20553	85726		4.08	Si
SLV 13	0.15	8454.39	-71971	-52342	-20930	4.03	4.03	-43294	16250	31412	81562	65173	20553	85726		4.1	Si
SLV 6	-1.95	-62606.82	-32760	-23826	-26967	3.224	0.3118	0	0	0	81562	52138	16442	68581		2.54	Si
SLV 6	0.15	-6474.05	-27073	-19690	-26575	4.03	4.03	-16286	15757	19050	81562	65173	20553	85726		3.23	Si
SLD 6	-1.95	-40882.03	-50248	-36544	-19116	4.03	3.6042	-34361	16250	25093	81562	65173	20553	85726		4.48	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	0.15	-1007.38	-44939	-32683	-18889	4.03	4.03	-27033	16250	23549	81562	65173	20553	85726		4.54	Si
SLV 14	-1.95	-39167.47	-74824	-54417	-23110	4.03	4.03	-45010	16250	32242	81562	65173	20553	85726		3.71	Si
SLV 14	0.15	9096.94	-70823	-51507	-23030	4.03	4.03	-42603	16250	31078	81562	65173	20553	85726		3.72	Si
SLD 10	-1.95	-44961.35	-54700	-39782	-22081	4.03	3.5791	-37737	16250	26388	81562	65173	20553	85726		3.88	Si
SLD 10	0.15	1091.67	-49749	-36181	-21867	4.03	4.03	-29926	16250	24948	81562	65173	20553	85726		3.92	Si
SLV 10	-1.95	-68980.76	-39709	-28879	-31597	3.224	0.8335	0	0	0	81562	52138	16442	68581		2.17	Si
SLV 10	0.15	-3195.51	-34597	-25161	-31225	4.03	4.03	-20812	16250	20540	81562	65173	20553	85726		2.75	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.61 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-29451	0.24	168.75	3830.47	5305.28	4567.88	27.07	Si
SLV 5	-30224	0.24	168.75	3915.19	5426.38	4670.78	27.68	Si
SLV 10	-36787	0.24	168.75	4602	6450.53	5526.27	32.75	Si
SLV 9	-37560	0.24	168.75	4679.04	6570.85	5624.94	33.33	Si
SLV 2	-47912	0.24	168.75	5632.81	8157.99	6895.4	40.86	Si
SLV 1	-49060	0.24	168.75	5729.66	8333.88	7031.77	41.67	Si
SLV 4	-71232	0.24	168.75	7250.06	11469.45	9359.76	55.47	Si
SLV 14	-72367	0.24	168.75	7309.95	11617.53	9463.74	56.08	Si
SLV 3	-72381	0.24	168.75	7310.66	11619.31	9464.98	56.09	Si
SLV 13	-73515	0.24	168.75	7368.79	11761.25	9565.02	56.68	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-104619	-118185	13	0.268	11112.5	0.987	3.94434	2.74522	Si
SLV 12	-104028	-117412	13	0.269	11052.2	0.987	3.96189	2.74522	Si
SLV 15	-88701	-99283	34	0.304	9490.2	0.985	4.49298	2.95341	Si
SLV 7	-97206	-111237	-6	0.284	10357	0.986	4.18043	2.74522	Si
SLV 8	-96615	-110464	-6	0.285	10296.7	0.986	4.20067	2.74522	Si
SLV 16	-87823	-98135	34	0.307	9400.7	0.985	4.52915	2.95341	Si
SLV 13	-67521	-75972	32	0.379	7331.9	0.981	5.62038	2.95341	Si
SLV 14	-66643	-74824	32	0.383	7242.4	0.98	5.68225	2.95341	Si
SLV 3	-63991	-76122	-29	0.396	6972.3	0.98	5.87954	2.95341	Si
SLV 4	-63113	-74974	-30	0.401	6882.8	0.979	5.94819	2.95341	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.509	SLU 52	Si
V_SLU	5.201	SLU 84	Si
PF_SLV	1.09	SLV 6	Si
V_SLV	2.171	SLV 10	Si
PFFP_SLV	27.069	SLV 6	Si
R_SLV	1.437	SLV 11	Si

Maschio 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.503	-3.284	-3.403	-3.284	L2	L4	3.1	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.05	-19785.56	-38385	-0.0000916	0.0003743	0.0035	3.1	43417.06	50205.73	50205.73	2.54	No	Si
SLU 83	0.45	-15390.96	-37125	-0.0000791	0.0003743	0.0035	3.1	42502.41	49022.03	49022.03	3.19	No	Si
SLU 71	0.05	-17573.89	-32655	-0.0000784	0.0003743	0.0035	3.1	38977.76	44612.38	44612.38	2.54	No	Si
SLU 71	0.45	-13757.65	-31395	-0.0000675	0.0003743	0.0035	3.1	37905.51	43333.06	43333.06	3.15	No	Si
SLU 69	0.05	-17711.33	-32855	-0.000079	0.0003743	0.0035	3.1	39144.32	44812.04	44812.04	2.53	No	Si
SLU 69	0.45	-13869.99	-31595	-0.000068	0.0003743	0.0035	3.1	38077.56	43542.73	43542.73	3.14	No	Si
SLU 79	0.05	-19207.33	-36815	-0.000088	0.0003743	0.0035	3.1	42271.98	48732.72	48732.72	2.54	No	Si
SLU 79	0.45	-14983.45	-35555	-0.0000076	0.0003743	0.0035	3.1	41314.14	47535.82	47535.82	3.17	No	Si
SLU 81	0.05	-19663.75	-38173	-0.000091	0.0003743	0.0035	3.1	43264.99	50004.85	50004.85	2.54	No	Si
SLU 81	0.45	-15273.13	-36913	-0.0000785	0.0003743	0.0035	3.1	42344.48	48823.38	48823.38	3.2	No	Si
SLU 66	0.05	-17589.52	-32642	-0.0000785	0.0003743	0.0035	3.1	38966.56	44599	44599	2.54	No	Si
SLU 66	0.45	-13752.16	-31382	-0.0000675	0.0003743	0.0035	3.1	37893.94	43318.96	43318.96	3.15	No	Si
SLU 48	0.05	-15632.91	-28258	-0.000068	0.0003743	0.0035	3.1	35085.42	39970.35	39970.35	2.56	No	Si
SLU 48	0.45	-12286.07	-27010	-0.0000584	0.0003743	0.0035	3.1	33903.76	38607.72	38607.72	3.14	No	Si
SLU 77	0.05	-19344.76	-37015	-0.0000886	0.0003743	0.0035	3.1	42420.43	48918.71	48918.71	2.53	No	Si
SLU 77	0.45	-15095.78	-35755	-0.0000765	0.0003743	0.0035	3.1	41468.08	47733.84	47733.84	3.16	No	Si
SLU 64	0.05	-17330.28	-32229	-0.0000773	0.0003743	0.0035	3.1	38619.39	44187.46	44187.46	2.55	No	Si
SLU 64	0.45	-13522	-30969	-0.0000664	0.0003743	0.0035	3.1	37535.43	42882.07	42882.07	3.17	No	Si
SLU 74	0.05	-19222.95	-36802	-0.000088	0.0003743	0.0035	3.1	42261.99	48720.26	48720.26	2.53	No	Si
SLU 74	0.45	-14977.95	-35542	-0.0000759	0.0003743	0.0035	3.1	41303.79	47522.51	47522.51	3.17	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	0.05	-15925.08	-21704	-0.0000618	0.0005615	0.0035	3.1		33624.76	33624.76	2.11		Si
SLD 4	0.45	-10389.38	-20501	-0.0000451	0.0005615	0.0035	3.1		32067.14	32067.14	3.09		Si
SLD 1	0.05	-20608.73	-27939	-0.0000812	0.0005615	0.0035	3.1		41528.42	41528.42	2.02		Si
SLD 1	0.45	-13968.39	-26958	-0.0000607	0.0005615	0.0035	3.1		40327.24	40327.24	2.89		Si
SLV 5	0.05	-31048.48	-44099	-0.0001277	0.0005615	0.0035	3.1		60086.93	60086.93	1.94		Si
SLV 5	0.45	-22742.83	-43632	-0.0001018	0.0005615	0.0035	3.1		59601.03	59601.03	2.62		Si
SLV 2	0.05	-26527.56	-31094	-0.0001075	0.0005615	0.0035	2.48		45406.6	45406.6	1.71		Si
SLV 2	0.45	-17137.04	-30091	-0.0000719	0.0005615	0.0035	3.1		44181.96	44181.96	2.58		Si
SLD 2	0.05	-21521.91	-28572	-0.0000849	0.0005615	0.0035	3.1		42305.8	42305.8	1.97		Si
SLD 2	0.45	-14507.51	-27591	-0.0000627	0.0005615	0.0035	3.1		41101.57	41101.57	2.83		Si
SLV 4	0.05	-16998.74	-19372	-0.0000672	0.0005615	0.0035	2.48		30566.01	30566.01	1.8		Si
SLV 4	0.45	-10060.54	-18033	-0.0000416	0.0005615	0.0035	3.1		28754.12	28754.12	2.86		Si
SLV 6	0.05	-32017.54	-44771	-0.0001318	0.0005615	0.0035	3.1		60787.64	60787.64	1.9		Si
SLV 6	0.45	-23314.93	-44304	-0.000104	0.0005615	0.0035	3.1		60300.4	60300.4	2.59		Si
SLV 11	0.05	5335.77	-5170	-0.0000225	0.0005615	0.0035	3.1		8304.08	8304.08	1.56		Si
SLV 11	0.45	2507.64	-3703	-0.0000095	0.0005615	0.0035	3.1		6110.44	6110.44	2.44		Si
SLV 1	0.05	-25088.14	-30096	-0.0001007	0.0005615	0.0035	3.1		44188.41	44188.41	1.76		Si
SLV 1	0.45	-16287.24	-29094	-0.0000687	0.0005615	0.0035	3.1		42948.61	42948.61	2.64		Si
SLV 3	0.05	-15559.32	-18375	-0.0000607	0.0005615	0.0035	3.1		29215.85	29215.85	1.88		Si
SLV 3	0.45	-9210.75	-17036	-0.0000386	0.0005615	0.0035	3.1		27411.18	27411.18	2.98		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.05	-19730.79	-38959	-34630	-11366	3.1	3.1	-25096	10291	20567	28547	41773	7905	49114	No	4.32	Si
SLU 84	0.45	-15179.41	-37699	-33510	-11366	3.1	3.1	-24022	10147	20119	28547	41773	7905	48666	No	4.28	Si
SLU 80	0.05	-19152.56	-37389	-33234	-10939	3.1	3.1	-24198	10171	20009	28547	41773	7905	48555	No	4.44	Si
SLU 80	0.45	-14771.9	-36129	-32114	-10939	3.1	3.1	-23021	10014	19561	28547	41773	7905	48107	No	4.4	Si
SLU 75	0.05	-19168.18	-37375	-33223	-10992	3.1	3.1	-24204	10172	20004	28547	41773	7905	48551	No	4.42	Si
SLU 75	0.45	-14766.4	-36115	-32103	-10992	3.1	3.1	-23013	10013	19556	28547	41773	7905	48103	No	4.38	Si
SLU 73	0.05	-18872.42	-37345	-33196	-11181	3.1	3.1	-24006	10145	19993	28547	41773	7905	48540	No	4.34	Si
SLU 73	0.45	-14395.21	-36085	-32076	-11181	3.1	3.1	-22993	10010	19545	28547	41773	7905	48092	No	4.3	Si
SLU 81	0.05	-19663.75	-38173	-33931	-10964	3.1	3.1	-24788	10250	20287	28547	41773	7905	48834	No	4.45	Si
SLU 81	0.45	-15273.13	-36913	-32811	-10964	3.1	3.1	-23521	10081	19839	28547	41773	7905	48386	No	4.41	Si
SLU 74	0.05	-19222.95	-36802	-32713	-10600	3.1	3.083	-24049	10151	19800	28547	41773	7905	48347	No	4.56	Si
SLU 74	0.45	-14977.95	-35542	-31593	-10600	3.1	3.1	-22647	9964	19352	28547	41773	7905	47899	No	4.52	Si
SLU 83	0.05	-19785.56	-38385	-34120	-10974	3.1	3.1	-24938	10269	20363	28547	41773	7905	48910	No	4.46	Si
SLU 83	0.45	-15390.96	-37125	-33000	-10974	3.1	3.1	-23656	10099	19915	28547	41773	7905	48462	No	4.42	Si
SLU 76	0.05	-18994.23	-37558	-33385	-11191	3.1	3.1	-24155	10165	20069	28547	41773	7905	48616	No	4.34	Si
SLU 76	0.45	-14513.03	-36298	-32265	-11191	3.1	3.1	-23129	10028	19621	28547	41773	7905	48168	No	4.3	Si
SLU 82	0.05	-19608.98	-38746	-34441	-11356	3.1	3.1	-24947	10271	20491	28547	41773	7905	49038	No	4.32	Si
SLU 82	0.45	-15061.58	-37486	-33321	-11356	3.1	3.1	-23886	10129	20043	28547	41773	7905	48590	No	4.28	Si
SLU 78	0.05	-19289.99	-37588	-33412	-11002	3.1	3.1	-24353	10192	20080	28547	41773	7905	48626	No	4.42	Si
SLU 78	0.45	-14884.23	-36328	-32292	-11002	3.1	3.1	-23148	10031	19632	28547	41773	7905	48178	No	4.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	0.05	-16998.74	-19372	-17220	-18499	2.48	2.0176	0	0	0	28547	50127	6324	28547		1.54	Si
SLV 4	0.45	-10060.54	-18033	-16029	-18384	3.1	2.9763	-12037	12824	17176	28547	62659	7905	45722		2.49	Si
SLV 2	0.05	-26527.56	-31094	-27639	-23362	2.48	2.0905	0	0	0	28547	50127	6324	28547		1.22	Si
SLV 2	0.45	-17137.04	-30091	-26748	-23270	3.1	2.9415	-20408	14498	20772	28547	62659	7905	49318		2.12	Si
SLD 3	0.05	-15011.89	-21072	-18730	-13647	3.1	2.5127	-16700	13757	17565	28547	62659	7905	46112		3.38	Si
SLD 3	0.45	-9850.26	-19868	-17660	-13577	3.1	3.1	-12660	12949	18063	28547	62659	7905	46610		3.43	Si
SLD 1	0.05	-20608.73	-27939	-24835	-16508	3.1	2.4371	-22904	14998	20007	28547	62659	7905	48553		2.94	Si
SLD 1	0.45	-13968.39	-26958	-23963	-16454	3.1	3.0956	-17178	13852	19658	28547	62659	7905	48205		2.93	Si
SLV 3	0.05	-15559.32	-18375	-16333	-17025	3.1	2.1097	-17349	13887	16606	28547	62659	7905	45153		2.65	Si
SLV 3	0.45	-9210.75	-17036	-15143	-16910	3.1	3.028	-11173	12651	17238	28547	62659	7905	45785		2.71	Si
SLD 4	0.05	-15925.08	-21704	-19293	-14582	3.1	2.4488	-17657	13948	17790	28547	62659	7905	46337		3.18	Si
SLD 4	0.45	-10389.38	-20501	-18223	-14513	3.1	3.1	-13063	13029	18176	28547	62659	7905	46722		3.22	Si
SLV 5	0.05	-31048.48	-44099	-39199	-18799	3.1	2.5378	-34977	16250	25752	28547	62659	7905	54299		2.89	Si
SLV 5	0.45	-22742.83	-43632	-38784	-18806	3.1	3.0863	-28348	16086	25586	28547	62659	7905	54133		2.88	Si
SLV 1	0.05	-25088.14	-30096	-26752	-21888	3.1	2.1492	-28066	16030	20774	28547	62659	7905	49320		2.25	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	0.45	-16287.24	-29094	-25861	-21796	3.1	2.9705	-19532	14323	20417	28547	62659	7905	48964		2.25	Si
SLD 2	0.05	-21521.91	-28572	-25397	-17444	3.1	2.3902	-23890	15195	20232	28547	62659	7905	48778		2.8	Si
SLD 2	0.45	-14507.51	-27591	-24525	-17389	3.1	3.0726	-17895	13996	19883	28547	62659	7905	48430		2.79	Si
SLV 6	0.05	-32017.54	-44771	-39796	-19792	3.1	2.5046	-36002	16250	25991	28547	62659	7905	54538		2.76	Si
SLV 6	0.45	-23314.93	-44304	-39381	-19799	3.1	3.0712	-28936	16204	25825	28547	62659	7905	54372		2.75	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	1464	-2042	187.94	455.06	2.42	Si
SLV 8	179667	0.24	1892	-2640	187.94	586.59	3.12	Si
SLV 11	179667	0.24	2052	-2863	187.94	635.48	3.38	Si
SLV 12	179667	0.24	2481	-3461	187.94	765.98	4.08	Si
SLV 3	179667	0.24	9980	-13923	187.94	2927.87	15.58	Si
SLV 4	179667	0.24	10617	-14810	187.94	3100.69	16.5	Si
SLV 15	179667	0.24	11942	-16659	187.94	3455.1	18.38	Si
SLV 16	179667	0.24	12578	-17546	187.94	3622.79	19.28	Si
SLV 1	179667	0.24	17958	-25051	187.94	4973.71	26.46	Si
SLV 2	179667	0.24	18594	-25939	187.94	5125.67	27.27	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-34477	-39078	-3962	0.447	4036.9	0.961	6.75757	2.58901	Si
SLV 10	-34370	-41746	-3865	0.45	4026.1	0.961	6.81252	2.58901	Si
SLV 5	-33996	-38563	-3889	0.453	3988.1	0.961	6.86077	2.58901	Si
SLV 9	-33890	-41231	-3792	0.457	3977.2	0.961	6.91675	2.58901	Si
SLV 2	-24104	-22945	-2793	0.626	2982.7	0.949	9.59413	2.7151	Si
SLV 1	-23390	-22179	-2685	0.645	2910.3	0.948	9.88927	2.7151	Si
SLV 14	-23749	-31838	-2470	0.645	2946.7	0.948	9.89078	2.7151	Si
SLV 13	-23035	-31072	-2362	0.665	2874.3	0.947	10.19838	2.7151	Si
SLV 4	-15006	-11677	-1679	0.956	2061.4	0.93	14.92979	2.7151	Si
SLV 16	-14651	-20570	-1356	0.991	2025.6	0.929	15.49415	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.529	SLU 77	Si
V_SLU	4.279	SLU 82	Si
PF_SLV	1.556	SLV 11	Si
V_SLV	1.222	SLV 2	Si
PFFP_SLV	2.421	SLV 7	Si
R_SLV	2.61	SLV 6	Si

Maschio 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.403	-3.284	0.102	-3.284	L2	L4	2.505	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 34	0.05	-3580.87	-18685	-0.0000381	0.0003743	0.0035	2.505	19592.59	22288.65	22288.65	6.22	No	Si
SLU 34	0.45	-3663.53	-13608	-0.0000309	0.0003743	0.0035	2.505	15022.93	17261.44	17261.44	4.71	No	Si
SLU 84	0.05	-4155.53	-22449	-0.0000458	0.0003743	0.0035	2.505	22617.76	25744.7	25744.7	6.2	No	Si
SLU 84	0.45	-4232.65	-16152	-0.0000366	0.0003743	0.0035	2.505	17383.39	19835.45	19835.45	4.69	No	Si
SLU 75	0.05	-3953.63	-21508	-0.0000436	0.0003743	0.0035	2.505	21890.17	24898.79	24898.79	6.3	No	Si
SLU 75	0.45	-4003.08	-15352	-0.0000346	0.0003743	0.0035	2.505	16656.4	19041.68	19041.68	4.76	No	Si
SLU 73	0.05	-4041.36	-21537	-0.000044	0.0003743	0.0035	2.505	21913.19	24925.79	24925.79	6.17	No	Si
SLU 73	0.45	-4099.27	-15470	-0.0000351	0.0003743	0.0035	2.505	16764.22	19159.58	19159.58	4.67	No	Si
SLU 31	0.05	-3563.92	-18562	-0.0000379	0.0003743	0.0035	2.505	19488.56	22171.23	22171.23	6.22	No	Si
SLU 31	0.45	-3650.27	-13535	-0.0000308	0.0003743	0.0035	2.505	14953.41	17187.7	17187.7	4.71	No	Si
SLU 40	0.05	-3661.15	-19351	-0.0000394	0.0003743	0.0035	2.505	20150.44	22912.62	22912.62	6.26	No	Si
SLU 40	0.45	-3770.39	-14145	-0.0000321	0.0003743	0.0035	2.505	15532.85	17808.74	17808.74	4.72	No	Si
SLU 76	0.05	-4058.31	-21660	-0.0000442	0.0003743	0.0035	2.505	22009.24	25038.39	25038.39	6.17	No	Si
SLU 76	0.45	-4112.53	-15543	-0.0000353	0.0003743	0.0035	2.505	16830.66	19232.23	19232.23	4.68	No	Si
SLU 42	0.05	-3678.1	-19474	-0.0000396	0.0003743	0.0035	2.505	20252.36	23024.79	23024.79	6.26	No	Si
SLU 42	0.45	-3783.65	-14217	-0.0000322	0.0003743	0.0035	2.505	15601.4	17883.25	17883.25	4.73	No	Si
SLU 82	0.05	-4138.58	-22326	-0.0000455	0.0003743	0.0035	2.505	22523.83	25639.13	25639.13	6.2	No	Si
SLU 82	0.45	-4219.39	-16080	-0.0000364	0.0003743	0.0035	2.505	17317.91	19764.59	19764.59	4.68	No	Si
SLU 78	0.05	-3970.58	-21631	-0.0000439	0.0003743	0.0035	2.505	21986.29	25011.49	25011.49	6.3	No	Si
SLU 78	0.45	-4016.34	-15425	-0.0000348	0.0003743	0.0035	2.505	16723.04	19114.55	19114.55	4.76	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	0.05	-3730.66	-7513	-0.0000224	0.0005615	0.0035	2.505		10850.72	10850.72	2.91		Si
SLV 3	0.45	-2005.44	-5589	-0.000014	0.0005615	0.0035	2.505		8598.09	8598.09	4.29		Si
SLD 1	0.05	-4289.46	-14611	-0.000034	0.0005615	0.0035	2.505		18796.16	18796.16	4.38		Si
SLD 1	0.45	-2792.37	-10073	-0.0000227	0.0005615	0.0035	2.505		13760.08	13760.08	4.93		Si
SLD 2	0.05	-4579.51	-15009	-0.0000355	0.0005615	0.0035	2.505		19231.13	19231.13	4.2		Si
SLD 2	0.45	-2859.85	-10306	-0.0000232	0.0005615	0.0035	2.505		14024.85	14024.85	4.9		Si
SLD 4	0.05	-3602.75	-10579	-0.0000261	0.0005615	0.0035	2.505		14335.08	14335.08	3.98		Si
SLD 4	0.45	-2258.74	-7535	-0.0000175	0.0005615	0.0035	2.505		10875.74	10875.74	4.81		Si
SLD 3	0.05	-3312.7	-10181	-0.0000245	0.0005615	0.0035	2.505		13882.85	13882.85	4.19		Si
SLD 3	0.45	-2191.26	-7302	-0.0000169	0.0005615	0.0035	2.505		10605.77	10605.77	4.84		Si
SLV 1	0.05	-5378.07	-15058	-0.0000383	0.0005615	0.0035	2.505		19285.45	19285.45	3.59		Si
SLV 1	0.45	-2997.65	-10287	-0.0000237	0.0005615	0.0035	2.505		14003.79	14003.79	4.67		Si
SLV 8	0.05	-597.53	-1144	-0.0000035	0.0005615	0.0035	2.505		3264.43	3264.43	5.46		Si
SLV 8	0.45	-901.12	-1719	-0.0000053	0.0005615	0.0035	2.505		3965.3	3965.3	4.4		Si
SLV 4	0.05	-4187.86	-8140	-0.0000249	0.0005615	0.0035	2.505		11575.56	11575.56	2.76		Si
SLV 4	0.45	-2111.82	-5957	-0.0000148	0.0005615	0.0035	2.505		9030.35	9030.35	4.28		Si
SLV 2	0.05	-5835.27	-15685	-0.0000407	0.0005615	0.0035	2.505		19967.32	19967.32	3.42		Si
SLV 2	0.45	-3104.02	-10655	-0.0000245	0.0005615	0.0035	2.505		14421.7	14421.7	4.65		Si
SLV 11	0.05	1076.25	-2357	-0.0000066	0.0005615	0.0035	2.505		3221.54	3221.54	2.99		Si
SLV 11	0.45	-798.86	-2588	-0.000006	0.0005615	0.0035	2.505		5017.38	5017.38	6.28		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.05	-3954.46	-21943	-19504	-13292	2.505	2.505	-17303	9251	12364	28547	33755	6388	40143	No	3.02	Si
SLU 81	0.45	-4030.4	-15699	-13955	-13317	2.505	2.505	-12380	8595	10290	28547	33755	6388	38836	No	2.92	Si
SLU 82	0.05	-4138.58	-22326	-19846	-13289	2.505	2.505	-17605	9292	12492	28547	33755	6388	40143	No	3.02	Si
SLU 82	0.45	-4219.39	-16080	-14293	-13317	2.505	2.505	-12679	8635	10416	28547	33755	6388	38962	No	2.93	Si
SLU 83	0.05	-3971.41	-22066	-19614	-13431	2.505	2.505	-17400	9264	12405	28547	33755	6388	40143	No	2.99	Si
SLU 83	0.45	-4043.67	-15772	-14020	-13457	2.505	2.505	-12437	8603	10314	28547	33755	6388	38860	No	2.89	Si
SLU 78	0.05	-3970.58	-21631	-19227	-13271	2.505	2.505	-17057	9219	12261	28547	33755	6388	40143	No	3.02	Si
SLU 78	0.45	-4016.34	-15425	-13711	-13298	2.505	2.505	-12163	8566	10198	28547	33755	6388	38745	No	2.91	Si
SLU 79	0.05	-3768.39	-21143	-18794	-13166	2.505	2.505	-16673	9167	12099	28547	33755	6388	40143	No	3.05	Si
SLU 79	0.45	-3810.82	-14982	-13317	-13190	2.505	2.505	-11814	8520	10051	28547	33755	6388	38598	No	2.93	Si
SLU 77	0.05	-3786.45	-21247	-18886	-13274	2.505	2.505	-16754	9178	12133	28547	33755	6388	40143	No	3.02	Si
SLU 77	0.45	-3827.36	-15045	-13373	-13299	2.505	2.505	-11864	8526	10072	28547	33755	6388	38619	No	2.9	Si
SLU 75	0.05	-3953.63	-21508	-19118	-13132	2.505	2.505	-16960	9206	12220	28547	33755	6388	40143	No	3.06	Si
SLU 75	0.45	-4003.08	-15352	-13646	-13159	2.505	2.505	-12106	8559	10174	28547	33755	6388	38721	No	2.94	Si
SLU 80	0.05	-3952.51	-21527	-19135	-13163	2.505	2.505	-16975	9208	12226	28547	33755	6388	40143	No	3.05	Si
SLU 80	0.45	-3999.8	-15362	-13655	-13189	2.505	2.505	-12114	8560	10177	28547	33755	6388	38724	No	2.94	Si
SLU 84	0.05	-4155.53	-22449	-19955	-13429	2.505	2.505	-17702	9305	12533	28547	33755	6388	40143	No	2.99	Si
SLU 84	0.45	-4232.65	-16152	-14358	-13456	2.505	2.505	-12737	8643	10440	28547	33755	6388	38987	No	2.9	Si
SLU 74	0.05	-3769.51	-21124	-18777	-13135	2.505	2.505	-16657	9165	12092	28547	33755	6388	40143	No	3.06	Si
SLU 74	0.45	-3814.1	-14972	-13309	-13159	2.505	2.505	-11806	8519	10048	28547	33755	6388	38594	No	2.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	0.05	-4659.58	-21317	-18949	-18992	2.505	2.505	-16810	13779	15532	28547	50632	6388	44079		2.32	Si
SLD 6	0.45	-3533.81	-14323	-12731	-19042	2.505	2.505	-11294	12676	14288	28547	50632	6388	42835		2.25	Si
SLV 6	0.05	-6088.9	-26293	-23372	-25876	2.505	2.505	-20733	14563	16417	28547	50632	6388	44963		1.74	Si
SLV 6	0.45	-4208.46	-17379	-15448	-25943	2.505	2.505	-13704	13157	14832	28547	50632	6388	43378		1.67	Si
SLD 10	0.05	-3795.71	-22356	-19872	-18362	2.505	2.505	-17629	13942	15717	28547	50632	6388	44263		2.41	Si
SLD 10	0.45	-3520.67	-15031	-13361	-18373	2.505	2.505	-11852	12787	14414	28547	50632	6388	42961		2.34	Si
SLV 2	0.05	-5835.27	-15685	-13942	-16314	2.505	2.505	-12369	12890	14531	28547	50632	6388	43077		2.64	Si
SLV 2	0.45	-3104.02	-10655	-9471	-16435	2.505	2.505	-8402	12097	13636	28547	50632	6388	42183		2.57	Si
SLV 1	0.05	-5378.07	-15058	-13385	-14766	2.505	2.505	-11874	12791	14419	28547	50632	6388	42966		2.91	Si
SLV 1	0.45	-2997.65	-10287	-9144	-14887	2.505	2.505	-8112	12039	13571	28547	50632	6388	42118		2.83	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0.05	-4722.91	-27929	-24825	-24888	2.505	2.505	-22023	14821	16890	28547	50632	6388	45436		1.83	Si
SLV 10	0.45	-4177.81	-18496	-16441	-24897	2.505	2.505	-14585	13334	15030	28547	50632	6388	43577		1.75	Si
SLD 9	0.05	-3608.92	-22100	-19644	-17730	2.505	2.505	-17427	13902	15671	28547	50632	6388	44218		2.49	Si
SLD 9	0.45	-3477.21	-14881	-13227	-17740	2.505	2.505	-11734	12763	14388	28547	50632	6388	42934		2.42	Si
SLV 9	0.05	-4415.12	-27507	-24450	-23846	2.505	2.505	-21690	14755	16749	28547	50632	6388	45296		1.9	Si
SLV 9	0.45	-4106.2	-18249	-16221	-23854	2.505	2.505	-14390	13295	14986	28547	50632	6388	43533		1.82	Si
SLD 5	0.05	-4472.79	-21061	-18721	-18360	2.505	2.505	-16608	13738	15486	28547	50632	6388	44033		2.4	Si
SLD 5	0.45	-3490.35	-14173	-12598	-18409	2.505	2.505	-11176	12652	14262	28547	50632	6388	42808		2.33	Si
SLV 5	0.05	-5781.1	-25871	-22997	-24834	2.505	2.505	-20401	14497	16341	28547	50632	6388	44888		1.81	Si
SLV 5	0.45	-4136.84	-17132	-15228	-24901	2.505	2.505	-13509	13118	14788	28547	50632	6388	43334		1.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	0	-324	151.87	0	0	No, e>t/2
SLV 7	179667	0.24	0	145	151.87	0	0	No, Trazione
SLV 11	179667	0.24	2563	-2889	151.87	639.2	4.21	Si
SLV 12	179667	0.24	2979	-3359	151.87	740.93	4.88	Si
SLV 3	179667	0.24	5722	-6450	151.87	1396.91	9.2	Si
SLV 4	179667	0.24	6340	-7147	151.87	1541.32	10.15	Si
SLV 1	179667	0.24	13515	-15235	151.87	3124.5	20.57	Si
SLV 2	179667	0.24	14133	-15932	151.87	3252.91	21.42	Si
SLV 15	179667	0.24	14695	-16564	151.87	3368.38	22.18	Si
SLV 16	179667	0.24	15313	-17261	151.87	3494.37	23.01	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-17523	-30584	-1002	0.741	2212	0.945	11.39272	2.58901	Si
SLV 9	-17223	-30189	-984	0.752	2181.5	0.944	11.56696	2.58901	Si
SLV 6	-16695	-27116	-928	0.773	2128.1	0.943	11.90564	2.58901	Si
SLV 5	-16395	-26721	-910	0.784	2097.6	0.943	12.09607	2.58901	Si
SLV 14	-12930	-25309	-748	0.95	1747	0.933	14.79566	2.7151	Si
SLV 13	-12483	-24722	-722	0.977	1701.9	0.932	15.24273	2.7151	Si
SLV 2	-10171	-13747	-501	1.154	1468.8	0.923	18.17447	2.7151	Si
SLV 1	-9724	-13161	-474	1.195	1424	0.921	18.85066	2.7151	Si
SLV 16	-8102	-17236	-453	1.363	1261.6	0.914	21.68	2.7151	Si
SLV 15	-7656	-16650	-426	1.421	1217	0.912	22.6511	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.674	SLU 73	Si
V_SLU	2.888	SLU 83	Si
PF_SLV	2.764	SLV 4	Si
V_SLV	1.672	SLV 6	Si
PFFP_SLV	0	SLV 7	No
R_SLV	4.4	SLV 10	Si

Maschio 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.008	5.876	-2.914	5.876	L2	L4	2.094	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	0.05	-6634.71	-26525	-0.0000799	0.0003743	0.0035	2.0941	20094.18	23126.1	23126.1	3.49	No	Si
SLU 69	0.45	-3872.81	-25663	-0.0000636	0.0003743	0.0035	2.0941	19682.63	22591.75	22591.75	5.83	No	Si
SLU 49	0.05	-5830.79	-22332	-0.0000674	0.0003743	0.0035	2.0941	17939.39	20390.93	20390.93	3.5	No	Si
SLU 49	0.45	-3350.34	-21479	-0.000053	0.0003743	0.0035	2.0941	17454.5	19788.65	19788.65	5.91	No	Si
SLU 48	0.05	-5920.53	-22565	-0.0000683	0.0003743	0.0035	2.0941	18069.53	20554.01	20554.01	3.47	No	Si
SLU 48	0.45	-3413.4	-21713	-0.0000538	0.0003743	0.0035	2.0941	17588.99	19953.1	19953.1	5.85	No	Si
SLU 45	0.05	-5776.7	-22118	-0.0000667	0.0003743	0.0035	2.0941	17819.53	20239.6	20239.6	3.5	No	Si
SLU 45	0.45	-3300.64	-21266	-0.0000524	0.0003743	0.0035	2.0941	17330.67	19638.93	19638.93	5.95	No	Si
SLU 72	0.05	-6486.22	-26107	-0.0000783	0.0003743	0.0035	2.0941	19896.61	22871.78	22871.78	3.53	No	Si
SLU 72	0.45	-3756.94	-25245	-0.0000622	0.0003743	0.0035	2.0941	19477.2	22323.82	22323.82	5.94	No	Si
SLU 66	0.05	-6490.88	-26078	-0.0000782	0.0003743	0.0035	2.0941	19882.8	22854.24	22854.24	3.52	No	Si
SLU 66	0.45	-3760.05	-25216	-0.0000622	0.0003743	0.0035	2.0941	19462.84	22305.17	22305.17	5.93	No	Si
SLU 71	0.05	-6575.96	-26341	-0.0000792	0.0003743	0.0035	2.0941	20007.5	23013.76	23013.76	3.5	No	Si
SLU 71	0.45	-3820	-25479	-0.000063	0.0003743	0.0035	2.0941	19592.48	22473.95	22473.95	5.88	No	Si
SLU 50	0.05	-5861.78	-22381	-0.0000676	0.0003743	0.0035	2.0941	17966.92	20425.93	20425.93	3.48	No	Si
SLU 50	0.45	-3360.58	-21528	-0.0000532	0.0003743	0.0035	2.0941	17482.95	19823.27	19823.27	5.9	No	Si
SLU 70	0.05	-6544.97	-26291	-0.000079	0.0003743	0.0035	2.0941	19984.23	22983.79	22983.79	3.51	No	Si
SLU 70	0.45	-3809.75	-25429	-0.0000629	0.0003743	0.0035	2.0941	19568.28	22442.39	22442.39	5.89	No	Si
SLU 51	0.05	-5772.05	-22147	-0.0000667	0.0003743	0.0035	2.0941	17835.84	20260.09	20260.09	3.51	No	Si
SLU 51	0.45	-3297.52	-21295	-0.0000524	0.0003743	0.0035	2.0941	17347.52	19659.21	19659.21	5.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	0.05	2296.1	-5333	-0.0000195	0.0005615	0.0035	2.0941		5642.18	5642.18	2.46		Si
SLV 9	0.45	2445.29	-4509	-0.0000201	0.0005615	0.0035	2.0941		4825.85	4825.85	1.97		Si
SLV 8	0.05	-11888.26	-33867	-0.0001183	0.0005615	0.0035	2.0941		30098.39	30098.39	2.53		Si
SLV 8	0.45	-7880.23	-33369	-0.0000963	0.0005615	0.0035	2.0941		29757.72	29757.72	3.78		Si
SLV 5	0.05	2086.96	-1864	-0.0004922	0.0005615	0.0035	1.6753		2163.8	2163.8	1.04		Si
SLV 5	0.45	3136.12	-1064	-0.0109068	0.0005615	0.0035	1.6753		1343.75	1343.75	0.43		No
SLV 4	0.05	-7049.93	-18511	-0.0000647	0.0005615	0.0035	2.0941		18481.74	18481.74	2.62		Si
SLV 4	0.45	-3228.22	-17935	-0.0000449	0.0005615	0.0035	2.0941		17996.21	17996.21	5.57		Si
SLV 12	0.05	-11679.11	-37336	-0.0001241	0.0005615	0.0035	2.0941		32363.19	32363.19	2.77		Si
SLV 12	0.45	-8571.06	-36814	-0.0001066	0.0005615	0.0035	2.0941		32025.88	32025.88	3.74		Si
SLV 7	0.05	-12210.53	-34049	-0.0001205	0.0005615	0.0035	2.0941		30222.53	30222.53	2.48		Si
SLV 7	0.45	-7863.88	-33552	-0.0000966	0.0005615	0.0035	2.0941		29883.28	29883.28	3.8		Si
SLV 6	0.05	2409.23	-1682	-0.0023962	0.0005615	0.0035	1.6753		1977.01	1977.01	0.82		No
SLV 6	0.45	3119.78	-881	-0.0120239	0.0005615	0.0035	1.6753		1156.38	1156.38	0.37		No
SLV 11	0.05	-12001.38	-37518	-0.0001262	0.0005615	0.0035	2.0941		32481.46	32481.46	2.71		Si
SLV 11	0.45	-8554.71	-36997	-0.0001069	0.0005615	0.0035	2.0941		32143.8	32143.8	3.76		Si
SLV 10	0.05	2618.37	-5151	-0.0000216	0.0005615	0.0035	2.0941		5461.47	5461.47	2.09		Si
SLV 10	0.45	2428.94	-4327	-0.0000201	0.0005615	0.0035	2.0941		4645.15	4645.15	1.91		Si
SLV 3	0.05	-7528.63	-18782	-0.0000679	0.0005615	0.0035	2.0941		18710.86	18710.86	2.49		Si
SLV 3	0.45	-3203.94	-18206	-0.0000453	0.0005615	0.0035	2.0941		18224.55	18224.55	5.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.05	-6891.82	-29243	-25994	-7369	2.0941	2.0941	-27584	10622	11668	28547	28218	5340	33557	No	4.55	Si
SLU 80	0.45	-3944.05	-28381	-25227	-7369	2.0941	2.0941	-26771	10514	11429	28547	28218	5340	33557	No	4.55	Si
SLU 79	0.05	-6981.55	-29476	-26201	-7436	2.0941	2.0941	-27805	10652	11733	28547	28218	5340	33557	No	4.51	Si
SLU 79	0.45	-4007.11	-28614	-25435	-7436	2.0941	2.0941	-26992	10543	11494	28547	28218	5340	33557	No	4.51	Si
SLU 78	0.05	-6950.56	-29427	-26157	-7384	2.0941	2.0941	-27758	10646	11720	28547	28218	5340	33557	No	4.54	Si
SLU 78	0.45	-3996.87	-28565	-25391	-7384	2.0941	2.0941	-26945	10537	11480	28547	28218	5340	33557	No	4.54	Si
SLU 83	0.05	-7011.55	-30373	-26999	-7592	2.0941	2.0941	-28651	10765	11983	28547	28218	5340	33557	No	4.42	Si
SLU 83	0.45	-3974.54	-29511	-26232	-7592	2.0941	2.0941	-27838	10656	11743	28547	28218	5340	33557	No	4.42	Si
SLU 81	0.05	-6867.72	-29926	-26601	-7514	2.0941	2.0941	-28229	10708	11858	28547	28218	5340	33557	No	4.47	Si
SLU 81	0.45	-3861.78	-29064	-25835	-7514	2.0941	2.0941	-27416	10600	11619	28547	28218	5340	33557	No	4.47	Si
SLU 74	0.05	-6896.47	-29214	-25968	-7373	2.0941	2.0941	-27557	10619	11660	28547	28218	5340	33557	No	4.55	Si
SLU 74	0.45	-3947.17	-28352	-25202	-7373	2.0941	2.0941	-26744	10510	11421	28547	28218	5340	33557	No	4.55	Si
SLU 75	0.05	-6806.73	-28980	-25760	-7306	2.0941	2.0941	-27337	10589	11596	28547	28218	5340	33557	No	4.59	Si
SLU 75	0.45	-3884.11	-28118	-24994	-7306	2.0941	2.0941	-26524	10481	11356	28547	28218	5340	33557	No	4.59	Si
SLU 84	0.05	-6921.81	-30140	-26791	-7525	2.0941	2.0941	-28430	10735	11918	28547	28218	5340	33557	No	4.46	Si
SLU 84	0.45	-3911.48	-29278	-26025	-7525	2.0941	2.0941	-27617	10627	11678	28547	28218	5340	33557	No	4.46	Si
SLU 82	0.05	-6777.99	-29693	-26394	-7448	2.0941	2.0941	-28009	10679	11793	28547	28218	5340	33557	No	4.51	Si
SLU 82	0.45	-3798.72	-28831	-25627	-7448	2.0941	2.0941	-27196	10571	11554	28547	28218	5340	33557	No	4.51	Si
SLU 77	0.05	-7040.3	-29661	-26365	-7451	2.0941	2.0941	-27979	10675	11785	28547	28218	5340	33557	No	4.5	Si
SLU 77	0.45	-4059.93	-28799	-25599	-7451	2.0941	2.0941	-27166	10567	11545	28547	28218	5340	33557	No	4.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	0.05	-12001.38	-37518	-33350	-8306	2.0941	2.0941	-35390	16250	15740	28547	42326	5340	44286		5.33	Si
SLV 11	0.45	-8554.71	-36997	-32886	-8270	2.0941	2.0941	-34899	16250	15595	28547	42326	5340	44141		5.34	Si
SLV 1	0.05	-3239.38	-9126	-8112	-8503	2.0941	2.0763	-8609	12138	11341	28547	42326	5340	39888		4.69	Si
SLV 1	0.45	96.06	-8460	-7520	-8502	2.0941	2.0941	-7980	12013	11320	28547	42326	5340	39866		4.69	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	0.05	-7528.63	-18782	-16695	-10803	2.0941	1.9386	-19310	14279	12456	28547	42326	5340	41003		3.8	Si
SLV 3	0.45	-3203.94	-18206	-16183	-10779	2.0941	2.0941	-17174	13851	13053	28547	42326	5340	41599		3.86	Si
SLV 7	0.05	-12210.53	-34049	-30266	-10602	2.0941	2.0653	-32118	16250	15102	28547	42326	5340	43649		4.12	Si
SLV 7	0.45	-7863.88	-33552	-29824	-10559	2.0941	2.0941	-31649	16250	15313	28547	42326	5340	43859		4.15	Si
SLD 8	0.05	-8954.63	-27879	-24781	-7926	2.0941	2.0941	-26298	15676	14772	28547	42326	5340	43319		5.47	Si
SLD 8	0.45	-5708.94	-27326	-24290	-7900	2.0941	2.0941	-25776	15572	14674	28547	42326	5340	43220		5.47	Si
SLD 4	0.05	-6126.35	-18673	-16598	-7900	2.0941	2.0941	-17614	13939	13136	28547	42326	5340	41682		5.28	Si
SLD 4	0.45	-2956.51	-18058	-16052	-7888	2.0941	2.0941	-17034	13823	13026	28547	42326	5340	41573		5.27	Si
SLD 3	0.05	-6430.04	-18845	-16751	-8698	2.0941	2.0941	-17776	13972	13166	28547	42326	5340	41713		4.8	Si
SLD 3	0.45	-2941.11	-18230	-16204	-8686	2.0941	2.0941	-17196	13856	13057	28547	42326	5340	41603		4.79	Si
SLV 4	0.05	-7049.93	-18511	-16454	-9546	2.0941	1.9985	-17461	13909	12509	28547	42326	5340	41055		4.3	Si
SLV 4	0.45	-3228.22	-17935	-15942	-9521	2.0941	2.0941	-16918	13800	13004	28547	42326	5340	41551		4.36	Si
SLV 8	0.05	-11888.26	-33867	-30104	-9756	2.0941	2.088	-31946	16250	15269	28547	42326	5340	43815		4.49	Si
SLV 8	0.45	-7880.23	-33369	-29662	-9713	2.0941	2.0941	-31477	16250	15313	28547	42326	5340	43859		4.52	Si
SLD 7	0.05	-9150.2	-27989	-24880	-8440	2.0941	2.0941	-26402	15697	14792	28547	42326	5340	43338		5.13	Si
SLD 7	0.45	-5699.02	-27437	-24388	-8413	2.0941	2.0941	-25881	15593	14694	28547	42326	5340	43240		5.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	2044	-1926	126.96	427.48	3.37	Si
SLV 5	179667	0.24	2585	-2436	126.96	538.79	4.24	Si
SLV 10	179667	0.24	5019	-4729	126.96	1029.15	8.11	Si
SLV 9	179667	0.24	5560	-5240	126.96	1135.99	8.95	Si
SLV 2	179667	0.24	11917	-11230	126.96	2329.61	18.35	Si
SLV 1	179667	0.24	12722	-11988	126.96	2472.61	19.48	Si
SLV 14	179667	0.24	21835	-20576	126.96	3967.67	31.25	Si
SLV 13	179667	0.24	22639	-21334	126.96	4088.52	32.2	Si
SLV 4	179667	0.24	23469	-22115	126.96	4211.27	33.17	Si
SLV 3	179667	0.24	24273	-22873	126.96	4328.47	34.09	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-32941	-49324	-459	0.41	3709.3	0.971	6.14419	2.58901	Si
SLV 12	-32871	-48267	-461	0.411	3702.2	0.971	6.15332	2.58901	Si
SLV 7	-29968	-47058	-405	0.442	3406.6	0.968	6.63647	2.58901	Si
SLV 8	-29898	-46001	-407	0.443	3399.5	0.968	6.64756	2.58901	Si
SLV 15	-25943	-36864	-382	0.494	2997	0.964	7.44587	2.7151	Si
SLV 16	-25840	-35295	-386	0.495	2986.4	0.964	7.46787	2.7151	Si
SLV 13	-16958	-23699	-263	0.692	2083.4	0.95	10.57859	2.7151	Si
SLV 14	-16854	-22129	-267	0.695	2072.9	0.95	10.62894	2.7151	Si
SLV 3	-16033	-29311	-203	0.726	1989.5	0.948	11.12291	2.7151	Si
SLV 4	-15929	-27741	-206	0.729	1979	0.948	11.17913	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.472	SLU 48	Si
V_SLU	4.42	SLU 83	Si
PF_SLV	0.371	SLV 6	No
V_SLV	3.795	SLV 3	Si
PFFP_SLV	3.367	SLV 6	Si
R_SLV	2.373	SLV 11	Si

Maschio 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1.914	5.876	-0.123	5.876	L2	L4	1.791	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

												εlim,conv / ε,CNR DT-200					CRM / Fibrenet?		
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	0.05	-2406.48	-22936	-0.0000628	0.0003743	0.0035	1.7909	14797.14	17088.77	17088.77	7.1	No	Si
SLU 81	0.45	1199.42	-20719	-0.0000494	0.0003743	0.0035	1.7909	13868.24	14988.48	14988.48	12.5	No	Si
SLU 80	0.05	-2298.38	-22408	-0.0000609	0.0003743	0.0035	1.7909	14585.67	16812.15	16812.15	7.31	No	Si
SLU 80	0.45	1289.11	-20185	-0.0000488	0.0003743	0.0035	1.7909	13628.33	14710.6	14710.6	11.41	No	Si
SLU 79	0.05	-2327.64	-22627	-0.0000616	0.0003743	0.0035	1.7909	14674.35	16927.73	16927.73	7.27	No	Si
SLU 79	0.45	1321.77	-20368	-0.0000495	0.0003743	0.0035	1.7909	13711.28	14805.7	14805.7	11.2	No	Si
SLU 84	0.05	-2397.09	-23064	-0.000063	0.0003743	0.0035	1.7909	14847.48	17154.9	17154.9	7.16	No	Si
SLU 84	0.45	1221.42	-20847	-0.0000498	0.0003743	0.0035	1.7909	13924.67	15055.14	15055.14	12.33	No	Si
SLU 82	0.05	-2377.22	-22716	-0.0000621	0.0003743	0.0035	1.7909	14709.94	16974.29	16974.29	7.14	No	Si
SLU 82	0.45	1166.75	-20536	-0.0000488	0.0003743	0.0035	1.7909	13786.69	14893.05	14893.05	12.76	No	Si
SLU 77	0.05	-2333.86	-22761	-0.0000619	0.0003743	0.0035	1.7909	14727.9	16997.81	16997.81	7.28	No	Si
SLU 77	0.45	1342.88	-20487	-0.0000499	0.0003743	0.0035	1.7909	13764.89	14867.71	14867.71	11.07	No	Si
SLU 74	0.05	-2313.99	-22414	-0.000061	0.0003743	0.0035	1.7909	14588.06	16815.26	16815.26	7.27	No	Si
SLU 74	0.45	1288.22	-20176	-0.0000488	0.0003743	0.0035	1.7909	13624.47	14706.19	14706.19	11.42	No	Si
SLU 75	0.05	-2284.73	-22194	-0.0000603	0.0003743	0.0035	1.7909	14498.36	16698.93	16698.93	7.31	No	Si
SLU 75	0.45	1255.55	-19993	-0.0000482	0.0003743	0.0035	1.7909	13540.76	14611.27	14611.27	11.64	No	Si
SLU 83	0.05	-2426.35	-23283	-0.0000637	0.0003743	0.0035	1.7909	14933.02	17268	17268	7.12	No	Si
SLU 83	0.45	1254.08	-21030	-0.0000504	0.0003743	0.0035	1.7909	14004.98	15150.86	15150.86	12.08	No	Si
SLU 73	0.05	-2239.13	-21567	-0.0000586	0.0003743	0.0035	1.7909	14236.08	16352.42	16352.42	7.3	No	Si
SLU 73	0.45	1158.01	-19441	-0.0000463	0.0003743	0.0035	1.7909	13283.91	14326.1	14326.1	12.37	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	0.05	-1768.62	-4403	-0.0000201	0.0005615	0.0035	1.7909		4663.23	4663.23	2.64		Si
SLV 2	0.45	-1266.49	-3832	-0.0000152	0.0005615	0.0035	1.7909		4181.6	4181.6	3.3		Si
SLV 9	0.05	-173.36	-1290	-0.0000035	0.0005615	0.0035	1.7909		2002.62	2002.62	11.55		Si
SLV 9	0.45	-1858.19	-1848	-0.0001771	0.0005615	0.0035	1.4327		2485.98	2485.98	1.34		Si
SLV 6	0.05	-380.67	2644	0.3780894	0.0005615	0.0035	1.4327		0	0	0		No
SLV 6	0.45	-2632.3	1773	0.2601547	0.0005615	0.0035	1.4327		0	0	0		No
SLV 1	0.05	-2168.44	-5364	-0.0000247	0.0005615	0.0035	1.7909		5465.62	5465.62	2.52		Si
SLV 1	0.45	-1192.41	-4506	-0.000016	0.0005615	0.0035	1.7909		4749.44	4749.44	3.98		Si
SLV 5	0.05	-649.84	1998	0.2870372	0.0005615	0.0035	1.4327		0	0	0		No
SLV 5	0.45	-2582.43	1319	0.1946232	0.0005615	0.0035	1.4327		0	0	0		No
SLD 1	0.05	-1971.8	-9140	-0.00003	0.0005615	0.0035	1.7909		8516.61	8516.61	4.32		Si
SLD 1	0.45	-368.4	-7963	-0.0000174	0.0005615	0.0035	1.7909		7579.6	7579.6	20.57		Si
SLV 3	0.05	-2937.62	-14827	-0.0000477	0.0005615	0.0035	1.7909		12838.85	12838.85	4.37		Si
SLV 3	0.45	712.9	-12571	-0.0000286	0.0005615	0.0035	1.7909		10515.75	10515.75	14.75		Si
SLV 10	0.05	95.81	-643	-0.0000018	0.0005615	0.0035	1.7909		747.48	747.48	7.8		Si
SLV 10	0.45	-1908.06	-1395	-0.0003335	0.0005615	0.0035	1.4327		2093.76	2093.76	1.1		Si
SLD 5	0.05	-1030.12	-4995	-0.0000159	0.0005615	0.0035	1.7909		5159.49	5159.49	5.01		Si
SLD 5	0.45	-1122.88	-4713	-0.000016	0.0005615	0.0035	1.7909		4924.62	4924.62	4.39		Si
SLD 6	0.05	-866.78	-4603	-0.0000141	0.0005615	0.0035	1.7909		4831.34	4831.34	5.57		Si
SLD 6	0.45	-1153.15	-4438	-0.0000156	0.0005615	0.0035	1.7909		4692.53	4692.53	4.07		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.05	-2426.35	-23283	-20696	-12624	1.7909	1.7909	-25680	10368	8356	28547	24133	4567	28700	No	2.27	Si
SLU 83	0.45	1254.08	-21030	-18693	-12749	1.7909	1.7909	-23195	10037	8089	28547	24133	4567	28700	No	2.25	Si
SLU 81	0.05	-2406.48	-22936	-20387	-12355	1.7909	1.7909	-25297	10317	8315	28547	24133	4567	28700	No	2.32	Si
SLU 81	0.45	1199.42	-20719	-18417	-12478	1.7909	1.7909	-22852	9991	8052	28547	24133	4567	28700	No	2.3	Si
SLU 74	0.05	-2313.99	-22414	-19923	-12392	1.7909	1.7909	-24721	10241	8253	28547	24133	4567	28700	No	2.32	Si
SLU 74	0.45	1288.22	-20176	-17934	-12515	1.7909	1.7909	-22253	9912	7988	28547	24133	4567	28700	No	2.29	Si
SLU 78	0.05	-2304.6	-22542	-20037	-12425	1.7909	1.7909	-24862	10259	8268	28547	24133	4567	28700	No	2.31	Si
SLU 78	0.45	1310.21	-20304	-18048	-12548	1.7909	1.7909	-22394	9930	8003	28547	24133	4567	28700	No	2.29	Si
SLU 77	0.05	-2333.86	-22761	-20232	-12661	1.7909	1.7909	-25105	10292	8294	28547	24133	4567	28700	No	2.27	Si
SLU 77	0.45	1342.88	-20487	-18211	-12786	1.7909	1.7909	-22596	9957	8025	28547	24133	4567	28700	No	2.24	Si
SLU 79	0.05	-2327.64	-22627	-20113	-12560	1.7909	1.7909	-24957	10272	8278	28547	24133	4567	28700	No	2.28	Si
SLU 79	0.45	1321.77	-20368	-18105	-12684	1.7909	1.7909	-22465	9940	8011	28547	24133	4567	28700	No	2.26	Si
SLU 82	0.05	-2377.22	-22716	-20192	-12119	1.7909	1.7909	-25055	10285	8289	28547	24133	4567	28700	No	2.37	Si
SLU 82	0.45	1166.75	-20536	-18254	-12240	1.7909	1.7909	-22650	9964	8031	28547	24133	4567	28700	No	2.34	Si
SLU 84	0.05	-2397.09	-23064	-20501	-12388	1.7909	1.7909	-25438	10336	8330	28547	24133	4567	28700	No	2.32	Si
SLU 84	0.45	1221.42	-20847	-18530	-12511	1.7909	1.7909	-22993	10010	8067	28547	24133	4567	28700	No	2.29	Si
SLU 75	0.05	-2284.73	-22194	-19728	-12156	1.7909	1.7909	-24479	10208	8227	28547	24133	4567	28700	No	2.36	Si
SLU 75	0.45	1255.55	-19993	-17772	-12277	1.7909	1.7909	-22051	9885	7966	28547	24133	4567	28700	No	2.34	Si
SLU 80	0.05	-2298.38	-22408	-19918	-12324	1.7909	1.7909	-24715	10240	8252	28547	24133	4567	28700	No	2.33	Si
SLU 80	0.45	1289.11	-20185	-17942	-12446	1.7909	1.7909	-22263	9913	7989	28547	24133	4567	28700	No	2.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	0.05	-2087.85	-25192	-22393	-18065	1.7909	1.7909	-27785	15974	12874	28547	36199	4567	40766		2.26	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	0.45	2983.43	-22247	-19775	-18248	1.7909	1.7909	-24538	15324	12350	28547	36199	4567	40766		2.23	Si
SLV 15	0.05	-1349.36	-25784	-22919	-15365	1.7909	1.7909	-28438	16104	12979	28547	36199	4567	40766		2.65	Si
SLV 15	0.45	3127.03	-23129	-20559	-15612	1.7909	1.7909	-25510	15519	12507	28547	36199	4567	40766		2.61	Si
SLV 3	0.05	-2937.62	-14827	-13179	-13553	1.7909	1.7909	-16353	13687	11031	28547	36199	4567	39577		2.92	Si
SLV 3	0.45	712.9	-12571	-11174	-13557	1.7909	1.7909	-13865	13190	10630	28547	36199	4567	39176		2.89	Si
SLD 8	0.05	-2397.19	-23101	-20535	-17723	1.7909	1.7909	-25480	15513	12502	28547	36199	4567	40766		2.3	Si
SLD 8	0.45	2520.78	-20230	-17982	-17857	1.7909	1.7909	-22313	14879	11991	28547	36199	4567	40538		2.27	Si
SLD 11	0.05	-2251.2	-25584	-22742	-18812	1.7909	1.7909	-28218	16060	12943	28547	36199	4567	40766		2.17	Si
SLD 11	0.45	3013.69	-22523	-20020	-18997	1.7909	1.7909	-24841	15385	12399	28547	36199	4567	40766		2.15	Si
SLV 11	0.05	-2737.31	-32831	-29184	-25999	1.7909	1.7909	-36212	16250	13096	28547	36199	4567	40766		1.57	Si
SLV 11	0.45	4492.84	-28733	-25541	-26251	1.7909	1.7909	-31691	16250	13096	28547	36199	4567	40766		1.55	Si
SLV 8	0.05	-2944.62	-28898	-25687	-24225	1.7909	1.7909	-31873	16250	13096	28547	36199	4567	40766		1.68	Si
SLV 8	0.45	3718.73	-25112	-22322	-24400	1.7909	1.7909	-27698	15956	12859	28547	36199	4567	40766		1.67	Si
SLD 7	0.05	-2560.53	-23494	-20884	-18469	1.7909	1.7909	-25913	15599	12572	28547	36199	4567	40766		2.21	Si
SLD 7	0.45	2551.04	-20505	-18227	-18606	1.7909	1.7909	-22616	14940	12040	28547	36199	4567	40587		2.18	Si
SLV 12	0.05	-2468.14	-32185	-28609	-24769	1.7909	1.7909	-35498	16250	13096	28547	36199	4567	40766		1.65	Si
SLV 12	0.45	4442.97	-28280	-25137	-25017	1.7909	1.7909	-31191	16250	13096	28547	36199	4567	40766		1.63	Si
SLV 7	0.05	-3213.79	-29544	-26262	-25455	1.7909	1.7909	-32586	16250	13096	28547	36199	4567	40766		1.6	Si
SLV 7	0.45	3768.6	-25566	-22725	-25635	1.7909	1.7909	-28198	16056	12940	28547	36199	4567	40766		1.59	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	0	2490	108.58	0	0	No, Trazione
SLV 5	179667	0.24	0	1902	108.58	0	0	No, Trazione
SLV 10	179667	0.24	1146	-924	108.58	206.31	1.9	Si
SLV 9	179667	0.24	1876	-1512	108.58	336.05	3.09	Si
SLV 2	179667	0.24	4998	-4028	108.58	876.69	8.07	Si
SLV 1	179667	0.24	6082	-4902	108.58	1059.02	9.75	Si
SLV 4	179667	0.24	16319	-13152	108.58	2642.94	24.34	Si
SLV 3	179667	0.24	17403	-14026	108.58	2796.12	25.75	Si
SLV 14	179667	0.24	19119	-15408	108.58	3032.83	27.93	Si
SLV 13	179667	0.24	20203	-16282	108.58	3178.8	29.28	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-28384	-36582	-1029	0.387	3193.9	0.971	5.79448	2.58901	Si
SLV 12	-27848	-36128	-1003	0.393	3139.3	0.97	5.89224	2.58901	Si
SLV 7	-25402	-31938	-955	0.423	2890.3	0.968	6.3488	2.58901	Si
SLV 8	-24866	-31484	-928	0.431	2835.8	0.967	6.46909	2.58901	Si
SLV 15	-22146	-30996	-720	0.478	2558.9	0.964	7.21085	2.7151	Si
SLV 16	-21351	-30321	-681	0.494	2478	0.963	7.44762	2.7151	Si
SLV 13	-13706	-21469	-375	0.713	1701	0.948	10.92893	2.7151	Si
SLV 14	-12911	-20794	-336	0.75	1620.2	0.946	11.51292	2.7151	Si
SLV 3	-12206	-15516	-471	0.773	1548.8	0.944	11.90165	2.7151	Si
SLV 4	-11411	-14841	-432	0.817	1468.2	0.941	12.61384	2.7151	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.101	SLU 81	Si
V_SLU	2.245	SLU 77	Si
PF_SLV	0	SLV 5	No
V_SLV	1.553	SLV 11	Si
PFFP_SLV	0	SLV 6	No
R_SLV	2.238	SLV 11	Si

Maschio 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	6.101	-0.123	-3.284	L2	L4	9.385	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 63	-1.95	58605.48	-101870	-0.0000531	0.0003743	0.0035	9.385	364771.4	393130.33	393130.33	6.71	No	Si
SLU 63	0.73	59463.64	-132232	-0.0000663	0.0003743	0.0035	9.385	429673.99	477379.08	477379.08	8.03	No	Si
SLU 55	-1.95	57845.91	-98004	-0.0000513	0.0003743	0.0035	9.385	355063.31	382701.68	382701.68	6.62	No	Si
SLU 55	0.73	58018.9	-126437	-0.0000634	0.0003743	0.0035	9.385	418838.94	461019.56	461019.56	7.95	No	Si
SLU 52	-1.95	58064.88	-96813	-0.0000509	0.0003743	0.0035	9.385	352005.49	379496.13	379496.13	6.54	No	Si
SLU 52	0.73	58877.98	-124414	-0.0000627	0.0003743	0.0035	9.385	414884.56	455319.52	455319.52	7.73	No	Si
SLU 76	-1.95	62237.16	-109315	-0.0000572	0.0003743	0.0035	9.385	382546.3	413378.85	413378.85	6.64	No	Si
SLU 76	0.73	62401.64	-143110	-0.0000718	0.0003743	0.0035	9.385	448030.87	508551.01	508551.01	8.15	No	Si
SLU 44	-1.95	52858.24	-87785	-0.0000459	0.0003743	0.0035	9.385	327831.05	349564.83	349564.83	6.61	No	Si
SLU 44	0.73	53045.02	-111328	-0.0000557	0.0003743	0.0035	9.385	387145.81	418903.79	418903.79	7.9	No	Si
SLU 82	-1.95	63215.7	-111989	-0.0000585	0.0003743	0.0035	9.385	388636.88	420722.57	420722.57	6.66	No	Si
SLU 82	0.73	64705.46	-146883	-0.0000741	0.0003743	0.0035	9.385	453794.42	517830.18	517830.18	8	No	Si
SLU 47	-1.95	52639.28	-88977	-0.0000463	0.0003743	0.0035	9.385	331123.65	353954.24	353954.24	6.72	No	Si
SLU 47	0.73	52185.94	-113351	-0.0000563	0.0003743	0.0035	9.385	391677.97	424475.74	424475.74	8.13	No	Si
SLU 10	-1.95	47874.09	-79539	-0.0000413	0.0003743	0.0035	9.385	304194.12	319459.64	319459.64	6.67	No	Si
SLU 10	0.73	48401.42	-103012	-0.000051	0.0003743	0.0035	9.385	367575.96	396217.37	396217.37	8.19	No	Si
SLU 73	-1.95	62456.13	-108123	-0.0000567	0.0003743	0.0035	9.385	379782.61	410118.92	410118.92	6.57	No	Si
SLU 73	0.73	63260.72	-141087	-0.0000712	0.0003743	0.0035	9.385	444812.67	502708.04	502708.04	7.95	No	Si
SLU 61	-1.95	58824.45	-100679	-0.0000527	0.0003743	0.0035	9.385	361814.12	389915.67	389915.67	6.63	No	Si
SLU 61	0.73	60322.71	-130209	-0.0000656	0.0003743	0.0035	9.385	425975.5	471649.46	471649.46	7.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	-1.95	134457.81	-71289	-0.0000589	0.0005615	0.0035	9.385		307892.41	307892.41	2.29		Si
SLD 6	0.73	167024.25	-89620	-0.0000744	0.0005615	0.0035	9.385		371588.08	371588.08	2.22		Si
SLV 6	-1.95	200215.58	-68661	-0.000092	0.0005615	0.0035	9.385		298849.18	298849.18	1.49		Si
SLV 6	0.73	255293.45	-84356	-0.0001236	0.0005615	0.0035	9.385		353186.9	353186.9	1.38		Si
SLV 1	-1.95	72896.27	-43638	-0.0000328	0.0005615	0.0035	9.385		197850.3	197850.3	2.71		Si
SLV 1	0.73	97158.44	-52648	-0.0000424	0.0005615	0.0035	9.385		235178.38	235178.38	2.42		Si
SLV 7	-1.95	-123815.77	-63932	-0.0000536	0.0005615	0.0035	9.385		301732.09	301732.09	2.44		Si
SLV 7	0.73	-174647.94	-85524	-0.0000759	0.0005615	0.0035	9.385		384509.2	384509.2	2.2		Si
SLV 9	-1.95	200923.15	-88709	-0.0000866	0.0005615	0.0035	9.385		368396.46	368396.46	1.83		Si
SLV 9	0.73	258375.52	-112774	-0.0001138	0.0005615	0.0035	9.385		453578.42	453578.42	1.76		Si
SLV 8	-1.95	-117462.92	-63922	-0.0000516	0.0005615	0.0035	9.385		301693.33	301693.33	2.57		Si
SLV 8	0.73	-172676.56	-85020	-0.000075	0.0005615	0.0035	9.385		382639.54	382639.54	2.22		Si
SLV 5	-1.95	193862.72	-68672	-0.0000871	0.0005615	0.0035	9.385		298883.66	298883.66	1.54		Si
SLV 5	0.73	253322.07	-84860	-0.0001211	0.0005615	0.0035	9.385		354944.19	354944.19	1.4		Si
SLD 5	-1.95	130602.62	-71295	-0.0000578	0.0005615	0.0035	9.385		307913.39	307913.39	2.36		Si
SLD 5	0.73	165827.93	-89926	-0.0000741	0.0005615	0.0035	9.385		372659.71	372659.71	2.25		Si
SLV 2	-1.95	82332.74	-43623	-0.0000354	0.0005615	0.0035	9.385		197788.36	197788.36	2.4		Si
SLV 2	0.73	100086.7	-51899	-0.000043	0.0005615	0.0035	9.385		232105.02	232105.02	2.32		Si
SLV 10	-1.95	207276.01	-88699	-0.0000895	0.0005615	0.0035	9.385		368361.34	368361.34	1.78		Si
SLV 10	0.73	260346.9	-112270	-0.0001147	0.0005615	0.0035	9.385		451775.93	451775.93	1.74		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 2	-1.95	42667.46	-70512	-62677	1056	9.385	9.385	-14841	8923	45400	28547	126463	23932	73947	No	70.02	Si
SLU 2	0.73	42568.46	-89926	-79934	350	9.385	9.385	-18927	9468	52303	28547	126463	23932	80850	No	230.87	Si
SLU 47	-1.95	52639.28	-88977	-79091	1235	9.385	9.385	-18727	9441	51966	28547	126463	23932	80512	No	65.2	Si
SLU 47	0.73	52185.94	-113351	-100756	340	9.385	9.385	-23858	10125	60631	28547	126463	23932	89178	No	262.24	Si
SLU 5	-1.95	42448.49	-71703	-63736	1135	9.385	9.385	-15092	8957	45824	28547	126463	23932	74371	No	65.51	Si
SLU 5	0.73	41709.38	-91949	-81732	414	9.385	9.385	-19353	9525	53022	28547	126463	23932	81569	No	196.83	Si
SLU 55	-1.95	57845.91	-98004	-87115	1217	9.385	9.385	-20627	9695	55175	28547	126463	23932	83722	No	68.77	Si
SLU 55	0.73	58018.9	-126437	-112388	232	9.385	9.385	-26612	10493	65284	28547	126463	23932	93831	No	405.07	Si
SLU 44	-1.95	52858.24	-87785	-78032	1155	9.385	9.385	-18477	9408	51542	28547	126463	23932	80089	No	69.31	Si
SLU 44	0.73	53045.02	-111328	-98958	276	9.385	9.385	-23432	10069	59912	28547	126463	23932	88459	No	320.68	Si
SLU 52	-1.95	58064.88	-96813	-86056	1138	9.385	9.385	-20377	9661	54752	28547	126463	23932	83298	No	73.19	Si
SLU 52	0.73	58877.98	-124414	-110590	167	9.385	9.385	-26186	10436	64565	28547	126463	23932	93111	No	556.12	Si
SLU 26	-1.95	46839.74	-83014	-73790	934	9.385	9.385	-17472	9274	49845	28547	126463	23932	78392	No	83.9	Si
SLU 26	0.73	46092.12	-108622	-96553	94	9.385	9.385	-22862	9993	58950	28547	126463	23932	87497	No	933.43	Si
SLU 68	-1.95	57030.53	-100287	-89144	1034	9.385	9.385	-21108	9759	55987	28547	126463	23932	84533	No	81.77	Si
SLU 68	0.73	56568.68	-130024	-115577	19	9.385	9.385	-27367	10593	66560	28547	126463	23932	95106	No	4906.21	Si
SLU 10	-1.95	47874.09	-79539	-70702	1039	9.385	9.385	-16741	9177	48610	28547	126463	23932	77157	No	74.29	Si
SLU 10	0.73	48401.42	-103012	-91566	242	9.385	9.385	-21681	9835	56956	28547	126463	23932	85502	No	353.63	Si
SLU 13	-1.95	47655.12	-80731	-71761	1118	9.385	9.385	-16992	9210	49034	28547	126463	23932	77580	No	69.4	Si
SLU 13	0.73	47542.34	-105035	-93364	306	9.385	9.385	-22107	9892	57675	28547	126463	23932	86221	No	281.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	-1.95	134457.81	-71289	-63368	20418	9.385	8.4192	-15005	13418	55842	28547	189694	23932	84389		4.13	Si
SLD 6	0.73	167024.25	-89620	-79662	19274	9.385	8.4864	-18863	14189	62360	28547	189694	23932	90906		4.72	Si
SLV 11	-1.95	-116755.34	-83969	-74639	-34643	9.385	9.385	-17673	13951	60350	28547	189694	23932	88897		2.57	Si
SLV 11	0.73	-169594.49	-113439	-100834	-34819	9.385	9.385	-23876	15192	70828	28547	189694	23932	99375		2.85	Si
SLV 12	-1.95	-110402.48	-83959	-74630	-29824	9.385	9.385	-17671	13951	60347	28547	189694	23932	88893		2.98	Si
SLV 12	0.73	-167623.11	-112935	-100386	-29994	9.385	9.385	-23770	15171	70649	28547	189694	23932	99195		3.31	Si
SLV 7	-1.95	-123815.77	-63932	-56828	-34512	9.385	8.2674	-15392	13495	53226	28547	189694	23932	81773		2.37	Si
SLV 7	0.73	-174647.94	-85524	-76022	-35331	9.385	7.9512	-21480	14713	60903	28547	189694	23932	89450		2.53	Si
SLV 6	-1.95	200215.58	-68661	-61032	34722	9.385	5.3296	-14452	13307	54908	28547	189694	23932	83454		2.4	Si
SLV 6	0.73	255293.45	-84356	-74983	33345	9.385	4.9983	-17755	13968	60488	28547	189694	23932	89034		2.67	Si
SLV 9	-1.95	200923.15	-88709	-78852	29772	9.385	7.2826	-18671	14151	62036	28547	189694	23932	90582		3.04	Si
SLV 9	0.73	258375.52	-112774	-100243	29033	9.385	7.2042	-23736	15164	70592	28547	189694	23932	99138		3.41	Si
SLV 8	-1.95	-117462.92	-63922	-56819	-29693	9.385	8.5647	-14838	13384	53223	28547	189694	23932	81769		2.75	Si
SLV 8	0.73	-172676.56	-85020	-75574	-30507	9.385	7.9845	-21262	14669	60724	28547	189694	23932	89271		2.93	Si
SLD 7	-1.95	-55534.12	-68502	-60890	-20255	9.385	9.385	-14418	13300	56170	28547	189694	23932	84717		4.18	Si
SLD 7	0.73	-84569.96	-90314	-80279	-21072	9.385	9.385	-19009	14218	62606	28547	189694	23932	91153		4.33	Si
SLV 10	-1.95	207276.01	-88699	-78843	34591	9.385	7.0669	-18669	14150	62032	28547	189694	23932	90579		2.62	Si
SLV 10	0.73	260346.9	-112270	-99796	33858	9.385	7.1207	-23630	15143	70413	28547	189694	23932	98959		2.92	Si
SLV 5	-1.95	193862.72	-68672	-61041	29903	9.385	5.6084	-14454	13307	54911	28547	189694	23932	83458		2.79	Si
SLV 5	0.73	253322.07	-84860	-75431	28520	9.385	5.1219	-17861	13989	60667	28547	189694	23932	89214		3.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.61 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.24	10751	-45403	568.99	9496.5	16.69	Si
SLV 1	179667	0.24	10861	-45869	568.99	9586.44	16.85	Si
SLV 4	179667	0.24	11135	-47024	568.99	9809.03	17.24	Si
SLV 3	179667	0.24	11245	-47490	568.99	9898.45	17.4	Si
SLV 6	179667	0.24	17102	-72225	568.99	14430.86	25.36	Si
SLV 5	179667	0.24	17176	-72539	568.99	14485.56	25.46	Si
SLV 8	179667	0.24	18382	-77630	568.99	15364.37	27	Si
SLV 7	179667	0.24	18456	-77943	568.99	15417.89	27.1	Si
SLV 10	179667	0.24	22914	-96772	568.99	18506.7	32.53	Si
SLV 9	179667	0.24	22988	-97086	568.99	18556.04	32.61	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.61 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-145895	-109007	-1227	0.419	16447.2	0.97	6.27995	2.7151	Si
SLV 13	-145696	-110429	-1251	0.42	16426.9	0.97	6.28427	2.7151	Si
SLV 16	-145147	-108992	-1225	0.421	16370.9	0.97	6.30518	2.7151	Si
SLV 14	-144947	-110414	-1249	0.421	16350.6	0.97	6.30955	2.7151	Si
SLV 11	-113439	-83969	-307	0.515	13143.4	0.964	7.76465	2.58901	Si
SLV 9	-112774	-88709	-388	0.516	13075.8	0.963	7.79126	2.58901	Si
SLV 12	-112935	-83959	-306	0.517	13092.2	0.963	7.79247	2.58901	Si
SLV 10	-112270	-88699	-387	0.518	13024.5	0.963	7.81935	2.58901	Si
SLV 7	-85524	-63932	457	0.639	10304.8	0.955	9.72684	2.58901	Si
SLV 8	-85020	-63922	458	0.642	10253.6	0.954	9.7734	2.58901	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.536	SLU 52	Si
V_SLU	65.204	SLU 47	Si
PF_SLV	1.383	SLV 6	Si
V_SLV	2.369	SLV 7	Si
PFFP_SLV	16.69	SLV 2	Si
R_SLV	2.313	SLV 15	Si

Maschio 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	5.951	-24.614	-3.169	L4	L5	9.121	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 10	0.73	31482.01	-95713	-0.0000661	0.0004492	0.0035	9.1207	302600.06	366002.61	366002.61	11.63	No	Si
SLU 10	4.4	14126.2	-70989	-0.0000446	0.0004492	0.0035	9.1207	250084.71	284451.4	284451.4	20.14	No	Si
SLU 54	0.73	36540.04	-118616	-0.0000824	0.0004492	0.0035	9.1207	335306.92	433623.84	433623.84	11.87	No	Si
SLU 54	4.4	16490.96	-88179	-0.0000557	0.0004492	0.0035	9.1207	288490.48	341152.71	341152.71	20.69	No	Si
SLU 2	0.73	28090.21	-83846	-0.0000576	0.0004492	0.0035	9.1207	279623.48	326859.62	326859.62	11.64	No	Si
SLU 2	4.4	12241.22	-61974	-0.0000387	0.0004492	0.0035	9.1207	226492.34	254717.06	254717.06	20.81	No	Si
SLU 52	0.73	38441.78	-115617	-0.0000813	0.0004492	0.0035	9.1207	331896.54	425988.11	425988.11	11.08	No	Si
SLU 52	4.4	17266.49	-85411	-0.0000543	0.0004492	0.0035	9.1207	282891.04	332024.66	332024.66	19.23	No	Si
SLU 61	0.73	38540.56	-120850	-0.0000847	0.0004492	0.0035	9.1207	337676.57	439311.97	439311.97	11.4	No	Si
SLU 61	4.4	17686.97	-89336	-0.0000568	0.0004492	0.0035	9.1207	290765.17	344969	344969	19.5	No	Si
SLU 73	0.73	39757.66	-131250	-0.0000919	0.0004492	0.0035	9.1207	346787.02	465790.05	465790.05	11.72	No	Si
SLU 73	4.4	17971.04	-97706	-0.000062	0.0004492	0.0035	9.1207	306056	372578.09	372578.09	20.73	No	Si
SLU 63	0.73	37961.66	-122666	-0.0000856	0.0004492	0.0035	9.1207	339495.45	443936.08	443936.08	11.69	No	Si
SLU 63	4.4	17278.21	-91087	-0.0000577	0.0004492	0.0035	9.1207	294133.04	350744.19	350744.19	20.3	No	Si
SLU 44	0.73	35049.98	-103750	-0.0000725	0.0004492	0.0035	9.1207	315823.96	392513.95	392513.95	11.2	No	Si
SLU 44	4.4	15381.51	-76397	-0.0000483	0.0004492	0.0035	9.1207	263098.85	302290.32	302290.32	19.65	No	Si
SLU 47	0.73	34471.08	-105566	-0.0000734	0.0004492	0.0035	9.1207	318550.61	398504.71	398504.71	11.56	No	Si
SLU 47	4.4	14972.74	-78148	-0.0000491	0.0004492	0.0035	9.1207	267128.88	308065.51	308065.51	20.58	No	Si
SLU 55	0.73	37862.88	-117433	-0.0000822	0.0004492	0.0035	9.1207	333993.23	430612.22	430612.22	11.37	No	Si
SLU 55	4.4	16857.72	-87162	-0.0000552	0.0004492	0.0035	9.1207	286459.74	337799.85	337799.85	20.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	0.73	155208.98	-86164	-0.0001074	0.0006738	0.0035	9.1207		348441.03	348441.03	2.24		Si
SLD 10	4.4	59717.09	-64059	-0.0000569	0.0006738	0.0035	9.1207		273359.46	273359.46	4.58		Si
SLV 11	0.73	-197302	-72968	-0.0001374	0.0006738	0.0035	7.2966		346120.18	346120.18	1.75		Si
SLV 11	4.4	-76876.94	-60824	-0.0000614	0.0006738	0.0035	9.1207		301206.82	301206.82	3.92		Si
SLV 10	0.73	246824.55	-83304	-0.0001884	0.0006738	0.0035	9.1207		338912.41	338912.41	1.37		Si
SLV 10	4.4	93931.77	-61715	-0.0000682	0.0006738	0.0035	9.1207		264497.63	264497.63	2.82		Si
SLV 8	0.73	-199689.15	-101691	-0.0001366	0.0006738	0.0035	9.1207		446167.82	446167.82	2.23		Si
SLV 8	4.4	-69547.26	-74576	-0.0000666	0.0006738	0.0035	9.1207		351974.4	351974.4	5.06		Si
SLD 9	0.73	158219.48	-85646	-0.0001086	0.0006738	0.0035	9.1207		346714.81	346714.81	2.19		Si
SLD 9	4.4	59499.15	-64144	-0.0000568	0.0006738	0.0035	9.1207		273678.05	273678.05	4.6		Si
SLV 6	0.73	249398.3	-111174	-0.0001715	0.0006738	0.0035	9.1207		431786.7	431786.7	1.73		Si
SLV 6	4.4	100902.31	-75606	-0.000079	0.0006738	0.0035	9.1207		313257.67	313257.67	3.1		Si
SLV 12	0.73	-202262.9	-73821	-0.0001421	0.0006738	0.0035	7.2966		349227.72	349227.72	1.73		Si
SLV 12	4.4	-76517.8	-60685	-0.0000612	0.0006738	0.0035	9.1207		300674.06	300674.06	3.93		Si
SLV 13	0.73	92806.13	-46410	-0.0000606	0.0006738	0.0035	9.1207		204850.34	204850.34	2.21		Si
SLV 13	4.4	25695.83	-45321	-0.0000338	0.0006738	0.0035	9.1207		200521.14	200521.14	7.8		Si
SLV 5	0.73	254359.21	-110321	-0.0001753	0.0006738	0.0035	9.1207		428942.12	428942.12	1.69		Si
SLV 5	4.4	100543.17	-75745	-0.000079	0.0006738	0.0035	9.1207		313720.48	313720.48	3.12		Si
SLV 9	0.73	251785.46	-82451	-0.000199	0.0006738	0.0035	9.1207		336067.83	336067.83	1.33		Si
SLV 9	4.4	93572.63	-61854	-0.0000682	0.0006738	0.0035	9.1207		265022.63	265022.63	2.83		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.73	37824.18	-136704	-97521	-8415	9.1207	9.1207	-38187	10833	53760	115546	91777	46516	138293	No	16.43	Si
SLU 81	4.4	17810.48	-101722	-72566	-8069	9.1207	9.1207	-28415	10833	43778	115546	91777	46516	138293	No	17.14	Si
SLU 69	0.73	31852.96	-124419	-88758	-7381	9.1207	9.1207	-34755	10833	50254	115546	91777	46516	138293	No	18.74	Si
SLU 69	4.4	14320.73	-93301	-66559	-7062	9.1207	9.1207	-26063	10833	41375	115546	91777	46516	138293	No	19.58	Si
SLU 84	0.73	39277.55	-138299	-98659	-7502	9.1207	9.1207	-38632	10833	54215	115546	91777	46516	138293	No	18.43	Si
SLU 84	4.4	17982.76	-103381	-73750	-7220	9.1207	9.1207	-28878	10833	44251	115546	91777	46516	138293	No	19.15	Si
SLU 83	0.73	37245.28	-138520	-98817	-8511	9.1207	9.1207	-38694	10833	54278	115546	91777	46516	138293	No	16.25	Si
SLU 83	4.4	17401.72	-103473	-73815	-8161	9.1207	9.1207	-28904	10833	44277	115546	91777	46516	138293	No	16.95	Si
SLU 79	0.73	35212.76	-135251	-96485	-8208	9.1207	9.1207	-37781	10833	53345	115546	91777	46516	138293	No	16.85	Si
SLU 79	4.4	16185.1	-101360	-72308	-7864	9.1207	9.1207	-28314	10833	43675	115546	91777	46516	138293	No	17.59	Si
SLU 74	0.73	35823.66	-134470	-95928	-8218	9.1207	9.1207	-37563	10833	53122	115546	91777	46516	138293	No	16.83	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	4.4	16614.47	-100565	-71740	-7876	9.1207	9.1207	-28092	10833	43448	115546	91777	46516	138293	No	17.56	Si
SLU 41	0.73	30285.51	-118616	-84618	-7543	9.1207	9.1207	-33134	10833	48598	115546	91777	46516	138293	No	18.33	Si
SLU 41	4.4	14261.43	-89050	-63526	-7244	9.1207	9.1207	-24875	10833	40162	115546	91777	46516	138293	No	19.09	Si
SLU 39	0.73	30864.41	-116800	-83322	-7447	9.1207	9.1207	-32627	10833	48080	115546	91777	46516	138293	No	18.57	Si
SLU 39	4.4	14670.2	-87299	-62277	-7152	9.1207	9.1207	-24386	10833	39662	115546	91777	46516	138293	No	19.34	Si
SLU 82	0.73	39856.45	-136483	-97364	-7405	9.1207	9.1207	-38125	10833	53697	115546	91777	46516	138293	No	18.67	Si
SLU 82	4.4	18391.53	-101630	-72501	-7129	9.1207	9.1207	-28389	10833	43752	115546	91777	46516	138293	No	19.4	Si
SLU 77	0.73	35244.76	-136286	-97223	-8314	9.1207	9.1207	-38070	10833	53640	115546	91777	46516	138293	No	16.63	Si
SLU 77	4.4	16205.71	-102316	-72989	-7968	9.1207	9.1207	-28581	10833	43947	115546	91777	46516	138293	No	17.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	0.73	-194728.25	-100838	-71935	-64075	9.1207	7.8877	-32943	16250	50902	115546	137665	46516	166448		2.6	Si
SLV 7	4.4	-69906.4	-74715	-53300	-61904	9.1207	9.1207	-20871	16250	43448	115546	137665	46516	158994		2.57	Si
SLD 8	0.73	-106123.17	-98496	-70265	-43751	9.1207	9.1207	-27514	16250	50234	115546	137665	46516	165779		3.79	Si
SLD 8	4.4	-35473.78	-72286	-51567	-42385	9.1207	9.1207	-20192	16250	42755	115546	137665	46516	158301		3.73	Si
SLV 11	0.73	-197302	-72968	-52053	-55334	7.2966	5.5692	0	0	0	115546	110132	37212	115546		2.09	Si
SLV 11	4.4	-76876.94	-60824	-43390	-52860	9.1207	9.1207	-16991	15898	40600	115546	137665	46516	156146		2.95	Si
SLV 5	0.73	254359.21	-110321	-78700	50753	9.1207	6.7641	-30817	16250	53608	115546	137665	46516	169153		3.33	Si
SLV 5	4.4	100543.17	-75745	-54034	48751	9.1207	9.1207	-21159	16250	43742	115546	137665	46516	159288		3.27	Si
SLV 12	0.73	-202262.9	-73821	-52662	-61590	7.2966	5.4614	0	0	0	115546	110132	37212	115546		1.88	Si
SLV 12	4.4	-76517.8	-60685	-43291	-59118	9.1207	9.1207	-16952	15890	40581	115546	137665	46516	156126		2.64	Si
SLV 10	0.73	246824.55	-83304	-59427	53239	9.1207	4.7923	-23270	16250	45899	115546	137665	46516	161445		3.03	Si
SLV 10	4.4	93931.77	-61715	-44026	51537	9.1207	9.115	-17239	15948	40702	115546	137665	46516	156248		3.03	Si
SLV 6	0.73	249398.3	-111174	-79309	44497	9.1207	6.9511	-31055	16250	53851	115546	137665	46516	169397		3.81	Si
SLV 6	4.4	100902.31	-75606	-53935	42494	9.1207	9.1207	-21120	16250	43702	115546	137665	46516	159248		3.75	Si
SLV 9	0.73	251785.46	-82451	-58818	59495	9.1207	4.5197	-23032	16250	45655	115546	137665	46516	161201		2.71	Si
SLV 9	4.4	93572.63	-61854	-44125	57795	9.1207	9.1207	-17278	15956	40747	115546	137665	46516	156293		2.7	Si
SLV 4	0.73	-40709.82	-137733	-98255	-41858	9.1207	9.1207	-38474	16250	61429	115546	137665	46516	176975		4.23	Si
SLV 4	4.4	-1670.46	-91109	-64995	-41502	9.1207	9.1207	-25450	16250	48126	115546	137665	46516	163671		3.94	Si
SLV 8	0.73	-199689.15	-101691	-72544	-70332	9.1207	7.79	-33617	16250	51146	115546	137665	46516	166691		2.37	Si
SLV 8	4.4	-69547.26	-74576	-53201	-68161	9.1207	9.1207	-20832	16250	43408	115546	137665	46516	158954		2.33	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 15	-45844	0.3	801.95	5789.48	8155.04	6972.26	8.69	Si
SLV 16	-46241	0.3	801.95	5834.23	8213.96	7024.09	8.76	Si
SLV 13	-47186	0.3	801.95	5940.06	8353.88	7146.97	8.91	Si
SLV 14	-47584	0.3	801.95	5984.49	8412.84	7198.66	8.98	Si
SLV 11	-66109	0.3	801.95	7948.01	11154	9551.01	11.91	Si
SLV 12	-66376	0.3	801.95	7974.9	11193.56	9584.23	11.95	Si
SLV 9	-70583	0.3	801.95	8391.5	11812.64	10102.07	12.6	Si
SLV 10	-70851	0.3	801.95	8417.67	11851.78	10134.73	12.64	Si
SLV 7	-84765	0.3	801.95	9718.03	13880.68	11799.36	14.71	Si
SLV 8	-85033	0.3	801.95	9741.93	13919.2	11830.57	14.75	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-91624	-139310	1810	0.535	10648.6	0.963	8.0797	4.61192	Si
SLV 2	-91418	-140578	1801	0.536	10627.6	0.963	8.09713	4.61192	Si
SLV 3	-91315	-136465	1769	0.537	10617.1	0.963	8.10992	4.61192	Si
SLV 4	-91109	-137733	1760	0.538	10596.1	0.963	8.12747	4.61192	Si
SLV 5	-75745	-110321	628	0.643	9033.6	0.957	9.76772	3.94002	Si
SLV 6	-75606	-111174	622	0.644	9019.5	0.957	9.78462	3.94002	Si
SLV 7	-74715	-100838	493	0.652	8928.9	0.956	9.9109	3.94002	Si
SLV 8	-74576	-101691	487	0.653	8914.8	0.956	9.92826	3.94002	Si
SLV 9	-61854	-82451	-424	0.766	7622.4	0.95	11.71344	3.94002	Si
SLV 10	-61715	-83304	-430	0.767	7608.3	0.95	11.73515	3.94002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.081	SLU 52	Si
V_SLU	16.248	SLU 83	Si
PF_SLV	1.335	SLV 9	Si
V_SLV	1.876	SLV 12	Si
PFFP_SLV	8.694	SLV 15	Si
R_SLV	1.752	SLV 1	Si

Maschio 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.828	5.951	-24.614	5.951	L4	L5	1.786	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 33	1.63	295.49	-13780	-0.0000464	0.0003743	0.0035	1.7864	8977.97	9903.2	9903.2	33.51	No	Si
SLU 33	3.53	-263.79	-14619	-0.0000489	0.0003743	0.0035	1.7864	9309.15	11236.12	11236.12	42.59	No	Si
SLU 38	1.63	301.85	-13938	-0.000047	0.0003743	0.0035	1.7864	9042.32	9986.83	9986.83	33.09	No	Si
SLU 38	3.53	-264.1	-14801	-0.0000496	0.0003743	0.0035	1.7864	9378.09	11333.06	11333.06	42.91	No	Si
SLU 34	1.63	311.67	-13509	-0.0000457	0.0003743	0.0035	1.7864	8865.47	9760.35	9760.35	31.32	No	Si
SLU 34	3.53	-289.33	-14401	-0.0000485	0.0003743	0.0035	1.7864	9225.55	11121.39	11121.39	38.44	No	Si
SLU 84	1.63	312.26	-16544	-0.0000561	0.0003743	0.0035	1.7864	9976.6	11405.04	11405.04	36.52	No	Si
SLU 84	3.53	-253.92	-17336	-0.0000583	0.0003743	0.0035	1.7864	10213.33	12425.5	12425.5	48.94	No	Si
SLU 42	1.63	323.27	-14223	-0.0000482	0.0003743	0.0035	1.7864	9155.96	10138.12	10138.12	31.36	No	Si
SLU 42	3.53	-327.23	-15227	-0.0000517	0.0003743	0.0035	1.7864	9534	11557.06	11557.06	35.32	No	Si
SLU 31	1.63	301.45	-13203	-0.0000445	0.0003743	0.0035	1.7864	8735.43	9599.65	9599.65	31.84	No	Si
SLU 31	3.53	-287.32	-14053	-0.0000473	0.0003743	0.0035	1.7864	9088.54	10932.89	10932.89	38.05	No	Si
SLU 39	1.63	283	-14102	-0.0000474	0.0003743	0.0035	1.7864	9107.88	10073.52	10073.52	35.6	No	Si
SLU 39	3.53	-284.38	-14958	-0.0000503	0.0003743	0.0035	1.7864	9436.33	11416.88	11416.88	40.15	No	Si
SLU 36	1.63	305.71	-14087	-0.0000476	0.0003743	0.0035	1.7864	9101.81	10065.43	10065.43	32.92	No	Si
SLU 36	3.53	-265.8	-14966	-0.0000501	0.0003743	0.0035	1.7864	9439.27	11421.15	11421.15	42.97	No	Si
SLU 41	1.63	293.22	-14408	-0.0000485	0.0003743	0.0035	1.7864	9228.27	10236.91	10236.91	34.91	No	Si
SLU 41	3.53	-286.38	-15306	-0.0000515	0.0003743	0.0035	1.7864	9562.3	11596.93	11596.93	40.49	No	Si
SLU 40	1.63	313.06	-13917	-0.0000471	0.0003743	0.0035	1.7864	9033.59	9975.4	9975.4	31.86	No	Si
SLU 40	3.53	-325.23	-14879	-0.0000505	0.0003743	0.0035	1.7864	9407.06	11374.49	11374.49	34.97	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	1.63	1396.14	-3174	-0.0000248	0.0005615	0.0035	1.7864		2907.58	2907.58	2.08		Si
SLD 6	3.53	-2082.83	-6759	-0.0000415	0.0005615	0.0035	1.7864		6458.41	6458.41	3.1		Si
SLD 5	1.63	1690.25	-2719	-0.0000358	0.0005615	0.0035	1.7864		2526.36	2526.36	1.49		Si
SLD 5	3.53	-2374.67	-6943	-0.0000453	0.0005615	0.0035	1.7864		6604.15	6604.15	2.78		Si
SLV 10	1.63	196.25	3593	0.3203557	0.0005615	0.0035	1.4291		0	0	0		No
SLV 10	3.53	-1846.46	-954	-0.0005616	0.0005615	0.0035	1.4291		1700.75	1700.75	0.92		No
SLV 5	1.63	2688.03	3217	0.2584662	0.0005615	0.0035	1.4291		0	0	0		No
SLV 5	3.53	-3972.34	-3856	-0.0006172	0.0005615	0.0035	1.4291		4141.19	4141.19	1.04		Si
SLV 14	1.63	-3183.48	-5401	-0.0000648	0.0005615	0.0035	1.4291		5394.77	5394.77	1.69		Si
SLV 14	3.53	2221.22	-3943	-0.0000429	0.0005615	0.0035	1.7864		3545.58	3545.58	1.6		Si
SLV 9	1.63	680.89	4343	0.3841467	0.0005615	0.0035	1.4291		0	0	0		No
SLV 9	3.53	-2327.37	-1257	-0.0007284	0.0005615	0.0035	1.4291		1961.94	1961.94	0.84		No
SLV 1	1.63	4226.85	-8041	-0.0000809	0.0005615	0.0035	1.7864		6778.05	6778.05	1.6		Si
SLV 1	3.53	-3976.37	-13059	-0.0000821	0.0005615	0.0035	1.7864		11005.16	11005.16	2.77		Si
SLV 16	1.63	-3972.44	-14081	-0.0000855	0.0005615	0.0035	1.7864		11678.04	11678.04	2.94		Si
SLV 16	3.53	3962.79	-9168	-0.0000731	0.0005615	0.0035	1.7864		7521.65	7521.65	1.9		Si
SLV 13	1.63	-2463.6	-4287	-0.0000485	0.0005615	0.0035	1.4291		4490.03	4490.03	1.82		Si
SLV 13	3.53	1506.89	-4393	-0.0000284	0.0005615	0.0035	1.7864		3913.03	3913.03	2.6		Si
SLV 6	1.63	2203.38	2467	0.1955004	0.0005615	0.0035	1.4291		0	0	0		No
SLV 6	3.53	-3491.44	-3553	-0.0004488	0.0005615	0.0035	1.4291		3895.69	3895.69	1.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	1.63	282.2	-16729	-13930	1697	1.7864	1.7864	-27850	10658	5331	40441	14978	4555	19533	No	11.51	Si
SLU 83	3.53	-213.06	-17415	-14502	1647	1.7864	1.7864	-28992	10810	5472	40441	14978	4555	19533	No	11.86	Si
SLU 81	1.63	271.98	-16423	-13675	1670	1.7864	1.7864	-27340	10590	5297	40441	14978	4555	19533	No	11.7	Si
SLU 81	3.53	-211.06	-17067	-14212	1621	1.7864	1.7864	-28413	10733	5395	40441	14978	4555	19533	No	12.05	Si
SLU 84	1.63	312.26	-16544	-13777	1783	1.7864	1.7864	-27542	10617	5310	40441	14978	4555	19533	No	10.95	Si
SLU 84	3.53	-253.92	-17336	-14436	1734	1.7864	1.7864	-28860	10793	5455	40441	14978	4555	19533	No	11.27	Si
SLU 80	1.63	290.83	-16259	-13540	1672	1.7864	1.7864	-27068	10554	5279	40441	14978	4555	19533	No	11.68	Si
SLU 80	3.53	-190.78	-16911	-14082	1624	1.7864	1.7864	-28152	10698	5360	40441	14978	4555	19533	No	12.03	Si
SLU 40	1.63	313.06	-13917	-11589	1657	1.7864	1.7864	-23168	10034	5019	40441	14978	4555	19533	No	11.79	Si
SLU 40	3.53	-325.23	-14879	-12390	1615	1.7864	1.7864	-24770	10247	5126	40441	14978	4555	19533	No	12.09	Si
SLU 42	1.63	323.27	-14223	-11844	1683	1.7864	1.7864	-23678	10102	5053	40441	14978	4555	19533	No	11.6	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	3.53	-327.23	-15227	-12679	1641	1.7864	1.7864	-25349	10324	5164	40441	14978	4555	19533	No	11.9	Si
SLU 73	1.63	290.44	-15524	-12927	1677	1.7864	1.7864	-25844	10390	5197	40441	14978	4555	19533	No	11.65	Si
SLU 73	3.53	-214	-16163	-13459	1630	1.7864	1.7864	-26907	10532	5268	40441	14978	4555	19533	No	11.98	Si
SLU 78	1.63	294.69	-16408	-13663	1683	1.7864	1.7864	-27315	10586	5295	40441	14978	4555	19533	No	11.61	Si
SLU 78	3.53	-192.48	-17075	-14219	1634	1.7864	1.7864	-28427	10735	5397	40441	14978	4555	19533	No	11.95	Si
SLU 82	1.63	302.04	-16238	-13522	1757	1.7864	1.7864	-27033	10549	5276	40441	14978	4555	19533	No	11.12	Si
SLU 82	3.53	-251.91	-16988	-14146	1708	1.7864	1.7864	-28282	10715	5378	40441	14978	4555	19533	No	11.43	Si
SLU 76	1.63	300.65	-15830	-13182	1703	1.7864	1.7864	-26353	10458	5231	40441	14978	4555	19533	No	11.47	Si
SLU 76	3.53	-216.01	-16510	-13748	1656	1.7864	1.7864	-27486	10609	5307	40441	14978	4555	19533	No	11.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	1.63	-2433.62	-25339	-21100	-5951	1.7864	1.7864	-42184	16250	8128	40441	22467	4555	27022		4.54	Si
SLV 12	3.53	3958.76	-18370	-15297	-6008	1.7864	1.7864	-30582	16250	8128	40441	22467	4555	27022		4.5	Si
SLV 5	1.63	2688.03	3217	2679	7838	1.4291	0.1727	0	0	0	40441	17974	3644	21618		2.76	Si
SLV 5	3.53	-3972.34	-3856	-3211	7829	1.4291	0	0	0	0	40441	17974	3644	21618		2.76	Si
SLD 1	1.63	2722.6	-9376	-7807	5282	1.7864	1.7864	-15608	13538	6772	40441	22467	4555	27022		5.12	Si
SLD 1	3.53	-2486.39	-12515	-10421	5061	1.7864	1.7864	-20835	14584	7295	40441	22467	4555	27022		5.34	Si
SLV 9	1.63	680.89	4343	3617	5028	1.4291	1.7864	0	0	0	40441	17974	3644	21618		4.3	Si
SLV 9	3.53	-2327.37	-1257	-1047	5216	1.4291	0	0	0	0	40441	17974	3644	21618		4.14	Si
SLV 10	1.63	196.25	3593	2992	4026	1.4291	1.7864	0	0	0	40441	17974	3644	21618		5.37	Si
SLV 10	3.53	-1846.46	-954	-794	4212	1.4291	0	0	0	0	40441	17974	3644	21618		5.13	Si
SLV 6	1.63	2203.38	2467	2054	6836	1.4291	0	0	0	0	40441	17974	3644	21618		3.16	Si
SLV 6	3.53	-3491.44	-3553	-2959	6825	1.4291	0	0	0	0	40441	17974	3644	21618		3.17	Si
SLV 16	1.63	-3972.44	-14081	-11725	-5981	1.7864	1.7864	-23442	15105	7555	40441	22467	4555	27022		4.52	Si
SLV 16	3.53	3962.79	-9168	-7634	-5722	1.7864	1.3829	-15263	13469	5215	40441	22467	4555	27022		4.72	Si
SLV 2	1.63	3506.96	-9156	-7624	6379	1.7864	1.5305	-15242	13465	5770	40441	22467	4555	27022		4.24	Si
SLV 2	3.53	-3262.04	-12609	-10499	6053	1.7864	1.7864	-20991	14615	7310	40441	22467	4555	27022		4.46	Si
SLV 1	1.63	4226.85	-8041	-6696	7868	1.7864	1.1027	-13387	13094	4193	40441	22467	4555	27022		3.43	Si
SLV 1	3.53	-3976.37	-13059	-10874	7543	1.7864	1.7661	-21740	14765	7301	40441	22467	4555	27022		3.58	Si
SLD 5	1.63	1690.25	-2719	-2264	5068	1.7864	0.8148	-4527	11322	3012	40441	22467	4555	27022		5.33	Si
SLD 5	3.53	-2374.67	-6943	-5781	5043	1.7864	1.6535	-12555	12928	5985	40441	22467	4555	27022		5.36	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.3	0	812	157.07	0	0	No, Trazione
SLV 10	179667	0.3	0	695	157.07	0	0	No, Trazione
SLV 5	179667	0.3	2311	-1156	157.07	159.35	1.01	Si
SLV 6	179667	0.3	2545	-1273	157.07	175.28	1.12	Si
SLV 13	179667	0.3	9562	-4783	157.07	627.65	4	Si
SLV 14	179667	0.3	9911	-4957	157.07	648.98	4.13	Si
SLV 1	179667	0.3	22678	-11343	157.07	1352.24	8.61	Si
SLV 2	179667	0.3	23027	-11518	157.07	1369.36	8.72	Si
SLV 15	179667	0.3	23133	-11571	157.07	1374.57	8.75	Si
SLV 16	179667	0.3	23482	-11746	157.07	1391.55	8.86	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-19718	-19816	327	0.495	2266	0.966	7.45566	3.94002	Si
SLV 8	-19656	-20175	326	0.497	2259.6	0.965	7.47697	3.94002	Si
SLV 3	-15716	-15250	57	0.616	1858.9	0.959	9.34149	4.61192	Si
SLV 4	-15623	-15783	56	0.619	1849.4	0.959	9.39132	4.61192	Si
SLV 11	-17991	-17478	357	0.534	2090.3	0.963	8.05986	3.94002	Si
SLV 12	-17928	-17837	357	0.536	2083.9	0.963	8.0851	3.94002	Si
SLV 1	-10546	-9074	-145	0.854	1333.7	0.945	13.13905	4.61192	Si
SLV 2	-10452	-9607	-146	0.86	1324.2	0.944	13.24009	4.61192	Si
SLV 15	-9958	-7459	157	0.894	1274.2	0.942	13.79014	4.61192	Si
SLV 16	-9865	-7992	156	0.901	1264.7	0.942	13.90354	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	31.316	SLU 34	Si
V_SLU	10.954	SLU 84	Si
PF_SLV	0	SLV 5	No
V_SLV	2.758	SLV 5	Si
PFFP_SLV	0	SLV 10	No
R_SLV	1.892	SLV 7	Si

Maschio 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.828	5.951	L4	L5	2.21	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	1.63	-7669.73	-26871	-0.0001329	0.0003743	0.0035	2.21	17028.03	21708.04	21708.04	2.83	No	Si
SLU 83	3.53	1715.68	-31101	-0.000098	0.0003743	0.0035	2.21	17401.14	22811.47	22811.47	13.3	No	Si
SLU 79	1.63	-7567.42	-26325	-0.0001301	0.0003743	0.0035	2.21	16934.22	21505.09	21505.09	2.84	No	Si
SLU 79	3.53	1668.13	-30436	-0.0000955	0.0003743	0.0035	2.21	17384.09	22482.45	22482.45	13.48	No	Si
SLU 71	1.63	-7036.03	-23896	-0.0001173	0.0003743	0.0035	2.21	16389.81	20275.37	20275.37	2.88	No	Si
SLU 71	3.53	1530.1	-27557	-0.0000852	0.0003743	0.0035	2.21	17131.16	21098.6	21098.6	13.79	No	Si
SLU 77	1.63	-7628.4	-26566	-0.0001314	0.0003743	0.0035	2.21	16976.91	21597.36	21597.36	2.83	No	Si
SLU 77	3.53	1674.92	-30717	-0.0000964	0.0003743	0.0035	2.21	17393.18	22621.01	22621.01	13.51	No	Si
SLU 80	1.63	-7456.98	-26126	-0.0001284	0.0003743	0.0035	2.21	16897.38	21425.58	21425.58	2.87	No	Si
SLU 80	3.53	1624.79	-30156	-0.0000942	0.0003743	0.0035	2.21	17372.27	22344.96	22344.96	13.75	No	Si
SLU 74	1.63	-7502.97	-26071	-0.0001286	0.0003743	0.0035	2.21	16886.86	21402.89	21402.89	2.85	No	Si
SLU 74	3.53	1663.33	-30147	-0.0000945	0.0003743	0.0035	2.21	17371.82	22340.33	22340.33	13.43	No	Si
SLU 81	1.63	-7544.3	-26375	-0.0001301	0.0003743	0.0035	2.21	16943.27	21524.64	21524.64	2.85	No	Si
SLU 81	3.53	1704.08	-30531	-0.0000961	0.0003743	0.0035	2.21	17387.45	22528.97	22528.97	13.22	No	Si
SLU 78	1.63	-7517.96	-26367	-0.0001298	0.0003743	0.0035	2.21	16941.76	21521.37	21521.37	2.86	No	Si
SLU 78	3.53	1631.59	-30437	-0.0000952	0.0003743	0.0035	2.21	17384.12	22482.86	22482.86	13.78	No	Si
SLU 84	1.63	-7559.28	-26672	-0.0001312	0.0003743	0.0035	2.21	16995	21636.49	21636.49	2.86	No	Si
SLU 84	3.53	1672.35	-30821	-0.0000967	0.0003743	0.0035	2.21	17395.85	22672.43	22672.43	13.56	No	Si
SLU 69	1.63	-7097.01	-24137	-0.0001186	0.0003743	0.0035	2.21	16453.03	20402.38	20402.38	2.87	No	Si
SLU 69	3.53	1536.9	-27837	-0.0000861	0.0003743	0.0035	2.21	17168.61	21230.43	21230.43	13.81	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	1.63	-10878.82	-16611	-0.0001434	0.0005615	0.0035	1.768		17227	17227	1.58		Si
SLV 16	3.53	5441.11	-29070	-0.0001145	0.0005615	0.0035	2.21		24889.24	24889.24	4.57		Si
SLV 12	1.63	-14837.52	-30623	-0.0002013	0.0005615	0.0035	2.21		26916.08	26916.08	1.81		Si
SLV 12	3.53	5255.1	-42875	-0.0001564	0.0005615	0.0035	2.21		31987.9	31987.9	6.09		Si
SLV 15	1.63	-9887.01	-16724	-0.0001246	0.0005615	0.0035	1.768		17318.57	17318.57	1.75		Si
SLV 15	3.53	4630.71	-27362	-0.0001034	0.0005615	0.0035	2.21		23727.91	23727.91	5.12		Si
SLV 11	1.63	-14169.81	-30699	-0.0001934	0.0005615	0.0035	2.21		26953.27	26953.27	1.9		Si
SLV 11	3.53	4709.52	-41725	-0.0001482	0.0005615	0.0035	2.21		31432.63	31432.63	6.67		Si
SLV 10	1.63	2200.36	-1234	-0.0040789	0.0005615	0.0035	1.768		1618.71	1618.71	0.74		No
SLV 10	3.53	-588.96	313	0.0235834	0.0005615	0.0035	1.768		0	0	0		No
SLV 9	1.63	2868.07	-1310	-0.0079465	0.0005615	0.0035	1.768		1700.72	1700.72	0.59		No
SLV 9	3.53	-1134.54	1463	0.1079033	0.0005615	0.0035	1.768		0	0	0		No
SLV 14	1.63	-5767.46	-7794	-0.0000786	0.0005615	0.0035	1.768		9343.36	9343.36	1.62		Si
SLV 14	3.53	3687.89	-16114	-0.0000652	0.0005615	0.0035	2.21		15451.54	15451.54	4.19		Si
SLV 6	1.63	3779.65	-4412	-0.0000649	0.0005615	0.0035	2.21		4958.25	4958.25	1.31		Si
SLV 6	3.53	-2388.13	1197	0.0903103	0.0005615	0.0035	1.768		0	0	0		No
SLV 5	1.63	4447.36	-4488	-0.0001532	0.0005615	0.0035	2.21		5036.73	5036.73	1.13		Si
SLV 5	3.53	-2933.71	2347	0.1750678	0.0005615	0.0035	1.768		0	0	0		No
SLV 13	1.63	-4775.65	-7908	-0.0000573	0.0005615	0.0035	1.768		9453.55	9453.55	1.98		Si
SLV 13	3.53	2877.49	-14406	-0.000055	0.0005615	0.0035	2.21		14009.96	14009.96	4.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	1.63	-7517.96	-26367	-21956	-8831	2.21	2.21	-35482	10833	7841	40441	18530	5635	24165	No	2.74	Si
SLU 78	3.53	1631.59	-30437	-25345	-8822	2.21	2.21	-40959	10833	8744	40441	18530	5635	24165	No	2.74	Si
SLU 81	1.63	-7544.3	-26375	-21963	-8933	2.21	2.21	-35493	10833	7843	40441	18530	5635	24165	No	2.71	Si
SLU 81	3.53	1704.08	-30531	-25423	-8923	2.21	2.21	-41085	10833	8765	40441	18530	5635	24165	No	2.71	Si
SLU 79	1.63	-7567.42	-26325	-21921	-8900	2.21	2.21	-35426	10833	7831	40441	18530	5635	24165	No	2.72	Si
SLU 79	3.53	1668.13	-30436	-25345	-8891	2.21	2.21	-40958	10833	8744	40441	18530	5635	24165	No	2.72	Si
SLU 74	1.63	-7502.97	-26071	-21709	-8844	2.21	2.21	-35083	10833	7775	40441	18530	5635	24165	No	2.73	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	3.53	1663.33	-30147	-25104	-8835	2.21	2.21	-40569	10833	8680	40441	18530	5635	24165	No	2.74	Si
SLU 82	1.63	-7433.85	-26176	-21797	-8805	2.21	2.21	-35225	10833	7798	40441	18530	5635	24165	No	2.74	Si
SLU 82	3.53	1660.75	-30251	-25190	-8796	2.21	2.21	-40708	10833	8703	40441	18530	5635	24165	No	2.75	Si
SLU 77	1.63	-7628.4	-26566	-22122	-8959	2.21	2.21	-35750	10833	7885	40441	18530	5635	24165	No	2.7	Si
SLU 77	3.53	1674.92	-30717	-25578	-8950	2.21	2.21	-41335	10833	8807	40441	18530	5635	24165	No	2.7	Si
SLU 84	1.63	-7559.28	-26672	-22210	-8921	2.21	2.21	-35892	10833	7908	40441	18530	5635	24165	No	2.71	Si
SLU 84	3.53	1672.35	-30821	-25665	-8911	2.21	2.21	-41475	10833	8830	40441	18530	5635	24165	No	2.71	Si
SLU 80	1.63	-7456.98	-26126	-21756	-8773	2.21	2.21	-35158	10833	7787	40441	18530	5635	24165	No	2.75	Si
SLU 80	3.53	1624.79	-30156	-25112	-8763	2.21	2.21	-40581	10833	8682	40441	18530	5635	24165	No	2.76	Si
SLU 75	1.63	-7392.52	-25872	-21544	-8716	2.21	2.21	-34815	10833	7731	40441	18530	5635	24165	No	2.77	Si
SLU 75	3.53	1619.99	-29867	-24871	-8707	2.21	2.21	-40192	10833	8618	40441	18530	5635	24165	No	2.78	Si
SLU 83	1.63	-7669.73	-26871	-22376	-9048	2.21	2.21	-36160	10833	7953	40441	18530	5635	24165	No	2.67	Si
SLU 83	3.53	1715.68	-31101	-25898	-9039	2.21	2.21	-41852	10833	8892	40441	18530	5635	24165	No	2.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	1.63	-14169.81	-30699	-25564	-17605	2.21	1.9303	-48668	16250	9796	40441	27794	5635	33430		1.9	Si
SLV 11	3.53	4709.52	-41725	-34745	-17646	2.21	2.21	-56149	16250	12244	40441	27794	5635	33430		1.89	Si
SLD 16	1.63	-8677.35	-16701	-13907	-13114	2.21	1.7563	-28700	16157	7945	40441	27794	5635	33430		2.55	Si
SLD 16	3.53	3839.64	-25528	-21258	-12927	2.21	2.21	-34353	16250	10055	40441	27794	5635	33430		2.59	Si
SLV 7	1.63	-12590.52	-33877	-28210	-13328	2.21	2.2	-45588	16250	10501	40441	27794	5635	33430		2.51	Si
SLV 7	3.53	2910.35	-40841	-34009	-13563	2.21	2.21	-54959	16250	12047	40441	27794	5635	33430		2.46	Si
SLD 11	1.63	-10486.16	-25176	-20964	-12970	2.21	2.0654	-36999	16250	9398	40441	27794	5635	33430		2.58	Si
SLD 11	3.53	3279.65	-32848	-27353	-12980	2.21	2.21	-44204	16250	10273	40441	27794	5635	33430		2.58	Si
SLV 15	1.63	-9887.01	-16724	-13927	-15295	1.768	1.5415	0	0	0	40441	22236	4508	26744		1.75	Si
SLV 15	3.53	4630.71	-27362	-22785	-15008	2.21	2.21	-36821	16250	10055	40441	27794	5635	33430		2.23	Si
SLD 12	1.63	-10891.36	-25130	-20926	-13789	2.21	2.0148	-37881	16250	9167	40441	27794	5635	33430		2.42	Si
SLD 12	3.53	3610.73	-33546	-27934	-13800	2.21	2.21	-45143	16250	10428	40441	27794	5635	33430		2.42	Si
SLV 16	1.63	-10878.82	-16611	-13832	-17302	1.768	1.3503	0	0	0	40441	22236	4508	26744		1.55	Si
SLV 16	3.53	5441.11	-29070	-24207	-17015	2.21	2.21	-39119	16250	10055	40441	27794	5635	33430		1.96	Si
SLV 12	1.63	-14837.52	-30623	-25500	-18956	2.21	1.8614	-50401	16250	9779	40441	27794	5635	33430		1.76	Si
SLV 12	3.53	5255.1	-42875	-35702	-18997	2.21	2.21	-57696	16250	12499	40441	27794	5635	33430		1.76	Si
SLV 14	1.63	-5767.46	-7794	-6490	-11325	1.768	1.0951	0	0	0	40441	22236	4508	26744		2.36	Si
SLV 14	3.53	3687.89	-16114	-13418	-10952	2.21	2.21	-21684	14753	9129	40441	27794	5635	33430		3.05	Si
SLV 8	1.63	-13258.23	-33801	-28146	-14679	2.21	2.1383	-48368	16250	10484	40441	27794	5635	33430		2.28	Si
SLV 8	3.53	3455.93	-41990	-34966	-14914	2.21	2.21	-56506	16250	12303	40441	27794	5635	33430		2.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.3	0	-1075	194.32	0	0	No, e>t/2
SLV 10	179667	0.3	0	-878	194.32	0	0	No, e>t/2
SLV 9	179667	0.3	0	-235	194.32	0	0	No, e>t/2
SLV 6	179667	0.3	2775	-1717	194.32	236.08	1.21	Si
SLV 13	179667	0.3	19935	-12336	194.32	1501.59	7.73	Si
SLV 14	179667	0.3	21478	-13291	194.32	1599.02	8.23	Si
SLV 1	179667	0.3	24457	-15134	194.32	1779.45	9.16	Si
SLV 2	179667	0.3	26000	-16089	194.32	1868.96	9.62	Si
SLV 15	179667	0.3	38270	-23681	194.32	2484.56	12.79	Si
SLV 16	179667	0.3	39813	-24636	194.32	2549.89	13.12	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-35120	-30340	421	0.363	3895.5	0.975	5.41178	3.94002	Si
SLV 8	-34481	-33064	455	0.368	3830.4	0.974	5.48494	3.94002	Si
SLV 11	-34225	-30163	422	0.371	3804.3	0.974	5.53438	3.94002	Si
SLV 7	-33585	-32886	456	0.376	3739.2	0.974	5.61167	3.94002	Si
SLV 16	-23812	-16312	85	0.518	2744.1	0.965	7.80224	4.61192	Si
SLV 15	-22481	-16049	86	0.544	2608.7	0.963	8.20796	4.61192	Si
SLV 4	-21680	-25390	198	0.556	2527.2	0.962	8.40344	4.61192	Si
SLV 3	-20350	-25127	199	0.587	2391.9	0.96	8.88581	4.61192	Si
SLV 14	-13293	-6974	-169	0.842	1675	0.945	12.93794	4.61192	Si
SLV 13	-11962	-6711	-168	0.918	1540.1	0.941	14.1732	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.83	SLU 83	Si
V_SLU	2.671	SLU 83	Si
PF_SLV	0	SLV 5	No
V_SLV	1.546	SLV 16	Si
PFFP_SLV	0	SLV 5	No
R_SLV	1.374	SLV 12	Si

Maschio 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.528	-3.169	-24.603	-3.169	L4	L5	2.075	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 32	1.63	4319.65	-11695	-0.0000657	0.0003743	0.0035	2.075	9734.33	10409.52	10409.52	2.41	No	Si
SLU 32	3.53	-1229.81	-17497	-0.0000577	0.0003743	0.0035	2.075	12783.62	15433.96	15433.96	12.55	No	Si
SLU 41	1.63	4511.17	-12123	-0.0000686	0.0003743	0.0035	2.075	9999.63	10754.02	10754.02	2.38	No	Si
SLU 41	3.53	-1348.99	-18286	-0.0000611	0.0003743	0.0035	2.075	13106.93	15854.28	15854.28	11.75	No	Si
SLU 83	1.63	5233.68	-14208	-0.0000811	0.0003743	0.0035	2.075	11199.95	12323.04	12323.04	2.35	No	Si
SLU 83	3.53	-1408.32	-21055	-0.0000701	0.0003743	0.0035	2.075	14069	17139.39	17139.39	12.17	No	Si
SLU 79	1.63	5032.76	-13838	-0.0000782	0.0003743	0.0035	2.075	10998.24	12109.25	12109.25	2.41	No	Si
SLU 79	3.53	-1266.07	-20326	-0.0000666	0.0003743	0.0035	2.075	13841.81	16788.82	16788.82	13.26	No	Si
SLU 60	1.63	4596.19	-12536	-0.0000705	0.0003743	0.0035	2.075	10249.82	11089.63	11089.63	2.41	No	Si
SLU 60	3.53	-1086.64	-18201	-0.0000586	0.0003743	0.0035	2.075	13072.97	15816.64	15816.64	14.56	No	Si
SLU 39	1.63	4480.57	-11959	-0.0000679	0.0003743	0.0035	2.075	9899.02	10621.85	10621.85	2.37	No	Si
SLU 39	3.53	-1354.59	-18052	-0.0000604	0.0003743	0.0035	2.075	13013.46	15751.64	15751.64	11.63	No	Si
SLU 77	1.63	5072.76	-13943	-0.0000789	0.0003743	0.0035	2.075	11056.13	12169.93	12169.93	2.4	No	Si
SLU 77	3.53	-1283.54	-20500	-0.0000673	0.0003743	0.0035	2.075	13897.63	16871.56	16871.56	13.14	No	Si
SLU 74	1.63	5042.16	-13780	-0.0000781	0.0003743	0.0035	2.075	10965.96	12075.65	12075.65	2.39	No	Si
SLU 74	3.53	-1289.14	-20266	-0.0000667	0.0003743	0.0035	2.075	13822.3	16760.38	16760.38	13	No	Si
SLU 81	1.63	5203.08	-14044	-0.0000804	0.0003743	0.0035	2.075	11111.3	12228.25	12228.25	2.35	No	Si
SLU 81	3.53	-1413.92	-20821	-0.0000695	0.0003743	0.0035	2.075	13998.22	17026.09	17026.09	12.04	No	Si
SLU 35	1.63	4350.25	-11858	-0.0000664	0.0003743	0.0035	2.075	9836.47	10540.48	10540.48	2.42	No	Si
SLU 35	3.53	-1224.21	-17731	-0.0000583	0.0003743	0.0035	2.075	12881.64	15571.28	15571.28	12.72	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	1.63	4730.01	4515	0.326249	0.0005615	0.0035	1.66		0	0	0		No
SLV 8	3.53	-5831.14	-6840	-0.0001393	0.0005615	0.0035	1.66		7739.19	7739.19	1.33		Si
SLV 15	1.63	-4452.33	-5530	-0.0000874	0.0005615	0.0035	1.66		6529.79	6529.79	1.47		Si
SLV 15	3.53	3734.81	-1290	-0.0146836	0.0005615	0.0035	1.66		1550.21	1550.21	0.42		No
SLV 3	1.63	9394.84	-6214	-0.0205939	0.0005615	0.0035	1.66		6320.74	6320.74	0.67		No
SLV 3	3.53	-5917.83	-19220	-0.0000987	0.0005615	0.0035	2.075		17829.65	17829.65	3.01		Si
SLV 11	1.63	-236.75	4009	0.3217008	0.0005615	0.0035	1.66		0	0	0		No
SLV 11	3.53	-2091.9	-878	-0.0004936	0.0005615	0.0035	1.66		2011.61	2011.61	0.96		No
SLV 4	1.63	10601.88	-5156	-0.0335504	0.0005615	0.0035	1.66		5330.03	5330.03	0.5		No
SLV 4	3.53	-7170.68	-20085	-0.0001119	0.0005615	0.0035	2.075		18423.6	18423.6	2.57		Si
SLD 12	1.63	1680.74	-1125	-0.0020724	0.0005615	0.0035	1.66		1383.83	1383.83	0.82		No
SLD 12	3.53	-1959.23	-6365	-0.000031	0.0005615	0.0035	2.075		7308.66	7308.66	3.73		Si
SLD 7	1.63	3846.72	-1689	-0.0129675	0.0005615	0.0035	1.66		1951.58	1951.58	0.51		No
SLD 7	3.53	-3307.81	-9445	-0.0000496	0.0005615	0.0035	2.075		10069.77	10069.77	3.04		Si
SLV 7	1.63	3917.4	3804	0.2756486	0.0005615	0.0035	1.66		0	0	0		No
SLV 7	3.53	-4987.69	-6257	-0.0000964	0.0005615	0.0035	1.66		7210.67	7210.67	1.45		Si
SLV 12	1.63	575.86	4721	0.3752341	0.0005615	0.0035	1.66		0	0	0		No
SLV 12	3.53	-2935.35	-1461	-0.0006601	0.0005615	0.0035	1.66		2595.58	2595.58	0.88		No
SLD 8	1.63	4339.85	-1257	-0.0186523	0.0005615	0.0035	1.66		1517.38	1517.38	0.35		No
SLD 8	3.53	-3819.65	-9798	-0.0000548	0.0005615	0.0035	2.075		10381.91	10381.91	2.72		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	1.63	5072.76	-13943	-11611	8397	2.075	2.021	-19984	9609	5438	40441	17398	5291	22689	No	2.7	Si
SLU 77	3.53	-1283.54	-20500	-17070	8369	2.075	2.075	-29381	10833	6416	40441	17398	5291	22689	No	2.71	Si
SLU 82	1.63	5025.36	-14361	-11959	8459	2.075	2.0627	-20583	9689	5596	40441	17398	5291	22689	No	2.68	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	3.53	-1392.43	-20959	-17453	8418	2.075	2.075	-30040	10833	6519	40441	17398	5291	22689	No	2.7	Si
SLU 79	1.63	5032.76	-13838	-11523	8330	2.075	2.0214	-19833	9589	5427	40441	17398	5291	22689	No	2.72	Si
SLU 79	3.53	-1266.07	-20326	-16926	8301	2.075	2.075	-29132	10829	6378	40441	17398	5291	22689	No	2.73	Si
SLU 81	1.63	5203.08	-14044	-11695	8655	2.075	2.0011	-20129	9628	5395	40441	17398	5291	22689	No	2.62	Si
SLU 81	3.53	-1413.92	-20821	-17338	8626	2.075	2.075	-29842	10833	6488	40441	17398	5291	22689	No	2.63	Si
SLU 84	1.63	5055.96	-14525	-12095	8511	2.075	2.0682	-20817	9720	5629	40441	17398	5291	22689	No	2.67	Si
SLU 84	3.53	-1386.83	-21193	-17648	8469	2.075	2.075	-30375	10833	6570	40441	17398	5291	22689	No	2.68	Si
SLU 80	1.63	4855.04	-14155	-11787	8134	2.075	2.075	-20287	9649	5606	40441	17398	5291	22689	No	2.79	Si
SLU 80	3.53	-1244.58	-20464	-17041	8093	2.075	2.075	-29330	10833	6409	40441	17398	5291	22689	No	2.8	Si
SLU 74	1.63	5042.16	-13780	-11474	8346	2.075	2.0148	-19749	9578	5403	40441	17398	5291	22689	No	2.72	Si
SLU 74	3.53	-1289.14	-20266	-16876	8318	2.075	2.075	-29046	10817	6365	40441	17398	5291	22689	No	2.73	Si
SLU 83	1.63	5233.68	-14208	-11831	8707	2.075	2.0074	-20363	9660	5429	40441	17398	5291	22689	No	2.61	Si
SLU 83	3.53	-1408.32	-21055	-17533	8678	2.075	2.075	-30177	10833	6540	40441	17398	5291	22689	No	2.61	Si
SLU 78	1.63	4895.04	-14260	-11875	8201	2.075	2.075	-20438	9670	5618	40441	17398	5291	22689	No	2.77	Si
SLU 78	3.53	-1262.05	-20638	-17185	8160	2.075	2.075	-29579	10833	6447	40441	17398	5291	22689	No	2.78	Si
SLU 75	1.63	4864.44	-14096	-11738	8150	2.075	2.075	-20204	9638	5600	40441	17398	5291	22689	No	2.78	Si
SLU 75	3.53	-1267.65	-20404	-16991	8109	2.075	2.075	-29244	10833	6395	40441	17398	5291	22689	No	2.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	1.63	4339.85	-1257	-1047	9943	1.66	0	0	0	0	40441	20877	4233	25110		2.53	Si
SLD 8	3.53	-3819.65	-9798	-8159	10146	2.075	1.943	-15101	13437	7310	40441	26097	5291	31388		3.09	Si
SLV 2	1.63	11311.72	-13390	-11150	16945	2.075	0.5781	-72354	16250	5770	40441	26097	5291	31388		1.85	Si
SLV 2	3.53	-5247.61	-25939	-21600	16380	2.075	2.075	-37176	16250	9441	40441	26097	5291	31388		1.92	Si
SLV 4	1.63	10601.88	-5156	-4294	18720	1.66	0	0	0	0	40441	20877	4233	25110		1.34	Si
SLV 4	3.53	-7170.68	-20085	-16725	18442	2.075	2.0415	-28787	16174	9245	40441	26097	5291	31388		1.7	Si
SLV 7	1.63	3917.4	3804	3167	11084	1.66	0.0228	0	0	0	40441	20877	4233	25110		2.27	Si
SLV 7	3.53	-4987.69	-6257	-5210	11423	1.66	0.7211	0	0	0	40441	20877	4233	25110		2.2	Si
SLD 4	1.63	8044.63	-6929	-5770	13949	1.66	0	0	0	0	40441	20877	4233	25110		1.8	Si
SLD 4	3.53	-4817.65	-17898	-14904	13760	2.075	2.075	-25652	15547	9033	40441	26097	5291	31388		2.28	Si
SLV 8	1.63	4730.01	4515	3760	12663	1.66	0	0	0	0	40441	20877	4233	25110		1.98	Si
SLV 8	3.53	-5831.14	-6840	-5696	13001	1.66	0.5549	0	0	0	40441	20877	4233	25110		1.93	Si
SLD 2	1.63	8444.21	-11761	-9793	12904	2.075	0.9585	-16856	13788	5408	40441	26097	5291	31388		2.43	Si
SLD 2	3.53	-3691.38	-21323	-17756	12535	2.075	2.075	-30561	16250	9441	40441	26097	5291	31388		2.5	Si
SLD 3	1.63	7278.87	-7600	-6328	12461	2.075	0.2391	-99654	16250	4484	40441	26097	5291	31388		2.52	Si
SLD 3	3.53	-4022.83	-17349	-14446	12273	2.075	2.075	-24865	15390	8941	40441	26097	5291	31388		2.56	Si
SLV 1	1.63	10104.68	-14447	-12030	14601	2.075	1.0142	-20706	14558	6005	40441	26097	5291	31388		2.15	Si
SLV 1	3.53	-3994.76	-25073	-20879	14036	2.075	2.075	-35936	16250	9441	40441	26097	5291	31388		2.24	Si
SLV 3	1.63	9394.84	-6214	-5174	16376	1.66	0	0	0	0	40441	20877	4233	25110		1.53	Si
SLV 3	3.53	-5917.83	-19220	-16005	16098	2.075	2.075	-27547	15926	9253	40441	26097	5291	31388		1.95	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	0	971	182.45	0	0	No, Trazione
SLV 11	179667	0.3	0	1039	182.45	0	0	No, Trazione
SLV 7	179667	0.3	4079	-2370	182.45	322.91	1.77	Si
SLV 8	179667	0.3	4196	-2438	182.45	331.93	1.82	Si
SLV 15	179667	0.3	5515	-3204	182.45	432.37	2.37	Si
SLV 16	179667	0.3	5689	-3305	182.45	445.49	2.44	Si
SLV 13	179667	0.3	17667	-10265	182.45	1270.79	6.97	Si
SLV 14	179667	0.3	17841	-10366	182.45	1281.66	7.02	Si
SLV 3	179667	0.3	25074	-14568	182.45	1704.65	9.34	Si
SLV 4	179667	0.3	25248	-14669	182.45	1714.14	9.4	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-19226	-12400	99	0.588	2258	0.96	8.8997	4.61192	Si
SLV 1	-19097	-12771	102	0.591	2244.8	0.96	8.9512	4.61192	Si
SLV 6	-22248	-18464	-269	0.512	2565.4	0.965	7.71778	3.94002	Si
SLV 5	-22161	-18713	-268	0.514	2556.5	0.965	7.74533	3.94002	Si
SLV 10	-19421	-17272	-388	0.57	2277.7	0.961	8.61617	3.94002	Si
SLV 9	-19334	-17522	-387	0.572	2268.9	0.961	8.65129	3.94002	Si
SLV 4	-13791	-6063	297	0.766	1705.6	0.949	11.72685	4.61192	Si
SLV 3	-13662	-6434	299	0.772	1692.5	0.949	11.82128	4.61192	Si
SLV 14	-9802	-8429	-298	1.013	1301.3	0.936	15.73585	4.61192	Si
SLV 13	-9673	-8800	-296	1.024	1288.3	0.935	15.9163	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.35	SLU 81	Si
V_SLU	2.606	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	1.341	SLV 4	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.93	SLV 2	Si

Maschio 57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.528	-3.169	L4	L5	2.235	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	2.73	-8880.92	-25260	-0.0001346	0.0003743	0.0035	2.235	17036.64	21317.85	21317.85	2.4	No	Si
SLU 81	3.53	-1553.93	-23995	-0.0000734	0.0003743	0.0035	2.235	16716	20630.54	20630.54	13.28	No	Si
SLU 77	2.73	-8777.23	-24876	-0.0001324	0.0003743	0.0035	2.235	16945.12	21106.2	21106.2	2.4	No	Si
SLU 77	3.53	-1451.12	-23611	-0.0000715	0.0003743	0.0035	2.235	16607.44	20426.83	20426.83	14.08	No	Si
SLU 82	2.73	-8837.8	-25649	-0.0001356	0.0003743	0.0035	2.235	17123.96	21534.47	21534.47	2.44	No	Si
SLU 82	3.53	-1502.87	-24384	-0.0000742	0.0003743	0.0035	2.235	16820.58	20839.12	20839.12	13.87	No	Si
SLU 83	2.73	-8959.23	-25508	-0.0001362	0.0003743	0.0035	2.235	17092.89	21455.58	21455.58	2.39	No	Si
SLU 83	3.53	-1552.01	-24243	-0.0000741	0.0003743	0.0035	2.235	16783.24	20763.15	20763.15	13.38	No	Si
SLU 75	2.73	-8655.8	-25017	-0.0001319	0.0003743	0.0035	2.235	16979.33	21183.64	21183.64	2.45	No	Si
SLU 75	3.53	-1401.98	-23752	-0.0000716	0.0003743	0.0035	2.235	16647.91	20501.35	20501.35	14.62	No	Si
SLU 80	2.73	-8668.78	-25051	-0.0001321	0.0003743	0.0035	2.235	16987.47	21202.36	21202.36	2.45	No	Si
SLU 80	3.53	-1376.65	-23786	-0.0000715	0.0003743	0.0035	2.235	16657.56	20519.37	20519.37	14.91	No	Si
SLU 79	2.73	-8711.91	-24662	-0.0001312	0.0003743	0.0035	2.235	16891.99	20989.55	20989.55	2.41	No	Si
SLU 79	3.53	-1427.71	-23397	-0.0000707	0.0003743	0.0035	2.235	16544.83	20314.59	20314.59	14.23	No	Si
SLU 84	2.73	-8916.1	-25896	-0.0001372	0.0003743	0.0035	2.235	17176.83	21673.76	21673.76	2.43	No	Si
SLU 84	3.53	-1500.94	-24632	-0.0000749	0.0003743	0.0035	2.235	16884.43	20973.3	20973.3	13.97	No	Si
SLU 78	2.73	-8734.11	-25264	-0.0001334	0.0003743	0.0035	2.235	17037.69	21320.38	21320.38	2.44	No	Si
SLU 78	3.53	-1400.05	-24000	-0.0000723	0.0003743	0.0035	2.235	16717.26	20632.97	20632.97	14.74	No	Si
SLU 74	2.73	-8698.93	-24628	-0.0001309	0.0003743	0.0035	2.235	16883.38	20971.04	20971.04	2.41	No	Si
SLU 74	3.53	-1453.04	-23363	-0.0000708	0.0003743	0.0035	2.235	16534.71	20296.78	20296.78	13.97	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	2.73	-5626.52	-19150	-0.0000857	0.0005615	0.0035	2.235		19509.58	19509.58	3.47		Si
SLV 2	3.53	-9093.21	-18187	-0.0001116	0.0005615	0.0035	2.235		18747.15	18747.15	2.06		Si
SLD 8	2.73	-3189.07	-8805	-0.0000418	0.0005615	0.0035	2.235		10442.24	10442.24	3.27		Si
SLD 8	3.53	-4093.18	-8013	-0.0000476	0.0005615	0.0035	2.235		9666.79	9666.79	2.36		Si
SLV 13	2.73	-8913.19	-21888	-0.0001173	0.0005615	0.0035	2.235		21613.87	21613.87	2.42		Si
SLV 13	3.53	8621.54	-20762	-0.0001121	0.0005615	0.0035	2.235		19665.18	19665.18	2.28		Si
SLV 3	2.73	-3679.55	-12428	-0.0000544	0.0005615	0.0035	2.235		13810.87	13810.87	3.75		Si
SLV 3	3.53	-8688.5	-11619	-0.0001195	0.0005615	0.0035	1.788		13081.4	13081.4	1.51		Si
SLV 7	2.73	-1592.94	-3963	-0.0000195	0.0005615	0.0035	2.235		5595.82	5595.82	3.51		Si
SLV 7	3.53	-4928.55	-3275	-0.0006504	0.0005615	0.0035	1.788		4875.66	4875.66	0.99		No
SLV 15	2.73	-6391.56	-14225	-0.0000785	0.0005615	0.0035	2.235		15409.36	15409.36	2.41		Si
SLV 15	3.53	7292.75	-13252	-0.0000868	0.0005615	0.0035	2.235		13224.98	13224.98	1.81		Si
SLV 4	2.73	-3104.88	-11487	-0.0000481	0.0005615	0.0035	2.235		12962.95	12962.95	4.18		Si
SLV 4	3.53	-10422	-10678	-0.0003065	0.0005615	0.0035	1.788		12213.15	12213.15	1.17		Si
SLV 8	2.73	-1206.06	-3330	-0.0000155	0.0005615	0.0035	2.235		4933.17	4933.17	4.09		Si
SLV 8	3.53	-6095.58	-2642	-0.0015178	0.0005615	0.0035	1.788		4206.63	4206.63	0.69		No
SLV 16	2.73	-5816.89	-13284	-0.0000717	0.0005615	0.0035	2.235		14588.71	14588.71	2.51		Si
SLV 16	3.53	5559.25	-12311	-0.0000677	0.0005615	0.0035	2.235		12441.79	12441.79	2.24		Si
SLD 4	2.73	-4227.05	-13562	-0.000061	0.0005615	0.0035	2.235		14834.14	14834.14	3.51		Si
SLD 4	3.53	-6950.85	-12691	-0.0000825	0.0005615	0.0035	2.235		14049.27	14049.27	2.02		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	2.73	-8916.1	-25896	-21564	-9166	2.235	2.235	-34459	10833	7759	40441	18739	5699	24438	No	2.67	Si
SLU 84	3.53	-1500.94	-24632	-20511	-9166	2.235	2.235	-32776	10833	7478	40441	18739	5699	24438	No	2.67	Si
SLU 77	2.73	-8777.23	-24876	-20714	-9055	2.235	2.235	-33100	10833	7532	40441	18739	5699	24438	No	2.7	Si
SLU 77	3.53	-1451.12	-23611	-19661	-9055	2.235	2.235	-31418	10833	7251	40441	18739	5699	24438	No	2.7	Si
SLU 83	2.73	-8959.23	-25508	-21240	-9157	2.235	2.235	-33941	10833	7672	40441	18739	5699	24438	No	2.67	Si
SLU 83	3.53	-1552.01	-24243	-20188	-9157	2.235	2.235	-32259	10833	7392	40441	18739	5699	24438	No	2.67	Si
SLU 81	2.73	-8880.92	-25260	-21034	-9056	2.235	2.235	-33612	10833	7617	40441	18739	5699	24438	No	2.7	Si
SLU 81	3.53	-1553.93	-23995	-19981	-9056	2.235	2.235	-31929	10833	7337	40441	18739	5699	24438	No	2.7	Si
SLU 79	2.73	-8711.91	-24662	-20536	-9003	2.235	2.235	-32816	10833	7485	40441	18739	5699	24438	No	2.71	Si
SLU 79	3.53	-1427.71	-23397	-19483	-9003	2.235	2.235	-31134	10833	7204	40441	18739	5699	24438	No	2.71	Si
SLU 78	2.73	-8734.11	-25264	-21038	-9065	2.235	2.235	-33618	10833	7618	40441	18739	5699	24438	No	2.7	Si
SLU 78	3.53	-1400.05	-24000	-19985	-9065	2.235	2.235	-31935	10833	7338	40441	18739	5699	24438	No	2.7	Si
SLU 82	2.73	-8837.8	-25649	-21358	-9066	2.235	2.235	-34129	10833	7704	40441	18739	5699	24438	No	2.7	Si
SLU 82	3.53	-1502.87	-24384	-20305	-9066	2.235	2.235	-32447	10833	7423	40441	18739	5699	24438	No	2.7	Si
SLU 80	2.73	-8668.78	-25051	-20860	-9013	2.235	2.235	-33333	10833	7571	40441	18739	5699	24438	No	2.71	Si
SLU 80	3.53	-1376.65	-23786	-19807	-9013	2.235	2.235	-31651	10833	7290	40441	18739	5699	24438	No	2.71	Si
SLU 74	2.73	-8698.93	-24628	-20508	-8955	2.235	2.235	-32771	10833	7477	40441	18739	5699	24438	No	2.73	Si
SLU 74	3.53	-1453.04	-23363	-19455	-8955	2.235	2.235	-31088	10833	7196	40441	18739	5699	24438	No	2.73	Si
SLU 75	2.73	-8655.8	-25017	-20832	-8965	2.235	2.235	-33288	10833	7563	40441	18739	5699	24438	No	2.73	Si
SLU 75	3.53	-1401.98	-23752	-19779	-8965	2.235	2.235	-31606	10833	7283	40441	18739	5699	24438	No	2.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	2.73	-8338.52	-20947	-17443	-19094	2.235	2.1583	-29316	16250	9820	40441	28109	5699	33808		1.77	Si
SLV 14	3.53	6888.04	-19821	-16505	-19032	2.235	2.235	-26374	15692	9820	40441	28109	5699	33808		1.78	Si
SLV 10	2.73	-10425.13	-29412	-24492	-17054	2.235	2.235	-39136	16250	10169	40441	28109	5699	33808		1.98	Si
SLV 10	3.53	3128.1	-28164	-23453	-17072	2.235	2.235	-37477	16250	10169	40441	28109	5699	33808		1.98	Si
SLD 14	2.73	-7426.44	-19217	-16002	-14358	2.235	2.1931	-25570	15531	9537	40441	28109	5699	33808		2.35	Si
SLD 14	3.53	4050.64	-18152	-15115	-14319	2.235	2.235	-24154	15247	9542	40441	28109	5699	33808		2.36	Si
SLD 9	2.73	-8829	-24570	-20460	-13946	2.235	2.235	-32694	16250	10169	40441	28109	5699	33808		2.42	Si
SLD 9	3.53	2292.73	-23426	-19507	-13960	2.235	2.235	-31172	16250	10169	40441	28109	5699	33808		2.42	Si
SLV 15	2.73	-6391.56	-14225	-11846	-17068	2.235	2.0046	-21294	14676	8237	40441	28109	5699	33808		1.98	Si
SLV 15	3.53	7292.75	-13252	-11035	-16981	2.235	1.7016	-17634	13943	6643	40441	28109	5699	33808		1.99	Si
SLV 16	2.73	-5816.89	-13284	-11062	-14183	2.235	2.0389	-19544	14326	8178	40441	28109	5699	33808		2.38	Si
SLV 16	3.53	5559.25	-12311	-10252	-14096	2.235	1.9978	-16382	13693	7660	40441	28109	5699	33808		2.4	Si
SLD 15	2.73	-6325.52	-15302	-12742	-13314	2.235	2.1124	-21770	14771	8736	40441	28109	5699	33808		2.54	Si
SLD 15	3.53	4366.68	-14335	-11937	-13258	2.235	2.235	-19074	14232	8906	40441	28109	5699	33808		2.55	Si
SLV 13	2.73	-8913.19	-21888	-18226	-21980	2.235	2.1308	-31061	16250	9695	40441	28109	5699	33808		1.54	Si
SLV 13	3.53	8621.54	-20762	-17289	-21917	2.235	2.1067	-27627	15942	9404	40441	28109	5699	33808		1.54	Si
SLV 9	2.73	-10812.01	-30045	-25019	-18997	2.235	2.235	-39979	16250	10169	40441	28109	5699	33808		1.78	Si
SLV 9	3.53	4295.13	-28798	-23980	-19015	2.235	2.235	-38319	16250	10169	40441	28109	5699	33808		1.78	Si
SLD 13	2.73	-7791.02	-19813	-16499	-16189	2.235	2.1728	-26365	15690	9545	40441	28109	5699	33808		2.09	Si
SLD 13	3.53	5150.39	-18749	-15612	-16149	2.235	2.235	-24948	15406	9641	40441	28109	5699	33808		2.09	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	4927	-3083	196.52	417.75	2.13	Si
SLV 11	179667	0.3	5367	-3358	196.52	453.66	2.31	Si
SLV 8	179667	0.3	5636	-3527	196.52	475.52	2.42	Si
SLV 7	179667	0.3	6075	-3802	196.52	511.08	2.6	Si
SLV 16	179667	0.3	15230	-9531	196.52	1201.27	6.11	Si
SLV 15	179667	0.3	15883	-9940	196.52	1246.82	6.34	Si
SLV 4	179667	0.3	17592	-11009	196.52	1363.71	6.94	Si
SLV 3	179667	0.3	18245	-11417	196.52	1407.48	7.16	Si
SLV 14	179667	0.3	24861	-15558	196.52	1823.55	9.28	Si
SLV 13	179667	0.3	25514	-15967	196.52	1861.88	9.47	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-20906	-13584	-373	0.572	2452.1	0.961	8.65043	3.94002	Si
SLV 6	-20748	-13572	-374	0.575	2436.1	0.96	8.70797	3.94002	Si
SLV 9	-20142	-12492	-475	0.586	2374.4	0.96	8.8699	3.94002	Si
SLV 10	-19984	-12480	-475	0.589	2358.4	0.959	8.93111	3.94002	Si
SLV 1	-16156	-10632	55	0.728	1969.3	0.952	11.11759	4.61192	Si
SLV 2	-15922	-10614	55	0.737	1945.5	0.952	11.26134	4.61192	Si
SLV 13	-13608	-6992	-283	0.826	1710.7	0.946	12.69184	4.61192	Si
SLV 14	-13374	-6974	-284	0.838	1686.9	0.945	12.88348	4.61192	Si
SLV 3	-11287	-7007	321	0.96	1475.5	0.939	14.86584	4.61192	Si
SLV 4	-11053	-6989	320	0.977	1451.8	0.938	15.13474	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.395	SLU 83	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	2.666	SLU 84	Si
PF_SLV	0.69	SLV 8	No
V_SLV	1.538	SLV 13	Si
PFFP_SLV	2.126	SLV 12	Si
R_SLV	2.196	SLV 5	Si

Maschio 58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.263	-3.169	-18.793	-3.169	L4	L5	0.53	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	2.73	-320.38	-12344	-0.0002187	0.0003743	0.0035	0.53	598.61	1462.27	1462.27	4.56	No	Si
SLU 78	3.53	487.91	-12869	-0.0002681	0.0003743	0.0035	0.53	505.61	1434.03	1434.03	2.94	No	Si
SLU 84	2.73	-320.23	-12675	-0.0002262	0.0003743	0.0035	0.53	541.02	1443.17	1443.17	4.51	No	Si
SLU 84	3.53	480.7	-13228	-0.0002767	0.0003743	0.0035	0.53	436.26	1418.54	1418.54	2.95	No	Si
SLU 79	2.73	-328.51	-12155	-0.000216	0.0003743	0.0035	0.53	629.77	1469.94	1469.94	4.47	No	Si
SLU 79	3.53	489.31	-12699	-0.0002637	0.0003743	0.0035	0.53	536.81	1435.7	1435.7	2.93	No	Si
SLU 75	2.73	-317.75	-12229	-0.0002155	0.0003743	0.0035	0.53	617.71	1468.06	1468.06	4.62	No	Si
SLU 75	3.53	482.99	-12748	-0.0002636	0.0003743	0.0035	0.53	527.8	1435.21	1435.21	2.97	No	Si
SLU 69	2.73	-320.68	-10983	-0.0001902	0.0003743	0.0035	0.53	794.8	1468.69	1468.69	4.58	No	Si
SLU 69	3.53	489.05	-11443	-0.0002321	0.0003743	0.0035	0.53	735.8	1449.56	1449.56	2.96	No	Si
SLU 81	2.73	-327.24	-12469	-0.0002229	0.0003743	0.0035	0.53	577.38	1455.06	1455.06	4.45	No	Si
SLU 81	3.53	481.37	-13040	-0.0002714	0.0003743	0.0035	0.53	473.21	1432.41	1432.41	2.98	No	Si
SLU 74	2.73	-327.39	-12137	-0.0002154	0.0003743	0.0035	0.53	632.57	1470.34	1470.34	4.49	No	Si
SLU 74	3.53	488.58	-12680	-0.000263	0.0003743	0.0035	0.53	540.17	1435.89	1435.89	2.94	No	Si
SLU 83	2.73	-329.88	-12584	-0.0002261	0.0003743	0.0035	0.53	557.31	1448.43	1448.43	4.39	No	Si
SLU 83	3.53	486.29	-13160	-0.0002761	0.0003743	0.0035	0.53	449.79	1424.21	1424.21	2.93	No	Si
SLU 77	2.73	-330.03	-12252	-0.0002185	0.0003743	0.0035	0.53	613.83	1467.4	1467.4	4.45	No	Si
SLU 77	3.53	493.5	-12800	-0.0002675	0.0003743	0.0035	0.53	518.27	1434.7	1434.7	2.91	No	Si
SLU 80	2.73	-318.86	-12246	-0.0002161	0.0003743	0.0035	0.53	614.87	1467.58	1467.58	4.6	No	Si
SLU 80	3.53	483.72	-12767	-0.0002643	0.0003743	0.0035	0.53	524.39	1435.03	1435.03	2.97	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	2.73	-818.48	-6613	-0.000189	0.0005615	0.0035	0.53		1436.56	1436.56	1.76		Si
SLD 13	3.53	1546.92	-7204	-0.006345	0.0005615	0.0035	0.53		1470.87	1470.87	0.95		No
SLV 13	2.73	-1149.2	-5802	-0.0004337	0.0005615	0.0035	0.424		1313.23	1313.23	1.14		Si
SLV 13	3.53	2233.46	-6546	-0.0598929	0.0005615	0.0035	0.424		1362.63	1362.63	0.61		No
SLV 16	2.73	-846.25	-3235	-0.0020402	0.0005615	0.0035	0.424		829.48	829.48	0.98		No
SLV 16	3.53	1526.65	-3981	-0.0511928	0.0005615	0.0035	0.424		913.4	913.4	0.6		No
SLV 4	2.73	670.34	-10679	-0.0002161	0.0005615	0.0035	0.53		1885.8	1885.8	2.81		Si
SLV 4	3.53	-1516.64	-10634	-0.0004425	0.0005615	0.0035	0.424		1895.49	1895.49	1.25		Si
SLV 14	2.73	-976.98	-6181	-0.0002445	0.0005615	0.0035	0.424		1376.01	1376.01	1.41		Si
SLV 14	3.53	1897.22	-6858	-0.0259502	0.0005615	0.0035	0.424		1413.63	1413.63	0.75		No
SLV 9	2.73	-742.78	-11907	-0.0002472	0.0005615	0.0035	0.53		1987.09	1987.09	2.68		Si
SLV 9	3.53	1545.7	-12282	-0.000456	0.0005615	0.0035	0.53		1981.78	1981.78	1.28		Si
SLD 16	2.73	-633.18	-5126	-0.0001405	0.0005615	0.0035	0.53		1196.74	1196.74	1.89		Si
SLD 16	3.53	1117.21	-5716	-0.0004028	0.0005615	0.0035	0.53		1228.77	1228.77	1.1		Si
SLD 15	2.73	-742.44	-4885	-0.000172	0.0005615	0.0035	0.424		1153.13	1153.13	1.55		Si
SLD 15	3.53	1330.53	-5518	-0.0095541	0.0005615	0.0035	0.424		1197.35	1197.35	0.9		No
SLV 15	2.73	-1018.47	-2856	-0.0063762	0.0005615	0.0035	0.424		749.26	749.26	0.74		No
SLV 15	3.53	1862.89	-3669	-0.0880141	0.0005615	0.0035	0.424		849.5	849.5	0.46		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 14	2.73	-709.22	-6853	-0.0001684	0.0005615	0.0035	0.53		1467.53	1467.53	2.07		Si
SLD 14	3.53	1333.6	-7402	-0.0004464	0.0005615	0.0035	0.53		1503.85	1503.85	1.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	2.73	-320.68	-10983	-9145	-1065	0.53	0.53	-61627	10833	2915	40441	4444	1351	5795	No	5.44	Si
SLU 69	3.53	489.05	-11443	-9528	-1065	0.53	0.53	-64207	10833	3017	40441	4444	1351	5795	No	5.44	Si
SLU 83	2.73	-329.88	-12584	-10479	-1081	0.53	0.53	-70611	10833	3270	40441	4444	1351	5795	No	5.36	Si
SLU 83	3.53	486.29	-13160	-10959	-1082	0.53	0.53	-73845	10833	3398	40441	4444	1351	5795	No	5.36	Si
SLU 74	2.73	-327.39	-12137	-10107	-1078	0.53	0.53	-68106	10833	3171	40441	4444	1351	5795	No	5.38	Si
SLU 74	3.53	488.58	-12680	-10559	-1079	0.53	0.53	-71151	10833	3292	40441	4444	1351	5795	No	5.37	Si
SLU 81	2.73	-327.24	-12469	-10383	-1071	0.53	0.53	-69965	10833	3245	40441	4444	1351	5795	No	5.41	Si
SLU 81	3.53	481.37	-13040	-10858	-1072	0.53	0.53	-73169	10833	3372	40441	4444	1351	5795	No	5.41	Si
SLU 77	2.73	-330.03	-12252	-10203	-1088	0.53	0.53	-68752	10833	3197	40441	4444	1351	5795	No	5.33	Si
SLU 77	3.53	493.5	-12800	-10659	-1089	0.53	0.53	-71826	10833	3319	40441	4444	1351	5795	No	5.32	Si
SLU 79	2.73	-328.51	-12155	-10121	-1080	0.53	0.53	-68203	10833	3175	40441	4444	1351	5795	No	5.36	Si
SLU 79	3.53	489.31	-12699	-10574	-1081	0.53	0.53	-71255	10833	3296	40441	4444	1351	5795	No	5.36	Si
SLU 78	2.73	-320.38	-12344	-10279	-1068	0.53	0.53	-69265	10833	3217	40441	4444	1351	5795	No	5.43	Si
SLU 78	3.53	487.91	-12869	-10716	-1068	0.53	0.53	-72210	10833	3334	40441	4444	1351	5795	No	5.42	Si
SLU 75	2.73	-317.75	-12229	-10183	-1058	0.53	0.53	-68619	10833	3192	40441	4444	1351	5795	No	5.48	Si
SLU 75	3.53	482.99	-12748	-10616	-1058	0.53	0.53	-71534	10833	3307	40441	4444	1351	5795	No	5.48	Si
SLU 80	2.73	-318.86	-12246	-10198	-1060	0.53	0.53	-68717	10833	3195	40441	4444	1351	5795	No	5.47	Si
SLU 80	3.53	483.72	-12767	-10631	-1061	0.53	0.53	-71639	10833	3311	40441	4444	1351	5795	No	5.46	Si
SLU 84	2.73	-320.23	-12675	-10555	-1060	0.53	0.53	-71124	10833	3291	40441	4444	1351	5795	No	5.47	Si
SLU 84	3.53	480.7	-13228	-11016	-1061	0.53	0.53	-74229	10833	3414	40441	4444	1351	5795	No	5.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	2.73	670.34	-10679	-8892	2764	0.53	0.53	-59921	16250	3086	40441	6666	1351	8017		2.9	Si
SLV 4	3.53	-1516.64	-10634	-8855	2745	0.424	0.3671	0	0	0	40441	5333	1081	6414		2.34	Si
SLV 13	2.73	-1149.2	-5802	-4832	-4339	0.424	0.2008	0	0	0	40441	5333	1081	6414		1.48	Si
SLV 13	3.53	2233.46	-6546	-5451	-4321	0.424	0	0	0	0	40441	5333	1081	6414		1.48	Si
SLV 14	2.73	-976.98	-6181	-5147	-3699	0.424	0.3208	0	0	0	40441	5333	1081	6414		1.73	Si
SLV 14	3.53	1897.22	-6858	-5711	-3682	0.424	0	0	0	0	40441	5333	1081	6414		1.74	Si
SLD 14	2.73	-709.22	-6853	-5707	-2634	0.53	0.4845	-38457	16250	2236	40441	6666	1351	8017		3.04	Si
SLD 14	3.53	1333.6	-7402	-6164	-2622	0.53	0.2545	-41536	16250	2358	40441	6666	1351	8017		3.06	Si
SLV 9	2.73	-742.78	-11907	-9915	-2957	0.53	0.53	-66815	16250	3358	40441	6666	1351	8017		2.71	Si
SLV 9	3.53	1545.7	-12282	-10227	-2963	0.53	0.4174	-68918	16250	3442	40441	6666	1351	8017		2.71	Si
SLD 15	2.73	-742.44	-4885	-4068	-2660	0.424	0.3391	0	0	0	40441	5333	1081	6414		2.41	Si
SLD 15	3.53	1330.53	-5518	-4595	-2643	0.424	0.0716	0	0	0	40441	5333	1081	6414		2.43	Si
SLV 15	2.73	-1018.47	-2856	-2378	-3690	0.424	0	0	0	0	40441	5333	1081	6414		1.74	Si
SLV 15	3.53	1862.89	-3669	-3055	-3664	0.424	0	0	0	0	40441	5333	1081	6414		1.75	Si
SLV 16	2.73	-846.25	-3235	-2694	-3050	0.424	0.0102	0	0	0	40441	5333	1081	6414		2.1	Si
SLV 16	3.53	1526.65	-3981	-3315	-3025	0.424	0	0	0	0	40441	5333	1081	6414		2.12	Si
SLV 10	2.73	-626.84	-12162	-10128	-2526	0.53	0.53	-68247	16250	3415	40441	6666	1351	8017		3.17	Si
SLV 10	3.53	1319.34	-12492	-10402	-2533	0.53	0.4782	-70097	16250	3488	40441	6666	1351	8017		3.17	Si
SLD 13	2.73	-818.48	-6613	-5507	-3040	0.53	0.4237	-47702	16250	2183	40441	6666	1351	8017		2.64	Si
SLD 13	3.53	1546.92	-7204	-5999	-3027	0.53	0.1508	-185088	16250	2314	40441	6666	1351	8017		2.65	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	11074	-1643	46.6	213.4	4.58	Si
SLV 11	179667	0.3	11328	-1681	46.6	217.89	4.68	Si
SLV 8	179667	0.3	17372	-2578	46.6	319.86	6.86	Si
SLV 7	179667	0.3	17625	-2616	46.6	323.92	6.95	Si
SLV 16	179667	0.3	27454	-4074	46.6	467.85	10.04	Si
SLV 15	179667	0.3	27831	-4130	46.6	472.84	10.15	Si
SLV 14	179667	0.3	47845	-7100	46.6	682.6	14.65	Si
SLV 13	179667	0.3	48221	-7156	46.6	685.51	14.71	Si
SLV 4	179667	0.3	48445	-7189	46.6	687.21	14.75	Si
SLV 3	179667	0.3	48822	-7245	46.6	690.06	14.81	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-3199	-15807	13	0.847	402.8	0.946	13.0127	3.94002	Si
SLV 5	-3192	-16152	13	0.848	402.1	0.945	13.0351	3.94002	Si
SLV 2	-2639	-10305	8	0.993	346.1	0.938	15.38655	4.61192	Si
SLV 1	-2629	-10816	8	0.996	345.1	0.938	15.43367	4.61192	Si
SLV 10	-2939	-16103	11	0.909	376.5	0.942	14.01379	3.94002	Si
SLV 9	-2933	-16448	11	0.91	375.8	0.942	14.03992	3.94002	Si
SLV 4	-1898	-5955	0	1.293	271.3	0.925	20.31808	4.61192	Si
SLV 3	-1888	-6467	0	1.298	270.3	0.924	20.40124	4.61192	Si
SLV 14	-1773	-11291	-1	1.361	258.7	0.922	21.46314	4.61192	Si
SLV 13	-1763	-11803	-1	1.367	257.8	0.922	21.55871	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.907	SLU 77	Si
V_SLU	5.322	SLU 77	Si
PF_SLV	0.456	SLV 15	No
V_SLV	1.478	SLV 13	Si
PFFP_SLV	4.579	SLV 12	Si
R_SLV	3.303	SLV 6	Si

Maschio 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L4	L5	4.67	0.14	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	0.73	11031.49	-71661	-0.0001892	0.0004492	0.0035	4.6702	17234.36	112232.59	112232.59	10.17	No	Si
SLU 74	4.4	-3330.12	-43076	-0.000095	0.0004492	0.0035	4.6702	46349.99	90117.18	90117.18	27.06	No	Si
SLU 77	0.73	11279.97	-72757	-0.0001931	0.0004492	0.0035	4.6702	15165.83	113227.69	113227.69	10.04	No	Si
SLU 77	4.4	-3333.99	-43867	-0.0000968	0.0004492	0.0035	4.6702	46186.91	91205.1	91205.1	27.36	No	Si
SLU 75	0.73	10929.71	-71231	-0.0001877	0.0004492	0.0035	4.6702	18025.3	111842.88	111842.88	10.23	No	Si
SLU 75	4.4	-3357.79	-42883	-0.0000946	0.0004492	0.0035	4.6702	46384.11	89852.71	89852.71	26.76	No	Si
SLU 78	0.73	11178.19	-72328	-0.0001916	0.0004492	0.0035	4.6702	15984.31	112837.98	112837.98	10.09	No	Si
SLU 78	4.4	-3361.65	-43674	-0.0000964	0.0004492	0.0035	4.6702	46229.92	90940.63	90940.63	27.05	No	Si
SLU 81	0.73	11079.87	-72531	-0.0001918	0.0004492	0.0035	4.6702	15599.28	113021.95	113021.95	10.2	No	Si
SLU 81	4.4	-3482.5	-43492	-0.0000963	0.0004492	0.0035	4.6702	46268.78	90689.32	90689.32	26.04	No	Si
SLU 79	0.73	11177.63	-72202	-0.0001912	0.0004492	0.0035	4.6702	16221.4	112724.12	112724.12	10.08	No	Si
SLU 79	4.4	-3311.08	-43476	-0.0000958	0.0004492	0.0035	4.6702	46272.12	90667.12	90667.12	27.38	No	Si
SLU 82	0.73	10978.09	-72101	-0.0001903	0.0004492	0.0035	4.6702	16412.07	112632.23	112632.23	10.26	No	Si
SLU 82	4.4	-3510.16	-43299	-0.000096	0.0004492	0.0035	4.6702	46307.58	90424.85	90424.85	25.76	No	Si
SLU 83	0.73	11328.34	-73627	-0.0001958	0.0004492	0.0035	4.6702	13474.98	114017.05	114017.05	10.06	No	Si
SLU 83	4.4	-3486.37	-44283	-0.0000981	0.0004492	0.0035	4.6702	46086.46	91771.7	91771.7	26.32	No	Si
SLU 84	0.73	11226.57	-73198	-0.0001942	0.0004492	0.0035	4.6702	14315.3	113627.34	113627.34	10.12	No	Si
SLU 84	4.4	-3514.03	-44090	-0.0000978	0.0004492	0.0035	4.6702	46134.15	91512.78	91512.78	26.04	No	Si
SLU 80	0.73	11075.85	-71773	-0.0001897	0.0004492	0.0035	4.6702	17025.94	112334.41	112334.41	10.14	No	Si
SLU 80	4.4	-3338.74	-43283	-0.0000955	0.0004492	0.0035	4.6702	46310.74	90402.65	90402.65	27.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	0.73	-5822.71	-16688	-0.0000455	0.0006738	0.0035	4.6702		47904.99	47904.99	8.23		Si
SLV 10	4.4	-6661.76	-14068	-0.0000425	0.0006738	0.0035	4.6702		42710.24	42710.24	6.41		Si
SLV 7	0.73	20715.62	-81714	-0.0002303	0.0006738	0.0035	4.6702		131389.86	131389.86	6.34		Si
SLV 7	4.4	2160.3	-44497	-0.0000919	0.0006738	0.0035	4.6702		86649.8	86649.8	40.11		Si
SLV 6	0.73	-4146.54	-22301	-0.0000523	0.0006738	0.0035	4.6702		58739.06	58739.06	14.17		Si
SLV 6	4.4	-7435.56	-16998	-0.0000501	0.0006738	0.0035	4.6702		48516.38	48516.38	6.52		Si
SLV 12	0.73	18923.14	-76732	-0.0002122	0.0006738	0.0035	4.6702		126720.29	126720.29	6.7		Si
SLV 12	4.4	3150.68	-42030	-0.0000895	0.0006738	0.0035	4.6702		82451.41	82451.41	26.17		Si
SLV 8	0.73	20599.31	-82345	-0.0002315	0.0006738	0.0035	4.6702		131981.64	131981.64	6.41		Si
SLV 8	4.4	2376.88	-44960	-0.0000935	0.0006738	0.0035	4.6702		87437.02	87437.02	36.79		Si
SLD 8	0.73	15188.96	-68781	-0.0001818	0.0006738	0.0035	4.6702		119267.65	119267.65	7.85		Si
SLD 8	4.4	435.29	-38553	-0.0000753	0.0006738	0.0035	4.6702		76537.97	76537.97	175.83		Si
SLV 11	0.73	19039.45	-76101	-0.000211	0.0006738	0.0035	4.6702		126128.51	126128.51	6.62		Si
SLV 11	4.4	2934.1	-41567	-0.0000879	0.0006738	0.0035	4.6702		81664.19	81664.19	27.83		Si
SLV 9	0.73	-5706.4	-16056	-0.000044	0.0006738	0.0035	4.6702		46661.54	46661.54	8.18		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	4.4	-6878.34	-13605	-0.0000421	0.0006738	0.0035	4.6702		41753.53	41753.53	6.07		Si
SLD 7	0.73	15259.54	-68398	-0.0001811	0.0006738	0.0035	4.6702		118834.92	118834.92	7.79		Si
SLD 7	4.4	303.86	-38273	-0.0000743	0.0006738	0.0035	4.6702		76060.25	76060.25	250.31		Si
SLV 5	0.73	-4030.23	-21670	-0.0000508	0.0006738	0.0035	4.6702		57557.46	57557.46	14.28		Si
SLV 5	4.4	-7652.14	-16535	-0.0000497	0.0006738	0.0035	4.6702		47605	47605	6.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	0.73	9828.06	-64506	-35766	-5087	4.6702	4.6702	-54703	10833	18083	115546	23497	23818	47314	No	9.3	Si
SLU 68	4.4	-2935.28	-38635	-21421	-3486	4.6702	4.6702	-32763	10833	12345	115546	23497	23818	47314	No	13.57	Si
SLU 76	0.73	10759.52	-70390	-39028	-5121	4.6702	4.6702	-59692	10833	19388	115546	23497	23818	47314	No	9.24	Si
SLU 76	4.4	-3353.31	-42364	-23489	-3339	4.6702	4.6702	-35926	10833	13172	115546	23497	23818	47314	No	14.17	Si
SLU 52	0.73	9059.28	-61070	-33861	-5035	4.6702	4.6702	-51789	10833	17321	115546	23497	23818	47314	No	9.4	Si
SLU 52	4.4	-2948.23	-36385	-20174	-3498	4.6702	4.6702	-30855	10833	11846	115546	23497	23818	47314	No	13.53	Si
SLU 73	0.73	10511.04	-69293	-38420	-5127	4.6702	4.6702	-58762	10833	19144	115546	23497	23818	47314	No	9.23	Si
SLU 73	4.4	-3349.44	-41573	-23050	-3374	4.6702	4.6702	-35255	10833	12997	115546	23497	23818	47314	No	14.02	Si
SLU 44	0.73	8127.82	-55186	-30598	-5002	4.6702	4.6702	-46799	10833	16016	115546	23497	23818	47314	No	9.46	Si
SLU 44	4.4	-2530.2	-32656	-18106	-3644	4.6702	4.6702	-27693	10833	11019	115546	23497	23818	47314	No	12.98	Si
SLU 82	0.73	10978.09	-72101	-39977	-4874	4.6702	4.6702	-61143	10833	19767	115546	23497	23818	47314	No	9.71	Si
SLU 82	4.4	-3510.16	-43299	-24008	-3060	4.6702	4.6702	-36719	10833	13380	115546	23497	23818	47314	No	15.46	Si
SLU 65	0.73	9579.58	-63409	-35158	-5093	4.6702	4.6702	-53773	10833	17839	115546	23497	23818	47314	No	9.29	Si
SLU 65	4.4	-2931.41	-37844	-20983	-3520	4.6702	4.6702	-32093	10833	12170	115546	23497	23818	47314	No	13.44	Si
SLU 75	0.73	10929.71	-71231	-39495	-4872	4.6702	4.6702	-60406	10833	19574	115546	23497	23818	47314	No	9.71	Si
SLU 75	4.4	-3357.79	-42883	-23777	-3094	4.6702	4.6702	-36366	10833	13287	115546	23497	23818	47314	No	15.29	Si
SLU 55	0.73	9307.75	-62167	-34469	-5029	4.6702	4.6702	-52719	10833	17564	115546	23497	23818	47314	No	9.41	Si
SLU 55	4.4	-2952.1	-37176	-20612	-3463	4.6702	4.6702	-31526	10833	12022	115546	23497	23818	47314	No	13.66	Si
SLU 47	0.73	8376.3	-56283	-31206	-4995	4.6702	4.6702	-47729	10833	16259	115546	23497	23818	47314	No	9.47	Si
SLU 47	4.4	-2534.07	-33447	-18545	-3610	4.6702	4.6702	-28364	10833	11195	115546	23497	23818	47314	No	13.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.73	18923.14	-76732	-42545	23973	4.6702	4.6702	-65071	16250	22683	115546	35245	23818	59063		2.46	Si
SLV 12	4.4	3150.68	-42030	-23303	22234	4.6702	4.6702	-35642	16250	14986	115546	35245	23818	59063		2.66	Si
SLV 11	0.73	19039.45	-76101	-42195	23122	4.6702	4.6702	-64535	16250	22543	115546	35245	23818	59063		2.55	Si
SLV 11	4.4	2934.1	-41567	-23047	21597	4.6702	4.6702	-35250	16250	14884	115546	35245	23818	59063		2.73	Si
SLV 7	0.73	20715.62	-81714	-45307	21532	4.6702	4.6702	-69295	16250	23787	115546	35245	23818	59063		2.74	Si
SLV 7	4.4	2160.3	-44497	-24672	20648	4.6702	4.6702	-37735	16250	15534	115546	35245	23818	59063		2.86	Si
SLD 5	0.73	779.66	-33216	-18417	-19475	4.6702	4.6702	-28168	16250	13032	115546	35245	23818	59063		3.03	Si
SLD 5	4.4	-5431.16	-21890	-12137	-16557	4.6702	4.6702	-18563	16213	10600	115546	35245	23818	59063		3.57	Si
SLV 8	0.73	20599.31	-82345	-45657	22383	4.6702	4.6702	-69831	16250	23927	115546	35245	23818	59063		2.64	Si
SLV 8	4.4	2376.88	-44960	-24928	21286	4.6702	4.6702	-38127	16250	15636	115546	35245	23818	59063		2.77	Si
SLV 9	0.73	-5706.4	-16056	-8903	-29170	4.6702	4.6702	-13616	15223	9953	115546	35245	23818	59063		2.02	Si
SLV 9	4.4	-6878.34	-13605	-7543	-25707	4.6702	4.6702	-11537	14807	9681	115546	35245	23818	59063		2.3	Si
SLD 6	0.73	709.08	-33599	-18629	-18959	4.6702	4.6702	-28493	16250	13117	115546	35245	23818	59063		3.12	Si
SLD 6	4.4	-5299.73	-22171	-12293	-16170	4.6702	4.6702	-18802	16250	10625	115546	35245	23818	59063		3.65	Si
SLV 5	0.73	-4030.23	-21670	-12015	-30760	4.6702	4.6702	-18376	16175	10576	115546	35245	23818	59063		1.92	Si
SLV 5	4.4	-7652.14	-16535	-9168	-26656	4.6702	4.6702	-14022	15304	10006	115546	35245	23818	59063		2.22	Si
SLV 6	0.73	-4146.54	-22301	-12365	-29909	4.6702	4.6702	-18912	16250	10625	115546	35245	23818	59063		1.97	Si
SLV 6	4.4	-7435.56	-16998	-9425	-26019	4.6702	4.6702	-14415	15383	10058	115546	35245	23818	59063		2.27	Si
SLV 10	0.73	-5822.71	-16688	-9253	-28319	4.6702	4.6702	-14152	15330	10023	115546	35245	23818	59063		2.09	Si
SLV 10	4.4	-6661.76	-14068	-7800	-25070	4.6702	4.6702	-11930	14886	9733	115546	35245	23818	59063		2.36	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-15159	0.3	223.44	926.89	1594.26	1260.58	5.64	Si
SLV 10	-15715	0.3	223.44	955.8	1640.07	1297.93	5.81	Si
SLV 5	-20242	0.3	223.44	1177.59	2012.23	1594.91	7.14	Si
SLV 6	-20798	0.3	223.44	1203.19	2057.88	1630.54	7.3	Si
SLV 13	-24030	0.3	223.44	1344.8	2318.2	1831.5	8.2	Si
SLV 14	-24856	0.3	223.44	1379.04	2384.48	1881.76	8.42	Si
SLV 15	-36833	0.3	223.44	1785.81	3327.97	2556.89	11.44	Si
SLV 16	-37659	0.3	223.44	1807.7	3391.15	2599.43	11.63	Si
SLV 1	-40973	0.3	223.44	1887.46	3644.87	2766.17	12.38	Si
SLV 2	-41800	0.3	223.44	1905.35	3708.19	2806.77	12.56	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.03 Ta = 0.1607

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-38705	-68032	-316	0.654	4278.6	0.976	9.74707	8.23645	Si
SLV 3	-38017	-67094	-316	0.665	4208.6	0.975	9.91287	8.23645	Si
SLV 8	-44960	-82345	-103	0.574	4915.9	0.979	8.53154	5.86761	Si
SLV 7	-44497	-81714	-103	0.58	4868.7	0.978	8.61509	5.86761	Si
SLV 2	-30316	-50018	-310	0.819	3424.3	0.97	12.2654	8.23645	Si
SLV 1	-29629	-49080	-310	0.836	3354.4	0.969	12.53199	8.23645	Si
SLV 12	-42030	-76732	84	0.612	4617.3	0.977	9.09719	5.86761	Si
SLV 16	-28936	-49321	309	0.854	3283.8	0.969	12.81324	8.23645	Si
SLV 11	-41567	-76101	84	0.618	4570.2	0.977	9.19256	5.86761	Si
SLV 15	-28249	-48383	309	0.873	3213.8	0.968	13.10496	8.23645	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.038	SLU 77	Si
V_SLU	9.229	SLU 73	Si
PF_SLV	6.07	SLV 9	Si
V_SLV	1.92	SLV 5	Si
PFFP_SLV	5.642	SLV 9	Si
R_SLV	1.183	SLV 4	Si

Maschio 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-19.618	6.661	L4	L5	0.71	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.73	-896.92	-16167	-0.0002495	0.0003743	0.0035	0.71	1155	2634.68	2634.68	2.94	No	Si
SLU 78	4.4	730.91	-8841	-0.0001302	0.0003743	0.0035	0.71	1767.62	2176.53	2176.53	2.98	No	Si
SLU 83	0.73	-905.26	-16507	-0.0002571	0.0003743	0.0035	0.71	1080.73	2631.47	2631.47	2.91	No	Si
SLU 83	4.4	733.69	-8989	-0.0001321	0.0003743	0.0035	0.71	1773.89	2197.99	2197.99	3	No	Si
SLU 82	0.73	-891.62	-16069	-0.000247	0.0003743	0.0035	0.71	1175.64	2634.99	2634.99	2.96	No	Si
SLU 82	4.4	730.58	-8686	-0.0001285	0.0003743	0.0035	0.71	1760.25	2154.3	2154.3	2.95	No	Si
SLU 73	0.73	-858.07	-15350	-0.0002304	0.0003743	0.0035	0.71	1316.59	2637.56	2637.56	3.07	No	Si
SLU 73	4.4	706.47	-8296	-0.0001223	0.0003743	0.0035	0.71	1737.98	2099.24	2099.24	2.97	No	Si
SLU 84	0.73	-907.37	-16358	-0.0002544	0.0003743	0.0035	0.71	1113.83	2634.22	2634.22	2.9	No	Si
SLU 84	4.4	742.9	-8876	-0.0001316	0.0003743	0.0035	0.71	1769.17	2181.58	2181.58	2.94	No	Si
SLU 81	0.73	-889.51	-16218	-0.0002496	0.0003743	0.0035	0.71	1144.05	2634.53	2634.53	2.96	No	Si
SLU 81	4.4	721.37	-8800	-0.000129	0.0003743	0.0035	0.71	1765.72	2170.53	2170.53	3.01	No	Si
SLU 80	0.73	-888.16	-16028	-0.0002459	0.0003743	0.0035	0.71	1184.15	2635.13	2635.13	2.97	No	Si
SLU 80	4.4	724.97	-8752	-0.0001288	0.0003743	0.0035	0.71	1763.46	2163.65	2163.65	2.98	No	Si
SLU 76	0.73	-873.82	-15639	-0.0002372	0.0003743	0.0035	0.71	1262.07	2636.92	2636.92	3.02	No	Si
SLU 76	4.4	718.79	-8486	-0.0001254	0.0003743	0.0035	0.71	1749.49	2125.89	2125.89	2.96	No	Si
SLU 79	0.73	-886.05	-16177	-0.0002484	0.0003743	0.0035	0.71	1152.77	2634.65	2634.65	2.97	No	Si
SLU 79	4.4	715.75	-8865	-0.0001293	0.0003743	0.0035	0.71	1768.68	2179.95	2179.95	3.05	No	Si
SLU 77	0.73	-894.81	-16316	-0.0002521	0.0003743	0.0035	0.71	1122.9	2634.3	2634.3	2.94	No	Si
SLU 77	4.4	721.7	-8954	-0.0001308	0.0003743	0.0035	0.71	1772.48	2192.9	2192.9	3.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.73	-1028.94	127	-0.0079407	0.0005615	0.0035	0.568		0	0	0		No
SLV 5	4.4	1238.31	4732	1.0860682	0.0005615	0.0035	0.568		0	0	0		No
SLV 2	0.73	-1347.68	-9596	-0.0001791	0.0005615	0.0035	0.71		2721.88	2721.88	2.02		Si
SLV 2	4.4	1159.72	-1258	-0.0327444	0.0005615	0.0035	0.568		461.67	461.67	0.4		No
SLD 5	0.73	-859.63	-4449	-0.0001035	0.0005615	0.0035	0.71		1527.85	1527.85	1.78		Si
SLD 5	4.4	932.21	357	-0.0460786	0.0005615	0.0035	0.568		0	0	0		No
SLV 6	0.73	-959.41	-3	-0.0074546	0.0005615	0.0035	0.568		129.11	129.11	0.13		No
SLV 6	4.4	1141.61	4069	0.9289367	0.0005615	0.0035	0.568		0	0	0		No
SLV 1	0.73	-1450.96	-9403	-0.0001892	0.0005615	0.0035	0.71		2690.63	2690.63	1.85		Si
SLV 1	4.4	1303.36	-273	-0.0554249	0.0005615	0.0035	0.568		126.98	126.98	0.1		No
SLD 10	0.73	-528.26	-3712	-0.0000636	0.0005615	0.0035	0.71		1318.29	1318.29	2.5		Si
SLD 10	4.4	645.3	-917	-0.0149622	0.0005615	0.0035	0.568		347.64	347.64	0.54		No
SLD 9	0.73	-570.46	-3633	-0.0000672	0.0005615	0.0035	0.71		1295.52	1295.52	2.27		Si
SLD 9	4.4	703.99	-515	-0.0235934	0.0005615	0.0035	0.568		210.49	210.49	0.3		No
SLV 10	0.73	-506.74	1265	0.3149894	0.0005615	0.0035	0.568		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	4.4	785.15	2707	0.6161048	0.0005615	0.0035	0.568		0	0	0		No
SLD 6	0.73	-817.44	-4528	-0.0000972	0.0005615	0.0035	0.71		1550.03	1550.03	1.9		Si
SLD 6	4.4	873.53	-46	-0.0395601	0.0005615	0.0035	0.568		47.61	47.61	0.05		No
SLV 9	0.73	-576.27	1395	0.3476149	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	4.4	881.85	3370	0.7733097	0.0005615	0.0035	0.568		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.73	-896.92	-16167	-13462	-1369	0.71	0.71	-67718	10833	4228	40441	5953	1811	7763	No	5.67	Si
SLU 78	4.4	730.91	-8841	-7362	-3760	0.71	0.71	-37033	10833	2601	40441	5953	1811	7763	No	2.06	Si
SLU 82	0.73	-891.62	-16069	-13381	-1365	0.71	0.71	-67307	10833	4206	40441	5953	1811	7763	No	5.69	Si
SLU 82	4.4	730.58	-8686	-7233	-3762	0.71	0.71	-36384	10833	2567	40441	5953	1811	7763	No	2.06	Si
SLU 83	0.73	-905.26	-16507	-13746	-1343	0.71	0.71	-69144	10833	4303	40441	5953	1811	7763	No	5.78	Si
SLU 83	4.4	733.69	-8989	-7486	-3758	0.71	0.71	-37654	10833	2634	40441	5953	1811	7763	No	2.07	Si
SLU 81	0.73	-889.51	-16218	-13505	-1320	0.71	0.71	-67933	10833	4239	40441	5953	1811	7763	No	5.88	Si
SLU 81	4.4	721.37	-8800	-7328	-3697	0.71	0.71	-36859	10833	2592	40441	5953	1811	7763	No	2.1	Si
SLU 79	0.73	-886.05	-16177	-13471	-1308	0.71	0.71	-67762	10833	4230	40441	5953	1811	7763	No	5.94	Si
SLU 79	4.4	715.75	-8865	-7382	-3661	0.71	0.71	-37133	10833	2606	40441	5953	1811	7763	No	2.12	Si
SLU 84	0.73	-907.37	-16358	-13621	-1389	0.71	0.71	-68518	10833	4270	40441	5953	1811	7763	No	5.59	Si
SLU 84	4.4	742.9	-8876	-7391	-3824	0.71	0.71	-37180	10833	2609	40441	5953	1811	7763	No	2.03	Si
SLU 76	0.73	-873.82	-15639	-13023	-1360	0.71	0.71	-65507	10833	4111	40441	5953	1811	7763	No	5.71	Si
SLU 76	4.4	718.79	-8486	-7067	-3708	0.71	0.71	-35547	10833	2522	40441	5953	1811	7763	No	2.09	Si
SLU 75	0.73	-881.17	-15878	-13222	-1346	0.71	0.71	-66507	10833	4164	40441	5953	1811	7763	No	5.77	Si
SLU 75	4.4	718.59	-8651	-7204	-3698	0.71	0.71	-36238	10833	2559	40441	5953	1811	7763	No	2.1	Si
SLU 77	0.73	-894.81	-16316	-13587	-1324	0.71	0.71	-68344	10833	4261	40441	5953	1811	7763	No	5.86	Si
SLU 77	4.4	721.7	-8954	-7456	-3694	0.71	0.71	-37508	10833	2626	40441	5953	1811	7763	No	2.1	Si
SLU 80	0.73	-888.16	-16028	-13347	-1353	0.71	0.71	-67136	10833	4197	40441	5953	1811	7763	No	5.74	Si
SLU 80	4.4	724.97	-8752	-7288	-3726	0.71	0.71	-36658	10833	2581	40441	5953	1811	7763	No	2.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	0.73	-1450.96	-9403	-7830	-5497	0.71	0.6021	-47755	16250	3045	40441	8929	1811	10740		1.95	Si
SLV 1	4.4	1303.36	-273	-227	-8722	0.568	0	0	0	0	40441	7144	1448	8592		0.99	No
SLD 5	0.73	-859.63	-4449	-3705	-3592	0.71	0.4854	-27650	15947	2167	40441	8929	1811	10740		2.99	Si
SLD 5	4.4	932.21	357	297	-6234	0.568	0	0	0	0	40441	7144	1448	8592		1.38	Si
SLV 2	0.73	-1347.68	-9596	-7991	-4792	0.71	0.6437	-45519	16250	3088	40441	8929	1811	10740		2.24	Si
SLV 2	4.4	1159.72	-1258	-1047	-7705	0.568	0	0	0	0	40441	7144	1448	8592		1.12	Si
SLV 3	0.73	-1345.56	-16331	-13599	-3488	0.71	0.71	-68406	16250	4583	40441	8929	1811	10740		3.08	Si
SLV 3	4.4	982.54	-6064	-5050	-5896	0.71	0.5789	-25400	15497	2512	40441	8929	1811	10740		1.82	Si
SLV 6	0.73	-959.41	-3	-2	-4955	0.568	0	0	0	0	40441	7144	1448	8592		1.73	Si
SLV 6	4.4	1141.61	4069	3389	-8112	0.568	0.2234	0	0	0	40441	7144	1448	8592		1.06	Si
SLV 5	0.73	-1028.94	127	106	-5430	0.568	0	0	0	0	40441	7144	1448	8592		1.58	Si
SLV 5	4.4	1238.31	4732	3941	-8797	0.568	0.28	0	0	0	40441	7144	1448	8592		0.98	No
SLD 6	0.73	-817.44	-4528	-3771	-3304	0.71	0.5234	-26074	15632	2291	40441	8929	1811	10740		3.25	Si
SLD 6	4.4	873.53	-46	-38	-5818	0.568	0	0	0	0	40441	7144	1448	8592		1.48	Si
SLD 1	0.73	-1137.43	-10119	-8426	-3771	0.71	0.71	-42384	16250	3231	40441	8929	1811	10740		2.85	Si
SLD 1	4.4	996.48	-2472	-2059	-6379	0.568	0	0	0	0	40441	7144	1448	8592		1.35	Si
SLV 10	0.73	-506.74	1265	1053	-2987	0.568	0	0	0	0	40441	7144	1448	8592		2.88	Si
SLV 10	4.4	785.15	2707	2254	-5492	0.568	0.1948	0	0	0	40441	7144	1448	8592		1.56	Si
SLV 9	0.73	-576.27	1395	1162	-3462	0.568	0	0	0	0	40441	7144	1448	8592		2.48	Si
SLV 9	4.4	881.85	3370	2806	-6177	0.568	0.2799	0	0	0	40441	7144	1448	8592		1.39	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.3	0	-351	62.43	0	0	No, e>t/2
SLV 5	179667	0.3	0	-247	62.43	0	0	No, e>t/2
SLV 9	179667	0.3	0	408	62.43	0	0	No, Trazione
SLV 10	179667	0.3	0	304	62.43	0	0	No, Trazione
SLV 13	179667	0.3	19941	-3964	62.43	482.54	7.73	Si
SLV 14	179667	0.3	20717	-4119	62.43	498.38	7.98	Si
SLV 1	179667	0.3	30920	-6147	62.43	686.32	10.99	Si
SLV 2	179667	0.3	31695	-6301	62.43	699.06	11.2	Si
SLV 15	179667	0.3	42194	-8388	62.43	849.89	13.61	Si
SLV 16	179667	0.3	42970	-8542	62.43	859.44	13.77	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-16596	-21829	82	0.266	1792.8	0.982	3.9363	3.94002	No
SLV 11	-15933	-21699	80	0.275	1725.3	0.981	4.07593	3.94002	Si
SLV 8	-15233	-23097	83	0.285	1654	0.981	4.231	3.94002	Si
SLV 7	-14571	-22967	81	0.296	1586.4	0.98	4.39641	3.94002	Si
SLV 16	-11591	-12299	22	0.364	1282.8	0.975	5.42471	4.61192	Si
SLV 15	-10606	-12106	18	0.393	1182.6	0.973	5.86574	4.61192	Si
SLV 4	-7048	-16524	24	0.556	820.4	0.962	8.39276	4.61192	Si
SLV 3	-6064	-16331	21	0.632	720.3	0.958	9.59257	4.61192	Si
SLV 14	-5800	-5371	-30	0.655	693.4	0.956	9.95608	4.61192	Si
SLV 13	-4815	-5177	-33	0.765	593.4	0.95	11.7122	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.903	SLU 84	Si
V_SLU	2.03	SLU 84	Si
PF_SLV	0	SLD 5	No
V_SLV	0.977	SLV 5	No
PFFP_SLV	0	SLV 10	No
R_SLV	0.999	SLV 12	No

Maschio 61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.243	-3.169	-17.263	-3.169	L4	L5	1.02	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	1.63	2202.41	-13755	-0.0001674	0.0003743	0.0035	1.02	3696.59	4729.36	4729.36	2.15	No	Si
SLU 83	3.53	2754.32	-11185	-0.0001848	0.0003743	0.0035	1.02	3510.12	4166.37	4166.37	1.51	No	Si
SLU 80	1.63	2142.91	-13382	-0.0001617	0.0003743	0.0035	1.02	3683.89	4645.36	4645.36	2.17	No	Si
SLU 80	3.53	2677.95	-10853	-0.0001781	0.0003743	0.0035	1.02	3469.08	4096.28	4096.28	1.53	No	Si
SLU 74	1.63	2129.67	-13277	-0.0001602	0.0003743	0.0035	1.02	3679.44	4621.92	4621.92	2.17	No	Si
SLU 74	3.53	2658.59	-10761	-0.0001764	0.0003743	0.0035	1.02	3457.08	4077.11	4077.11	1.53	No	Si
SLU 78	1.63	2158.54	-13483	-0.0001632	0.0003743	0.0035	1.02	3687.82	4668	4668	2.16	No	Si
SLU 78	3.53	2698.2	-10943	-0.0001798	0.0003743	0.0035	1.02	3480.64	4115.28	4115.28	1.53	No	Si
SLU 79	1.63	2133.56	-13303	-0.0001606	0.0003743	0.0035	1.02	3680.56	4627.61	4627.61	2.17	No	Si
SLU 79	3.53	2664.33	-10783	-0.0001769	0.0003743	0.0035	1.02	3459.95	4081.64	4081.64	1.53	No	Si
SLU 81	1.63	2182.88	-13629	-0.0001655	0.0003743	0.0035	1.02	3692.83	4700.72	4700.72	2.15	No	Si
SLU 81	3.53	2728.33	-11073	-0.0001825	0.0003743	0.0035	1.02	3496.7	4142.61	4142.61	1.52	No	Si
SLU 77	1.63	2149.19	-13404	-0.0001621	0.0003743	0.0035	1.02	3684.76	4650.18	4650.18	2.16	No	Si
SLU 77	3.53	2684.58	-10873	-0.0001786	0.0003743	0.0035	1.02	3471.73	4100.59	4100.59	1.53	No	Si
SLU 84	1.63	2211.76	-13835	-0.0001685	0.0003743	0.0035	1.02	3698.66	4747.41	4747.41	2.15	No	Si
SLU 84	3.53	2767.95	-11255	-0.0001861	0.0003743	0.0035	1.02	3518.26	4181.24	4181.24	1.51	No	Si
SLU 75	1.63	2139.02	-13357	-0.0001613	0.0003743	0.0035	1.02	3682.85	4639.65	4639.65	2.17	No	Si
SLU 75	3.53	2672.21	-10831	-0.0001776	0.0003743	0.0035	1.02	3466.27	4091.74	4091.74	1.53	No	Si
SLU 82	1.63	2192.23	-13708	-0.0001666	0.0003743	0.0035	1.02	3695.26	4718.69	4718.69	2.15	No	Si
SLU 82	3.53	2741.96	-11143	-0.0001837	0.0003743	0.0035	1.02	3505.12	4157.41	4157.41	1.52	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 51	1.63	1697.02	-10489	-8734	2	1.02	1.02	-30583	10833	3246	40441	8552	2601	11153	No	5438.57	Si
SLU 51	3.53	2098.64	-8296	-6909	-159	1.02	0.7711	-24190	10170	2759	40441	8552	2601	11153	No	70.17	Si
SLU 71	1.63	1927.37	-11951	-9952	2	1.02	1.02	-34845	10833	3570	40441	8552	2601	11153	No	5715.17	Si
SLU 71	3.53	2393.69	-9582	-7979	-157	1.02	0.7806	-27939	10670	3044	40441	8552	2601	11153	No	70.99	Si
SLU 67	1.63	1932.82	-12005	-9997	2	1.02	1.02	-35003	10833	3582	40441	8552	2601	11153	No	5916.84	Si
SLU 67	3.53	2401.57	-9631	-8020	-158	1.02	0.7819	-28080	10688	3055	40441	8552	2601	11153	No	70.55	Si
SLU 72	1.63	1936.72	-12031	-10018	2	1.02	1.02	-35077	10833	3588	40441	8552	2601	11153	No	5634.78	Si
SLU 72	3.53	2407.31	-9652	-8038	-161	1.02	0.7818	-28143	10697	3060	40441	8552	2601	11153	No	69.37	Si
SLU 78	1.63	2158.54	-13483	-11228	3	1.02	1.02	-39313	10833	3911	40441	8552	2601	11153	No	4063.96	Si
SLU 78	3.53	2698.2	-10943	-9113	-157	1.02	0.7903	-31907	10833	3347	40441	8552	2601	11153	No	71.2	Si
SLU 69	1.63	1942.99	-12052	-10036	2	1.02	1.02	-35140	10833	3593	40441	8552	2601	11153	No	5751.23	Si
SLU 69	3.53	2413.94	-9673	-8055	-159	1.02	0.7813	-28203	10705	3064	40441	8552	2601	11153	No	70	Si
SLU 68	1.63	1923.42	-11957	-9957	2	1.02	1.02	-34862	10833	3572	40441	8552	2601	11153	No	5821.73	Si
SLU 68	3.53	2390.4	-9587	-7983	-158	1.02	0.782	-27952	10671	3045	40441	8552	2601	11153	No	70.45	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 70	1.63	1952.34	-12132	-10102	2	1.02	1.02	-35372	10833	3610	40441	8552	2601	11153	No	5669.83	Si
SLU 70	3.53	2427.56	-9743	-8113	-163	1.02	0.7825	-28407	10732	3080	40441	8552	2601	11153	No	68.42	Si
SLU 48	1.63	1703.29	-10511	-8752	2	1.02	1.02	-30646	10833	3250	40441	8552	2601	11153	No	5546.97	Si
SLU 48	3.53	2105.27	-8317	-6926	-158	1.02	0.7706	-24249	10178	2763	40441	8552	2601	11153	No	70.81	Si
SLU 49	1.63	1712.64	-10590	-8819	2	1.02	1.02	-30877	10833	3268	40441	8552	2601	11153	No	5471.21	Si
SLU 49	3.53	2118.89	-8387	-6984	-161	1.02	0.7721	-24454	10205	2779	40441	8552	2601	11153	No	69.2	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	0	-523	89.68	0	0	No, e>t/2
SLV 11	179667	0.3	0	-567	89.68	0	0	No, e>t/2
SLV 8	179667	0.3	5332	-1523	89.68	205.74	2.29	Si
SLV 7	179667	0.3	5486	-1567	89.68	211.46	2.36	Si
SLV 16	179667	0.3	16291	-4653	89.68	581.91	6.49	Si
SLV 15	179667	0.3	16520	-4718	89.68	589.08	6.57	Si
SLV 4	179667	0.3	27959	-7985	89.68	913.26	10.18	Si
SLV 3	179667	0.3	28188	-8050	89.68	919.04	10.25	Si
SLV 14	179667	0.3	32218	-9201	89.68	1016.44	11.33	Si
SLV 13	179667	0.3	32447	-9267	89.68	1021.71	11.39	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-11039	-13625	-138	0.508	1271.5	0.965	7.64717	3.94002	Si
SLV 10	-10777	-13453	-138	0.518	1244.9	0.964	7.8112	3.94002	Si
SLV 5	-10550	-13809	-125	0.529	1221.7	0.964	7.97559	3.94002	Si
SLV 6	-10288	-13637	-125	0.54	1195.1	0.963	8.15485	3.94002	Si
SLV 13	-8033	-8990	-68	0.673	965.8	0.955	10.23872	4.61192	Si
SLV 14	-7644	-8735	-67	0.702	926.3	0.953	10.6961	4.61192	Si
SLV 1	-6403	-9605	-25	0.819	800.3	0.947	12.57597	4.61192	Si
SLV 2	-6014	-9350	-25	0.863	760.8	0.945	13.28049	4.61192	Si
SLV 15	-4913	-5167	5	1.022	649.3	0.937	15.85145	4.61192	Si
SLV 16	-4524	-4912	6	1.092	610	0.933	16.99573	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.511	SLU 84	Si
V_SLU	68.419	SLU 70	Si
PFFP_SLV	0	SLV 11	No
R_SLV	1.941	SLV 9	Si

Maschio 62

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L4	L5	3.211	0.14	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.73	450.96	-27675	-0.0000822	0.0004492	0.0035	3.2107	22041.24	36309.71	36309.71	80.52	No	Si
SLU 83	2.83	-7039.47	-23996	-0.0001089	0.0004492	0.0035	3.2107	21691.57	37009.96	37009.96	5.26	No	Si
SLU 64	0.73	467.03	-23971	-0.0000708	0.0004492	0.0035	3.2107	21686.42	32255.07	32255.07	69.06	No	Si
SLU 64	2.83	-6305.28	-20417	-0.000093	0.0004492	0.0035	3.2107	20591.95	33139.2	33139.2	5.26	No	Si
SLU 69	0.73	497.54	-24697	-0.0000732	0.0004492	0.0035	3.2107	21819.12	33086.95	33086.95	66.5	No	Si
SLU 69	2.83	-6423.97	-21150	-0.000096	0.0004492	0.0035	3.2107	20878.23	33942.46	33942.46	5.28	No	Si
SLU 79	0.73	475.08	-26913	-0.00008	0.0004492	0.0035	3.2107	22033.79	35627.75	35627.75	74.99	No	Si
SLU 79	2.83	-6860.02	-23276	-0.0001055	0.0004492	0.0035	3.2107	21530.54	36271.25	36271.25	5.29	No	Si
SLU 74	0.73	461.04	-26832	-0.0000796	0.0004492	0.0035	3.2107	22030.99	35534.53	35534.53	77.07	No	Si
SLU 74	2.83	-6884.53	-23193	-0.0001054	0.0004492	0.0035	3.2107	21510.02	36180.28	36180.28	5.26	No	Si
SLU 81	0.73	436.11	-27406	-0.0000813	0.0004492	0.0035	3.2107	22042.48	36070.65	36070.65	82.71	No	Si
SLU 81	2.83	-7008.07	-23724	-0.0001078	0.0004492	0.0035	3.2107	21634.28	36731.9	36731.9	5.24	No	Si
SLU 71	0.73	496.73	-24509	-0.0000726	0.0004492	0.0035	3.2107	21787.75	32871.8	32871.8	66.18	No	Si
SLU 71	2.83	-6368.07	-20961	-0.0000951	0.0004492	0.0035	3.2107	20807.43	33735.35	33735.35	5.3	No	Si
SLU 66	0.73	482.69	-24428	-0.0000723	0.0004492	0.0035	3.2107	21773.52	32778.58	32778.58	67.91	No	Si
SLU 66	2.83	-6392.58	-20878	-0.000095	0.0004492	0.0035	3.2107	20775.67	33644.38	33644.38	5.26	No	Si
SLU 43	0.73	447.7	-21027	-0.0000618	0.0004492	0.0035	3.2107	20832.53	28881.18	28881.18	64.51	No	Si
SLU 43	2.83	-5662.57	-17673	-0.0000807	0.0004492	0.0035	3.2107	19242.19	29975.8	29975.8	5.29	No	Si
SLU 77	0.73	475.89	-27101	-0.0000806	0.0004492	0.0035	3.2107	22038.77	35799.91	35799.91	75.23	No	Si
SLU 77	2.83	-6915.93	-23465	-0.0001064	0.0004492	0.0035	3.2107	21575.76	36467.38	36467.38	5.27	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	0.73	4806.24	-13348	-0.0000617	0.0006738	0.0035	3.2107		20537.04	20537.04	4.27		Si
SLD 11	2.83	-6651.82	-7915	-0.000061	0.0006738	0.0035	3.2107		17628.48	17628.48	2.65		Si
SLV 16	0.73	2075.71	-14047	-0.0000493	0.0006738	0.0035	3.2107		21477.22	21477.22	10.35		Si
SLV 16	2.83	-5527.22	-8046	-0.0000514	0.0006738	0.0035	3.2107		17814.4	17814.4	3.22		Si
SLD 8	0.73	5173.7	-13736	-0.0000647	0.0006738	0.0035	3.2107		21058.17	21058.17	4.07		Si
SLD 8	2.83	-6851.21	-9245	-0.0000631	0.0006738	0.0035	3.2107		19519.26	19519.26	2.85		Si
SLV 8	0.73	8578	-10363	-0.0000794	0.0006738	0.0035	3.2107		16443.53	16443.53	1.92		Si
SLV 8	2.83	-8246.11	-4570	-0.0002908	0.0006738	0.0035	2.5686		12803.34	12803.34	1.55		Si
SLD 12	0.73	4897.64	-13130	-0.0000615	0.0006738	0.0035	3.2107		20243.6	20243.6	4.13		Si
SLD 12	2.83	-6712.69	-7797	-0.0000617	0.0006738	0.0035	3.2107		17460.95	17460.95	2.6		Si
SLD 7	0.73	5082.3	-13954	-0.0000649	0.0006738	0.0035	3.2107		21351.61	21351.61	4.2		Si
SLD 7	2.83	-6790.35	-9363	-0.0000628	0.0006738	0.0035	3.2107		19686.78	19686.78	2.9		Si
SLV 12	0.73	8120.49	-9381	-0.0000753	0.0006738	0.0035	3.2107		15062.89	15062.89	1.85		Si
SLV 12	2.83	-8025.53	-2234	-0.0004549	0.0006738	0.0035	2.5686		9309.64	9309.64	1.16		Si
SLV 7	0.73	8427.37	-10723	-0.0000779	0.0006738	0.0035	3.2107		16944.09	16944.09	2.01		Si
SLV 7	2.83	-8145.82	-4764	-0.0002592	0.0006738	0.0035	2.5686		13091.53	13091.53	1.61		Si
SLV 11	0.73	7969.86	-9741	-0.0000734	0.0006738	0.0035	3.2107		15571.95	15571.95	1.95		Si
SLV 11	2.83	-7925.23	-2428	-0.0004362	0.0006738	0.0035	2.5686		9602.74	9602.74	1.21		Si
SLV 15	0.73	1851.97	-14581	-0.0000496	0.0006738	0.0035	3.2107		22185.01	22185.01	11.98		Si
SLV 15	2.83	-5378.24	-8334	-0.0000509	0.0006738	0.0035	3.2107		18224.46	18224.46	3.39		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.73	359.11	-26959	-14947	4663	3.2107	3.2107	-33254	10833	7502	115546	16154	16375	32528	No	6.98	Si
SLU 80	2.83	-6718.15	-23391	-12969	4044	3.2107	3.2107	-28853	10833	6810	115546	16154	16375	32528	No	8.04	Si
SLU 84	0.73	334.98	-27720	-15370	4783	3.2107	3.2107	-34193	10833	7650	115546	16154	16375	32528	No	6.8	Si
SLU 84	2.83	-6897.59	-24111	-13369	4144	3.2107	3.2107	-29742	10833	6950	115546	16154	16375	32528	No	7.85	Si
SLU 79	0.73	475.08	-26913	-14922	4867	3.2107	3.2107	-33198	10833	7493	115546	16154	16375	32528	No	6.68	Si
SLU 79	2.83	-6860.02	-23276	-12906	4177	3.2107	3.2107	-28711	10833	6788	115546	16154	16375	32528	No	7.79	Si
SLU 82	0.73	320.13	-27451	-15220	4759	3.2107	3.2107	-33861	10833	7598	115546	16154	16375	32528	No	6.84	Si
SLU 82	2.83	-6866.19	-23839	-13218	4126	3.2107	3.2107	-29406	10833	6897	115546	16154	16375	32528	No	7.88	Si
SLU 83	0.73	450.96	-27675	-15344	4987	3.2107	3.2107	-34137	10833	7641	115546	16154	16375	32528	No	6.52	Si
SLU 83	2.83	-7039.47	-23996	-13305	4277	3.2107	3.2107	-29599	10833	6927	115546	16154	16375	32528	No	7.6	Si
SLU 77	0.73	475.89	-27101	-15026	4897	3.2107	3.2107	-33429	10833	7530	115546	16154	16375	32528	No	6.64	Si
SLU 77	2.83	-6915.93	-23465	-13010	4202	3.2107	3.2107	-28944	10833	6824	115546	16154	16375	32528	No	7.74	Si
SLU 75	0.73	345.06	-26877	-14902	4669	3.2107	3.2107	-33153	10833	7486	115546	16154	16375	32528	No	6.97	Si
SLU 75	2.83	-6742.65	-23308	-12923	4051	3.2107	3.2107	-28751	10833	6794	115546	16154	16375	32528	No	8.03	Si
SLU 78	0.73	359.91	-27146	-15051	4693	3.2107	3.2107	-33485	10833	7539	115546	16154	16375	32528	No	6.93	Si
SLU 78	2.83	-6774.05	-23580	-13074	4069	3.2107	3.2107	-29087	10833	6847	115546	16154	16375	32528	No	7.99	Si
SLU 74	0.73	461.04	-26832	-14877	4872	3.2107	3.2107	-33097	10833	7478	115546	16154	16375	32528	No	6.68	Si
SLU 74	2.83	-6884.53	-23193	-12859	4184	3.2107	3.2107	-28609	10833	6772	115546	16154	16375	32528	No	7.77	Si
SLU 81	0.73	436.11	-27406	-15195	4962	3.2107	3.2107	-33805	10833	7589	115546	16154	16375	32528	No	6.56	Si
SLU 81	2.83	-7008.07	-23724	-13154	4259	3.2107	3.2107	-29264	10833	6875	115546	16154	16375	32528	No	7.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	0.73	5082.3	-13954	-7737	8028	3.2107	3.2107	-17212	15942	7166	115546	24231	16375	40605		5.06	Si
SLD 7	2.83	-6790.35	-9363	-5191	7663	3.2107	2.6402	-14134	15327	5665	115546	24231	16375	40605		5.3	Si
SLD 12	0.73	4897.64	-13130	-7280	8609	3.2107	3.2107	-16196	15739	7075	115546	24231	16375	40605		4.72	Si
SLD 12	2.83	-6712.69	-7797	-4323	8225	3.2107	2.2334	-13902	15282	4920	115546	24231	16375	40605		4.94	Si
SLD 11	0.73	4806.24	-13348	-7401	8621	3.2107	3.2107	-16465	15793	7099	115546	24231	16375	40605		4.71	Si
SLD 11	2.83	-6651.82	-7915	-4389	8226	3.2107	2.2949	-13736	15248	4943	115546	24231	16375	40605		4.94	Si
SLD 8	0.73	5173.7	-13736	-7616	8016	3.2107	3.2107	-16943	15889	7142	115546	24231	16375	40605		5.07	Si
SLD 8	2.83	-6851.21	-9245	-5126	7662	3.2107	2.5928	-14211	15343	5569	115546	24231	16375	40605		5.3	Si
SLV 8	0.73	8578	-10363	-5746	11264	3.2107	2.3329	-12783	15057	5418	115546	24231	16375	40605		3.6	Si
SLV 8	2.83	-8246.11	-4570	-2534	10992	2.5686	0	0	0	0	115546	19385	13100	32484		2.96	Si
SLV 12	0.73	8120.49	-9381	-5202	12232	3.2107	2.2192	-11572	14814	5228	115546	24231	16375	40605		3.32	Si
SLV 12	2.83	-8025.53	-2234	-1238	11913	2.5686	0	0	0	0	115546	19385	13100	32484		2.73	Si
SLV 11	0.73	7969.86	-9741	-5401	12251	3.2107	2.3615	-12015	14903	5297	115546	24231	16375	40605		3.31	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	2.83	-7925.23	-2428	-1346	11914	2.5686	0	0	0	0	115546	19385	13100	32484		2.73	Si
SLV 7	0.73	8427.37	-10723	-5945	11283	3.2107	2.4583	-13227	15145	5488	115546	24231	16375	40605		3.6	Si
SLV 7	2.83	-8145.82	-4764	-2642	10994	2.5686	0	0	0	0	115546	19385	13100	32484		2.95	Si
SLV 15	0.73	1851.97	-14581	-8085	7573	3.2107	3.2107	-17986	16097	7236	115546	24231	16375	40605		5.36	Si
SLV 15	2.83	-5378.24	-8334	-4621	7057	3.2107	2.8801	-11509	14802	5968	115546	24231	16375	40605		5.75	Si
SLV 16	0.73	2075.71	-14047	-7788	7544	3.2107	3.2107	-17327	15965	7176	115546	24231	16375	40605		5.38	Si
SLV 16	2.83	-5527.22	-8046	-4461	7054	3.2107	2.7552	-11628	14826	5719	115546	24231	16375	40605		5.76	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-3363	0.3	153.62	225.79	496.96	361.37	2.35	Si
SLV 11	-3617	0.3	153.62	242.07	519.17	380.62	2.48	Si
SLV 8	-5518	0.3	153.62	360.39	684.05	522.22	3.4	Si
SLV 7	-5772	0.3	153.62	375.74	705.84	540.79	3.52	Si
SLV 16	-9019	0.3	153.62	562.21	982.44	772.32	5.03	Si
SLV 15	-9396	0.3	153.62	582.73	1014.4	798.56	5.2	Si
SLV 14	-16075	0.3	153.62	905.69	1563.07	1234.38	8.04	Si
SLV 4	-16203	0.3	153.62	911.13	1573.31	1242.22	8.09	Si
SLV 13	-16452	0.3	153.62	921.68	1593.31	1257.49	8.19	Si
SLV 3	-16580	0.3	153.62	927.04	1603.55	1265.3	8.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.03 Ta = 0.1607

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-18143	-22911	-241	0.927	2079.4	0.966	13.94466	8.23645	Si
SLV 2	-17986	-22377	-241	0.934	2063.4	0.966	14.05793	8.23645	Si
SLV 3	-14674	-17855	-218	1.123	1726.5	0.96	17.00842	8.23645	Si
SLV 4	-14517	-17321	-218	1.134	1710.5	0.96	17.17803	8.23645	Si
SLV 5	-20396	-27577	-106	0.84	2308.8	0.969	12.58997	5.86761	Si
SLV 6	-20290	-27217	-107	0.844	2298	0.969	12.65123	5.86761	Si
SLV 13	-13092	-19637	222	1.243	1565.7	0.956	18.8907	8.23645	Si
SLV 9	-18881	-26595	32	0.904	2154.5	0.967	13.58821	5.86761	Si
SLV 14	-12936	-19103	222	1.256	1549.7	0.956	19.10136	8.23645	Si
SLV 10	-18775	-26235	32	0.909	2143.8	0.967	13.65983	5.86761	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.241	SLU 81	Si
V_SLU	6.523	SLU 83	Si
PF_SLV	1.16	SLV 12	Si
V_SLV	2.726	SLV 11	Si
PFFP_SLV	2.352	SLV 12	Si
R_SLV	1.693	SLV 1	Si

Maschio 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.343	-3.169	L4	L5	1.59	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.73	-9262.13	-18142	-0.0003561	0.0003743	0.0035	1.2717	8646.28	10849.89	10849.89	1.17	No	Si
SLU 83	2.83	1857.08	-15938	-0.0000845	0.0003743	0.0035	1.5896	8211.89	9641.51	9641.51	5.19	No	Si
SLU 74	0.73	-8959.54	-17572	-0.0003307	0.0003743	0.0035	1.2717	8550.32	10623.83	10623.83	1.19	No	Si
SLU 74	2.83	1788.51	-15368	-0.0000811	0.0003743	0.0035	1.5896	8071.86	9376.7	9376.7	5.24	No	Si
SLU 77	0.73	-9041.71	-17750	-0.0003365	0.0003743	0.0035	1.2717	8581.51	10693.85	10693.85	1.18	No	Si
SLU 77	2.83	1790.11	-15546	-0.0000818	0.0003743	0.0035	1.5896	8116.81	9468.11	9468.11	5.29	No	Si
SLU 81	0.73	-9179.95	-17964	-0.0003496	0.0003743	0.0035	1.2717	8617.54	10778.73	10778.73	1.17	No	Si
SLU 81	2.83	1855.48	-15760	-0.0000837	0.0003743	0.0035	1.5896	8169.39	9570.78	9570.78	5.16	No	Si
SLU 82	0.73	-9208.93	-18044	-0.0003513	0.0003743	0.0035	1.2717	8630.52	10810.45	10810.45	1.17	No	Si
SLU 82	2.83	1851.92	-15839	-0.000084	0.0003743	0.0035	1.5896	8188.51	9607.57	9607.57	5.19	No	Si
SLU 78	0.73	-9070.69	-17830	-0.0003381	0.0003743	0.0035	1.2717	8595.08	10725.29	10725.29	1.18	No	Si
SLU 78	2.83	1786.55	-15625	-0.0000821	0.0003743	0.0035	1.5896	8136.52	9506.86	9506.86	5.32	No	Si
SLU 75	0.73	-8988.51	-17652	-0.0003322	0.0003743	0.0035	1.2717	8564.39	10655.04	10655.04	1.19	No	Si
SLU 75	2.83	1784.95	-15447	-0.0000813	0.0003743	0.0035	1.5896	8092.07	9417.61	9417.61	5.28	No	Si
SLU 80	0.73	-9010.08	-17705	-0.0003335	0.0003743	0.0035	1.2717	8573.75	10676.14	10676.14	1.18	No	Si
SLU 80	2.83	1771.9	-15501	-0.0000814	0.0003743	0.0035	1.5896	8105.58	9445.24	9445.24	5.33	No	Si
SLU 79	0.73	-8981.11	-17626	-0.000332	0.0003743	0.0035	1.2717	8559.83	10644.86	10644.86	1.19	No	Si
SLU 79	2.83	1775.46	-15421	-0.0000811	0.0003743	0.0035	1.5896	8085.51	9404.28	9404.28	5.3	No	Si
SLU 84	0.73	-9291.1	-18222	-0.0003579	0.0003743	0.0035	1.2717	8658.76	10881.83	10881.83	1.17	No	Si
SLU 84	2.83	1853.52	-16017	-0.0000848	0.0003743	0.0035	1.5896	8230.51	9666.55	9666.55	5.22	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	0.73	-9859.07	-13224	-0.0028755	0.0005615	0.0035	1.2717		9638.62	9638.62	0.98		No
SLV 15	2.83	5330.07	-11246	-0.0001354	0.0005615	0.0035	1.5896		7787.88	7787.88	1.46		Si
SLV 16	0.73	-9147.25	-12603	-0.001728	0.0005615	0.0035	1.2717		9279.43	9279.43	1.01		Si
SLV 16	2.83	4584.67	-10625	-0.0001108	0.0005615	0.0035	1.5896		7408.84	7408.84	1.62		Si
SLD 11	0.73	-5672.46	-8264	-0.0003192	0.0005615	0.0035	1.2717		6606.71	6606.71	1.16		Si
SLD 11	2.83	1858.12	-6045	-0.0000446	0.0005615	0.0035	1.5896		4621.7	4621.7	2.49		Si
SLV 11	0.73	-5234.41	-5477	-0.0016068	0.0005615	0.0035	1.2717		4724.48	4724.48	0.9		No
SLV 11	2.83	2205.88	-2860	-0.000435	0.0005615	0.0035	1.2717		2340.85	2340.85	1.06		Si
SLV 13	0.73	-11278.25	-17876	-0.000749	0.0005615	0.0035	1.2717		12106.11	12106.11	1.07		Si
SLV 13	2.83	5574.56	-16453	-0.0001399	0.0005615	0.0035	1.5896		10724.35	10724.35	1.92		Si
SLV 12	0.73	-4755.2	-5058	-0.0012978	0.0005615	0.0035	1.2717		4432.71	4432.71	0.93		No
SLV 12	2.83	1704.06	-2442	-0.0000938	0.0005615	0.0035	1.5896		2028.99	2028.99	1.19		Si
SLD 16	0.73	-8103.54	-12541	-0.0003988	0.0005615	0.0035	1.2717		9242.53	9242.53	1.14		Si
SLD 16	2.83	3374.07	-10686	-0.0000826	0.0005615	0.0035	1.5896		7445.8	7445.8	2.21		Si
SLV 14	0.73	-10566.43	-17254	-0.000505	0.0005615	0.0035	1.2717		11797.11	11797.11	1.12		Si
SLV 14	2.83	4829.16	-15831	-0.0001237	0.0005615	0.0035	1.5896		10430.5	10430.5	2.16		Si
SLD 13	0.73	-9391.19	-15660	-0.0003802	0.0005615	0.0035	1.2717		10971.89	10971.89	1.17		Si
SLD 13	2.83	3989.29	-14122	-0.0001038	0.0005615	0.0035	1.5896		9578.43	9578.43	2.4		Si
SLD 15	0.73	-8555.13	-12935	-0.0004968	0.0005615	0.0035	1.2717		9475.84	9475.84	1.11		Si
SLD 15	2.83	3846.96	-11080	-0.0000924	0.0005615	0.0035	1.5896		7686.11	7686.11	2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.73	-9262.13	-18142	-15107	-5294	1.2717	0.8528	0	0	0	40441	10662	3243	13905	No	2.63	Si
SLU 83	2.83	1857.08	-15938	-13271	-5294	1.5896	1.5896	-29818	10833	4967	40441	13328	4053	17381	No	3.28	Si
SLU 80	0.73	-9010.08	-17705	-14743	-5134	1.2717	0.8577	0	0	0	40441	10662	3243	13905	No	2.71	Si
SLU 80	2.83	1771.9	-15501	-12908	-5134	1.5896	1.5896	-29001	10811	4870	40441	13328	4053	17381	No	3.39	Si
SLU 79	0.73	-8981.11	-17626	-14677	-5122	1.2717	0.8557	0	0	0	40441	10662	3243	13905	No	2.71	Si
SLU 79	2.83	1775.46	-15421	-12842	-5122	1.5896	1.5896	-28852	10791	4853	40441	13328	4053	17381	No	3.39	Si
SLU 74	0.73	-8959.54	-17572	-14633	-5118	1.2717	0.8548	0	0	0	40441	10662	3243	13905	No	2.72	Si
SLU 74	2.83	1788.51	-15368	-12797	-5118	1.5896	1.5896	-28752	10778	4841	40441	13328	4053	17381	No	3.4	Si
SLU 81	0.73	-9179.95	-17964	-14959	-5254	1.2717	0.8513	0	0	0	40441	10662	3243	13905	No	2.65	Si
SLU 81	2.83	1855.48	-15760	-13123	-5254	1.5896	1.5896	-29485	10833	4928	40441	13328	4053	17381	No	3.31	Si
SLU 77	0.73	-9041.71	-17750	-14781	-5158	1.2717	0.8562	0	0	0	40441	10662	3243	13905	No	2.7	Si
SLU 77	2.83	1790.11	-15546	-12945	-5158	1.5896	1.5896	-29085	10822	4880	40441	13328	4053	17381	No	3.37	Si
SLU 78	0.73	-9070.69	-17830	-14847	-5170	1.2717	0.8581	0	0	0	40441	10662	3243	13905	No	2.69	Si
SLU 78	2.83	1786.55	-15625	-13011	-5170	1.5896	1.5896	-29233	10833	4898	40441	13328	4053	17381	No	3.36	Si
SLU 82	0.73	-9208.93	-18044	-15025	-5267	1.2717	0.8533	0	0	0	40441	10662	3243	13905	No	2.64	Si
SLU 82	2.83	1851.92	-15839	-13189	-5267	1.5896	1.5896	-29634	10833	4945	40441	13328	4053	17381	No	3.3	Si
SLU 84	0.73	-9291.1	-18222	-15173	-5306	1.2717	0.8547	0	0	0	40441	10662	3243	13905	No	2.62	Si
SLU 84	2.83	1853.52	-16017	-13338	-5306	1.5896	1.5896	-29967	10833	4985	40441	13328	4053	17381	No	3.28	Si
SLU 75	0.73	-8988.51	-17652	-14699	-5130	1.2717	0.8567	0	0	0	40441	10662	3243	13905	No	2.71	Si
SLU 75	2.83	1784.95	-15447	-12863	-5130	1.5896	1.5896	-28900	10798	4858	40441	13328	4053	17381	No	3.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	0.73	-8103.54	-12541	-10443	-5508	1.2717	0.4458	0	0	0	40441	15993	3243	19236		3.49	Si
SLD 16	2.83	3374.07	-10686	-8898	-5380	1.5896	1.4371	-19992	14415	5800	40441	19992	4053	24045		4.47	Si
SLV 15	0.73	-9859.07	-13224	-11012	-7302	1.2717	0.1478	0	0	0	40441	15993	3243	19236		2.63	Si
SLV 15	2.83	5330.07	-11246	-9365	-7098	1.5896	0.9625	-21041	14625	4640	40441	19992	4053	24045		3.39	Si
SLD 14	0.73	-8939.6	-15265	-12712	-5950	1.2717	0.6275	0	0	0	40441	15993	3243	19236		3.23	Si
SLD 14	2.83	3516.4	-13728	-11431	-5859	1.5896	1.5896	-25683	15553	6922	40441	19992	4053	24045		4.1	Si
SLV 9	0.73	-9965	-20981	-17471	-6126	1.2717	0.9595	0	0	0	40441	15993	3243	19236		3.14	Si
SLV 9	2.83	3020.86	-20215	-16834	-6185	1.5896	1.5896	-37821	16250	7233	40441	19992	4053	24045		3.89	Si
SLD 13	0.73	-9391.19	-15660	-13040	-6390	1.2717	0.5852	0	0	0	40441	15993	3243	19236		3.01	Si
SLD 13	2.83	3989.29	-14122	-11759	-6299	1.5896	1.5369	-26421	15701	6757	40441	19992	4053	24045		3.82	Si
SLV 10	0.73	-9485.79	-20562	-17122	-5659	1.2717	1.0004	0	0	0	40441	15993	3243	19236		3.4	Si
SLV 10	2.83	2519.04	-19797	-16485	-5717	1.5896	1.5896	-37039	16250	7233	40441	19992	4053	24045		4.21	Si
SLD 15	0.73	-8555.13	-12935	-10771	-5948	1.2717	0.4002	0	0	0	40441	15993	3243	19236		3.23	Si
SLD 15	2.83	3846.96	-11080	-9226	-5820	1.5896	1.3428	-20730	14563	5475	40441	19992	4053	24045		4.13	Si
SLV 16	0.73	-9147.25	-12603	-10495	-6608	1.2717	0.207	0	0	0	40441	15993	3243	19236		2.91	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	2.83	4584.67	-10625	-8847	-6404	1.5896	1.0899	-19878	14392	4502	40441	19992	4053	24045		3.75	Si
SLV 13	0.73	-11278.25	-17876	-14885	-8051	1.2717	0.4916	0	0	0	40441	15993	3243	19236		2.39	Si
SLV 13	2.83	5574.56	-16453	-13700	-7913	1.5896	1.3679	-30782	16250	6224	40441	19992	4053	24045		3.04	Si
SLV 14	0.73	-10566.43	-17254	-14368	-7357	1.2717	0.5472	0	0	0	40441	15993	3243	19236		2.61	Si
SLV 14	2.83	4829.16	-15831	-13183	-7219	1.5896	1.4693	-29619	16250	6685	40441	19992	4053	24045		3.33	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	0	-762	139.77	0	0	No, e>t/2
SLV 7	179667	0.3	2653	-1181	139.77	162.42	1.16	Si
SLV 12	179667	0.3	5986	-2664	139.77	358.37	2.56	Si
SLV 11	179667	0.3	6926	-3083	139.77	411.99	2.95	Si
SLV 4	179667	0.3	10149	-4517	139.77	590.39	4.22	Si
SLV 3	179667	0.3	11545	-5139	139.77	665.03	4.76	Si
SLV 2	179667	0.3	21849	-9725	139.77	1166.68	8.35	Si
SLV 1	179667	0.3	23245	-10346	139.77	1227.98	8.79	Si
SLV 16	179667	0.3	24393	-10857	139.77	1277.19	9.14	Si
SLV 15	179667	0.3	25789	-11478	139.77	1335.6	9.56	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-13309	-18659	-460	0.615	1585.4	0.957	9.33736	3.94002	Si
SLV 5	-13055	-19078	-460	0.625	1559.6	0.956	9.49673	3.94002	Si
SLV 10	-12030	-20562	-473	0.669	1455.4	0.954	10.18945	3.94002	Si
SLV 9	-11776	-20981	-473	0.681	1429.6	0.953	10.38164	3.94002	Si
SLV 2	-9846	-10912	-109	0.823	1233.6	0.947	12.63007	4.61192	Si
SLV 1	-9469	-11533	-109	0.85	1195.4	0.945	13.06563	4.61192	Si
SLV 14	-5582	-17254	-150	1.291	802.5	0.924	20.31005	4.61192	Si
SLV 4	-5545	-6260	180	1.293	798.8	0.924	20.35207	4.61192	Si
SLV 13	-5204	-17876	-150	1.362	764.6	0.921	21.49026	4.61192	Si
SLV 3	-5168	-6882	180	1.365	760.9	0.921	21.54161	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.171	SLU 84	Si
V_SLU	2.62	SLU 84	Si
PF_SLV	0.903	SLV 11	No
V_SLV	2.389	SLV 13	Si
PFFP_SLV	0	SLV 8	No
R_SLV	2.37	SLV 6	Si

Maschio 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.661	L4	L5	4.455	0.14	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	0.73	3364.89	-58027	-0.0001374	0.0004492	0.0035	4.455	30836.97	93279.29	93279.29	27.72	No	Si
SLU 43	2.83	-6231.31	-40281	-0.000103	0.0004492	0.0035	4.455	42300	80943.66	80943.66	12.99	No	Si
SLU 44	0.73	2469.26	-57890	-0.000134	0.0004492	0.0035	4.455	30995.66	93162.68	93162.68	37.73	No	Si
SLU 44	2.83	-6530.33	-40201	-0.0001037	0.0004492	0.0035	4.455	42309.99	80838.83	80838.83	12.38	No	Si
SLU 41	0.73	7388.98	-63570	-0.000166	0.0004492	0.0035	4.455	23483.43	98006.43	98006.43	13.26	No	Si
SLU 41	2.83	-4414.31	-43618	-0.0001052	0.0004492	0.0035	4.455	41549.9	85175.97	85175.97	19.3	No	Si
SLU 46	0.73	3328.27	-59410	-0.0001408	0.0004492	0.0035	4.455	29170.72	94458.5	94458.5	28.38	No	Si
SLU 46	2.83	-6299.94	-41195	-0.0001054	0.0004492	0.0035	4.455	42159.23	82142.81	82142.81	13.04	No	Si
SLU 51	0.73	3581.18	-59822	-0.0001427	0.0004492	0.0035	4.455	28651.71	94810.48	94810.48	26.47	No	Si
SLU 51	2.83	-6209.64	-41461	-0.0001057	0.0004492	0.0035	4.455	42109.12	82491.55	82491.55	13.28	No	Si
SLU 35	0.73	7234.87	-62704	-0.0001631	0.0004492	0.0035	4.455	24750.9	97267.76	97267.76	13.44	No	Si
SLU 35	2.83	-4389.81	-43054	-0.0001038	0.0004492	0.0035	4.455	41722.46	84493.73	84493.73	19.25	No	Si
SLU 47	0.73	2846.1	-58829	-0.0001376	0.0004492	0.0035	4.455	29884.12	93963.26	93963.26	33.01	No	Si
SLU 47	2.83	-6429.79	-40815	-0.0001049	0.0004492	0.0035	4.455	42223.7	81644.22	81644.22	12.7	No	Si
SLU 65	0.73	4242.48	-65982	-0.0001614	0.0004492	0.0035	4.455	19723	100063.29	100063.29	23.59	No	Si
SLU 65	2.83	-6537.56	-45685	-0.0001169	0.0004492	0.0035	4.455	40758.59	87675.87	87675.87	13.41	No	Si
SLU 45	0.73	3865.65	-59492	-0.0001428	0.0004492	0.0035	4.455	29068.34	94528.46	94528.46	24.45	No	Si
SLU 45	2.83	-6120.53	-41243	-0.0001049	0.0004492	0.0035	4.455	42150.5	82205.71	82205.71	13.43	No	Si
SLU 49	0.73	3705.11	-60348	-0.0001445	0.0004492	0.0035	4.455	27975.79	95259.08	95259.08	25.71	No	Si
SLU 49	2.83	-6199.4	-41809	-0.0001065	0.0004492	0.0035	4.455	42037.26	82948.2	82948.2	13.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.73	-36884.74	-45837	-0.000206	0.0006738	0.0035	4.455		92338.37	92338.37	2.5		Si
SLV 5	2.83	-20920.77	-33276	-0.0001267	0.0006738	0.0035	4.455		73741.71	73741.71	3.52		Si
SLV 11	0.73	44965.4	-55601	-0.0002584	0.0006738	0.0035	4.455		95892.04	95892.04	2.13		Si
SLV 11	2.83	11537.98	-36851	-0.0001075	0.0006738	0.0035	4.455		69717.7	69717.7	6.04		Si
SLV 6	0.73	-36966.9	-45670	-0.0002059	0.0006738	0.0035	4.455		92103.5	92103.5	2.49		Si
SLV 6	2.83	-21017.51	-33181	-0.0001268	0.0006738	0.0035	4.455		73590.18	73590.18	3.5		Si
SLV 7	0.73	44498.94	-58374	-0.0002635	0.0006738	0.0035	4.455		99374.3	99374.3	2.23		Si
SLV 7	2.83	11016.41	-38594	-0.0001098	0.0006738	0.0035	4.455		72522.64	72522.64	6.58		Si
SLV 12	0.73	44883.24	-55435	-0.0002577	0.0006738	0.0035	4.455		95683.05	95683.05	2.13		Si
SLV 12	2.83	11441.24	-36757	-0.000107	0.0006738	0.0035	4.455		69565.11	69565.11	6.08		Si
SLV 8	0.73	44416.78	-58208	-0.0002628	0.0006738	0.0035	4.455		99165.31	99165.31	2.23		Si
SLV 8	2.83	10919.67	-38499	-0.0001093	0.0006738	0.0035	4.455		72370.05	72370.05	6.63		Si
SLD 12	0.73	27964.94	-53387	-0.0001962	0.0006738	0.0035	4.455		93111.11	93111.11	3.33		Si
SLD 12	2.83	4744.19	-35995	-0.000086	0.0006738	0.0035	4.455		68340.06	68340.06	14.41		Si
SLV 9	0.73	-36418.28	-43064	-0.0001984	0.0006738	0.0035	4.455		88424.85	88424.85	2.43		Si
SLV 9	2.83	-20399.2	-31533	-0.0001212	0.0006738	0.0035	4.455		70956.15	70956.15	3.48		Si
SLD 11	0.73	28014.8	-53488	-0.0001966	0.0006738	0.0035	4.455		93237.94	93237.94	3.33		Si
SLD 11	2.83	4802.9	-36053	-0.0000863	0.0006738	0.0035	4.455		68432.66	68432.66	14.25		Si
SLV 10	0.73	-36500.44	-42897	-0.0001983	0.0006738	0.0035	4.455		88189.98	88189.98	2.42		Si
SLV 10	2.83	-20495.94	-31438	-0.0001213	0.0006738	0.0035	4.455		70804.62	70804.62	3.45		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.73	6629.51	-72940	-40442	-13787	4.455	4.455	-64842	10833	19779	115546	22414	22721	45135	No	3.27	Si
SLU 75	2.83	-6105.85	-50241	-27856	-14427	4.455	4.455	-44663	10833	14745	115546	22414	22721	45135	No	3.13	Si
SLU 78	0.73	7006.35	-73879	-40962	-13992	4.455	4.455	-65676	10833	19987	115546	22414	22721	45135	No	3.23	Si
SLU 78	2.83	-6005.31	-50855	-28197	-14643	4.455	4.455	-45209	10833	14881	115546	22414	22721	45135	No	3.08	Si
SLU 81	0.73	7321	-73888	-40968	-13878	4.455	4.455	-65685	10833	19989	115546	22414	22721	45135	No	3.25	Si
SLU 81	2.83	-5950.93	-50853	-28196	-14532	4.455	4.455	-45207	10833	14881	115546	22414	22721	45135	No	3.11	Si
SLU 82	0.73	6783.62	-73806	-40922	-14015	4.455	4.455	-65612	10833	19971	115546	22414	22721	45135	No	3.22	Si
SLU 82	2.83	-6130.35	-50805	-28169	-14664	4.455	4.455	-45165	10833	14870	115546	22414	22721	45135	No	3.08	Si
SLU 77	0.73	7543.72	-73961	-41008	-13854	4.455	4.455	-65749	10833	20005	115546	22414	22721	45135	No	3.26	Si
SLU 77	2.83	-5825.9	-50903	-28223	-14510	4.455	4.455	-45252	10833	14892	115546	22414	22721	45135	No	3.11	Si
SLU 79	0.73	7419.8	-73435	-40716	-13724	4.455	4.455	-65282	10833	19889	115546	22414	22721	45135	No	3.29	Si
SLU 79	2.83	-5836.13	-50555	-28030	-14374	4.455	4.455	-44942	10833	14815	115546	22414	22721	45135	No	3.14	Si
SLU 83	0.73	7697.83	-74827	-41488	-14083	4.455	4.455	-66519	10833	20198	115546	22414	22721	45135	No	3.21	Si
SLU 83	2.83	-5850.39	-51467	-28536	-14747	4.455	4.455	-45753	10833	15017	115546	22414	22721	45135	No	3.06	Si
SLU 76	0.73	6147.34	-72359	-40120	-13748	4.455	4.455	-64326	10833	19650	115546	22414	22721	45135	No	3.28	Si
SLU 76	2.83	-6235.7	-49861	-27646	-14379	4.455	4.455	-44325	10833	14661	115546	22414	22721	45135	No	3.14	Si
SLU 80	0.73	6882.43	-73353	-40671	-13861	4.455	4.455	-65209	10833	19871	115546	22414	22721	45135	No	3.26	Si
SLU 80	2.83	-6015.55	-50507	-28004	-14507	4.455	4.455	-44900	10833	14804	115546	22414	22721	45135	No	3.11	Si
SLU 84	0.73	7160.46	-74745	-41443	-14220	4.455	4.455	-66446	10833	20179	115546	22414	22721	45135	No	3.17	Si
SLU 84	2.83	-6029.81	-51419	-28510	-14880	4.455	4.455	-45711	10833	15006	115546	22414	22721	45135	No	3.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	0.73	-9046.75	-53253	-29527	-13573	4.455	4.455	-47341	16250	17215	115546	33621	22721	56342		4.15	Si
SLV 2	2.83	-10471.47	-37053	-20544	-13869	4.455	4.455	-32939	16250	13622	115546	33621	22721	56342		4.06	Si
SLV 6	0.73	-36966.9	-45670	-25322	-18485	4.455	4.2542	-43517	16250	15533	115546	33621	22721	56342		3.05	Si
SLV 6	2.83	-21017.51	-33181	-18398	-18336	4.455	4.455	-29497	16250	12763	115546	33621	22721	56342		3.07	Si
SLV 9	0.73	-36418.28	-43064	-23877	-17506	4.455	4.1455	-42070	16250	14955	115546	33621	22721	56342		3.22	Si
SLV 9	2.83	-20399.2	-31533	-17484	-17335	4.455	4.455	-28032	16250	12398	115546	33621	22721	56342		3.25	Si
SLD 9	0.73	-19667.58	-46111	-25567	-14054	4.455	4.455	-40992	16250	15631	115546	33621	22721	56342		4.01	Si
SLD 9	2.83	-13891.46	-32921	-18253	-14130	4.455	4.455	-29266	16250	12706	115546	33621	22721	56342		3.99	Si
SLV 10	0.73	-36500.44	-42897	-23785	-17425	4.455	4.1299	-42066	16250	14918	115546	33621	22721	56342		3.23	Si
SLV 10	2.83	-20495.94	-31438	-17431	-17252	4.455	4.455	-27948	16250	12377	115546	33621	22721	56342		3.27	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	0.73	-20016.3	-47784	-26494	-14681	4.455	4.455	-42479	16250	16002	115546	33621	22721	56342		3.84	Si
SLD 6	2.83	-14282.42	-33980	-18840	-14773	4.455	4.455	-30207	16250	12940	115546	33621	22721	56342		3.81	Si
SLD 10	0.73	-19717.44	-46010	-25511	-14005	4.455	4.455	-40902	16250	15608	115546	33621	22721	56342		4.02	Si
SLD 10	2.83	-13950.17	-32864	-18221	-14079	4.455	4.455	-29215	16250	12693	115546	33621	22721	56342		4	Si
SLV 1	0.73	-8924.72	-53501	-29664	-13693	4.455	4.455	-47561	16250	17269	115546	33621	22721	56342		4.11	Si
SLV 1	2.83	-10327.77	-37194	-20622	-13993	4.455	4.455	-33064	16250	13653	115546	33621	22721	56342		4.03	Si
SLV 5	0.73	-36884.74	-45837	-25414	-18566	4.455	4.2684	-43531	16250	15570	115546	33621	22721	56342		3.03	Si
SLV 5	2.83	-20920.77	-33276	-18450	-18420	4.455	4.455	-29582	16250	12784	115546	33621	22721	56342		3.06	Si
SLD 5	0.73	-19966.44	-47885	-26550	-14730	4.455	4.455	-42569	16250	16024	115546	33621	22721	56342		3.82	Si
SLD 5	2.83	-14223.72	-34037	-18872	-14823	4.455	4.455	-30258	16250	12953	115546	33621	22721	56342		3.8	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-31650	0.3	213.15	1602.1	2910.32	2256.21	10.59	Si
SLV 13	-31791	0.3	213.15	1606.49	2921.06	2263.77	10.62	Si
SLV 10	-31840	0.3	213.15	1608	2924.77	2266.38	10.63	Si
SLV 9	-31935	0.3	213.15	1610.93	2932	2271.47	10.66	Si
SLV 16	-33251	0.3	213.15	1650.55	3032.48	2341.52	10.99	Si
SLV 15	-33392	0.3	213.15	1654.66	3043.24	2348.95	11.02	Si
SLV 6	-33584	0.3	213.15	1660.2	3057.84	2359.02	11.07	Si
SLV 5	-33678	0.3	213.15	1662.93	3065.08	2364.01	11.09	Si
SLV 12	-37177	0.3	213.15	1756.03	3332.54	2544.28	11.94	Si
SLV 11	-37272	0.3	213.15	1758.34	3339.8	2549.07	11.96	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.03 Ta = 0.1607

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-23617	-57262	-416	0.979	2726.8	0.964	14.75293	8.23645	Si
SLV 4	-23540	-57015	-416	0.982	2718.9	0.964	14.79794	8.23645	Si
SLV 1	-22124	-53501	-424	1.038	2575	0.962	15.67164	8.23645	Si
SLV 2	-22047	-53253	-424	1.041	2567.1	0.962	15.72255	8.23645	Si
SLV 15	-20964	-48018	424	1.089	2456.9	0.961	16.47498	8.23645	Si
SLV 16	-20887	-47771	424	1.093	2449.1	0.961	16.53131	8.23645	Si
SLV 13	-19472	-44257	416	1.164	2305.2	0.959	17.64502	8.23645	Si
SLV 14	-19395	-44010	416	1.168	2297.3	0.958	17.70974	8.23645	Si
SLV 7	-24416	-58374	-113	0.961	2808.2	0.965	14.47415	5.86761	Si
SLV 8	-24365	-58208	-113	0.963	2802.9	0.965	14.50291	5.86761	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.379	SLU 44	Si
V_SLU	3.033	SLU 84	Si
PF_SLV	2.132	SLV 12	Si
V_SLV	3.035	SLV 5	Si
PFFP_SLV	10.585	SLV 14	Si
R_SLV	1.791	SLV 3	Si

Maschio 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L4	Z medio 275 cm	1.281	0.28	2.015	2.02	2.01			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	0.73	-440.78	-22082	-0.0001185	0.0003743	0.0035	1.2809	5589.82	8354.17	8354.17	18.95	No	Si
SLU 42	2.74	344.12	-19197	-0.000099	0.0003743	0.0035	1.2809	5830.84	7859.62	7859.62	22.84	No	Si
SLU 73	0.73	-438.1	-24465	-0.0001335	0.0003743	0.0035	1.2809	5170.44	8581.56	8581.56	19.59	No	Si
SLU 73	2.74	225.56	-21169	-0.0001074	0.0003743	0.0035	1.2809	5697.67	8103.43	8103.43	35.93	No	Si
SLU 76	0.73	-437.41	-24704	-0.000135	0.0003743	0.0035	1.2809	5117.42	8580.39	8580.39	19.62	No	Si
SLU 76	2.74	231.14	-21387	-0.0001089	0.0003743	0.0035	1.2809	5674.51	8131.65	8131.65	35.18	No	Si
SLU 36	0.73	-408.62	-21321	-0.000113	0.0003743	0.0035	1.2809	5681.68	8257.55	8257.55	20.21	No	Si
SLU 36	2.74	265.14	-18527	-0.0000933	0.0003743	0.0035	1.2809	5845.07	7778.19	7778.19	29.34	No	Si
SLU 40	0.73	-441.47	-21843	-0.000117	0.0003743	0.0035	1.2809	5620.86	8324.32	8324.32	18.86	No	Si
SLU 40	2.74	338.54	-18979	-0.0000976	0.0003743	0.0035	1.2809	5837.21	7833.79	7833.79	23.14	No	Si
SLU 82	0.73	-451.66	-25438	-0.0001403	0.0003743	0.0035	1.2809	4942.06	8578.65	8578.65	18.99	No	Si
SLU 82	2.74	306.45	-22096	-0.0001151	0.0003743	0.0035	1.2809	5587.94	8219.27	8219.27	26.82	No	Si
SLU 34	0.73	-427.22	-21109	-0.0001122	0.0003743	0.0035	1.2809	5703.71	8231.04	8231.04	19.27	No	Si
SLU 34	2.74	263.23	-18271	-0.0000918	0.0003743	0.0035	1.2809	5846.34	7713.94	7713.94	29.3	No	Si
SLU 33	0.73	-409.31	-21082	-0.0001116	0.0003743	0.0035	1.2809	5706.35	8227.74	8227.74	20.1	No	Si
SLU 33	2.74	259.56	-18309	-0.0000919	0.0003743	0.0035	1.2809	5846.3	7723.86	7723.86	29.76	No	Si
SLU 84	0.73	-450.97	-25676	-0.0001419	0.0003743	0.0035	1.2809	4880.89	8578.68	8578.68	19.02	No	Si
SLU 84	2.74	312.03	-22314	-0.0001165	0.0003743	0.0035	1.2809	5557.67	8246.58	8246.58	26.43	No	Si
SLU 31	0.73	-427.91	-20870	-0.0001108	0.0003743	0.0035	1.2809	5726.6	8201.66	8201.66	19.17	No	Si
SLU 31	2.74	257.65	-18052	-0.0000905	0.0003743	0.0035	1.2809	5845.61	7654.57	7654.57	29.71	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	0.73	1870.75	-3350	-0.0001607	0.0005615	0.0035	1.2809		2137.84	2137.84	1.14		Si
SLD 8	2.74	-554.93	-6147	-0.0000369	0.0005615	0.0035	1.2809		3965.65	3965.65	7.15		Si
SLV 9	0.73	-3764.58	-39003	-0.0003086	0.0005615	0.0035	1.2809		12349.02	12349.02	3.28		Si
SLV 9	2.74	1056.89	-28471	-0.0001598	0.0005615	0.0035	1.2809		11413.05	11413.05	10.8		Si
SLD 11	0.73	1699.95	-3753	-0.0000736	0.0005615	0.0035	1.2809		2369.77	2369.77	1.39		Si
SLD 11	2.74	-180.13	-5368	-0.000026	0.0005615	0.0035	1.2809		3542.13	3542.13	19.66		Si
SLV 12	0.73	3057.25	5296	0.7261049	0.0005615	0.0035	1.0247		0	0	0		No
SLV 12	2.74	-452.87	731	0.1090596	0.0005615	0.0035	1.0247		0	0	0		No
SLD 12	0.73	1694.26	-3763	-0.0000727	0.0005615	0.0035	1.2809		2375.64	2375.64	1.4		Si
SLD 12	2.74	-232.58	-5502	-0.0000276	0.0005615	0.0035	1.2809		3615.19	3615.19	15.54		Si
SLV 7	0.73	3345.74	5959	0.8190814	0.0005615	0.0035	1.0247		0	0	0		No
SLV 7	2.74	-870.99	-53	-0.0012145	0.0005615	0.0035	1.0247		412.71	412.71	0.47		No
SLD 7	0.73	1876.44	-3340	-0.000168	0.0005615	0.0035	1.2809		2131.92	2131.92	1.14		Si
SLD 7	2.74	-502.48	-6013	-0.0000352	0.0005615	0.0035	1.2809		3896.15	3896.15	7.75		Si
SLV 11	0.73	3066.63	5313	0.7284175	0.0005615	0.0035	1.0247		0	0	0		No
SLV 11	2.74	-366.45	951	0.1408139	0.0005615	0.0035	1.0247		0	0	0		No
SLV 8	0.73	3336.37	5942	0.8167689	0.0005615	0.0035	1.0247		0	0	0		No
SLV 8	2.74	-957.41	-273	-0.0010359	0.0005615	0.0035	1.0247		550.93	550.93	0.58		No
SLV 10	0.73	-3773.95	-39020	-0.0003091	0.0005615	0.0035	1.2809		12349.32	12349.32	3.27		Si
SLV 10	2.74	970.47	-28691	-0.0001589	0.0005615	0.0035	1.2809		11443.45	11443.45	11.79		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	0.73	-438.1	-24465	-20372	-1788	1.2809	1.2809	-56803	10833	6583	21410	10740	3266	14006	No	7.84	Si
SLU 73	2.74	225.56	-21169	-17627	-172	1.2809	1.2809	-49150	10833	5851	21410	10740	3266	14006	No	81.2	Si
SLU 80	0.73	-409.16	-24742	-20603	-1765	1.2809	1.2809	-57446	10833	6645	21410	10740	3266	14006	No	7.94	Si
SLU 80	2.74	231.06	-21488	-17893	-135	1.2809	1.2809	-49890	10833	5922	21410	10740	3266	14006	No	103.8	Si
SLU 81	0.73	-410.32	-25137	-20932	-1783	1.2809	1.2809	-58362	10833	6733	21410	10740	3266	14006	No	7.85	Si
SLU 81	2.74	297.96	-21918	-18252	-197	1.2809	1.2809	-50890	10833	6018	21410	10740	3266	14006	No	71.24	Si
SLU 82	0.73	-451.66	-25438	-21182	-1879	1.2809	1.2809	-59061	10833	6799	21410	10740	3266	14006	No	7.45	Si
SLU 82	2.74	306.45	-22096	-18399	-255	1.2809	1.2809	-51302	10833	6057	21410	10740	3266	14006	No	54.88	Si
SLU 42	0.73	-440.78	-22082	-18388	-1785	1.2809	1.2809	-51269	10833	6054	21410	10740	3266	14006	No	7.84	Si
SLU 42	2.74	344.12	-19197	-15986	-369	1.2809	1.2809	-44573	10833	5414	21410	10740	3266	14006	No	37.99	Si
SLU 83	0.73	-409.63	-25375	-21130	-1804	1.2809	1.2809	-58917	10833	6786	21410	10740	3266	14006	No	7.76	Si
SLU 83	2.74	303.54	-22137	-18434	-197	1.2809	1.2809	-51398	10833	6066	21410	10740	3266	14006	No	70.96	Si
SLU 78	0.73	-418.82	-24916	-20748	-1790	1.2809	1.2809	-57850	10833	6684	21410	10740	3266	14006	No	7.82	Si
SLU 78	2.74	233.06	-21644	-18023	-142	1.2809	1.2809	-50254	10833	5957	21410	10740	3266	14006	No	98.71	Si
SLU 75	0.73	-419.5	-24677	-20549	-1770	1.2809	1.2809	-57296	10833	6631	21410	10740	3266	14006	No	7.91	Si
SLU 75	2.74	227.47	-21426	-17841	-141	1.2809	1.2809	-49746	10833	5909	21410	10740	3266	14006	No	99.24	Si
SLU 84	0.73	-450.97	-25676	-21381	-1900	1.2809	1.2809	-59616	10833	6852	21410	10740	3266	14006	No	7.37	Si
SLU 84	2.74	312.03	-22314	-18581	-256	1.2809	1.2809	-51809	10833	6106	21410	10740	3266	14006	No	54.72	Si
SLU 76	0.73	-437.41	-24704	-20571	-1808	1.2809	1.2809	-57358	10833	6636	21410	10740	3266	14006	No	7.75	Si
SLU 76	2.74	231.14	-21387	-17809	-173	1.2809	1.2809	-49657	10833	5900	21410	10740	3266	14006	No	80.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	0.73	-3764.58	-39003	-32478	-9046	1.2809	1.2809	-90557	16250	10387	21410	16109	3266	19376		2.14	Si
SLV 9	2.74	1056.89	-28471	-23708	-5611	1.2809	1.2809	-66104	16250	8048	21410	16109	3266	19376		3.45	Si
SLD 9	0.73	-2298.95	-29711	-24741	-5747	1.2809	1.2809	-68983	16250	8324	21410	16109	3266	19376		3.37	Si
SLD 9	2.74	654.41	-22597	-18817	-3273	1.2809	1.2809	-52466	16250	6744	21410	16109	3266	19376		5.92	Si
SLV 6	0.73	-3494.83	-38374	-31954	-7666	1.2809	1.2809	-89096	16250	10247	21410	16109	3266	19376		2.53	Si
SLV 6	2.74	465.92	-29695	-24727	-4388	1.2809	1.2809	-68946	16250	8320	21410	16109	3266	19376		4.42	Si
SLV 11	0.73	3066.63	5313	4424	5670	1.0247	0.1897	0	0	0	21410	12887	2613	15500		2.73	Si
SLV 11	2.74	-366.45	951	792	4605	1.0247	0.7656	0	0	0	21410	12887	2613	15500		3.37	Si
SLV 8	0.73	3336.37	5942	4948	7051	1.0247	0.2369	0	0	0	21410	12887	2613	15500		2.2	Si
SLV 8	2.74	-957.41	-273	-227	5828	1.0247	0	0	0	0	21410	12887	2613	15500		2.66	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	0.73	-3485.46	-38357	-31940	-7746	1.2809	1.2809	-89057	16250	10244	21410	16109	3266	19376		2.5	Si
SLV 5	2.74	552.35	-29475	-24544	-4540	1.2809	1.2809	-68435	16250	8271	21410	16109	3266	19376		4.27	Si
SLD 10	0.73	-2304.64	-29721	-24749	-5698	1.2809	1.2809	-69007	16250	8326	21410	16109	3266	19376		3.4	Si
SLD 10	2.74	601.96	-22730	-18928	-3181	1.2809	1.2809	-52775	16250	6774	21410	16109	3266	19376		6.09	Si
SLV 12	0.73	3057.25	5296	4410	5750	1.0247	0.1895	0	0	0	21410	12887	2613	15500		2.7	Si
SLV 12	2.74	-452.87	731	609	4757	1.0247	0.0638	0	0	0	21410	12887	2613	15500		3.26	Si
SLV 7	0.73	3345.74	5959	4962	6971	1.0247	0.2369	0	0	0	21410	12887	2613	15500		2.22	Si
SLV 7	2.74	-870.99	-53	-44	5677	1.0247	0	0	0	0	21410	12887	2613	15500		2.73	Si
SLV 10	0.73	-3773.95	-39020	-32492	-8966	1.2809	1.2809	-90596	16250	10391	21410	16109	3266	19376		2.16	Si
SLV 10	2.74	970.47	-28691	-23891	-5460	1.2809	1.2809	-66614	16250	8097	21410	16109	3266	19376		3.55	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.735 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.28	0	3970	31.93	0	0	No, Trazione
SLV 12	179667	0.28	0	3819	31.93	0	0	No, Trazione
SLV 8	179667	0.28	0	3343	31.93	0	0	No, Trazione
SLV 7	179667	0.28	0	3495	31.93	0	0	No, Trazione
SLV 15	179667	0.28	24751	-8877	31.93	1041.33	32.62	Si
SLV 16	179667	0.28	25377	-9101	31.93	1062.46	33.28	Si
SLV 3	179667	0.28	29171	-10462	31.93	1184.93	37.11	Si
SLV 4	179667	0.28	29798	-10687	31.93	1204.23	37.72	Si
SLV 6	179667	0.28	97735	-35053	31.93	1766.76	55.34	Si
SLV 5	179667	0.28	97314	-34901	31.93	1772.63	55.52	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.735 Wa = 0.05 Ta = 0.0242

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-29695	-38374	54	0.306	3126.8	0.99	4.4979	2.92718	Si
SLV 5	-29475	-38357	54	0.308	3104.4	0.99	4.52375	2.92718	Si
SLV 10	-28691	-39020	93	0.313	3024.4	0.989	4.59922	2.92718	Si
SLV 9	-28471	-39003	93	0.315	3002	0.989	4.62675	2.92718	Si
SLV 2	-20622	-22113	-8	0.409	2202.1	0.985	6.03899	3.05582	Si
SLV 1	-20296	-22088	-8	0.415	2168.8	0.985	6.11818	3.05582	Si
SLV 14	-17275	-24267	121	0.467	1861	0.983	6.9004	3.05582	Si
SLV 13	-16948	-24242	120	0.474	1827.7	0.983	7.0119	3.05582	Si
SLV 4	-11796	-8819	-22	0.649	1302.7	0.976	9.6716	3.05582	Si
SLV 3	-11469	-8794	-23	0.665	1269.5	0.975	9.90981	3.05582	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.856	SLU 40	Si
V_SLU	7.371	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	2.142	SLV 9	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.537	SLV 6	Si

Maschio 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	Z medio 275 cm	L5	1.281	0.28	1.655	1.65	1.66			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	2.75	-383.62	-20810	-0.0001093	0.0003743	0.0035	1.2809	5732.08	8194.3	8194.3	21.36	No	Si
SLU 84	4.4	-81.95	-19100	-0.000092	0.0003743	0.0035	1.2809	5833.89	7999.25	7999.25	97.61	No	Si
SLU 39	2.75	-367.98	-17380	-0.0000894	0.0003743	0.0035	1.2809	5832.87	7616	7616	20.7	No	Si
SLU 39	4.4	-58.51	-16040	-0.0000749	0.0003743	0.0035	1.2809	5760.11	7308.07	7308.07	124.91	No	Si
SLU 40	2.75	-387.53	-17533	-0.0000907	0.0003743	0.0035	1.2809	5837.16	7652.51	7652.51	19.75	No	Si
SLU 40	4.4	-44.92	-16124	-0.0000751	0.0003743	0.0035	1.2809	5766.56	7326.83	7326.83	163.11	No	Si
SLU 19	2.75	-355.13	-15383	-0.0000784	0.0003743	0.0035	1.2809	5701.41	7163.45	7163.45	20.17	No	Si
SLU 19	4.4	-74.89	-14033	-0.000065	0.0003743	0.0035	1.2809	5533.33	6830.19	6830.19	91.2	No	Si
SLU 41	2.75	-362.42	-17598	-0.0000905	0.0003743	0.0035	1.2809	5838.72	7667.99	7667.99	21.16	No	Si
SLU 41	4.4	-59.25	-16263	-0.0000761	0.0003743	0.0035	1.2809	5776.58	7357.77	7357.77	124.18	No	Si
SLU 21	2.75	-349.57	-15600	-0.0000794	0.0003743	0.0035	1.2809	5722.51	7210.7	7210.7	20.63	No	Si
SLU 21	4.4	-75.64	-14256	-0.0000662	0.0003743	0.0035	1.2809	5565.5	6900.57	6900.57	91.23	No	Si
SLU 18	2.75	-335.58	-15230	-0.0000771	0.0003743	0.0035	1.2809	5685.58	7130.55	7130.55	21.25	No	Si
SLU 18	4.4	-88.48	-13948	-0.0000649	0.0003743	0.0035	1.2809	5520.69	6802.36	6802.36	76.88	No	Si
SLU 42	2.75	-381.97	-17751	-0.0000918	0.0003743	0.0035	1.2809	5841.85	7704.91	7704.91	20.17	No	Si
SLU 42	4.4	-45.66	-16347	-0.0000763	0.0003743	0.0035	1.2809	5782.37	7376.75	7376.75	161.55	No	Si
SLU 82	2.75	-389.18	-20592	-0.0001082	0.0003743	0.0035	1.2809	5750.72	8168.11	8168.11	20.99	No	Si
SLU 82	4.4	-81.2	-18877	-0.0000908	0.0003743	0.0035	1.2809	5839.61	7975.66	7975.66	98.22	No	Si
SLU 20	2.75	-330.02	-15447	-0.0000781	0.0003743	0.0035	1.2809	5707.84	7177.39	7177.39	21.75	No	Si
SLU 20	4.4	-89.22	-14171	-0.000066	0.0003743	0.0035	1.2809	5553.52	6874.42	6874.42	77.05	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	2.75	1061.93	-1054	-0.0057836	0.0005615	0.0035	1.0247		759.54	759.54	0.72		No
SLV 8	4.4	-843.29	-3583	-0.0000315	0.0005615	0.0035	1.2809		2541.22	2541.22	3.01		Si
SLV 15	2.75	341.65	-7992	-0.0000407	0.0005615	0.0035	1.2809		4551.4	4551.4	13.32		Si
SLV 15	4.4	1000.4	-8504	-0.0000564	0.0005615	0.0035	1.2809		4794	4794	4.79		Si
SLV 11	2.75	1126.42	126	-0.0186543	0.0005615	0.0035	1.0247		0	0	0		No
SLV 11	4.4	-62.65	-2757	-0.0000126	0.0005615	0.0035	1.2809		2058.57	2058.57	32.86		Si
SLV 16	2.75	314.65	-8268	-0.0000414	0.0005615	0.0035	1.2809		4681.96	4681.96	14.88		Si
SLV 16	4.4	823.81	-8634	-0.0000534	0.0005615	0.0035	1.2809		4856.26	4856.26	5.89		Si
SLD 11	2.75	615.01	-5610	-0.0000357	0.0005615	0.0035	1.2809		3408.73	3408.73	5.54		Si
SLD 11	4.4	-51.19	-6835	-0.0000298	0.0005615	0.0035	1.2809		4327.06	4327.06	84.53		Si
SLV 4	2.75	160.28	-11583	-0.0000532	0.0005615	0.0035	1.2809		6296.04	6296.04	39.28		Si
SLV 4	4.4	-1382.07	-11095	-0.0000764	0.0005615	0.0035	1.2809		6405.07	6405.07	4.63		Si
SLV 12	2.75	1108.24	-59	-0.0164828	0.0005615	0.0035	1.0247		137.38	137.38	0.12		No
SLV 12	4.4	-181.53	-2845	-0.0000153	0.0005615	0.0035	1.2809		2110.11	2110.11	11.62		Si
SLD 12	2.75	603.98	-5722	-0.000036	0.0005615	0.0035	1.2809		3469.29	3469.29	5.74		Si
SLD 12	4.4	-123.33	-6888	-0.0000315	0.0005615	0.0035	1.2809		4355.3	4355.3	35.31		Si
SLV 3	2.75	187.28	-11307	-0.0000525	0.0005615	0.0035	1.2809		6158.72	6158.72	32.89		Si
SLV 3	4.4	-1205.48	-10964	-0.0000721	0.0005615	0.0035	1.2809		6345.68	6345.68	5.26		Si
SLV 7	2.75	1080.11	-868	-0.0078402	0.0005615	0.0035	1.0247		644.79	644.79	0.6		No
SLV 7	4.4	-724.41	-3495	-0.0000287	0.0005615	0.0035	1.2809		2490.98	2490.98	3.44		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	2.75	-65.31	-18453	-15366	-357	1.2809	1.2809	-42844	10833	6093	16652	10740	3266	14006	No	39.23	Si
SLU 69	4.4	-93.57	-17008	-14163	1958	1.2809	1.2809	-39490	10833	5721	16652	10740	3266	14006	No	7.15	Si
SLU 81	2.75	-369.63	-20439	-17020	-886	1.2809	1.2809	-47456	10833	6605	16652	10740	3266	14006	No	15.81	Si
SLU 81	4.4	-94.79	-18793	-15649	1961	1.2809	1.2809	-43633	10833	6181	16652	10740	3266	14006	No	7.14	Si
SLU 71	2.75	-65.49	-18299	-15237	-348	1.2809	1.2809	-42486	10833	6053	16652	10740	3266	14006	No	40.29	Si
SLU 71	4.4	-94.5	-16857	-14037	1948	1.2809	1.2809	-39138	10833	5682	16652	10740	3266	14006	No	7.19	Si
SLU 56	2.75	-238.03	-18105	-15076	-549	1.2809	1.2809	-42036	10833	6003	16652	10740	3266	14006	No	25.51	Si
SLU 56	4.4	-124.79	-16584	-13810	1918	1.2809	1.2809	-38505	10833	5611	16652	10740	3266	14006	No	7.3	Si
SLU 74	2.75	-275.98	-20038	-16686	-736	1.2809	1.2809	-46525	10833	6502	16652	10740	3266	14006	No	19.04	Si
SLU 74	4.4	-94.08	-18453	-15366	1979	1.2809	1.2809	-42844	10833	6093	16652	10740	3266	14006	No	7.08	Si
SLU 78	2.75	-289.97	-20409	-16995	-842	1.2809	1.2809	-47385	10833	6597	16652	10740	3266	14006	No	16.62	Si
SLU 78	4.4	-81.23	-18760	-15622	1922	1.2809	1.2809	-43558	10833	6172	16652	10740	3266	14006	No	7.29	Si
SLU 66	2.75	-70.87	-18236	-15185	-352	1.2809	1.2809	-42339	10833	6037	16652	10740	3266	14006	No	39.76	Si
SLU 66	4.4	-92.83	-16785	-13977	1929	1.2809	1.2809	-38973	10833	5663	16652	10740	3266	14006	No	7.26	Si
SLU 77	2.75	-270.42	-20256	-16867	-740	1.2809	1.2809	-47030	10833	6558	16652	10740	3266	14006	No	18.92	Si
SLU 77	4.4	-94.82	-18676	-15551	2008	1.2809	1.2809	-43361	10833	6150	16652	10740	3266	14006	No	6.97	Si
SLU 79	2.75	-270.61	-20101	-16739	-731	1.2809	1.2809	-46672	10833	6518	16652	10740	3266	14006	No	19.16	Si
SLU 79	4.4	-95.74	-18524	-15425	1998	1.2809	1.2809	-43009	10833	6111	16652	10740	3266	14006	No	7.01	Si
SLU 83	2.75	-364.07	-20657	-17201	-891	1.2809	1.2809	-47961	10833	6661	16652	10740	3266	14006	No	15.73	Si
SLU 83	4.4	-95.53	-19016	-15835	1990	1.2809	1.2809	-44151	10833	6238	16652	10740	3266	14006	No	7.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	2.75	-1347.25	-27694	-23061	-5245	1.2809	1.2809	-64299	16250	9143	16652	16109	3266	19376		3.69	Si
SLV 6	4.4	-94.33	-22524	-18756	-1813	1.2809	1.2809	-52295	16250	7810	16652	16109	3266	19376		10.69	Si
SLV 7	2.75	1080.11	-868	-723	5912	1.0247	0	0	0	0	16652	12887	2613	15500		2.62	Si
SLV 7	4.4	-724.41	-3495	-2911	6445	1.2809	1.2809	-8116	12040	4318	16652	16109	3266	19376		3.01	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	2.75	-1329.07	-27508	-22906	-5424	1.2809	1.2809	-63869	16250	9095	16652	16109	3266	19376		3.57	Si
SLV 5	4.4	24.55	-22436	-18682	-2085	1.2809	1.2809	-52091	16250	7788	16652	16109	3266	19376		9.29	Si
SLV 4	2.75	160.28	-11583	-9646	3710	1.2809	1.2809	-26894	15795	5665	16652	16109	3266	19376		5.22	Si
SLV 4	4.4	-1382.07	-11095	-9239	5823	1.2809	1.2809	-25760	15569	5584	16652	16109	3266	19376		3.33	Si
SLV 9	2.75	-1282.76	-26514	-22078	-6746	1.2809	1.2809	-61559	16250	8839	16652	16109	3266	19376		2.87	Si
SLV 9	4.4	686.31	-21697	-18068	-3821	1.2809	1.2809	-50377	16250	7598	16652	16109	3266	19376		5.07	Si
SLV 12	2.75	1108.24	-59	-50	4769	1.0247	0	0	0	0	16652	12887	2613	15500		3.25	Si
SLV 12	4.4	-181.53	-2845	-2369	4981	1.2809	1.2809	-6606	11738	4210	16652	16109	3266	19376		3.89	Si
SLV 11	2.75	1126.42	126	105	4590	1.0247	0	0	0	0	16652	12887	2613	15500		3.38	Si
SLV 11	4.4	-62.65	-2757	-2296	4709	1.2809	1.2809	-6402	11697	4195	16652	16109	3266	19376		4.11	Si
SLV 10	2.75	-1300.93	-26699	-22233	-6567	1.2809	1.2809	-61990	16250	8887	16652	16109	3266	19376		2.95	Si
SLV 10	4.4	567.43	-21785	-18141	-3549	1.2809	1.2809	-50581	16250	7620	16652	16109	3266	19376		5.46	Si
SLV 8	2.75	1061.93	-1054	-878	6091	1.0247	0	0	0	0	16652	12887	2613	15500		2.54	Si
SLV 8	4.4	-843.29	-3583	-2984	6717	1.2809	1.2153	-8320	12081	4111	16652	16109	3266	19376		2.88	Si
SLV 3	2.75	187.28	-11307	-9416	3444	1.2809	1.2809	-26254	15667	5619	16652	16109	3266	19376		5.63	Si
SLV 3	4.4	-1205.48	-10964	-9130	5419	1.2809	1.2809	-25457	15508	5562	16652	16109	3266	19376		3.58	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.575 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.32	4210	-1510	24.56	205.57	8.37	Si
SLV 12	179667	0.32	4575	-1641	24.56	222.84	9.07	Si
SLV 7	179667	0.32	6409	-2299	24.56	308.3	12.55	Si
SLV 8	179667	0.32	6774	-2429	24.56	325.04	13.23	Si
SLV 15	179667	0.32	23679	-8492	24.56	1004.6	40.9	Si
SLV 16	179667	0.32	24221	-8687	24.56	1023.28	41.66	Si
SLV 3	179667	0.32	31008	-11121	24.56	1240.82	50.51	Si
SLV 4	179667	0.32	31551	-11316	24.56	1256.89	51.17	Si
SLV 13	179667	0.32	42641	-15293	24.56	1543.23	62.83	Si
SLV 14	179667	0.32	43184	-15488	24.56	1555.16	63.31	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.575 Wa = 0.05 Ta = 0.0163

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-22524	-27694	-36	0.397	2378	0.989	5.83525	3.10665	Si
SLV 5	-22436	-27508	-36	0.398	2369	0.989	5.85338	3.10665	Si
SLV 10	-21785	-26699	44	0.407	2302.7	0.988	5.98403	3.10665	Si
SLV 9	-21697	-26514	45	0.408	2293.8	0.988	6.00271	3.10665	Si
SLV 2	-16777	-19575	-126	0.496	1792.3	0.985	7.3092	3.19675	Si
SLV 1	-16646	-19299	-126	0.499	1779	0.985	7.35669	3.19675	Si
SLV 14	-14316	-16260	141	0.563	1541.5	0.983	8.3181	3.19675	Si
SLV 13	-14186	-15984	142	0.567	1528.2	0.983	8.38125	3.19675	Si
SLV 4	-11095	-11583	-123	0.697	1213.3	0.979	10.34524	3.19675	Si
SLV 3	-10964	-11307	-122	0.704	1200	0.978	10.45181	3.19675	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	19.747	SLU 40	Si
V_SLU	6.975	SLU 77	Si
PF_SLV	0	SLV 11	No
V_SLV	2.545	SLV 8	Si
PFFP_SLV	8.369	SLV 11	Si
R_SLV	1.878	SLV 6	Si

Maschio 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	1.141	L4	L5	4.546	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 64	0.73	6264.41	-59761	-0.0000895	0.0003743	0.0035	4.5457	73187.41	92174.69	92174.69	14.71	No	Si
SLU 64	4.4	-1429.63	-58518	-0.0000786	0.0003743	0.0035	4.5457	72940.85	94630.04	94630.04	66.19	No	Si
SLU 83	0.73	6862.07	-70914	-0.0001085	0.0003743	0.0035	4.5457	72974.16	99887.38	99887.38	14.56	No	Si
SLU 83	4.4	316.32	-70142	-0.0000943	0.0003743	0.0035	4.5457	73129.41	99536.81	99536.81	314.67	No	Si
SLU 77	0.73	6979.22	-69245	-0.000106	0.0003743	0.0035	4.5457	73283.65	99132.97	99132.97	14.2	No	Si
SLU 77	4.4	63.9	-68680	-0.0000915	0.0003743	0.0035	4.5457	73366.38	98880.46	98880.46	1547.46	No	Si
SLU 27	0.73	5799.59	-52074	-0.0000771	0.0003743	0.0035	4.5457	70794.44	84877.05	84877.05	14.64	No	Si
SLU 27	4.4	-510.91	-51829	-0.0000671	0.0003743	0.0035	4.5457	70683.91	88990.15	88990.15	174.18	No	Si
SLU 66	0.73	6503.61	-61161	-0.0000921	0.0003743	0.0035	4.5457	73400.14	93536.67	93536.67	14.38	No	Si
SLU 66	4.4	-1217.98	-60209	-0.0000807	0.0003743	0.0035	4.5457	73263.05	95753.53	95753.53	78.62	No	Si
SLU 79	0.73	6930.83	-68769	-0.0001051	0.0003743	0.0035	4.5457	73354.09	98920.14	98920.14	14.27	No	Si
SLU 79	4.4	51.29	-68098	-0.0000906	0.0003743	0.0035	4.5457	73439.81	98622.21	98622.21	1922.83	No	Si
SLU 69	0.73	6694.42	-62085	-0.000094	0.0003743	0.0035	4.5457	73502.84	94444.13	94444.13	14.11	No	Si
SLU 69	4.4	-1018.94	-61319	-0.000082	0.0003743	0.0035	4.5457	73419.86	96509.67	96509.67	94.72	No	Si
SLU 71	0.73	6646.03	-61608	-0.0000931	0.0003743	0.0035	4.5457	73453.61	93975.23	93975.23	14.14	No	Si
SLU 71	4.4	-1031.55	-60737	-0.0000812	0.0003743	0.0035	4.5457	73343.01	96111.19	96111.19	93.17	No	Si
SLU 29	0.73	5751.2	-51598	-0.0000763	0.0003743	0.0035	4.5457	70577.92	84429.62	84429.62	14.68	No	Si
SLU 29	4.4	-523.52	-51247	-0.0000663	0.0003743	0.0035	4.5457	70413.27	88372.69	88372.69	168.8	No	Si
SLU 74	0.73	6788.41	-68321	-0.0001041	0.0003743	0.0035	4.5457	73412.97	98721.34	98721.34	14.54	No	Si
SLU 74	4.4	-135.15	-67570	-0.0000899	0.0003743	0.0035	4.5457	73496.11	100918.35	100918.35	746.74	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	0.73	38314.42	-31112	-0.0001134	0.0005615	0.0035	4.5457		61780.12	61780.12	1.61		Si
SLV 8	4.4	6850.49	-32381	-0.0000499	0.0005615	0.0035	4.5457		63982.27	63982.27	9.34		Si
SLD 11	0.73	24709.44	-38645	-0.0000877	0.0005615	0.0035	4.5457		75024.86	75024.86	3.04		Si
SLD 11	4.4	3272.94	-39080	-0.0000526	0.0005615	0.0035	4.5457		75802.66	75802.66	23.16		Si
SLD 8	0.73	24364.45	-37352	-0.0000853	0.0005615	0.0035	4.5457		72721.77	72721.77	2.98		Si
SLD 8	4.4	3661.58	-37694	-0.0000515	0.0005615	0.0035	4.5457		73330.06	73330.06	20.03		Si
SLV 7	0.73	38483.3	-31269	-0.0001139	0.0005615	0.0035	4.5457		62051.62	62051.62	1.61		Si
SLV 7	4.4	6526.54	-32720	-0.0000498	0.0005615	0.0035	4.5457		64570.99	64570.99	9.89		Si
SLD 12	0.73	24606.96	-38550	-0.0000874	0.0005615	0.0035	4.5457		74854.92	74854.92	3.04		Si
SLD 12	4.4	3469.53	-38875	-0.0000527	0.0005615	0.0035	4.5457		75435.75	75435.75	21.74		Si
SLV 12	0.73	38699.95	-32978	-0.0001139	0.0005615	0.0035	4.5457		65022.33	65022.33	1.68		Si
SLV 12	4.4	6559.24	-34235	-0.0000518	0.0005615	0.0035	4.5457		67218.84	67218.84	10.25		Si
SLV 11	0.73	38868.82	-33135	-0.0001145	0.0005615	0.0035	4.5457		65295.99	65295.99	1.68		Si
SLV 11	4.4	6235.28	-34573	-0.0000517	0.0005615	0.0035	4.5457		67812.02	67812.02	10.88		Si
SLV 6	0.73	-29558.14	-59536	-0.0001258	0.0005615	0.0035	4.5457		110829.28	110829.28	3.75		Si
SLV 6	4.4	-7974.28	-56093	-0.000083	0.0005615	0.0035	4.5457		106390.31	106390.31	13.34		Si
SLV 5	0.73	-29389.26	-59693	-0.0001257	0.0005615	0.0035	4.5457		111027.87	111027.87	3.78		Si
SLV 5	4.4	-8298.23	-56431	-0.000084	0.0005615	0.0035	4.5457		106834.2	106834.2	12.87		Si
SLD 7	0.73	24466.93	-37447	-0.0000856	0.0005615	0.0035	4.5457		72890.93	72890.93	2.98		Si
SLD 7	4.4	3464.99	-37899	-0.0000514	0.0005615	0.0035	4.5457		73695.17	73695.17	21.27		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.73	6979.22	-69245	-57661	11826	4.5457	4.5457	-45303	10833	29191	40441	38113	11592	49705	No	4.2	Si
SLU 77	4.4	63.9	-68680	-57190	7689	4.5457	4.5457	-44933	10833	29002	40441	38113	11592	49705	No	6.46	Si
SLU 84	0.73	6384.71	-71107	-59212	11524	4.5457	4.5457	-46521	10833	29811	40441	38113	11592	49705	No	4.31	Si
SLU 84	4.4	295.15	-70286	-58528	7234	4.5457	4.5457	-45984	10833	29537	40441	38113	11592	49705	No	6.87	Si
SLU 78	0.73	6501.85	-69438	-57822	11301	4.5457	4.5457	-45429	10833	29255	40441	38113	11592	49705	No	4.4	Si
SLU 78	4.4	42.73	-68823	-57310	7137	4.5457	4.5457	-45027	10833	29050	40441	38113	11592	49705	No	6.96	Si
SLU 83	0.73	6862.07	-70914	-59051	12049	4.5457	4.5457	-46395	10833	29747	40441	38113	11592	49705	No	4.13	Si
SLU 83	4.4	316.32	-70142	-58408	7786	4.5457	4.5457	-45890	10833	29490	40441	38113	11592	49705	No	6.38	Si
SLU 79	0.73	6930.83	-68769	-57265	11772	4.5457	4.5457	-44991	10833	29032	40441	38113	11592	49705	No	4.22	Si
SLU 79	4.4	51.29	-68098	-56706	7670	4.5457	4.5457	-44552	10833	28809	40441	38113	11592	49705	No	6.48	Si
SLU 82	0.73	6193.9	-70183	-58443	11408	4.5457	4.5457	-45917	10833	29503	40441	38113	11592	49705	No	4.36	Si
SLU 82	4.4	96.1	-69176	-57604	7171	4.5457	4.5457	-45258	10833	29168	40441	38113	11592	49705	No	6.93	Si
SLU 62	0.73	5748.23	-63269	-52685	11420	4.5457	4.5457	-41393	10833	27200	40441	38113	11592	49705	No	4.35	Si
SLU 62	4.4	-43.85	-62026	-51650	7632	4.5457	4.5457	-40580	10833	26786	40441	38113	11592	49705	No	6.51	Si
SLU 74	0.73	6788.41	-68321	-56892	11711	4.5457	4.5457	-44699	10833	28883	40441	38113	11592	49705	No	4.24	Si
SLU 74	4.4	-135.15	-67570	-56266	7626	4.5457	4.5457	-44207	10833	28633	40441	38113	11592	49705	No	6.52	Si
SLU 81	0.73	6671.26	-69990	-58282	11934	4.5457	4.5457	-45790	10833	29439	40441	38113	11592	49705	No	4.17	Si
SLU 81	4.4	117.28	-69032	-57484	7723	4.5457	4.5457	-45164	10833	29120	40441	38113	11592	49705	No	6.44	Si
SLU 60	0.73	5557.42	-62345	-51916	11304	4.5457	4.5457	-40789	10833	26893	40441	38113	11592	49705	No	4.4	Si
SLU 60	4.4	-242.9	-60916	-50725	7569	4.5457	4.5457	-39854	10833	26417	40441	38113	11592	49705	No	6.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	0.73	-29003.73	-61558	-51261	-28979	4.5457	4.5457	-40274	16250	29694	40441	57170	11592	68761		2.37	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	4.4	-8589.49	-58284	-48534	-30364	4.5457	4.5457	-38132	16250	28603	40441	57170	11592	68761		2.26	Si
SLV 4	0.73	14068.26	-38846	-32347	33265	4.5457	4.5457	-25414	15500	22129	40441	57170	11592	62570		1.88	Si
SLV 4	4.4	2080.24	-38436	-32007	21928	4.5457	4.5457	-25147	15446	21993	40441	57170	11592	62434		2.85	Si
SLV 11	0.73	38868.82	-33135	-27592	36263	4.5457	3.2994	-21678	14752	20227	40441	57170	11592	60668		1.67	Si
SLV 11	4.4	6235.28	-34573	-28789	37731	4.5457	4.5457	-22619	14940	20706	40441	57170	11592	61147		1.62	Si
SLV 8	0.73	38314.42	-31112	-25908	45575	4.5457	3.1241	-20355	14488	19553	40441	57170	11592	59994		1.32	Si
SLV 8	4.4	6850.49	-32381	-26965	41500	4.5457	4.5457	-21185	14654	19976	40441	57170	11592	60417		1.46	Si
SLD 7	0.73	24466.93	-37447	-31183	30167	4.5457	4.5457	-24499	15317	21663	40441	57170	11592	62104		2.06	Si
SLD 7	4.4	3464.99	-37899	-31559	26626	4.5457	4.5457	-24795	15376	21814	40441	57170	11592	62255		2.34	Si
SLV 12	0.73	38699.95	-32978	-27462	36630	4.5457	3.2981	-21576	14732	20175	40441	57170	11592	60616		1.65	Si
SLV 12	4.4	6559.24	-34235	-28508	37879	4.5457	4.5457	-22398	14896	20593	40441	57170	11592	61034		1.61	Si
SLD 8	0.73	24364.45	-37352	-31104	30390	4.5457	4.5457	-24437	15304	21632	40441	57170	11592	62073		2.04	Si
SLD 8	4.4	3661.58	-37694	-31388	26715	4.5457	4.5457	-24661	15349	21746	40441	57170	11592	62187		2.33	Si
SLV 3	0.73	14319.11	-39079	-32541	32719	4.5457	4.5457	-25567	15530	22207	40441	57170	11592	62648		1.91	Si
SLV 3	4.4	1599.04	-38939	-32425	21710	4.5457	4.5457	-25475	15512	22160	40441	57170	11592	62601		2.88	Si
SLV 7	0.73	38483.3	-31269	-26038	45207	4.5457	3.1264	-20458	14508	19606	40441	57170	11592	60047		1.33	Si
SLV 7	4.4	6526.54	-32720	-27246	41353	4.5457	4.5457	-21406	14698	20089	40441	57170	11592	60530		1.46	Si
SLV 10	0.73	-29172.61	-61402	-51130	-28611	4.5457	4.5457	-40171	16250	29642	40441	57170	11592	68761		2.4	Si
SLV 10	4.4	-8265.53	-57946	-48252	-30216	4.5457	4.5457	-37910	16250	28491	40441	57170	11592	68761		2.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	27019	-34389	410	3962.71	9.67	Si
SLV 7	179667	0.3	27212	-34636	410	3984.98	9.72	Si
SLV 12	179667	0.3	28264	-35974	410	4104.25	10.01	Si
SLV 11	179667	0.3	28457	-36221	410	4125.96	10.06	Si
SLV 4	179667	0.3	32944	-41931	410	4603.98	11.23	Si
SLV 3	179667	0.3	33232	-42297	410	4633.05	11.3	Si
SLV 16	179667	0.3	37094	-47213	410	5004.34	12.21	Si
SLV 15	179667	0.3	37382	-47579	410	5030.61	12.27	Si
SLV 2	179667	0.3	39308	-50031	410	5201.49	12.69	Si
SLV 1	179667	0.3	39596	-50398	410	5226.28	12.75	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-52229	-53825	1096	0.474	5975.1	0.967	7.1265	4.61192	Si
SLV 14	-51727	-53592	1096	0.478	5924	0.966	7.18741	4.61192	Si
SLV 9	-58284	-61558	350	0.444	6591.5	0.97	6.6512	3.94002	Si
SLV 10	-57946	-61402	349	0.446	6557.1	0.969	6.68536	3.94002	Si
SLV 1	-46052	-47606	-968	0.53	5346.6	0.963	7.99992	4.61192	Si
SLV 5	-56431	-59693	-270	0.457	6402.9	0.969	6.86264	3.94002	Si
SLV 6	-56093	-59536	-270	0.46	6368.5	0.969	6.89896	3.94002	Si
SLV 2	-45550	-47373	-969	0.535	5295.5	0.963	8.07747	4.61192	Si
SLV 15	-45115	-45298	1117	0.536	5251.3	0.962	8.10055	4.61192	Si
SLV 16	-44613	-45065	1117	0.542	5200.2	0.962	8.18093	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.108	SLU 69	Si
V_SLU	4.125	SLU 83	Si
PF_SLV	1.612	SLV 7	Si
V_SLV	1.316	SLV 8	Si
PFFP_SLV	9.665	SLV 8	Si
R_SLV	1.545	SLV 13	Si

Maschio 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.693	6.661	-17.793	6.661	L4	L5	1.9	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	1.63	-558.54	-18988	-0.0000628	0.0003743	0.0035	1.9	11714.76	14375.78	14375.78	25.74	No	Si
SLU 65	3.53	193.68	-21323	-0.000067	0.0003743	0.0035	1.9	12282.2	14679.28	14679.28	75.79	No	Si
SLU 72	1.63	-561.7	-19969	-0.0000662	0.0003743	0.0035	1.9	11976.41	14785.3	14785.3	26.32	No	Si
SLU 72	3.53	145.28	-22384	-0.0000702	0.0003743	0.0035	1.9	12476.71	15082.97	15082.97	103.82	No	Si
SLU 75	1.63	-591.15	-21949	-0.0000733	0.0003743	0.0035	1.9	12401.83	15660.61	15660.61	26.49	No	Si
SLU 75	3.53	305.72	-24938	-0.0000809	0.0003743	0.0035	1.9	12783.21	16089.41	16089.41	52.63	No	Si
SLU 70	1.63	-568.06	-20171	-0.0000669	0.0003743	0.0035	1.9	12026.18	14871.77	14871.77	26.18	No	Si
SLU 70	3.53	149.07	-22638	-0.0000711	0.0003743	0.0035	1.9	12517.49	15180.75	15180.75	101.84	No	Si
SLU 80	1.63	-590.37	-22177	-0.0000741	0.0003743	0.0035	1.9	12441.9	15765.33	15765.33	26.7	No	Si
SLU 80	3.53	293.21	-25198	-0.0000817	0.0003743	0.0035	1.9	12801.58	16194.92	16194.92	55.23	No	Si
SLU 73	1.63	-587.21	-21196	-0.0000707	0.0003743	0.0035	1.9	12256.25	15320.13	15320.13	26.09	No	Si
SLU 73	3.53	341.61	-24137	-0.0000784	0.0003743	0.0035	1.9	12711.76	15768.13	15768.13	46.16	No	Si
SLU 78	1.63	-596.73	-22379	-0.0000749	0.0003743	0.0035	1.9	12476	15859.13	15859.13	26.58	No	Si
SLU 78	3.53	297	-25452	-0.0000827	0.0003743	0.0035	1.9	12817.25	16298.65	16298.65	54.88	No	Si
SLU 76	1.63	-592.79	-21626	-0.0000722	0.0003743	0.0035	1.9	12341.78	15513.34	15513.34	26.17	No	Si
SLU 76	3.53	332.89	-24652	-0.0000802	0.0003743	0.0035	1.9	12760.25	15973.95	15973.95	47.99	No	Si
SLU 67	1.63	-562.48	-19741	-0.0000654	0.0003743	0.0035	1.9	11918.7	14688.83	14688.83	26.11	No	Si
SLU 67	3.53	157.79	-22124	-0.0000694	0.0003743	0.0035	1.9	12432.67	14983.53	14983.53	94.96	No	Si
SLU 68	1.63	-564.12	-19418	-0.0000643	0.0003743	0.0035	1.9	11833.61	14553.32	14553.32	25.8	No	Si
SLU 68	3.53	184.96	-21838	-0.0000687	0.0003743	0.0035	1.9	12381.46	14874.75	14874.75	80.42	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	1.63	-2524.86	-646	-0.0009234	0.0005615	0.0035	1.52		1653.41	1653.41	0.65		No
SLV 6	3.53	5310.74	-14379	-0.0000924	0.0005615	0.0035	1.9		11789.52	11789.52	2.22		Si
SLV 2	1.63	-5479.43	-10194	-0.0000922	0.0005615	0.0035	1.52		9765.23	9765.23	1.78		Si
SLV 2	3.53	6208.31	-24721	-0.0001359	0.0005615	0.0035	1.9		18215.7	18215.7	2.93		Si
SLD 16	1.63	3323.3	-17814	-0.0000835	0.0005615	0.0035	1.9		14308.74	14308.74	4.31		Si
SLD 16	3.53	-4373.88	-9804	-0.0000714	0.0005615	0.0035	1.9		9470.74	9470.74	2.17		Si
SLV 14	1.63	4956.99	-11403	-0.0000819	0.0005615	0.0035	1.9		9670.34	9670.34	1.95		Si
SLV 14	3.53	-4648.03	-3447	-0.000974	0.0005615	0.0035	1.52		4182.43	4182.43	0.9		No
SLV 13	1.63	4183.23	-10942	-0.0000707	0.0005615	0.0035	1.9		9348.08	9348.08	2.23		Si
SLV 13	3.53	-3664.24	-5406	-0.0000726	0.0005615	0.0035	1.52		5876.82	5876.82	1.6		Si
SLV 5	1.63	-3045.77	-336	-0.0015212	0.0005615	0.0035	1.52		1366.41	1366.41	0.45		No
SLV 5	3.53	5973.04	-15698	-0.0001038	0.0005615	0.0035	1.9		12749.2	12749.2	2.13		Si
SLV 10	1.63	606.06	-1009	-0.0000101	0.0005615	0.0035	1.9		1128.22	1128.22	1.86		Si
SLV 10	3.53	2053.83	-7997	-0.0000411	0.0005615	0.0035	1.9		7207.09	7207.09	3.51		Si
SLV 1	1.63	-6253.19	-9733	-0.0001204	0.0005615	0.0035	1.52		9415.04	9415.04	1.51		Si
SLV 1	3.53	7192.09	-26680	-0.0001534	0.0005615	0.0035	1.9		19353.02	19353.02	2.69		Si
SLV 16	1.63	5447.06	-19884	-0.0001112	0.0005615	0.0035	1.9		15487.57	15487.57	2.84		Si
SLV 16	3.53	-6997.8	-6204	-0.0012577	0.0005615	0.0035	1.52		6548.76	6548.76	0.94		No
SLV 15	1.63	4673.3	-19424	-0.000102	0.0005615	0.0035	1.9		15233.71	15233.71	3.26		Si
SLV 15	3.53	-6014.02	-8163	-0.000147	0.0005615	0.0035	1.52		8161	8161	1.36		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	1.63	-590.37	-22177	-18467	-2980	1.9	1.9	-34713	10833	6632	40441	15930	4845	20775	No	6.97	Si
SLU 80	3.53	293.21	-25198	-20983	-2972	1.9	1.9	-39441	10833	7302	40441	15930	4845	20775	No	6.99	Si
SLU 75	1.63	-591.15	-21949	-18278	-2972	1.9	1.9	-34356	10833	6581	40441	15930	4845	20775	No	6.99	Si
SLU 75	3.53	305.72	-24938	-20766	-2964	1.9	1.9	-39034	10833	7245	40441	15930	4845	20775	No	7.01	Si
SLU 82	1.63	-591.5	-22264	-18539	-3065	1.9	1.9	-34848	10833	6651	40441	15930	4845	20775	No	6.78	Si
SLU 82	3.53	374.05	-25375	-21130	-3057	1.9	1.9	-39718	10833	7342	40441	15930	4845	20775	No	6.8	Si
SLU 83	1.63	-585.08	-22875	-19048	-3010	1.9	1.9	-35805	10833	6787	40441	15930	4845	20775	No	6.9	Si
SLU 83	3.53	318.89	-25937	-21598	-3002	1.9	1.9	-40598	10833	7467	40441	15930	4845	20775	No	6.92	Si
SLU 76	1.63	-592.79	-21626	-18008	-3004	1.9	1.9	-33850	10833	6509	40441	15930	4845	20775	No	6.92	Si
SLU 76	3.53	332.89	-24652	-20528	-2997	1.9	1.9	-38586	10833	7181	40441	15930	4845	20775	No	6.93	Si
SLU 84	1.63	-597.08	-22694	-18897	-3103	1.9	1.9	-35521	10833	6746	40441	15930	4845	20775	No	6.7	Si
SLU 84	3.53	365.33	-25889	-21559	-3094	1.9	1.9	-40524	10833	7456	40441	15930	4845	20775	No	6.71	Si
SLU 77	1.63	-584.73	-22561	-18787	-2917	1.9	1.9	-35313	10833	6717	40441	15930	4845	20775	No	7.12	Si
SLU 77	3.53	250.56	-25500	-21234	-2909	1.9	1.9	-39914	10833	7370	40441	15930	4845	20775	No	7.14	Si
SLU 78	1.63	-596.73	-22379	-18636	-3009	1.9	1.9	-35029	10833	6677	40441	15930	4845	20775	No	6.9	Si
SLU 78	3.53	297	-25452	-21194	-3001	1.9	1.9	-39839	10833	7359	40441	15930	4845	20775	No	6.92	Si
SLU 73	1.63	-587.21	-21196	-17650	-2967	1.9	1.9	-33177	10833	6414	40441	15930	4845	20775	No	7	Si
SLU 73	3.53	341.61	-24137	-20099	-2959	1.9	1.9	-37781	10833	7067	40441	15930	4845	20775	No	7.02	Si
SLU 81	1.63	-579.5	-22445	-18690	-2973	1.9	1.9	-35132	10833	6691	40441	15930	4845	20775	No	6.99	Si
SLU 81	3.53	327.61	-25423	-21170	-2965	1.9	1.9	-39793	10833	7352	40441	15930	4845	20775	No	7.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	1.63	-4129.42	-11803	-9829	-10709	1.9	1.8005	-19680	14353	7236	40441	23896	4845	28741		2.68	Si
SLD 1	3.53	4568.17	-23080	-19219	-10577	1.9	1.9	-36126	16250	8645	40441	23896	4845	28741		2.72	Si
SLV 5	1.63	-3045.77	-336	-280	-12780	1.52	0	0	0	0	40441	19117	3876	22993		1.8	Si
SLV 5	3.53	5973.04	-15698	-13072	-12620	1.9	1.7085	-24571	15331	7334	40441	23896	4845	28741		2.28	Si
SLV 6	1.63	-2524.86	-646	-538	-11406	1.52	0	0	0	0	40441	19117	3876	22993		2.02	Si
SLV 6	3.53	5310.74	-14379	-11974	-11247	1.9	1.742	-22507	14918	7276	40441	23896	4845	28741		2.56	Si
SLV 14	1.63	4956.99	-11403	-9495	7946	1.9	1.5458	-17848	13986	6054	40441	23896	4845	28741		3.62	Si
SLV 14	3.53	-4648.03	-3447	-2870	7812	1.52	0	0	0	0	40441	19117	3876	22993		2.94	Si
SLV 16	1.63	5447.06	-19884	-16558	12117	1.9	1.9	-31124	16250	8645	40441	23896	4845	28741		2.37	Si
SLV 16	3.53	-6997.8	-6204	-5166	11922	1.52	0	0	0	0	40441	19117	3876	22993		1.93	Si
SLV 15	1.63	4673.3	-19424	-16174	10077	1.9	1.9	-30403	16250	8645	40441	23896	4845	28741		2.85	Si
SLV 15	3.53	-6014.02	-8163	-6797	9881	1.52	0.6397	0	0	0	40441	19117	3876	22993		2.33	Si
SLV 4	1.63	-4989.35	-18676	-15551	-9655	1.9	1.9	-29232	16250	8645	40441	23896	4845	28741		2.98	Si
SLV 4	3.53	3858.53	-27478	-22881	-9511	1.9	1.9	-43009	16250	8662	40441	23896	4845	28741		3.02	Si
SLV 2	1.63	-5479.43	-10194	-8489	-13826	1.52	1.2374	0	0	0	40441	19117	3876	22993		1.66	Si
SLV 2	3.53	6208.31	-24721	-20586	-13620	1.9	1.9	-38695	16250	8645	40441	23896	4845	28741		2.11	Si
SLV 3	1.63	-5763.11	-18215	-15168	-11695	1.9	1.9	-28511	16119	8575	40441	23896	4845	28741		2.46	Si
SLV 3	3.53	4842.32	-29437	-24512	-11551	1.9	1.9	-46076	16250	9097	40441	23896	4845	28741		2.49	Si
SLV 1	1.63	-6253.19	-9733	-8105	-15867	1.52	0.9226	0	0	0	40441	19117	3876	22993		1.45	Si
SLV 1	3.53	7192.09	-26680	-22217	-15660	1.9	1.9	-41761	16250	8645	40441	23896	4845	28741		1.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	9198	-4893	167.06	643.78	3.85	Si
SLV 9	179667	0.3	10345	-5504	167.06	718.3	4.3	Si
SLV 14	179667	0.3	13199	-7022	167.06	898.1	5.38	Si
SLV 13	179667	0.3	14903	-7929	167.06	1001.68	6	Si
SLV 6	179667	0.3	15907	-8463	167.06	1061.35	6.35	Si
SLV 5	179667	0.3	17054	-9073	167.06	1128.36	6.75	Si
SLV 16	179667	0.3	23577	-12543	167.06	1484.91	8.89	Si
SLV 15	179667	0.3	25281	-13450	167.06	1571.24	9.41	Si
SLV 2	179667	0.3	35564	-18920	167.06	2031.96	12.16	Si
SLV 1	179667	0.3	37268	-19827	167.06	2098.36	12.56	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-27845	-18059	-342	0.389	3109.8	0.973	5.81712	4.61192	Si
SLV 1	-27822	-10833	174	0.395	3107.6	0.973	5.90614	4.61192	Si
SLV 4	-25473	-18183	-341	0.42	2868.4	0.971	6.28847	4.61192	Si
SLV 2	-25451	-10957	175	0.426	2866.1	0.971	6.38465	4.61192	Si
SLV 7	-20054	-25166	-887	0.49	2316.7	0.964	7.38308	3.94002	Si
SLV 5	-19980	-1079	832	0.494	2309.2	0.964	7.44502	3.94002	Si
SLV 8	-18458	-25250	-886	0.526	2154.3	0.962	7.9415	3.94002	Si
SLV 6	-18384	-1163	833	0.53	2146.7	0.962	8.0095	3.94002	Si
SLV 11	-13687	-24014	-838	0.679	1669.3	0.952	10.36961	3.94002	Si
SLV 9	-13612	73	881	0.68	1661.7	0.952	10.37677	3.94002	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	25.738	SLU 65	Si
V_SLU	6.696	SLU 84	Si
PF_SLV	0.449	SLV 5	No
V_SLV	1.449	SLV 1	Si
PFFP_SLV	3.854	SLV 10	Si
R_SLV	1.261	SLV 3	Si

Maschio 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.793	6.661	-12.868	6.661	L4	L5	3.925	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 58	1.63	-1598.98	-45092	-0.0000706	0.0003743	0.0035	3.925	52830.14	66627.38	66627.38	41.67	No	Si
SLU 58	3.53	-2510.19	-54799	-0.0000898	0.0003743	0.0035	3.925	54873.2	73112.16	73112.16	29.13	No	Si
SLU 84	1.63	-2138.92	-53218	-0.000086	0.0003743	0.0035	3.925	54765.75	72132.47	72132.47	33.72	No	Si
SLU 84	3.53	-2706.21	-65417	-0.0001101	0.0003743	0.0035	3.925	53322.57	78092.98	78092.98	28.86	No	Si
SLU 78	1.63	-2082.6	-52355	-0.0000843	0.0003743	0.0035	3.925	54670.13	71610.99	71610.99	34.39	No	Si
SLU 78	3.53	-2696.27	-64269	-0.0001078	0.0003743	0.0035	3.925	53681.03	77785.4	77785.4	28.85	No	Si
SLU 77	1.63	-2037.3	-52649	-0.0000847	0.0003743	0.0035	3.925	54705.63	71787.6	71787.6	35.24	No	Si
SLU 77	3.53	-2746.82	-64569	-0.0001086	0.0003743	0.0035	3.925	53591.88	77864.62	77864.62	28.35	No	Si
SLU 56	1.63	-1620.33	-45563	-0.0000715	0.0003743	0.0035	3.925	53005.82	67031.31	67031.31	41.37	No	Si
SLU 56	3.53	-2505.72	-55432	-0.0000909	0.0003743	0.0035	3.925	54891.61	73512.52	73512.52	29.34	No	Si
SLU 81	1.63	-2064.61	-52597	-0.0000847	0.0003743	0.0035	3.925	54699.62	71756.51	71756.51	34.76	No	Si
SLU 81	3.53	-2668.42	-64519	-0.0001083	0.0003743	0.0035	3.925	53607.04	77851.3	77851.3	29.18	No	Si
SLU 83	1.63	-2093.63	-53512	-0.0000864	0.0003743	0.0035	3.925	54792.35	72312.2	72312.2	34.54	No	Si
SLU 83	3.53	-2756.76	-65717	-0.0001108	0.0003743	0.0035	3.925	53221.33	78175.18	78175.18	28.36	No	Si
SLU 74	1.63	-2008.29	-51734	-0.000083	0.0003743	0.0035	3.925	54585.23	71241.65	71241.65	35.47	No	Si
SLU 74	3.53	-2658.48	-63370	-0.000106	0.0003743	0.0035	3.925	53929.3	77552.66	77552.66	29.17	No	Si
SLU 80	1.63	-2061.25	-51883	-0.0000834	0.0003743	0.0035	3.925	54606.83	71329.81	71329.81	34.61	No	Si
SLU 80	3.53	-2700.74	-63637	-0.0001066	0.0003743	0.0035	3.925	53858.66	77620.92	77620.92	28.74	No	Si
SLU 79	1.63	-2015.95	-52177	-0.0000838	0.0003743	0.0035	3.925	54647.19	71504.71	71504.71	35.47	No	Si
SLU 79	3.53	-2751.29	-63936	-0.0001074	0.0003743	0.0035	3.925	53776.17	77698.5	77698.5	28.24	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	1.63	20482.82	-24982	-0.0000809	0.0005615	0.0035	3.925		43255.64	43255.64	2.11		Si
SLV 14	3.53	-19789.67	-30443	-0.0000862	0.0005615	0.0035	3.925		56036.32	56036.32	2.83		Si
SLD 1	1.63	-16779.77	-32507	-0.0000826	0.0005615	0.0035	3.925		58983.23	58983.23	3.52		Si
SLD 1	3.53	11256.73	-40657	-0.0000829	0.0005615	0.0035	3.925		65461.65	65461.65	5.82		Si
SLV 13	1.63	17143.23	-25444	-0.0000726	0.0005615	0.0035	3.925		43942.36	43942.36	2.56		Si
SLV 13	3.53	-17380.18	-30981	-0.0000816	0.0005615	0.0035	3.925		56799.85	56799.85	3.27		Si
SLV 6	1.63	-10748.89	-12648	-0.0000408	0.0005615	0.0035	3.925		27785	27785	2.58		Si
SLV 6	3.53	7182.86	-19351	-0.0000418	0.0005615	0.0035	3.925		35021.89	35021.89	4.88		Si
SLV 1	1.63	-25573.82	-30715	-0.0001019	0.0005615	0.0035	3.925		56422.02	56422.02	2.21		Si
SLV 1	3.53	18781.18	-39284	-0.0000979	0.0005615	0.0035	3.925		63872.52	63872.52	3.4		Si
SLV 3	1.63	-23070.97	-44288	-0.0001162	0.0005615	0.0035	3.925		74423.9	74423.9	3.23		Si
SLV 3	3.53	16146.35	-53493	-0.0001152	0.0005615	0.0035	3.925		80752.35	80752.35	5		Si
SLV 15	1.63	19646.07	-39018	-0.0000995	0.0005615	0.0035	3.925		63565.27	63565.27	3.24		Si
SLV 15	3.53	-20015	-45190	-0.0001105	0.0005615	0.0035	3.925		75494.58	75494.58	3.77		Si
SLV 16	1.63	22985.66	-38555	-0.0001065	0.0005615	0.0035	3.925		63032.61	63032.61	2.74		Si
SLV 16	3.53	-22424.5	-44652	-0.0001153	0.0005615	0.0035	3.925		74855.33	74855.33	3.34		Si
SLV 5	1.63	-12997.18	-12959	-0.0000487	0.0005615	0.0035	3.925		28313.34	28313.34	2.18		Si
SLV 5	3.53	8804.99	-19713	-0.0000458	0.0005615	0.0035	3.925		35544.07	35544.07	4.04		Si
SLV 2	1.63	-22234.23	-30252	-0.000092	0.0005615	0.0035	3.925		55765.97	55765.97	2.51		Si
SLV 2	3.53	16371.68	-38746	-0.0000915	0.0005615	0.0035	3.925		63252.93	63252.93	3.86		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	1.63	-2138.92	-53218	-44315	-1765	3.925	3.925	-40323	10833	23016	40441	32909	10009	42918	No	24.32	Si
SLU 84	3.53	-2706.21	-65417	-54474	-1764	3.925	3.925	-49567	10833	27079	40441	32909	10009	42918	No	24.33	Si
SLU 78	1.63	-2082.6	-52355	-43597	-1706	3.925	3.925	-39669	10833	22728	40441	32909	10009	42918	No	25.16	Si
SLU 78	3.53	-2696.27	-64269	-53518	-1705	3.925	3.925	-48697	10833	26697	40441	32909	10009	42918	No	25.17	Si
SLU 75	1.63	-2053.59	-51440	-42835	-1703	3.925	3.925	-38976	10833	22424	40441	32909	10009	42918	No	25.2	Si
SLU 75	3.53	-2607.93	-63070	-52519	-1703	3.925	3.925	-47788	10833	26297	40441	32909	10009	42918	No	25.21	Si
SLU 82	1.63	-2109.91	-52303	-43554	-1762	3.925	3.925	-39630	10833	22711	40441	32909	10009	42918	No	24.36	Si
SLU 82	3.53	-2617.87	-64219	-53476	-1761	3.925	3.925	-48659	10833	26680	40441	32909	10009	42918	No	24.37	Si
SLU 76	1.63	-2062.43	-50773	-42279	-1704	3.925	3.925	-38471	10833	22202	40441	32909	10009	42918	No	25.19	Si
SLU 76	3.53	-2578.71	-62238	-51826	-1703	3.925	3.925	-47158	10833	26020	40441	32909	10009	42918	No	25.2	Si
SLU 83	1.63	-2093.63	-53512	-44560	-1715	3.925	3.925	-40546	10833	23114	40441	32909	10009	42918	No	25.03	Si
SLU 83	3.53	-2756.76	-65717	-54724	-1714	3.925	3.925	-49794	10833	27179	40441	32909	10009	42918	No	25.04	Si
SLU 73	1.63	-2033.41	-49858	-41518	-1701	3.925	3.925	-37778	10833	21897	40441	32909	10009	42918	No	25.23	Si
SLU 73	3.53	-2490.37	-61039	-50828	-1700	3.925	3.925	-46249	10833	25621	40441	32909	10009	42918	No	25.24	Si
SLU 80	1.63	-2061.25	-51883	-43204	-1673	3.925	3.925	-39312	10833	22571	40441	32909	10009	42918	No	25.65	Si
SLU 80	3.53	-2700.74	-63637	-52991	-1673	3.925	3.925	-48217	10833	26486	40441	32909	10009	42918	No	25.66	Si
SLU 77	1.63	-2037.3	-52649	-43841	-1656	3.925	3.925	-39892	10833	22826	40441	32909	10009	42918	No	25.91	Si
SLU 77	3.53	-2746.82	-64569	-53767	-1656	3.925	3.925	-48924	10833	26797	40441	32909	10009	42918	No	25.92	Si
SLU 81	1.63	-2064.61	-52597	-43798	-1712	3.925	3.925	-39853	10833	22809	40441	32909	10009	42918	No	25.07	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	3.53	-2668.42	-64519	-53725	-1711	3.925	3.925	-48886	10833	26780	40441	32909	10009	42918	No	25.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	1.63	-23070.97	-44288	-36879	-22495	3.925	3.925	-33557	16250	22687	40441	49363	10009	59372		2.64	Si
SLV 3	3.53	16146.35	-53493	-44544	-22110	3.925	3.925	-40532	16250	25753	40441	49363	10009	59372		2.69	Si
SLV 1	1.63	-25573.82	-30715	-25577	-24932	3.925	3.3896	-27215	15860	18166	40441	49363	10009	58607		2.35	Si
SLV 1	3.53	18781.18	-39284	-32712	-24553	3.925	3.925	-29766	16250	21020	40441	49363	10009	59372		2.42	Si
SLV 13	1.63	17143.23	-25444	-21188	17338	3.925	3.8662	-19279	14273	16411	40441	49363	10009	56852		3.28	Si
SLV 13	3.53	-17380.18	-30981	-25798	16954	3.925	3.925	-23474	15111	18255	40441	49363	10009	58696		3.46	Si
SLD 3	1.63	-15279.75	-40468	-33698	-14829	3.925	3.925	-30663	16250	21415	40441	49363	10009	59372		4	Si
SLD 3	3.53	9723.19	-48980	-40786	-14581	3.925	3.925	-37112	16250	24250	40441	49363	10009	59372		4.07	Si
SLD 1	1.63	-16779.77	-32507	-27069	-16259	3.925	3.925	-24631	15343	18763	40441	49363	10009	59204		3.64	Si
SLD 1	3.53	11256.73	-40657	-33855	-16012	3.925	3.925	-30806	16250	21477	40441	49363	10009	59372		3.71	Si
SLV 2	1.63	-22234.23	-30252	-25192	-21897	3.925	3.6826	-24745	15366	18012	40441	49363	10009	58453		2.67	Si
SLV 2	3.53	16371.68	-38746	-32265	-21519	3.925	3.925	-29358	16250	20841	40441	49363	10009	59372		2.76	Si
SLV 15	1.63	19646.07	-39018	-32490	19775	3.925	3.925	-29564	16250	20932	40441	49363	10009	59372		3	Si
SLV 15	3.53	-20015	-45190	-37630	19397	3.925	3.925	-34240	16250	22987	40441	49363	10009	59372		3.06	Si
SLV 4	1.63	-19731.39	-43825	-36494	-19461	3.925	3.925	-33207	16250	22533	40441	49363	10009	59372		3.05	Si
SLV 4	3.53	13736.85	-52955	-44097	-19076	3.925	3.925	-40124	16250	25574	40441	49363	10009	59372		3.11	Si
SLV 14	1.63	20482.82	-24982	-20803	20373	3.925	3.4278	-18929	14202	16257	40441	49363	10009	56698		2.78	Si
SLV 14	3.53	-19789.67	-30443	-25350	19988	3.925	3.925	0	16250	18076	40441	49363	10009	58517		2.93	Si
SLV 16	1.63	22985.66	-38555	-32105	22809	3.925	3.925	-29213	16250	20777	40441	49363	10009	59372		2.6	Si
SLV 16	3.53	-22424.5	-44652	-37182	22431	3.925	3.925	-33833	16250	22808	40441	49363	10009	59372		2.65	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	13635	-14985	345.11	1910.53	5.54	Si
SLV 9	179667	0.3	13946	-15327	345.11	1949.81	5.65	Si
SLV 6	179667	0.3	15561	-17102	345.11	2150.27	6.23	Si
SLV 5	179667	0.3	15873	-17444	345.11	2188.34	6.34	Si
SLV 14	179667	0.3	26385	-28998	345.11	3358.26	9.73	Si
SLV 13	179667	0.3	26848	-29506	345.11	3404.64	9.87	Si
SLV 2	179667	0.3	32807	-36055	345.11	3963.32	11.48	Si
SLV 1	179667	0.3	33270	-36563	345.11	4003.71	11.6	Si
SLV 16	179667	0.3	39306	-43197	345.11	4491.09	13.01	Si
SLV 15	179667	0.3	39769	-43706	345.11	4525.42	13.11	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-57137	-55285	-1931	0.371	6385.1	0.973	5.55026	3.94002	Si
SLV 8	-56803	-55122	-1930	0.373	6351.1	0.973	5.57855	3.94002	Si
SLV 11	-55028	-53747	-1896	0.384	6170.3	0.972	5.74328	3.94002	Si
SLV 12	-54695	-53583	-1896	0.386	6136.4	0.972	5.77374	3.94002	Si
SLV 3	-47362	-40493	-643	0.461	5389.8	0.968	6.91555	4.61192	Si
SLV 4	-46867	-40250	-643	0.465	5339.4	0.968	6.97982	4.61192	Si
SLV 15	-40333	-35364	-529	0.531	4674.4	0.964	8.00574	4.61192	Si
SLV 16	-39838	-35121	-529	0.536	4624	0.963	8.0935	4.61192	Si
SLV 1	-36805	-26241	495	0.575	4315.6	0.961	8.6915	4.61192	Si
SLV 2	-36310	-25998	495	0.581	4265.2	0.96	8.79589	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	28.241	SLU 79	Si
V_SLU	24.32	SLU 84	Si
PF_SLV	2.112	SLV 14	Si
V_SLV	2.351	SLV 1	Si
PFFP_SLV	5.536	SLV 10	Si
R_SLV	1.409	SLV 7	Si

Maschio 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	6.661	-7.963	6.661	L4	L5	3.905	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	1.63	-186.91	-62786	-0.0000989	0.0003743	0.0035	3.905	53447.56	76730.74	76730.74	410.52	No	Si
SLU 83	3.53	4499.08	-63538	-0.0001121	0.0003743	0.0035	3.905	53249.68	74705.02	74705.02	16.6	No	Si
SLU 82	1.63	-107.83	-61347	-0.000096	0.0003743	0.0035	3.905	53771.07	76382.38	76382.38	708.38	No	Si
SLU 82	3.53	4450.53	-62267	-0.0001095	0.0003743	0.0035	3.905	53572.6	74219.22	74219.22	16.68	No	Si
SLU 74	1.63	-259.65	-60745	-0.0000953	0.0003743	0.0035	3.905	53884.68	76081.81	76081.81	293.01	No	Si
SLU 74	3.53	4374.64	-61233	-0.0001073	0.0003743	0.0035	3.905	53793.49	73829.97	73829.97	16.88	No	Si
SLU 79	1.63	-318.94	-61159	-0.0000962	0.0003743	0.0035	3.905	53807.87	76300.93	76300.93	239.23	No	Si
SLU 79	3.53	4321.89	-61561	-0.0001077	0.0003743	0.0035	3.905	53727.54	73952.77	73952.77	17.11	No	Si
SLU 84	1.63	-158.6	-62348	-0.000098	0.0003743	0.0035	3.905	53553.76	76622.77	76622.77	483.11	No	Si
SLU 84	3.53	4449.43	-63247	-0.0001114	0.0003743	0.0035	3.905	53328.6	74593.11	74593.11	16.76	No	Si
SLU 75	1.63	-231.35	-60307	-0.0000944	0.0003743	0.0035	3.905	53959.5	75846.53	75846.53	327.85	No	Si
SLU 75	3.53	4324.99	-60942	-0.0001066	0.0003743	0.0035	3.905	53848.88	73721.41	73721.41	17.05	No	Si
SLU 81	1.63	-136.13	-61785	-0.0000969	0.0003743	0.0035	3.905	53680.26	76486.55	76486.55	561.85	No	Si
SLU 81	3.53	4500.18	-62558	-0.0001102	0.0003743	0.0035	3.905	53503.69	74329.7	74329.7	16.52	No	Si
SLU 77	1.63	-310.43	-61746	-0.0000973	0.0003743	0.0035	3.905	53688.5	76477.35	76477.35	246.36	No	Si
SLU 77	3.53	4373.54	-62213	-0.0001091	0.0003743	0.0035	3.905	53585.03	74198.81	74198.81	16.97	No	Si
SLU 78	1.63	-282.12	-61308	-0.0000964	0.0003743	0.0035	3.905	53778.71	76373.33	76373.33	270.71	No	Si
SLU 78	3.53	4323.89	-61922	-0.0001084	0.0003743	0.0035	3.905	53650.43	74088.83	74088.83	17.13	No	Si
SLU 73	1.63	-170.21	-58426	-0.0000908	0.0003743	0.0035	3.905	54204.04	74800.02	74800.02	439.46	No	Si
SLU 73	3.53	4241.32	-59116	-0.0001029	0.0003743	0.0035	3.905	54128.78	73049.5	73049.5	17.22	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	1.63	-23680.34	-47430	-0.0001239	0.0005615	0.0035	3.905		77700.48	77700.48	3.28		Si
SLV 3	3.53	22726.03	-42173	-0.0001127	0.0005615	0.0035	3.905		66789.64	66789.64	2.94		Si
SLV 5	1.63	-5101.65	-7435	-0.0000207	0.0005615	0.0035	3.905		18455.74	18455.74	3.62		Si
SLV 5	3.53	5855.46	-15610	-0.0000339	0.0005615	0.0035	3.905		29056.42	29056.42	4.96		Si
SLV 2	1.63	-18968.91	-28292	-0.0000817	0.0005615	0.0035	3.905		52618.29	52618.29	2.77		Si
SLV 2	3.53	18537.97	-28962	-0.0000817	0.0005615	0.0035	3.905		48938.12	48938.12	2.64		Si
SLV 14	1.63	23140.76	-34036	-0.0001005	0.0005615	0.0035	3.905		56679.33	56679.33	2.45		Si
SLV 14	3.53	-16732.73	-38932	-0.0000934	0.0005615	0.0035	3.905		67299.37	67299.37	4.02		Si
SLV 13	1.63	19962.07	-33766	-0.0000925	0.0005615	0.0035	3.905		56263.3	56263.3	2.82		Si
SLV 13	3.53	-14462.31	-38219	-0.000087	0.0005615	0.0035	3.905		66391.72	66391.72	4.59		Si
SLV 4	1.63	-20501.66	-47699	-0.0001167	0.0005615	0.0035	3.905		78006.9	78006.9	3.8		Si
SLV 4	3.53	20455.6	-42887	-0.0001086	0.0005615	0.0035	3.905		67622.23	67622.23	3.31		Si
SLV 10	1.63	9671.22	-9340	-0.0000364	0.0005615	0.0035	3.905		18180.6	18180.6	1.88		Si
SLV 10	3.53	-6254.26	-19081	-0.0000397	0.0005615	0.0035	3.905		38385.58	38385.58	6.14		Si
SLV 1	1.63	-22147.6	-28023	-0.0000897	0.0005615	0.0035	3.905		52212.22	52212.22	2.36		Si
SLV 1	3.53	20808.4	-28249	-0.0000863	0.0005615	0.0035	3.905		47865.03	47865.03	2.3		Si
SLV 9	1.63	7531.25	-9158	-0.0000288	0.0005615	0.0035	3.905		17854.39	17854.39	2.37		Si
SLV 9	3.53	-4725.76	-18601	-0.0000357	0.0005615	0.0035	3.905		37596.2	37596.2	7.96		Si
SLV 16	1.63	21608.01	-53443	-0.0001293	0.0005615	0.0035	3.905		80208.18	80208.18	3.71		Si
SLV 16	3.53	-14815.1	-52857	-0.0001118	0.0005615	0.0035	3.905		83598.77	83598.77	5.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	1.63	-259.65	-60745	-50583	-2112	3.905	3.905	-46262	10833	25496	40441	32741	9958	42699	No	20.22	Si
SLU 74	3.53	4374.64	-61233	-50990	-1944	3.905	3.905	-46634	10833	25659	40441	32741	9958	42699	No	21.97	Si
SLU 71	1.63	-508.54	-55026	-45821	-2060	3.905	3.905	-41907	10833	23591	40441	32741	9958	42699	No	20.72	Si
SLU 71	3.53	3910.98	-54660	-45516	-1908	3.905	3.905	-41628	10833	23469	40441	32741	9958	42699	No	22.37	Si
SLU 79	1.63	-318.94	-61159	-50928	-2124	3.905	3.905	-46578	10833	25634	40441	32741	9958	42699	No	20.1	Si
SLU 79	3.53	4321.89	-61561	-51262	-1955	3.905	3.905	-46884	10833	25768	40441	32741	9958	42699	No	21.84	Si
SLU 83	1.63	-186.91	-62786	-52283	-2121	3.905	3.905	-47817	10833	26176	40441	32741	9958	42699	No	20.13	Si
SLU 83	3.53	4499.08	-63538	-52909	-1947	3.905	3.905	-48389	10833	26426	40441	32741	9958	42699	No	21.93	Si
SLU 69	1.63	-500.03	-55613	-46310	-2079	3.905	3.905	-42354	10833	23787	40441	32741	9958	42699	No	20.54	Si
SLU 69	3.53	3962.64	-55312	-46059	-1925	3.905	3.905	-42125	10833	23687	40441	32741	9958	42699	No	22.18	Si
SLU 80	1.63	-290.64	-60721	-50563	-2068	3.905	3.905	-46244	10833	25488	40441	32741	9958	42699	No	20.64	Si
SLU 80	3.53	4272.23	-61270	-51020	-1901	3.905	3.905	-46662	10833	25671	40441	32741	9958	42699	No	22.47	Si
SLU 84	1.63	-158.6	-62348	-51918	-2065	3.905	3.905	-47483	10833	26030	40441	32741	9958	42699	No	20.68	Si
SLU 84	3.53	4449.43	-63247	-52667	-1892	3.905	3.905	-48168	10833	26329	40441	32741	9958	42699	No	22.56	Si
SLU 78	1.63	-282.12	-61308	-51052	-2087	3.905	3.905	-46691	10833	25684	40441	32741	9958	42699	No	20.46	Si
SLU 78	3.53	4323.89	-61922	-51563	-1917	3.905	3.905	-47159	10833	25888	40441	32741	9958	42699	No	22.27	Si
SLU 77	1.63	-310.43	-61746	-51417	-2143	3.905	3.905	-47025	10833	25830	40441	32741	9958	42699	No	19.93	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	3.53	4373.54	-62213	-51806	-1972	3.905	3.905	-47380	10833	25985	40441	32741	9958	42699	No	21.65	Si
SLU 81	1.63	-136.13	-61785	-51449	-2090	3.905	3.905	-47054	10833	25842	40441	32741	9958	42699	No	20.43	Si
SLU 81	3.53	4500.18	-62558	-52093	-1919	3.905	3.905	-47643	10833	26100	40441	32741	9958	42699	No	22.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	1.63	21608.01	-53443	-44503	19399	3.905	3.905	-40701	16250	25696	40441	49112	9958	59070		3.04	Si
SLV 16	3.53	-14815.1	-52857	-44015	19392	3.905	3.905	-40255	16250	25501	40441	49112	9958	59070		3.05	Si
SLV 2	1.63	-18968.91	-28292	-23559	-19498	3.905	3.8461	-22117	14840	17319	40441	49112	9958	57760		2.96	Si
SLV 2	3.53	18537.97	-28962	-24117	-19265	3.905	3.905	-22057	14828	17542	40441	49112	9958	57983		3.01	Si
SLV 15	1.63	18429.33	-53174	-44278	16492	3.905	3.905	-40496	16250	25606	40441	49112	9958	59070		3.58	Si
SLV 15	3.53	-12544.68	-52143	-43421	16484	3.905	3.905	-39711	16250	25263	40441	49112	9958	59070		3.58	Si
SLD 3	1.63	-15215.87	-44485	-37044	-16339	3.905	3.905	-33879	16250	22712	40441	49112	9958	59070		3.62	Si
SLD 3	3.53	15539.36	-41195	-34304	-15907	3.905	3.905	-31374	16250	21616	40441	49112	9958	59070		3.71	Si
SLD 1	1.63	-14285.27	-33113	-27573	-14919	3.905	3.905	-25218	15460	18924	40441	49112	9958	59070		3.96	Si
SLD 1	3.53	14417.91	-33038	-27511	-14721	3.905	3.905	-25161	15449	18899	40441	49112	9958	59070		4.01	Si
SLV 14	1.63	23140.76	-34036	-28342	21784	3.905	3.8178	-25921	15601	19232	40441	49112	9958	59070		2.71	Si
SLV 14	3.53	-16732.73	-38932	-32420	21399	3.905	3.905	-29650	16250	20863	40441	49112	9958	59070		2.76	Si
SLV 3	1.63	-23680.34	-47430	-39495	-24789	3.905	3.905	-36122	16250	23693	40441	49112	9958	59070		2.38	Si
SLV 3	3.53	22726.03	-42173	-35118	-24180	3.905	3.905	-32118	16250	21942	40441	49112	9958	59070		2.44	Si
SLV 4	1.63	-20501.66	-47699	-39720	-21882	3.905	3.905	-36327	16250	23783	40441	49112	9958	59070		2.7	Si
SLV 4	3.53	20455.6	-42887	-35712	-21272	3.905	3.905	-32662	16250	22180	40441	49112	9958	59070		2.78	Si
SLV 13	1.63	19962.07	-33766	-28118	18877	3.905	3.905	-25716	15560	19142	40441	49112	9958	59070		3.13	Si
SLV 13	3.53	-14462.31	-38219	-31825	18491	3.905	3.905	-29107	16238	20625	40441	49112	9958	59070		3.19	Si
SLV 1	1.63	-22147.6	-28023	-23335	-22405	3.905	3.4865	-24148	15246	17229	40441	49112	9958	57670		2.57	Si
SLV 1	3.53	20808.4	-28249	-23523	-22173	3.905	3.6477	-21514	14719	17304	40441	49112	9958	57745		2.6	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.3	11043	-12075	343.35	1568.23	4.57	Si
SLV 6	179667	0.3	11363	-12424	343.35	1609.95	4.69	Si
SLV 9	179667	0.3	13365	-14613	343.35	1866.78	5.44	Si
SLV 10	179667	0.3	13684	-14962	343.35	1907.01	5.55	Si
SLV 1	179667	0.3	25798	-28207	343.35	3281.91	9.56	Si
SLV 2	179667	0.3	26272	-28726	343.35	3329.76	9.7	Si
SLV 13	179667	0.3	33535	-36668	343.35	4006.19	11.67	Si
SLV 14	179667	0.3	34010	-37186	343.35	4046.69	11.79	Si
SLV 3	179667	0.3	40832	-44645	343.35	4579.21	13.34	Si
SLV 4	179667	0.3	41306	-45164	343.35	4612.77	13.43	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-50958	-76050	-1693	0.412	5753	0.97	6.16667	3.94002	Si
SLV 11	-50420	-76026	-1693	0.415	5698.2	0.97	6.22424	3.94002	Si
SLV 16	-43964	-53738	-571	0.49	5041	0.966	7.37224	4.61192	Si
SLV 15	-43164	-53703	-571	0.498	4959.6	0.966	7.4926	4.61192	Si
SLV 8	-48397	-73986	-1653	0.431	5492.2	0.969	6.46259	3.94002	Si
SLV 7	-47858	-73963	-1653	0.435	5437.4	0.968	6.52627	3.94002	Si
SLV 4	-35425	-46860	-438	0.592	4172.3	0.96	8.97007	4.61192	Si
SLV 14	-35295	-32545	430	0.594	4159.1	0.96	9.00233	4.61192	Si
SLV 3	-34625	-46825	-438	0.604	4090.9	0.959	9.15269	4.61192	Si
SLV 13	-34496	-32511	431	0.606	4077.7	0.959	9.18591	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.517	SLU 81	Si
V_SLU	19.926	SLU 77	Si
PF_SLV	1.88	SLV 10	Si
V_SLV	2.383	SLV 3	Si
PFFP_SLV	4.567	SLV 5	Si
R_SLV	1.565	SLV 12	Si

Maschio 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.963	6.661	-5.158	6.661	L4	L5	1.805	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	1.63	-3755.73	-17235	-0.0000969	0.0003743	0.0035	1.805	10344.66	12557.5	12557.5	3.34	No	Si
SLU 77	3.53	-127.03	-23635	-0.0000789	0.0003743	0.0035	1.805	11532.82	14932.8	14932.8	117.55	No	Si
SLU 82	1.63	-3733.38	-17196	-0.0000965	0.0003743	0.0035	1.805	10333.03	12541.98	12541.98	3.36	No	Si
SLU 82	3.53	-397.43	-23919	-0.0000832	0.0003743	0.0035	1.805	11552.26	15016.54	15016.54	37.78	No	Si
SLU 75	1.63	-3661.17	-16868	-0.0000944	0.0003743	0.0035	1.805	10232.91	12412.3	12412.3	3.39	No	Si
SLU 75	3.53	-250.98	-23304	-0.0000791	0.0003743	0.0035	1.805	11506.55	14836.34	14836.34	59.11	No	Si
SLU 78	1.63	-3718.33	-17124	-0.0000961	0.0003743	0.0035	1.805	10311.27	12513.22	12513.22	3.37	No	Si
SLU 78	3.53	-180.86	-23585	-0.0000794	0.0003743	0.0035	1.805	11529.07	14918.04	14918.04	82.48	No	Si
SLU 74	1.63	-3698.57	-16979	-0.0000953	0.0003743	0.0035	1.805	10267.3	12456.09	12456.09	3.37	No	Si
SLU 74	3.53	-197.15	-23354	-0.0000787	0.0003743	0.0035	1.805	11510.8	14850.92	14850.92	75.33	No	Si
SLU 83	1.63	-3827.94	-17564	-0.0000991	0.0003743	0.0035	1.805	10440.56	12689.17	12689.17	3.31	No	Si
SLU 83	3.53	-273.48	-24251	-0.000083	0.0003743	0.0035	1.805	11571.36	15115.51	15115.51	55.27	No	Si
SLU 81	1.63	-3770.78	-17308	-0.0000974	0.0003743	0.0035	1.805	10366.14	12586.39	12586.39	3.34	No	Si
SLU 81	3.53	-343.6	-23970	-0.0000828	0.0003743	0.0035	1.805	11555.41	15031.51	15031.51	43.75	No	Si
SLU 80	1.63	-3696.94	-16937	-0.0000951	0.0003743	0.0035	1.805	10254.14	12439.25	12439.25	3.36	No	Si
SLU 80	3.53	-152.09	-23278	-0.0000779	0.0003743	0.0035	1.805	11504.36	14828.94	14828.94	97.5	No	Si
SLU 79	1.63	-3734.34	-17048	-0.000096	0.0003743	0.0035	1.805	10288.27	12483.18	12483.18	3.34	No	Si
SLU 79	3.53	-98.26	-23328	-0.0000774	0.0003743	0.0035	1.805	11508.65	14843.51	14843.51	151.06	No	Si
SLU 84	1.63	-3790.55	-17452	-0.0000982	0.0003743	0.0035	1.805	10408.44	12644.3	12644.3	3.34	No	Si
SLU 84	3.53	-327.31	-24201	-0.0000834	0.0003743	0.0035	1.805	11568.7	15100.37	15100.37	46.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	1.63	-6888.29	-9050	-0.0002618	0.0005615	0.0035	1.444		8280.52	8280.52	1.2		Si
SLV 1	3.53	7044.99	-2706	-0.0393826	0.0005615	0.0035	1.444		2545.11	2545.11	0.36		No
SLV 10	1.63	1619.47	-3066	-0.0000291	0.0005615	0.0035	1.805		2850.72	2850.72	1.76		Si
SLV 10	3.53	-6493.54	-13779	-0.0001221	0.0005615	0.0035	1.805		11612.32	11612.32	1.79		Si
SLD 1	1.63	-5350.79	-9998	-0.0001023	0.0005615	0.0035	1.444		8972.25	8972.25	1.68		Si
SLD 1	3.53	4552.99	-7367	-0.000097	0.0005615	0.0035	1.805		6337.58	6337.58	1.39		Si
SLD 4	1.63	-5688.53	-12820	-0.0001054	0.0005615	0.0035	1.805		10971.46	10971.46	1.93		Si
SLD 4	3.53	4947.45	-10444	-0.0000908	0.0005615	0.0035	1.805		8465.58	8465.58	1.71		Si
SLD 2	1.63	-4831.26	-9947	-0.0000888	0.0005615	0.0035	1.805		8934.8	8934.8	1.85		Si
SLD 2	3.53	3632.25	-8594	-0.0000655	0.0005615	0.0035	1.805		7245.18	7245.18	1.99		Si
SLV 3	1.63	-8353.16	-13963	-0.0001841	0.0005615	0.0035	1.444		11735.2	11735.2	1.4		Si
SLV 3	3.53	9284.87	-5881	-0.0358078	0.0005615	0.0035	1.444		5167.29	5167.29	0.56		No
SLV 2	1.63	-6069.39	-8969	-0.0001545	0.0005615	0.0035	1.444		8221.32	8221.32	1.35		Si
SLV 2	3.53	5593.66	-4641	-0.0142362	0.0005615	0.0035	1.444		4162.45	4162.45	0.74		No
SLD 3	1.63	-6208.06	-12871	-0.0001165	0.0005615	0.0035	1.805		11006.17	11006.17	1.77		Si
SLD 3	3.53	5868.2	-9216	-0.0001338	0.0005615	0.0035	1.805		7652.85	7652.85	1.3		Si
SLV 14	1.63	3336.22	-8685	-0.000061	0.0005615	0.0035	1.805		7304.7	7304.7	2.19		Si
SLV 14	3.53	-9346.56	-24883	-0.000191	0.0005615	0.0035	1.805		17867.85	17867.85	1.91		Si
SLV 4	1.63	-7534.26	-13882	-0.0001508	0.0005615	0.0035	1.444		11681.33	11681.33	1.55		Si
SLV 4	3.53	7833.53	-7816	-0.0118228	0.0005615	0.0035	1.444		6683.32	6683.32	0.85		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	1.63	-3790.55	-17452	-14533	2515	1.805	1.805	-28755	10778	5497	40441	15134	4603	19737	No	7.85	Si
SLU 84	3.53	-327.31	-24201	-20152	2459	1.805	1.805	-39874	10833	6996	40441	15134	4603	19737	No	8.03	Si
SLU 81	1.63	-3770.78	-17308	-14412	2493	1.805	1.805	-28517	10747	5465	40441	15134	4603	19737	No	7.92	Si
SLU 81	3.53	-343.6	-23970	-19960	2437	1.805	1.805	-39493	10833	6944	40441	15134	4603	19737	No	8.1	Si
SLU 83	1.63	-3827.94	-17564	-14625	2439	1.805	1.805	-28938	10803	5522	40441	15134	4603	19737	No	8.09	Si
SLU 83	3.53	-273.48	-24251	-20194	2382	1.805	1.805	-39957	10833	7007	40441	15134	4603	19737	No	8.29	Si
SLU 75	1.63	-3661.17	-16868	-14046	2393	1.805	1.805	-27792	10650	5383	40441	15134	4603	19737	No	8.25	Si
SLU 75	3.53	-250.98	-23304	-19405	2339	1.805	1.805	-38396	10833	6797	40441	15134	4603	19737	No	8.44	Si
SLU 82	1.63	-3733.38	-17196	-14320	2570	1.805	1.805	-28333	10722	5440	40441	15134	4603	19737	No	7.68	Si
SLU 82	3.53	-397.43	-23919	-19918	2514	1.805	1.805	-39410	10833	6933	40441	15134	4603	19737	No	7.85	Si
SLU 73	1.63	-3557.69	-16351	-13616	2438	1.805	1.805	-26940	10536	5325	40441	15134	4603	19737	No	8.1	Si
SLU 73	3.53	-328.21	-22682	-18888	2385	1.805	1.805	-37372	10833	6659	40441	15134	4603	19737	No	8.28	Si
SLU 76	1.63	-3614.85	-16607	-13829	2383	1.805	1.805	-27362	10593	5354	40441	15134	4603	19737	No	8.28	Si
SLU 76	3.53	-258.09	-22963	-19122	2330	1.805	1.805	-37835	10833	6721	40441	15134	4603	19737	No	8.47	Si
SLU 74	1.63	-3698.57	-16979	-14139	2317	1.805	1.805	-27976	10675	5395	40441	15134	4603	19737	No	8.52	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	3.53	-197.15	-23354	-19447	2262	1.805	1.805	-38479	10833	6808	40441	15134	4603	19737	No	8.73	Si
SLU 78	1.63	-3718.33	-17124	-14259	2339	1.805	1.805	-28214	10706	5424	40441	15134	4603	19737	No	8.44	Si
SLU 78	3.53	-180.86	-23585	-19639	2284	1.805	1.805	-38859	10833	6859	40441	15134	4603	19737	No	8.64	Si
SLU 40	1.63	-3217.82	-14980	-12474	2326	1.805	1.805	-24681	10235	5173	40441	15134	4603	19737	No	8.49	Si
SLU 40	3.53	-475.57	-21052	-17530	2278	1.805	1.805	-34686	10833	6296	40441	15134	4603	19737	No	8.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	1.63	1191.11	-9777	-8141	10189	1.805	1.805	-16108	13638	6893	40441	22701	4603	27304		2.68	Si
SLD 14	3.53	-5929.88	-21548	-17943	10077	1.805	1.805	-35503	16250	8213	40441	22701	4603	27304		2.71	Si
SLV 16	1.63	1871.35	-13598	-11323	12451	1.805	1.805	-22405	14898	7529	40441	22701	4603	27304		2.19	Si
SLV 16	3.53	-7106.68	-28058	-23364	12285	1.805	1.805	-46230	16250	8663	40441	22701	4603	27304		2.22	Si
SLV 3	1.63	-8353.16	-13963	-11627	-12230	1.444	0.9127	0	0	0	40441	18161	3682	21843		1.79	Si
SLV 3	3.53	9284.87	-5881	-4897	-12153	1.444	0	0	0	0	40441	18161	3682	21843		1.8	Si
SLV 1	1.63	-6888.29	-9050	-7536	-9480	1.444	0.424	0	0	0	40441	18161	3682	21843		2.3	Si
SLV 1	3.53	7044.99	-2706	-2253	-9387	1.444	0	0	0	0	40441	18161	3682	21843		2.33	Si
SLV 14	1.63	3336.22	-8685	-7232	15202	1.805	1.5551	-14310	13279	5782	40441	22701	4603	27304		1.8	Si
SLV 14	3.53	-9346.56	-24883	-20721	15051	1.805	1.5807	-48156	16250	7958	40441	22701	4603	27304		1.81	Si
SLV 4	1.63	-7534.26	-13882	-11560	-10080	1.444	1.0793	0	0	0	40441	18161	3682	21843		2.17	Si
SLV 4	3.53	7833.53	-7816	-6508	-10000	1.444	0	0	0	0	40441	18161	3682	21843		2.18	Si
SLV 13	1.63	2517.31	-8766	-7299	13052	1.805	1.805	-14443	13305	6724	40441	22701	4603	27304		2.09	Si
SLV 13	3.53	-7895.22	-22949	-19110	12898	1.805	1.6754	-41711	16250	7623	40441	22701	4603	27304		2.12	Si
SLV 2	1.63	-6069.39	-8969	-7469	-7330	1.444	0.6774	0	0	0	40441	18161	3682	21843		2.98	Si
SLV 2	3.53	5593.66	-4641	-3865	-7234	1.444	0	0	0	0	40441	18161	3682	21843		3.02	Si
SLV 10	1.63	1619.47	-3066	-2553	10174	1.805	1.1229	-5052	11427	3593	40441	22701	4603	27304		2.68	Si
SLV 10	3.53	-6493.54	-13779	-11474	10125	1.805	1.2937	-32221	16250	5886	40441	22701	4603	27304		2.7	Si
SLV 15	1.63	1052.44	-13679	-11390	10301	1.805	1.805	-22537	14924	7543	40441	22701	4603	27304		2.65	Si
SLV 15	3.53	-5655.35	-26123	-21753	10132	1.805	1.805	-43042	16250	8234	40441	22701	4603	27304		2.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.3	8663	-4378	158.71	578.18	3.64	Si
SLV 2	179667	0.3	11956	-6042	158.71	779.71	4.91	Si
SLV 5	179667	0.3	14305	-7230	158.71	917.36	5.78	Si
SLV 3	179667	0.3	14517	-7337	158.71	929.51	5.86	Si
SLV 6	179667	0.3	16522	-8350	158.71	1042.55	6.57	Si
SLV 4	179667	0.3	17810	-9001	158.71	1113.19	7.01	Si
SLV 9	179667	0.3	24534	-12400	158.71	1457.05	9.18	Si
SLV 10	179667	0.3	26751	-13520	158.71	1561.23	9.84	Si
SLV 7	179667	0.3	33818	-17092	158.71	1862.96	11.74	Si
SLV 8	179667	0.3	36035	-18212	158.71	1948.07	12.27	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-26883	-11058	-284	0.386	2998.2	0.973	5.75718	4.61192	Si
SLV 14	-26350	-5663	111	0.398	2943.9	0.973	5.95084	4.61192	Si
SLV 15	-24340	-11297	-276	0.42	2739.2	0.971	6.28418	4.61192	Si
SLV 13	-23807	-5903	119	0.434	2685	0.97	6.49979	4.61192	Si
SLV 12	-19427	-17226	-692	0.489	2239.1	0.965	7.36522	3.94002	Si
SLV 11	-17715	-17387	-687	0.529	2064.9	0.962	7.99151	3.94002	Si
SLV 10	-17651	757	624	0.534	2058.4	0.962	8.066	3.94002	Si, Trazione
SLV 9	-15939	595	629	0.582	1884.2	0.959	8.8188	3.94002	Si, Trazione
SLV 8	-12859	-17084	-648	0.696	1571.2	0.952	10.62633	3.94002	Si
SLV 7	-11147	-17245	-643	0.784	1397.5	0.946	12.04032	3.94002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.315	SLU 83	Si
V_SLU	7.681	SLU 82	Si
PF_SLV	0.361	SLV 1	No
V_SLV	1.786	SLV 3	Si
PFFP_SLV	3.643	SLV 1	Si
R_SLV	1.248	SLV 16	Si

Maschio 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.423	1.141	-24.614	1.141	L4	L5	5.191	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	0.73	-22824.68	-120082	-0.0001623	0.0004492	0.0035	5.1914	100960.79	209609.41	209609.41	9.18	No	Si
SLU 81	2.83	-18622.91	-106623	-0.0001382	0.0004492	0.0035	5.1914	110617.26	198994.21	198994.21	10.69	No	Si
SLU 75	0.73	-22606.97	-118423	-0.0001597	0.0004492	0.0035	5.1914	102437.23	208583.75	208583.75	9.23	No	Si
SLU 75	2.83	-17918.26	-104542	-0.0001346	0.0004492	0.0035	5.1914	111637.49	197062.78	197062.78	11	No	Si
SLU 80	0.73	-22702.96	-119106	-0.0001607	0.0004492	0.0035	5.1914	101838.82	209006.22	209006.22	9.21	No	Si
SLU 80	2.83	-18101.13	-105208	-0.0001357	0.0004492	0.0035	5.1914	111324.88	197680.65	197680.65	10.92	No	Si
SLU 84	0.73	-23304.68	-121812	-0.0001654	0.0004492	0.0035	5.1914	99334.8	210679.39	210679.39	9.04	No	Si
SLU 84	2.83	-18780.13	-108082	-0.0001404	0.0004492	0.0035	5.1914	109825.89	200349.39	200349.39	10.67	No	Si
SLU 76	0.73	-22640.2	-117688	-0.0001587	0.0004492	0.0035	5.1914	103065.05	208129.77	208129.77	9.19	No	Si
SLU 76	2.83	-17666.39	-103694	-0.0001332	0.0004492	0.0035	5.1914	112017.07	196275.45	196275.45	11.11	No	Si
SLU 83	0.73	-23054.34	-121625	-0.0001647	0.0004492	0.0035	5.1914	99515.49	210563.27	210563.27	9.13	No	Si
SLU 83	2.83	-18946.64	-108115	-0.0001406	0.0004492	0.0035	5.1914	109807.66	200379.4	200379.4	10.58	No	Si
SLU 77	0.73	-22586.29	-119778	-0.0001615	0.0004492	0.0035	5.1914	101237.31	209421.5	209421.5	9.27	No	Si
SLU 77	2.83	-18408.51	-106067	-0.0001372	0.0004492	0.0035	5.1914	110902.33	198477.98	198477.98	10.78	No	Si
SLU 82	0.73	-23075.02	-120269	-0.0001629	0.0004492	0.0035	5.1914	100788.57	209725.52	209725.52	9.09	No	Si
SLU 82	2.83	-18456.4	-106590	-0.000138	0.0004492	0.0035	5.1914	110634.08	198964.2	198964.2	10.78	No	Si
SLU 78	0.73	-22836.63	-119965	-0.0001621	0.0004492	0.0035	5.1914	101066.76	209537.61	209537.61	9.18	No	Si
SLU 78	2.83	-18242	-106034	-0.0001369	0.0004492	0.0035	5.1914	110918.63	198447.97	198447.97	10.88	No	Si
SLU 73	0.73	-22410.54	-116145	-0.0001563	0.0004492	0.0035	5.1914	104332.83	207175.9	207175.9	9.24	No	Si
SLU 73	2.83	-17342.66	-102202	-0.0001308	0.0004492	0.0035	5.1914	112633.87	194890.26	194890.26	11.24	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	0.73	-37892.6	-88462	-0.0001348	0.0006738	0.0035	5.1914		196430.29	196430.29	5.18		Si
SLV 10	2.83	2055.13	-64145	-0.0000649	0.0006738	0.0035	5.1914		141622.42	141622.42	68.91		Si
SLV 16	0.73	-29960	-51332	-0.0000845	0.0006738	0.0035	5.1914		131456.82	131456.82	4.39		Si
SLV 16	2.83	-2951.03	-43640	-0.0000453	0.0006738	0.0035	5.1914		116067.01	116067.01	39.33		Si
SLV 14	0.73	-40059.93	-60284	-0.0001061	0.0006738	0.0035	5.1914		148558.16	148558.16	3.71		Si
SLV 14	2.83	3347.45	-44435	-0.0000465	0.0006738	0.0035	5.1914		104051.96	104051.96	31.08		Si
SLD 16	0.73	-25037.44	-62468	-0.0000904	0.0006738	0.0035	5.1914		152617.5	152617.5	6.1		Si
SLD 16	2.83	-5864.93	-53497	-0.0000586	0.0006738	0.0035	5.1914		135719.22	135719.22	23.14		Si
SLD 15	0.73	-25960.36	-63167	-0.0000923	0.0006738	0.0035	5.1914		153915.92	153915.92	5.93		Si
SLD 15	2.83	-5153.75	-53527	-0.0000578	0.0006738	0.0035	5.1914		135778.35	135778.35	26.35		Si
SLV 15	0.73	-31414.78	-52433	-0.0000874	0.0006738	0.0035	5.1914		133624.63	133624.63	4.25		Si
SLV 15	2.83	-1830.02	-43688	-0.0000441	0.0006738	0.0035	5.1914		116165.43	116165.43	63.48		Si
SLD 14	0.73	-30958.34	-67710	-0.0001032	0.0006738	0.0035	5.1914		162082.08	162082.08	5.24		Si
SLD 14	2.83	-2170.45	-53958	-0.0000547	0.0006738	0.0035	5.1914		136627.2	136627.2	62.95		Si
SLV 9	0.73	-38871.99	-89204	-0.0001368	0.0006738	0.0035	5.1914		197563.44	197563.44	5.08		Si
SLV 9	2.83	2809.83	-64177	-0.0000659	0.0006738	0.0035	5.1914		141683.19	141683.19	50.42		Si
SLV 13	0.73	-41514.71	-61385	-0.000109	0.0006738	0.0035	5.1914		150604.81	150604.81	3.63		Si
SLV 13	2.83	4468.46	-44482	-0.0000479	0.0006738	0.0035	5.1914		104142.22	104142.22	23.31		Si
SLD 13	0.73	-31881.27	-68408	-0.0001051	0.0006738	0.0035	5.1914		163303.63	163303.63	5.12		Si
SLD 13	2.83	-1459.27	-53988	-0.0000539	0.0006738	0.0035	5.1914		136686.34	136686.34	93.67		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.73	-22836.63	-119965	-85580	-11890	5.1914	5.1914	-58875	10833	42628	115546	52239	26476	78715	No	6.62	Si
SLU 78	2.83	-18242	-106034	-75642	-12273	5.1914	5.1914	-52038	10833	38653	115546	52239	26476	78715	No	6.41	Si
SLU 72	0.73	-20763.08	-109191	-77894	-11880	5.1914	5.1914	-53587	10833	39553	115546	52239	26476	78715	No	6.63	Si
SLU 72	2.83	-15761.42	-95018	-67784	-12224	5.1914	5.1914	-46632	10833	35509	115546	52239	26476	78715	No	6.44	Si
SLU 80	0.73	-22702.96	-119106	-84967	-11822	5.1914	5.1914	-58453	10833	42383	115546	52239	26476	78715	No	6.66	Si
SLU 80	2.83	-18101.13	-105208	-75053	-12201	5.1914	5.1914	-51632	10833	38417	115546	52239	26476	78715	No	6.45	Si
SLU 77	0.73	-22586.29	-119778	-85446	-11948	5.1914	5.1914	-58783	10833	42574	115546	52239	26476	78715	No	6.59	Si
SLU 77	2.83	-18408.51	-106067	-75665	-12331	5.1914	5.1914	-52054	10833	38662	115546	52239	26476	78715	No	6.38	Si
SLU 79	0.73	-22452.62	-118918	-84833	-11880	5.1914	5.1914	-58361	10833	42329	115546	52239	26476	78715	No	6.63	Si
SLU 79	2.83	-18267.64	-105240	-75076	-12259	5.1914	5.1914	-51648	10833	38426	115546	52239	26476	78715	No	6.42	Si
SLU 69	0.73	-20646.41	-109862	-78373	-12007	5.1914	5.1914	-53917	10833	39745	115546	52239	26476	78715	No	6.56	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	2.83	-16068.8	-95877	-68396	-12353	5.1914	5.1914	-47053	10833	35755	115546	52239	26476	78715	No	6.37	Si
SLU 71	0.73	-20512.74	-109003	-77760	-11938	5.1914	5.1914	-53495	10833	39500	115546	52239	26476	78715	No	6.59	Si
SLU 71	2.83	-15927.94	-95051	-67807	-12282	5.1914	5.1914	-46648	10833	35519	115546	52239	26476	78715	No	6.41	Si
SLU 74	0.73	-22356.63	-118235	-84346	-11850	5.1914	5.1914	-58026	10833	42134	115546	52239	26476	78715	No	6.64	Si
SLU 74	2.83	-18084.77	-104574	-74601	-12227	5.1914	5.1914	-51322	10833	38236	115546	52239	26476	78715	No	6.44	Si
SLU 70	0.73	-20896.75	-110050	-78507	-11949	5.1914	5.1914	-54009	10833	39799	115546	52239	26476	78715	No	6.59	Si
SLU 70	2.83	-15902.29	-95845	-68373	-12295	5.1914	5.1914	-47037	10833	35745	115546	52239	26476	78715	No	6.4	Si
SLU 66	0.73	-20416.75	-108319	-77272	-11908	5.1914	5.1914	-53160	10833	39305	115546	52239	26476	78715	No	6.61	Si
SLU 66	2.83	-15745.07	-94385	-67332	-12249	5.1914	5.1914	-46321	10833	35329	115546	52239	26476	78715	No	6.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	0.73	-31881.27	-68408	-48801	-23764	5.1914	5.1914	-33573	16250	32115	115546	78358	26476	104834		4.41	Si
SLD 13	2.83	-1459.27	-53988	-38514	-23420	5.1914	5.1914	-26496	16250	28001	115546	78358	26476	104834		4.48	Si
SLD 15	0.73	-25960.36	-63167	-45062	-24950	5.1914	5.1914	-31000	16250	30620	115546	78358	26476	104834		4.2	Si
SLD 15	2.83	-5153.75	-53527	-38185	-24548	5.1914	5.1914	-26269	16250	27869	115546	78358	26476	104834		4.27	Si
SLV 15	0.73	-31414.78	-52433	-37404	-34087	5.1914	5.1914	-25732	16250	27557	115546	78358	26476	104834		3.08	Si
SLV 15	2.83	-1830.02	-43688	-31166	-33327	5.1914	5.1914	-21441	16250	25061	115546	78358	26476	104834		3.15	Si
SLD 14	0.73	-30958.34	-67710	-48303	-23059	5.1914	5.1914	-33230	16250	31916	115546	78358	26476	104834		4.55	Si
SLD 14	2.83	-2170.45	-53958	-38493	-22714	5.1914	5.1914	-26481	16250	27992	115546	78358	26476	104834		4.62	Si
SLV 16	0.73	-29960	-51332	-36619	-32975	5.1914	5.1914	-25192	16250	27243	115546	78358	26476	104834		3.18	Si
SLV 16	2.83	-2951.03	-43640	-31132	-32215	5.1914	5.1914	-21417	16250	25048	115546	78358	26476	104834		3.25	Si
SLV 12	0.73	-4226.17	-58622	-41820	-19018	5.1914	5.1914	-28770	16250	29323	115546	78358	26476	104834		5.51	Si
SLV 12	2.83	-18939.8	-61497	-43870	-18828	5.1914	5.1914	-30180	16250	30143	115546	78358	26476	104834		5.57	Si
SLV 14	0.73	-40059.93	-60284	-43005	-30951	5.1914	5.1914	-29585	16250	29797	115546	78358	26476	104834		3.39	Si
SLV 14	2.83	3347.45	-44435	-31699	-30283	5.1914	5.1914	-21807	16250	25275	115546	78358	26476	104834		3.46	Si
SLD 16	0.73	-25037.44	-62468	-44563	-24244	5.1914	5.1914	-30657	16250	30420	115546	78358	26476	104834		4.32	Si
SLD 16	2.83	-5864.93	-53497	-38164	-23842	5.1914	5.1914	-26255	16250	27860	115546	78358	26476	104834		4.4	Si
SLV 13	0.73	-41514.71	-61385	-43791	-32063	5.1914	5.1914	-30126	16250	30111	115546	78358	26476	104834		3.27	Si
SLV 13	2.83	4468.46	-44482	-31733	-31396	5.1914	5.1914	-21831	16250	25288	115546	78358	26476	104834		3.34	Si
SLV 11	0.73	-5205.56	-59363	-42348	-19766	5.1914	5.1914	-29134	16250	29534	115546	78358	26476	104834		5.3	Si
SLV 11	2.83	-18185.11	-61528	-43893	-19577	5.1914	5.1914	-30196	16250	30152	115546	78358	26476	104834		5.35	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-44541	0.3	468.24	5193.2	7380.13	6286.66	13.43	Si
SLV 15	-44588	0.3	468.24	5197.62	7387.05	6292.33	13.44	Si
SLV 14	-45350	0.3	468.24	5268.27	7498.49	6383.38	13.63	Si
SLV 13	-45397	0.3	468.24	5272.64	7505.42	6389.03	13.64	Si
SLV 12	-62413	0.3	468.24	6690.85	9952.68	8321.76	17.77	Si
SLV 11	-62445	0.3	468.24	6693.22	9957.24	8325.23	17.78	Si
SLV 10	-65111	0.3	468.24	6887.73	10334.43	8611.08	18.39	Si
SLV 9	-65143	0.3	468.24	6890.02	10338.82	8614.42	18.4	Si
SLV 8	-78535	0.3	468.24	7753.81	12160.45	9957.13	21.27	Si
SLV 7	-78567	0.3	468.24	7755.64	12164.6	9960.12	21.27	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-80289	-111540	-348	0.379	8925.6	0.974	5.65343	4.61192	Si
SLV 2	-80139	-110439	-349	0.379	8910.4	0.974	5.66235	4.61192	Si
SLV 3	-78964	-102588	116	0.387	8790.7	0.974	5.77737	4.61192	Si
SLV 4	-78814	-101487	114	0.388	8775.4	0.974	5.78724	4.61192	Si
SLV 5	-70273	-104250	-818	0.418	7905.6	0.971	6.25832	3.94002	Si
SLV 6	-70172	-103509	-820	0.419	7895.3	0.971	6.26597	3.94002	Si
SLV 7	-65856	-74410	727	0.443	7455.9	0.969	6.64436	3.94002	Si
SLV 8	-65755	-73669	726	0.444	7445.6	0.969	6.65353	3.94002	Si
SLV 9	-60384	-89204	-758	0.477	6898.8	0.967	7.16399	3.94002	Si
SLV 10	-60283	-88462	-759	0.477	6888.5	0.967	7.17428	3.94002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.04	SLU 84	Si
V_SLU	6.372	SLU 69	Si
PF_SLV	3.628	SLV 13	Si
V_SLV	3.075	SLV 15	Si
PFFP_SLV	13.426	SLV 16	Si
R_SLV	1.226	SLV 1	Si

Maschio 78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-18.623	1.141	L4	L5	6.36	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0.73	66385.26	-179440	-0.0002373	0.0004492	0.0035	6.36	100050.45	330057.34	330057.34	4.97	No	Si
SLU 84	3.23	40664.22	-149698	-0.0001717	0.0004492	0.0035	6.36	148534.82	309702.95	309702.95	7.62	No	Si
SLU 77	0.73	64638.73	-176282	-0.0002308	0.0004492	0.0035	6.36	106425.49	327896.07	327896.07	5.07	No	Si
SLU 77	3.23	39905.94	-146531	-0.0001673	0.0004492	0.0035	6.36	152175.03	305886.08	305886.08	7.67	No	Si
SLU 83	0.73	66189.33	-179810	-0.0002375	0.0004492	0.0035	6.36	99283.51	330310.87	330310.87	4.99	No	Si
SLU 83	3.23	40539.88	-149787	-0.0001716	0.0004492	0.0035	6.36	148428.26	309763.88	309763.88	7.64	No	Si
SLU 76	0.73	63905.88	-171901	-0.0002241	0.0004492	0.0035	6.36	114785.6	324898.23	324898.23	5.08	No	Si
SLU 76	3.23	39433.63	-142983	-0.0001628	0.0004492	0.0035	6.36	155904.66	301493.7	301493.7	7.65	No	Si
SLU 78	0.73	64834.67	-175911	-0.0002306	0.0004492	0.0035	6.36	107154.21	327642.55	327642.55	5.05	No	Si
SLU 78	3.23	40030.28	-146442	-0.0001673	0.0004492	0.0035	6.36	152273.11	305775.87	305775.87	7.64	No	Si
SLU 82	0.73	65715.62	-176898	-0.0002329	0.0004492	0.0035	6.36	105204.89	328317.64	328317.64	5	No	Si
SLU 82	3.23	40253.16	-147394	-0.0001686	0.0004492	0.0035	6.36	151212.53	306954.11	306954.11	7.63	No	Si
SLU 80	0.73	64444.9	-174690	-0.0002284	0.0004492	0.0035	6.36	109527.62	326806.94	326806.94	5.07	No	Si
SLU 80	3.23	39761.79	-145347	-0.0001658	0.0004492	0.0035	6.36	153460.73	304420.1	304420.1	7.66	No	Si
SLU 75	0.73	64165.02	-173369	-0.0002263	0.0004492	0.0035	6.36	112046.49	325902.85	325902.85	5.08	No	Si
SLU 75	3.23	39619.23	-144137	-0.0001643	0.0004492	0.0035	6.36	154731.46	302922.94	302922.94	7.65	No	Si
SLU 79	0.73	64248.97	-175061	-0.0002287	0.0004492	0.0035	6.36	108812.11	327060.47	327060.47	5.09	No	Si
SLU 79	3.23	39637.45	-145436	-0.0001658	0.0004492	0.0035	6.36	153365.5	304530.31	304530.31	7.68	No	Si
SLU 81	0.73	65519.68	-177268	-0.0002332	0.0004492	0.0035	6.36	104465.48	328571.17	328571.17	5.01	No	Si
SLU 81	3.23	40128.82	-147483	-0.0001686	0.0004492	0.0035	6.36	151111.98	307064.32	307064.32	7.65	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.73	81487.7	-93514	-0.0001414	0.0006738	0.0035	6.36		247391.15	247391.15	3.04		Si
SLV 5	3.23	37243.42	-89422	-0.0001014	0.0006738	0.0035	6.36		237836.35	237836.35	6.39		Si
SLV 2	0.73	119689.8	-112040	-0.0001921	0.0006738	0.0035	6.36		281639.44	281639.44	2.35		Si
SLV 2	3.23	19164.7	-96784	-0.0000933	0.0006738	0.0035	6.36		253917.37	253917.37	13.25		Si
SLD 1	0.73	91504.21	-115053	-0.0001705	0.0006738	0.0035	6.36		287114.67	287114.67	3.14		Si
SLD 1	3.23	23179	-97331	-0.000097	0.0006738	0.0035	6.36		254909.98	254909.98	11		Si
SLD 2	0.73	92129.46	-114636	-0.0001707	0.0006738	0.0035	6.36		286357.22	286357.22	3.11		Si
SLD 2	3.23	21963.9	-96930	-0.0000957	0.0006738	0.0035	6.36		254182.09	254182.09	11.57		Si
SLV 1	0.73	118704.24	-112697	-0.0001918	0.0006738	0.0035	6.36		282833.37	282833.37	2.38		Si
SLV 1	3.23	21080.01	-97416	-0.0000954	0.0006738	0.0035	6.36		255064.72	255064.72	12.1		Si
SLV 4	0.73	109530.91	-127252	-0.0001985	0.0006738	0.0035	6.36		309283.03	309283.03	2.82		Si
SLV 4	3.23	11626.55	-101839	-0.0000916	0.0006738	0.0035	6.36		263103.24	263103.24	22.63		Si
SLD 3	0.73	85565.69	-123967	-0.0001742	0.0006738	0.0035	6.36		303314.15	303314.15	3.54		Si
SLD 3	3.23	18766.15	-100290	-0.000096	0.0006738	0.0035	6.36		260288.46	260288.46	13.87		Si
SLV 3	0.73	108545.35	-127909	-0.0001983	0.0006738	0.0035	6.36		310476.96	310476.96	2.86		Si
SLV 3	3.23	13541.87	-102471	-0.0000937	0.0006738	0.0035	6.36		264250.6	264250.6	19.51		Si
SLV 6	0.73	82151.21	-93071	-0.0001416	0.0006738	0.0035	6.36		246358.23	246358.23	3		Si
SLV 6	3.23	35953.98	-88997	-0.0001	0.0006738	0.0035	6.36		236843.72	236843.72	6.59		Si
SLD 4	0.73	86190.94	-123550	-0.0001743	0.0006738	0.0035	6.36		302556.71	302556.71	3.51		Si
SLD 4	3.23	17551.05	-99890	-0.0000947	0.0006738	0.0035	6.36		259560.57	259560.57	14.79		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.73	64638.73	-176282	-125755	7388	6.36	6.36	-70617	10833	60587	115546	63998	32436	96434	No	13.05	Si
SLU 77	3.23	39905.94	-146531	-104532	10675	6.36	6.36	-58699	10833	52098	115546	63998	32436	96434	No	9.03	Si
SLU 83	0.73	66189.33	-179810	-128272	7719	6.36	6.36	-72031	10833	61594	115546	63998	32436	96434	No	12.49	Si
SLU 83	3.23	40539.88	-149787	-106855	11056	6.36	6.36	-60004	10833	53027	115546	63998	32436	96434	No	8.72	Si
SLU 74	0.73	63969.09	-173740	-123942	7280	6.36	6.36	-69599	10833	59862	115546	63998	32436	96434	No	13.25	Si
SLU 74	3.23	39494.88	-144226	-102887	10536	6.36	6.36	-57776	10833	51441	115546	63998	32436	96434	No	9.15	Si
SLU 81	0.73	65519.68	-177268	-126459	7611	6.36	6.36	-71012	10833	60869	115546	63998	32436	96434	No	12.67	Si
SLU 81	3.23	40128.82	-147483	-105211	10917	6.36	6.36	-59081	10833	52370	115546	63998	32436	96434	No	8.83	Si
SLU 79	0.73	64248.97	-175061	-124884	7364	6.36	6.36	-70128	10833	60239	115546	63998	32436	96434	No	13.1	Si
SLU 79	3.23	39637.45	-145436	-103750	10629	6.36	6.36	-58260	10833	51786	115546	63998	32436	96434	No	9.07	Si
SLU 80	0.73	64444.9	-174690	-124620	7203	6.36	6.36	-69980	10833	60133	115546	63998	32436	96434	No	13.39	Si
SLU 80	3.23	39761.79	-145347	-103687	10509	6.36	6.36	-58225	10833	51760	115546	63998	32436	96434	No	9.18	Si
SLU 84	0.73	66385.26	-179440	-128008	7559	6.36	6.36	-71882	10833	61488	115546	63998	32436	96434	No	12.76	Si
SLU 84	3.23	40664.22	-149698	-106791	10937	6.36	6.36	-59968	10833	53002	115546	63998	32436	96434	No	8.82	Si
SLU 82	0.73	65715.62	-176898	-126195	7451	6.36	6.36	-70864	10833	60763	115546	63998	32436	96434	No	12.94	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	3.23	40253.16	-147394	-105147	10798	6.36	6.36	-59045	10833	52344	115546	63998	32436	96434	No	8.93	Si
SLU 78	0.73	64834.67	-175911	-125491	7228	6.36	6.36	-70469	10833	60482	115546	63998	32436	96434	No	13.34	Si
SLU 78	3.23	40030.28	-146442	-104468	10556	6.36	6.36	-58664	10833	52073	115546	63998	32436	96434	No	9.14	Si
SLU 75	0.73	64165.02	-173369	-123677	7120	6.36	6.36	-69450	10833	59756	115546	63998	32436	96434	No	13.54	Si
SLU 75	3.23	39619.23	-144137	-102824	10417	6.36	6.36	-57740	10833	51415	115546	63998	32436	96434	No	9.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	0.73	-21951.8	-108901	-77688	-41453	6.36	6.36	-43625	16250	46505	115546	95996	32436	128432		3.1	Si
SLV 13	3.23	43028.14	-91721	-65431	-33916	6.36	6.36	-36743	16250	41602	115546	95996	32436	128432		3.79	Si
SLV 4	0.73	109530.91	-127252	-90778	51183	6.36	6.36	-50976	16250	51741	115546	95996	32436	128432		2.51	Si
SLV 4	3.23	11626.55	-101839	-72650	48187	6.36	6.36	-40796	16250	44490	115546	95996	32436	128432		2.67	Si
SLV 15	0.73	-32110.7	-124113	-88539	-35102	6.36	6.36	-49719	16250	50845	115546	95996	32436	128432		3.66	Si
SLV 15	3.23	35490	-96776	-69037	-29366	6.36	6.36	-38768	16250	43045	115546	95996	32436	128432		4.37	Si
SLV 16	0.73	-31125.14	-123456	-88071	-33359	6.36	6.36	-49456	16250	50658	115546	95996	32436	128432		3.85	Si
SLV 16	3.23	33574.68	-96144	-68587	-27857	6.36	6.36	-38515	16250	42865	115546	95996	32436	128432		4.61	Si
SLD 3	0.73	85565.69	-123967	-88435	33236	6.36	6.36	-49660	16250	50804	115546	95996	32436	128432		3.86	Si
SLD 3	3.23	18766.15	-100290	-71545	32332	6.36	6.36	-40176	16250	44048	115546	95996	32436	128432		3.97	Si
SLV 2	0.73	119689.8	-112040	-79926	44831	6.36	6.3352	-44882	16250	47400	115546	95996	32436	128432		2.86	Si
SLV 2	3.23	19164.7	-96784	-69044	43637	6.36	6.36	-38771	16250	43047	115546	95996	32436	128432		2.94	Si
SLV 14	0.73	-20966.24	-108244	-77219	-39710	6.36	6.36	-43362	16250	46317	115546	95996	32436	128432		3.23	Si
SLV 14	3.23	41112.83	-91089	-64981	-32408	6.36	6.36	-36490	16250	41422	115546	95996	32436	128432		3.96	Si
SLD 4	0.73	86190.94	-123550	-88138	34342	6.36	6.36	-49493	16250	50685	115546	95996	32436	128432		3.74	Si
SLD 4	3.23	17551.05	-99890	-71259	33289	6.36	6.36	-40015	16250	43933	115546	95996	32436	128432		3.86	Si
SLV 1	0.73	118704.24	-112697	-80395	43088	6.36	6.36	-45146	16250	47588	115546	95996	32436	128432		2.98	Si
SLV 1	3.23	21080.01	-97416	-69494	42128	6.36	6.36	-39024	16250	43227	115546	95996	32436	128432		3.05	Si
SLV 3	0.73	108545.35	-127909	-91247	49439	6.36	6.36	-51239	16250	51928	115546	95996	32436	128432		2.6	Si
SLV 3	3.23	13541.87	-102471	-73100	46679	6.36	6.36	-41049	16250	44670	115546	95996	32436	128432		2.75	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-91735	0.3	573.64	9233.28	14301.05	11767.16	20.51	Si
SLV 9	-92252	0.3	573.64	9264.81	14372.24	11818.53	20.6	Si
SLV 6	-92399	0.3	573.64	9273.79	14392.6	11833.19	20.63	Si
SLV 5	-92916	0.3	573.64	9305.03	14460.07	11882.55	20.71	Si
SLV 14	-99498	0.3	573.64	9683.32	15316.02	12499.67	21.79	Si
SLV 13	-100265	0.3	573.64	9724.97	15415.77	12570.37	21.91	Si
SLV 2	-101711	0.3	573.64	9802.14	15603.89	12703.02	22.14	Si
SLV 1	-102478	0.3	573.64	9842.34	15700.08	12771.21	22.26	Si
SLV 16	-106924	0.3	573.64	10065.41	16247.01	13156.21	22.93	Si
SLV 15	-107691	0.3	573.64	10102.17	16341.38	13221.77	23.05	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-96913	-127909	-60	0.387	10787.2	0.974	5.78027	4.61192	Si
SLV 4	-96555	-127252	-60	0.388	10750.8	0.974	5.79886	4.61192	Si
SLV 1	-90074	-112697	-378	0.409	10090.8	0.972	6.11277	4.61192	Si
SLV 2	-89717	-112040	-379	0.41	10054.3	0.972	6.134	4.61192	Si
SLV 15	-88938	-124113	353	0.414	9975	0.972	6.18517	4.61192	Si
SLV 16	-88580	-123456	352	0.415	9938.6	0.972	6.20714	4.61192	Si
SLV 7	-102041	-144221	456	0.367	11309.6	0.975	5.47135	3.94002	Si
SLV 8	-101801	-143778	456	0.368	11285	0.975	5.48266	3.94002	Si
SLV 11	-99649	-143082	580	0.373	11065.9	0.974	5.56801	3.94002	Si
SLV 12	-99408	-142640	579	0.374	11041.3	0.974	5.57981	3.94002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.972	SLU 84	Si
V_SLU	8.722	SLU 83	Si
PF_SLV	2.353	SLV 2	Si
V_SLV	2.509	SLV 4	Si
PFFP_SLV	20.513	SLV 10	Si
R_SLV	1.253	SLV 3	Si

Maschio 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-11.143	1.141	L4	L5	6.25	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	0.73	-10607.38	-109691	-0.0001036	0.0004492	0.0035	6.25	166940.54	267420.3	267420.3	25.21	No	Si
SLU 51	3.23	-2608.74	-86243	-0.0000743	0.0004492	0.0035	6.25	160808.76	230947.05	230947.05	88.53	No	Si
SLU 72	0.73	-11060.81	-126379	-0.0001207	0.0004492	0.0035	6.25	161515.73	286122.61	286122.61	25.87	No	Si
SLU 72	3.23	-2308.8	-101023	-0.0000877	0.0004492	0.0035	6.25	166546.02	255379.79	255379.79	110.61	No	Si
SLU 50	0.73	-10582.39	-109296	-0.0001032	0.0004492	0.0035	6.25	166970.28	266978.33	266978.33	25.23	No	Si
SLU 50	3.23	-2604.17	-86031	-0.0000741	0.0004492	0.0035	6.25	160679.53	230556.85	230556.85	88.53	No	Si
SLU 45	0.73	-10505.52	-108304	-0.0001021	0.0004492	0.0035	6.25	167024.98	265866.44	265866.44	25.31	No	Si
SLU 45	3.23	-2616.53	-85110	-0.0000733	0.0004492	0.0035	6.25	160105.26	228868.9	228868.9	87.47	No	Si
SLU 46	0.73	-10530.5	-108699	-0.0001025	0.0004492	0.0035	6.25	167006.68	266308.42	266308.42	25.29	No	Si
SLU 46	3.23	-2621.11	-85323	-0.0000735	0.0004492	0.0035	6.25	160240.21	229259.1	229259.1	87.47	No	Si
SLU 48	0.73	-10608.85	-110204	-0.0001041	0.0004492	0.0035	6.25	166894.99	267995.97	267995.97	25.26	No	Si
SLU 48	3.23	-2581.56	-86829	-0.0000748	0.0004492	0.0035	6.25	161157.42	232020.4	232020.4	89.88	No	Si
SLU 47	0.73	-10520.71	-108053	-0.0001019	0.0004492	0.0035	6.25	167034.25	265585.43	265585.43	25.24	No	Si
SLU 47	3.23	-2646.76	-84667	-0.0000729	0.0004492	0.0035	6.25	159819.74	228055.68	228055.68	86.16	No	Si
SLU 44	0.73	-10417.38	-106153	-0.0001	0.0004492	0.0035	6.25	167044.76	263299.34	263299.34	25.28	No	Si
SLU 44	3.23	-2681.73	-82948	-0.0000714	0.0004492	0.0035	6.25	158658.97	224904.18	224904.18	83.87	No	Si
SLU 49	0.73	-10633.83	-110599	-0.0001045	0.0004492	0.0035	6.25	166854.79	268437.94	268437.94	25.24	No	Si
SLU 49	3.23	-2586.14	-87042	-0.000075	0.0004492	0.0035	6.25	161281.68	232393.23	232393.23	89.86	No	Si
SLU 43	0.73	-10375.74	-105496	-0.0000993	0.0004492	0.0035	6.25	167023.83	262284.65	262284.65	25.28	No	Si
SLU 43	3.23	-2674.1	-82593	-0.0000711	0.0004492	0.0035	6.25	158408.69	224253.84	224253.84	83.86	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.73	-11233.14	-141001	-100587	-109	6.25	6.25	-57478	10833	50343	115546	62891	31875	94766	No	868.3	Si
SLU 82	3.23	-1888.99	-114332	-81562	-72	6.25	6.25	-46607	10833	42733	115546	62891	31875	94766	No	1320.48	Si
SLU 78	0.73	-11352.56	-140183	-100003	-109	6.25	6.25	-57145	10833	50109	115546	62891	31875	94766	No	872.16	Si
SLU 78	3.23	-1943.38	-113544	-80999	-72	6.25	6.25	-46285	10833	42508	115546	62891	31875	94766	No	1325.11	Si
SLU 80	0.73	-11326.1	-139275	-99356	-108	6.25	6.25	-56775	10833	49850	115546	62891	31875	94766	No	878.12	Si
SLU 80	3.23	-1965.98	-112746	-80430	-71	6.25	6.25	-45960	10833	42280	115546	62891	31875	94766	No	1335.06	Si
SLU 81	0.73	-11208.16	-140607	-100306	-109	6.25	6.25	-57318	10833	50230	115546	62891	31875	94766	No	866.37	Si
SLU 81	3.23	-1884.42	-114119	-81410	-72	6.25	6.25	-46520	10833	42672	115546	62891	31875	94766	No	1319.07	Si
SLU 77	0.73	-11327.57	-139789	-99722	-109	6.25	6.25	-56984	10833	49997	115546	62891	31875	94766	No	870.22	Si
SLU 77	3.23	-1938.8	-113331	-80848	-72	6.25	6.25	-46199	10833	42447	115546	62891	31875	94766	No	1323.69	Si
SLU 84	0.73	-11336.47	-142902	-101943	-111	6.25	6.25	-58253	10833	50885	115546	62891	31875	94766	No	856.47	Si
SLU 84	3.23	-1854.03	-116051	-82788	-73	6.25	6.25	-47307	10833	43223	115546	62891	31875	94766	No	1300.86	Si
SLU 74	0.73	-11224.24	-137889	-98366	-107	6.25	6.25	-56209	10833	49454	115546	62891	31875	94766	No	882.44	Si
SLU 74	3.23	-1973.77	-111612	-79622	-71	6.25	6.25	-45498	10833	41957	115546	62891	31875	94766	No	1344.01	Si
SLU 75	0.73	-11249.23	-138283	-98648	-107	6.25	6.25	-56370	10833	49567	115546	62891	31875	94766	No	884.43	Si
SLU 75	3.23	-1978.35	-111825	-79773	-70	6.25	6.25	-45585	10833	42017	115546	62891	31875	94766	No	1345.47	Si
SLU 79	0.73	-11301.12	-138881	-99074	-108	6.25	6.25	-56614	10833	49737	115546	62891	31875	94766	No	876.16	Si
SLU 79	3.23	-1961.4	-112533	-80278	-71	6.25	6.25	-45873	10833	42219	115546	62891	31875	94766	No	1333.62	Si
SLU 83	0.73	-11311.48	-142507	-101661	-111	6.25	6.25	-58092	10833	50772	115546	62891	31875	94766	No	854.6	Si
SLU 83	3.23	-1849.45	-115838	-82636	-73	6.25	6.25	-47221	10833	43162	115546	62891	31875	94766	No	1299.49	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-62899	0.3	563.72	7079.01	10213.74	8646.38	15.34	Si
SLV 8	-63462	0.3	563.72	7126.76	10294.71	8710.73	15.45	Si
SLV 11	-64359	0.3	563.72	7202.28	10423.79	8813.04	15.63	Si
SLV 12	-64922	0.3	563.72	7249.31	10504.78	8877.04	15.75	Si
SLV 3	-72394	0.3	563.72	7847.59	11575.08	9711.34	17.23	Si
SLV 4	-73230	0.3	563.72	7911.48	11694.58	9803.03	17.39	Si
SLV 15	-77260	0.3	563.72	8210.93	12270.97	10240.95	18.17	Si
SLV 16	-78095	0.3	563.72	8271.27	12387.14	10329.2	18.32	Si
SLV 1	-82109	0.3	563.72	8552.54	12939.86	10746.2	19.06	Si
SLV 2	-82945	0.3	563.72	8609.34	13055	10832.17	19.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-76062	-108694	26	0.469	8648.1	0.968	7.04702	4.61192	Si
SLV 13	-75502	-107339	24	0.472	8591.2	0.968	7.09334	4.61192	Si
SLV 2	-72324	-96904	-169	0.488	8267.6	0.967	7.3396	4.61192	Si
SLV 1	-71764	-95550	-171	0.492	8210.6	0.967	7.38973	4.61192	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-69369	-92460	168	0.506	7966.8	0.966	7.6149	4.61192	Si
SLV 10	-82471	-123286	-209	0.436	9300.6	0.97	6.53159	3.94002	Si
SLV 15	-68809	-91105	167	0.51	7909.9	0.965	7.66988	4.61192	Si
SLV 9	-82094	-122374	-210	0.438	9262.3	0.97	6.55773	3.94002	Si
SLV 6	-81349	-119749	-267	0.441	9186.4	0.97	6.60061	3.94002	Si
SLV 5	-80973	-118837	-269	0.442	9148.1	0.97	6.6274	3.94002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	25.211	SLU 51	Si
V_SLU	854.596	SLU 83	Si
PFFP_SLV	15.338	SLV 7	Si
R_SLV	1.528	SLV 14	Si

Maschio 80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L4	L5	3.97	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	0.73	25583.58	-96007	-0.0002025	0.0004492	0.0035	3.97	55867.17	121745.82	121745.82	4.76	No	Si
SLU 80	2.83	17054.45	-84736	-0.000159	0.0004492	0.0035	3.97	63265.89	113992.39	113992.39	6.68	No	Si
SLU 84	0.73	26105.5	-98014	-0.000208	0.0004492	0.0035	3.97	54159.89	122608.03	122608.03	4.7	No	Si
SLU 84	2.83	17603.09	-86860	-0.0001642	0.0004492	0.0035	3.97	62155.49	115639.23	115639.23	6.57	No	Si
SLU 82	0.73	25824.64	-96691	-0.0002046	0.0004492	0.0035	3.97	55298.69	122039.59	122039.59	4.73	No	Si
SLU 82	2.83	17346.65	-85571	-0.0001612	0.0004492	0.0035	3.97	62845.3	114639.49	114639.49	6.61	No	Si
SLU 83	0.73	26088.79	-98042	-0.000208	0.0004492	0.0035	3.97	54135.6	122619.88	122619.88	4.7	No	Si
SLU 83	2.83	17593.75	-86888	-0.0001642	0.0004492	0.0035	3.97	62139.77	115661.24	115661.24	6.57	No	Si
SLU 79	0.73	25566.87	-96034	-0.0002025	0.0004492	0.0035	3.97	55844.5	121757.67	121757.67	4.76	No	Si
SLU 79	2.83	17045.12	-84765	-0.000159	0.0004492	0.0035	3.97	63251.92	114014.39	114014.39	6.69	No	Si
SLU 78	0.73	25742.14	-96662	-0.0002043	0.0004492	0.0035	3.97	55322.96	122027.19	122027.19	4.74	No	Si
SLU 78	2.83	17150.58	-85346	-0.0001603	0.0004492	0.0035	3.97	62960.34	114465.58	114465.58	6.67	No	Si
SLU 81	0.73	25807.94	-96718	-0.0002046	0.0004492	0.0035	3.97	55275.46	122051.45	122051.45	4.73	No	Si
SLU 81	2.83	17337.32	-85599	-0.0001613	0.0004492	0.0035	3.97	62830.64	114661.49	114661.49	6.61	No	Si
SLU 74	0.73	25444.58	-95366	-0.0002009	0.0004492	0.0035	3.97	56387.31	121470.61	121470.61	4.77	No	Si
SLU 74	2.83	16884.81	-84085	-0.0001574	0.0004492	0.0035	3.97	63579.7	113487.83	113487.83	6.72	No	Si
SLU 75	0.73	25461.28	-95338	-0.0002008	0.0004492	0.0035	3.97	56409.45	121458.76	121458.76	4.77	No	Si
SLU 75	2.83	16894.14	-84057	-0.0001574	0.0004492	0.0035	3.97	63593.1	113465.83	113465.83	6.72	No	Si
SLU 77	0.73	25725.44	-96689	-0.0002043	0.0004492	0.0035	3.97	55299.76	122039.05	122039.05	4.74	No	Si
SLU 77	2.83	17141.24	-85375	-0.0001604	0.0004492	0.0035	3.97	62945.86	114487.58	114487.58	6.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	0.73	31843.33	-52581	-0.000133	0.0006738	0.0035	3.97		87989.15	87989.15	2.76		Si
SLV 2	2.83	6222.08	-40217	-0.0000632	0.0006738	0.0035	3.97		69936.5	69936.5	11.24		Si
SLV 3	0.73	29922.07	-52193	-0.0001284	0.0006738	0.0035	3.97		87423.33	87423.33	2.92		Si
SLV 3	2.83	5858.96	-40171	-0.0000624	0.0006738	0.0035	3.97		69869.35	69869.35	11.93		Si
SLD 4	0.73	26075.4	-57234	-0.0001277	0.0006738	0.0035	3.97		94782.58	94782.58	3.63		Si
SLD 4	2.83	7734.36	-46285	-0.0000744	0.0006738	0.0035	3.97		78796.3	78796.3	10.19		Si
SLV 1	0.73	30982.05	-52369	-0.0001309	0.0006738	0.0035	3.97		87679.02	87679.02	2.83		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	2.83	6335.32	-40281	-0.0000635	0.0006738	0.0035	3.97		70029.76	70029.76	11.05		Si
SLV 4	0.73	30783.35	-52406	-0.0001305	0.0006738	0.0035	3.97		87733.46	87733.46	2.85		Si
SLV 4	2.83	5745.72	-40107	-0.0000621	0.0006738	0.0035	3.97		69776.09	69776.09	12.14		Si
SLV 5	0.73	23166.28	-61995	-0.0001285	0.0006738	0.0035	3.97		100697.28	100697.28	4.35		Si
SLV 5	2.83	10552.27	-52246	-0.0000883	0.0006738	0.0035	3.97		87499.36	87499.36	8.29		Si
SLD 1	0.73	26152.92	-57203	-0.0001278	0.0006738	0.0035	3.97		94738.41	94738.41	3.62		Si
SLD 1	2.83	8089.36	-46393	-0.0000752	0.0006738	0.0035	3.97		78953.87	78953.87	9.76		Si
SLD 2	0.73	26699.32	-57338	-0.0001292	0.0006738	0.0035	3.97		94935.16	94935.16	3.56		Si
SLD 2	2.83	8017.51	-46352	-0.000075	0.0006738	0.0035	3.97		78894.7	78894.7	9.84		Si
SLD 3	0.73	25529	-57099	-0.0001263	0.0006738	0.0035	3.97		94585.83	94585.83	3.71		Si
SLD 3	2.83	7806.2	-46325	-0.0000746	0.0006738	0.0035	3.97		78855.47	78855.47	10.1		Si
SLV 6	0.73	23746.11	-62138	-0.00013	0.0006738	0.0035	3.97		100859.88	100859.88	4.25		Si
SLV 6	2.83	10476.04	-52203	-0.0000881	0.0006738	0.0035	3.97		87436.57	87436.57	8.35		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	0.73	23588.14	-87567	-62468	9315	3.97	3.97	-56196	10833	31408	115546	39948	20247	60195	No	6.46	Si
SLU 67	2.83	15015.63	-76093	-54283	9270	3.97	3.97	-48833	10833	28134	115546	39948	20247	60195	No	6.49	Si
SLU 66	0.73	23571.44	-87594	-62488	9310	3.97	3.97	-56214	10833	31415	115546	39948	20247	60195	No	6.47	Si
SLU 66	2.83	15006.3	-76121	-54303	9266	3.97	3.97	-48851	10833	28142	115546	39948	20247	60195	No	6.5	Si
SLU 71	0.73	23693.73	-88262	-62964	9282	3.97	3.97	-56643	10833	31606	115546	39948	20247	60195	No	6.49	Si
SLU 71	2.83	15166.61	-76800	-54787	9237	3.97	3.97	-49287	10833	28336	115546	39948	20247	60195	No	6.52	Si
SLU 70	0.73	23869	-88890	-63412	9359	3.97	3.97	-57046	10833	31785	115546	39948	20247	60195	No	6.43	Si
SLU 70	2.83	15272.07	-77382	-55202	9313	3.97	3.97	-49660	10833	28502	115546	39948	20247	60195	No	6.46	Si
SLU 48	0.73	21216.03	-78539	-56028	9228	3.97	3.97	-50403	10833	28832	115546	39948	20247	60195	No	6.52	Si
SLU 48	2.83	12935.03	-67170	-47917	9188	3.97	3.97	-43107	10833	25588	115546	39948	20247	60195	No	6.55	Si
SLU 69	0.73	23852.3	-88918	-63432	9354	3.97	3.97	-57063	10833	31793	115546	39948	20247	60195	No	6.43	Si
SLU 69	2.83	15262.74	-77410	-55223	9309	3.97	3.97	-49679	10833	28510	115546	39948	20247	60195	No	6.47	Si
SLU 49	0.73	21232.73	-78511	-56008	9232	3.97	3.97	-50385	10833	28824	115546	39948	20247	60195	No	6.52	Si
SLU 49	2.83	12944.36	-67141	-47897	9192	3.97	3.97	-43088	10833	25579	115546	39948	20247	60195	No	6.55	Si
SLU 65	0.73	23159.86	-85570	-61043	9201	3.97	3.97	-54915	10833	30838	115546	39948	20247	60195	No	6.54	Si
SLU 65	2.83	14669.29	-74174	-52914	9157	3.97	3.97	-47602	10833	27586	115546	39948	20247	60195	No	6.57	Si
SLU 72	0.73	23710.44	-88235	-62945	9286	3.97	3.97	-56625	10833	31598	115546	39948	20247	60195	No	6.48	Si
SLU 72	2.83	15175.94	-76772	-54767	9241	3.97	3.97	-49269	10833	28327	115546	39948	20247	60195	No	6.51	Si
SLU 68	0.73	23440.71	-86893	-61987	9245	3.97	3.97	-55764	10833	31215	115546	39948	20247	60195	No	6.51	Si
SLU 68	2.83	14925.73	-75463	-53834	9200	3.97	3.97	-48429	10833	27954	115546	39948	20247	60195	No	6.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	0.73	26699.32	-57338	-40904	15176	3.97	3.97	-36797	16250	25993	115546	59922	20247	80169		5.28	Si
SLD 2	2.83	8017.51	-46352	-33067	14716	3.97	3.97	-29747	16250	22858	115546	59922	20247	80169		5.45	Si
SLV 5	0.73	23166.28	-61995	-44226	11120	3.97	3.97	-39786	16250	27322	115546	59922	20247	80169		7.21	Si
SLV 5	2.83	10552.27	-52246	-37271	10795	3.97	3.97	-33529	16250	24540	115546	59922	20247	80169		7.43	Si
SLV 6	0.73	23746.11	-62138	-44328	11607	3.97	3.97	-39877	16250	27363	115546	59922	20247	80169		6.91	Si
SLV 6	2.83	10476.04	-52203	-37240	11284	3.97	3.97	-33501	16250	24528	115546	59922	20247	80169		7.1	Si
SLD 3	0.73	25529	-57099	-40733	14472	3.97	3.97	-36644	16250	25925	115546	59922	20247	80169		5.54	Si
SLD 3	2.83	7806.2	-46325	-33047	14050	3.97	3.97	-29730	16250	22851	115546	59922	20247	80169		5.71	Si
SLV 4	0.73	30783.35	-52406	-37385	19432	3.97	3.97	-33632	16250	24586	115546	59922	20247	80169		4.13	Si
SLV 4	2.83	5745.72	-40107	-28611	18803	3.97	3.97	-25739	16250	21076	115546	59922	20247	80169		4.26	Si
SLD 4	0.73	26075.4	-57234	-40829	14932	3.97	3.97	-36730	16250	25963	115546	59922	20247	80169		5.37	Si
SLD 4	2.83	7734.36	-46285	-33019	14510	3.97	3.97	-29704	16250	22839	115546	59922	20247	80169		5.53	Si
SLD 1	0.73	26152.92	-57203	-40808	14716	3.97	3.97	-36711	16250	25955	115546	59922	20247	80169		5.45	Si
SLD 1	2.83	8089.36	-46393	-33096	14256	3.97	3.97	-29773	16250	22870	115546	59922	20247	80169		5.62	Si
SLV 2	0.73	31843.33	-52581	-37510	19844	3.97	3.97	-33744	16250	24636	115546	59922	20247	80169		4.04	Si
SLV 2	2.83	6222.08	-40217	-28690	19153	3.97	3.97	-25809	16250	21108	115546	59922	20247	80169		4.19	Si
SLV 1	0.73	30982.05	-52369	-37358	19119	3.97	3.97	-33608	16250	24575	115546	59922	20247	80169		4.19	Si
SLV 1	2.83	6335.32	-40281	-28735	18428	3.97	3.97	-25850	16250	21126	115546	59922	20247	80169		4.35	Si
SLV 3	0.73	29922.07	-52193	-37234	18708	3.97	3.97	-33495	16250	24525	115546	59922	20247	80169		4.29	Si
SLV 3	2.83	5858.96	-40171	-28657	18078	3.97	3.97	-25780	16250	21095	115546	59922	20247	80169		4.43	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-40832	0.3	358.07	4570.76	6627.64	5599.2	15.64	Si
SLV 2	-40890	0.3	358.07	4575.68	6636.08	5605.88	15.66	Si
SLV 3	-40895	0.3	358.07	4576.12	6636.82	5606.47	15.66	Si
SLV 1	-40954	0.3	358.07	4581.03	6645.26	5613.15	15.68	Si
SLV 8	-52644	0.3	358.07	5465.77	8305.18	6885.48	19.23	Si
SLV 7	-52687	0.3	358.07	5468.68	8311.1	6889.89	19.24	Si
SLV 6	-52840	0.3	358.07	5478.98	8332.12	6905.55	19.29	Si
SLV 5	-52883	0.3	358.07	5481.88	8338.04	6909.96	19.3	Si
SLV 12	-62819	0.3	358.07	6082.96	9667.09	7875.02	21.99	Si
SLV 11	-62862	0.3	358.07	6085.27	9672.68	7878.97	22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-60372	-79014	161	0.386	6721.1	0.974	5.76169	4.61192	Si
SLV 16	-60237	-79227	162	0.387	6707.3	0.974	5.77282	4.61192	Si
SLV 13	-59953	-79190	-251	0.387	6678.4	0.974	5.77572	4.61192	Si
SLV 14	-59817	-79402	-250	0.388	6664.6	0.973	5.78733	4.61192	Si
SLV 11	-51638	-69457	671	0.432	5831.7	0.97	6.46886	3.94002	Si
SLV 12	-51547	-69600	671	0.432	5822.4	0.97	6.47876	3.94002	Si
SLV 9	-50241	-70041	-701	0.441	5689.4	0.969	6.6181	3.94002	Si
SLV 10	-50150	-70184	-700	0.442	5680.1	0.969	6.62882	3.94002	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-43752	-61411	696	0.497	5028.9	0.966	7.47562	3.94002	Si
SLV 8	-43660	-61554	697	0.498	5019.6	0.965	7.48922	3.94002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.697	SLU 84	Si
V_SLU	6.432	SLU 70	Si
PF_SLV	2.763	SLV 2	Si
V_SLV	4.04	SLV 2	Si
PFFP_SLV	15.637	SLV 4	Si
R_SLV	1.249	SLV 15	Si

Maschio 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.414	L4	Z medio 274 cm	1.271	0.28	2.015	2.02	2.01			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	0.73	297.58	-21239	-0.0001108	0.0003743	0.0035	1.2709	5584.65	8007.28	8007.28	26.91	No	Si
SLU 72	2.74	25	-18321	-0.0000871	0.0003743	0.0035	1.2709	5755.04	7646.3	7646.3	305.82	No	Si
SLU 66	0.73	309.33	-20981	-0.0001096	0.0003743	0.0035	1.2709	5611.76	7974.22	7974.22	25.78	No	Si
SLU 66	2.74	22.25	-18144	-0.0000861	0.0003743	0.0035	1.2709	5755.76	7601.28	7601.28	341.61	No	Si
SLU 69	0.73	320.94	-21182	-0.0001111	0.0003743	0.0035	1.2709	5590.77	8000.02	8000.02	24.93	No	Si
SLU 69	2.74	26.44	-18333	-0.0000872	0.0003743	0.0035	1.2709	5754.94	7649.39	7649.39	289.3	No	Si
SLU 64	0.73	297.89	-20645	-0.0001073	0.0003743	0.0035	1.2709	5643.51	7931.74	7931.74	26.63	No	Si
SLU 64	2.74	18.6	-17827	-0.0000843	0.0003743	0.0035	1.2709	5754.32	7512.95	7512.95	403.98	No	Si
SLU 45	0.73	279.65	-18825	-0.0000962	0.0003743	0.0035	1.2709	5746.95	7711.08	7711.08	27.57	No	Si
SLU 45	2.74	14.78	-16207	-0.0000755	0.0003743	0.0035	1.2709	5691.92	7073.16	7073.16	478.52	No	Si
SLU 50	0.73	291.42	-18893	-0.0000969	0.0003743	0.0035	1.2709	5745.18	7719.01	7719.01	26.49	No	Si
SLU 50	2.74	19.51	-16269	-0.0000759	0.0003743	0.0035	1.2709	5695.99	7089.53	7089.53	363.43	No	Si
SLU 70	0.73	297.42	-21373	-0.0001116	0.0003743	0.0035	1.2709	5569.66	8024.55	8024.55	26.98	No	Si
SLU 70	2.74	24.47	-18449	-0.0000878	0.0003743	0.0035	1.2709	5753.83	7667.53	7667.53	313.39	No	Si
SLU 48	0.73	291.26	-19027	-0.0000977	0.0003743	0.0035	1.2709	5741.21	7734.72	7734.72	26.56	No	Si
SLU 48	2.74	18.97	-16397	-0.0000766	0.0003743	0.0035	1.2709	5703.97	7123.43	7123.43	375.49	No	Si
SLU 29	0.73	267.04	-17350	-0.0000877	0.0003743	0.0035	1.2709	5745.52	7381.22	7381.22	27.64	No	Si
SLU 29	2.74	26.38	-15050	-0.0000697	0.0003743	0.0035	1.2709	5590.96	6770.5	6770.5	256.66	No	Si
SLU 71	0.73	321.11	-21049	-0.0001103	0.0003743	0.0035	1.2709	5604.86	7982.88	7982.88	24.86	No	Si
SLU 71	2.74	26.98	-18206	-0.0000865	0.0003743	0.0035	1.2709	5755.63	7617.29	7617.29	282.36	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	0.73	1317.83	-6228	-0.0000532	0.0005615	0.0035	1.2709		3691.81	3691.81	2.8		Si
SLV 4	2.74	-513.82	-11108	-0.0000589	0.0005615	0.0035	1.2709		6353.43	6353.43	12.37		Si
SLD 8	0.73	1503.64	-5265	-0.0000545	0.0005615	0.0035	1.2709		3192.04	3192.04	2.12		Si
SLD 8	2.74	-12.05	-7378	-0.0000317	0.0005615	0.0035	1.2709		4569.86	4569.86	379.33		Si
SLD 7	0.73	1474.66	-5498	-0.0000542	0.0005615	0.0035	1.2709		3318.73	3318.73	2.25		Si
SLD 7	2.74	11.54	-7310	-0.0000313	0.0005615	0.0035	1.2709		4190.43	4190.43	363.24		Si
SLV 7	0.73	2355.52	1874	0.1958354	0.0005615	0.0035	1.0167		0	0	0		No
SLV 7	2.74	22.46	-2699	-0.0000117	0.0005615	0.0035	1.2709		1740.28	1740.28	77.48		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	0.73	1328.05	-7010	-0.000057	0.0005615	0.0035	1.2709		4051.19	4051.19	3.05		Si
SLD 12	2.74	194.84	-7157	-0.0000344	0.0005615	0.0035	1.2709		4119.29	4119.29	21.14		Si
SLV 12	0.73	2127.64	-465	-0.0288798	0.0005615	0.0035	1.0167		388.68	388.68	0.18		No
SLV 12	2.74	310.52	-2457	-0.0000163	0.0005615	0.0035	1.2709		1597.57	1597.57	5.14		Si
SLV 3	0.73	1246.91	-6798	-0.0000543	0.0005615	0.0035	1.2709		3953.19	3953.19	3.17		Si
SLV 3	2.74	-456.1	-10943	-0.0000569	0.0005615	0.0035	1.2709		6279.44	6279.44	13.77		Si
SLD 11	0.73	1299.08	-7243	-0.0000574	0.0005615	0.0035	1.2709		4159.07	4159.07	3.2		Si
SLD 11	2.74	218.43	-7090	-0.0000346	0.0005615	0.0035	1.2709		4088.18	4088.18	18.72		Si
SLV 11	0.73	2079.9	-849	-0.0241232	0.0005615	0.0035	1.0167		626.5	626.5	0.3		No
SLV 11	2.74	349.39	-2347	-0.0000166	0.0005615	0.0035	1.2709		1532.02	1532.02	4.38		Si
SLV 8	0.73	2403.26	2258	0.2662549	0.0005615	0.0035	1.0167		0	0	0		No
SLV 8	2.74	-16.4	-2809	-0.0000121	0.0005615	0.0035	1.2709		2072.95	2072.95	126.39		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.73	236.48	-24249	-20192	991	1.2709	1.2709	-56742	10833	6526	21410	10656	3241	13897	No	14.02	Si
SLU 82	2.74	24.5	-20542	-17105	3178	1.2709	1.2709	-48067	10833	5703	21410	10656	3241	13897	No	4.37	Si
SLU 75	0.73	259.29	-23560	-19619	1032	1.2709	1.2709	-55131	10833	6374	21410	10656	3241	13897	No	13.47	Si
SLU 75	2.74	25.79	-20079	-16720	3192	1.2709	1.2709	-46984	10833	5600	21410	10656	3241	13897	No	4.35	Si
SLU 80	0.73	271.07	-23628	-19675	1062	1.2709	1.2709	-55290	10833	6389	21410	10656	3241	13897	No	13.09	Si
SLU 80	2.74	30.52	-20140	-16771	3227	1.2709	1.2709	-47129	10833	5614	21410	10656	3241	13897	No	4.31	Si
SLU 81	0.73	260.01	-24058	-20034	1047	1.2709	1.2709	-56297	10833	6484	21410	10656	3241	13897	No	13.27	Si
SLU 81	2.74	26.48	-20427	-17009	3215	1.2709	1.2709	-47798	10833	5678	21410	10656	3241	13897	No	4.32	Si
SLU 77	0.73	294.43	-23572	-19628	1125	1.2709	1.2709	-55158	10833	6376	21410	10656	3241	13897	No	12.35	Si
SLU 77	2.74	31.96	-20153	-16782	3286	1.2709	1.2709	-47158	10833	5617	21410	10656	3241	13897	No	4.23	Si
SLU 83	0.73	271.62	-24260	-20202	1085	1.2709	1.2709	-56769	10833	6529	21410	10656	3241	13897	No	12.81	Si
SLU 83	2.74	30.67	-20616	-17167	3272	1.2709	1.2709	-48241	10833	5720	21410	10656	3241	13897	No	4.25	Si
SLU 74	0.73	282.82	-23370	-19460	1087	1.2709	1.2709	-54686	10833	6331	21410	10656	3241	13897	No	12.78	Si
SLU 74	2.74	27.77	-19964	-16624	3228	1.2709	1.2709	-46715	10833	5575	21410	10656	3241	13897	No	4.3	Si
SLU 79	0.73	294.59	-23438	-19517	1118	1.2709	1.2709	-54844	10833	6346	21410	10656	3241	13897	No	12.43	Si
SLU 79	2.74	32.49	-20025	-16675	3264	1.2709	1.2709	-46860	10833	5589	21410	10656	3241	13897	No	4.26	Si
SLU 78	0.73	270.9	-23762	-19787	1069	1.2709	1.2709	-55603	10833	6418	21410	10656	3241	13897	No	13	Si
SLU 78	2.74	29.98	-20268	-16877	3249	1.2709	1.2709	-47427	10833	5643	21410	10656	3241	13897	No	4.28	Si
SLU 84	0.73	248.09	-24450	-20360	1029	1.2709	1.2709	-57214	10833	6571	21410	10656	3241	13897	No	13.51	Si
SLU 84	2.74	28.69	-20731	-17263	3235	1.2709	1.2709	-48510	10833	5745	21410	10656	3241	13897	No	4.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	0.73	-1649.81	-31331	-26090	-4481	1.2709	1.2709	-73314	16250	8670	21410	15984	3241	19225		4.29	Si
SLV 6	2.74	-320.91	-25268	-21041	-2325	1.2709	1.2709	-59128	16250	7324	21410	15984	3241	19225		8.27	Si
SLV 12	0.73	2127.64	-465	-387	5744	1.0167	0	0	0	0	21410	12787	2593	15380		2.68	Si
SLV 12	2.74	310.52	-2457	-2046	6613	1.2709	1.2709	-5750	11567	4116	21410	15984	3241	19225		2.91	Si
SLD 12	0.73	1328.05	-7010	-5837	3719	1.2709	1.2709	-16404	13697	4874	21410	15984	3241	19225		5.17	Si
SLD 12	2.74	194.84	-7157	-5960	4847	1.2709	1.2709	-16748	13766	4899	21410	15984	3241	19225		3.97	Si
SLD 11	0.73	1299.08	-7243	-6031	3875	1.2709	1.2709	-16948	13806	4913	21410	15984	3241	19225		4.96	Si
SLD 11	2.74	218.43	-7090	-5904	4998	1.2709	1.2709	-16591	13735	4888	21410	15984	3241	19225		3.85	Si
SLV 11	0.73	2079.9	-849	-707	6001	1.0167	0	0	0	0	21410	12787	2593	15380		2.56	Si
SLV 11	2.74	349.39	-2347	-1954	6862	1.2709	1.2709	-5491	11515	4098	21410	15984	3241	19225		2.8	Si
SLV 15	0.73	328.18	-15875	-13219	4937	1.2709	1.2709	-37147	16250	5783	21410	15984	3241	19225		3.89	Si
SLV 15	2.74	633.65	-9770	-8135	5936	1.2709	1.2709	-22861	14989	5334	21410	15984	3241	19225		3.24	Si
SLV 16	0.73	399.1	-15305	-12745	4555	1.2709	1.2709	-35814	16250	5783	21410	15984	3241	19225		4.22	Si
SLV 16	2.74	575.93	-9934	-8272	5565	1.2709	1.2709	-23245	15066	5361	21410	15984	3241	19225		3.45	Si
SLV 7	0.73	2355.52	1874	1561	4384	1.0167	0	0	0	0	21410	12787	2593	15380		3.51	Si
SLV 7	2.74	22.46	-2699	-2247	5450	1.2709	1.2709	-6315	11680	4156	21410	15984	3241	19225		3.53	Si
SLD 15	0.73	255.8	-16228	-13514	3362	1.2709	1.2709	-37975	16250	5783	21410	15984	3241	19225		5.72	Si
SLD 15	2.74	404.05	-11416	-9506	4548	1.2709	1.2709	-26714	15759	5608	21410	15984	3241	19225		4.23	Si
SLV 8	0.73	2403.26	2258	1880	4127	1.0167	0	0	0	0	21410	12787	2593	15380		3.73	Si
SLV 8	2.74	-16.4	-2809	-2339	5201	1.2709	1.2709	-6574	11731	4175	21410	15984	3241	19225		3.7	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.735 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.28	919	-327	31.68	45.51	1.44	Si
SLV 7	179667	0.28	1167	-415	31.68	57.69	1.82	Si
SLV 12	179667	0.28	3777	-1344	31.68	183.51	5.79	Si
SLV 11	179667	0.28	4025	-1432	31.68	195.22	6.16	Si
SLV 4	179667	0.28	25438	-9052	31.68	1056.23	33.34	Si
SLV 3	179667	0.28	25806	-9183	31.68	1068.42	33.73	Si
SLV 16	179667	0.28	34964	-12442	31.68	1343.11	42.4	Si
SLV 15	179667	0.28	35332	-12573	31.68	1353	42.71	Si
SLV 2	179667	0.28	49364	-17567	31.68	1664.37	52.54	Si
SLV 1	179667	0.28	49732	-17697	31.68	1670.81	52.74	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.735 Wa = 0.05 Ta = 0.0242

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-25268	-31331	63	0.344	2674.9	0.988	5.06399	2.92718	Si
SLV 5	-25158	-31714	61	0.346	2663.6	0.988	5.08286	2.92718	Si
SLV 10	-24916	-34054	31	0.349	2639	0.988	5.13923	2.92718	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-24806	-34437	28	0.351	2627.7	0.988	5.15869	2.92718	Si
SLV 2	-17845	-16305	96	0.453	1918.3	0.983	6.69131	3.05582	Si
SLV 1	-17681	-16875	93	0.456	1901.6	0.983	6.74575	3.05582	Si
SLV 14	-16672	-25381	-12	0.484	1798.8	0.982	7.1543	3.05582	Si
SLV 13	-16507	-25951	-16	0.487	1782	0.982	7.21126	3.05582	Si
SLV 4	-11108	-6228	91	0.673	1231.9	0.975	10.03368	3.05582	Si
SLV 3	-10943	-6798	88	0.682	1215.1	0.974	10.16897	3.05582	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	24.861	SLU 71	Si
V_SLU	4.23	SLU 77	Si
PF_SLV	0	SLV 7	No
V_SLV	2.563	SLV 11	Si
PFFP_SLV	1.437	SLV 8	Si
R_SLV	1.73	SLV 6	Si

Maschio 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.414	Z medio 274 cm	L5	1.271	0.28	1.655	1.65	1.66			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	2.75	485.75	-20555	-0.0001116	0.0003743	0.0035	1.2709	5651.39	7920.4	7920.4	16.31	No	Si
SLU 84	4.4	-687.8	-21018	-0.0001196	0.0003743	0.0035	1.2709	5607.98	8114.16	8114.16	11.8	No	Si
SLU 81	2.75	486.86	-20246	-0.0001097	0.0003743	0.0035	1.2709	5676.14	7881.95	7881.95	16.19	No	Si
SLU 81	4.4	-692.59	-20715	-0.0001179	0.0003743	0.0035	1.2709	5637.2	8077.52	8077.52	11.66	No	Si
SLU 75	2.75	449.65	-19880	-0.0001066	0.0003743	0.0035	1.2709	5701.17	7836.94	7836.94	17.43	No	Si
SLU 75	4.4	-645.81	-20354	-0.0001145	0.0003743	0.0035	1.2709	5667.9	8034.76	8034.76	12.44	No	Si
SLU 83	2.75	495.77	-20432	-0.0001111	0.0003743	0.0035	1.2709	5661.6	7905.09	7905.09	15.95	No	Si
SLU 83	4.4	-695.02	-20956	-0.0001194	0.0003743	0.0035	1.2709	5614.21	8106.61	8106.61	11.66	No	Si
SLU 39	2.75	427.02	-17139	-0.0000904	0.0003743	0.0035	1.2709	5739.05	7323.36	7323.36	17.15	No	Si
SLU 39	4.4	-609.46	-17625	-0.0000976	0.0003743	0.0035	1.2709	5751.56	7589.47	7589.47	12.45	No	Si
SLU 77	2.75	468.57	-19944	-0.0001075	0.0003743	0.0035	1.2709	5697.14	7844.74	7844.74	16.74	No	Si
SLU 77	4.4	-655.45	-20533	-0.0001158	0.0003743	0.0035	1.2709	5653.28	8055.78	8055.78	12.29	No	Si
SLU 78	2.75	458.55	-20066	-0.0001079	0.0003743	0.0035	1.2709	5689.03	7859.75	7859.75	17.14	No	Si
SLU 78	4.4	-648.24	-20594	-0.0001116	0.0003743	0.0035	1.2709	5647.97	8063.11	8063.11	12.44	No	Si
SLU 82	2.75	476.85	-20369	-0.0001102	0.0003743	0.0035	1.2709	5666.72	7897.14	7897.14	16.56	No	Si
SLU 82	4.4	-685.38	-20777	-0.0001181	0.0003743	0.0035	1.2709	5631.49	8084.94	8084.94	11.8	No	Si
SLU 79	2.75	467.45	-19818	-0.0001067	0.0003743	0.0035	1.2709	5704.93	7829.41	7829.41	16.75	No	Si
SLU 79	4.4	-651.31	-20393	-0.0001149	0.0003743	0.0035	1.2709	5664.78	8039.37	8039.37	12.34	No	Si
SLU 74	2.75	459.67	-19757	-0.0001061	0.0003743	0.0035	1.2709	5708.48	7822.05	7822.05	17.02	No	Si
SLU 74	4.4	-653.03	-20292	-0.0001143	0.0003743	0.0035	1.2709	5672.69	8027.57	8027.57	12.29	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	2.75	1187	-1814	-0.0008587	0.0005615	0.0035	1.0167		1214.57	1214.57	1.02		Si
SLV 12	4.4	-204.78	-7127	-0.0000345	0.0005615	0.0035	1.2709		4442.21	4442.21	21.69		Si
SLD 11	2.75	850.56	-6645	-0.0000455	0.0005615	0.0035	1.2709		3882.65	3882.65	4.56		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	4.4	-333.88	-10112	-0.0000505	0.0005615	0.0035	1.2709		5900.07	5900.07	17.67		Si
SLD 8	2.75	609.7	-6934	-0.0000419	0.0005615	0.0035	1.2709		4016.02	4016.02	6.59		Si
SLD 8	4.4	-102.35	-8958	-0.0000405	0.0005615	0.0035	1.2709		5353.33	5353.33	52.3		Si
SLV 8	2.75	847.75	-2180	-0.0000315	0.0005615	0.0035	1.2709		1433.12	1433.12	1.69		Si
SLV 8	4.4	109.65	-5510	-0.0000255	0.0005615	0.0035	1.2709		3325.27	3325.27	30.33		Si
SLV 16	2.75	1049.69	-9596	-0.0000631	0.0005615	0.0035	1.2709		5272.04	5272.04	5.02		Si
SLV 16	4.4	-808.7	-14227	-0.00008	0.0005615	0.0035	1.2709		7668.79	7668.79	9.48		Si
SLV 11	2.75	1231.23	-1709	-0.0022276	0.0005615	0.0035	1.0167		1150.84	1150.84	0.93		No
SLV 11	4.4	-252.8	-7324	-0.0000363	0.0005615	0.0035	1.2709		4542.6	4542.6	17.97		Si
SLV 7	2.75	891.99	-2074	-0.0000361	0.0005615	0.0035	1.2709		1370.44	1370.44	1.54		Si
SLV 7	4.4	61.63	-5707	-0.0000254	0.0005615	0.0035	1.2709		3430.15	3430.15	55.66		Si
SLV 15	2.75	1115.4	-9439	-0.0000638	0.0005615	0.0035	1.2709		5196.44	5196.44	4.66		Si
SLV 15	4.4	-880.03	-14519	-0.000083	0.0005615	0.0035	1.2709		7783.06	7783.06	8.84		Si
SLD 12	2.75	823.71	-6709	-0.0000452	0.0005615	0.0035	1.2709		3912.2	3912.2	4.75		Si
SLD 12	4.4	-304.74	-9992	-0.0000494	0.0005615	0.0035	1.2709		5845.23	5845.23	19.18		Si
SLD 7	2.75	636.55	-6870	-0.0000421	0.0005615	0.0035	1.2709		3986.36	3986.36	6.26		Si
SLD 7	4.4	-131.5	-9078	-0.0000417	0.0005615	0.0035	1.2709		5410.34	5410.34	41.14		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	2.75	468.57	-19944	-16607	2782	1.2709	1.2709	-46668	10833	6417	16652	10656	3241	13897	No	5	Si
SLU 77	4.4	-655.45	-20533	-17098	4785	1.2709	1.2709	-48046	10833	6567	16652	10656	3241	13897	No	2.9	Si
SLU 74	2.75	459.67	-19757	-16452	2734	1.2709	1.2709	-46232	10833	6369	16652	10656	3241	13897	No	5.08	Si
SLU 74	4.4	-653.03	-20292	-16897	4723	1.2709	1.2709	-47483	10833	6506	16652	10656	3241	13897	No	2.94	Si
SLU 80	2.75	457.43	-19940	-16605	2681	1.2709	1.2709	-46661	10833	6416	16652	10656	3241	13897	No	5.18	Si
SLU 80	4.4	-644.1	-20455	-17033	4692	1.2709	1.2709	-47864	10833	6547	16652	10656	3241	13897	No	2.96	Si
SLU 75	2.75	449.65	-19880	-16554	2648	1.2709	1.2709	-46519	10833	6400	16652	10656	3241	13897	No	5.25	Si
SLU 75	4.4	-645.81	-20354	-16949	4659	1.2709	1.2709	-47627	10833	6521	16652	10656	3241	13897	No	2.98	Si
SLU 81	2.75	486.86	-20246	-16859	2751	1.2709	1.2709	-47376	10833	6494	16652	10656	3241	13897	No	5.05	Si
SLU 81	4.4	-692.59	-20715	-17250	4848	1.2709	1.2709	-48474	10833	6614	16652	10656	3241	13897	No	2.87	Si
SLU 84	2.75	485.75	-20555	-17116	2713	1.2709	1.2709	-48098	10833	6573	16652	10656	3241	13897	No	5.12	Si
SLU 84	4.4	-687.8	-21018	-17502	4846	1.2709	1.2709	-49182	10833	6691	16652	10656	3241	13897	No	2.87	Si
SLU 79	2.75	467.45	-19818	-16503	2766	1.2709	1.2709	-46374	10833	6384	16652	10656	3241	13897	No	5.02	Si
SLU 79	4.4	-651.31	-20393	-16982	4756	1.2709	1.2709	-47720	10833	6532	16652	10656	3241	13897	No	2.92	Si
SLU 83	2.75	495.77	-20432	-17014	2799	1.2709	1.2709	-47812	10833	6542	16652	10656	3241	13897	No	4.96	Si
SLU 83	4.4	-695.02	-20956	-17451	4910	1.2709	1.2709	-49038	10833	6676	16652	10656	3241	13897	No	2.83	Si
SLU 78	2.75	458.55	-20066	-16709	2696	1.2709	1.2709	-46955	10833	6448	16652	10656	3241	13897	No	5.15	Si
SLU 78	4.4	-648.24	-20594	-17149	4721	1.2709	1.2709	-48191	10833	6583	16652	10656	3241	13897	No	2.94	Si
SLU 82	2.75	476.85	-20369	-16961	2665	1.2709	1.2709	-47662	10833	6525	16652	10656	3241	13897	No	5.21	Si
SLU 82	4.4	-685.38	-20777	-17301	4783	1.2709	1.2709	-48619	10833	6630	16652	10656	3241	13897	No	2.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	2.75	1115.4	-9439	-7860	5369	1.2709	1.2709	-22087	14834	5279	16652	15984	3241	19225		3.58	Si
SLV 15	4.4	-880.03	-14519	-12091	5724	1.2709	1.2709	-33976	16250	5783	16652	15984	3241	19225		3.36	Si
SLV 16	2.75	1049.69	-9596	-7991	5081	1.2709	1.2709	-22455	14908	5305	16652	15984	3241	19225		3.78	Si
SLV 16	4.4	-808.7	-14227	-11847	5486	1.2709	1.2709	-33291	16250	5783	16652	15984	3241	19225		3.5	Si
SLD 11	2.75	850.56	-6645	-5533	4969	1.2709	1.2709	-15549	13526	4814	16652	15984	3241	19225		3.87	Si
SLD 11	4.4	-333.88	-10112	-8420	5040	1.2709	1.2709	-23662	15149	5391	16652	15984	3241	19225		3.81	Si
SLD 16	2.75	760.17	-11254	-9372	3857	1.2709	1.2709	-26336	15684	5581	16652	15984	3241	19225		4.98	Si
SLD 16	4.4	-678.96	-14244	-11861	4625	1.2709	1.2709	-33332	16250	5783	16652	15984	3241	19225		4.16	Si
SLD 15	2.75	801.85	-11155	-9289	4040	1.2709	1.2709	-26102	15637	5565	16652	15984	3241	19225		4.76	Si
SLD 15	4.4	-724.21	-14430	-12016	4776	1.2709	1.2709	-33766	16250	5783	16652	15984	3241	19225		4.03	Si
SLV 12	2.75	1187	-1814	-1511	6895	1.0167	0	0	0	0	16652	12787	2593	15380		2.23	Si
SLV 12	4.4	-204.78	-7127	-5935	6129	1.2709	1.2709	-16677	13752	4894	16652	15984	3241	19225		3.14	Si
SLV 11	2.75	1231.23	-1709	-1423	7090	1.0167	0	0	0	0	16652	12787	2593	15380		2.17	Si
SLV 11	4.4	-252.8	-7324	-6099	6289	1.2709	1.2709	-17138	13844	4927	16652	15984	3241	19225		3.06	Si
SLD 12	2.75	823.71	-6709	-5587	4851	1.2709	1.2709	-15699	13556	4824	16652	15984	3241	19225		3.96	Si
SLD 12	4.4	-304.74	-9992	-8321	4943	1.2709	1.2709	-23382	15093	5371	16652	15984	3241	19225		3.89	Si
SLV 8	2.75	847.75	-2180	-1815	5708	1.2709	0.7396	-5101	11437	2531	16652	15984	3241	19183		3.36	Si
SLV 8	4.4	109.65	-5510	-4588	5141	1.2709	1.2709	-12893	12995	4624	16652	15984	3241	19225		3.74	Si
SLV 7	2.75	891.99	-2074	-1727	5902	1.2709	0.6161	-4853	11387	2504	16652	15984	3241	19156		3.25	Si
SLV 7	4.4	61.63	-5707	-4752	5301	1.2709	1.2709	-13354	13087	4657	16652	15984	3241	19225		3.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.575 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.32	9321	-3317	24.37	436.03	17.89	Si
SLV 7	179667	0.32	9587	-3412	24.37	447.65	18.37	Si
SLV 12	179667	0.32	11827	-4209	24.37	543.58	22.3	Si
SLV 11	179667	0.32	12093	-4303	24.37	554.77	22.76	Si
SLV 4	179667	0.32	26127	-9298	24.37	1078.98	44.27	Si
SLV 3	179667	0.32	26523	-9438	24.37	1091.89	44.8	Si
SLV 16	179667	0.32	34480	-12270	24.37	1329.96	54.57	Si
SLV 15	179667	0.32	34876	-12411	24.37	1340.72	55.01	Si
SLV 2	179667	0.32	43094	-15335	24.37	1541.13	63.23	Si
SLV 1	179667	0.32	43490	-15476	24.37	1549.66	63.58	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.575 Wa = 0.05 Ta = 0.0163

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-22356	-25086	-86	0.395	2360.3	0.989	5.80165	3.10665	Si
SLV 10	-22159	-25192	-87	0.397	2340.2	0.989	5.84067	3.10665	Si
SLV 5	-20739	-25451	-139	0.416	2195.5	0.988	6.1163	3.10665	Si
SLV 6	-20542	-25557	-141	0.419	2175.4	0.988	6.16132	3.10665	Si
SLV 13	-19029	-16452	20	0.451	2021.2	0.987	6.63872	3.19675	Si
SLV 14	-18736	-16609	17	0.457	1991.4	0.987	6.72385	3.19675	Si
SLV 15	-14519	-9439	57	0.558	1561.6	0.983	8.2497	3.19675	Si
SLV 16	-14227	-9596	54	0.568	1531.8	0.983	8.3937	3.19675	Si
SLV 1	-13639	-17670	-158	0.58	1471.9	0.982	8.58711	3.19675	Si
SLV 2	-13346	-17827	-161	0.591	1442.1	0.982	8.74221	3.19675	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.663	SLU 81	Si
V_SLU	2.83	SLU 83	Si
PF_SLV	0.935	SLV 11	No
V_SLV	2.169	SLV 11	Si
PFFP_SLV	17.89	SLV 8	Si
R_SLV	1.867	SLV 9	Si

Maschio 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.314	-11.003	-0.749	F7	L5	2.565	0.28	0.941	0.222	0.222			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	4.18	-1825.18	-31256	-0.0000819	0.0003743	0.0035	2.565	22950.31	29348.54	29348.54	16.08	No	Si
SLU 41	4.4	-3056.03	-30936	-0.0000882	0.0003743	0.0035	2.565	22889.01	29199.72	29199.72	9.55	No	Si
SLU 74	4.18	-1917.09	-36340	-0.0000963	0.0003743	0.0035	2.565	23442.86	31392.33	31392.33	16.38	No	Si
SLU 74	4.4	-3270.08	-35911	-0.0001033	0.0003743	0.0035	2.565	23436.33	31210.68	31210.68	9.54	No	Si
SLU 75	4.18	-1943.73	-36417	-0.0000967	0.0003743	0.0035	2.565	23443.35	31425.07	31425.07	16.17	No	Si
SLU 75	4.4	-3249.14	-35988	-0.0001034	0.0003743	0.0035	2.565	23437.97	31243.1	31243.1	9.62	No	Si
SLU 39	4.18	-1829.59	-30796	-0.0000807	0.0003743	0.0035	2.565	22861.05	29132.62	29132.62	15.92	No	Si
SLU 39	4.4	-3035.68	-30475	-0.0000868	0.0003743	0.0035	2.565	22794.34	28974.25	28974.25	9.54	No	Si
SLU 82	4.18	-2095.5	-36764	-0.0000986	0.0003743	0.0035	2.565	23442.97	31574.4	31574.4	15.07	No	Si
SLU 82	4.4	-3436.68	-36337	-0.0001056	0.0003743	0.0035	2.565	23442.84	31391.23	31391.23	9.13	No	Si
SLU 77	4.18	-1912.68	-36800	-0.0000976	0.0003743	0.0035	2.565	23442.7	31589.75	31589.75	16.52	No	Si
SLU 77	4.4	-3290.43	-36372	-0.0001048	0.0003743	0.0035	2.565	23443.09	31406.18	31406.18	9.54	No	Si
SLU 84	4.18	-2091.09	-37224	-0.0000999	0.0003743	0.0035	2.565	23435.97	31774.2	31774.2	15.2	No	Si
SLU 84	4.4	-3457.03	-36798	-0.000107	0.0003743	0.0035	2.565	23442.71	31589.14	31589.14	9.14	No	Si
SLU 81	4.18	-2068.86	-36688	-0.0000982	0.0003743	0.0035	2.565	23443.42	31541.33	31541.33	15.25	No	Si
SLU 81	4.4	-3457.61	-36260	-0.0001055	0.0003743	0.0035	2.565	23442.13	31358.48	31358.48	9.07	No	Si
SLU 83	4.18	-2064.45	-37147	-0.0000995	0.0003743	0.0035	2.565	23437.65	31740.71	31740.71	15.37	No	Si
SLU 83	4.4	-3477.96	-36721	-0.0001069	0.0003743	0.0035	2.565	23443.25	31555.96	31555.96	9.07	No	Si
SLU 79	4.18	-1897.18	-36557	-0.0000968	0.0003743	0.0035	2.565	23443.71	31485.42	31485.42	16.6	No	Si
SLU 79	4.4	-3267.07	-36129	-0.0001039	0.0003743	0.0035	2.565	23440.46	31302.84	31302.84	9.58	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	4.18	-4494.53	-30743	-0.0000914	0.0005615	0.0035	2.565		33127.77	33127.77	7.37		Si
SLV 10	4.4	-2309.19	-30377	-0.0000787	0.0005615	0.0035	2.565		32839.53	32839.53	14.22		Si
SLV 9	4.18	-4470.36	-30390	-0.0000904	0.0005615	0.0035	2.565		32850.31	32850.31	7.35		Si
SLV 9	4.4	-2347.24	-30023	-0.0000781	0.0005615	0.0035	2.565		32558.57	32558.57	13.87		Si
SLV 11	4.18	1839.41	-19011	-0.0000498	0.0005615	0.0035	2.565		21095	21095	11.47		Si
SLV 11	4.4	-2486.49	-18588	-0.0000522	0.0005615	0.0035	2.565		22620.16	22620.16	9.1		Si
SLV 5	4.18	-4279.71	-31524	-0.0000921	0.0005615	0.0035	2.565		33705.55	33705.55	7.88		Si
SLV 5	4.4	-1817.31	-31272	-0.0000782	0.0005615	0.0035	2.565		33522.29	33522.29	18.45		Si
SLV 6	4.18	-4303.89	-31877	-0.0000932	0.0005615	0.0035	2.565		33963.47	33963.47	7.89		Si
SLV 6	4.4	-1779.27	-31625	-0.0000789	0.0005615	0.0035	2.565		33779.69	33779.69	18.99		Si
SLV 15	4.18	-585.56	-21586	-0.0000492	0.0005615	0.0035	2.565		25435.89	25435.89	43.44		Si
SLV 15	4.4	-3065.22	-21048	-0.0000608	0.0005615	0.0035	2.565		24937.01	24937.01	8.14		Si
SLV 12	4.18	1815.24	-19364	-0.0000505	0.0005615	0.0035	2.565		21438.39	21438.39	11.81		Si
SLV 12	4.4	-2448.44	-18942	-0.0000528	0.0005615	0.0035	2.565		22960.81	22960.81	9.38		Si
SLV 16	4.18	-621.47	-22110	-0.0000506	0.0005615	0.0035	2.565		25910.36	25910.36	41.69		Si
SLV 16	4.4	-3008.71	-21573	-0.0000617	0.0005615	0.0035	2.565		25424.01	25424.01	8.45		Si
SLV 14	4.18	-2514.4	-25524	-0.0000683	0.0005615	0.0035	2.565		28899.06	28899.06	11.49		Si
SLV 14	4.4	-2966.94	-25003	-0.0000694	0.0005615	0.0035	2.565		28466.08	28466.08	9.59		Si
SLV 13	4.18	-2478.49	-24999	-0.0000669	0.0005615	0.0035	2.565		28462.95	28462.95	11.48		Si
SLV 13	4.4	-3023.45	-24479	-0.0000685	0.0005615	0.0035	2.565		28012.37	28012.37	9.27		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	4.18	-2068.86	-36688	-30550	5856	2.565	2.565	-42538	10833	15677	9516	21506	6541	25192	No	4.3	Si
SLU 81	4.4	-3457.61	-36260	-30195	5882	2.565	2.565	-42043	10833	15535	9516	21506	6541	25050	No	4.26	Si
SLU 80	4.18	-1923.82	-36634	-30506	5561	2.565	2.565	-42476	10833	15659	9516	21506	6541	25175	No	4.53	Si
SLU 80	4.4	-3246.14	-36206	-30150	5587	2.565	2.565	-41980	10833	15517	9516	21506	6541	25032	No	4.48	Si
SLU 78	4.18	-1939.32	-36876	-30707	5593	2.565	2.565	-42757	10833	15740	9516	21506	6541	25255	No	4.52	Si
SLU 78	4.4	-3269.5	-36449	-30352	5618	2.565	2.565	-42261	10833	15598	9516	21506	6541	25113	No	4.47	Si
SLU 41	4.18	-1825.18	-31256	-26027	5189	2.565	2.565	-36240	10833	13868	9516	21506	6541	23383	No	4.51	Si
SLU 41	4.4	-3056.03	-30936	-25761	5212	2.565	2.565	-35869	10833	13761	9516	21506	6541	23277	No	4.47	Si
SLU 74	4.18	-1917.09	-36340	-30261	5703	2.565	2.565	-42135	10833	15561	9516	21506	6541	25077	No	4.4	Si
SLU 74	4.4	-3270.08	-35911	-29904	5729	2.565	2.565	-41638	10833	15418	9516	21506	6541	24934	No	4.35	Si
SLU 77	4.18	-1912.68	-36800	-30644	5808	2.565	2.565	-42668	10833	15714	9516	21506	6541	25230	No	4.34	Si
SLU 77	4.4	-3290.43	-36372	-30288	5834	2.565	2.565	-42172	10833	15572	9516	21506	6541	25087	No	4.3	Si
SLU 79	4.18	-1897.18	-36557	-30442	5777	2.565	2.565	-42387	10833	15634	9516	21506	6541	25149	No	4.35	Si
SLU 79	4.4	-3267.07	-36129	-30085	5802	2.565	2.565	-41891	10833	15491	9516	21506	6541	25007	No	4.31	Si
SLU 83	4.18	-2064.45	-37147	-30933	5961	2.565	2.565	-43071	10833	15830	9516	21506	6541	25346	No	4.25	Si
SLU 83	4.4	-3477.96	-36721	-30578	5988	2.565	2.565	-42577	10833	15688	9516	21506	6541	25204	No	4.21	Si
SLU 84	4.18	-2091.09	-37224	-30997	5746	2.565	2.565	-43160	10833	15856	9516	21506	6541	25371	No	4.42	Si
SLU 84	4.4	-3457.03	-36798	-30642	5772	2.565	2.565	-42666	10833	15714	9516	21506	6541	25229	No	4.37	Si
SLU 82	4.18	-2095.5	-36764	-30614	5641	2.565	2.565	-42627	10833	15702	9516	21506	6541	25218	No	4.47	Si
SLU 82	4.4	-3436.68	-36337	-30259	5667	2.565	2.565	-42132	10833	15560	9516	21506	6541	25076	No	4.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	4.18	2030.06	-20144	-16775	17030	2.565	2.565	-23357	15088	11896	9516	32259	6541	21411		1.26	Si
SLV 7	4.4	-1956.56	-19837	-16519	17055	2.565	2.565	-23000	15017	11793	9516	32259	6541	21309		1.25	Si
SLV 15	4.18	-585.56	-21586	-17975	11361	2.565	2.565	-25028	15422	12376	9516	32259	6541	21891		1.93	Si
SLV 15	4.4	-3065.22	-21048	-17527	11470	2.565	2.565	-24404	15298	12197	9516	32259	6541	21712		1.89	Si
SLV 12	4.18	1815.24	-19364	-16125	18636	2.565	2.565	-22452	14907	11636	9516	32259	6541	21151		1.13	Si
SLV 12	4.4	-2448.44	-18942	-15773	18708	2.565	2.565	-21962	14809	11495	9516	32259	6541	21010		1.12	Si
SLV 16	4.18	-621.47	-22110	-18411	10944	2.565	2.565	-25636	15544	12550	9516	32259	6541	22066		2.02	Si
SLV 16	4.4	-3008.71	-21573	-17964	11050	2.565	2.565	-25013	15419	12371	9516	32259	6541	21887		1.98	Si
SLV 11	4.18	1839.41	-19011	-15831	18917	2.565	2.565	-22043	14825	11518	9516	32259	6541	21034		1.11	Si
SLV 11	4.4	-2486.49	-18588	-15479	18991	2.565	2.565	-21552	14727	11377	9516	32259	6541	20893		1.1	Si
SLD 7	4.18	685.11	-22366	-18625	11496	2.565	2.565	-25933	15603	12636	9516	32259	6541	22151		1.93	Si
SLD 7	4.4	-2010.94	-22049	-18361	11516	2.565	2.565	-25565	15530	12530	9516	32259	6541	22045		1.91	Si
SLV 8	4.18	2005.89	-20497	-17069	16749	2.565	2.565	-23766	15170	12013	9516	32259	6541	21529		1.29	Si
SLV 8	4.4	-1918.52	-20190	-16813	16773	2.565	2.565	-23410	15099	11911	9516	32259	6541	21426		1.28	Si
SLD 11	4.18	562.17	-21639	-18019	12702	2.565	2.565	-25089	15435	12393	9516	32259	6541	21909		1.72	Si
SLD 11	4.4	-2350.8	-21249	-17694	12754	2.565	2.565	-24637	15344	12263	9516	32259	6541	21779		1.71	Si
SLD 8	4.18	670.44	-22580	-18803	11326	2.565	2.565	-26181	15653	12707	9516	32259	6541	22222		1.96	Si
SLD 8	4.4	-1987.85	-22264	-18539	11345	2.565	2.565	-25814	15579	12601	9516	32259	6541	22117		1.95	Si
SLD 12	4.18	547.5	-21853	-18197	12532	2.565	2.565	-25338	15484	12465	9516	32259	6541	21980		1.75	Si
SLD 12	4.4	-2327.71	-21463	-17873	12583	2.565	2.565	-24886	15394	12335	9516	32259	6541	21850		1.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.289 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.34	25848	-18564	17.08	2159.08	126.38	Si
SLV 12	179667	0.34	26340	-18917	17.08	2191.62	128.29	Si
SLV 7	179667	0.34	27587	-19813	17.08	2272.75	133.04	Si
SLV 8	179667	0.34	28079	-20166	17.08	2304.16	134.88	Si
SLV 15	179667	0.34	29264	-21017	17.08	2378.59	139.23	Si
SLV 16	179667	0.34	29995	-21542	17.08	2423.53	141.86	Si
SLV 13	179667	0.34	34034	-24443	17.08	2659.36	155.67	Si
SLV 14	179667	0.34	34764	-24967	17.08	2699.72	158.03	Si
SLV 3	179667	0.34	35061	-25180	17.08	2715.92	158.98	Si
SLV 4	179667	0.34	35791	-25705	17.08	2755.29	161.28	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.289 Wa = 0.05 Ta = 0.0053

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-29166	-29302	-1648	0.58	3066.4	0.99	8.51938	3.09472	Si
SLV 6	-31625	-31877	-543	0.582	3317.1	0.991	8.53302	3.06685	Si
SLV 1	-28641	-28778	-1648	0.588	3012.9	0.99	8.6346	3.09472	Si
SLV 5	-31272	-31524	-543	0.587	3281.1	0.991	8.60428	3.06685	Si
SLV 10	-30377	-30743	426	0.603	3189.8	0.99	8.84732	3.06685	Si
SLV 9	-30023	-30390	426	0.608	3153.8	0.99	8.92508	3.06685	Si
SLV 4	-25735	-25888	-1627	0.637	2716.7	0.989	9.36826	3.09472	Si
SLV 3	-25210	-25364	-1626	0.647	2663.2	0.989	9.51639	3.09472	Si
SLV 14	-25003	-25524	1582	0.653	2642.1	0.989	9.60173	3.09472	Si
SLV 13	-24479	-24999	1583	0.664	2588.6	0.988	9.75899	3.09472	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.069	SLU 81	Si
V_SLU	4.209	SLU 83	Si
PF_SLV	7.348	SLV 9	Si
V_SLV	1.1	SLV 11	Si
PFFP_SLV	126.384	SLV 11	Si
R_SLV	2.753	SLV 2	Si

Maschio 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.314	-11.003	-0.354	L4	Z medio 357 cm	2.96	0.28	2.84	2.01	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.73	3854.68	-57840	-0.0001451	0.0003743	0.0035	2.96	26925.19	45528.35	45528.35	11.81	No	Si
SLU 83	2.74	1009.75	-51499	-0.0001132	0.0003743	0.0035	2.96	29701	44004.31	44004.31	43.58	No	Si
SLU 69	0.73	3616.54	-50858	-0.0001242	0.0003743	0.0035	2.96	29903.25	43804.41	43804.41	12.11	No	Si
SLU 69	2.74	830.24	-44920	-0.0000957	0.0003743	0.0035	2.96	31090.23	42051.36	42051.36	50.65	No	Si
SLU 66	0.73	3519.5	-50257	-0.0001221	0.0003743	0.0035	2.96	30079.47	43619.16	43619.16	12.39	No	Si
SLU 66	2.74	798.07	-44354	-0.0000942	0.0003743	0.0035	2.96	31138.75	41893.61	41893.61	52.49	No	Si
SLU 79	0.73	3845.5	-56077	-0.0001399	0.0003743	0.0035	2.96	27838.42	45400.65	45400.65	11.81	No	Si
SLU 79	2.74	979.11	-49837	-0.0001087	0.0003743	0.0035	2.96	30195.36	43490.5	43490.5	44.42	No	Si
SLU 74	0.73	3767.37	-55772	-0.0001386	0.0003743	0.0035	2.96	27985.8	45323.24	45323.24	12.03	No	Si
SLU 74	2.74	944.65	-49552	-0.0001078	0.0003743	0.0035	2.96	30270.26	43403.94	43403.94	45.95	No	Si
SLU 71	0.73	3597.63	-50563	-0.0001233	0.0003743	0.0035	2.96	29991.27	43713.32	43713.32	12.15	No	Si
SLU 71	2.74	832.52	-44639	-0.000095	0.0003743	0.0035	2.96	31115.73	41972.8	41972.8	50.42	No	Si
SLU 58	0.73	3446.24	-50825	-0.0001233	0.0003743	0.0035	2.96	29913.35	43794.09	43794.09	12.71	No	Si
SLU 58	2.74	917.87	-45018	-0.0000963	0.0003743	0.0035	2.96	31080.66	42078.9	42078.9	45.84	No	Si
SLU 81	0.73	3757.64	-57240	-0.0001429	0.0003743	0.0035	2.96	27248.47	45582.25	45582.25	12.13	No	Si
SLU 81	2.74	977.58	-50934	-0.0001115	0.0003743	0.0035	2.96	29880.01	43828.01	43828.01	44.83	No	Si
SLU 56	0.73	3465.16	-51119	-0.0001242	0.0003743	0.0035	2.96	29822.63	43885.56	43885.56	12.66	No	Si
SLU 56	2.74	915.59	-45299	-0.000097	0.0003743	0.0035	2.96	31051.42	42157.99	42157.99	46.04	No	Si
SLU 77	0.73	3864.41	-56372	-0.0001409	0.0003743	0.0035	2.96	27693.44	45473.13	45473.13	11.77	No	Si
SLU 77	2.74	976.83	-50118	-0.0001094	0.0003743	0.0035	2.96	30118.64	43576.34	43576.34	44.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	0.73	-17936.75	-40470	-0.0001529	0.0005615	0.0035	2.96		48175.44	48175.44	2.69		Si
SLV 9	2.74	-5176.25	-36764	-0.0000908	0.0005615	0.0035	2.96		45248.4	45248.4	8.74		Si
SLD 12	0.73	15561.4	-39807	-0.0001411	0.0005615	0.0035	2.96		45405.12	45405.12	2.92		Si
SLD 12	2.74	4100.36	-32841	-0.0000782	0.0005615	0.0035	2.96		39171.21	39171.21	9.55		Si
SLV 7	0.73	23215.03	-36364	-0.000172	0.0005615	0.0035	2.96		42296.82	42296.82	1.82		Si
SLV 7	2.74	6364.65	-30943	-0.0000833	0.0005615	0.0035	2.96		37513.63	37513.63	5.89		Si
SLD 11	0.73	15607.48	-39837	-0.0001413	0.0005615	0.0035	2.96		45432.48	45432.48	2.91		Si
SLD 11	2.74	4069.87	-32792	-0.000078	0.0005615	0.0035	2.96		39128.1	39128.1	9.61		Si
SLV 11	0.73	24736.11	-40662	-0.0001883	0.0005615	0.0035	2.96		46186.34	46186.34	1.87		Si
SLV 11	2.74	6509.09	-31966	-0.0000861	0.0005615	0.0035	2.96		38404.86	38404.86	5.9		Si
SLV 8	0.73	23139.1	-36314	-0.0001715	0.0005615	0.0035	2.96		42252.57	42252.57	1.83		Si
SLV 8	2.74	6414.89	-31024	-0.0000837	0.0005615	0.0035	2.96		37584.09	37584.09	5.86		Si
SLV 10	0.73	-18012.68	-40421	-0.0001531	0.0005615	0.0035	2.96		48144.11	48144.11	2.67		Si
SLV 10	2.74	-5126.01	-36845	-0.0000908	0.0005615	0.0035	2.96		45316.38	45316.38	8.84		Si
SLV 5	0.73	-19457.83	-36172	-0.0001501	0.0005615	0.0035	2.96		44752.48	44752.48	2.3		Si
SLV 5	2.74	-5320.68	-35741	-0.0000892	0.0005615	0.0035	2.96		44388.56	44388.56	8.34		Si
SLV 6	0.73	-19533.76	-36122	-0.0001504	0.0005615	0.0035	2.96		44711.2	44711.2	2.29		Si
SLV 6	2.74	-5270.45	-35822	-0.0000892	0.0005615	0.0035	2.96		44460.99	44460.99	8.44		Si
SLV 12	0.73	24660.18	-40613	-0.0001877	0.0005615	0.0035	2.96		46141.04	46141.04	1.87		Si
SLV 12	2.74	6559.32	-32046	-0.0000864	0.0005615	0.0035	2.96		38475.56	38475.56	5.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.73	3540.97	-56062	-46684	7241	2.96	2.96	-56327	10833	22663	30925	24818	7548	32366	No	4.47	Si
SLU 80	2.74	908.75	-49858	-41518	5653	2.96	2.96	-50094	10833	20596	30925	24818	7548	32366	No	5.73	Si
SLU 82	0.73	3453.11	-57225	-47652	7190	2.96	2.96	-57495	10833	23050	30925	24818	7548	32366	No	4.5	Si
SLU 82	2.74	907.22	-50955	-42431	5592	2.96	2.96	-51196	10833	20962	30925	24818	7548	32366	No	5.79	Si
SLU 81	0.73	3757.64	-57240	-47664	7393	2.96	2.96	-57510	10833	23055	30925	24818	7548	32366	No	4.38	Si
SLU 81	2.74	977.58	-50934	-42413	5822	2.96	2.96	-51175	10833	20954	30925	24818	7548	32366	No	5.56	Si
SLU 79	0.73	3845.5	-56077	-46696	7445	2.96	2.96	-56342	10833	22668	30925	24818	7548	32366	No	4.35	Si
SLU 79	2.74	979.11	-49837	-41500	5882	2.96	2.96	-50072	10833	20589	30925	24818	7548	32366	No	5.5	Si
SLU 75	0.73	3462.84	-55756	-46429	7171	2.96	2.96	-56020	10833	22561	30925	24818	7548	32366	No	4.51	Si
SLU 75	2.74	874.29	-49574	-41281	5581	2.96	2.96	-49808	10833	20501	30925	24818	7548	32366	No	5.8	Si
SLU 74	0.73	3767.37	-55772	-46442	7374	2.96	2.96	-56035	10833	22566	30925	24818	7548	32366	No	4.39	Si
SLU 74	2.74	944.65	-49552	-41263	5811	2.96	2.96	-49787	10833	20494	30925	24818	7548	32366	No	5.57	Si
SLU 78	0.73	3559.89	-56357	-46929	7290	2.96	2.96	-56623	10833	22761	30925	24818	7548	32366	No	4.44	Si
SLU 78	2.74	906.47	-50139	-41752	5689	2.96	2.96	-50376	10833	20690	30925	24818	7548	32366	No	5.69	Si
SLU 77	0.73	3864.41	-56372	-46942	7493	2.96	2.96	-56638	10833	22766	30925	24818	7548	32366	No	4.32	Si
SLU 77	2.74	976.83	-50118	-41734	5919	2.96	2.96	-50355	10833	20683	30925	24818	7548	32366	No	5.47	Si
SLU 84	0.73	3550.16	-57825	-48152	7309	2.96	2.96	-58098	10833	23250	30925	24818	7548	32366	No	4.43	Si
SLU 84	2.74	939.39	-51521	-42902	5700	2.96	2.96	-51764	10833	21150	30925	24818	7548	32366	No	5.68	Si
SLU 83	0.73	3854.68	-57840	-48164	7512	2.96	2.96	-58113	10833	23255	30925	24818	7548	32366	No	4.31	Si
SLU 83	2.74	1009.75	-51499	-42884	5930	2.96	2.96	-51743	10833	21143	30925	24818	7548	32366	No	5.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	0.73	14583.89	-37058	-30859	12902	2.96	2.96	-37233	16250	18328	30925	37227	7548	44775		3.47	Si
SLD 8	2.74	4009.1	-32186	-26801	12833	2.96	2.96	-32338	16250	16705	30925	37227	7548	44775		3.49	Si
SLV 5	0.73	-19457.83	-36172	-30121	-9033	2.96	2.8262	-38899	16250	18033	30925	37227	7548	44775		4.96	Si
SLV 5	2.74	-5320.68	-35741	-29762	-11723	2.96	2.96	-35910	16250	17889	30925	37227	7548	44775		3.82	Si
SLV 12	0.73	24660.18	-40613	-33819	19341	2.96	2.6184	-40804	16250	19512	30925	37227	7548	44775		2.32	Si
SLV 12	2.74	6559.32	-32046	-26686	19801	2.96	2.96	-32198	16250	16658	30925	37227	7548	44775		2.26	Si
SLD 12	0.73	15561.4	-39807	-33148	13482	2.96	2.96	-39995	16250	19243	30925	37227	7548	44775		3.32	Si
SLD 12	2.74	4100.36	-32841	-27347	13283	2.96	2.96	-32996	16250	16923	30925	37227	7548	44775		3.37	Si
SLD 7	0.73	14629.97	-37088	-30884	13022	2.96	2.96	-37263	16250	18338	30925	37227	7548	44775		3.44	Si
SLD 7	2.74	3978.62	-32137	-26761	12969	2.96	2.96	-32288	16250	16689	30925	37227	7548	44775		3.45	Si
SLD 11	0.73	15607.48	-39837	-33173	13602	2.96	2.96	-40025	16250	19253	30925	37227	7548	44775		3.29	Si
SLD 11	2.74	4069.87	-32792	-27306	13419	2.96	2.96	-32946	16250	16907	30925	37227	7548	44775		3.34	Si
SLV 8	0.73	23139.1	-36314	-30239	18426	2.96	2.5284	-36486	16250	18080	30925	37227	7548	44775		2.43	Si
SLV 8	2.74	6414.89	-31024	-25834	19093	2.96	2.96	-31170	16250	16318	30925	37227	7548	44775		2.35	Si
SLV 7	0.73	23215.03	-36364	-30281	18624	2.96	2.5248	-36536	16250	18096	30925	37227	7548	44775		2.4	Si
SLV 7	2.74	6364.65	-30943	-25766	19318	2.96	2.96	-31089	16250	16291	30925	37227	7548	44775		2.32	Si
SLV 6	0.73	-19533.76	-36122	-30080	-9231	2.96	2.8177	-38965	16250	18016	30925	37227	7548	44775		4.85	Si
SLV 6	2.74	-5270.45	-35822	-29830	-11948	2.96	2.96	-35991	16250	17916	30925	37227	7548	44775		3.75	Si
SLV 11	0.73	24736.11	-40662	-33860	19538	2.96	2.615	-40854	16250	19528	30925	37227	7548	44775		2.29	Si
SLV 11	2.74	6509.09	-31966	-26618	20025	2.96	2.96	-32116	16250	16632	30925	37227	7548	44775		2.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.735 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.28	39018	-32338	150.35	3370.64	22.42	Si
SLV 4	179667	0.28	39036	-32353	150.35	3371.67	22.43	Si
SLV 7	179667	0.28	40313	-33411	150.35	3442.83	22.9	Si
SLV 8	179667	0.28	40325	-33421	150.35	3443.49	22.9	Si
SLV 1	179667	0.28	40780	-33798	150.35	3468.23	23.07	Si
SLV 2	179667	0.28	40798	-33813	150.35	3469.21	23.07	Si
SLV 11	179667	0.28	43181	-35789	150.35	3593.7	23.9	Si
SLV 12	179667	0.28	43194	-35799	150.35	3594.31	23.91	Si
SLV 5	179667	0.28	46184	-38278	150.35	3738.24	24.86	Si
SLV 6	179667	0.28	46196	-38288	150.35	3738.79	24.87	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.735 Wa = 0.05 Ta = 0.0481

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-36379	-45490	538	0.47	4035.3	0.975	7.007	3.55647	Si
SLV 13	-36258	-45564	538	0.471	4023	0.975	7.02725	3.55647	Si
SLV 16	-34939	-45548	538	0.486	3888.7	0.974	7.25726	3.55647	Si
SLV 15	-34819	-45621	538	0.488	3876.4	0.974	7.27914	3.55647	Si
SLV 2	-32969	-31163	-613	0.509	3688	0.972	7.60223	3.55647	Si
SLV 1	-32849	-31236	-613	0.51	3675.8	0.972	7.62643	3.55647	Si
SLV 10	-36845	-40421	135	0.475	4082.8	0.975	7.08416	3.25281	Si
SLV 9	-36764	-40470	135	0.476	4074.6	0.975	7.09777	3.25281	Si
SLV 4	-31529	-31221	-613	0.528	3541.4	0.971	7.90478	3.55647	Si
SLV 6	-35822	-36122	-210	0.485	3978.6	0.974	7.23034	3.25281	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.767	SLU 77	Si
V_SLU	4.309	SLU 83	Si
PF_SLV	1.822	SLV 7	Si
V_SLV	2.236	SLV 11	Si
PFFP_SLV	22.419	SLV 3	Si
R_SLV	1.97	SLV 14	Si

Maschio 88

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.661	L4	L5	5.52	0.2	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	0.73	-7119.56	-68416	-0.0000981	0.0004492	0.0035	5.52	93058.35	159771.8	159771.8	22.44	No	Si
SLU 81	4.4	-11433.12	-51789	-0.0000811	0.0004492	0.0035	5.52	88060.97	133095.05	133095.05	11.64	No	Si
SLU 40	0.73	-6125.17	-57956	-0.0000818	0.0004492	0.0035	5.52	91234.19	143590.59	143590.59	23.44	No	Si
SLU 40	4.4	-9967.38	-43972	-0.0000683	0.0004492	0.0035	5.52	81801.87	118863.88	118863.88	11.93	No	Si
SLU 73	0.73	-8359.43	-65776	-0.0000962	0.0004492	0.0035	5.52	93020.4	155872.16	155872.16	18.65	No	Si
SLU 73	4.4	-11141.48	-49453	-0.0000775	0.0004492	0.0035	5.52	86452.42	129040.09	129040.09	11.58	No	Si
SLU 52	0.73	-8345.73	-58157	-0.0000854	0.0004492	0.0035	5.52	91311.48	143913.69	143913.69	17.24	No	Si
SLU 52	4.4	-9871.53	-43240	-0.0000672	0.0004492	0.0035	5.52	81087.34	117497.96	117497.96	11.9	No	Si
SLU 82	0.73	-7818.74	-68210	-0.0000988	0.0004492	0.0035	5.52	93065.66	159467.1	159467.1	20.4	No	Si
SLU 82	4.4	-11573.49	-51467	-0.0000809	0.0004492	0.0035	5.52	87852.38	132535.74	132535.74	11.45	No	Si
SLU 61	0.73	-7805.03	-60590	-0.000088	0.0004492	0.0035	5.52	92115.53	147823.29	147823.29	18.94	No	Si
SLU 61	4.4	-10303.54	-45254	-0.0000705	0.0004492	0.0035	5.52	82999.35	121253.98	121253.98	11.77	No	Si
SLU 75	0.73	-7845.55	-67472	-0.0000978	0.0004492	0.0035	5.52	93077.54	158377.23	158377.23	20.19	No	Si
SLU 75	4.4	-11132.19	-51231	-0.0000799	0.0004492	0.0035	5.52	87696.87	132126	132126	11.87	No	Si
SLU 83	0.73	-7049.81	-69440	-0.0000994	0.0004492	0.0035	5.52	92996.29	161284.74	161284.74	22.88	No	Si
SLU 83	4.4	-11433.09	-52907	-0.0000827	0.0004492	0.0035	5.52	88751.85	135035.87	135035.87	11.81	No	Si
SLU 76	0.73	-8289.68	-66800	-0.0000975	0.0004492	0.0035	5.52	93068.98	157385.1	157385.1	18.99	No	Si
SLU 76	4.4	-11141.44	-50571	-0.000079	0.0004492	0.0035	5.52	87250.18	130980.91	130980.91	11.76	No	Si
SLU 84	0.73	-7748.99	-69234	-0.0001002	0.0004492	0.0035	5.52	93012.24	160980.04	160980.04	20.77	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	4.4	-11573.45	-52585	-0.0000824	0.0004492	0.0035	5.52	88558	134476.56	134476.56	11.62	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	0.73	43481.15	-61866	-0.0001383	0.0006738	0.0035	5.52		142882.75	142882.75	3.29		Si
SLV 7	4.4	9033.76	-59395	-0.0000855	0.0006738	0.0035	5.52		137916.76	137916.76	15.27		Si
SLV 6	0.73	-55471.61	-31168	-0.0001479	0.0006738	0.0035	4.416		95382.81	95382.81	1.72		Si
SLV 6	4.4	-24164.93	-12277	-0.0000685	0.0006738	0.0035	4.416		50336.6	50336.6	2.08		Si
SLV 5	0.73	-54876.27	-31010	-0.0001455	0.0006738	0.0035	4.416		95034.36	95034.36	1.73		Si
SLV 5	4.4	-23975.22	-12501	-0.0000656	0.0006738	0.0035	4.416		50900.77	50900.77	2.12		Si
SLD 10	0.73	-34390.83	-37648	-0.0000922	0.0006738	0.0035	5.52		109662.72	109662.72	3.19		Si
SLD 10	4.4	-17219.54	-20755	-0.0000473	0.0006738	0.0035	5.52		71138.37	71138.37	4.13		Si
SLD 6	0.73	-34840.13	-37530	-0.0000927	0.0006738	0.0035	5.52		109403.22	109403.22	3.14		Si
SLD 6	4.4	-17270.44	-21741	-0.0000486	0.0006738	0.0035	5.52		73543.31	73543.31	4.26		Si
SLV 11	0.73	44241.45	-62025	-0.0001396	0.0006738	0.0035	5.52		143201.69	143201.69	3.24		Si
SLV 11	4.4	9128.27	-57840	-0.0000836	0.0006738	0.0035	5.52		134793.6	134793.6	14.77		Si
SLD 5	0.73	-34478.85	-37434	-0.000092	0.0006738	0.0035	5.52		109191.76	109191.76	3.17		Si
SLD 5	4.4	-17155.31	-21877	-0.0000486	0.0006738	0.0035	5.52		73875.13	73875.13	4.31		Si
SLD 9	0.73	-34029.55	-37552	-0.0000916	0.0006738	0.0035	5.52		109451.27	109451.27	3.22		Si
SLD 9	4.4	-17104.42	-20891	-0.0000473	0.0006738	0.0035	5.52		71470.2	71470.2	4.18		Si
SLV 10	0.73	-54711.31	-31327	-0.0001435	0.0006738	0.0035	4.416		95732.6	95732.6	1.75		Si
SLV 10	4.4	-24070.42	-10722	-0.000089	0.0006738	0.0035	4.416		46412.74	46412.74	1.93		Si
SLV 9	0.73	-54115.97	-31169	-0.0001412	0.0006738	0.0035	4.416		95384.15	95384.15	1.76		Si
SLV 9	4.4	-23880.72	-10947	-0.000082	0.0006738	0.0035	4.416		46984.48	46984.48	1.97		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.73	-7845.55	-67472	-43182	-11924	5.52	5.52	-39114	10833	23650	115546	39675	28152	67827	No	5.69	Si
SLU 75	4.4	-11132.19	-51231	-32788	-13070	5.52	5.52	-29699	10833	19492	115546	39675	28152	67827	No	5.19	Si
SLU 82	0.73	-7818.74	-68210	-43654	-12278	5.52	5.52	-39542	10833	23839	115546	39675	28152	67827	No	5.52	Si
SLU 82	4.4	-11573.49	-51467	-32939	-13445	5.52	5.52	-29836	10833	19553	115546	39675	28152	67827	No	5.04	Si
SLU 80	0.73	-7753.81	-67962	-43496	-11801	5.52	5.52	-39398	10833	23775	115546	39675	28152	67827	No	5.75	Si
SLU 80	4.4	-11047.83	-51904	-33219	-12955	5.52	5.52	-30089	10833	19664	115546	39675	28152	67827	No	5.24	Si
SLU 83	0.73	-7049.81	-69440	-44442	-11785	5.52	5.52	-40255	10833	24154	115546	39675	28152	67827	No	5.76	Si
SLU 83	4.4	-11433.09	-52907	-33861	-12979	5.52	5.52	-30671	10833	19921	115546	39675	28152	67827	No	5.23	Si
SLU 73	0.73	-8359.43	-65776	-42097	-12140	5.52	5.52	-38131	10833	23216	115546	39675	28152	67827	No	5.59	Si
SLU 73	4.4	-11141.48	-49453	-31650	-13253	5.52	5.52	-28668	10833	19037	115546	39675	28152	67827	No	5.12	Si
SLU 84	0.73	-7748.99	-69234	-44310	-12270	5.52	5.52	-40136	10833	24101	115546	39675	28152	67827	No	5.53	Si
SLU 84	4.4	-11573.45	-52585	-33654	-13456	5.52	5.52	-30484	10833	19839	115546	39675	28152	67827	No	5.04	Si
SLU 81	0.73	-7119.56	-68416	-43786	-11793	5.52	5.52	-39662	10833	23891	115546	39675	28152	67827	No	5.75	Si
SLU 81	4.4	-11433.12	-51789	-33145	-12969	5.52	5.52	-30023	10833	19635	115546	39675	28152	67827	No	5.23	Si
SLU 77	0.73	-7076.62	-68703	-43970	-11431	5.52	5.52	-39828	10833	23965	115546	39675	28152	67827	No	5.93	Si
SLU 77	4.4	-10991.78	-52671	-33710	-12604	5.52	5.52	-30534	10833	19861	115546	39675	28152	67827	No	5.38	Si
SLU 76	0.73	-8289.68	-66800	-42752	-12132	5.52	5.52	-38725	10833	23478	115546	39675	28152	67827	No	5.59	Si
SLU 76	4.4	-11141.44	-50571	-32366	-13263	5.52	5.52	-29317	10833	19323	115546	39675	28152	67827	No	5.11	Si
SLU 78	0.73	-7775.8	-68496	-43838	-11916	5.52	5.52	-39708	10833	23912	115546	39675	28152	67827	No	5.69	Si
SLU 78	4.4	-11132.15	-52349	-33503	-13080	5.52	5.52	-30347	10833	19778	115546	39675	28152	67827	No	5.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	0.73	-55471.61	-31168	-19948	-38062	4.416	2.9407	0	0	0	115546	47610	22522	70132		1.84	Si
SLV 6	4.4	-24164.93	-12277	-7857	-37606	4.416	2.3749	0	0	0	115546	47610	22522	70132		1.86	Si
SLV 5	0.73	-54876.27	-31010	-19846	-37351	4.416	2.9711	0	0	0	115546	47610	22522	70132		1.88	Si
SLV 5	4.4	-23975.22	-12501	-8001	-36896	4.416	2.5263	0	0	0	115546	47610	22522	70132		1.9	Si
SLV 7	0.73	43481.15	-61866	-39594	25093	5.52	5.52	-35864	16250	25403	115546	59513	28152	87665		3.49	Si
SLV 7	4.4	9033.76	-59395	-38013	22411	5.52	5.52	-34432	16250	24771	115546	59513	28152	87665		3.91	Si
SLV 9	0.73	-54115.97	-31169	-19948	-40202	4.416	3.0713	0	0	0	115546	47610	22522	70132		1.74	Si
SLV 9	4.4	-23880.72	-10947	-7006	-39081	4.416	1.7353	0	0	0	115546	47610	22522	70132		1.79	Si
SLD 10	0.73	-34390.83	-37648	-24095	-27294	5.52	5.52	-21825	16250	19204	115546	59513	28152	87665		3.21	Si
SLD 10	4.4	-17219.54	-20755	-13283	-26958	5.52	5.52	-12032	14906	16457	115546	59513	28152	87665		3.25	Si
SLD 6	0.73	-34840.13	-37530	-24019	-25541	5.52	5.495	-22081	16250	19174	115546	59513	28152	87665		3.43	Si
SLD 6	4.4	-17270.44	-21741	-13914	-25589	5.52	5.52	-12603	15021	16583	115546	59513	28152	87665		3.43	Si
SLD 5	0.73	-34478.85	-37434	-23958	-25110	5.52	5.5168	-21701	16250	19149	115546	59513	28152	87665		3.49	Si
SLD 5	4.4	-17155.31	-21877	-14001	-25158	5.52	5.52	-12682	15036	16600	115546	59513	28152	87665		3.48	Si
SLV 8	0.73	42885.8	-62024	-39695	24383	5.52	5.52	-35956	16250	25444	115546	59513	28152	87665		3.6	Si
SLV 8	4.4	8844.06	-59171	-37869	21700	5.52	5.52	-34302	16250	24713	115546	59513	28152	87665		4.04	Si
SLV 10	0.73	-54711.31	-31327	-20049	-40913	4.416	3.0406	0	0	0	115546	47610	22522	70132		1.71	Si
SLV 10	4.4	-24070.42	-10722	-6862	-39792	4.416	1.5454	0	0	0	115546	47610	22522	70132		1.76	Si
SLD 9	0.73	-34029.55	-37552	-24033	-26863	5.52	5.52	-21769	16250	19179	115546	59513	28152	87665		3.26	Si
SLD 9	4.4	-17104.42	-20891	-13370	-26527	5.52	5.52	-12111	14922	16474	115546	59513	28152	87665		3.3	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.11 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-26551	0.3	364.29	2306.71	3529.34	2918.03	8.01	Si
SLV 6	-26590	0.3	364.29	2309.6	3533.66	2921.63	8.02	Si
SLV 9	-26722	0.3	364.29	2319.27	3548.15	2933.71	8.05	Si
SLV 10	-26761	0.3	364.29	2322.15	3552.47	2937.31	8.06	Si
SLV 1	-37674	0.3	364.29	3065.94	4745.19	3905.56	10.72	Si
SLV 2	-37732	0.3	364.29	3069.59	4751.4	3910.49	10.73	Si
SLV 13	-38242	0.3	364.29	3101.46	4805.89	3953.68	10.85	Si
SLV 14	-38301	0.3	364.29	3105.08	4812.1	3958.59	10.87	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-47386	0.3	364.29	3628.9	5782.32	4705.61	12.92	Si
SLV 4	-47444	0.3	364.29	3631.99	5788.48	4710.24	12.93	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.04 Ta = 0.1125

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-44850	-50843	-1027	0.647	5136.7	0.966	9.73691	5.79335	Si
SLV 7	-59395	-61866	-30	0.52	6617.6	0.973	7.76603	4.5999	Si
SLV 4	-44517	-51078	-1029	0.652	5102.8	0.966	9.80303	5.79335	Si
SLV 8	-59171	-62024	-31	0.522	6594.8	0.973	7.79275	4.5999	Si
SLV 11	-57840	-62025	649	0.523	6459.3	0.973	7.80672	4.5999	Si
SLV 12	-57616	-62183	648	0.524	6436.5	0.973	7.83475	4.5999	Si
SLV 15	-39669	-51372	1234	0.717	4609.4	0.963	10.82013	5.79335	Si
SLV 16	-39336	-51607	1233	0.722	4575.6	0.963	10.90409	5.79335	Si
SLV 1	-30781	-41586	-1204	0.896	3705.7	0.955	13.63478	5.79335	Si
SLV 2	-30448	-41821	-1206	0.904	3671.9	0.954	13.76859	5.79335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.452	SLU 82	Si
V_SLU	5.041	SLU 84	Si
PF_SLV	1.719	SLV 6	Si
V_SLV	1.714	SLV 10	Si
PFFP_SLV	8.01	SLV 5	Si
R_SLV	1.681	SLV 3	Si

Maschio 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-10.863	-3.169	L4	L5	1.42	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	0.73	1470.43	-8316	-0.0000572	0.0003743	0.0035	1.42	4691.54	5047.85	5047.85	3.43	No	Si
SLU 51	2.83	1418.67	-6329	-0.0000478	0.0003743	0.0035	1.42	3791.1	3987.23	3987.23	2.81	No	Si
SLU 58	0.73	1648.76	-9196	-0.0000642	0.0003743	0.0035	1.42	5046.14	5537.97	5537.97	3.36	No	Si
SLU 58	2.83	1572.14	-7190	-0.0000541	0.0003743	0.0035	1.42	4198.39	4439.05	4439.05	2.82	No	Si
SLU 46	0.73	1456.77	-8290	-0.0000569	0.0003743	0.0035	1.42	4680.6	5033.49	5033.49	3.46	No	Si
SLU 46	2.83	1407.25	-6306	-0.0000475	0.0003743	0.0035	1.42	3779.72	3975.18	3975.18	2.82	No	Si
SLU 50	0.73	1464.46	-8271	-0.0000569	0.0003743	0.0035	1.42	4672.45	5022.82	5022.82	3.43	No	Si
SLU 50	2.83	1414.52	-6285	-0.0000476	0.0003743	0.0035	1.42	3769.48	3964.35	3964.35	2.8	No	Si
SLU 44	0.73	1431.85	-8171	-0.000056	0.0003743	0.0035	1.42	4630.6	4968.4	4968.4	3.47	No	Si
SLU 44	2.83	1384.84	-6189	-0.0000467	0.0003743	0.0035	1.42	3722.38	3914.87	3914.87	2.83	No	Si
SLU 45	0.73	1450.8	-8244	-0.0000566	0.0003743	0.0035	1.42	4661.47	5008.48	5008.48	3.45	No	Si
SLU 45	2.83	1403.11	-6262	-0.0000473	0.0003743	0.0035	1.42	3758.07	3952.32	3952.32	2.82	No	Si
SLU 43	0.73	1421.89	-8095	-0.0000555	0.0003743	0.0035	1.42	4598.36	4926.89	4926.89	3.47	No	Si
SLU 43	2.83	1377.94	-6115	-0.0000463	0.0003743	0.0035	1.42	3685.95	3876.92	3876.92	2.81	No	Si
SLU 47	0.73	1453.14	-8259	-0.0000567	0.0003743	0.0035	1.42	4667.55	5016.42	5016.42	3.45	No	Si
SLU 47	2.83	1403.13	-6274	-0.0000473	0.0003743	0.0035	1.42	3764.05	3958.62	3958.62	2.82	No	Si
SLU 48	0.73	1472.08	-8332	-0.0000573	0.0003743	0.0035	1.42	4698.19	5056.6	5056.6	3.43	No	Si
SLU 48	2.83	1421.4	-6346	-0.000048	0.0003743	0.0035	1.42	3799.52	3996.18	3996.18	2.81	No	Si
SLU 49	0.73	1478.06	-8378	-0.0000576	0.0003743	0.0035	1.42	4717.18	5081.67	5081.67	3.44	No	Si
SLU 49	2.83	1425.54	-6391	-0.0000482	0.0003743	0.0035	1.42	3821.05	4019.1	4019.1	2.82	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.73	1837.74	-10522	-8762	-78	1.42	1.42	-22037	9883	3929	40441	11906	3621	15527	No	200.17	Si
SLU 83	2.83	1743.58	-8480	-7061	248	1.42	1.42	-17759	9312	3703	40441	11906	3621	15527	No	62.65	Si
SLU 82	0.73	1822.43	-10480	-8727	-78	1.42	1.42	-21949	9871	3925	40441	11906	3621	15527	No	199.49	Si
SLU 82	2.83	1729.43	-8439	-7027	253	1.42	1.42	-17674	9301	3698	40441	11906	3621	15527	No	61.39	Si
SLU 80	0.73	1786.01	-10258	-8542	-74	1.42	1.42	-21485	9809	3900	40441	11906	3621	15527	No	210.26	Si
SLU 80	2.83	1698.46	-8221	-6845	255	1.42	1.42	-17217	9240	3674	40441	11906	3621	15527	No	60.92	Si
SLU 75	0.73	1772.35	-10232	-8521	-74	1.42	1.42	-21430	9802	3897	40441	11906	3621	15527	No	211.07	Si
SLU 75	2.83	1687.05	-8197	-6826	256	1.42	1.42	-17168	9233	3671	40441	11906	3621	15527	No	60.56	Si
SLU 84	0.73	1843.71	-10568	-8800	-78	1.42	1.42	-22132	9895	3934	40441	11906	3621	15527	No	197.84	Si
SLU 84	2.83	1747.72	-8524	-7098	258	1.42	1.42	-17852	9325	3708	40441	11906	3621	15527	No	60.17	Si
SLU 76	0.73	1768.71	-10201	-8495	-74	1.42	1.42	-21365	9793	3894	40441	11906	3621	15527	No	210.37	Si
SLU 76	2.83	1682.93	-8165	-6799	257	1.42	1.42	-17101	9225	3668	40441	11906	3621	15527	No	60.52	Si
SLU 74	0.73	1766.38	-10187	-8483	-73	1.42	1.42	-21334	9789	3892	40441	11906	3621	15527	No	213.73	Si
SLU 74	2.83	1682.9	-8153	-6789	246	1.42	1.42	-17075	9221	3666	40441	11906	3621	15527	No	63.08	Si
SLU 77	0.73	1787.66	-10274	-8556	-73	1.42	1.42	-21518	9813	3902	40441	11906	3621	15527	No	211.83	Si
SLU 77	2.83	1701.2	-8238	-6860	251	1.42	1.42	-17253	9245	3676	40441	11906	3621	15527	No	61.79	Si
SLU 78	0.73	1793.64	-10320	-8594	-74	1.42	1.42	-21613	9826	3907	40441	11906	3621	15527	No	209.22	Si
SLU 78	2.83	1705.34	-8282	-6897	262	1.42	1.42	-17345	9257	3681	40441	11906	3621	15527	No	59.37	Si
SLU 73	0.73	1747.43	-10114	-8422	-73	1.42	1.42	-21181	9769	3884	40441	11906	3621	15527	No	212.24	Si
SLU 73	2.83	1664.64	-8081	-6729	251	1.42	1.42	-16923	9201	3658	40441	11906	3621	15527	No	61.75	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.3	4576	-1819	124.86	247.08	1.98	Si
SLV 12	179667	0.3	4923	-1957	124.86	265.21	2.12	Si
SLV 7	179667	0.3	5070	-2016	124.86	272.84	2.19	Si
SLV 8	179667	0.3	5417	-2154	124.86	290.85	2.33	Si
SLV 15	179667	0.3	10694	-4252	124.86	553.57	4.43	Si
SLV 16	179667	0.3	11209	-4457	124.86	578.17	4.63	Si
SLV 3	179667	0.3	12341	-4907	124.86	631.43	5.06	Si
SLV 4	179667	0.3	12856	-5112	124.86	655.4	5.25	Si
SLV 13	179667	0.3	16504	-6562	124.86	819.4	6.56	Si
SLV 14	179667	0.3	17020	-6767	124.86	841.81	6.74	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-9324	-8262	-83	0.785	1155.7	0.949	12.02436	4.61192	Si
SLV 14	-8880	-8419	-83	0.817	1110.6	0.947	12.54597	4.61192	Si
SLV 15	-8360	-5834	-9	0.867	1057.9	0.945	13.33805	4.61192	Si
SLV 16	-7917	-5991	-9	0.907	1013	0.942	13.98181	4.61192	Si
SLV 9	-7621	-11067	-129	0.922	982.9	0.941	14.24142	3.94002	Si
SLV 10	-7322	-11172	-129	0.953	952.7	0.939	14.73817	3.94002	Si
SLV 5	-5259	-11021	-95	1.245	744.4	0.926	19.53884	3.94002	Si
SLV 6	-4961	-11126	-95	1.302	714.3	0.924	20.49352	3.94002	Si
SLV 11	-4409	-2974	117	1.42	658.9	0.919	22.46648	3.94002	Si
SLV 12	-4111	-3080	117	1.496	629	0.916	23.74332	3.94002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.803	SLU 50	Si
V_SLU	59.373	SLU 78	Si
PFFP_SLV	1.979	SLV 11	Si
R_SLV	2.607	SLV 13	Si

Maschio 93

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.453	-3.169	-8.543	-3.169	L4	L5	1.09	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	1.63	-2118.91	-22377	-0.0002219	0.0003743	0.0035	1.09	3412.82	6202.41	6202.41	2.93	No	Si
SLU 75	3.53	-997.36	-15912	-0.0001218	0.0003743	0.0035	1.09	4231.19	5739.05	5739.05	5.75	No	Si
SLU 83	1.63	-2227.4	-23059	-0.0002345	0.0003743	0.0035	1.09	3241.08	6203.96	6203.96	2.79	No	Si
SLU 83	3.53	-986.3	-16354	-0.0001246	0.0003743	0.0035	1.09	4221.93	5781.86	5781.86	5.86	No	Si
SLU 77	1.63	-2149.8	-22432	-0.0002239	0.0003743	0.0035	1.09	3399.68	6202.45	6202.45	2.89	No	Si
SLU 77	3.53	-981.68	-15916	-0.0001213	0.0003743	0.0035	1.09	4231.14	5739.45	5739.45	5.85	No	Si
SLU 80	1.63	-2131.83	-22388	-0.0002226	0.0003743	0.0035	1.09	3410.22	6202.42	6202.42	2.91	No	Si
SLU 80	3.53	-990.65	-15899	-0.0001215	0.0003743	0.0035	1.09	4231.36	5737.84	5737.84	5.79	No	Si
SLU 78	1.63	-2141.1	-22548	-0.0002248	0.0003743	0.0035	1.09	3371.46	6202.57	6202.57	2.9	No	Si
SLU 78	3.53	-1003.24	-16036	-0.0001229	0.0003743	0.0035	1.09	4229.28	5750.93	5750.93	5.73	No	Si
SLU 81	1.63	-2205.21	-22889	-0.0002315	0.0003743	0.0035	1.09	3285.49	6203.35	6203.35	2.81	No	Si
SLU 81	3.53	-980.41	-16230	-0.0001235	0.0003743	0.0035	1.09	4225.24	5769.64	5769.64	5.88	No	Si
SLU 74	1.63	-2127.61	-22262	-0.0002211	0.0003743	0.0035	1.09	3440.34	6202.38	6202.38	2.92	No	Si
SLU 74	3.53	-975.79	-15791	-0.0001202	0.0003743	0.0035	1.09	4232.52	5725.95	5725.95	5.87	No	Si
SLU 84	1.63	-2218.7	-23175	-0.0002354	0.0003743	0.0035	1.09	3210.32	6204.46	6204.46	2.8	No	Si
SLU 84	3.53	-1007.87	-16474	-0.0001263	0.0003743	0.0035	1.09	4218.23	5793.78	5793.78	5.75	No	Si
SLU 82	1.63	-2196.51	-23005	-0.0002324	0.0003743	0.0035	1.09	3255.42	6203.75	6203.75	2.82	No	Si
SLU 82	3.53	-1001.98	-16350	-0.0001251	0.0003743	0.0035	1.09	4222.06	5781.44	5781.44	5.77	No	Si
SLU 79	1.63	-2140.53	-22273	-0.0002218	0.0003743	0.0035	1.09	3437.79	6202.38	6202.38	2.9	No	Si
SLU 79	3.53	-969.09	-15779	-0.0001199	0.0003743	0.0035	1.09	4232.63	5723.12	5723.12	5.91	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	1.63	-1706.89	-4062	-0.0001235	0.0005615	0.0035	0.872		2312.23	2312.23	1.35		Si
SLV 7	3.53	1001.29	-41	-0.0202411	0.0005615	0.0035	0.872		103.29	103.29	0.1		No
SLV 12	1.63	-3005.03	-5489	-0.0015459	0.0005615	0.0035	0.872		2969.57	2969.57	0.99		No
SLV 12	3.53	1788.12	366	-0.0407626	0.0005615	0.0035	0.872		0	0	0		No
SLD 15	1.63	-3403.15	-14666	-0.0001893	0.0005615	0.0035	1.09		6329.38	6329.38	1.86		Si
SLD 15	3.53	866.54	-7594	-0.0000624	0.0005615	0.0035	1.09		3618.94	3618.94	4.18		Si
SLD 12	1.63	-2395.92	-9558	-0.0001243	0.0005615	0.0035	1.09		4666.72	4666.72	1.95		Si
SLD 12	3.53	788.53	-4205	-0.0000422	0.0005615	0.0035	1.09		2211	2211	2.8		Si
SLD 11	1.63	-2561.17	-9460	-0.000133	0.0005615	0.0035	1.09		4629.72	4629.72	1.81		Si
SLD 11	3.53	925.51	-3899	-0.0000456	0.0005615	0.0035	1.09		2065.81	2065.81	2.23		Si
SLV 16	1.63	-4129.09	-14321	-0.0002341	0.0005615	0.0035	0.872		6236.5	6236.5	1.51		Si
SLV 16	3.53	1459.17	-6310	-0.000074	0.0005615	0.0035	1.09		3091.05	3091.05	2.12		Si
SLV 8	1.63	-1434.57	-4222	-0.0000757	0.0005615	0.0035	0.872		2386.66	2386.66	1.66		Si
SLV 8	3.53	775.57	-546	-0.0094749	0.0005615	0.0035	0.872		373.53	373.53	0.48		No
SLV 15	1.63	-4533.59	-14083	-0.0002742	0.0005615	0.0035	0.872		6173.01	6173.01	1.36		Si
SLV 15	3.53	1794.46	-5560	-0.0000935	0.0005615	0.0035	1.09		2788.71	2788.71	1.55		Si
SLV 13	1.63	-3983.27	-20354	-0.0002474	0.0005615	0.0035	1.09		7695.93	7695.93	1.93		Si
SLV 13	3.53	546.92	-12090	-0.0000779	0.0005615	0.0035	1.09		5310.56	5310.56	9.71		Si
SLV 11	1.63	-3277.35	-5329	-0.0030401	0.0005615	0.0035	0.872		2897.34	2897.34	0.88		No
SLV 11	3.53	2013.84	871	-0.0199929	0.0005615	0.0035	0.872		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	1.63	-2140.53	-22273	-18547	-2783	1.09	1.09	-60769	10833	5925	40441	9139	2780	11919	No	4.28	Si
SLU 79	3.53	-969.09	-15779	-13139	-217	1.09	1.09	-43051	10833	4483	40441	9139	2780	11919	No	54.86	Si
SLU 77	1.63	-2149.8	-22432	-18679	-2790	1.09	1.09	-61204	10833	5960	40441	9139	2780	11919	No	4.27	Si
SLU 77	3.53	-981.68	-15916	-13253	-213	1.09	1.09	-43425	10833	4514	40441	9139	2780	11919	No	56.07	Si
SLU 80	1.63	-2131.83	-22388	-18643	-2763	1.09	1.09	-61084	10833	5951	40441	9139	2780	11919	No	4.31	Si
SLU 80	3.53	-990.65	-15899	-13239	-198	1.09	1.09	-43379	10833	4510	40441	9139	2780	11919	No	60.07	Si
SLU 84	1.63	-2218.7	-23175	-19298	-2880	1.09	1.09	-63231	10833	6125	40441	9139	2780	11919	No	4.14	Si
SLU 84	3.53	-1007.87	-16474	-13718	-266	1.09	1.09	-44949	10833	4638	40441	9139	2780	11919	No	44.74	Si
SLU 82	1.63	-2196.51	-23005	-19156	-2848	1.09	1.09	-62766	10833	6088	40441	9139	2780	11919	No	4.19	Si
SLU 82	3.53	-1001.98	-16350	-13615	-272	1.09	1.09	-44609	10833	4610	40441	9139	2780	11919	No	43.81	Si
SLU 81	1.63	-2205.21	-22889	-19060	-2867	1.09	1.09	-62450	10833	6062	40441	9139	2780	11919	No	4.16	Si
SLU 81	3.53	-980.41	-16230	-13515	-291	1.09	1.09	-44281	10833	4583	40441	9139	2780	11919	No	40.97	Si
SLU 78	1.63	-2141.1	-22548	-18776	-2771	1.09	1.09	-61519	10833	5986	40441	9139	2780	11919	No	4.3	Si
SLU 78	3.53	-1003.24	-16036	-13353	-194	1.09	1.09	-43753	10833	4540	40441	9139	2780	11919	No	61.52	Si
SLU 74	1.63	-2127.61	-22262	-18538	-2758	1.09	1.09	-60739	10833	5923	40441	9139	2780	11919	No	4.32	Si
SLU 74	3.53	-975.79	-15791	-13150	-218	1.09	1.09	-43085	10833	4486	40441	9139	2780	11919	No	54.62	Si
SLU 75	1.63	-2118.91	-22377	-18634	-2739	1.09	1.09	-61055	10833	5948	40441	9139	2780	11919	No	4.35	Si
SLU 75	3.53	-997.36	-15912	-13250	-199	1.09	1.09	-43413	10833	4513	40441	9139	2780	11919	No	59.78	Si
SLU 83	1.63	-2227.4	-23059	-19202	-2899	1.09	1.09	-62915	10833	6100	40441	9139	2780	11919	No	4.11	Si
SLU 83	3.53	-986.3	-16354	-13618	-285	1.09	1.09	-44621	10833	4611	40441	9139	2780	11919	No	41.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	1.63	-2824.13	-18491	-15398	-4305	1.09	1.09	-50451	16250	5575	40441	13709	2780	16488		3.83	Si
SLD 14	3.53	-76.8	-11895	-9905	86	1.09	1.09	-32453	16250	4960	40441	13709	2780	16488		191.73	Si
SLV 16	1.63	-4129.09	-14321	-11926	-6756	0.872	0.77	0	0	0	40441	10967	2224	13190		1.95	Si
SLV 16	3.53	1459.17	-6310	-5254	-908	1.09	0.9412	-17216	13860	3653	40441	13709	2780	16488		18.16	Si
SLD 16	1.63	-3146.52	-14817	-12339	-4965	1.09	0.9979	-40428	16250	4759	40441	13709	2780	16488		3.32	Si
SLD 16	3.53	653.84	-8069	-6719	-588	1.09	1.09	-22017	14820	4523	40441	13709	2780	16488		28.06	Si
SLD 13	1.63	-3080.75	-18340	-15272	-4765	1.09	1.09	-50040	16250	5542	40441	13709	2780	16488		3.46	Si
SLD 13	3.53	135.9	-11419	-9509	-15	1.09	1.09	-31156	16250	4960	40441	13709	2780	16488		1068	Si
SLV 12	1.63	-3005.03	-5489	-4571	-4901	0.872	0	0	0	0	40441	10967	2224	13190		2.69	Si
SLV 12	3.53	1788.12	366	305	-2052	0.872	0	0	0	0	40441	10967	2224	13190		6.43	Si
SLD 15	1.63	-3403.15	-14666	-12213	-5425	1.09	0.9389	-47770	16250	4726	40441	13709	2780	16488		3.04	Si
SLD 15	3.53	866.54	-7594	-6323	-689	1.09	1.09	-20719	14560	4444	40441	13709	2780	16488		23.93	Si
SLV 13	1.63	-3983.27	-20354	-16949	-6354	1.09	1.0479	-55534	16250	5989	40441	13709	2780	16488		2.59	Si
SLV 13	3.53	546.92	-12090	-10067	82	1.09	1.09	-32986	16250	4960	40441	13709	2780	16488		202.18	Si
SLV 15	1.63	-4533.59	-14083	-11728	-7481	0.872	0.6693	0	0	0	40441	10967	2224	13190		1.76	Si
SLV 15	3.53	1794.46	-5560	-4630	-1068	1.09	0.6668	-15170	13451	2704	40441	13709	2780	16488		15.44	Si
SLV 11	1.63	-3277.35	-5329	-4437	-5389	0.872	0	0	0	0	40441	10967	2224	13190		2.45	Si
SLV 11	3.53	2013.84	871	725	-2159	0.872	0	0	0	0	40441	10967	2224	13190		6.11	Si
SLV 14	1.63	-3578.77	-20592	-17147	-5630	1.09	1.09	-56183	16250	6042	40441	13709	2780	16488		2.93	Si
SLV 14	3.53	211.63	-12839	-10691	241	1.09	1.09	-35031	16250	4960	40441	13709	2780	16488		68.29	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.3	11339	-3461	95.84	448.5	4.68	Si
SLV 8	179667	0.3	11863	-3621	95.84	467.51	4.88	Si
SLV 11	179667	0.3	15495	-4729	95.84	594.9	6.21	Si
SLV 12	179667	0.3	16020	-4889	95.84	612.69	6.39	Si
SLV 3	179667	0.3	30323	-9255	95.84	1038.38	10.83	Si
SLV 4	179667	0.3	31102	-9492	95.84	1058.28	11.04	Si
SLV 15	179667	0.3	44179	-13483	95.84	1341.6	14	Si
SLV 16	179667	0.3	44958	-13721	95.84	1355.46	14.14	Si
SLV 1	179667	0.3	50861	-15523	95.84	1449.43	15.12	Si
SLV 2	179667	0.3	51640	-15761	95.84	1460.38	15.24	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-14139	-24511	-257	0.428	1597.2	0.97	6.41278	3.94002	Si
SLV 6	-13956	-26364	-270	0.432	1578.6	0.97	6.4728	3.94002	Si
SLV 9	-13954	-23825	-256	0.433	1578.3	0.97	6.48834	3.94002	Si
SLV 5	-13771	-25678	-269	0.437	1559.7	0.969	6.55009	3.94002	Si
SLV 14	-9954	-13903	-62	0.595	1171.3	0.96	9.0018	4.61192	Si
SLV 13	-9679	-12884	-60	0.609	1143.3	0.959	9.22933	4.61192	Si
SLV 2	-9345	-20079	-106	0.623	1109.4	0.958	9.45137	4.61192	Si
SLV 1	-9070	-19060	-105	0.639	1081.4	0.957	9.70575	4.61192	Si
SLV 16	-6146	-6521	92	0.886	784.5	0.943	13.66259	4.61192	Si
SLV 15	-5871	-5501	94	0.92	756.6	0.941	14.20922	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.785	SLU 83	Si
V_SLU	4.111	SLU 83	Si
PF_SLV	0	SLV 11	No
V_SLV	1.763	SLV 15	Si
PFFP_SLV	4.68	SLV 7	Si
R_SLV	1.628	SLV 10	Si

Maschio 95

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L4	L5	4.31	0.14	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	0.73	-12128.29	-47685	-0.0001469	0.0004492	0.0035	4.31	36298.15	86294.46	86294.46	7.12	No	Si
SLU 76	4.4	-237.89	-30834	-0.0000659	0.0004492	0.0035	4.31	38657.98	65234.02	65234.02	274.22	No	Si
SLU 75	0.73	-12078.06	-47941	-0.0001474	0.0004492	0.0035	4.31	36134.5	86563.58	86563.58	7.17	No	Si
SLU 75	4.4	-361.36	-30980	-0.0000666	0.0004492	0.0035	4.31	38708.84	65446.64	65446.64	181.11	No	Si
SLU 82	0.73	-12477.29	-48933	-0.0001515	0.0004492	0.0035	4.31	35463.71	87607.27	87607.27	7.02	No	Si
SLU 82	4.4	-448.22	-31516	-0.0000681	0.0004492	0.0035	4.31	38884.92	66227.38	66227.38	147.76	No	Si
SLU 78	0.73	-12103.35	-48410	-0.0001488	0.0004492	0.0035	4.31	35824.51	87057.05	87057.05	7.19	No	Si
SLU 78	4.4	-222.23	-31437	-0.0000672	0.0004492	0.0035	4.31	38860.06	66112.5	66112.5	297.5	No	Si
SLU 73	0.73	-12102.99	-47217	-0.0001455	0.0004492	0.0035	4.31	36588.28	85801	85801	7.09	No	Si
SLU 73	4.4	-377.02	-30376	-0.0000653	0.0004492	0.0035	4.31	38490.62	64568.17	64568.17	171.26	No	Si
SLU 81	0.73	-12270.09	-48822	-0.0001505	0.0004492	0.0035	4.31	35541.08	87491.31	87491.31	7.13	No	Si
SLU 81	4.4	-589.97	-31336	-0.0000681	0.0004492	0.0035	4.31	38827.67	65965.23	65965.23	111.81	No	Si
SLU 84	0.73	-12502.59	-49401	-0.0001529	0.0004492	0.0035	4.31	35126.55	88100.74	88100.74	7.05	No	Si
SLU 84	4.4	-309.09	-31973	-0.0000687	0.0004492	0.0035	4.31	39021.8	66885.78	66885.78	216.39	No	Si
SLU 80	0.73	-12015.45	-48081	-0.0001476	0.0004492	0.0035	4.31	36043.48	86710.62	86710.62	7.22	No	Si
SLU 80	4.4	-193.25	-31171	-0.0000665	0.0004492	0.0035	4.31	38773.57	65725.11	65725.11	340.1	No	Si
SLU 83	0.73	-12295.39	-49291	-0.0001519	0.0004492	0.0035	4.31	35206.94	87984.78	87984.78	7.16	No	Si
SLU 83	4.4	-450.84	-31793	-0.0000687	0.0004492	0.0035	4.31	38969.37	66631.09	66631.09	147.79	No	Si
SLU 74	0.73	-11870.86	-47831	-0.0001464	0.0004492	0.0035	4.31	36205.49	86447.62	86447.62	7.28	No	Si
SLU 74	4.4	-503.11	-30800	-0.0000666	0.0004492	0.0035	4.31	38645.95	65184.5	65184.5	129.56	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	0.73	14685.76	-16045	-0.000077	0.0006738	0.0035	4.31		33526.78	33526.78	2.28		Si
SLV 7	4.4	-7167.18	-4301	-0.0000498	0.0006738	0.0035	3.448		19985.57	19985.57	2.79		Si
SLD 6	0.73	-22624.18	-43327	-0.0001633	0.0006738	0.0035	4.31		85406.63	85406.63	3.78		Si
SLD 6	4.4	4757.41	-30219	-0.0000768	0.0006738	0.0035	4.31		56748.06	56748.06	11.93		Si
SLV 12	0.73	15806.44	-16171	-0.0000819	0.0006738	0.0035	4.31		33759.14	33759.14	2.14		Si
SLV 12	4.4	-9361.86	-5315	-0.0000746	0.0006738	0.0035	3.448		22014	22014	2.35		Si
SLD 5	0.73	-22215.67	-42868	-0.0001608	0.0006738	0.0035	4.31		84786.43	84786.43	3.82		Si
SLD 5	4.4	4669.53	-30003	-0.0000761	0.0006738	0.0035	4.31		56410.21	56410.21	12.08		Si
SLV 9	0.73	-30347.56	-49216	-0.0002038	0.0006738	0.0035	4.31		92999.19	92999.19	3.06		Si
SLV 9	4.4	5959.83	-37139	-0.0000959	0.0006738	0.0035	4.31		67567.58	67567.58	11.34		Si
SLV 8	0.73	14012.59	-16801	-0.0000756	0.0006738	0.0035	4.31		34919.05	34919.05	2.49		Si
SLV 8	4.4	-7022.37	-4657	-0.0000415	0.0006738	0.0035	3.448		20702.53	20702.53	2.95		Si
SLV 11	0.73	16479.62	-15415	-0.0000848	0.0006738	0.0035	4.31		32365.82	32365.82	1.96		Si
SLV 11	4.4	-9506.67	-4959	-0.000097	0.0006738	0.0035	3.448		21305.27	21305.27	2.24		Si
SLV 10	0.73	-31020.73	-49972	-0.0002081	0.0006738	0.0035	4.31		93951.72	93951.72	3.03		Si
SLV 10	4.4	6104.64	-37495	-0.0000971	0.0006738	0.0035	4.31		68124.31	68124.31	11.16		Si
SLV 6	0.73	-32814.59	-50602	-0.0002159	0.0006738	0.0035	4.31		94733.28	94733.28	2.89		Si
SLV 6	4.4	8444.12	-36837	-0.0001029	0.0006738	0.0035	4.31		67096.04	67096.04	7.95		Si
SLV 5	0.73	-32141.42	-49846	-0.0002116	0.0006738	0.0035	4.31		93792.87	93792.87	2.92		Si
SLV 5	4.4	8299.31	-36481	-0.0001016	0.0006738	0.0035	4.31		66539.31	66539.31	8.02		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.73	-12015.45	-48081	-26659	10043	4.31	4.31	-44181	10833	14149	115546	21685	21981	43666	No	4.35	Si
SLU 80	4.4	-193.25	-31171	-17283	9328	4.31	4.31	-28642	10833	10399	115546	21685	21981	43666	No	4.68	Si
SLU 83	0.73	-12295.39	-49291	-27330	10680	4.31	4.31	-45293	10833	14417	115546	21685	21981	43666	No	4.09	Si
SLU 83	4.4	-450.84	-31793	-17628	9834	4.31	4.31	-29214	10833	10537	115546	21685	21981	43666	No	4.44	Si
SLU 78	0.73	-12103.35	-48410	-26841	10123	4.31	4.31	-44483	10833	14222	115546	21685	21981	43666	No	4.31	Si
SLU 78	4.4	-222.23	-31437	-17430	9403	4.31	4.31	-28887	10833	10458	115546	21685	21981	43666	No	4.64	Si
SLU 75	0.73	-12078.06	-47941	-26581	10095	4.31	4.31	-44052	10833	14118	115546	21685	21981	43666	No	4.33	Si
SLU 75	4.4	-361.36	-30980	-17177	9381	4.31	4.31	-28467	10833	10356	115546	21685	21981	43666	No	4.65	Si
SLU 79	0.73	-11808.25	-47971	-26598	10335	4.31	4.31	-44079	10833	14124	115546	21685	21981	43666	No	4.22	Si
SLU 79	4.4	-335	-30991	-17183	9513	4.31	4.31	-28477	10833	10359	115546	21685	21981	43666	No	4.59	Si
SLU 81	0.73	-12270.09	-48822	-27070	10651	4.31	4.31	-44862	10833	14313	115546	21685	21981	43666	No	4.1	Si
SLU 81	4.4	-589.97	-31336	-17374	9812	4.31	4.31	-28794	10833	10435	115546	21685	21981	43666	No	4.45	Si
SLU 74	0.73	-11870.86	-47831	-26520	10388	4.31	4.31	-43951	10833	14093	115546	21685	21981	43666	No	4.2	Si
SLU 74	4.4	-503.11	-30800	-17077	9566	4.31	4.31	-28301	10833	10316	115546	21685	21981	43666	No	4.56	Si
SLU 82	0.73	-12477.29	-48933	-27131	10358	4.31	4.31	-44963	10833	14338	115546	21685	21981	43666	No	4.22	Si
SLU 82	4.4	-448.22	-31516	-17474	9627	4.31	4.31	-28959	10833	10475	115546	21685	21981	43666	No	4.54	Si
SLU 77	0.73	-11896.15	-48300	-26780	10416	4.31	4.31	-44382	10833	14197	115546	21685	21981	43666	No	4.19	Si
SLU 77	4.4	-363.98	-31257	-17331	9588	4.31	4.31	-28722	10833	10418	115546	21685	21981	43666	No	4.55	Si
SLU 84	0.73	-12502.59	-49401	-27391	10387	4.31	4.31	-45394	10833	14442	115546	21685	21981	43666	No	4.2	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	4.4	-309.09	-31973	-17728	9649	4.31	4.31	-29380	10833	10577	115546	21685	21981	43666	No	4.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	0.73	5206.27	-23084	-12799	14941	4.31	4.31	-21211	16250	10348	115546	32527	21981	54508		3.65	Si
SLD 7	4.4	-4393.46	-11155	-6185	14317	4.31	4.31	-10250	14550	8779	115546	32527	21981	54508		3.81	Si
SLV 8	0.73	14012.59	-16801	-9315	20367	4.31	3.9629	-15438	15588	8955	115546	32527	21981	54508		2.68	Si
SLV 8	4.4	-7022.37	-4657	-2582	19689	3.448	1.9415	0	0	0	115546	26022	17585	43606		2.21	Si
SLV 15	0.73	2346.31	-26328	-14597	14440	4.31	4.31	-24192	16250	11067	115546	32527	21981	54508		3.77	Si
SLV 15	4.4	-6857.93	-16903	-9372	13035	4.31	4.31	-15532	15606	9417	115546	32527	21981	54508		4.18	Si
SLV 12	0.73	15806.44	-16171	-8966	22133	4.31	3.5327	-14859	15472	8815	115546	32527	21981	54508		2.46	Si
SLV 12	4.4	-9361.86	-5315	-2947	21003	3.448	1.1808	0	0	0	115546	26022	17585	43606		2.08	Si
SLV 7	0.73	14685.76	-16045	-8896	20401	4.31	3.7192	-14744	15449	8787	115546	32527	21981	54508		2.67	Si
SLV 7	4.4	-7167.18	-4301	-2385	19743	3.448	1.466	0	0	0	115546	26022	17585	43606		2.21	Si
SLV 16	0.73	1346.39	-27450	-15220	14389	4.31	4.31	-25224	16250	11316	115546	32527	21981	54508		3.79	Si
SLV 16	4.4	-6642.83	-17432	-9665	12954	4.31	4.31	-16018	15704	9476	115546	32527	21981	54508		4.21	Si
SLD 11	0.73	6289.21	-22690	-12581	16028	4.31	4.31	-20850	16250	10261	115546	32527	21981	54508		3.4	Si
SLD 11	4.4	-5819.95	-11578	-6419	15131	4.31	4.31	-10638	14628	8826	115546	32527	21981	54508		3.6	Si
SLV 11	0.73	16479.62	-15415	-8547	22167	4.31	3.2579	-14165	15333	8647	115546	32527	21981	54508		2.46	Si
SLV 11	4.4	-9506.67	-4959	-2749	21057	3.448	0.7137	0	0	0	115546	26022	17585	43606		2.07	Si
SLD 8	0.73	4797.76	-23542	-13053	14920	4.31	4.31	-21633	16250	10450	115546	32527	21981	54508		3.65	Si
SLD 8	4.4	-4305.58	-11371	-6304	14284	4.31	4.31	-10448	14590	8803	115546	32527	21981	54508		3.82	Si
SLD 12	0.73	5880.7	-23149	-12835	16007	4.31	4.31	-21271	16250	10362	115546	32527	21981	54508		3.41	Si
SLD 12	4.4	-5732.07	-11794	-6539	15098	4.31	4.31	-10837	14667	8850	115546	32527	21981	54508		3.61	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-11323	0.3	206.21	711.48	1257.71	984.6	4.77	Si
SLV 7	-11472	0.3	206.21	719.75	1270.27	995.01	4.83	Si
SLV 12	-11833	0.3	206.21	739.66	1300.7	1020.18	4.95	Si
SLV 8	-11981	0.3	206.21	747.83	1313.26	1030.55	5	Si
SLV 15	-21747	0.3	206.21	1222.93	2113.23	1668.08	8.09	Si
SLV 3	-22243	0.3	206.21	1243.83	2152.95	1698.39	8.24	Si
SLV 16	-22503	0.3	206.21	1254.69	2173.84	1714.27	8.31	Si
SLV 4	-22999	0.3	206.21	1275.12	2213.58	1744.35	8.46	Si
SLV 13	-30936	0.3	206.21	1559.75	2846.24	2202.99	10.68	Si
SLV 1	-31431	0.3	206.21	1574.88	2884.05	2229.46	10.81	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.03 Ta = 0.1607

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-27086	-37591	373	0.84	3069.4	0.969	12.59907	8.23645	Si
SLV 13	-26557	-36468	373	0.855	3015.5	0.969	12.83403	8.23645	Si
SLV 10	-37495	-49972	229	0.627	4129.5	0.977	9.33534	5.86761	Si
SLV 9	-37139	-49216	229	0.633	4093.2	0.976	9.41962	5.86761	Si
SLV 6	-36837	-50602	27	0.643	4062.5	0.976	9.5699	5.86761	Si
SLV 5	-36481	-49846	27	0.649	4026.2	0.976	9.65787	5.86761	Si
SLV 2	-24894	-39690	-302	0.91	2846.2	0.967	13.67408	8.23645	Si
SLV 1	-24365	-38567	-303	0.928	2792.4	0.966	13.95122	8.23645	Si
SLV 16	-17432	-27450	294	1.252	2087.2	0.956	19.0368	8.23645	Si
SLV 15	-16903	-26328	294	1.287	2033.4	0.955	19.58289	8.23645	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.021	SLU 82	Si
V_SLU	4.089	SLU 83	Si
PF_SLV	1.964	SLV 11	Si
V_SLV	2.071	SLV 11	Si
PFFP_SLV	4.775	SLV 11	Si
R_SLV	1.53	SLV 14	Si

Maschio 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L4	L5	4.67	0.14	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	0.73	18220.99	-71448	-0.0002132	0.0004492	0.0035	4.67	17622.37	112034.26	112034.26	6.15	No	Si
SLU 75	4.4	-6969.67	-43920	-0.0001072	0.0004492	0.0035	4.67	46171.2	91275.31	91275.31	13.1	No	Si
SLU 74	0.73	18437.36	-71839	-0.0002151	0.0004492	0.0035	4.67	16896.84	112389.49	112389.49	6.1	No	Si
SLU 74	4.4	-7116.35	-44234	-0.0001083	0.0004492	0.0035	4.67	46095.47	91705.9	91705.9	12.89	No	Si
SLU 78	0.73	18564.31	-72672	-0.000218	0.0004492	0.0035	4.67	15324.38	113144.81	113144.81	6.09	No	Si
SLU 78	4.4	-6956.78	-44938	-0.0001095	0.0004492	0.0035	4.67	45904.3	92598.94	92598.94	13.31	No	Si
SLU 77	0.73	18780.69	-73063	-0.00022	0.0004492	0.0035	4.67	14570.84	113500.04	113500.04	6.04	No	Si
SLU 77	4.4	-7103.45	-45251	-0.0001106	0.0004492	0.0035	4.67	45809.93	92996.23	92996.23	13.09	No	Si
SLU 80	0.73	18435.56	-72165	-0.0002161	0.0004492	0.0035	4.67	16287.25	112684.62	112684.62	6.11	No	Si
SLU 80	4.4	-6875.74	-44600	-0.0001085	0.0004492	0.0035	4.67	45999.69	92170.22	92170.22	13.41	No	Si
SLU 84	0.73	18791.15	-73357	-0.0002209	0.0004492	0.0035	4.67	13999.36	113766.67	113766.67	6.05	No	Si
SLU 84	4.4	-7315.59	-45145	-0.000111	0.0004492	0.0035	4.67	45842.51	92861.76	92861.76	12.69	No	Si
SLU 83	0.73	19007.52	-73749	-0.0002228	0.0004492	0.0035	4.67	13230.13	114121.91	114121.91	6	No	Si
SLU 83	4.4	-7462.27	-45459	-0.0001121	0.0004492	0.0035	4.67	45744.35	93259.05	93259.05	12.5	No	Si
SLU 81	0.73	18664.19	-72525	-0.0002179	0.0004492	0.0035	4.67	15605.17	113011.36	113011.36	6.05	No	Si
SLU 81	4.4	-7475.16	-44441	-0.0001098	0.0004492	0.0035	4.67	46042.22	91968.71	91968.71	12.3	No	Si
SLU 79	0.73	18651.94	-72556	-0.000218	0.0004492	0.0035	4.67	15545.31	113039.85	113039.85	6.06	No	Si
SLU 79	4.4	-7022.42	-44913	-0.0001096	0.0004492	0.0035	4.67	45911.52	92567.51	92567.51	13.18	No	Si
SLU 82	0.73	18447.82	-72133	-0.000216	0.0004492	0.0035	4.67	16346.38	112656.12	112656.12	6.11	No	Si
SLU 82	4.4	-7328.49	-44128	-0.0001087	0.0004492	0.0035	4.67	46121.74	91560.4	91560.4	12.49	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	0.73	31315.99	-74447	-0.0002442	0.0006738	0.0035	4.67		124572.42	124572.42	3.98		Si
SLV 7	4.4	-10204.72	-50422	-0.0001261	0.0006738	0.0035	4.67		104758.88	104758.88	10.27		Si
SLV 16	0.73	20586.68	-65657	-0.0001901	0.0006738	0.0035	4.67		115182.44	115182.44	5.59		Si
SLV 16	4.4	-10673.19	-40792	-0.0001068	0.0006738	0.0035	4.67		90555.02	90555.02	8.48		Si
SLD 7	0.73	23491.81	-63956	-0.0001945	0.0006738	0.0035	4.67		112918.36	112918.36	4.81		Si
SLD 7	4.4	-7869.2	-41916	-0.0001017	0.0006738	0.0035	4.67		92327.57	92327.57	11.73		Si
SLD 11	0.73	24379.97	-67282	-0.0002052	0.0006738	0.0035	4.67		117344.76	117344.76	4.81		Si
SLD 11	4.4	-9361.32	-43811	-0.0001097	0.0006738	0.0035	4.67		95195.04	95195.04	10.17		Si
SLD 12	0.73	24302.78	-66789	-0.0002038	0.0006738	0.0035	4.67		116688.01	116688.01	4.8		Si
SLD 12	4.4	-9410.26	-43293	-0.0001087	0.0006738	0.0035	4.67		94428.71	94428.71	10.03		Si
SLD 8	0.73	23414.61	-63463	-0.0001931	0.0006738	0.0035	4.67		112261.6	112261.6	4.79		Si
SLD 8	4.4	-7918.14	-41398	-0.0001007	0.0006738	0.0035	4.67		91510.5	91510.5	11.56		Si
SLV 8	0.73	31188.79	-73634	-0.0002417	0.0006738	0.0035	4.67		123810.22	123810.22	3.97		Si
SLV 8	4.4	-10285.36	-49569	-0.0001245	0.0006738	0.0035	4.67		103579.69	103579.69	10.07		Si
SLV 12	0.73	32579.2	-78834	-0.0002597	0.0006738	0.0035	4.67		128684.9	128684.9	3.95		Si
SLV 12	4.4	-12622.84	-52533	-0.0001374	0.0006738	0.0035	4.67		107675.66	107675.66	8.53		Si
SLV 11	0.73	32706.41	-79648	-0.0002623	0.0006738	0.0035	4.67		129447.1	129447.1	3.96		Si
SLV 11	4.4	-12542.19	-53387	-0.0001391	0.0006738	0.0035	4.67		108854.85	108854.85	8.68		Si
SLV 6	0.73	-7622.07	-19213	-0.0000549	0.0006738	0.0035	4.67		52876.81	52876.81	6.94		Si
SLV 6	4.4	3132.56	-6734	-0.0000199	0.0006738	0.0035	4.67		17309.58	17309.58	5.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	0.73	17604.66	-69456	-38510	-3536	4.67	4.67	-58902	10833	19180	115546	23496	23817	47313	No	13.38	Si
SLU 73	4.4	-6803.75	-42356	-23484	-5791	4.67	4.67	-35920	10833	13170	115546	23496	23817	47313	No	8.17	Si
SLU 65	0.73	15973.88	-63817	-35384	-3528	4.67	4.67	-54120	10833	17930	115546	23496	23817	47313	No	13.41	Si
SLU 65	4.4	-5807.52	-38708	-21462	-5600	4.67	4.67	-32827	10833	12361	115546	23496	23817	47313	No	8.45	Si
SLU 78	0.73	18564.31	-72672	-40293	-3380	4.67	4.67	-61629	10833	19893	115546	23496	23817	47313	No	14	Si
SLU 78	4.4	-6956.78	-44938	-24916	-5747	4.67	4.67	-38110	10833	13743	115546	23496	23817	47313	No	8.23	Si
SLU 68	0.73	16317.21	-65041	-36062	-3536	4.67	4.67	-55158	10833	18201	115546	23496	23817	47313	No	13.38	Si
SLU 68	4.4	-5794.63	-39726	-22026	-5654	4.67	4.67	-33690	10833	12587	115546	23496	23817	47313	No	8.37	Si
SLU 84	0.73	18791.15	-73357	-40673	-3365	4.67	4.67	-62211	10833	20045	115546	23496	23817	47313	No	14.06	Si
SLU 84	4.4	-7315.59	-45145	-25031	-5758	4.67	4.67	-38286	10833	13789	115546	23496	23817	47313	No	8.22	Si
SLU 55	0.73	15724.08	-62614	-34717	-3542	4.67	4.67	-53100	10833	17663	115546	23496	23817	47313	No	13.36	Si
SLU 55	4.4	-5720.72	-38099	-21124	-5586	4.67	4.67	-32310	10833	12226	115546	23496	23817	47313	No	8.47	Si
SLU 76	0.73	17947.99	-70680	-39189	-3545	4.67	4.67	-59940	10833	19452	115546	23496	23817	47313	No	13.35	Si
SLU 76	4.4	-6790.85	-43373	-24049	-5845	4.67	4.67	-36783	10833	13396	115546	23496	23817	47313	No	8.09	Si
SLU 80	0.73	18435.56	-72165	-40012	-3369	4.67	4.67	-61199	10833	19781	115546	23496	23817	47313	No	14.04	Si
SLU 80	4.4	-6875.74	-44600	-24729	-5731	4.67	4.67	-37823	10833	13668	115546	23496	23817	47313	No	8.26	Si
SLU 82	0.73	18447.82	-72133	-39995	-3356	4.67	4.67	-61173	10833	19774	115546	23496	23817	47313	No	14.1	Si
SLU 82	4.4	-7328.49	-44128	-24467	-5703	4.67	4.67	-37422	10833	13563	115546	23496	23817	47313	No	8.3	Si
SLU 75	0.73	18220.99	-71448	-39615	-3372	4.67	4.67	-60591	10833	19622	115546	23496	23817	47313	No	14.03	Si
SLU 75	4.4	-6969.67	-43920	-24352	-5692	4.67	4.67	-37247	10833	13517	115546	23496	23817	47313	No	8.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	0.73	781.56	-32072	-17783	-12982	4.67	4.67	-27199	16250	12778	115546	35244	23817	59061		4.55	Si
SLD 5	4.4	0.62	-16827	-9330	-12843	4.67	4.67	-14270	15354	10038	115546	35244	23817	59061		4.6	Si
SLV 6	0.73	-7622.07	-19213	-10653	-20744	4.67	4.67	-16294	15759	10303	115546	35244	23817	59061		2.85	Si
SLV 6	4.4	3132.56	-6734	-3733	-19306	4.67	4.67	-5710	13642	8919	115546	35244	23817	59061		3.06	Si
SLV 5	0.73	-7494.86	-20026	-11104	-20481	4.67	4.67	-16983	15897	10393	115546	35244	23817	59061		2.88	Si
SLV 5	4.4	3213.2	-7587	-4207	-19110	4.67	4.67	-6434	13787	9014	115546	35244	23817	59061		3.09	Si
SLV 11	0.73	32706.41	-79648	-44161	16019	4.67	4.67	-67545	16250	23329	115546	35244	23817	59061		3.69	Si
SLV 11	4.4	-12542.19	-53387	-29601	11347	4.67	4.67	-45275	16250	17505	115546	35244	23817	59061		5.2	Si
SLV 12	0.73	32579.2	-78834	-43710	15756	4.67	4.67	-66856	16250	23149	115546	35244	23817	59061		3.75	Si
SLV 12	4.4	-12622.84	-52533	-29127	11151	4.67	4.67	-44551	16250	17316	115546	35244	23817	59061		5.3	Si
SLV 7	0.73	31315.99	-74447	-41278	15577	4.67	4.67	-63135	16250	22176	115546	35244	23817	59061		3.79	Si
SLV 7	4.4	-10204.72	-50422	-27957	11131	4.67	4.67	-42761	16250	16848	115546	35244	23817	59061		5.31	Si
SLV 10	0.73	-6231.65	-24414	-13536	-20302	4.67	4.67	-20704	16250	11080	115546	35244	23817	59061		2.91	Si
SLV 10	4.4	795.09	-9698	-5377	-19089	4.67	4.67	-8225	14145	9248	115546	35244	23817	59061		3.09	Si
SLD 6	0.73	704.37	-31579	-17509	-13141	4.67	4.67	-26780	16250	12669	115546	35244	23817	59061		4.49	Si
SLD 6	4.4	-48.32	-16309	-9043	-12962	4.67	4.67	-13831	15266	9981	115546	35244	23817	59061		4.56	Si
SLV 8	0.73	31188.79	-73634	-40827	15315	4.67	4.67	-62445	16250	21995	115546	35244	23817	59061		3.86	Si
SLV 8	4.4	-10285.36	-49569	-27484	10935	4.67	4.67	-42037	16250	16658	115546	35244	23817	59061		5.4	Si
SLV 9	0.73	-6104.45	-25227	-13987	-20040	4.67	4.67	-21394	16250	11260	115546	35244	23817	59061		2.95	Si
SLV 9	4.4	875.73	-10552	-5850	-18893	4.67	4.67	-8948	14290	9343	115546	35244	23817	59061		3.13	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.565 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-14954	0.3	223.44	916.14	1577.4	1246.77	5.58	Si
SLV 5	-15575	0.3	223.44	948.52	1628.48	1288.5	5.77	Si
SLV 10	-20199	0.3	223.44	1175.6	2008.72	1592.16	7.13	Si
SLV 9	-20820	0.3	223.44	1204.17	2059.65	1631.91	7.3	Si
SLV 2	-24427	0.3	223.44	1361.35	2350.06	1855.7	8.31	Si
SLV 1	-25349	0.3	223.44	1399.08	2424.03	1911.55	8.56	Si
SLV 4	-37922	0.3	223.44	1814.46	3411.24	2612.85	11.69	Si
SLV 3	-38844	0.3	223.44	1837.66	3481.78	2659.72	11.9	Si
SLV 14	-41911	0.3	223.44	1907.67	3716.73	2812.2	12.59	Si
SLV 13	-42833	0.3	223.44	1926.57	3787.41	2856.99	12.79	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.03 Ta = 0.1607

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-42060	-66865	327	0.606	4620.4	0.977	9.00913	8.23645	Si
SLV 16	-40792	-65657	327	0.623	4491.3	0.977	9.27245	8.23645	Si
SLV 11	-53387	-79648	116	0.49	5774.4	0.982	7.25394	5.86761	Si
SLV 12	-52533	-78834	116	0.497	5687.5	0.981	7.3647	5.86761	Si
SLV 7	-50422	-74447	-78	0.517	5472.4	0.981	7.66534	5.86761	Si
SLV 8	-49569	-73634	-78	0.525	5385.4	0.98	7.78958	5.86761	Si
SLV 3	-32178	-49530	-320	0.775	3613.9	0.971	11.59351	8.23645	Si
SLV 4	-30911	-48322	-319	0.804	3484.8	0.97	12.0394	8.23645	Si
SLV 13	-29210	-50539	313	0.847	3311.7	0.969	12.69849	8.23645	Si
SLV 14	-27942	-49331	314	0.881	3182.6	0.968	13.23707	8.23645	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.004	SLU 83	Si
V_SLU	8.094	SLU 76	Si
PF_SLV	3.95	SLV 12	Si
V_SLV	2.847	SLV 6	Si
PFFP_SLV	5.58	SLV 6	Si
R_SLV	1.094	SLV 15	Si

Maschio 98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.453	-3.169	L4	L5	0.515	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

											εlim,conv / ε,CNR DT-200					CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	2.73	262.18	-11127	-0.0001916	0.0003743	0.0035	0.515	693.66	1368.75	1368.75	5.22	No	Si
SLU 79	3.53	-381.18	-12378	-0.0002455	0.0003743	0.0035	0.515	500.03	1360.21	1360.21	3.57	No	Si
SLU 80	2.73	255.26	-11216	-0.0001921	0.0003743	0.0035	0.515	681.66	1368.07	1368.07	5.36	No	Si
SLU 80	3.53	-380.18	-12433	-0.0002467	0.0003743	0.0035	0.515	490.29	1357.07	1357.07	3.57	No	Si
SLU 75	2.73	259.6	-11206	-0.0001927	0.0003743	0.0035	0.515	682.98	1368.14	1368.14	5.27	No	Si
SLU 75	3.53	-386.5	-12431	-0.0002482	0.0003743	0.0035	0.515	490.62	1357.18	1357.18	3.51	No	Si
SLU 78	2.73	257.9	-11304	-0.0001944	0.0003743	0.0035	0.515	669.53	1367.06	1367.06	5.3	No	Si
SLU 78	3.53	-385.28	-12532	-0.0002506	0.0003743	0.0035	0.515	472.43	1351.4	1351.4	3.51	No	Si
SLU 83	2.73	266.22	-11521	-0.0002006	0.0003743	0.0035	0.515	638.54	1364.52	1364.52	5.13	No	Si
SLU 83	3.53	-384.84	-12835	-0.0002588	0.0003743	0.0035	0.515	415.68	1334.18	1334.18	3.47	No	Si
SLU 82	2.73	261	-11513	-0.0001994	0.0003743	0.0035	0.515	639.8	1364.62	1364.62	5.23	No	Si
SLU 82	3.53	-385.06	-12789	-0.0002575	0.0003743	0.0035	0.515	424.52	1336.79	1336.79	3.47	No	Si
SLU 84	2.73	259.3	-11611	-0.0002011	0.0003743	0.0035	0.515	625.3	1363.5	1363.5	5.26	No	Si
SLU 84	3.53	-383.84	-12889	-0.0002601	0.0003743	0.0035	0.515	405.07	1331.08	1331.08	3.47	No	Si
SLU 74	2.73	266.52	-11117	-0.0001922	0.0003743	0.0035	0.515	694.95	1368.82	1368.82	5.14	No	Si
SLU 74	3.53	-387.51	-12376	-0.000247	0.0003743	0.0035	0.515	500.35	1360.32	1360.32	3.51	No	Si
SLU 77	2.73	264.82	-11215	-0.0001939	0.0003743	0.0035	0.515	681.81	1368.08	1368.08	5.17	No	Si
SLU 77	3.53	-386.28	-12477	-0.0002493	0.0003743	0.0035	0.515	482.35	1354.54	1354.54	3.51	No	Si
SLU 81	2.73	267.92	-11423	-0.0001989	0.0003743	0.0035	0.515	652.73	1365.65	1365.65	5.1	No	Si
SLU 81	3.53	-386.06	-12734	-0.0002563	0.0003743	0.0035	0.515	434.94	1339.9	1339.9	3.47	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	2.73	653.8	-11628	-0.0002402	0.0005615	0.0035	0.515		1852.94	1852.94	2.83		Si
SLV 5	3.53	-1330.69	-11844	-0.0003979	0.0005615	0.0035	0.515		1891.99	1891.99	1.42		Si
SLV 6	2.73	749.08	-11548	-0.000255	0.0005615	0.0035	0.515		1848.21	1848.21	2.47		Si
SLV 6	3.53	-1479.62	-11820	-0.0004661	0.0005615	0.0035	0.412		1890.78	1890.78	1.28		Si
SLV 4	2.73	904.91	-3807	-0.0072592	0.0005615	0.0035	0.412		850.32	850.32	0.94		No
SLV 4	3.53	-1287.69	-5012	-0.0062391	0.0005615	0.0035	0.412		1137.62	1137.62	0.88		No
SLD 2	2.73	753.1	-6892	-0.0001875	0.0005615	0.0035	0.515		1371.96	1371.96	1.82		Si
SLD 2	3.53	-1212.89	-7733	-0.0003613	0.0005615	0.0035	0.412		1523.65	1523.65	1.26		Si
SLV 1	2.73	935.76	-6753	-0.0002394	0.0005615	0.0035	0.515		1349.48	1349.48	1.44		Si
SLV 1	3.53	-1535.96	-7488	-0.0047795	0.0005615	0.0035	0.412		1492.35	1492.35	0.97		No
SLV 3	2.73	763.38	-3926	-0.0002694	0.0005615	0.0035	0.515		874.35	874.35	1.15		Si
SLV 3	3.53	-1066.46	-5048	-0.000714	0.0005615	0.0035	0.412		1143.82	1143.82	1.07		Si
SLV 15	2.73	-682.86	-8491	-0.0001945	0.0005615	0.0035	0.515		1620.48	1620.48	2.37		Si
SLV 15	3.53	1188.29	-9372	-0.0003269	0.0005615	0.0035	0.515		1668.13	1668.13	1.4		Si
SLV 12	2.73	-259.38	-3496	-0.0000697	0.0005615	0.0035	0.515		856.28	856.28	3.3		Si
SLV 12	3.53	761.8	-4981	-0.000193	0.0005615	0.0035	0.515		1071.54	1071.54	1.41		Si
SLV 11	2.73	-354.66	-3577	-0.0000837	0.0005615	0.0035	0.515		872.41	872.41	2.46		Si
SLV 11	3.53	910.73	-5005	-0.0002929	0.0005615	0.0035	0.515		1075.18	1075.18	1.18		Si
SLV 2	2.73	1077.29	-6633	-0.0003144	0.0005615	0.0035	0.515		1330.3	1330.3	1.23		Si
SLV 2	3.53	-1757.18	-7453	-0.0080101	0.0005615	0.0035	0.412		1487.85	1487.85	0.85		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	2.73	261.08	-9968	-8301	898	0.515	0.515	-57564	10833	2676	40441	4318	1313	5631	No	6.27	Si
SLU 66	3.53	-381.82	-11075	-9223	900	0.515	0.515	-63957	10833	2922	40441	4318	1313	5631	No	6.25	Si
SLU 83	2.73	266.22	-11521	-9594	923	0.515	0.515	-66532	10833	3021	40441	4318	1313	5631	No	6.1	Si
SLU 83	3.53	-384.84	-12835	-10688	925	0.515	0.515	-74116	10833	3313	40441	4318	1313	5631	No	6.09	Si
SLU 78	2.73	257.9	-11304	-9413	907	0.515	0.515	-65279	10833	2973	40441	4318	1313	5631	No	6.21	Si
SLU 78	3.53	-385.28	-12532	-10435	909	0.515	0.515	-72368	10833	3245	40441	4318	1313	5631	No	6.19	Si
SLU 84	2.73	259.3	-11611	-9668	911	0.515	0.515	-67048	10833	3041	40441	4318	1313	5631	No	6.18	Si
SLU 84	3.53	-383.84	-12889	-10733	913	0.515	0.515	-74433	10833	3325	40441	4318	1313	5631	No	6.17	Si
SLU 79	2.73	262.18	-11127	-9265	909	0.515	0.515	-64254	10833	2933	40441	4318	1313	5631	No	6.2	Si
SLU 79	3.53	-381.18	-12378	-10307	911	0.515	0.515	-71479	10833	3211	40441	4318	1313	5631	No	6.18	Si
SLU 82	2.73	261	-11513	-9587	914	0.515	0.515	-66482	10833	3019	40441	4318	1313	5631	No	6.16	Si
SLU 82	3.53	-385.06	-12789	-10649	916	0.515	0.515	-73850	10833	3302	40441	4318	1313	5631	No	6.15	Si
SLU 77	2.73	264.82	-11215	-9339	919	0.515	0.515	-64764	10833	2953	40441	4318	1313	5631	No	6.13	Si
SLU 77	3.53	-386.28	-12477	-10390	921	0.515	0.515	-72051	10833	3233	40441	4318	1313	5631	No	6.11	Si
SLU 81	2.73	267.92	-11423	-9512	926	0.515	0.515	-65967	10833	2999	40441	4318	1313	5631	No	6.08	Si
SLU 81	3.53	-386.06	-12734	-10604	928	0.515	0.515	-73534	10833	3290	40441	4318	1313	5631	No	6.07	Si
SLU 75	2.73	259.6	-11206	-9332	911	0.515	0.515	-64714	10833	2951	40441	4318	1313	5631	No	6.18	Si
SLU 75	3.53	-386.5	-12431	-10351	913	0.515	0.515	-71785	10833	3223	40441	4318	1313	5631	No	6.17	Si
SLU 74	2.73	266.52	-11117	-9257	923	0.515	0.515	-64198	10833	2931	40441	4318	1313	5631	No	6.1	Si
SLU 74	3.53	-387.51	-12376	-10306	925	0.515	0.515	-71469	10833	3211	40441	4318	1313	5631	No	6.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	2.73	763.38	-3926	-3270	2374	0.515	0.1892	-22674	14952	1566	40441	6477	1313	7790		3.28	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	3.53	-1066.46	-5048	-4203	2376	0.412	0.1386	0	0	0	40441	5182	1051	6232		2.62	Si
SLV 1	2.73	935.76	-6753	-5623	3160	0.515	0.3568	-38995	16250	2194	40441	6477	1313	7790		2.47	Si
SLV 1	3.53	-1535.96	-7488	-6236	3176	0.412	0.1572	0	0	0	40441	5182	1051	6232		1.96	Si
SLV 6	2.73	749.08	-11548	-9616	2836	0.515	0.515	-66686	16250	3258	40441	6477	1313	7790		2.75	Si
SLV 6	3.53	-1479.62	-11820	-9843	2861	0.412	0.397	0	0	0	40441	5182	1051	6232		2.18	Si
SLV 4	2.73	904.91	-3807	-3170	2833	0.412	0.0594	0	0	0	40441	5182	1051	6232		2.2	Si
SLV 4	3.53	-1287.69	-5012	-4174	2835	0.412	0.0018	0	0	0	40441	5182	1051	6232		2.2	Si
SLD 4	2.73	652.91	-5234	-4359	2074	0.515	0.3983	-30226	16250	1856	40441	6477	1313	7790		3.76	Si
SLD 4	3.53	-938.23	-6303	-5249	2074	0.412	0.3259	0	0	0	40441	5182	1051	6232		3	Si
SLD 2	2.73	753.1	-6892	-5739	2534	0.515	0.4447	-39801	16250	2225	40441	6477	1313	7790		3.07	Si
SLD 2	3.53	-1212.89	-7733	-6439	2542	0.412	0.3019	0	0	0	40441	5182	1051	6232		2.45	Si
SLV 2	2.73	1077.29	-6633	-5524	3619	0.515	0.2853	-38305	16250	2167	40441	6477	1313	7790		2.15	Si
SLV 2	3.53	-1757.18	-7453	-6206	3635	0.412	0.0652	0	0	0	40441	5182	1051	6232		1.71	Si
SLV 15	2.73	-682.86	-8491	-7071	-2269	0.515	0.515	-49035	16250	2580	40441	6477	1313	7790		3.43	Si
SLV 15	3.53	1188.29	-9372	-7804	-2282	0.515	0.3921	-54121	16250	2775	40441	6477	1313	7790		3.41	Si
SLD 1	2.73	663.32	-6968	-5802	2243	0.515	0.4869	-40239	16250	2241	40441	6477	1313	7790		3.47	Si
SLD 1	3.53	-1072.55	-7755	-6458	2251	0.412	0.3576	0	0	0	40441	5182	1051	6232		2.77	Si
SLV 5	2.73	653.8	-11628	-9683	2527	0.515	0.515	-67150	16250	3276	40441	6477	1313	7790		3.08	Si
SLV 5	3.53	-1330.69	-11844	-9863	2552	0.515	0.4354	-86390	16250	3324	40441	6477	1313	7790		3.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.3	6183	-892	45.28	119.77	2.64	Si
SLV 8	179667	0.3	6907	-996	45.28	133.12	2.94	Si
SLV 11	179667	0.3	8665	-1250	45.28	165.01	3.64	Si
SLV 12	179667	0.3	9389	-1354	45.28	177.89	3.93	Si
SLV 3	179667	0.3	30090	-4339	45.28	487.76	10.77	Si
SLV 4	179667	0.3	31164	-4494	45.28	500.76	11.06	Si
SLV 15	179667	0.3	38364	-5532	45.28	579.93	12.81	Si
SLV 16	179667	0.3	39439	-5687	45.28	590.57	13.04	Si
SLV 1	179667	0.3	53214	-7673	45.28	699.95	15.46	Si
SLV 2	179667	0.3	54289	-7828	45.28	706.37	15.6	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-5050	-9458	-48	0.556	588.7	0.962	8.40306	4.61192	Si
SLV 14	-5048	-9977	-48	0.556	588.5	0.962	8.40545	4.61192	Si
SLV 9	-5806	-15940	-72	0.49	665.7	0.966	7.37067	3.94002	Si
SLV 10	-5805	-16290	-72	0.49	665.5	0.966	7.37187	3.94002	Si
SLV 5	-5299	-16572	-60	0.532	614.1	0.964	8.022	3.94002	Si
SLV 6	-5298	-16921	-60	0.532	613.9	0.964	8.02345	3.94002	Si
SLV 15	-3894	-4606	-14	0.701	471.1	0.954	10.68285	4.61192	Si
SLV 16	-3892	-5125	-14	0.701	471	0.954	10.68689	4.61192	Si
SLV 1	-3359	-11563	-6	0.796	416.9	0.948	12.19159	4.61192	Si
SLV 2	-3357	-12082	-6	0.796	416.7	0.948	12.19696	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.467	SLU 83	Si
V_SLU	6.066	SLU 81	Si
PF_SLV	0.847	SLV 2	No
V_SLV	1.715	SLV 2	Si
PFFP_SLV	2.645	SLV 7	Si
R_SLV	1.822	SLV 13	Si

Maschio 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.163	-3.169	-5.438	-3.169	L4	L5	2.275	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	2.73	8811.18	-25860	-0.000132	0.0003743	0.0035	2.275	17686.36	21175.53	21175.53	2.4	No	Si
SLU 84	3.53	729.49	-24647	-0.0000677	0.0003743	0.0035	2.275	17381.26	20612.53	20612.53	28.26	No	Si
SLU 78	2.73	8625.6	-25192	-0.0001283	0.0003743	0.0035	2.275	17524.69	20863.91	20863.91	2.42	No	Si
SLU 78	3.53	682.59	-23979	-0.0000655	0.0003743	0.0035	2.275	17191.18	20307.61	20307.61	29.75	No	Si
SLU 81	2.73	8782.05	-25244	-0.0001297	0.0003743	0.0035	2.275	17537.91	20888.18	20888.18	2.38	No	Si
SLU 81	3.53	747.05	-24032	-0.0000661	0.0003743	0.0035	2.275	17206.63	20331.36	20331.36	27.22	No	Si
SLU 82	2.73	8752.98	-25674	-0.0001309	0.0003743	0.0035	2.275	17643.01	21088.58	21088.58	2.41	No	Si
SLU 82	3.53	691.46	-24462	-0.0000669	0.0003743	0.0035	2.275	17330.02	20527.44	20527.44	29.69	No	Si
SLU 80	2.73	8556.13	-24961	-0.000127	0.0003743	0.0035	2.275	17465.23	20757.17	20757.17	2.43	No	Si
SLU 80	3.53	678.11	-23749	-0.0000648	0.0003743	0.0035	2.275	17121.91	20203.19	20203.19	29.79	No	Si
SLU 77	2.73	8654.67	-24762	-0.0001271	0.0003743	0.0035	2.275	17412.31	20665.23	20665.23	2.39	No	Si
SLU 77	3.53	738.19	-23549	-0.0000647	0.0003743	0.0035	2.275	17060.52	20113.25	20113.25	27.25	No	Si
SLU 83	2.73	8840.25	-25430	-0.0001308	0.0003743	0.0035	2.275	17584.07	20974.48	20974.48	2.37	No	Si
SLU 83	3.53	785.09	-24217	-0.0000669	0.0003743	0.0035	2.275	17260.68	20415.79	20415.79	26	No	Si
SLU 75	2.73	8567.39	-25006	-0.0001272	0.0003743	0.0035	2.275	17476.98	20777.98	20777.98	2.43	No	Si
SLU 75	3.53	644.55	-23794	-0.0000647	0.0003743	0.0035	2.275	17135.58	20223.54	20223.54	31.38	No	Si
SLU 79	2.73	8585.2	-24531	-0.0001257	0.0003743	0.0035	2.275	17349.38	20559.32	20559.32	2.39	No	Si
SLU 79	3.53	733.71	-23319	-0.000064	0.0003743	0.0035	2.275	16987.77	20009.65	20009.65	27.27	No	Si
SLU 74	2.73	8596.47	-24576	-0.000126	0.0003743	0.0035	2.275	17361.81	20579.96	20579.96	2.39	No	Si
SLU 74	3.53	700.15	-23364	-0.0000639	0.0003743	0.0035	2.275	17002.12	20029.84	20029.84	28.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	2.73	4901.03	-17912	-0.0000752	0.0005615	0.0035	2.275		17537.09	17537.09	3.58		Si
SLV 13	3.53	8430.12	-17036	-0.0000995	0.0005615	0.0035	2.275		16767.55	16767.55	1.99		Si
SLD 11	2.73	2359.98	-7560	-0.0000324	0.0005615	0.0035	2.275		8369.12	8369.12	3.55		Si
SLD 11	3.53	3821.38	-6560	-0.0000424	0.0005615	0.0035	2.275		7356.37	7356.37	1.93		Si
SLV 7	2.73	1223.95	-2734	-0.0000139	0.0005615	0.0035	2.275		3325.77	3325.77	2.72		Si
SLV 7	3.53	1191.41	-1684	-0.0000138	0.0005615	0.0035	2.275		2178.12	2178.12	1.83		Si
SLV 16	2.73	2451.36	-10469	-0.0000402	0.0005615	0.0035	2.275		11182.24	11182.24	4.56		Si
SLV 16	3.53	8414.37	-9522	-0.0001462	0.0005615	0.0035	2.275		10310.35	10310.35	1.23		Si
SLV 4	2.73	7008.24	-15462	-0.0000838	0.0005615	0.0035	2.275		15399.47	15399.47	2.2		Si
SLV 4	3.53	-7688.61	-14483	-0.0000889	0.0005615	0.0035	2.275		15938.08	15938.08	2.07		Si
SLV 12	2.73	304.33	-2008	-0.0000065	0.0005615	0.0035	2.275		2533.61	2533.61	8.33		Si
SLV 12	3.53	4925.96	-968	-0.0202604	0.0005615	0.0035	1.82		1384.85	1384.85	0.28		No
SLD 15	2.73	3379.56	-12206	-0.0000505	0.0005615	0.0035	2.275		12628.78	12628.78	3.74		Si
SLD 15	3.53	6505.82	-11266	-0.000074	0.0005615	0.0035	2.275		11843.25	11843.25	1.82		Si
SLV 15	2.73	1786.74	-9323	-0.0000332	0.0005615	0.0035	2.275		10116.87	10116.87	5.66		Si
SLV 15	3.53	10042.88	-8376	-0.0072957	0.0005615	0.0035	1.82		9184.19	9184.19	0.91		No
SLV 11	2.73	-143.11	-1236	-0.0000037	0.0005615	0.0035	2.275		2745.98	2745.98	19.19		Si
SLV 11	3.53	6022.31	-196	-0.0313009	0.0005615	0.0035	1.82		523.01	523.01	0.09		No
SLV 2	2.73	10122.53	-24052	-0.000129	0.0005615	0.0035	2.275		22332.47	22332.47	2.21		Si
SLV 2	3.53	-9301.36	-23143	-0.0001201	0.0005615	0.0035	2.275		23020.52	23020.52	2.47		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	2.73	8654.67	-24762	-20620	9889	2.275	2.275	-32370	10833	7543	40441	19075	5801	24876	No	2.52	Si
SLU 77	3.53	738.19	-23549	-19610	9889	2.275	2.275	-30785	10833	7273	40441	19075	5801	24876	No	2.52	Si
SLU 78	2.73	8625.6	-25192	-20978	9923	2.275	2.275	-32932	10833	7638	40441	19075	5801	24876	No	2.51	Si
SLU 78	3.53	682.59	-23979	-19968	9923	2.275	2.275	-31347	10833	7369	40441	19075	5801	24876	No	2.51	Si
SLU 83	2.73	8840.25	-25430	-21176	10063	2.275	2.275	-33243	10833	7691	40441	19075	5801	24876	No	2.47	Si
SLU 83	3.53	785.09	-24217	-20166	10063	2.275	2.275	-31658	10833	7422	40441	19075	5801	24876	No	2.47	Si
SLU 82	2.73	8752.98	-25674	-21379	10071	2.275	2.275	-33562	10833	7745	40441	19075	5801	24876	No	2.47	Si
SLU 82	3.53	691.46	-24462	-20370	10071	2.275	2.275	-31977	10833	7476	40441	19075	5801	24876	No	2.47	Si
SLU 76	2.73	8478.55	-25062	-20870	9838	2.275	2.275	-32763	10833	7609	40441	19075	5801	24876	No	2.53	Si
SLU 76	3.53	603.01	-23850	-19860	9838	2.275	2.275	-31178	10833	7340	40441	19075	5801	24876	No	2.53	Si
SLU 81	2.73	8782.05	-25244	-21021	10038	2.275	2.275	-33000	10833	7650	40441	19075	5801	24876	No	2.48	Si
SLU 81	3.53	747.05	-24032	-20012	10038	2.275	2.275	-31415	10833	7381	40441	19075	5801	24876	No	2.48	Si
SLU 80	2.73	8556.13	-24961	-20786	9841	2.275	2.275	-32631	10833	7587	40441	19075	5801	24876	No	2.53	Si
SLU 80	3.53	678.11	-23749	-19776	9841	2.275	2.275	-31046	10833	7318	40441	19075	5801	24876	No	2.53	Si
SLU 74	2.73	8596.47	-24576	-20465	9864	2.275	2.275	-32127	10833	7501	40441	19075	5801	24876	No	2.52	Si
SLU 74	3.53	700.15	-23364	-19455	9864	2.275	2.275	-30542	10833	7232	40441	19075	5801	24876	No	2.52	Si
SLU 75	2.73	8567.39	-25006	-20823	9897	2.275	2.275	-32689	10833	7597	40441	19075	5801	24876	No	2.51	Si
SLU 75	3.53	644.55	-23794	-19813	9897	2.275	2.275	-31104	10833	7328	40441	19075	5801	24876	No	2.51	Si
SLU 84	2.73	8811.18	-25860	-21534	10096	2.275	2.275	-33805	10833	7786	40441	19075	5801	24876	No	2.46	Si
SLU 84	3.53	729.49	-24647	-20524	10096	2.275	2.275	-32220	10833	7517	40441	19075	5801	24876	No	2.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	2.73	9277.76	-25346	-21106	14798	2.275	2.275	-33134	16250	10351	40441	28612	5801	34413		2.33	Si
SLD 5	3.53	-2414.55	-24491	-20394	14807	2.275	2.275	-32015	16250	10351	40441	28612	5801	34413		2.32	Si
SLV 6	2.73	12052.38	-32138	-26762	21950	2.275	2.275	-42012	16250	10351	40441	28612	5801	34413		1.57	Si
SLV 6	3.53	-5280.79	-31323	-26083	21962	2.275	2.275	-40947	16250	10351	40441	28612	5801	34413		1.57	Si
SLV 4	2.73	7008.24	-15462	-12875	18343	2.275	2.0527	-20212	14459	8311	40441	28612	5801	34413		1.88	Si
SLV 4	3.53	-7688.61	-14483	-12060	18258	2.275	1.8198	-23953	15207	7749	40441	28612	5801	34413		1.88	Si
SLV 5	2.73	11604.94	-31366	-26119	20021	2.275	2.275	-41004	16250	10351	40441	28612	5801	34413		1.72	Si
SLV 5	3.53	-4184.44	-30551	-25440	20032	2.275	2.275	-39938	16250	10351	40441	28612	5801	34413		1.72	Si
SLV 1	2.73	9457.91	-22905	-19074	21548	2.275	2.1738	-29943	16250	9891	40441	28612	5801	34413		1.6	Si
SLV 1	3.53	-7672.85	-21996	-18317	21484	2.275	2.275	-28755	16168	10299	40441	28612	5801	34413		1.6	Si
SLV 2	2.73	10122.53	-24052	-20028	24415	2.275	2.1499	-31441	16250	9782	40441	28612	5801	34413		1.41	Si
SLV 2	3.53	-9301.36	-23143	-19271	24350	2.275	2.2068	-30253	16250	10041	40441	28612	5801	34413		1.41	Si
SLD 6	2.73	9549.29	-25815	-21496	15969	2.275	2.275	-33746	16250	10351	40441	28612	5801	34413		2.15	Si
SLD 6	3.53	-3079.86	-24959	-20784	15978	2.275	2.275	-32627	16250	10351	40441	28612	5801	34413		2.15	Si
SLD 2	2.73	8529.7	-21168	-17627	17953	2.275	2.2037	-27672	15951	9842	40441	28612	5801	34413		1.92	Si
SLD 2	3.53	-5764.3	-20253	-16865	17912	2.275	2.275	-26476	15712	10008	40441	28612	5801	34413		1.92	Si
SLV 3	2.73	6343.61	-14316	-11921	15477	2.275	2.0831	-18714	14159	8259	40441	28612	5801	34413		2.22	Si
SLV 3	3.53	-6060.1	-13336	-11105	15392	2.275	2.0493	-19514	14319	8216	40441	28612	5801	34413		2.24	Si
SLD 1	2.73	8108.06	-20441	-17022	16135	2.275	2.2225	-26721	15761	9808	40441	28612	5801	34413		2.13	Si
SLD 1	3.53	-4731.16	-19526	-16259	16094	2.275	2.275	-25525	15522	9887	40441	28612	5801	34413		2.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.3	2813	-1792	200.03	246.24	1.23	Si
SLV 7	179667	0.3	3341	-2128	200.03	291.44	1.46	Si
SLV 12	179667	0.3	3520	-2242	200.03	306.69	1.53	Si
SLV 8	179667	0.3	4048	-2579	200.03	351.44	1.76	Si
SLV 15	179667	0.3	15347	-9776	200.03	1231.14	6.15	Si
SLV 16	179667	0.3	16398	-10445	200.03	1305.34	6.53	Si
SLV 3	179667	0.3	17108	-10898	200.03	1354.75	6.77	Si
SLV 4	179667	0.3	18158	-11567	200.03	1426.78	7.13	Si
SLV 13	179667	0.3	26766	-17050	200.03	1968.66	9.84	Si
SLV 14	179667	0.3	27817	-17719	200.03	2028.85	10.14	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-24122	-12700	-569	0.507	2785.1	0.964	7.6366	3.94002	Si
SLV 10	-24130	-13607	-507	0.509	2786	0.964	7.67018	3.94002	Si
SLV 5	-23777	-12642	-570	0.513	2750	0.964	7.73385	3.94002	Si
SLV 9	-23785	-13550	-507	0.515	2750.9	0.964	7.76787	3.94002	Si
SLV 2	-17018	-7149	-257	0.697	2062.7	0.953	10.62846	4.61192	Si
SLV 14	-17045	-10174	-49	0.707	2065.5	0.953	10.77919	4.61192	Si
SLV 1	-16506	-7064	-257	0.715	2010.7	0.952	10.91688	4.61192	Si
SLV 13	-16533	-10089	-49	0.725	2013.4	0.952	11.07149	4.61192	Si
SLV 16	-10893	-6311	281	1.006	1441.5	0.936	15.61094	4.61192	Si
SLV 4	-10865	-3287	73	1.024	1438.8	0.936	15.89342	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.373	SLU 83	Si
V_SLU	2.464	SLU 84	Si
PF_SLV	0.087	SLV 11	No
V_SLV	1.41	SLV 2	Si
PFFP_SLV	1.231	SLV 11	Si
R_SLV	1.938	SLV 6	Si

Maschio 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.263	-3.169	-2.163	-3.169	L4	L5	1.9	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	1.63	-2534.08	-10781	-0.0000552	0.0003743	0.0035	1.9	8203.45	9655.67	9655.67	3.81	No	Si
SLU 60	3.53	938.66	-16097	-0.000057	0.0003743	0.0035	1.9	10747.4	12025.47	12025.47	12.81	No	Si
SLU 83	1.63	-2879.54	-12173	-0.0000631	0.0003743	0.0035	1.9	8965.15	10583.37	10583.37	3.68	No	Si
SLU 83	3.53	1194.44	-18545	-0.0000678	0.0003743	0.0035	1.9	11585.69	13458.11	13458.11	11.27	No	Si
SLU 41	1.63	-2481.32	-10374	-0.0000534	0.0003743	0.0035	1.9	7967.51	9373.68	9373.68	3.78	No	Si
SLU 41	3.53	1129	-16103	-0.0000589	0.0003743	0.0035	1.9	10749.69	12028.87	12028.87	10.65	No	Si
SLU 77	1.63	-2795.36	-11923	-0.0000614	0.0003743	0.0035	1.9	8833.31	10419.8	10419.8	3.73	No	Si
SLU 77	3.53	1104.59	-18003	-0.000065	0.0003743	0.0035	1.9	11418.09	13135.2	13135.2	11.89	No	Si
SLU 81	1.63	-2847.8	-12080	-0.0000625	0.0003743	0.0035	1.9	8916.75	10522.87	10522.87	3.7	No	Si
SLU 81	3.53	1179.81	-18398	-0.0000671	0.0003743	0.0035	1.9	11541.31	13370.55	13370.55	11.33	No	Si
SLU 74	1.63	-2763.62	-11830	-0.0000608	0.0003743	0.0035	1.9	8784.1	10359.74	10359.74	3.75	No	Si
SLU 74	3.53	1089.96	-17856	-0.0000644	0.0003743	0.0035	1.9	11370.91	13048.11	13048.11	11.97	No	Si
SLU 79	1.63	-2776.31	-11815	-0.0000609	0.0003743	0.0035	1.9	8775.7	10349.55	10349.55	3.73	No	Si
SLU 79	3.53	1095.24	-17827	-0.0000643	0.0003743	0.0035	1.9	11361.64	13031.2	13031.2	11.9	No	Si
SLU 62	1.63	-2565.82	-10873	-0.0000558	0.0003743	0.0035	1.9	8256.05	9719.98	9719.98	3.79	No	Si
SLU 62	3.53	953.29	-16244	-0.0000576	0.0003743	0.0035	1.9	10803.65	12109.51	12109.51	12.7	No	Si
SLU 39	1.63	-2449.58	-10281	-0.0000528	0.0003743	0.0035	1.9	7913.29	9310.31	9310.31	3.8	No	Si
SLU 39	3.53	1114.37	-15956	-0.0000583	0.0003743	0.0035	1.9	10692.72	11945.08	11945.08	10.72	No	Si
SLU 37	1.63	-2378.09	-10016	-0.0000512	0.0003743	0.0035	1.9	7755.48	9128.76	9128.76	3.84	No	Si
SLU 37	3.53	1029.79	-15385	-0.0000556	0.0003743	0.0035	1.9	10464.13	11621.08	11621.08	11.28	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	1.63	-1428.53	2827	0.2603246	0.0005615	0.0035	1.52		0	0	0		No
SLV 7	3.53	2501.3	-2797	-0.000191	0.0005615	0.0035	1.9		2779.97	2779.97	1.11		Si
SLV 8	1.63	-767.39	2139	0.1960203	0.0005615	0.0035	1.52		0	0	0		No
SLV 8	3.53	1783.54	-2337	-0.000045	0.0005615	0.0035	1.9		2366.55	2366.55	1.33		Si
SLD 15	1.63	-5752.29	-4873	-0.0011989	0.0005615	0.0035	1.52		5281.2	5281.2	0.92		No
SLD 15	3.53	4637.16	-15380	-0.0000882	0.0005615	0.0035	1.9		12526.18	12526.18	2.7		Si
SLV 16	1.63	-6973.38	-3762	-0.0035324	0.0005615	0.0035	1.52		4318.89	4318.89	0.62		No
SLV 16	3.53	5906.61	-16401	-0.0001048	0.0005615	0.0035	1.9		13273.9	13273.9	2.25		Si
SLD 12	1.63	-3196.08	-1539	-0.0010755	0.0005615	0.0035	1.52		2329.75	2329.75	0.73		No
SLD 12	3.53	3103.27	-8889	-0.0000536	0.0005615	0.0035	1.9		7934.96	7934.96	2.56		Si
SLV 11	1.63	-4637.22	3768	0.352778	0.0005615	0.0035	1.52		0	0	0		No
SLV 11	3.53	5446.23	-6963	-0.0001641	0.0005615	0.0035	1.9		6376.9	6376.9	1.17		Si
SLV 12	1.63	-3976.08	3081	0.2886807	0.0005615	0.0035	1.52		0	0	0		No
SLV 12	3.53	4728.48	-6503	-0.0001105	0.0005615	0.0035	1.9		5994.74	5994.74	1.27		Si
SLV 15	1.63	-7955.43	-2740	-0.0058574	0.0005615	0.0035	1.52		3415.06	3415.06	0.43		No
SLV 15	3.53	6972.76	-17083	-0.0001203	0.0005615	0.0035	1.9		13778.21	13778.21	1.98		Si
SLD 11	1.63	-3597.29	-1122	-0.0016571	0.0005615	0.0035	1.52		1948.33	1948.33	0.54		No
SLD 11	3.53	3538.84	-9167	-0.0000591	0.0005615	0.0035	1.9		8140.72	8140.72	2.3		Si
SLV 4	1.63	3722.25	-6901	-0.0000612	0.0005615	0.0035	1.9		6326.02	6326.02	1.7		Si
SLV 4	3.53	-3909.85	-2515	-0.0010849	0.0005615	0.0035	1.52		3212.78	3212.78	0.82		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	1.63	-2847.8	-12080	-10060	-7107	1.9	1.9	-18909	9466	5036	40441	15930	4845	20775	No	2.92	Si
SLU 81	3.53	1179.81	-18398	-15321	-7132	1.9	1.9	-28798	10784	5793	40441	15930	4845	20775	No	2.91	Si
SLU 78	1.63	-2653.67	-12258	-10207	-6702	1.9	1.9	-19186	9503	5055	40441	15930	4845	20775	No	3.1	Si
SLU 78	3.53	1066.8	-18149	-15113	-6726	1.9	1.9	-28407	10732	5737	40441	15930	4845	20775	No	3.09	Si
SLU 74	1.63	-2763.62	-11830	-9851	-6849	1.9	1.9	-18518	9413	5008	40441	15930	4845	20775	No	3.03	Si
SLU 74	3.53	1089.96	-17856	-14869	-6873	1.9	1.9	-27949	10671	5677	40441	15930	4845	20775	No	3.02	Si
SLU 84	1.63	-2737.85	-12508	-10415	-6961	1.9	1.9	-19578	9555	5083	40441	15930	4845	20775	No	2.98	Si
SLU 84	3.53	1156.65	-18691	-15564	-6985	1.9	1.9	-29256	10833	5858	40441	15930	4845	20775	No	2.97	Si
SLU 80	1.63	-2634.62	-12150	-10117	-6649	1.9	1.9	-19017	9480	5043	40441	15930	4845	20775	No	3.12	Si
SLU 80	3.53	1057.45	-17973	-14966	-6672	1.9	1.9	-28132	10695	5698	40441	15930	4845	20775	No	3.11	Si
SLU 83	1.63	-2879.54	-12173	-10136	-7163	1.9	1.9	-19053	9485	5046	40441	15930	4845	20775	No	2.9	Si
SLU 83	3.53	1194.44	-18545	-15443	-7188	1.9	1.9	-29028	10815	5825	40441	15930	4845	20775	No	2.89	Si
SLU 79	1.63	-2776.31	-11815	-9838	-6851	1.9	1.9	-18493	9410	5006	40441	15930	4845	20775	No	3.03	Si
SLU 79	3.53	1095.24	-17827	-14845	-6875	1.9	1.9	-27904	10665	5674	40441	15930	4845	20775	No	3.02	Si
SLU 77	1.63	-2795.36	-11923	-9928	-6905	1.9	1.9	-18662	9433	5018	40441	15930	4845	20775	No	3.01	Si
SLU 77	3.53	1104.59	-18003	-14991	-6929	1.9	1.9	-28179	10702	5705	40441	15930	4845	20775	No	3	Si
SLU 82	1.63	-2706.11	-12415	-10338	-6905	1.9	1.9	-19433	9536	5073	40441	15930	4845	20775	No	3.01	Si
SLU 82	3.53	1142.02	-18544	-15442	-6929	1.9	1.9	-29026	10815	5825	40441	15930	4845	20775	No	3	Si
SLU 75	1.63	-2621.93	-12165	-10130	-6647	1.9	1.9	-19042	9483	5045	40441	15930	4845	20775	No	3.13	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	3.53	1052.17	-18002	-14990	-6670	1.9	1.9	-28177	10701	5705	40441	15930	4845	20775	No	3.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	1.63	-6973.38	-3762	-3133	-15283	1.52	0	0	0	0	40441	19117	3876	22993		1.5	Si
SLV 16	3.53	5906.61	-16401	-13657	-14877	1.9	1.7696	-25671	15551	7705	40441	23896	4845	28741		1.93	Si
SLV 11	1.63	-4637.22	3768	3138	-12401	1.52	0	0	0	0	40441	19117	3876	22993		1.85	Si
SLV 11	3.53	5446.23	-6963	-5798	-12477	1.9	0.5034	-42116	16250	4107	40441	23896	4845	28741		2.3	Si
SLV 15	1.63	-7955.43	-2740	-2282	-17336	1.52	0	0	0	0	40441	19117	3876	22993		1.33	Si
SLV 15	3.53	6972.76	-17083	-14225	-16930	1.9	1.6255	-26740	15765	7175	40441	23896	4845	28741		1.7	Si
SLD 16	1.63	-5129.26	-5521	-4598	-11372	1.52	0.0631	0	0	0	40441	19117	3876	22993		2.02	Si
SLD 16	3.53	3960.79	-14947	-12447	-11117	1.9	1.9	-23396	15096	8031	40441	23896	4845	28741		2.59	Si
SLV 12	1.63	-3976.08	3081	2565	-11019	1.52	0	0	0	0	40441	19117	3876	22993		2.09	Si
SLV 12	3.53	4728.48	-6503	-5415	-11095	1.9	0.6687	-10179	12452	4005	40441	23896	4845	28741		2.59	Si
SLV 13	1.63	-7453.39	-9404	-7831	-14952	1.52	0.4724	0	0	0	40441	19117	3876	22993		1.54	Si
SLV 13	3.53	5186.95	-21497	-17901	-14424	1.9	1.9	-33648	16250	8645	40441	23896	4845	28741		1.99	Si
SLD 15	1.63	-5752.29	-4873	-4058	-12674	1.52	0	0	0	0	40441	19117	3876	22993		1.81	Si
SLD 15	3.53	4637.16	-15380	-12807	-12419	1.9	1.9	-24074	15231	8103	40441	23896	4845	28741		2.31	Si
SLV 14	1.63	-6471.34	-10426	-8682	-12899	1.52	0.9879	0	0	0	40441	19117	3876	22993		1.78	Si
SLV 14	3.53	4120.81	-20814	-17332	-12371	1.9	1.9	-32579	16250	8645	40441	23896	4845	28741		2.32	Si
SLD 13	1.63	-5449.94	-8787	-7317	-11272	1.52	0.9893	0	0	0	40441	19117	3876	22993		2.04	Si
SLD 13	3.53	3592.52	-17968	-14962	-10944	1.9	1.9	-28125	16042	8534	40441	23896	4845	28741		2.63	Si
SLD 11	1.63	-3597.29	-1122	-934	-9355	1.52	0	0	0	0	40441	19117	3876	22993		2.46	Si
SLD 11	3.53	3538.84	-9167	-7634	-9401	1.9	1.6919	-14349	13287	6294	40441	23896	4845	28741		3.06	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	0	-577	167.06	0	0	No, e>t/2
SLV 7	179667	0.3	0	-582	167.06	0	0	No, e>t/2
SLV 12	179667	0.3	5237	-2786	167.06	376.7	2.25	Si
SLV 11	179667	0.3	5248	-2792	167.06	377.41	2.26	Si
SLV 4	179667	0.3	8633	-4593	167.06	606.65	3.63	Si
SLV 3	179667	0.3	8648	-4601	167.06	607.66	3.64	Si
SLV 2	179667	0.3	19259	-10246	167.06	1253.53	7.5	Si
SLV 1	179667	0.3	19274	-10254	167.06	1254.37	7.51	Si
SLV 16	179667	0.3	22477	-11958	167.06	1427.7	8.55	Si
SLV 15	179667	0.3	22492	-11966	167.06	1428.5	8.55	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-16758	-8643	79	0.614	1981.4	0.959	9.30545	4.61192	Si
SLV 9	-19571	-12675	-288	0.528	2267.5	0.964	7.96645	3.94002	Si
SLV 14	-16712	-8900	78	0.615	1976.7	0.959	9.3286	4.61192	Si
SLV 10	-19539	-12848	-288	0.529	2264.3	0.964	7.97764	3.94002	Si
SLV 5	-17431	-12144	-391	0.577	2049.8	0.96	8.74186	3.94002	Si
SLV 6	-17399	-12317	-391	0.578	2046.6	0.96	8.75565	3.94002	Si
SLV 15	-12201	-4692	290	0.787	1518.4	0.948	12.06354	4.61192	Si
SLV 16	-12154	-4949	290	0.789	1513.7	0.948	12.10417	4.61192	Si
SLV 1	-9625	-6873	-264	0.959	1257.3	0.939	14.83959	4.61192	Si
SLV 2	-9578	-7130	-264	0.962	1252.6	0.939	14.90107	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.675	SLU 83	Si
V_SLU	2.89	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	1.326	SLV 15	Si
PFFP_SLV	0	SLV 7	No
R_SLV	2.018	SLV 13	Si

Maschio 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.903	5.951	-5.158	5.951	L4	L5	2.255	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 46	1.63	5005.43	-19244	-0.0000837	0.0003743	0.0035	2.255	15202.14	17036.76	17036.76	3.4	No	Si
SLU 46	3.53	-922	-23304	-0.000066	0.0003743	0.0035	2.255	16749.99	20505.4	20505.4	22.24	No	Si
SLU 50	1.63	5148.76	-19806	-0.0000864	0.0003743	0.0035	2.255	15450.81	17427.68	17427.68	3.38	No	Si
SLU 50	3.53	-973.04	-24081	-0.0000686	0.0003743	0.0035	2.255	16980.19	20919.58	20919.58	21.5	No	Si
SLU 79	1.63	6043.86	-25196	-0.00011	0.0003743	0.0035	2.255	17273.75	20599.61	20599.61	3.41	No	Si
SLU 79	3.53	-1074.25	-30553	-0.0000888	0.0003743	0.0035	2.255	18075.66	23686.65	23686.65	22.05	No	Si
SLU 45	1.63	5084.61	-19437	-0.0000848	0.0003743	0.0035	2.255	15289.01	17170.93	17170.93	3.38	No	Si
SLU 45	3.53	-958.11	-23549	-0.000067	0.0003743	0.0035	2.255	16825.01	20635.19	20635.19	21.54	No	Si
SLU 49	1.63	5111.04	-19815	-0.0000861	0.0003743	0.0035	2.255	15454.98	17434.42	17434.42	3.41	No	Si
SLU 49	3.53	-930.66	-24057	-0.0000682	0.0003743	0.0035	2.255	16973.56	20906.94	20906.94	22.46	No	Si
SLU 77	1.63	6085.32	-25399	-0.000111	0.0003743	0.0035	2.255	17322.51	20693.63	20693.63	3.4	No	Si
SLU 77	3.53	-1067.98	-30775	-0.0000894	0.0003743	0.0035	2.255	18087.16	23771.14	23771.14	22.26	No	Si
SLU 51	1.63	5069.58	-19612	-0.0000852	0.0003743	0.0035	2.255	15366.44	17292.67	17292.67	3.41	No	Si
SLU 51	3.53	-936.93	-23835	-0.0000676	0.0003743	0.0035	2.255	16909.74	20787.65	20787.65	22.19	No	Si
SLU 48	1.63	5190.23	-20009	-0.0000873	0.0003743	0.0035	2.255	15537.97	17569.89	17569.89	3.39	No	Si
SLU 48	3.53	-966.77	-24303	-0.0000692	0.0003743	0.0035	2.255	17042.09	21039.76	21039.76	21.76	No	Si
SLU 43	1.63	4937.52	-18663	-0.0000814	0.0003743	0.0035	2.255	14933.3	16636.36	16636.36	3.37	No	Si
SLU 43	3.53	-955.73	-22574	-0.0000642	0.0003743	0.0035	2.255	16514.39	20125.33	20125.33	21.06	No	Si
SLU 44	1.63	4805.55	-18340	-0.0000795	0.0003743	0.0035	2.255	14779.03	16415.63	16415.63	3.42	No	Si
SLU 44	3.53	-895.54	-22165	-0.0000626	0.0003743	0.0035	2.255	16374.19	19916.17	19916.17	22.24	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	1.63	5230.76	-6807	-0.0000695	0.0005615	0.0035	2.255		7532.18	7532.18	1.44		Si
SLV 1	3.53	-5103.05	-16230	-0.0000731	0.0005615	0.0035	2.255		17304.21	17304.21	3.39		Si
SLV 10	1.63	-3038.4	-3784	-0.0000417	0.0005615	0.0035	1.804		5455.86	5455.86	1.8		Si
SLV 10	3.53	2879.84	-688	-0.0111607	0.0005615	0.0035	1.804		1061.06	1061.06	0.37		No
SLV 2	1.63	4337.14	-6844	-0.0000501	0.0005615	0.0035	2.255		7569.92	7569.92	1.75		Si
SLV 2	3.53	-4063.29	-14612	-0.0000619	0.0005615	0.0035	2.255		15897.1	15897.1	3.91		Si
SLV 5	1.63	-971.07	-443	-0.0001558	0.0005615	0.0035	1.804		1856.24	1856.24	1.91		Si
SLV 5	3.53	-459.76	-2269	-0.0000081	0.0005615	0.0035	2.255		3842.41	3842.41	8.36		Si
SLV 3	1.63	8955.73	-15582	-0.0001064	0.0005615	0.0035	2.255		15347.76	15347.76	1.71		Si
SLV 3	3.53	-6297.79	-27479	-0.0001127	0.0005615	0.0035	2.255		25812.84	25812.84	4.1		Si
SLD 1	1.63	4955.88	-10613	-0.0000584	0.0005615	0.0035	2.255		11172.74	11172.74	2.25		Si
SLD 1	3.53	-3567.09	-17963	-0.0000674	0.0005615	0.0035	2.255		18749.14	18749.14	5.26		Si
SLD 3	1.63	7135.53	-15761	-0.0000868	0.0005615	0.0035	2.255		15500.97	15500.97	2.17		Si
SLD 3	3.53	-4270.23	-24559	-0.0000901	0.0005615	0.0035	2.255		23804.04	23804.04	5.57		Si
SLV 6	1.63	-1572.67	-468	-0.0003308	0.0005615	0.0035	1.804		1884.01	1884.01	1.2		Si
SLV 6	3.53	240.23	-1180	-0.0000042	0.0005615	0.0035	2.255		1601.51	1601.51	6.67		Si
SLV 4	1.63	8062.11	-15620	-0.0000956	0.0005615	0.0035	2.255		15379.93	15379.93	1.91		Si
SLV 4	3.53	-5258.03	-25861	-0.0001007	0.0005615	0.0035	2.255		24722.86	24722.86	4.7		Si
SLV 9	1.63	-2436.8	-3758	-0.0000278	0.0005615	0.0035	1.804		5429.42	5429.42	2.23		Si
SLV 9	3.53	2179.85	-1778	-0.0007012	0.0005615	0.0035	1.804		2256.72	2256.72	1.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	1.63	5979.7	-24828	-20674	8495	2.255	2.255	-32744	10833	7539	40441	18907	5750	24657	No	2.9	Si
SLU 74	3.53	-1059.33	-30022	-25000	8413	2.255	2.255	-39594	10833	8693	40441	18907	5750	24657	No	2.93	Si
SLU 79	1.63	6043.86	-25196	-20981	8634	2.255	2.255	-33229	10833	7621	40441	18907	5750	24657	No	2.86	Si
SLU 79	3.53	-1074.25	-30553	-25442	8551	2.255	2.255	-40295	10833	8811	40441	18907	5750	24657	No	2.88	Si
SLU 75	1.63	5900.52	-24634	-20513	8403	2.255	2.255	-32488	10833	7496	40441	18907	5750	24657	No	2.93	Si
SLU 75	3.53	-1023.22	-29777	-24795	8322	2.255	2.255	-39270	10833	8638	40441	18907	5750	24657	No	2.96	Si
SLU 83	1.63	6078.57	-25564	-21288	8661	2.255	2.255	-33715	10833	7703	40441	18907	5750	24657	No	2.85	Si
SLU 83	3.53	-1081.19	-30928	-25754	8576	2.255	2.255	-40789	10833	8894	40441	18907	5750	24657	No	2.88	Si
SLU 78	1.63	6006.14	-25206	-20989	8572	2.255	2.255	-33242	10833	7623	40441	18907	5750	24657	No	2.88	Si
SLU 78	3.53	-1031.87	-30530	-25423	8489	2.255	2.255	-40264	10833	8805	40441	18907	5750	24657	No	2.9	Si
SLU 81	1.63	5972.95	-24993	-20812	8493	2.255	2.255	-32961	10833	7576	40441	18907	5750	24657	No	2.9	Si
SLU 81	3.53	-1072.53	-30175	-25127	8408	2.255	2.255	-39795	10833	8727	40441	18907	5750	24657	No	2.93	Si
SLU 84	1.63	5999.39	-25371	-21127	8569	2.255	2.255	-33460	10833	7660	40441	18907	5750	24657	No	2.88	Si
SLU 84	3.53	-1045.08	-30682	-25550	8485	2.255	2.255	-40465	10833	8839	40441	18907	5750	24657	No	2.91	Si
SLU 82	1.63	5893.77	-24799	-20651	8401	2.255	2.255	-32706	10833	7533	40441	18907	5750	24657	No	2.94	Si
SLU 82	3.53	-1036.42	-29929	-24922	8317	2.255	2.255	-39472	10833	8672	40441	18907	5750	24657	No	2.96	Si
SLU 80	1.63	5964.68	-25003	-20820	8542	2.255	2.255	-32974	10833	7578	40441	18907	5750	24657	No	2.89	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	3.53	-1038.14	-30308	-25238	8460	2.255	2.255	-39971	10833	8756	40441	18907	5750	24657	No	2.91	Si
SLU 77	1.63	6085.32	-25399	-21150	8664	2.255	2.255	-33497	10833	7666	40441	18907	5750	24657	No	2.85	Si
SLU 77	3.53	-1067.98	-30775	-25627	8580	2.255	2.255	-40587	10833	8860	40441	18907	5750	24657	No	2.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	1.63	8486.45	-24250	-20193	11868	2.255	2.255	-31981	16250	10260	40441	28360	5750	34111		2.87	Si
SLD 7	3.53	-3007.78	-31706	-26402	11694	2.255	2.255	-41816	16250	10260	40441	28360	5750	34111		2.92	Si
SLV 4	1.63	8062.11	-15620	-13007	14643	2.255	1.8341	-20600	14537	7465	40441	28360	5750	34111		2.33	Si
SLV 4	3.53	-5258.03	-25861	-21535	14212	2.255	2.255	-34106	16250	10260	40441	28360	5750	34111		2.4	Si
SLD 8	1.63	8121.37	-24265	-20206	11051	2.255	2.255	-32001	16250	10260	40441	28360	5750	34111		3.09	Si
SLD 8	3.53	-2583	-31045	-25852	10877	2.255	2.255	-40944	16250	10260	40441	28360	5750	34111		3.14	Si
SLV 1	1.63	5230.76	-6807	-5668	12540	2.255	1.0771	-8977	12212	4551	40441	28360	5750	34111		2.72	Si
SLV 1	3.53	-5103.05	-16230	-13515	12153	2.255	2.255	-21405	14698	9280	40441	28360	5750	34111		2.81	Si
SLV 3	1.63	8955.73	-15582	-12976	16644	2.255	1.6583	-20551	14527	6745	40441	28360	5750	34111		2.05	Si
SLV 3	3.53	-6297.79	-27479	-22882	16211	2.255	2.255	-36240	16250	10260	40441	28360	5750	34111		2.1	Si
SLD 3	1.63	7135.53	-15761	-13124	12687	2.255	2.0243	-20786	14574	8260	40441	28360	5750	34111		2.69	Si
SLD 3	3.53	-4270.23	-24559	-20450	12390	2.255	2.255	-32389	16250	10260	40441	28360	5750	34111		2.75	Si
SLD 4	1.63	6568.61	-15784	-13144	11417	2.255	2.1341	-20817	14580	8712	40441	28360	5750	34111		2.99	Si
SLD 4	3.53	-3610.6	-23532	-19595	11122	2.255	2.255	-31035	16250	10260	40441	28360	5750	34111		3.07	Si
SLV 8	1.63	10843.89	-29720	-24749	14440	2.255	2.255	-39196	16250	10260	40441	28360	5750	34111		2.36	Si
SLV 8	3.53	-3742.23	-38676	-32206	14201	2.255	2.255	-51007	16250	11627	40441	28360	5750	34111		2.4	Si
SLV 7	1.63	11445.5	-29695	-24728	15787	2.255	2.2262	-39163	16250	10129	40441	28360	5750	34111		2.16	Si
SLV 7	3.53	-4442.22	-39766	-33113	15546	2.255	2.255	-52444	16250	11869	40441	28360	5750	34111		2.19	Si
SLV 11	1.63	9979.77	-33011	-27489	11228	2.255	2.255	-43536	16250	10370	40441	28360	5750	34111		3.04	Si
SLV 11	3.53	-1802.61	-39274	-32704	11199	2.255	2.255	-51797	16250	11760	40441	28360	5750	34111		3.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	0	-1163	198.27	0	0	No, e>t/2
SLV 6	179667	0.3	0	-794	198.27	0	0	No, e>t/2
SLV 5	179667	0.3	2537	-1602	198.27	220.53	1.11	Si
SLV 9	179667	0.3	3121	-1971	198.27	270.23	1.36	Si
SLV 2	179667	0.3	20066	-12670	198.27	1540.7	7.77	Si
SLV 1	179667	0.3	21966	-13869	198.27	1662.44	8.38	Si
SLV 14	179667	0.3	22012	-13899	198.27	1665.34	8.4	Si
SLV 13	179667	0.3	23912	-15098	198.27	1782.79	8.99	Si
SLV 4	179667	0.3	37038	-23385	198.27	2479.95	12.51	Si
SLV 3	179667	0.3	38938	-24585	198.27	2564.36	12.93	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-32341	-30855	475	0.395	3618.9	0.972	5.89776	3.94002	Si
SLV 11	-32204	-34325	497	0.395	3605	0.972	5.91024	3.94002	Si
SLV 8	-31517	-30773	474	0.403	3535.1	0.972	6.03262	3.94002	Si
SLV 12	-31380	-34243	496	0.404	3521.1	0.972	6.04598	3.94002	Si
SLV 3	-22295	-15176	119	0.556	2596.3	0.962	8.39748	4.61192	Si
SLV 15	-21839	-26741	191	0.563	2549.9	0.962	8.50676	4.61192	Si
SLV 4	-21071	-15054	118	0.583	2471.8	0.961	8.82753	4.61192	Si
SLV 16	-20615	-26620	189	0.591	2425.5	0.96	8.95177	4.61192	Si
SLV 1	-13375	-5190	-165	0.852	1690	0.945	13.10318	4.61192	Si
SLV 13	-12920	-16755	-93	0.881	1643.8	0.944	13.57586	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.369	SLU 43	Si
V_SLU	2.846	SLU 77	Si
PF_SLV	0.368	SLV 10	No
V_SLV	2.049	SLV 3	Si
PFFP_SLV	0	SLV 6	No
R_SLV	1.497	SLV 7	Si

Maschio 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.903	5.951	L4	L5	1.78	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	1.63	-1066.8	-14420	-0.0000574	0.0003743	0.0035	1.78	9186.7	11082.66	11082.66	10.39	No	Si
SLU 41	3.53	635.72	-16065	-0.0000584	0.0003743	0.0035	1.78	9771.19	11091.32	11091.32	17.45	No	Si
SLU 82	1.63	-1149.11	-16205	-0.0000647	0.0003743	0.0035	1.78	9816.67	11931.55	11931.55	10.38	No	Si
SLU 82	3.53	623.14	-17794	-0.0000644	0.0003743	0.0035	1.78	10283.19	12062.13	12062.13	19.36	No	Si
SLU 36	1.63	-1037.98	-14158	-0.0000562	0.0003743	0.0035	1.78	9084.72	10942.28	10942.28	10.54	No	Si
SLU 36	3.53	600.91	-15777	-0.0000569	0.0003743	0.0035	1.78	9675.77	10933.13	10933.13	18.19	No	Si
SLU 78	1.63	-1141.36	-16515	-0.0000657	0.0003743	0.0035	1.78	9914.52	12048.47	12048.47	10.56	No	Si
SLU 78	3.53	576.99	-18049	-0.0000648	0.0003743	0.0035	1.78	10349.76	12187.65	12187.65	21.12	No	Si
SLU 39	1.63	-1039.49	-14046	-0.0000558	0.0003743	0.0035	1.78	9040.74	10881.84	10881.84	10.47	No	Si
SLU 39	3.53	618.94	-15619	-0.0000566	0.0003743	0.0035	1.78	9622.1	10846.62	10846.62	17.52	No	Si
SLU 83	1.63	-1170.17	-16777	-0.000067	0.0003743	0.0035	1.78	9994.81	12148.78	12148.78	10.38	No	Si
SLU 83	3.53	611.8	-18337	-0.0000662	0.0003743	0.0035	1.78	10422.24	12293.95	12293.95	20.09	No	Si
SLU 81	1.63	-1142.86	-16404	-0.0000653	0.0003743	0.0035	1.78	9879.74	12006.27	12006.27	10.51	No	Si
SLU 81	3.53	595.02	-17891	-0.0000644	0.0003743	0.0035	1.78	10308.7	12117.39	12117.39	20.36	No	Si
SLU 42	1.63	-1073.05	-14222	-0.0000568	0.0003743	0.0035	1.78	9109.82	10976.86	10976.86	10.23	No	Si
SLU 42	3.53	663.84	-15968	-0.0000583	0.0003743	0.0035	1.78	9739.5	11038.14	11038.14	16.63	No	Si
SLU 40	1.63	-1045.74	-13848	-0.0000552	0.0003743	0.0035	1.78	8961.27	10773.1	10773.1	10.3	No	Si
SLU 40	3.53	647.06	-15522	-0.0000566	0.0003743	0.0035	1.78	9588.91	10793.71	10793.71	16.68	No	Si
SLU 84	1.63	-1176.42	-16579	-0.0000664	0.0003743	0.0035	1.78	9934.33	12072.83	12072.83	10.26	No	Si
SLU 84	3.53	639.92	-18240	-0.0000662	0.0003743	0.0035	1.78	10398.25	12260.56	12260.56	19.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	1.63	3417.67	-5401	-0.0000775	0.0005615	0.0035	1.78		4707	4707	1.38		Si
SLV 1	3.53	-2356.87	-3690	-0.0000529	0.0005615	0.0035	1.424		3992.44	3992.44	1.69		Si
SLV 13	1.63	-3713.77	-8926	-0.000069	0.0005615	0.0035	1.78		8068.44	8068.44	2.17		Si
SLV 13	3.53	3180.14	-13113	-0.0000741	0.0005615	0.0035	1.78		10110.7	10110.7	3.18		Si
SLV 3	1.63	2970.5	-14443	-0.0000763	0.0005615	0.0035	1.78		11021.45	11021.45	3.71		Si
SLV 3	3.53	-3339.86	-9937	-0.0000655	0.0005615	0.0035	1.78		8794.92	8794.92	2.63		Si
SLV 14	1.63	-4350.09	-7752	-0.0000875	0.0005615	0.0035	1.424		7186.82	7186.82	1.65		Si
SLV 14	3.53	3849.57	-13488	-0.0000826	0.0005615	0.0035	1.78		10366.35	10366.35	2.69		Si
SLV 2	1.63	2781.34	-4227	-0.0000667	0.0005615	0.0035	1.78		3762.17	3762.17	1.35		Si
SLV 2	3.53	-1687.45	-4065	-0.0000305	0.0005615	0.0035	1.78		4294.62	4294.62	2.55		Si
SLD 10	1.63	-1077.12	-2358	-0.0000192	0.0005615	0.0035	1.78		2889.9	2889.9	2.68		Si
SLD 10	3.53	1881.15	-6600	-0.0000391	0.0005615	0.0035	1.78		5648.73	5648.73	3		Si
SLV 10	1.63	-1228.43	3839	0.3498968	0.0005615	0.0035	1.424		0	0	0		No
SLV 10	3.53	2949.05	-2840	-0.0047058	0.0005615	0.0035	1.424		2617.66	2617.66	0.89		No
SLV 9	1.63	-800.05	3049	0.2770722	0.0005615	0.0035	1.424		0	0	0		No
SLV 9	3.53	2498.38	-2587	-0.0019175	0.0005615	0.0035	1.424		2404.89	2404.89	0.96		No
SLV 5	1.63	1339.38	4106	0.3570291	0.0005615	0.0035	1.424		0	0	0		No
SLV 5	3.53	837.28	240	-0.0048697	0.0005615	0.0035	1.424		0	0	0		No
SLV 6	1.63	911	4897	0.4316713	0.0005615	0.0035	1.424		0	0	0		No
SLV 6	3.53	1287.95	-13	-0.0111545	0.0005615	0.0035	1.424		186.39	186.39	0.14		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	1.63	-1149.11	-16205	-13494	-2713	1.78	1.78	-27076	10555	5260	40441	14924	4539	19463	No	7.18	Si
SLU 82	3.53	623.14	-17794	-14817	-2709	1.78	1.78	-29730	10833	5551	40441	14924	4539	19463	No	7.19	Si
SLU 77	1.63	-1135.11	-16713	-13917	-2593	1.78	1.78	-27924	10668	5317	40441	14924	4539	19463	No	7.51	Si
SLU 77	3.53	548.88	-18145	-15110	-2589	1.78	1.78	-30317	10833	5629	40441	14924	4539	19463	No	7.52	Si
SLU 80	1.63	-1127.84	-16383	-13642	-2641	1.78	1.78	-27372	10594	5280	40441	14924	4539	19463	No	7.37	Si
SLU 80	3.53	572.36	-17899	-14905	-2637	1.78	1.78	-29905	10833	5574	40441	14924	4539	19463	No	7.38	Si
SLU 84	1.63	-1176.42	-16579	-13806	-2770	1.78	1.78	-27700	10638	5302	40441	14924	4539	19463	No	7.03	Si
SLU 84	3.53	639.92	-18240	-15189	-2766	1.78	1.78	-30475	10833	5650	40441	14924	4539	19463	No	7.04	Si
SLU 79	1.63	-1121.59	-16581	-13807	-2575	1.78	1.78	-27704	10638	5302	40441	14924	4539	19463	No	7.56	Si
SLU 79	3.53	544.24	-17996	-14985	-2571	1.78	1.78	-30067	10833	5595	40441	14924	4539	19463	No	7.57	Si
SLU 78	1.63	-1141.36	-16515	-13752	-2659	1.78	1.78	-27593	10623	5295	40441	14924	4539	19463	No	7.32	Si
SLU 78	3.53	576.99	-18049	-15029	-2655	1.78	1.78	-30155	10833	5607	40441	14924	4539	19463	No	7.33	Si
SLU 83	1.63	-1170.17	-16777	-13971	-2704	1.78	1.78	-28031	10682	5325	40441	14924	4539	19463	No	7.2	Si
SLU 83	3.53	611.8	-18337	-15269	-2700	1.78	1.78	-30636	10833	5671	40441	14924	4539	19463	No	7.21	Si
SLU 81	1.63	-1142.86	-16404	-13660	-2647	1.78	1.78	-27407	10599	5282	40441	14924	4539	19463	No	7.35	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	3.53	595.02	-17891	-14898	-2643	1.78	1.78	-29891	10833	5572	40441	14924	4539	19463	No	7.36	Si
SLU 75	1.63	-1114.05	-16141	-13441	-2601	1.78	1.78	-26969	10540	5253	40441	14924	4539	19463	No	7.48	Si
SLU 75	3.53	560.21	-17603	-14658	-2598	1.78	1.78	-29410	10833	5508	40441	14924	4539	19463	No	7.49	Si
SLU 76	1.63	-1104.69	-15877	-13221	-2627	1.78	1.78	-26527	10481	5224	40441	14924	4539	19463	No	7.41	Si
SLU 76	3.53	574.32	-17389	-14480	-2624	1.78	1.78	-29052	10818	5461	40441	14924	4539	19463	No	7.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	1.63	-3039.36	-9203	-7664	-5775	1.78	1.6793	-16424	13701	6442	40441	22386	4539	26925		4.66	Si
SLD 14	3.53	2519.48	-13026	-10847	-5524	1.78	1.78	-21763	14769	7361	40441	22386	4539	26925		4.87	Si
SLD 16	1.63	-3294.51	-14506	-12080	-4732	1.78	1.78	-24237	15264	7608	40441	22386	4539	26925		5.69	Si
SLD 16	3.53	1943.3	-16684	-13893	-4443	1.78	1.78	-27875	15992	7970	40441	22386	4539	26925		6.06	Si
SLV 13	1.63	-3713.77	-8926	-7433	-6814	1.78	1.4218	-18841	14185	5647	40441	22386	4539	26925		3.95	Si
SLV 13	3.53	3180.14	-13113	-10919	-6424	1.78	1.78	-21908	14798	7375	40441	22386	4539	26925		4.19	Si
SLV 9	1.63	-800.05	3049	2539	-5574	1.424	1.78	0	0	0	40441	17909	3631	21540		3.86	Si
SLV 9	3.53	2498.38	-2587	-2155	-5551	1.424	0	0	0	0	40441	17909	3631	21540		3.88	Si
SLD 13	1.63	-2635.67	-9948	-8284	-4879	1.78	1.78	-16621	13741	6848	40441	22386	4539	26925		5.52	Si
SLD 13	3.53	2094.79	-12788	-10648	-4628	1.78	1.78	-21365	14690	7321	40441	22386	4539	26925		5.82	Si
SLV 14	1.63	-4350.09	-7752	-6455	-8226	1.424	0.9865	0	0	0	40441	17909	3631	21540		2.62	Si
SLV 14	3.53	3849.57	-13488	-11232	-7836	1.78	1.78	-22535	14924	7438	40441	22386	4539	26925		3.44	Si
SLV 10	1.63	-1228.43	3839	3197	-6525	1.424	1.7101	0	0	0	40441	17909	3631	21540		3.3	Si
SLV 10	3.53	2949.05	-2840	-2365	-6502	1.424	0	0	0	0	40441	17909	3631	21540		3.31	Si
SLV 3	1.63	2970.5	-14443	-12027	5072	1.78	1.78	-24131	15243	7597	40441	22386	4539	26925		5.31	Si
SLV 3	3.53	-3339.86	-9937	-8275	4687	1.78	1.6617	-17932	14003	6515	40441	22386	4539	26925		5.74	Si
SLV 15	1.63	-4160.93	-17968	-14962	-5040	1.78	1.78	-30021	16250	8099	40441	22386	4539	26925		5.34	Si
SLV 15	3.53	2197.15	-19360	-16121	-4587	1.78	1.78	-32346	16250	8099	40441	22386	4539	26925		5.87	Si
SLV 16	1.63	-4797.25	-16794	-13985	-6453	1.78	1.78	-28059	16029	7989	40441	22386	4539	26925		4.17	Si
SLV 16	3.53	2866.58	-19735	-16434	-5999	1.78	1.78	-32973	16250	8099	40441	22386	4539	26925		4.49	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	0	-346	156.51	0	0	No, e>t/2
SLV 9	179667	0.3	0	-506	156.51	0	0	No, e>t/2
SLV 5	179667	0.3	0	1692	156.51	0	0	No, Trazione
SLV 6	179667	0.3	0	1852	156.51	0	0	No, Trazione
SLV 2	179667	0.3	8399	-4186	156.51	553.81	3.54	Si
SLV 1	179667	0.3	8877	-4424	156.51	583.39	3.73	Si
SLV 14	179667	0.3	23100	-11513	156.51	1368.01	8.74	Si
SLV 4	179667	0.3	23261	-11593	156.51	1375.83	8.79	Si
SLV 13	179667	0.3	23578	-11751	156.51	1391.16	8.89	Si
SLV 3	179667	0.3	23739	-11831	156.51	1398.91	8.94	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-20404	-22323	348	0.479	2334.9	0.967	7.19638	3.94002	Si
SLV 11	-20369	-22756	348	0.479	2331.4	0.967	7.20728	3.94002	Si
SLV 8	-18692	-20028	379	0.514	2160.6	0.964	7.75145	3.94002	Si
SLV 7	-18657	-20462	378	0.515	2157.1	0.964	7.76427	3.94002	Si
SLV 16	-16085	-16246	65	0.602	1895.4	0.96	9.11599	4.61192	Si
SLV 15	-16034	-16889	65	0.604	1890.2	0.959	9.14203	4.61192	Si
SLV 14	-10663	-8833	-147	0.844	1344.7	0.945	12.96917	4.61192	Si
SLV 13	-10612	-9476	-148	0.847	1339.5	0.945	13.02304	4.61192	Si
SLV 4	-10377	-8598	166	0.861	1315.7	0.944	13.25465	4.61192	Si
SLV 3	-10326	-9241	166	0.865	1310.5	0.944	13.31207	4.61192	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.23	SLU 42	Si
V_SLU	7.027	SLU 84	Si
PF_SLV	0	SLV 5	No
V_SLV	2.618	SLV 14	Si
PFFP_SLV	0	SLV 6	No
R_SLV	1.826	SLV 12	Si

Maschio 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.284	-0.123	5.951	L4	L5	9.235	0.28	3.67	3.67	3.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	0.73	-37593.68	-129174	-0.000101	0.0003743	0.0035	9.235	303798.45	404433.1	404433.1	10.76	No	Si
SLU 65	4.4	-14656.71	-96770	-0.0000666	0.0003743	0.0035	9.235	282588.4	349428.14	349428.14	23.84	No	Si
SLU 52	0.73	-39544.18	-125506	-0.000099	0.0003743	0.0035	9.235	303246.36	399162.67	399162.67	10.09	No	Si
SLU 52	4.4	-16146.91	-93508	-0.0000649	0.0003743	0.0035	9.235	278412.52	343171.72	343171.72	21.25	No	Si
SLU 76	0.73	-39830.41	-143996	-0.000114	0.0003743	0.0035	9.235	301223.08	422860.73	422860.73	10.62	No	Si
SLU 76	4.4	-15736.4	-108445	-0.0000754	0.0003743	0.0035	9.235	294474.78	371324.93	371324.93	23.6	No	Si
SLU 63	0.73	-38555.8	-133225	-0.0001046	0.0003743	0.0035	9.235	303859.9	410448.18	410448.18	10.65	No	Si
SLU 63	4.4	-15587.74	-99685	-0.000069	0.0003743	0.0035	9.235	286003.74	354966.98	354966.98	22.77	No	Si
SLU 82	0.73	-41044.34	-147563	-0.0001176	0.0003743	0.0035	9.235	299452.55	426253.99	426253.99	10.39	No	Si
SLU 82	4.4	-17569.43	-110806	-0.0000779	0.0003743	0.0035	9.235	296297.67	375660.69	375660.69	21.38	No	Si
SLU 44	0.73	-36206.3	-112760	-0.0000877	0.0003743	0.0035	9.235	297657.67	379223.46	379223.46	10.47	No	Si
SLU 44	4.4	-13871.12	-83741	-0.0000573	0.0003743	0.0035	9.235	263677.62	323260.26	323260.26	23.3	No	Si
SLU 84	0.73	-39943.18	-149639	-0.0001188	0.0003743	0.0035	9.235	298217.04	428171.37	428171.37	10.72	No	Si
SLU 84	4.4	-16373.33	-112714	-0.0000788	0.0003743	0.0035	9.235	297627.46	379140.57	379140.57	23.16	No	Si
SLU 61	0.73	-39656.96	-131149	-0.0001035	0.0003743	0.0035	9.235	303900.34	407341.33	407341.33	10.27	No	Si
SLU 61	4.4	-16783.84	-97777	-0.0000682	0.0003743	0.0035	9.235	283802.06	351347.2	351347.2	20.93	No	Si
SLU 73	0.73	-40931.57	-141920	-0.0001129	0.0003743	0.0035	9.235	302047.74	420829.66	420829.66	10.28	No	Si
SLU 73	4.4	-16932.5	-106537	-0.0000745	0.0003743	0.0035	9.235	292859.31	367799.45	367799.45	21.72	No	Si
SLU 55	0.73	-38443.02	-127582	-0.0001001	0.0003743	0.0035	9.235	303616.77	402125.19	402125.19	10.46	No	Si
SLU 55	4.4	-14950.81	-95416	-0.0000658	0.0003743	0.0035	9.235	280899.89	346837.82	346837.82	23.2	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	0.73	-255449.31	-113104	-0.0001945	0.0005615	0.0035	9.235		436860.85	436860.85	1.71		Si
SLV 9	4.4	-97474.95	-78710	-0.000086	0.0005615	0.0035	9.235		334220.92	334220.92	3.43		Si
SLV 12	0.73	202000.95	-113663	-0.0001574	0.0005615	0.0035	9.235		412206.01	412206.01	2.04		Si
SLV 12	4.4	68114.38	-84579	-0.0000779	0.0005615	0.0035	9.235		330952.77	330952.77	4.86		Si
SLV 10	0.73	-259573.45	-112660	-0.0001981	0.0005615	0.0035	9.235		435667.2	435667.2	1.68		Si
SLV 10	4.4	-96518.97	-78725	-0.0000856	0.0005615	0.0035	9.235		334274.3	334274.3	3.46		Si
SLV 8	0.73	201383.61	-86386	-0.0001474	0.0005615	0.0035	9.235		337197.25	337197.25	1.67		Si
SLV 8	4.4	75272.58	-70342	-0.0000715	0.0005615	0.0035	9.235		280026.09	280026.09	3.72		Si
SLV 5	0.73	-256066.64	-85827	-0.0002165	0.0005615	0.0035	7.388		356845.07	356845.07	1.39		Si
SLV 5	4.4	-90316.75	-64472	-0.0000737	0.0005615	0.0035	9.235		285641.58	285641.58	3.16		Si
SLV 7	0.73	205507.76	-86830	-0.0001509	0.0005615	0.0035	9.235		338700.81	338700.81	1.65		Si
SLV 7	4.4	74316.6	-70326	-0.0000711	0.0005615	0.0035	9.235		279970.63	279970.63	3.77		Si
SLV 6	0.73	-260190.79	-85383	-0.0002258	0.0005615	0.0035	7.388		355433.05	355433.05	1.37		Si
SLV 6	4.4	-89360.77	-64488	-0.0000733	0.0005615	0.0035	9.235		285697.15	285697.15	3.2		Si
SLD 5	0.73	-161039.57	-90864	-0.0001221	0.0005615	0.0035	9.235		372666.9	372666.9	2.31		Si
SLD 5	4.4	-57220.03	-68285	-0.0000629	0.0005615	0.0035	9.235		299163.77	299163.77	5.23		Si
SLD 6	0.73	-163542.28	-90595	-0.0001232	0.0005615	0.0035	9.235		371845.69	371845.69	2.27		Si
SLD 6	4.4	-56639.89	-68294	-0.0000627	0.0005615	0.0035	9.235		299197.25	299197.25	5.28		Si
SLV 11	0.73	206125.09	-114107	-0.00016	0.0005615	0.0035	9.235		413434.56	413434.56	2.01		Si
SLV 11	4.4	67158.4	-84563	-0.0000775	0.0005615	0.0035	9.235		330897.64	330897.64	4.93		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	0.73	-30737.4	-128113	-106681	3618	9.235	9.235	-41257	10833	55119	40441	77430	23549	95560	No	26.41	Si
SLU 41	4.4	-13067.12	-96902	-80692	3373	9.235	9.235	-31206	10833	44723	40441	77430	23549	85164	No	25.25	Si
SLU 77	0.73	-35634.72	-147613	-122919	3674	9.235	9.235	-47536	10833	61614	40441	77430	23549	100980	No	27.49	Si
SLU 77	4.4	-13922.22	-111581	-92915	3388	9.235	9.235	-35933	10833	49612	40441	77430	23549	90053	No	26.58	Si
SLU 35	0.73	-28405.56	-125816	-104769	3356	9.235	9.235	-40517	10833	54354	40441	77430	23549	94795	No	28.25	Si
SLU 35	4.4	-11123.61	-95644	-79644	3113	9.235	9.235	-30801	10833	44304	40441	77430	23549	84745	No	27.22	Si
SLU 83	0.73	-37966.56	-149909	-124831	3936	9.235	9.235	-48276	10833	62378	40441	77430	23549	100980	No	25.65	Si
SLU 83	4.4	-15865.73	-112839	-93962	3648	9.235	9.235	-36338	10833	50031	40441	77430	23549	90472	No	24.8	Si
SLU 79	0.73	-35434.87	-146522	-122011	3563	9.235	9.235	-47185	10833	61250	40441	77430	23549	100980	No	28.34	Si
SLU 79	4.4	-13694.29	-110561	-92065	3280	9.235	9.235	-35604	10833	49273	40441	77430	23549	89714	No	27.35	Si
SLU 37	0.73	-28205.72	-124725	-103860	3245	9.235	9.235	-40166	10833	53990	40441	77430	23549	94431	No	29.1	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 37	4.4	-10895.69	-94624	-78795	3005	9.235	9.235	-30472	10833	43965	40441	77430	23549	84406	No	28.09	Si
SLU 32	0.73	-29506.72	-123741	-103041	3442	9.235	9.235	-39849	10833	53663	40441	77430	23549	94104	No	27.34	Si
SLU 32	4.4	-12319.71	-93736	-78056	3204	9.235	9.235	-30186	10833	43669	40441	77430	23549	84110	No	26.25	Si
SLU 74	0.73	-36735.88	-145537	-121191	3760	9.235	9.235	-46868	10833	60922	40441	77430	23549	100980	No	26.85	Si
SLU 74	4.4	-15118.31	-109673	-91326	3479	9.235	9.235	-35318	10833	48977	40441	77430	23549	89418	No	25.7	Si
SLU 39	0.73	-31838.56	-126037	-104953	3704	9.235	9.235	-40588	10833	54427	40441	77430	23549	94868	No	25.61	Si
SLU 39	4.4	-14263.21	-94995	-79103	3463	9.235	9.235	-30591	10833	44088	40441	77430	23549	84529	No	24.41	Si
SLU 81	0.73	-39067.72	-147834	-123103	4022	9.235	9.235	-47607	10833	61687	40441	77430	23549	100980	No	25.1	Si
SLU 81	4.4	-17061.82	-110931	-92374	3738	9.235	9.235	-35724	10833	49396	40441	77430	23549	89837	No	24.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	0.73	205507.76	-86830	-72305	58849	9.235	6.7521	-27962	16009	47593	40441	116146	23549	88034		1.5	Si
SLV 7	4.4	74316.6	-70326	-58561	56598	9.235	9.235	-22647	14946	42096	40441	116146	23549	82537		1.46	Si
SLV 9	0.73	-255449.31	-113104	-94183	-48352	9.235	7.0769	-48911	16250	56344	40441	116146	23549	96785		2	Si
SLV 9	4.4	-97474.95	-78710	-65543	-46490	9.235	9.235	-25347	15486	44888	40441	116146	23549	85329		1.84	Si
SLD 11	0.73	109476.59	-108895	-90678	41303	9.235	9.235	-35068	16250	54942	40441	116146	23549	95383		2.31	Si
SLD 11	4.4	34437.53	-80757	-67248	39722	9.235	9.235	-26007	15618	45570	40441	116146	23549	86011		2.17	Si
SLV 11	0.73	206125.09	-114107	-95018	68301	9.235	8.4332	-36746	16250	56678	40441	116146	23549	97119		1.42	Si
SLV 11	4.4	67158.4	-84563	-70417	65756	9.235	9.235	-27232	15863	46838	40441	116146	23549	87279		1.33	Si
SLV 6	0.73	-260190.79	-85383	-71100	-63547	7.388	4.7105	0	0	0	40441	92916	18839	40441		0.64	No
SLV 6	4.4	-89360.77	-64488	-53700	-61391	9.235	9.235	-20767	14570	40151	40441	116146	23549	80592		1.31	Si
SLV 2	0.73	-100360.88	-53804	-44803	-35140	9.235	8.2566	-19534	14324	36592	40441	116146	23549	77033		2.19	Si
SLV 2	4.4	-23155.85	-49930	-41578	-34182	9.235	9.235	-16079	13633	35302	40441	116146	23549	75743		2.22	Si
SLV 8	0.73	201383.61	-86386	-71935	53105	9.235	6.8589	-27819	15981	47445	40441	116146	23549	87886		1.65	Si
SLV 8	4.4	75272.58	-70342	-58575	50855	9.235	9.235	-22652	14947	42101	40441	116146	23549	82542		1.62	Si
SLV 10	0.73	-259573.45	-112660	-93814	-54096	9.235	6.9404	-49705	16250	56196	40441	116146	23549	96637		1.79	Si
SLV 10	4.4	-96518.97	-78725	-65556	-52233	9.235	9.235	-25352	15487	44893	40441	116146	23549	85334		1.63	Si
SLV 5	0.73	-256066.64	-85827	-71469	-57803	7.388	4.9019	0	0	0	40441	92916	18839	40441		0.7	No
SLV 5	4.4	-90316.75	-64472	-53687	-55648	9.235	9.235	-20762	14569	40146	40441	116146	23549	80587		1.45	Si
SLV 12	0.73	202000.95	-113663	-94649	62556	9.235	8.5209	-36603	16250	56530	40441	116146	23549	96971		1.55	Si
SLV 12	4.4	68114.38	-84579	-70430	60013	9.235	9.235	-27237	15864	46843	40441	116146	23549	87284		1.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.565 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.3	20081	-51926	812	6313.71	7.78	Si
SLV 1	179667	0.3	20198	-52227	812	6344.75	7.81	Si
SLV 4	179667	0.3	20720	-53577	812	6483.1	7.98	Si
SLV 3	179667	0.3	20836	-53878	812	6513.79	8.02	Si
SLV 6	179667	0.3	27918	-72190	812	8259.05	10.17	Si
SLV 5	179667	0.3	27996	-72393	812	8277.05	10.19	Si
SLV 8	179667	0.3	30046	-77694	812	8737.1	10.76	Si
SLV 7	179667	0.3	30125	-77896	812	8754.3	10.78	Si
SLV 10	179667	0.3	35257	-91169	812	9816.9	12.09	Si
SLV 9	179667	0.3	35336	-91371	812	9832.16	12.11	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.565 Wa = 0.05 Ta = 0.0803

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-99145	-145027	1716	0.507	11430.4	0.965	7.63664	4.61192	Si
SLV 15	-99121	-145687	1713	0.507	11428	0.965	7.63862	4.61192	Si
SLV 14	-97388	-144727	1816	0.514	11251.7	0.964	7.74354	4.61192	Si
SLV 13	-97365	-145386	1814	0.514	11249.3	0.964	7.74558	4.61192	Si
SLV 12	-84579	-113663	373	0.595	9948.6	0.96	9.0029	3.94002	Si
SLV 11	-84563	-114107	371	0.595	9947	0.96	9.00468	3.94002	Si
SLV 10	-78725	-112660	708	0.628	9353.4	0.958	9.53268	3.94002	Si
SLV 9	-78710	-113104	706	0.628	9351.8	0.958	9.53469	3.94002	Si
SLV 8	-70342	-86386	-677	0.691	8501.3	0.954	10.53181	3.94002	Si
SLV 7	-70326	-86830	-679	0.691	8499.7	0.954	10.53351	3.94002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.094	SLU 52	Si
V_SLU	24.033	SLU 81	Si
PF_SLV	1.366	SLV 6	Si
V_SLV	0.636	SLV 6	No
PFFP_SLV	7.776	SLV 2	Si
R_SLV	1.656	SLV 16	Si

Maschio 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	5.951	-24.614	-3.169	L5	L6	9.121	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	4.4	13513.32	-77773	-0.0000484	0.0004492	0.0035	9.1207	266273.66	306829.15	306829.15	22.71	No	Si
SLU 47	7.95	7599.75	-54338	-0.0000326	0.0004492	0.0035	9.1207	204648.87	229528.93	229528.93	30.2	No	Si
SLU 63	4.4	15246.09	-90069	-0.0000563	0.0004492	0.0035	9.1207	292186.71	347387.95	347387.95	22.79	No	Si
SLU 63	7.95	9595.53	-62646	-0.0000381	0.0004492	0.0035	9.1207	228332.7	256933.3	256933.3	26.78	No	Si
SLU 52	4.4	15525.59	-84594	-0.0000532	0.0004492	0.0035	9.1207	281193.39	329327.05	329327.05	21.21	No	Si
SLU 52	7.95	9268.78	-58409	-0.0000355	0.0004492	0.0035	9.1207	216506.75	242957.89	242957.89	26.21	No	Si
SLU 60	4.4	14856.6	-88396	-0.0000552	0.0004492	0.0035	9.1207	288920.96	341869.92	341869.92	23.01	No	Si
SLU 60	7.95	9904.4	-60971	-0.0000372	0.0004492	0.0035	9.1207	223720.03	251408.12	251408.12	25.38	No	Si
SLU 55	4.4	15104.52	-86344	-0.000054	0.0004492	0.0035	9.1207	284803.13	335100.92	335100.92	22.19	No	Si
SLU 55	7.95	8985.06	-60132	-0.0000364	0.0004492	0.0035	9.1207	221377.51	248639.15	248639.15	27.67	No	Si
SLU 44	4.4	13934.39	-76023	-0.0000475	0.0004492	0.0035	9.1207	262225.39	301055.28	301055.28	21.61	No	Si
SLU 44	7.95	7883.47	-52616	-0.0000317	0.0004492	0.0035	9.1207	199486.44	223847.67	223847.67	28.39	No	Si
SLU 10	4.4	12710.01	-70133	-0.0000436	0.0004492	0.0035	9.1207	247946.42	281627.8	281627.8	22.16	No	Si
SLU 10	7.95	7611.01	-48458	-0.0000293	0.0004492	0.0035	9.1207	186667.51	208341.7	208341.7	27.37	No	Si
SLU 2	4.4	11118.81	-61562	-0.000038	0.0004492	0.0035	9.1207	225355.59	253356.03	253356.03	22.79	No	Si
SLU 2	7.95	6225.7	-42664	-0.0000255	0.0004492	0.0035	9.1207	167962.02	186213	186213	29.91	No	Si
SLU 61	4.4	15667.16	-88319	-0.0000554	0.0004492	0.0035	9.1207	288767.56	341614.08	341614.08	21.8	No	Si
SLU 61	7.95	9879.25	-60924	-0.0000372	0.0004492	0.0035	9.1207	223588.53	251252.04	251252.04	25.43	No	Si
SLU 19	4.4	12851.59	-73858	-0.0000458	0.0004492	0.0035	9.1207	257095.09	293914.83	293914.83	22.87	No	Si
SLU 19	7.95	8221.48	-50972	-0.0000309	0.0004492	0.0035	9.1207	194480.68	217799.71	217799.71	26.49	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	4.4	107808.78	-74425	-0.0000809	0.0006738	0.0035	9.1207		309320.8	309320.8	2.87		Si
SLV 5	7.95	28778.23	-48217	-0.0000365	0.0006738	0.0035	9.1207		212039.04	212039.04	7.37		Si
SLV 8	4.4	-82354.28	-73073	-0.0000705	0.0006738	0.0035	9.1207		346502.58	346502.58	4.21		Si
SLV 8	7.95	-10213.47	-50176	-0.0000309	0.0006738	0.0035	9.1207		260360.26	260360.26	25.49		Si
SLV 12	4.4	-87172.44	-60599	-0.0000651	0.0006738	0.0035	9.1207		300343.74	300343.74	3.45		Si
SLV 12	7.95	-15080.54	-45366	-0.00003	0.0006738	0.0035	9.1207		241534.71	241534.71	16.02		Si
SLV 7	4.4	-81226.36	-73281	-0.0000702	0.0006738	0.0035	9.1207		347259.89	347259.89	4.28		Si
SLV 7	7.95	-12193.8	-50548	-0.0000318	0.0006738	0.0035	9.1207		261788.89	261788.89	21.47		Si
SLD 10	4.4	63756.38	-63831	-0.0000582	0.0006738	0.0035	9.1207		272495.12	272495.12	4.27		Si
SLD 10	7.95	17909.37	-44496	-0.0000305	0.0006738	0.0035	9.1207		197240.04	197240.04	11.01		Si
SLV 10	4.4	101862.71	-61743	-0.0000714	0.0006738	0.0035	9.1207		264601.71	264601.71	2.6		Si
SLV 10	7.95	25891.5	-43035	-0.0000326	0.0006738	0.0035	9.1207		191380.38	191380.38	7.39		Si
SLV 9	4.4	102990.63	-61951	-0.000072	0.0006738	0.0035	9.1207		265388.09	265388.09	2.58		Si
SLV 9	7.95	23911.16	-43407	-0.0000321	0.0006738	0.0035	9.1207		192885.99	192885.99	8.07		Si
SLD 9	4.4	64440.85	-63957	-0.0000586	0.0006738	0.0035	9.1207		272972.33	272972.33	4.24		Si
SLD 9	7.95	16707.61	-44722	-0.0000302	0.0006738	0.0035	9.1207		198138.87	198138.87	11.86		Si
SLV 11	4.4	-86044.52	-60807	-0.0000648	0.0006738	0.0035	9.1207		301141.75	301141.75	3.5		Si
SLV 11	7.95	-17060.87	-45738	-0.0000309	0.0006738	0.0035	9.1207		243036.18	243036.18	14.25		Si
SLV 6	4.4	106680.86	-74216	-0.0000804	0.0006738	0.0035	9.1207		308627.56	308627.56	2.89		Si
SLV 6	7.95	30758.57	-47845	-0.000037	0.0006738	0.0035	9.1207		210557.88	210557.88	6.85		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	4.4	13660.33	-100978	-72035	-4698	9.1207	9.1207	-28207	10833	43566	115546	91777	46516	138293	No	29.44	Si
SLU 77	7.95	9422.03	-71206	-50797	-4714	9.1207	9.1207	-19891	10833	35070	115546	91777	46516	138293	No	29.34	Si
SLU 79	4.4	13667.33	-100026	-71356	-4603	9.1207	9.1207	-27941	10833	43294	115546	91777	46516	138293	No	30.05	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	7.95	9392.27	-70309	-50156	-4619	9.1207	9.1207	-19640	10833	34814	115546	91777	46516	138293	No	29.94	Si
SLU 39	4.4	12375.84	-85737	-61163	-4305	9.1207	9.1207	-23950	10833	39217	115546	91777	46516	138293	No	32.12	Si
SLU 39	7.95	8895.64	-59395	-42371	-4319	9.1207	9.1207	-16592	10546	31701	115546	91777	46516	138293	No	32.02	Si
SLU 74	4.4	14081.4	-99227	-70786	-4620	9.1207	9.1207	-27718	10833	43066	115546	91777	46516	138293	No	29.93	Si
SLU 74	7.95	9705.74	-69484	-49568	-4636	9.1207	9.1207	-19410	10833	34579	115546	91777	46516	138293	No	29.83	Si
SLU 35	4.4	10844.76	-86517	-61719	-4304	9.1207	9.1207	-24168	10833	39439	115546	91777	46516	138293	No	32.13	Si
SLU 35	7.95	7764.26	-61255	-43698	-4317	9.1207	9.1207	-17111	10615	32231	115546	91777	46516	138293	No	32.03	Si
SLU 41	4.4	11954.77	-87488	-62412	-4383	9.1207	9.1207	-24439	10833	39716	115546	91777	46516	138293	No	31.55	Si
SLU 41	7.95	8611.92	-61118	-43600	-4397	9.1207	9.1207	-17073	10610	32192	115546	91777	46516	138293	No	31.45	Si
SLU 37	4.4	10851.75	-85565	-61040	-4209	9.1207	9.1207	-23902	10833	39168	115546	91777	46516	138293	No	32.86	Si
SLU 37	7.95	7734.5	-60357	-43057	-4222	9.1207	9.1207	-16860	10581	31975	115546	91777	46516	138293	No	32.75	Si
SLU 81	4.4	15191.41	-100198	-71479	-4699	9.1207	9.1207	-27989	10833	43343	115546	91777	46516	138293	No	29.43	Si
SLU 81	7.95	10553.4	-69347	-49470	-4715	9.1207	9.1207	-19371	10833	34540	115546	91777	46516	138293	No	29.33	Si
SLU 83	4.4	14770.34	-101949	-72728	-4777	9.1207	9.1207	-28478	10833	43843	115546	91777	46516	138293	No	28.95	Si
SLU 83	7.95	10269.69	-71069	-50699	-4793	9.1207	9.1207	-19852	10833	35031	115546	91777	46516	138293	No	28.85	Si
SLU 32	4.4	11265.83	-84766	-60470	-4226	9.1207	9.1207	-23679	10833	38940	115546	91777	46516	138293	No	32.72	Si
SLU 32	7.95	8047.97	-59532	-42469	-4240	9.1207	9.1207	-16630	10551	31740	115546	91777	46516	138293	No	32.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	4.4	102990.63	-61951	-44194	54898	9.1207	8.6936	-17305	15961	39806	115546	137665	46516	155352		2.83	Si
SLV 9	7.95	23911.16	-43407	-30966	51678	9.1207	9.1207	-12125	14925	38116	115546	137665	46516	153661		2.97	Si
SLV 5	4.4	107808.78	-74425	-53093	52511	9.1207	9.1207	-20790	16250	43365	115546	137665	46516	158911		3.03	Si
SLV 5	7.95	28778.23	-48217	-34397	49707	9.1207	9.1207	-13469	15194	38802	115546	137665	46516	154347		3.11	Si
SLV 12	4.4	-87172.44	-60599	-43230	-58344	9.1207	9.1207	-16928	15886	40568	115546	137665	46516	156114		2.68	Si
SLV 12	7.95	-15080.54	-45366	-32363	-55562	9.1207	9.1207	-12673	15035	38395	115546	137665	46516	153941		2.77	Si
SLV 8	4.4	-82354.28	-73073	-52128	-60731	9.1207	9.1207	-20412	16250	42980	115546	137665	46516	158525		2.61	Si
SLV 8	7.95	-10213.47	-50176	-35794	-57533	9.1207	9.1207	-14016	15303	39081	115546	137665	46516	154627		2.69	Si
SLV 11	4.4	-86044.52	-60807	-43378	-53173	9.1207	9.1207	-16986	15897	40598	115546	137665	46516	156144		2.94	Si
SLV 11	7.95	-17060.87	-45738	-32629	-50392	9.1207	9.1207	-12777	15055	38448	115546	137665	46516	153994		3.06	Si
SLV 6	4.4	106680.86	-74216	-52944	47340	9.1207	9.1207	-20732	16250	43306	115546	137665	46516	158851		3.36	Si
SLV 6	7.95	30758.57	-47845	-34131	44537	9.1207	9.1207	-13365	15173	38749	115546	137665	46516	154294		3.46	Si
SLV 10	4.4	101862.71	-61743	-44046	49727	9.1207	8.7316	-17247	15949	39747	115546	137665	46516	155292		3.12	Si
SLV 10	7.95	25891.5	-43035	-30700	46508	9.1207	9.1207	-12021	14904	38062	115546	137665	46516	153608		3.3	Si
SLD 12	4.4	-46911.17	-63175	-45068	-35370	9.1207	9.1207	-17647	16029	40936	115546	137665	46516	156482		4.42	Si
SLD 12	7.95	-6137.65	-45870	-32723	-33754	9.1207	9.1207	-12813	15063	38467	115546	137665	46516	154013		4.56	Si
SLD 8	4.4	-43804.51	-71067	-50697	-36903	9.1207	9.1207	-19852	16250	42407	115546	137665	46516	157953		4.28	Si
SLD 8	7.95	-3009.92	-48861	-34856	-35021	9.1207	9.1207	-13649	15230	38894	115546	137665	46516	154439		4.41	Si
SLV 7	4.4	-81226.36	-73281	-52277	-55560	9.1207	9.1207	-20470	16250	43039	115546	137665	46516	158584		2.85	Si
SLV 7	7.95	-12193.8	-50548	-36060	-52363	9.1207	9.1207	-14120	15324	39134	115546	137665	46516	154680		2.95	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-43045	0.38	969.19	5472.13	7740.09	6606.11	6.82	Si
SLV 16	-43142	0.38	969.19	5483.15	7754.47	6618.81	6.83	Si
SLV 13	-43518	0.38	969.19	5526.09	7810.64	6668.37	6.88	Si
SLV 15	-43615	0.38	969.19	5537.08	7825.03	6681.06	6.89	Si
SLV 10	-52082	0.38	969.19	6480.18	9080.4	7780.29	8.03	Si
SLV 9	-52401	0.38	969.19	6514.8	9127.7	7821.25	8.07	Si
SLV 12	-52404	0.38	969.19	6515.14	9128.16	7821.65	8.07	Si
SLV 11	-52722	0.38	969.19	6549.7	9175.46	7862.58	8.11	Si
SLV 6	-59859	0.38	969.19	7308.49	10231.63	8770.06	9.05	Si
SLV 5	-60177	0.38	969.19	7341.63	10278.57	8810.1	9.09	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-55434	-88285	2235	0.815	6926.9	0.947	12.50627	5.26967	Si
SLV 4	-54881	-87976	2235	0.822	6870.8	0.947	12.61579	5.26967	Si
SLV 1	-54735	-88628	2231	0.824	6856	0.947	12.646	5.26967	Si
SLV 2	-54182	-88319	2230	0.831	6799.8	0.946	12.75807	5.26967	Si
SLV 7	-50548	-73281	687	0.906	6431.4	0.944	13.95288	4.55335	Si
SLV 8	-50176	-73073	687	0.911	6393.7	0.943	14.04239	4.55335	Si
SLV 15	-39401	-46705	-2202	1.077	5303.1	0.934	16.76583	5.26967	Si
SLV 5	-48217	-74425	673	0.942	6195.1	0.942	14.53683	4.55335	Si
SLV 6	-47845	-74216	672	0.948	6157.4	0.941	14.63422	4.55335	Si
SLV 16	-38848	-46396	-2202	1.089	5247.2	0.933	16.96625	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	21.212	SLU 52	Si
V_SLU	28.852	SLU 83	Si
PF_SLV	2.577	SLV 9	Si
V_SLV	2.61	SLV 8	Si
PFFP_SLV	6.816	SLV 14	Si
R_SLV	2.373	SLV 3	Si

Maschio 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.778	5.951	-24.614	5.951	L5	L6	1.837	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	5.3	-1386.23	-12410	-0.0000517	0.0003743	0.0035	1.8365	8694.45	10329.03	10329.03	7.45	No	Si
SLU 51	7.1	-506.34	-10868	-0.0000377	0.0003743	0.0035	1.8365	7907.97	9353.61	9353.61	18.47	No	Si
SLU 50	5.3	-1432.79	-12525	-0.0000526	0.0003743	0.0035	1.8365	8750.03	10400.2	10400.2	7.26	No	Si
SLU 50	7.1	-478.78	-10879	-0.0000375	0.0003743	0.0035	1.8365	7913.79	9360.92	9360.92	19.55	No	Si
SLU 49	5.3	-1404.26	-12599	-0.0000525	0.0003743	0.0035	1.8365	8785.06	10444.38	10444.38	7.44	No	Si
SLU 49	7.1	-520.13	-11054	-0.0000384	0.0003743	0.0035	1.8365	8007.63	9476.55	9476.55	18.22	No	Si
SLU 44	5.3	-1309.7	-11556	-0.0000481	0.0003743	0.0035	1.8365	8269.49	9790.51	9790.51	7.48	No	Si
SLU 44	7.1	-496.8	-10074	-0.0000351	0.0003743	0.0035	1.8365	7470.53	8824.23	8824.23	17.76	No	Si
SLU 46	5.3	-1381.52	-12211	-0.000051	0.0003743	0.0035	1.8365	8597.51	10202.03	10202.03	7.38	No	Si
SLU 46	7.1	-506.17	-10661	-0.000037	0.0003743	0.0035	1.8365	7796.23	9214.59	9214.59	18.2	No	Si
SLU 48	5.3	-1450.82	-12714	-0.0000534	0.0003743	0.0035	1.8365	8839.88	10513.58	10513.58	7.25	No	Si
SLU 48	7.1	-492.56	-11065	-0.0000382	0.0003743	0.0035	1.8365	8013.37	9483.43	9483.43	19.25	No	Si
SLU 64	5.3	-1459.92	-13525	-0.0000562	0.0003743	0.0035	1.8365	9211.35	10991.73	10991.73	7.53	No	Si
SLU 64	7.1	-676.25	-12120	-0.0000435	0.0003743	0.0035	1.8365	8552.91	10144.47	10144.47	15	No	Si
SLU 47	5.3	-1332.45	-11945	-0.0000496	0.0003743	0.0035	1.8365	8465.96	10033.73	10033.73	7.53	No	Si
SLU 47	7.1	-510.76	-10467	-0.0000365	0.0003743	0.0035	1.8365	7690.03	9084.93	9084.93	17.79	No	Si
SLU 43	5.3	-1387.31	-11749	-0.0000495	0.0003743	0.0035	1.8365	8367.64	9910.83	9910.83	7.14	No	Si
SLU 43	7.1	-450.87	-10092	-0.0000347	0.0003743	0.0035	1.8365	7480.72	8836.12	8836.12	19.6	No	Si
SLU 45	5.3	-1428.08	-12326	-0.0000519	0.0003743	0.0035	1.8365	8653.9	10275.59	10275.59	7.2	No	Si
SLU 45	7.1	-478.61	-10672	-0.0000368	0.0003743	0.0035	1.8365	7802.12	9221.85	9221.85	19.27	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	5.3	2976.56	2063	0.1406912	0.0005615	0.0035	1.4692		0	0	0		No
SLV 5	7.1	-3428.49	-6576	-0.0000603	0.0005615	0.0035	1.4692		6494.05	6494.05	1.89		Si
SLV 6	5.3	2411.52	1560	0.1008961	0.0005615	0.0035	1.4692		0	0	0		No
SLV 6	7.1	-2986.75	-6076	-0.0000515	0.0005615	0.0035	1.8365		6090.2	6090.2	2.04		Si
SLV 16	5.3	-4292	-14383	-0.0000862	0.0005615	0.0035	1.8365		12252.96	12252.96	2.85		Si
SLV 16	7.1	2268.37	-8169	-0.0000459	0.0005615	0.0035	1.8365		7090.05	7090.05	3.13		Si
SLV 12	5.3	-5199.71	-22681	-0.0001249	0.0005615	0.0035	1.8365		17269.06	17269.06	3.32		Si
SLV 12	7.1	2376.01	-11959	-0.0000589	0.0005615	0.0035	1.8365		9678.38	9678.38	4.07		Si
SLV 10	5.3	1343.99	1518	0.1233606	0.0005615	0.0035	1.4692		0	0	0		No
SLV 10	7.1	-1890.85	-5015	-0.000033	0.0005615	0.0035	1.8365		5226.21	5226.21	2.76		Si
SLD 6	5.3	971.48	-3363	-0.0000188	0.0005615	0.0035	1.8365		3161.6	3161.6	3.25		Si
SLD 6	7.1	-1990.85	-7415	-0.0000408	0.0005615	0.0035	1.8365		7165.82	7165.82	3.6		Si
SLV 14	5.3	-2328.89	-7123	-0.0000433	0.0005615	0.0035	1.8365		6940.33	6940.33	2.98		Si
SLV 14	7.1	988.31	-6086	-0.0000271	0.0005615	0.0035	1.8365		5435.12	5435.12	5.5		Si
SLV 1	5.3	2068.84	-6235	-0.000038	0.0005615	0.0035	1.8365		5556.19	5556.19	2.69		Si
SLV 1	7.1	-3320.85	-10365	-0.0000632	0.0005615	0.0035	1.8365		9414.69	9414.69	2.84		Si
SLD 5	5.3	1314.37	-3057	-0.0000221	0.0005615	0.0035	1.8365		2900.21	2900.21	2.21		Si
SLD 5	7.1	-2258.91	-7718	-0.0000444	0.0005615	0.0035	1.8365		7399.53	7399.53	3.28		Si
SLV 9	5.3	1909.03	2021	0.1622598	0.0005615	0.0035	1.4692		0	0	0		No
SLV 9	7.1	-2332.59	-5514	-0.0000399	0.0005615	0.0035	1.8365		5638.94	5638.94	2.42		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 34	5.3	-1119.88	-12511	-10418	566	1.8365	1.8365	-20260	9646	4960	40441	15398	4683	20082	No	35.48	Si
SLU 34	7.1	-886.08	-12066	-10047	569	1.8365	1.8365	-19539	9550	4911	40441	15398	4683	20082	No	35.32	Si
SLU 41	5.3	-1204.26	-13147	-10948	523	1.8365	1.8365	-21289	9783	5031	40441	15398	4683	20082	No	38.38	Si
SLU 41	7.1	-923.51	-12669	-10550	526	1.8365	1.8365	-20515	9680	4978	40441	15398	4683	20082	No	38.18	Si
SLU 38	5.3	-1173.66	-12977	-10806	501	1.8365	1.8365	-21014	9746	5012	40441	15398	4683	20082	No	40.11	Si
SLU 38	7.1	-881.66	-12467	-10381	503	1.8365	1.8365	-20187	9636	4955	40441	15398	4683	20082	No	39.9	Si
SLU 33	5.3	-1168.96	-12777	-10640	499	1.8365	1.8365	-20691	9703	4990	40441	15398	4683	20082	No	40.21	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 33	7.1	-881.48	-12260	-10209	502	1.8365	1.8365	-19853	9591	4932	40441	15398	4683	20082	No	40	Si
SLU 84	5.3	-1458.7	-15274	-12719	511	1.8365	1.8365	-24734	10242	5267	40441	15398	4683	20082	No	39.32	Si
SLU 84	7.1	-995.68	-14452	-12034	514	1.8365	1.8365	-23403	10065	5176	40441	15398	4683	20082	No	39.08	Si
SLU 40	5.3	-1134.96	-12643	-10528	620	1.8365	1.8365	-20473	9674	4975	40441	15398	4683	20082	No	32.38	Si
SLU 40	7.1	-937.12	-12265	-10213	623	1.8365	1.8365	-19861	9593	4933	40441	15398	4683	20082	No	32.25	Si
SLU 42	5.3	-1157.7	-13031	-10851	618	1.8365	1.8365	-21102	9758	5018	40441	15398	4683	20082	No	32.5	Si
SLU 42	7.1	-951.07	-12658	-10541	621	1.8365	1.8365	-20498	9677	4976	40441	15398	4683	20082	No	32.36	Si
SLU 82	5.3	-1435.96	-14886	-12396	513	1.8365	1.8365	-24105	10158	5224	40441	15398	4683	20082	No	39.15	Si
SLU 82	7.1	-981.72	-14059	-11707	516	1.8365	1.8365	-22766	9980	5132	40441	15398	4683	20082	No	38.92	Si
SLU 39	5.3	-1181.52	-12759	-10624	526	1.8365	1.8365	-20661	9699	4988	40441	15398	4683	20082	No	38.21	Si
SLU 39	7.1	-909.56	-12276	-10222	528	1.8365	1.8365	-19878	9595	4934	40441	15398	4683	20082	No	38.02	Si
SLU 31	5.3	-1097.14	-12123	-10095	568	1.8365	1.8365	-19632	9562	4917	40441	15398	4683	20082	No	35.34	Si
SLU 31	7.1	-872.12	-11673	-9720	571	1.8365	1.8365	-18902	9465	4867	40441	15398	4683	20082	No	35.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	5.3	2068.84	-6235	-5192	6138	1.8365	1.7593	-10096	12436	6126	40441	23098	4683	27781		4.53	Si
SLV 1	7.1	-3320.85	-10365	-8631	5674	1.8365	1.7937	-16785	13774	6917	40441	23098	4683	27781		4.9	Si
SLV 8	5.3	-4132.18	-22639	-18852	-6648	1.8365	1.8365	-36660	16250	8356	40441	23098	4683	27781		4.18	Si
SLV 8	7.1	1280.11	-13020	-10842	-6800	1.8365	1.8365	-21084	14633	7525	40441	23098	4683	27781		4.09	Si
SLV 11	5.3	-4634.67	-22178	-18468	-7471	1.8365	1.8365	-35914	16250	8356	40441	23098	4683	27781		3.72	Si
SLV 11	7.1	1934.27	-12458	-10374	-7342	1.8365	1.8365	-20173	14451	7431	40441	23098	4683	27781		3.78	Si
SLV 7	5.3	-3567.14	-22136	-18433	-5577	1.8365	1.8365	-35845	16250	8356	40441	23098	4683	27781		4.98	Si
SLV 7	7.1	838.37	-13519	-11258	-5730	1.8365	1.8365	-21892	14795	7608	40441	23098	4683	27781		4.85	Si
SLV 12	5.3	-5199.71	-22681	-18887	-8542	1.8365	1.8365	-36728	16250	8356	40441	23098	4683	27781		3.25	Si
SLV 12	7.1	2376.01	-11959	-9958	-8412	1.8365	1.8365	-19365	14290	7348	40441	23098	4683	27781		3.3	Si
SLV 9	5.3	1909.03	2021	1683	6753	1.4692	0	0	0	0	40441	18478	3747	22225		3.29	Si
SLV 9	7.1	-2332.59	-5514	-4592	6909	1.8365	1.4858	-11093	12635	5257	40441	23098	4683	27781		4.02	Si
SLV 5	5.3	2976.56	2063	1718	8647	1.4692	0	0	0	0	40441	18478	3747	22225		2.57	Si
SLV 5	7.1	-3428.49	-6576	-5476	8521	1.4692	1.1906	0	0	0	40441	18478	3747	22225		2.61	Si
SLV 16	5.3	-4292	-14383	-11977	-6033	1.8365	1.8365	-23291	15075	7752	40441	23098	4683	27781		4.61	Si
SLV 16	7.1	2268.37	-8169	-6803	-5565	1.8365	1.8365	-13229	13062	6717	40441	23098	4683	27781		4.99	Si
SLV 6	5.3	2411.52	1560	1299	7577	1.4692	0	0	0	0	40441	18478	3747	22225		2.93	Si
SLV 6	7.1	-2986.75	-6076	-5060	7451	1.8365	1.2802	-14209	13259	4753	40441	23098	4683	27781		3.73	Si
SLV 10	5.3	1343.99	1518	1264	5683	1.4692	0.0986	0	0	0	40441	18478	3747	22225		3.91	Si
SLV 10	7.1	-1890.85	-5015	-4176	5839	1.8365	1.6237	-9224	12262	5575	40441	23098	4683	27781		4.76	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.38	5241	-2695	190.25	364.36	1.92	Si
SLV 9	179667	0.38	5431	-2793	190.25	377.09	1.98	Si
SLV 6	179667	0.38	6272	-3225	190.25	432.99	2.28	Si
SLV 5	179667	0.38	6462	-3323	190.25	445.54	2.34	Si
SLV 14	179667	0.38	13423	-6903	190.25	881.43	4.63	Si
SLV 13	179667	0.38	13706	-7048	190.25	898.15	4.72	Si
SLV 2	179667	0.38	16860	-8670	190.25	1079.79	5.68	Si
SLV 1	179667	0.38	17142	-8815	190.25	1095.6	5.76	Si
SLV 16	179667	0.38	21507	-11060	190.25	1330.3	6.99	Si
SLV 15	179667	0.38	21790	-11205	190.25	1344.87	7.07	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-11684	-18720	267	0.798	1447.8	0.949	12.22872	4.55335	Si
SLV 11	-11373	-17659	359	0.809	1416.2	0.948	12.41193	4.55335	Si
SLV 8	-11430	-18779	267	0.813	1422	0.948	12.46572	4.55335	Si
SLV 3	-9726	-13512	-56	0.948	1249.2	0.942	14.62199	5.26967	Si
SLV 12	-11119	-17719	358	0.825	1390.4	0.947	12.65868	4.55335	Si
SLV 4	-9349	-13601	-57	0.979	1211	0.94	15.12666	5.26967	Si
SLV 15	-8689	-9978	248	1.02	1144.2	0.937	15.8163	5.26967	Si
SLV 16	-8312	-10067	248	1.057	1106.1	0.936	16.42484	5.26967	Si
SLV 1	-7684	-8001	-243	1.126	1042.6	0.932	17.5579	5.26967	Si
SLV 2	-7307	-8090	-243	1.172	1004.5	0.93	18.31108	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.144	SLU 43	Si
V_SLU	32.245	SLU 40	Si
PF_SLV	0	SLV 5	No
V_SLV	2.57	SLV 5	Si
PFFP_SLV	1.915	SLV 10	Si
R_SLV	2.686	SLV 7	Si

Maschio 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.878	5.951	L5	L6	2.26	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	5.3	-381.88	-20124	-0.0000531	0.0003743	0.0035	2.26	15636.97	18968.21	18968.21	49.67	No	Si
SLU 61	7.1	1523.03	-20506	-0.0000622	0.0003743	0.0035	2.26	15796.64	17967.36	17967.36	11.8	No	Si
SLU 74	5.3	-402.04	-23215	-0.0000618	0.0003743	0.0035	2.26	16780.22	20518.34	20518.34	51.04	No	Si
SLU 74	7.1	1677.73	-23664	-0.0000723	0.0003743	0.0035	2.26	16918.36	19966.88	19966.88	11.9	No	Si
SLU 83	5.3	-409.54	-23691	-0.0000632	0.0003743	0.0035	2.26	16926.44	20770.8	20770.8	50.72	No	Si
SLU 83	7.1	1718.63	-24246	-0.0000743	0.0003743	0.0035	2.26	17087	20230.16	20230.16	11.77	No	Si
SLU 53	5.3	-417.87	-20385	-0.0000541	0.0003743	0.0035	2.26	15746.55	19094.16	19094.16	45.69	No	Si
SLU 53	7.1	1515.09	-20599	-0.0000624	0.0003743	0.0035	2.26	15834.38	18032.75	18032.75	11.9	No	Si
SLU 81	5.3	-415.25	-23135	-0.0000617	0.0003743	0.0035	2.26	16754.8	20476.18	20476.18	49.31	No	Si
SLU 81	7.1	1724.18	-23751	-0.0000729	0.0003743	0.0035	2.26	16944.35	20006.09	20006.09	11.6	No	Si
SLU 62	5.3	-425.38	-20861	-0.0000554	0.0003743	0.0035	2.26	15940	19324.42	19324.42	45.43	No	Si
SLU 62	7.1	1555.99	-21181	-0.0000643	0.0003743	0.0035	2.26	16065.6	18447.63	18447.63	11.86	No	Si
SLU 43	5.3	-433.5	-17765	-0.000047	0.0003743	0.0035	2.26	14539.08	17474.07	17474.07	40.31	No	Si
SLU 43	7.1	1371.75	-17705	-0.0000533	0.0003743	0.0035	2.26	14508.6	16027.51	16027.51	11.68	No	Si
SLU 64	5.3	-417.66	-20595	-0.0000546	0.0003743	0.0035	2.26	15832.82	19195.22	19195.22	45.96	No	Si
SLU 64	7.1	1534.39	-20770	-0.000063	0.0003743	0.0035	2.26	15903.7	18154.5	18154.5	11.83	No	Si
SLU 82	5.3	-366.05	-22954	-0.0000608	0.0003743	0.0035	2.26	16696.57	20381.36	20381.36	55.68	No	Si
SLU 82	7.1	1685.67	-23571	-0.0000721	0.0003743	0.0035	2.26	16890.54	19925.41	19925.41	11.82	No	Si
SLU 60	5.3	-431.09	-20305	-0.0000539	0.0003743	0.0035	2.26	15713.17	19055.73	19055.73	44.2	No	Si
SLU 60	7.1	1561.54	-20686	-0.0000629	0.0003743	0.0035	2.26	15869.73	18094.57	18094.57	11.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	5.3	2784.95	295	-0.0167214	0.0005615	0.0035	1.808		0	0	0		No
SLV 9	7.1	-1413.16	-327	-0.0003247	0.0005615	0.0035	1.808		1732.32	1732.32	1.23		Si
SLD 5	5.3	2404.9	-6634	-0.0000308	0.0005615	0.0035	2.26		7376.35	7376.35	3.07		Si
SLD 5	7.1	-1150.18	-5935	-0.0000212	0.0005615	0.0035	2.26		7690.77	7690.77	6.69		Si
SLV 5	5.3	4254.64	-185	-0.0221383	0.0005615	0.0035	1.808		503.76	503.76	0.12		No
SLV 5	7.1	-2728.97	1033	0.0785332	0.0005615	0.0035	1.808		0	0	0		No
SLV 10	5.3	2095.35	-156	-0.0101331	0.0005615	0.0035	1.808		471.36	471.36	0.22		No
SLV 10	7.1	-805.5	-1681	-0.000009	0.0005615	0.0035	2.26		3214.08	3214.08	3.99		Si
SLV 1	5.3	3687.15	-11525	-0.0000512	0.0005615	0.0035	2.26		11958.97	11958.97	3.24		Si
SLV 1	7.1	-2346.73	-7954	-0.0000336	0.0005615	0.0035	2.26		9718.06	9718.06	4.14		Si
SLV 2	5.3	2662.83	-12194	-0.0000463	0.0005615	0.0035	2.26		12515.77	12515.77	4.7		Si
SLV 2	7.1	-1444.13	-9965	-0.0000329	0.0005615	0.0035	2.26		11671.55	11671.55	8.08		Si
SLD 9	5.3	1465.95	-6327	-0.0000241	0.0005615	0.0035	2.26		7065.58	7065.58	4.82		Si
SLD 9	7.1	-307.26	-6797	-0.000018	0.0005615	0.0035	2.26		8572.44	8572.44	27.9		Si
SLD 6	5.3	1986.42	-6907	-0.0000288	0.0005615	0.0035	2.26		7652.01	7652.01	3.85		Si
SLD 6	7.1	-781.43	-6757	-0.0000208	0.0005615	0.0035	2.26		8531.63	8531.63	10.92		Si
SLV 16	5.3	-4335.7	-19931	-0.0000776	0.0005615	0.0035	2.26		20378.66	20378.66	4.7		Si
SLV 16	7.1	4711.76	-23844	-0.0000908	0.0005615	0.0035	2.26		22003.8	22003.8	4.67		Si
SLV 6	5.3	3565.04	-635	-0.0152731	0.0005615	0.0035	1.808		1005.18	1005.18	0.28		No
SLV 6	7.1	-2121.31	-320	-0.0005924	0.0005615	0.0035	1.808		1724.49	1724.49	0.81		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	5.3	-396.33	-23771	-19794	-3187	2.26	2.26	-31280	10833	7309	40441	18949	5763	24712	No	7.75	Si
SLU 77	7.1	1672.18	-24159	-20117	-3187	2.26	2.26	-31791	10833	7395	40441	18949	5763	24712	No	7.75	Si
SLU 75	5.3	-352.83	-23034	-19181	-3184	2.26	2.26	-30311	10833	7145	40441	18949	5763	24712	No	7.76	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7.1	1639.23	-23484	-19556	-3184	2.26	2.26	-30903	10833	7245	40441	18949	5763	24712	No	7.76	Si
SLU 82	5.3	-366.05	-22954	-19114	-3322	2.26	2.26	-30205	10833	7128	40441	18949	5763	24712	No	7.44	Si
SLU 82	7.1	1685.67	-23571	-19628	-3322	2.26	2.26	-31018	10833	7265	40441	18949	5763	24712	No	7.44	Si
SLU 79	5.3	-404.56	-23485	-19556	-3166	2.26	2.26	-30904	10833	7246	40441	18949	5763	24712	No	7.8	Si
SLU 79	7.1	1656.14	-23847	-19857	-3167	2.26	2.26	-31380	10833	7326	40441	18949	5763	24712	No	7.8	Si
SLU 74	5.3	-402.04	-23215	-19331	-3231	2.26	2.26	-30549	10833	7186	40441	18949	5763	24712	No	7.65	Si
SLU 74	7.1	1677.73	-23664	-19705	-3232	2.26	2.26	-31139	10833	7285	40441	18949	5763	24712	No	7.65	Si
SLU 83	5.3	-409.54	-23691	-19727	-3325	2.26	2.26	-31175	10833	7291	40441	18949	5763	24712	No	7.43	Si
SLU 83	7.1	1718.63	-24246	-20190	-3325	2.26	2.26	-31905	10833	7415	40441	18949	5763	24712	No	7.43	Si
SLU 78	5.3	-347.13	-23590	-19643	-3139	2.26	2.26	-31042	10833	7269	40441	18949	5763	24712	No	7.87	Si
SLU 78	7.1	1633.68	-23979	-19968	-3140	2.26	2.26	-31555	10833	7355	40441	18949	5763	24712	No	7.87	Si
SLU 73	5.3	-333.97	-22071	-18379	-3176	2.26	2.26	-29044	10817	6932	40441	18949	5763	24712	No	7.78	Si
SLU 73	7.1	1603.07	-22558	-18784	-3176	2.26	2.26	-29684	10833	7040	40441	18949	5763	24712	No	7.78	Si
SLU 84	5.3	-360.34	-23510	-19577	-3277	2.26	2.26	-30937	10833	7251	40441	18949	5763	24712	No	7.54	Si
SLU 84	7.1	1680.12	-24066	-20040	-3278	2.26	2.26	-31669	10833	7375	40441	18949	5763	24712	No	7.54	Si
SLU 81	5.3	-415.25	-23135	-19265	-3369	2.26	2.26	-30443	10833	7168	40441	18949	5763	24712	No	7.33	Si
SLU 81	7.1	1724.18	-23751	-19778	-3370	2.26	2.26	-31254	10833	7305	40441	18949	5763	24712	No	7.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	5.3	-4213.6	-30821	-25665	-6829	2.26	2.26	-40558	16250	10283	40441	28423	5763	34186		5.01	Si
SLV 11	7.1	4486.34	-31479	-26213	-6570	2.26	2.26	-41423	16250	10283	40441	28423	5763	34186		5.2	Si
SLD 15	5.3	-2179.41	-17738	-14771	-5360	2.26	2.26	-23342	15085	9546	40441	28423	5763	34186		6.38	Si
SLD 15	7.1	2819.12	-19435	-16184	-5057	2.26	2.26	-25575	15532	9828	40441	28423	5763	34186		6.76	Si
SLV 15	5.3	-3311.38	-19262	-16040	-7169	2.26	2.26	-25347	15486	9800	40441	28423	5763	34186		4.77	Si
SLV 15	7.1	3809.15	-21834	-18182	-6698	2.26	2.26	-28732	16163	10228	40441	28423	5763	34186		5.1	Si
SLD 16	5.3	-2829.25	-18163	-15124	-6573	2.26	2.26	-23901	15197	9617	40441	28423	5763	34186		5.2	Si
SLD 16	7.1	3391.74	-20710	-17246	-6270	2.26	2.26	-27253	15867	10041	40441	28423	5763	34186		5.45	Si
SLV 16	5.3	-4335.7	-19931	-16597	-9081	2.26	2.26	-26228	15662	9911	40441	28423	5763	34186		3.76	Si
SLV 16	7.1	4711.76	-23844	-19856	-8610	2.26	2.26	-31377	16250	10283	40441	28423	5763	34186		3.97	Si
SLV 12	5.3	-4903.19	-31272	-26040	-8117	2.26	2.26	-41151	16250	10283	40441	28423	5763	34186		4.21	Si
SLV 12	7.1	5093.99	-32832	-27340	-7857	2.26	2.26	-43204	16250	10337	40441	28423	5763	34186		4.35	Si
SLD 12	5.3	-3053.46	-24823	-20670	-5800	2.26	2.26	-32665	16250	10283	40441	28423	5763	34186		5.89	Si
SLD 12	7.1	3515.2	-25864	-21537	-5641	2.26	2.26	-34034	16250	10283	40441	28423	5763	34186		6.06	Si
SLV 14	5.3	-2236.14	-10596	-8824	-6831	2.26	2.26	-13944	13205	8356	40441	28423	5763	34186		5	Si
SLV 14	7.1	2941.91	-14499	-12074	-6438	2.26	2.26	-19080	14233	9006	40441	28423	5763	34186		5.31	Si
SLD 14	5.3	-1598.97	-12696	-10572	-5256	2.26	2.26	-16707	13758	8706	40441	28423	5763	34186		6.5	Si
SLD 14	7.1	2355.63	-15236	-12688	-4999	2.26	2.26	-20050	14427	9129	40441	28423	5763	34186		6.84	Si
SLV 8	5.3	-3433.5	-31751	-26440	-5308	2.26	2.26	-41782	16250	10283	40441	28423	5763	34186		6.44	Si
SLV 8	7.1	3778.18	-31472	-26207	-5308	2.26	2.26	-41414	16250	10283	40441	28423	5763	34186		6.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.38	0	145	234.11	0	0	No, Trazione
SLV 10	179667	0.38	0	-1439	234.11	0	0	No, e>t/2
SLV 6	179667	0.38	0	-814	234.11	0	0	No, e>t/2
SLV 9	179667	0.38	0	-480	234.11	0	0	No, e>t/2
SLV 1	179667	0.38	15535	-9830	234.11	1236.27	5.28	Si
SLV 2	179667	0.38	17786	-11255	234.11	1392.21	5.95	Si
SLV 13	179667	0.38	18827	-11914	234.11	1462.3	6.25	Si
SLV 14	179667	0.38	21079	-13339	234.11	1609.65	6.88	Si
SLV 3	179667	0.38	30350	-19206	234.11	2154.42	9.2	Si
SLV 4	179667	0.38	32602	-20630	234.11	2271.67	9.7	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-25104	-32210	698	0.485	2872.2	0.967	7.28587	4.55335	Si
SLV 8	-24204	-31753	757	0.498	2780.5	0.966	7.49016	4.55335	Si
SLV 11	-23915	-31412	697	0.505	2751.1	0.965	7.60423	4.55335	Si
SLV 7	-23014	-30955	755	0.519	2659.5	0.964	7.83027	4.55335	Si
SLV 16	-19087	-21170	125	0.639	2260	0.958	9.68423	5.26967	Si
SLV 15	-17320	-19985	123	0.694	2080.4	0.955	10.55102	5.26967	Si
SLV 4	-16085	-19648	319	0.727	1954.9	0.953	11.0946	5.26967	Si
SLV 3	-14318	-18463	317	0.802	1775.5	0.949	12.28481	5.26967	Si
SLV 14	-12781	-11085	-309	0.881	1619.6	0.944	13.56627	5.26967	Si
SLV 13	-11015	-9900	-311	0.995	1440.6	0.939	15.41485	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.588	SLU 60	Si
V_SLU	7.333	SLU 81	Si
PF_SLV	0	SLV 5	No
V_SLV	3.765	SLV 16	Si
PFFP_SLV	0	SLV 5	No
R_SLV	1.6	SLV 12	Si

Maschio 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.478	-3.169	-24.614	-3.169	L5	L6	2.137	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	5.3	420.72	-14961	-0.0000421	0.0003743	0.0035	2.1365	12056.55	13182.17	13182.17	31.33	No	Si
SLU 42	7.1	-1952.42	-16435	-0.0000581	0.0003743	0.0035	2.1365	12819.58	15449.62	15449.62	7.91	No	Si
SLU 74	5.3	371.84	-17104	-0.0000478	0.0003743	0.0035	2.1365	13140.46	14552.78	14552.78	39.14	No	Si
SLU 74	7.1	-2071.01	-18303	-0.0000645	0.0003743	0.0035	2.1365	13676.86	16650.61	16650.61	8.04	No	Si
SLU 32	5.3	405.09	-14426	-0.0000405	0.0003743	0.0035	2.1365	11760.62	12847.28	12847.28	31.71	No	Si
SLU 32	7.1	-1868.41	-15811	-0.0000556	0.0003743	0.0035	2.1365	12505.76	15029.01	15029.01	8.04	No	Si
SLU 83	5.3	443.6	-17481	-0.0000494	0.0003743	0.0035	2.1365	13314.68	14799.4	14799.4	33.36	No	Si
SLU 83	7.1	-2184.58	-18898	-0.0000672	0.0003743	0.0035	2.1365	13924.16	17006.27	17006.27	7.78	No	Si
SLU 39	5.3	496.49	-14500	-0.0000414	0.0003743	0.0035	2.1365	11802.05	12893.28	12893.28	25.97	No	Si
SLU 39	7.1	-1985.98	-16080	-0.0000573	0.0003743	0.0035	2.1365	12642.75	15209.51	15209.51	7.66	No	Si
SLU 81	5.3	463.25	-17177	-0.0000487	0.0003743	0.0035	2.1365	13174.94	14600.91	14600.91	31.52	No	Si
SLU 81	7.1	-2188.59	-18572	-0.0000663	0.0003743	0.0035	2.1365	13790.32	16821.37	16821.37	7.69	No	Si
SLU 40	5.3	440.37	-14657	-0.0000414	0.0003743	0.0035	2.1365	11889.98	12991.86	12991.86	29.5	No	Si
SLU 40	7.1	-1956.42	-16110	-0.0000572	0.0003743	0.0035	2.1365	12657.61	15229.37	15229.37	7.78	No	Si
SLU 41	5.3	476.85	-14803	-0.0000421	0.0003743	0.0035	2.1365	11970.3	13083.03	13083.03	27.44	No	Si
SLU 41	7.1	-1981.97	-16406	-0.0000582	0.0003743	0.0035	2.1365	12805.06	15429.58	15429.58	7.78	No	Si
SLU 82	5.3	407.12	-17335	-0.0000487	0.0003743	0.0035	2.1365	13248.04	14704.04	14704.04	36.12	No	Si
SLU 82	7.1	-2159.03	-18602	-0.0000661	0.0003743	0.0035	2.1365	13802.6	16840.16	16840.16	7.8	No	Si
SLU 84	5.3	387.48	-17639	-0.0000495	0.0003743	0.0035	2.1365	13386.1	14903.1	14903.1	38.46	No	Si
SLU 84	7.1	-2155.02	-18927	-0.0000671	0.0003743	0.0035	2.1365	13936.11	17022.32	17022.32	7.9	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	5.3	2406.55	-5249	-0.0000306	0.0005615	0.0035	2.1365		5594.76	5594.76	2.32		Si
SLD 8	7.1	-3460.07	-11238	-0.0000534	0.0005615	0.0035	2.1365		12140.14	12140.14	3.51		Si
SLV 4	5.3	4488.59	-9996	-0.0000587	0.0005615	0.0035	2.1365		9941.43	9941.43	2.21		Si
SLV 4	7.1	-6052.84	-17089	-0.0000891	0.0005615	0.0035	2.1365		16958.26	16958.26	2.8		Si
SLV 11	5.3	1415.51	225	-0.0096802	0.0005615	0.0035	2.1365		0	0	0		No
SLV 11	7.1	-2050.45	-6418	-0.0000304	0.0005615	0.0035	2.1365		7741.91	7741.91	3.78		Si
SLV 8	5.3	3879.23	-583	-0.0207995	0.0005615	0.0035	2.1365		869.67	869.67	0.22		No
SLV 8	7.1	-4857.97	-10374	-0.0000631	0.0005615	0.0035	2.1365		11376.59	11376.59	2.34		Si
SLV 7	5.3	3299.07	-964	-0.0142988	0.0005615	0.0035	2.1365		1268.36	1268.36	0.38		No
SLV 7	7.1	-4221.77	-9745	-0.0000556	0.0005615	0.0035	2.1365		10808.66	10808.66	2.56		Si
SLD 7	5.3	2054.48	-5481	-0.0000281	0.0005615	0.0035	2.1365		5820.27	5820.27	2.83		Si
SLD 7	7.1	-3073.99	-10856	-0.0000495	0.0005615	0.0035	2.1365		11806.28	11806.28	3.84		Si
SLV 3	5.3	3626.84	-10563	-0.0000527	0.0005615	0.0035	2.1365		10387.99	10387.99	2.86		Si
SLV 3	7.1	-5107.83	-16154	-0.0000792	0.0005615	0.0035	2.1365		16229.32	16229.32	3.18		Si
SLV 12	5.3	1995.67	607	-0.0010888	0.0005615	0.0035	1.7092		0	0	0		No
SLV 12	7.1	-2686.65	-7048	-0.0000367	0.0005615	0.0035	2.1365		8330.94	8330.94	3.1		Si
SLV 15	5.3	-2651.7	-6597	-0.0000354	0.0005615	0.0035	2.1365		7912.46	7912.46	2.98		Si
SLV 15	7.1	2129.91	-5066	-0.0000278	0.0005615	0.0035	2.1365		5415.97	5415.97	2.54		Si
SLV 13	5.3	-4133.63	-13555	-0.0000646	0.0005615	0.0035	2.1365		14118.85	14118.85	3.42		Si
SLV 13	7.1	3409.4	-7365	-0.0000437	0.0005615	0.0035	2.1365		7619.91	7619.91	2.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	5.3	443.6	-17481	-14557	3958	2.1365	2.1365	-24333	10189	6095	40441	17914	5448	23362	No	5.9	Si
SLU 83	7.1	-2184.58	-18898	-15736	3959	2.1365	2.1365	-26305	10452	6253	40441	17914	5448	23362	No	5.9	Si
SLU 82	5.3	407.12	-17335	-14435	3840	2.1365	2.1365	-24130	10162	6079	40441	17914	5448	23362	No	6.08	Si
SLU 82	7.1	-2159.03	-18602	-15490	3830	2.1365	2.1365	-25893	10397	6220	40441	17914	5448	23362	No	6.1	Si
SLU 78	5.3	296.07	-17565	-14627	3608	2.1365	2.1365	-24450	10204	6105	40441	17914	5448	23362	No	6.48	Si
SLU 78	7.1	-2037.45	-18658	-15537	3598	2.1365	2.1365	-25971	10407	6226	40441	17914	5448	23362	No	6.49	Si
SLU 39	5.3	496.49	-14500	-12074	3606	2.1365	2.1365	-20183	9635	5764	40441	17914	5448	23362	No	6.48	Si
SLU 39	7.1	-1985.98	-16080	-13390	3607	2.1365	2.1365	-22383	9929	5940	40441	17914	5448	23362	No	6.48	Si
SLU 74	5.3	371.84	-17104	-14242	3726	2.1365	2.1365	-23807	10119	6053	40441	17914	5448	23362	No	6.27	Si
SLU 74	7.1	-2071.01	-18303	-15241	3728	2.1365	2.1365	-25477	10341	6187	40441	17914	5448	23362	No	6.27	Si
SLU 81	5.3	463.25	-17177	-14304	3958	2.1365	2.1365	-23910	10132	6062	40441	17914	5448	23362	No	5.9	Si
SLU 81	7.1	-2188.59	-18572	-15465	3959	2.1365	2.1365	-25852	10391	6216	40441	17914	5448	23362	No	5.9	Si
SLU 77	5.3	352.2	-17407	-14495	3726	2.1365	2.1365	-24230	10175	6087	40441	17914	5448	23362	No	6.27	Si
SLU 77	7.1	-2067.01	-18629	-15512	3727	2.1365	2.1365	-25930	10402	6223	40441	17914	5448	23362	No	6.27	Si
SLU 84	5.3	387.48	-17639	-14688	3840	2.1365	2.1365	-24553	10218	6113	40441	17914	5448	23362	No	6.08	Si
SLU 84	7.1	-2155.02	-18927	-15761	3830	2.1365	2.1365	-26346	10457	6256	40441	17914	5448	23362	No	6.1	Si
SLU 79	5.3	349.02	-17227	-14346	3684	2.1365	2.1365	-23980	10142	6067	40441	17914	5448	23362	No	6.34	Si
SLU 79	7.1	-2034.39	-18412	-15332	3686	2.1365	2.1365	-25629	10362	6199	40441	17914	5448	23362	No	6.34	Si
SLU 75	5.3	315.71	-17262	-14374	3608	2.1365	2.1365	-24027	10148	6071	40441	17914	5448	23362	No	6.48	Si
SLU 75	7.1	-2041.46	-18332	-15266	3598	2.1365	2.1365	-25518	10347	6190	40441	17914	5448	23362	No	6.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	5.3	3299.07	-964	-803	10607	2.1365	0	0	16250	3094	40441	26871	5448	32319		3.05	Si
SLV 7	7.1	-4221.77	-9745	-8115	10481	2.1365	1.9051	-15300	13477	7189	40441	26871	5448	32319		3.08	Si
SLV 4	5.3	4488.59	-9996	-8323	11659	2.1365	1.8577	-13913	13199	6866	40441	26871	5448	32319		2.77	Si
SLV 4	7.1	-6052.84	-17089	-14230	11142	2.1365	2.1365	-23788	15174	9078	40441	26871	5448	32319		2.9	Si
SLV 3	5.3	3626.84	-10563	-8796	9765	2.1365	2.1365	-14703	13357	7991	40441	26871	5448	32319		3.31	Si
SLV 3	7.1	-5107.83	-16154	-13452	9248	2.1365	2.1365	-22486	14914	8922	40441	26871	5448	32319		3.49	Si
SLD 8	5.3	2406.55	-5249	-4371	8061	2.1365	1.8293	-7306	11878	6084	40441	26871	5448	32319		4.01	Si
SLD 8	7.1	-3460.07	-11238	-9358	7979	2.1365	2.1365	-15643	13545	8103	40441	26871	5448	32319		4.05	Si
SLD 7	5.3	2054.48	-5481	-4564	7286	2.1365	2.0802	-7629	11942	6956	40441	26871	5448	32319		4.44	Si
SLD 7	7.1	-3073.99	-10856	-9040	7205	2.1365	2.1365	-15111	13439	8040	40441	26871	5448	32319		4.49	Si
SLV 2	5.3	3006.66	-16954	-14117	7458	2.1365	2.1365	-23599	15136	9055	40441	26871	5448	32319		4.33	Si
SLV 2	7.1	-4773.34	-19388	-16144	6922	2.1365	2.1365	-26987	15814	9460	40441	26871	5448	32319		4.67	Si
SLV 8	5.3	3879.23	-583	-485	11882	2.1365	0	0	16250	3009	40441	26871	5448	32319		2.72	Si
SLV 8	7.1	-4857.97	-10374	-8639	11757	2.1365	1.8	-17286	13874	6992	40441	26871	5448	32319		2.75	Si
SLV 9	5.3	-3524.26	-22968	-19126	-7144	2.1365	2.1365	-31970	16250	9721	40441	26871	5448	32319		4.52	Si
SLV 9	7.1	2214.54	-14080	-11724	-7016	2.1365	2.1365	-19598	14336	8576	40441	26871	5448	32319		4.61	Si
SLD 4	5.3	2891.68	-10818	-9009	8199	2.1365	2.1365	-15059	13428	8033	40441	26871	5448	32319		3.94	Si
SLD 4	7.1	-4312.85	-15397	-12821	7867	2.1365	2.1365	-21432	14703	8796	40441	26871	5448	32319		4.11	Si
SLV 12	5.3	1995.67	607	506	8137	1.7092	0	0	0	0	40441	21497	4359	25855		3.18	Si
SLV 12	7.1	-2686.65	-7048	-5869	8328	2.1365	2.0612	-10216	12460	7191	40441	26871	5448	32319		3.88	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	6581	-3937	221.33	527.42	2.38	Si
SLV 12	179667	0.38	6958	-4162	221.33	556.2	2.51	Si
SLV 15	179667	0.38	9970	-5964	221.33	780.48	3.53	Si
SLV 16	179667	0.38	10530	-6299	221.33	821.08	3.71	Si
SLV 7	179667	0.38	10585	-6332	221.33	825.04	3.73	Si
SLV 8	179667	0.38	10962	-6558	221.33	852.16	3.85	Si
SLV 13	179667	0.38	16956	-10144	221.33	1262.45	5.7	Si
SLV 14	179667	0.38	17516	-10479	221.33	1298.76	5.87	Si
SLV 3	179667	0.38	23315	-13948	221.33	1654.57	7.48	Si
SLV 4	179667	0.38	23875	-14283	221.33	1686.98	7.62	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-14784	-18541	146	0.754	1805.2	0.952	11.51401	5.26967	Si
SLV 1	-14321	-18483	146	0.774	1758.2	0.951	11.83879	5.26967	Si
SLV 6	-15139	-22174	-365	0.726	1841.3	0.953	11.08084	4.55335	Si
SLV 4	-12528	-12763	412	0.847	1576.2	0.946	13.02044	5.26967	Si
SLV 5	-14827	-22135	-365	0.739	1809.6	0.952	11.28508	4.55335	Si
SLV 3	-12065	-12705	413	0.874	1529.3	0.944	13.45141	5.26967	Si
SLV 10	-13251	-19519	-537	0.8	1649.6	0.948	12.27467	4.55335	Si
SLV 9	-12939	-19480	-536	0.816	1618	0.947	12.5318	4.55335	Si
SLV 14	-8492	-9689	-426	1.159	1167.7	0.93	18.11165	5.26967	Si
SLV 13	-8029	-9631	-426	1.212	1121.1	0.928	18.97472	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.658	SLU 39	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	5.9	SLU 81	Si
PF_SLV	0	SLV 11	No
V_SLV	2.72	SLV 8	Si
PFFP_SLV	2.383	SLV 11	Si
R_SLV	2.185	SLV 2	Si

Maschio 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.578	-3.169	L5	L6	2.285	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	6.4	-1526.74	-18703	-0.0000564	0.0003743	0.0035	2.285	15232.88	18346.86	18346.86	12.02	No	Si
SLU 40	7.2	-2010.67	-16714	-0.0000542	0.0003743	0.0035	2.285	14195.72	16934.87	16934.87	8.42	No	Si
SLU 82	6.4	-1794.71	-21796	-0.0000668	0.0003743	0.0035	2.285	16569.65	20079.23	20079.23	11.19	No	Si
SLU 82	7.2	-2267.24	-19304	-0.0000631	0.0003743	0.0035	2.285	15518.65	18761.99	18761.99	8.28	No	Si
SLU 81	6.4	-1799.93	-21614	-0.0000663	0.0003743	0.0035	2.285	16500.14	19986.59	19986.59	11.1	No	Si
SLU 81	7.2	-2273.97	-19152	-0.0000627	0.0003743	0.0035	2.285	15447.71	18656.63	18656.63	8.2	No	Si
SLU 41	6.4	-1538.5	-18797	-0.0000567	0.0003743	0.0035	2.285	15278.24	18411.15	18411.15	11.97	No	Si
SLU 41	7.2	-2029.75	-16810	-0.0000546	0.0003743	0.0035	2.285	14249.25	17005.8	17005.8	8.38	No	Si
SLU 74	6.4	-1772.77	-21344	-0.0000654	0.0003743	0.0035	2.285	16395.02	19850.34	19850.34	11.2	No	Si
SLU 74	7.2	-2200.33	-18865	-0.0000614	0.0003743	0.0035	2.285	15310.95	18457.87	18457.87	8.39	No	Si
SLU 84	6.4	-1801.25	-22072	-0.0000676	0.0003743	0.0035	2.285	16672.6	20220.45	20220.45	11.23	No	Si
SLU 84	7.2	-2279.59	-19552	-0.0000639	0.0003743	0.0035	2.285	15633.04	18934.17	18934.17	8.31	No	Si
SLU 39	6.4	-1531.96	-18521	-0.0000559	0.0003743	0.0035	2.285	15143.58	18222	18222	11.89	No	Si
SLU 39	7.2	-2017.4	-16562	-0.0000539	0.0003743	0.0035	2.285	14111	16823.84	16823.84	8.34	No	Si
SLU 42	6.4	-1533.28	-18979	-0.0000572	0.0003743	0.0035	2.285	15365.77	18536.87	18536.87	12.09	No	Si
SLU 42	7.2	-2023.02	-16962	-0.000055	0.0003743	0.0035	2.285	14332.65	17117.51	17117.51	8.46	No	Si
SLU 83	6.4	-1806.46	-21890	-0.0000671	0.0003743	0.0035	2.285	16604.86	20126.98	20126.98	11.14	No	Si
SLU 83	7.2	-2286.32	-19400	-0.0000635	0.0003743	0.0035	2.285	15563.42	18829.31	18829.31	8.24	No	Si
SLU 77	6.4	-1779.3	-21620	-0.0000662	0.0003743	0.0035	2.285	16502.35	19989.5	19989.5	11.23	No	Si
SLU 77	7.2	-2212.68	-19113	-0.0000622	0.0003743	0.0035	2.285	15429.16	18629.33	18629.33	8.42	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	6.4	-651.52	-8898	-0.0000249	0.0005615	0.0035	2.285		10775.49	10775.49	16.54		Si
SLD 8	7.2	-2736.52	-8600	-0.0000371	0.0005615	0.0035	2.285		10479.42	10479.42	3.83		Si
SLD 3	6.4	-604.12	-13209	-0.0000351	0.0005615	0.0035	2.285		14870.25	14870.25	24.61		Si
SLD 3	7.2	-3697.91	-12592	-0.0000532	0.0005615	0.0035	2.285		14294.54	14294.54	3.87		Si
SLV 7	6.4	-453.39	-5336	-0.0000152	0.0005615	0.0035	2.285		7148.79	7148.79	15.77		Si
SLV 7	7.2	-2953.76	-5726	-0.0000326	0.0005615	0.0035	2.285		7555.02	7555.02	2.56		Si
SLV 15	6.4	-2144.66	-11606	-0.0000408	0.0005615	0.0035	2.285		13383.01	13383.01	6.24		Si
SLV 15	7.2	2572.94	-8464	-0.0000358	0.0005615	0.0035	2.285		9316.89	9316.89	3.62		Si
SLV 8	6.4	-271	-4957	-0.0000132	0.0005615	0.0035	2.285		6756.28	6756.28	24.93		Si
SLV 8	7.2	-3539.17	-5690	-0.0000391	0.0005615	0.0035	2.285		7517.89	7517.89	2.12		Si
SLV 1	6.4	-579.42	-17920	-0.0000466	0.0005615	0.0035	2.285		18991.94	18991.94	32.78		Si
SLV 1	7.2	-4570.17	-16884	-0.0000698	0.0005615	0.0035	2.285		18114.43	18114.43	3.96		Si
SLV 2	6.4	-308.5	-17358	-0.0000435	0.0005615	0.0035	2.285		18514.63	18514.63	60.02		Si
SLV 2	7.2	-5439.73	-16831	-0.0000754	0.0005615	0.0035	2.285		18070.07	18070.07	3.32		Si
SLD 4	6.4	-432.24	-12853	-0.0000331	0.0005615	0.0035	2.285		14537.06	14537.06	33.63		Si
SLD 4	7.2	-4249.57	-12559	-0.0000566	0.0005615	0.0035	2.285		14263.39	14263.39	3.36		Si
SLV 4	6.4	38.07	-11698	-0.0000278	0.0005615	0.0035	2.285		12270.88	12270.88	322.33		Si
SLV 4	7.2	-5847.95	-12316	-0.0000675	0.0005615	0.0035	2.285		14037.66	14037.66	2.4		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	6.4	-232.85	-12260	-0.0000304	0.0005615	0.0035	2.285		13985.85	13985.85	60.06		Si
SLV 3	7.2	-4978.4	-12368	-0.0000609	0.0005615	0.0035	2.285		14086.62	14086.62	2.83		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	6.4	-1429.77	-17320	-14422	-1342	2.285	2.285	-22542	9950	6366	40441	19158	5827	24985	No	18.62	Si
SLU 49	7.2	-1565.29	-14928	-12431	-904	2.285	2.285	-19430	9535	6101	40441	19158	5827	24985	No	27.64	Si
SLU 72	6.4	-1609.64	-19558	-16286	-1283	2.285	2.285	-25455	10338	6615	40441	19158	5827	24985	No	19.48	Si
SLU 72	7.2	-1870.61	-17075	-14218	-864	2.285	2.285	-22223	9908	6339	40441	19158	5827	24985	No	28.92	Si
SLU 44	6.4	-1387.48	-16599	-13822	-1310	2.285	2.285	-21603	9825	6286	40441	19158	5827	24985	No	19.07	Si
SLU 44	7.2	-1495.7	-14251	-11867	-895	2.285	2.285	-18548	9418	6025	40441	19158	5827	24985	No	27.91	Si
SLU 46	6.4	-1423.24	-17044	-14193	-1307	2.285	2.285	-22183	9902	6335	40441	19158	5827	24985	No	19.12	Si
SLU 46	7.2	-1552.95	-14680	-12224	-890	2.285	2.285	-19107	9492	6073	40441	19158	5827	24985	No	28.08	Si
SLU 48	6.4	-1434.99	-17137	-14271	-1292	2.285	2.285	-22305	9918	6346	40441	19158	5827	24985	No	19.33	Si
SLU 48	7.2	-1572.02	-14777	-12305	-882	2.285	2.285	-19232	9509	6084	40441	19158	5827	24985	No	28.32	Si
SLU 47	6.4	-1394.01	-16875	-14052	-1345	2.285	2.285	-21963	9873	6317	40441	19158	5827	24985	No	18.57	Si
SLU 47	7.2	-1508.04	-14499	-12074	-909	2.285	2.285	-18871	9461	6053	40441	19158	5827	24985	No	27.48	Si
SLU 51	6.4	-1404.03	-17029	-14180	-1348	2.285	2.285	-22163	9900	6334	40441	19158	5827	24985	No	18.54	Si
SLU 51	7.2	-1524.88	-14646	-12196	-909	2.285	2.285	-19063	9486	6069	40441	19158	5827	24985	No	27.49	Si
SLU 70	6.4	-1635.38	-19849	-16529	-1277	2.285	2.285	-25834	10389	6647	40441	19158	5827	24985	No	19.57	Si
SLU 70	7.2	-1911.02	-17357	-14453	-859	2.285	2.285	-22590	9956	6370	40441	19158	5827	24985	No	29.09	Si
SLU 50	6.4	-1409.25	-16846	-14028	-1298	2.285	2.285	-21926	9868	6313	40441	19158	5827	24985	No	19.25	Si
SLU 50	7.2	-1531.61	-14495	-12070	-887	2.285	2.285	-18865	9460	6052	40441	19158	5827	24985	No	28.16	Si
SLU 68	6.4	-1599.62	-19404	-16158	-1280	2.285	2.285	-25254	10312	6597	40441	19158	5827	24985	No	19.52	Si
SLU 68	7.2	-1853.77	-16928	-14096	-864	2.285	2.285	-22032	9882	6322	40441	19158	5827	24985	No	28.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	6.4	-232.85	-12260	-10209	7982	2.285	2.285	-15956	13608	8706	40441	28738	5827	34564		4.33	Si
SLV 3	7.2	-4978.4	-12368	-10299	6038	2.285	2.22	-16098	13636	8476	40441	28738	5827	34564		5.72	Si
SLV 4	6.4	38.07	-11698	-9741	10211	2.285	2.285	-15225	13462	8613	40441	28738	5827	34564		3.39	Si
SLV 4	7.2	-5847.95	-12316	-10255	7716	2.285	2.003	-18454	14108	7912	40441	28738	5827	34564		4.48	Si
SLV 2	6.4	-308.5	-17358	-14454	7457	2.285	2.285	-22591	14935	9555	40441	28738	5827	34564		4.64	Si
SLV 2	7.2	-5439.73	-16831	-14015	6055	2.285	2.285	-21906	14798	9468	40441	28738	5827	34564		5.71	Si
SLV 14	6.4	-2220.31	-16704	-13910	-9721	2.285	2.285	-21741	14765	9447	40441	28738	5827	34564		3.56	Si
SLV 14	7.2	2111.61	-12926	-10764	-7254	2.285	2.285	-16824	13781	8817	40441	28738	5827	34564		4.76	Si
SLV 10	6.4	-1999.77	-23628	-19676	-7285	2.285	2.285	-30753	16250	10397	40441	28738	5827	34564		4.74	Si
SLV 10	7.2	86.98	-19569	-16296	-4807	2.285	2.285	-25470	15511	9924	40441	28738	5827	34564		7.19	Si
SLD 13	6.4	-2020.91	-16111	-13416	-7882	2.285	2.285	-20969	14610	9348	40441	28738	5827	34564		4.39	Si
SLD 13	7.2	1382.78	-12736	-10605	-5886	2.285	2.285	-16576	13732	8786	40441	28738	5827	34564		5.87	Si
SLV 15	6.4	-2144.66	-11606	-9665	-9196	2.285	2.285	-15106	13438	8598	40441	28738	5827	34564		3.76	Si
SLV 15	7.2	2572.94	-8464	-7048	-7271	2.285	2.285	-11016	12620	8074	40441	28738	5827	34564		4.75	Si
SLV 13	6.4	-2491.23	-17266	-14378	-11949	2.285	2.285	-22473	14911	9540	40441	28738	5827	34564		2.89	Si
SLV 13	7.2	2981.17	-12979	-10808	-8932	2.285	2.285	-16893	13795	8826	40441	28738	5827	34564		3.87	Si
SLV 8	6.4	-271	-4957	-4128	7047	2.285	2.285	-6452	11707	7490	40441	28738	5827	34564		4.91	Si
SLV 8	7.2	-3539.17	-5690	-4738	4721	2.285	1.5615	-10889	12595	5507	40441	28738	5827	34564		7.32	Si
SLV 9	6.4	-2182.16	-24007	-19991	-8785	2.285	2.285	-31245	16250	10397	40441	28738	5827	34564		3.93	Si
SLV 9	7.2	672.39	-19605	-16325	-5936	2.285	2.285	-25516	15520	9930	40441	28738	5827	34564		5.82	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.38	6863	-4391	236.7	587.08	2.48	Si
SLV 11	179667	0.38	7047	-4508	236.7	602.05	2.54	Si
SLV 8	179667	0.38	8432	-5395	236.7	713.56	3.01	Si
SLV 7	179667	0.38	8616	-5512	236.7	728.19	3.08	Si
SLV 16	179667	0.38	13861	-8868	236.7	1128.85	4.77	Si
SLV 15	179667	0.38	14134	-9043	236.7	1148.83	4.85	Si
SLV 4	179667	0.38	19091	-12215	236.7	1496.27	6.32	Si
SLV 3	179667	0.38	19364	-12389	236.7	1514.58	6.4	Si
SLV 14	179667	0.38	21466	-13734	236.7	1652.52	6.98	Si
SLV 13	179667	0.38	21740	-13909	236.7	1670.06	7.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-16894	-20498	-655	0.687	2040.6	0.954	10.46243	4.55335	Si
SLV 6	-16842	-20518	-655	0.689	2035.3	0.954	10.49068	4.55335	Si
SLV 1	-13842	-16710	-394	0.828	1730.8	0.947	12.7022	5.26967	Si
SLV 2	-13766	-16739	-394	0.831	1723	0.947	12.76395	5.26967	Si
SLV 9	-16069	-18961	-527	0.723	1956.8	0.952	11.03958	4.55335	Si
SLV 10	-16017	-18980	-527	0.725	1951.6	0.952	11.07088	4.55335	Si
SLV 13	-11094	-11584	34	1.02	1452.2	0.938	15.79608	5.26967	Si
SLV 14	-11017	-11613	34	1.026	1444.4	0.938	15.89013	5.26967	Si
SLV 3	-10392	-11929	-42	1.075	1381.2	0.936	16.69096	5.26967	Si
SLV 4	-10315	-11958	-41	1.081	1373.4	0.935	16.79654	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.204	SLU 81	Si
V_SLU	18.538	SLU 51	Si
PF_SLV	2.124	SLV 8	Si
V_SLV	2.893	SLV 13	Si
PFFP_SLV	2.48	SLV 12	Si
R_SLV	2.298	SLV 5	Si

Maschio 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.213	-3.169	-18.793	-3.169	L5	L6	0.58	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	6.4	117.48	-5359	-0.0000651	0.0003743	0.0035	0.58	1050.36	1200.93	1200.93	10.22	No	Si
SLU 43	7.2	275.97	-4881	-0.0000769	0.0003743	0.0035	0.58	997.58	1115.2	1115.2	4.04	No	Si
SLU 46	6.4	126.83	-5568	-0.0000684	0.0003743	0.0035	0.58	1070.94	1239.24	1239.24	9.77	No	Si
SLU 46	7.2	284.7	-5063	-0.0000799	0.0003743	0.0035	0.58	1018.7	1147.64	1147.64	4.03	No	Si
SLU 47	6.4	125.22	-5495	-0.0000674	0.0003743	0.0035	0.58	1063.91	1225.83	1225.83	9.79	No	Si
SLU 47	7.2	281.09	-4993	-0.0000787	0.0003743	0.0035	0.58	1010.66	1135.04	1135.04	4.04	No	Si
SLU 45	6.4	124.19	-5536	-0.0000678	0.0003743	0.0035	0.58	1067.87	1233.33	1233.33	9.93	No	Si
SLU 45	7.2	283.46	-5040	-0.0000795	0.0003743	0.0035	0.58	1016.12	1143.56	1143.56	4.03	No	Si
SLU 48	6.4	127.54	-5618	-0.000069	0.0003743	0.0035	0.58	1075.63	1248.43	1248.43	9.79	No	Si
SLU 48	7.2	286.51	-5114	-0.0000807	0.0003743	0.0035	0.58	1024.38	1156.77	1156.77	4.04	No	Si
SLU 70	6.4	161.97	-6531	-0.0000833	0.0003743	0.0035	0.58	1145.86	1369.48	1369.48	8.46	No	Si
SLU 70	7.2	320.84	-5958	-0.0000945	0.0003743	0.0035	0.58	1105.23	1302.98	1302.98	4.06	No	Si
SLU 49	6.4	130.18	-5650	-0.0000697	0.0003743	0.0035	0.58	1078.61	1254.21	1254.21	9.63	No	Si
SLU 49	7.2	287.75	-5137	-0.0000811	0.0003743	0.0035	0.58	1026.9	1160.87	1160.87	4.03	No	Si
SLU 44	6.4	121.88	-5412	-0.0000661	0.0003743	0.0035	0.58	1055.79	1210.74	1210.74	9.93	No	Si
SLU 44	7.2	278.04	-4919	-0.0000775	0.0003743	0.0035	0.58	1002.09	1121.94	1121.94	4.04	No	Si
SLU 51	6.4	126.81	-5555	-0.0000683	0.0003743	0.0035	0.58	1069.76	1236.96	1236.96	9.75	No	Si
SLU 51	7.2	283.32	-5051	-0.0000796	0.0003743	0.0035	0.58	1017.33	1145.48	1145.48	4.04	No	Si
SLU 50	6.4	124.18	-5523	-0.0000676	0.0003743	0.0035	0.58	1066.67	1231.05	1231.05	9.91	No	Si
SLU 50	7.2	282.08	-5028	-0.0000792	0.0003743	0.0035	0.58	1014.75	1141.4	1141.4	4.05	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	6.4	841.9	-8456	-0.0001776	0.0005615	0.0035	0.58		1860.99	1860.99	2.21		Si
SLV 4	7.2	-518.31	-5823	-0.0001096	0.0005615	0.0035	0.58		1466.89	1466.89	2.83		Si
SLV 15	6.4	-586.92	-224	-0.0068276	0.0005615	0.0035	0.464		134.85	134.85	0.23		No
SLV 15	7.2	852.56	-2015	-0.0228352	0.0005615	0.0035	0.464		567.47	567.47	0.67		No
SLD 15	6.4	-334.74	-1909	-0.0000606	0.0005615	0.0035	0.464		588.85	588.85	1.76		Si
SLD 15	7.2	633.07	-2904	-0.0001589	0.0005615	0.0035	0.58		778.54	778.54	1.23		Si
SLV 9	6.4	-156.72	-5074	-0.000064	0.0005615	0.0035	0.58		1318.47	1318.47	8.41		Si
SLV 9	7.2	693.43	-5414	-0.0001285	0.0005615	0.0035	0.58		1326.56	1326.56	1.91		Si
SLV 16	6.4	-440.79	-868	-0.0019393	0.0005615	0.0035	0.464		313.92	313.92	0.71		No
SLV 16	7.2	700.85	-2223	-0.0086546	0.0005615	0.0035	0.464		620.08	620.08	0.88		No
SLD 14	6.4	-253.42	-2883	-0.0000515	0.0005615	0.0035	0.58		830.96	830.96	3.28		Si
SLD 14	7.2	615.83	-3605	-0.000115	0.0005615	0.0035	0.58		928.5	928.5	1.51		Si
SLV 14	6.4	-460.45	-1832	-0.0001797	0.0005615	0.0035	0.464		569.43	569.43	1.24		Si
SLV 14	7.2	835.79	-3194	-0.0009642	0.0005615	0.0035	0.464		840.27	840.27	1.01		Si
SLD 13	6.4	-346.13	-2474	-0.00006	0.0005615	0.0035	0.58		732.14	732.14	2.12		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	7.2	712.08	-3473	-0.0001613	0.0005615	0.0035	0.58		900.03	900.03	1.26		Si
SLV 13	6.4	-606.59	-1188	-0.0034906	0.0005615	0.0035	0.464		399.94	399.94	0.66		No
SLV 13	7.2	987.5	-2987	-0.0149394	0.0005615	0.0035	0.464		796.11	796.11	0.81		No
SLD 16	6.4	-242.03	-2317	-0.0000449	0.0005615	0.0035	0.58		692.41	692.41	2.86		Si
SLD 16	7.2	536.82	-3035	-0.0001008	0.0005615	0.0035	0.58		806.43	806.43	1.5		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	6.4	185.62	-6431	-5355	405	0.58	0.58	-32973	10833	1949	40441	4863	1479	6342	No	15.64	Si
SLU 42	7.2	279.05	-5885	-4901	-234	0.58	0.58	-30178	10833	1828	40441	4863	1479	6342	No	27.05	Si
SLU 40	6.4	182.27	-6348	-5286	398	0.58	0.58	-32551	10833	1931	40441	4863	1479	6342	No	15.92	Si
SLU 40	7.2	275.99	-5812	-4839	-232	0.58	0.58	-29799	10833	1812	40441	4863	1479	6342	No	27.29	Si
SLU 82	6.4	200.99	-7353	-6123	420	0.58	0.58	-37701	10833	2154	40441	4863	1479	6342	No	15.08	Si
SLU 82	7.2	330.95	-6721	-5597	-284	0.58	0.58	-34464	10833	2014	40441	4863	1479	6342	No	22.34	Si
SLU 41	6.4	182.98	-6398	-5328	402	0.58	0.58	-32808	10833	1942	40441	4863	1479	6342	No	15.76	Si
SLU 41	7.2	277.8	-5863	-4882	-237	0.58	0.58	-30061	10833	1823	40441	4863	1479	6342	No	26.79	Si
SLU 78	6.4	196.33	-7288	-6069	392	0.58	0.58	-37368	10833	2139	40441	4863	1479	6342	No	16.19	Si
SLU 78	7.2	335.3	-6656	-5543	-282	0.58	0.58	-34129	10833	1999	40441	4863	1479	6342	No	22.48	Si
SLU 81	6.4	198.36	-7320	-6096	417	0.58	0.58	-37536	10833	2147	40441	4863	1479	6342	No	15.19	Si
SLU 81	7.2	329.71	-6699	-5578	-286	0.58	0.58	-34347	10833	2009	40441	4863	1479	6342	No	22.16	Si
SLU 77	6.4	193.69	-7255	-6042	389	0.58	0.58	-37202	10833	2132	40441	4863	1479	6342	No	16.32	Si
SLU 77	7.2	334.05	-6633	-5524	-284	0.58	0.58	-34012	10833	1994	40441	4863	1479	6342	No	22.3	Si
SLU 84	6.4	204.34	-7435	-6191	428	0.58	0.58	-38123	10833	2172	40441	4863	1479	6342	No	14.83	Si
SLU 84	7.2	334	-6795	-5658	-286	0.58	0.58	-34843	10833	2030	40441	4863	1479	6342	No	22.17	Si
SLU 39	6.4	179.63	-6316	-5260	395	0.58	0.58	-32386	10833	1924	40441	4863	1479	6342	No	16.04	Si
SLU 39	7.2	274.75	-5789	-4820	-235	0.58	0.58	-29682	10833	1807	40441	4863	1479	6342	No	27.03	Si
SLU 83	6.4	201.7	-7403	-6164	425	0.58	0.58	-37958	10833	2165	40441	4863	1479	6342	No	14.94	Si
SLU 83	7.2	332.76	-6772	-5639	-288	0.58	0.58	-34726	10833	2025	40441	4863	1479	6342	No	22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	6.4	695.76	-7812	-6505	2620	0.58	0.58	-40058	16250	2639	40441	7294	1479	8773		3.35	Si
SLV 3	7.2	-366.6	-5615	-4676	440	0.58	0.58	-28793	16175	2627	40441	7294	1479	8773		19.94	Si
SLV 13	6.4	-606.59	-1188	-989	-2769	0.464	0	0	0	0	40441	5836	1183	7019		2.54	Si
SLV 13	7.2	987.5	-2987	-2487	-1024	0.464	0	0	0	0	40441	5836	1183	7019		6.86	Si
SLV 14	6.4	-460.45	-1832	-1526	-2193	0.464	0.116	0	0	0	40441	5836	1183	7019		3.2	Si
SLV 14	7.2	835.79	-3194	-2660	-845	0.464	0.0851	0	0	0	40441	5836	1183	7019		8.31	Si
SLV 15	6.4	-586.92	-224	-186	-2427	0.464	0	0	0	0	40441	5836	1183	7019		2.89	Si
SLV 15	7.2	852.56	-2015	-1678	-971	0.464	0	0	0	0	40441	5836	1183	7019		7.23	Si
SLV 4	6.4	841.9	-8456	-7042	3196	0.58	0.5713	-43361	16250	2660	40441	7294	1479	8773		2.75	Si
SLV 4	7.2	-518.31	-5823	-4849	618	0.58	0.58	-29857	16250	2639	40441	7294	1479	8773		14.19	Si
SLD 4	6.4	581.44	-7170	-5971	2112	0.58	0.58	-36766	16250	2639	40441	7294	1479	8773		4.15	Si
SLD 4	7.2	-242.89	-5337	-4444	319	0.58	0.58	-27365	15890	2580	40441	7294	1479	8773		27.48	Si
SLD 2	6.4	570.05	-7736	-6442	1912	0.58	0.58	-39665	16250	2639	40441	7294	1479	8773		4.59	Si
SLD 2	7.2	-163.88	-5906	-4918	288	0.58	0.58	-30283	16250	2639	40441	7294	1479	8773		30.42	Si
SLV 1	6.4	676.1	-8777	-7308	2278	0.58	0.58	-45003	16250	2731	40441	7294	1479	8773		3.85	Si
SLV 1	7.2	-231.67	-6587	-5485	387	0.58	0.58	-33774	16250	2639	40441	7294	1479	8773		22.65	Si
SLV 2	6.4	822.23	-9421	-7845	2854	0.58	0.58	-48305	16250	2874	40441	7294	1479	8773		3.07	Si
SLV 2	7.2	-383.37	-6794	-5658	566	0.58	0.58	-34838	16250	2639	40441	7294	1479	8773		15.5	Si
SLV 16	6.4	-440.79	-868	-723	-1851	0.464	0	0	0	0	40441	5836	1183	7019		3.79	Si
SLV 16	7.2	700.85	-2223	-1851	-792	0.464	0	0	0	0	40441	5836	1183	7019		8.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.38	5742	-933	60.08	125.65	2.09	Si
SLV 16	179667	0.38	7459	-1211	60.08	161.31	2.68	Si
SLV 11	179667	0.38	7496	-1217	60.08	162.07	2.7	Si
SLV 12	179667	0.38	8652	-1405	60.08	185.57	3.09	Si
SLV 13	179667	0.38	12140	-1971	60.08	254.07	4.23	Si
SLV 14	179667	0.38	13857	-2250	60.08	286.46	4.77	Si
SLV 7	179667	0.38	15156	-2461	60.08	310.39	5.17	Si
SLV 8	179667	0.38	16312	-2649	60.08	331.26	5.51	Si
SLV 9	179667	0.38	28821	-4680	60.08	531.61	8.85	Si
SLV 10	179667	0.38	29977	-4868	60.08	547.77	9.12	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-4296	-4446	-56	0.709	518.7	0.954	10.7948	5.26967	Si
SLV 1	-4125	-4541	-56	0.733	501.4	0.953	11.18867	5.26967	Si
SLV 4	-3648	-2706	-2	0.826	452.9	0.948	12.65721	5.26967	Si
SLV 6	-4109	-6218	-114	0.723	499.7	0.953	11.03416	4.55335	Si
SLV 5	-3994	-6283	-114	0.741	488	0.952	11.31357	4.55335	Si
SLV 3	-3477	-2801	-1	0.86	435.6	0.947	13.20004	5.26967	Si
SLV 10	-3324	-5985	-109	0.864	420.1	0.945	13.29109	4.55335	Si
SLV 9	-3209	-6049	-109	0.89	408.5	0.943	13.70389	4.55335	Si
SLV 14	-1682	-3666	-39	1.511	254.3	0.917	23.94437	5.26967	Si
SLV 8	-1949	-419	68	1.34	281.1	0.923	21.0929	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.031	SLU 46	Si
V_SLU	14.833	SLU 84	Si
PF_SLV	0.23	SLV 15	No
V_SLV	2.535	SLV 13	Si
PFFP_SLV	2.091	SLV 15	Si
R_SLV	2.048	SLV 2	Si

Maschio 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L5	L6	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	4.4	-5168.25	-36375	-0.0000854	0.0004492	0.0035	4.6702	46264.17	80604.81	80604.81	15.6	No	Si
SLU 61	7.95	-2924.98	-22448	-0.0000503	0.0004492	0.0035	4.6702	37688.98	57861	57861	19.78	No	Si
SLU 65	4.4	-5111	-36206	-0.0000849	0.0004492	0.0035	4.6702	46228.02	80353.87	80353.87	15.72	No	Si
SLU 65	7.95	-2681.41	-22683	-0.0000502	0.0004492	0.0035	4.6702	37927.67	58285.07	58285.07	21.74	No	Si
SLU 82	4.4	-5642.37	-41194	-0.0000973	0.0004492	0.0035	4.6702	46590.98	87528.61	87528.61	15.51	No	Si
SLU 82	7.95	-3383.29	-25563	-0.0000578	0.0004492	0.0035	4.6702	40591.41	63299.81	63299.81	18.71	No	Si
SLU 52	4.4	-5076.66	-34797	-0.0000817	0.0004492	0.0035	4.6702	45862.03	78264.6	78264.6	15.42	No	Si
SLU 52	7.95	-2715.44	-21533	-0.0000479	0.0004492	0.0035	4.6702	36728.85	56209.76	56209.76	20.7	No	Si
SLU 63	4.4	-5178.49	-37154	-0.0000871	0.0004492	0.0035	4.6702	46409.01	81760.1	81760.1	15.79	No	Si
SLU 63	7.95	-2804.73	-23254	-0.0000516	0.0004492	0.0035	4.6702	38494.65	59316.33	59316.33	21.15	No	Si
SLU 44	4.4	-4636.87	-31387	-0.0000733	0.0004492	0.0035	4.6702	44496.16	72924.01	72924.01	15.73	No	Si
SLU 44	7.95	-2223.1	-19568	-0.0000428	0.0004492	0.0035	4.6702	34500.78	52662.46	52662.46	23.69	No	Si
SLU 73	4.4	-5550.79	-39615	-0.0000935	0.0004492	0.0035	4.6702	46633.42	85357.94	85357.94	15.38	No	Si
SLU 73	7.95	-3173.75	-24648	-0.0000554	0.0004492	0.0035	4.6702	39797.86	61746.83	61746.83	19.46	No	Si
SLU 76	4.4	-5561.04	-40394	-0.0000953	0.0004492	0.0035	4.6702	46630.67	86429.54	86429.54	15.54	No	Si
SLU 76	7.95	-3053.5	-25455	-0.0000568	0.0004492	0.0035	4.6702	40499.82	63115.57	63115.57	20.67	No	Si
SLU 84	4.4	-5652.62	-41973	-0.0000991	0.0004492	0.0035	4.6702	46516.33	88600.21	88600.21	15.67	No	Si
SLU 84	7.95	-3263.04	-26369	-0.0000592	0.0004492	0.0035	4.6702	41250.25	64668.55	64668.55	19.82	No	Si
SLU 55	4.4	-5086.91	-35576	-0.0000834	0.0004492	0.0035	4.6702	46078.76	79419.9	79419.9	15.61	No	Si
SLU 55	7.95	-2595.19	-22340	-0.0000493	0.0004492	0.0035	4.6702	37577.63	57665.1	57665.1	22.22	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	4.4	-16017.71	-13760	-0.0000696	0.0006738	0.0035	4.6702		42075.29	42075.29	2.63		Si
SLV 9	7.95	-3732.25	-7975	-0.0000237	0.0006738	0.0035	4.6702		30062.51	30062.51	8.05		Si
SLD 5	4.4	-11516.93	-21260	-0.0000687	0.0006738	0.0035	4.6702		56791.67	56791.67	4.93		Si
SLD 5	7.95	-3186.34	-13318	-0.0000326	0.0006738	0.0035	4.6702		41159.95	41159.95	12.92		Si
SLV 1	4.4	-9375.12	-28244	-0.0000774	0.0006738	0.0035	4.6702		69610.51	69610.51	7.43		Si
SLV 1	7.95	-2781.61	-18830	-0.0000422	0.0006738	0.0035	4.6702		52123.83	52123.83	18.74		Si
SLV 6	4.4	-16555.61	-16818	-0.0000739	0.0006738	0.0035	4.6702		48160.89	48160.89	2.91		Si
SLV 6	7.95	-4279.58	-10259	-0.0000294	0.0006738	0.0035	4.6702		34835.41	34835.41	8.14		Si
SLV 2	4.4	-8785.75	-28880	-0.0000772	0.0006738	0.0035	4.6702		70738.27	70738.27	8.05		Si
SLV 2	7.95	-3276.18	-18790	-0.0000433	0.0006738	0.0035	4.6702		52046.22	52046.22	15.89		Si
SLD 10	4.4	-10679.12	-19835	-0.0000638	0.0006738	0.0035	4.6702		54103.6	54103.6	5.07		Si
SLD 10	7.95	-3249.95	-11828	-0.0000299	0.0006738	0.0035	4.6702		38080.93	38080.93	11.72		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	4.4	-11276.15	-21520	-0.0000686	0.0006738	0.0035	4.6702		57277.86	57277.86	5.08		Si
SLD 6	7.95	-3388.39	-13302	-0.000033	0.0006738	0.0035	4.6702		41126.67	41126.67	12.14		Si
SLD 9	4.4	-10919.91	-19575	-0.0000639	0.0006738	0.0035	4.6702		53591.97	53591.97	4.91		Si
SLD 9	7.95	-3047.89	-11845	-0.0000294	0.0006738	0.0035	4.6702		38114.21	38114.21	12.51		Si
SLV 10	4.4	-15620.93	-14189	-0.000068	0.0006738	0.0035	4.6702		42960.32	42960.32	2.75		Si
SLV 10	7.95	-4065.21	-7949	-0.0000245	0.0006738	0.0035	4.6702		30005.95	30005.95	7.38		Si
SLV 5	4.4	-16952.38	-16390	-0.0000748	0.0006738	0.0035	4.6702		47317.78	47317.78	2.79		Si
SLV 5	7.95	-3946.62	-10285	-0.0000286	0.0006738	0.0035	4.6702		34890.25	34890.25	8.84		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	4.4	-5111	-36206	-20074	-3911	4.6702	4.6702	-30703	10833	11806	115546	23497	23818	47314	No	12.1	Si
SLU 65	7.95	-2681.41	-22683	-12577	-1989	4.6702	4.6702	-19236	10833	8807	115546	23497	23818	47314	No	23.79	Si
SLU 68	4.4	-5121.25	-36985	-20506	-3896	4.6702	4.6702	-31364	10833	11979	115546	23497	23818	47314	No	12.14	Si
SLU 68	7.95	-2561.16	-23489	-13024	-1900	4.6702	4.6702	-19919	10833	8986	115546	23497	23818	47314	No	24.9	Si
SLU 73	4.4	-5550.79	-39615	-21965	-3773	4.6702	4.6702	-33595	10833	12563	115546	23497	23818	47314	No	12.54	Si
SLU 73	7.95	-3173.75	-24648	-13666	-1664	4.6702	4.6702	-20902	10833	9243	115546	23497	23818	47314	No	28.43	Si
SLU 52	4.4	-5076.66	-34797	-19293	-3853	4.6702	4.6702	-29508	10833	11494	115546	23497	23818	47314	No	12.28	Si
SLU 52	7.95	-2715.44	-21533	-11939	-2029	4.6702	4.6702	-18261	10768	8552	115546	23497	23818	47314	No	23.32	Si
SLU 47	4.4	-4647.12	-32166	-17835	-3976	4.6702	4.6702	-27278	10833	10911	115546	23497	23818	47314	No	11.9	Si
SLU 47	7.95	-2102.85	-20374	-11297	-2265	4.6702	4.6702	-17278	10637	8295	115546	23497	23818	47314	No	20.89	Si
SLU 51	4.4	-4560.48	-33062	-18332	-3781	4.6702	4.6702	-28038	10833	11109	115546	23497	23818	47314	No	12.51	Si
SLU 51	7.95	-1981.15	-21253	-11784	-1992	4.6702	4.6702	-18023	10736	8490	115546	23497	23818	47314	No	23.75	Si
SLU 49	4.4	-4597.08	-33444	-18543	-3795	4.6702	4.6702	-28361	10833	11194	115546	23497	23818	47314	No	12.47	Si
SLU 49	7.95	-2048.58	-21563	-11956	-1985	4.6702	4.6702	-18286	10772	8559	115546	23497	23818	47314	No	23.84	Si
SLU 44	4.4	-4636.87	-31387	-17403	-3990	4.6702	4.6702	-26617	10833	10738	115546	23497	23818	47314	No	11.86	Si
SLU 44	7.95	-2223.1	-19568	-10850	-2354	4.6702	4.6702	-16594	10546	8117	115546	23497	23818	47314	No	20.1	Si
SLU 55	4.4	-5086.91	-35576	-19725	-3838	4.6702	4.6702	-30169	10833	11667	115546	23497	23818	47314	No	12.33	Si
SLU 55	7.95	-2595.19	-22340	-12386	-1940	4.6702	4.6702	-18944	10833	8731	115546	23497	23818	47314	No	24.38	Si
SLU 46	4.4	-4586.83	-32665	-18111	-3810	4.6702	4.6702	-27701	10833	11021	115546	23497	23818	47314	No	12.42	Si
SLU 46	7.95	-2168.83	-20757	-11509	-2073	4.6702	4.6702	-17603	10680	8380	115546	23497	23818	47314	No	22.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	4.4	-16555.61	-16818	-9325	-23186	4.6702	4.052	-16567	15814	9395	115546	35245	23818	59063		2.55	Si
SLV 6	7.95	-4279.58	-10259	-5688	-21341	4.6702	4.6702	-8700	14240	9310	115546	35245	23818	59063		2.77	Si
SLD 6	4.4	-11276.15	-21520	-11932	-14694	4.6702	4.6702	-18250	16150	10559	115546	35245	23818	59063		4.02	Si
SLD 6	7.95	-3388.39	-13302	-7375	-12993	4.6702	4.6702	-11280	14756	9648	115546	35245	23818	59063		4.55	Si
SLV 5	4.4	-16952.38	-16390	-9087	-23404	4.6702	3.9022	-16764	15853	9300	115546	35245	23818	59063		2.52	Si
SLV 5	7.95	-3946.62	-10285	-5703	-21454	4.6702	4.6702	-8722	14244	9313	115546	35245	23818	59063		2.75	Si
SLV 12	4.4	9419.08	-39592	-21952	18121	4.6702	4.6702	-33575	16250	14446	115546	35245	23818	59063		3.26	Si
SLV 12	7.95	-252.89	-24645	-13664	19127	4.6702	4.6702	-20899	16250	11131	115546	35245	23818	59063		3.09	Si
SLV 11	4.4	9022.3	-39164	-21714	17903	4.6702	4.6702	-33212	16250	14351	115546	35245	23818	59063		3.3	Si
SLV 11	7.95	80.06	-24671	-13679	19014	4.6702	4.6702	-20922	16250	11137	115546	35245	23818	59063		3.11	Si
SLV 8	4.4	8484.41	-42221	-23410	17221	4.6702	4.6702	-35804	16250	15029	115546	35245	23818	59063		3.43	Si
SLV 8	7.95	-467.27	-26954	-14945	18442	4.6702	4.6702	-22858	16250	11643	115546	35245	23818	59063		3.2	Si
SLV 10	4.4	-15620.93	-14189	-7867	-22285	4.6702	3.7024	-15279	15556	8812	115546	35245	23818	59063		2.65	Si
SLV 10	7.95	-4065.21	-7949	-4407	-20657	4.6702	4.6702	-6741	13848	9054	115546	35245	23818	59063		2.86	Si
SLV 9	4.4	-16017.71	-13760	-7630	-22504	4.6702	3.5131	-15619	15625	8717	115546	35245	23818	59063		2.62	Si
SLV 9	7.95	-3732.25	-7975	-4422	-20770	4.6702	4.6702	-6763	13853	9057	115546	35245	23818	59063		2.84	Si
SLD 5	4.4	-11516.93	-21260	-11788	-14826	4.6702	4.6702	-18029	16106	10530	115546	35245	23818	59063		3.98	Si
SLD 5	7.95	-3186.34	-13318	-7384	-13061	4.6702	4.6702	-11294	14759	9650	115546	35245	23818	59063		4.52	Si
SLV 7	4.4	8087.63	-41793	-23172	17002	4.6702	4.6702	-35441	16250	14934	115546	35245	23818	59063		3.47	Si
SLV 7	7.95	-134.31	-26981	-14960	18329	4.6702	4.6702	-22880	16250	11649	115546	35245	23818	59063		3.22	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-9726	0.38	263.25	625.55	1137.94	881.75	3.35	Si
SLV 10	-10028	0.38	263.25	643.23	1163.73	903.48	3.43	Si
SLV 5	-12712	0.38	263.25	795.46	1391.24	1093.35	4.15	Si
SLV 6	-13015	0.38	263.25	812.08	1416.79	1114.43	4.23	Si
SLV 13	-14391	0.38	263.25	886.4	1531.15	1208.78	4.59	Si
SLV 14	-14840	0.38	263.25	910.17	1568.06	1239.12	4.71	Si
SLV 15	-21439	0.38	263.25	1232.25	2110.52	1671.39	6.35	Si
SLV 16	-21888	0.38	263.25	1252.33	2146.57	1699.45	6.46	Si
SLV 1	-24346	0.38	263.25	1357.97	2343.5	1850.74	7.03	Si
SLV 2	-24795	0.38	263.25	1376.52	2379.54	1878.03	7.13	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-23839	-35865	-392	1.018	2753.9	0.964	15.34176	9.04822	Si
SLV 4	-23799	-36501	-392	1.019	2749.9	0.964	15.36552	9.04822	Si
SLV 7	-26981	-41793	-77	0.921	3073.7	0.968	13.82978	6.58815	Si
SLV 8	-26954	-42221	-77	0.922	3071	0.968	13.84257	6.58815	Si
SLV 1	-18830	-28244	-419	1.256	2244.5	0.957	19.06891	9.04822	Si
SLV 2	-18790	-28880	-419	1.258	2240.5	0.957	19.10582	9.04822	Si
SLV 11	-24671	-39164	167	0.995	2838.6	0.965	14.98541	6.58815	Si
SLV 12	-24645	-39592	167	0.996	2835.9	0.965	15.00041	6.58815	Si
SLV 15	-16139	-27101	420	1.438	1971.1	0.952	21.95955	9.04822	Si
SLV 16	-16100	-27737	420	1.441	1967.1	0.952	22.00835	9.04822	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.378	SLU 73	Si
V_SLU	11.857	SLU 44	Si
PF_SLV	2.627	SLV 9	Si
V_SLV	2.524	SLV 5	Si
PFFP_SLV	3.349	SLV 9	Si
R_SLV	1.696	SLV 3	Si

Maschio 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-19.618	6.661	L5	L6	0.71	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 64	4.4	365.25	-7834	-0.000091	0.0003743	0.0035	0.71	1704.68	2034.9	2034.9	5.57	No	Si
SLU 64	7.95	161.94	-5355	-0.0000534	0.0003743	0.0035	0.71	1398.09	1544.47	1544.47	9.54	No	Si
SLU 48	4.4	362.2	-7328	-0.0000859	0.0003743	0.0035	0.71	1659.54	1959.93	1959.93	5.41	No	Si
SLU 48	7.95	130.17	-5107	-0.000049	0.0003743	0.0035	0.71	1355.46	1494.31	1494.31	11.48	No	Si
SLU 50	4.4	358.79	-7237	-0.0000848	0.0003743	0.0035	0.71	1650.55	1942.95	1942.95	5.42	No	Si
SLU 50	7.95	127.69	-5028	-0.0000482	0.0003743	0.0035	0.71	1341.57	1478.65	1478.65	11.58	No	Si
SLU 43	4.4	338.59	-6845	-0.0000795	0.0003743	0.0035	0.71	1608.14	1858.57	1858.57	5.49	No	Si
SLU 43	7.95	103.19	-4495	-0.000042	0.0003743	0.0035	0.71	1241.24	1356.81	1356.81	13.15	No	Si
SLU 79	4.4	391.02	-8841	-0.0001031	0.0003743	0.0035	0.71	1767.62	2176.53	2176.53	5.57	No	Si
SLU 79	7.95	238.62	-6400	-0.0000681	0.0003743	0.0035	0.71	1553.56	1762.16	1762.16	7.38	No	Si
SLU 77	4.4	394.44	-8932	-0.0001043	0.0003743	0.0035	0.71	1771.53	2189.58	2189.58	5.55	No	Si
SLU 77	7.95	241.1	-6478	-0.000069	0.0003743	0.0035	0.71	1563.68	1778.99	1778.99	7.38	No	Si
SLU 45	4.4	352.1	-7131	-0.0000832	0.0003743	0.0035	0.71	1639.63	1921.6	1921.6	5.46	No	Si
SLU 45	7.95	117.92	-4840	-0.0000459	0.0003743	0.0035	0.71	1307.28	1441.27	1441.27	12.22	No	Si
SLU 71	4.4	385.45	-8227	-0.0000965	0.0003743	0.0035	0.71	1733.46	2089.58	2089.58	5.42	No	Si
SLU 71	7.95	186.43	-5889	-0.0000598	0.0003743	0.0035	0.71	1482.3	1654.22	1654.22	8.87	No	Si
SLU 66	4.4	378.76	-8121	-0.0000949	0.0003743	0.0035	0.71	1726.22	2074.88	2074.88	5.48	No	Si
SLU 66	7.95	176.67	-5700	-0.0000575	0.0003743	0.0035	0.71	1453.7	1615.17	1615.17	9.14	No	Si
SLU 69	4.4	388.86	-8317	-0.0000976	0.0003743	0.0035	0.71	1739.31	2102.17	2102.17	5.41	No	Si
SLU 69	7.95	188.91	-5967	-0.0000607	0.0003743	0.0035	0.71	1493.83	1670.58	1670.58	8.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	4.4	-1098.18	2384	0.5953494	0.0005615	0.0035	0.568		0	0	0		No
SLV 1	7.95	1852.32	-6707	-0.0004268	0.0005615	0.0035	0.71		2009.63	2009.63	1.08		Si
SLV 2	4.4	-872.14	904	0.2302429	0.0005615	0.0035	0.568		0	0	0		No
SLV 2	7.95	1499.5	-5904	-0.0002483	0.0005615	0.0035	0.71		1791.85	1791.85	1.19		Si
SLV 5	4.4	-1595.41	7882	1.9398165	0.0005615	0.0035	0.568		0	0	0		No
SLV 5	7.95	2213.33	-4044	-0.0396334	0.0005615	0.0035	0.568		1303.69	1303.69	0.59		No
SLD 6	4.4	-741.36	1604	0.4007229	0.0005615	0.0035	0.568		0	0	0		No
SLD 6	7.95	1221.83	-3775	-0.001333	0.0005615	0.0035	0.71		1235.32	1235.32	1.01		Si
SLD 10	4.4	-436.67	81	-0.0007612	0.0005615	0.0035	0.568		0	0	0		No
SLD 10	7.95	818.96	-2795	-0.0001808	0.0005615	0.0035	0.71		952.97	952.97	1.16		Si
SLV 10	4.4	-966.5	4500	1.1085722	0.0005615	0.0035	0.568		0	0	0		No
SLV 10	7.95	1343.54	-1973	-0.0305867	0.0005615	0.0035	0.568		695.07	695.07	0.52		No
SLD 5	4.4	-833.7	2209	0.5495302	0.0005615	0.0035	0.568		0	0	0		No
SLD 5	7.95	1365.98	-4103	-0.0055743	0.0005615	0.0035	0.71		1318.94	1318.94	0.97		No
SLD 9	4.4	-529.01	686	0.1734852	0.0005615	0.0035	0.568		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	7.95	963.1	-3123	-0.0002959	0.0005615	0.0035	0.71		1052.5	1052.5	1.09		Si
SLV 9	4.4	-1118.68	5497	1.3528884	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	7.95	1581.06	-2514	-0.0333684	0.0005615	0.0035	0.568		866.19	866.19	0.55		No
SLV 6	4.4	-1443.24	6886	1.6955075	0.0005615	0.0035	0.568		0	0	0		No
SLV 6	7.95	1975.8	-3503	-0.036806	0.0005615	0.0035	0.568		1162.13	1162.13	0.59		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	4.4	391.02	-8841	-7362	1316	0.71	0.71	-37033	10833	2601	40441	5953	1811	7763	No	5.9	Si
SLU 79	7.95	238.62	-6400	-5329	-978	0.71	0.71	-26807	10519	2091	40441	5953	1811	7763	No	7.93	Si
SLU 80	4.4	373.18	-8698	-7243	1273	0.71	0.71	-36432	10833	2569	40441	5953	1811	7763	No	6.1	Si
SLU 80	7.95	259.35	-6398	-5328	-1015	0.71	0.71	-26800	10518	2091	40441	5953	1811	7763	No	7.65	Si
SLU 69	4.4	388.86	-8317	-6926	1248	0.71	0.71	-34839	10833	2485	40441	5953	1811	7763	No	6.22	Si
SLU 69	7.95	188.91	-5967	-4969	-879	0.71	0.71	-24995	10277	2043	40441	5953	1811	7763	No	8.83	Si
SLU 83	4.4	383.32	-8908	-7418	1320	0.71	0.71	-37313	10833	2616	40441	5953	1811	7763	No	5.88	Si
SLU 83	7.95	248.74	-6352	-5289	-980	0.71	0.71	-26606	10492	2086	40441	5953	1811	7763	No	7.92	Si
SLU 78	4.4	376.6	-8788	-7318	1285	0.71	0.71	-36810	10833	2589	40441	5953	1811	7763	No	6.04	Si
SLU 78	7.95	261.84	-6477	-5393	-1024	0.71	0.71	-27129	10562	2100	40441	5953	1811	7763	No	7.58	Si
SLU 84	4.4	365.47	-8764	-7298	1277	0.71	0.71	-36712	10833	2584	40441	5953	1811	7763	No	6.08	Si
SLU 84	7.95	269.47	-6350	-5288	-1016	0.71	0.71	-26600	10491	2086	40441	5953	1811	7763	No	7.64	Si
SLU 75	4.4	366.5	-8592	-7154	1255	0.71	0.71	-35988	10833	2546	40441	5953	1811	7763	No	6.19	Si
SLU 75	7.95	249.59	-6210	-5171	-979	0.71	0.71	-26011	10413	2070	40441	5953	1811	7763	No	7.93	Si
SLU 81	4.4	373.22	-8712	-7254	1290	0.71	0.71	-36491	10833	2572	40441	5953	1811	7763	No	6.02	Si
SLU 81	7.95	236.5	-6085	-5067	-935	0.71	0.71	-25488	10343	2056	40441	5953	1811	7763	No	8.3	Si
SLU 74	4.4	384.34	-8735	-7274	1298	0.71	0.71	-36589	10833	2578	40441	5953	1811	7763	No	5.98	Si
SLU 74	7.95	228.86	-6211	-5172	-942	0.71	0.71	-26017	10413	2070	40441	5953	1811	7763	No	8.24	Si
SLU 77	4.4	394.44	-8932	-7437	1328	0.71	0.71	-37411	10833	2621	40441	5953	1811	7763	No	5.84	Si
SLU 77	7.95	241.1	-6478	-5394	-987	0.71	0.71	-27135	10562	2100	40441	5953	1811	7763	No	7.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	4.4	1651.57	-14353	-11952	3768	0.71	0.71	-60119	16250	4144	40441	8929	1811	10740		2.85	Si
SLV 16	7.95	-1599.18	-1445	-1203	2553	0.568	0	0	0	0	40441	7144	1448	8592		3.37	Si
SLV 12	4.4	2148.8	-19851	-16530	5174	0.71	0.71	-83150	16250	5365	40441	8929	1811	10740		2.08	Si
SLV 12	7.95	-1960.19	-4108	-3421	3336	0.568	0	0	0	0	40441	7144	1448	8592		2.58	Si
SLV 10	4.4	-966.5	4500	3748	-2140	0.568	0.4207	0	0	0	40441	7144	1448	8592		4.01	Si
SLV 10	7.95	1343.54	-1973	-1643	-2975	0.568	0	0	0	0	40441	7144	1448	8592		2.89	Si
SLV 6	4.4	-1443.24	6886	5734	-3062	0.568	0.4362	0	0	0	40441	7144	1448	8592		2.81	Si
SLV 6	7.95	1975.8	-3503	-2917	-4108	0.568	0	0	0	0	40441	7144	1448	8592		2.09	Si
SLV 5	4.4	-1595.41	7882	6564	-3382	0.568	0.4578	0	0	0	40441	7144	1448	8592		2.54	Si
SLV 5	7.95	2213.33	-4044	-3367	-4535	0.568	0	0	0	0	40441	7144	1448	8592		1.89	Si
SLV 7	4.4	1519.89	-16469	-13714	3932	0.71	0.71	-68985	16250	4614	40441	8929	1811	10740		2.73	Si
SLV 7	7.95	-1090.4	-6179	-5145	1777	0.71	0.5356	-34966	16250	2437	40441	8929	1811	10740		6.05	Si
SLV 8	4.4	1672.07	-17466	-14544	4252	0.71	0.71	-73159	16250	4835	40441	8929	1811	10740		2.53	Si
SLV 8	7.95	-1327.92	-5638	-4695	2203	0.568	0.3584	0	0	0	40441	7144	1448	8592		3.9	Si
SLV 11	4.4	1996.63	-18855	-15701	4854	0.71	0.71	-78977	16250	5144	40441	8929	1811	10740		2.21	Si
SLV 11	7.95	-1722.67	-4649	-3871	2910	0.568	0	0	0	0	40441	7144	1448	8592		2.95	Si
SLV 9	4.4	-1118.68	5497	4577	-2460	0.568	0.4545	0	0	0	40441	7144	1448	8592		3.49	Si
SLV 9	7.95	1581.06	-2514	-2094	-3402	0.568	0	0	0	0	40441	7144	1448	8592		2.53	Si
SLV 1	4.4	-1098.18	2384	1985	-1976	0.568	0	0	0	0	40441	7144	1448	8592		4.35	Si
SLV 1	7.95	1852.32	-6707	-5585	-3751	0.71	0.2365	-90600	16250	2446	40441	8929	1811	10740		2.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.38	0	572	73.55	0	0	No, Trazione
SLV 9	179667	0.38	0	587	73.55	0	0	No, Trazione
SLV 5	179667	0.38	0	744	73.55	0	0	No, Trazione
SLV 10	179667	0.38	0	415	73.55	0	0	No, Trazione
SLV 1	179667	0.38	12322	-2450	73.55	315.29	4.29	Si
SLV 2	179667	0.38	13607	-2705	73.55	344.96	4.69	Si
SLV 13	179667	0.38	14948	-2972	73.55	375.31	5.1	Si
SLV 14	179667	0.38	16232	-3227	73.55	403.75	5.49	Si
SLV 3	179667	0.38	27059	-5379	73.55	619.66	8.43	Si
SLV 4	179667	0.38	28343	-5635	73.55	642.44	8.73	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-7348	-4922	-217	0.515	847.5	0.965	7.75851	5.26967	Si
SLV 1	-6707	2384	-191	0.56	782.3	0.962	8.46014	5.26967	Si, Trazione
SLV 4	-6544	-6402	-216	0.568	765.7	0.961	8.59264	5.26967	Si
SLV 2	-5904	904	-190	0.624	700.6	0.958	9.46771	5.26967	Si, Trazione
SLV 7	-6179	-16469	-105	0.613	728.6	0.959	9.286	4.55335	Si
SLV 8	-5638	-17466	-104	0.663	673.6	0.956	10.06765	4.55335	Si
SLV 11	-4649	-18855	18	0.796	573.1	0.95	12.17345	4.55335	Si
SLV 12	-4108	-19851	18	0.882	518.2	0.945	13.55557	4.55335	Si
SLV 5	-4044	7882	-18	0.893	511.7	0.945	13.74262	4.55335	Si, Trazione
SLV 6	-3503	6886	-18	1.005	456.9	0.939	15.55348	4.55335	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.406	SLU 69	Si
V_SLU	5.844	SLU 77	Si
PF_SLV	0	SLD 5	No
V_SLV	1.895	SLV 5	Si
PFFP_SLV	0	SLV 10	No
R_SLV	1.472	SLV 3	Si

Maschio 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.263	-3.169	-17.313	-3.169	L5	L6	1.05	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	5.3	327.16	-8060	-0.0000533	0.0003743	0.0035	1.05	3092.05	3407.83	3407.83	10.42	No	Si
SLU 51	7.1	507.3	-6346	-0.0000491	0.0003743	0.0035	1.05	2625.41	2863.07	2863.07	5.64	No	Si
SLU 46	5.3	317.71	-8046	-0.000053	0.0003743	0.0035	1.05	3088.65	3403.38	3403.38	10.71	No	Si
SLU 46	7.1	509.47	-6367	-0.0000493	0.0003743	0.0035	1.05	2631.53	2870.65	2870.65	5.63	No	Si
SLU 48	5.3	329.37	-8127	-0.0000538	0.0003743	0.0035	1.05	3108.31	3429.26	3429.26	10.41	No	Si
SLU 48	7.1	510.47	-6416	-0.0000496	0.0003743	0.0035	1.05	2646.52	2889.01	2889.01	5.66	No	Si
SLU 44	5.3	306.84	-7820	-0.0000513	0.0003743	0.0035	1.05	3032.9	3332.04	3332.04	10.86	No	Si
SLU 44	7.1	494.51	-6176	-0.0000477	0.0003743	0.0035	1.05	2573.47	2791.97	2791.97	5.65	No	Si
SLU 47	5.3	316.25	-7959	-0.0000524	0.0003743	0.0035	1.05	3067.47	3375.93	3375.93	10.67	No	Si
SLU 47	7.1	503.6	-6279	-0.0000486	0.0003743	0.0035	1.05	2604.94	2835.27	2835.27	5.63	No	Si
SLU 50	5.3	329.42	-8002	-0.0000531	0.0003743	0.0035	1.05	3078	3389.53	3389.53	10.29	No	Si
SLU 50	7.1	499.22	-6294	-0.0000485	0.0003743	0.0035	1.05	2609.38	2841.43	2841.43	5.69	No	Si
SLU 70	5.3	391.98	-9267	-0.0000627	0.0003743	0.0035	1.05	3358.91	3797.83	3797.83	9.69	No	Si
SLU 70	7.1	569.99	-7479	-0.0000577	0.0003743	0.0035	1.05	2945.34	3225.46	3225.46	5.66	No	Si
SLU 49	5.3	327.12	-8185	-0.0000541	0.0003743	0.0035	1.05	3122.1	3447.64	3447.64	10.54	No	Si
SLU 49	7.1	518.55	-6469	-0.0000501	0.0003743	0.0035	1.05	2662.32	2908.08	2908.08	5.61	No	Si
SLU 67	5.3	382.56	-9128	-0.0000615	0.0003743	0.0035	1.05	3330.73	3751.99	3751.99	9.81	No	Si
SLU 67	7.1	560.9	-7376	-0.0000568	0.0003743	0.0035	1.05	2918.19	3193.66	3193.66	5.69	No	Si
SLU 45	5.3	319.96	-7988	-0.0000527	0.0003743	0.0035	1.05	3074.57	3385.09	3385.09	10.58	No	Si
SLU 45	7.1	501.38	-6314	-0.0000487	0.0003743	0.0035	1.05	2615.54	2849.98	2849.98	5.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	5.3	-3810.34	-1042	-0.0133196	0.0005615	0.0035	0.84		779.53	779.53	0.2		No
SLV 15	7.1	1951.22	-5914	-0.0001152	0.0005615	0.0035	1.05		2799.94	2799.94	1.43		Si
SLV 13	5.3	-4422.49	-3708	-0.0113517	0.0005615	0.0035	0.84		2061.61	2061.61	0.47		No
SLV 13	7.1	2561.12	-8801	-0.0001466	0.0005615	0.0035	1.05		3964.76	3964.76	1.55		Si
SLD 13	5.3	-2698.85	-4749	-0.0019012	0.0005615	0.0035	0.84		2530.62	2530.62	0.94		No
SLD 13	7.1	1765.2	-7514	-0.000097	0.0005615	0.0035	1.05		3437.63	3437.63	1.95		Si
SLV 8	5.3	2828.51	-3816	-0.0217887	0.0005615	0.0035	0.84		1944.28	1944.28	0.69		No
SLV 8	7.1	-1252.86	38	-0.0045102	0.0005615	0.0035	0.84		217.71	217.71	0.17		No
SLV 7	5.3	2265.42	-3363	-0.0143402	0.0005615	0.0035	0.84		1735	1735	0.77		No
SLV 7	7.1	-992.7	-328	-0.00201	0.0005615	0.0035	0.84		418.04	418.04	0.42		No
SLD 15	5.3	-2340.79	-3188	-0.0029793	0.0005615	0.0035	0.84		1818.72	1818.72	0.78		No
SLD 15	7.1	1408.05	-5823	-0.0000758	0.0005615	0.0035	1.05		2764.41	2764.41	1.96		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	5.3	5064.41	-9902	-0.0130739	0.0005615	0.0035	0.84		4380.37	4380.37	0.86		No
SLV 4	7.1	-1772.5	-2096	-0.0022658	0.0005615	0.0035	0.84		1299.1	1299.1	0.73		No
SLV 16	5.3	-2973.94	-1715	-0.0085788	0.0005615	0.0035	0.84		1113.97	1113.97	0.37		No
SLV 16	7.1	1564.78	-5369	-0.0000853	0.0005615	0.0035	1.05		2587.59	2587.59	1.65		Si
SLV 14	5.3	-3586.09	-4381	-0.0068787	0.0005615	0.0035	0.84		2366.5	2366.5	0.66		No
SLV 14	7.1	2174.68	-8257	-0.0001205	0.0005615	0.0035	1.05		3740.31	3740.31	1.72		Si
SLV 3	5.3	4228.01	-9229	-0.0055456	0.0005615	0.0035	1.05		4142.17	4142.17	0.98		No
SLV 3	7.1	-1386.06	-2640	-0.0003949	0.0005615	0.0035	0.84		1560.78	1560.78	1.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	5.3	394.23	-9209	-7669	80	1.05	1.05	-26084	10422	3064	40441	8804	2678	11481	No	143.25	Si
SLU 69	7.1	561.9	-7426	-6184	-566	1.05	1.05	-21033	9749	2866	40441	8804	2678	11481	No	20.27	Si
SLU 67	5.3	382.56	-9128	-7601	59	1.05	1.05	-25853	10391	3055	40441	8804	2678	11481	No	193.03	Si
SLU 67	7.1	560.9	-7376	-6142	-564	1.05	1.05	-20892	9730	2861	40441	8804	2678	11481	No	20.36	Si
SLU 70	5.3	391.98	-9267	-7717	77	1.05	1.05	-26247	10444	3071	40441	8804	2678	11481	No	149.64	Si
SLU 70	7.1	569.99	-7479	-6228	-577	1.05	1.05	-21183	9769	2872	40441	8804	2678	11481	No	19.89	Si
SLU 48	5.3	329.37	-8127	-6768	73	1.05	1.05	-23020	10014	2944	40441	8804	2678	11481	No	157.5	Si
SLU 48	7.1	510.47	-6416	-5343	-558	1.05	1.05	-18174	9368	2754	40441	8804	2678	11481	No	20.58	Si
SLU 71	5.3	394.28	-9084	-7564	86	1.05	1.05	-25729	10375	3050	40441	8804	2678	11481	No	132.78	Si
SLU 71	7.1	550.65	-7303	-6081	-553	1.05	1.05	-20685	9702	2853	40441	8804	2678	11481	No	20.75	Si
SLU 72	5.3	392.02	-9142	-7612	83	1.05	1.05	-25893	10397	3057	40441	8804	2678	11481	No	138.25	Si
SLU 72	7.1	558.74	-7356	-6125	-564	1.05	1.05	-20834	9722	2858	40441	8804	2678	11481	No	20.35	Si
SLU 68	5.3	381.11	-9041	-7529	64	1.05	1.05	-25607	10359	3045	40441	8804	2678	11481	No	180.76	Si
SLU 68	7.1	555.04	-7288	-6069	-558	1.05	1.05	-20643	9697	2851	40441	8804	2678	11481	No	20.57	Si
SLU 51	5.3	327.16	-8060	-6712	76	1.05	1.05	-22829	9988	2937	40441	8804	2678	11481	No	151.48	Si
SLU 51	7.1	507.3	-6346	-5285	-556	1.05	1.05	-17975	9341	2746	40441	8804	2678	11481	No	20.66	Si
SLU 49	5.3	327.12	-8185	-6816	69	1.05	1.05	-23183	10036	2950	40441	8804	2678	11481	No	165.26	Si
SLU 49	7.1	518.55	-6469	-5387	-569	1.05	1.05	-18323	9388	2760	40441	8804	2678	11481	No	20.18	Si
SLU 46	5.3	317.71	-8046	-6700	52	1.05	1.05	-22789	9983	2935	40441	8804	2678	11481	No	219.83	Si
SLU 46	7.1	509.47	-6367	-5302	-556	1.05	1.05	-18033	9349	2749	40441	8804	2678	11481	No	20.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	5.3	4228.01	-9229	-7685	5886	1.05	0.2006	-174302	16250	3465	40441	13206	2678	15883		2.7	Si
SLV 3	7.1	-1386.06	-2640	-2198	2385	0.84	0	0	0	0	40441	10564	2142	12706		5.33	Si
SLV 16	5.3	-2973.94	-1715	-1428	-4904	0.84	0	0	0	0	40441	10564	2142	12706		2.59	Si
SLV 16	7.1	1564.78	-5369	-4471	-2203	1.05	0.7007	-15208	13458	2641	40441	13206	2678	15883		7.21	Si
SLV 4	5.3	5064.41	-9902	-8245	7142	0.84	0.0406	0	0	0	40441	10564	2142	12706		1.78	Si
SLV 4	7.1	-1772.5	-2096	-1745	3061	0.84	0	0	0	0	40441	10564	2142	12706		4.15	Si
SLV 15	5.3	-3810.34	-1042	-868	-6160	0.84	0	0	0	0	40441	10564	2142	12706		2.06	Si
SLV 15	7.1	1951.22	-5914	-4924	-2878	1.05	0.5851	-16749	13767	2728	40441	13206	2678	15883		5.52	Si
SLD 15	5.3	-2340.79	-3188	-2654	-3934	0.84	0	0	0	0	40441	10564	2142	12706		3.23	Si
SLD 15	7.1	1408.05	-5823	-4849	-2001	1.05	0.8496	-16493	13715	3263	40441	13206	2678	15883		7.94	Si
SLD 13	5.3	-2698.85	-4749	-3954	-4406	0.84	0	0	0	0	40441	10564	2142	12706		2.88	Si
SLD 13	7.1	1765.2	-7514	-6257	-2543	1.05	0.8702	-21282	14673	3575	40441	13206	2678	15883		6.25	Si
SLV 13	5.3	-4422.49	-3708	-3088	-6966	0.84	0	0	0	0	40441	10564	2142	12706		1.82	Si
SLV 13	7.1	2561.12	-8801	-7329	-3804	1.05	0.702	-24928	15402	3370	40441	13206	2678	15883		4.18	Si
SLV 1	5.3	3615.86	-11895	-9905	5080	1.05	0.663	-33690	16250	4057	40441	13206	2678	15883		3.13	Si
SLV 1	7.1	-776.16	-5528	-4603	1460	1.05	1.05	-15656	13548	3983	40441	13206	2678	15883		10.88	Si
SLV 14	5.3	-3586.09	-4381	-3648	-5711	0.84	0	0	0	0	40441	10564	2142	12706		2.23	Si
SLV 14	7.1	2174.68	-8257	-6876	-3129	1.05	0.7849	-23386	15094	3317	40441	13206	2678	15883		5.08	Si
SLV 2	5.3	4452.26	-12568	-10465	6336	1.05	0.5122	-35596	16250	4206	40441	13206	2678	15883		2.51	Si
SLV 2	7.1	-1162.6	-4983	-4150	2135	1.05	0.8751	-17077	13832	3389	40441	13206	2678	15883		7.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	0	-462	108.77	0	0	No, e>t/2
SLV 15	179667	0.38	0	-613	108.77	0	0	No, e>t/2
SLV 12	179667	0.38	3112	-915	108.77	125.46	1.15	Si
SLV 16	179667	0.38	4375	-1286	108.77	174.93	1.61	Si
SLV 7	179667	0.38	9934	-2921	108.77	382.29	3.51	Si
SLV 13	179667	0.38	11212	-3296	108.77	427.62	3.93	Si
SLV 8	179667	0.38	11475	-3374	108.77	436.82	4.02	Si
SLV 14	179667	0.38	13501	-3969	108.77	506.59	4.66	Si
SLV 3	179667	0.38	29965	-8810	108.77	991.35	9.11	Si
SLV 9	179667	0.38	31991	-9405	108.77	1040.92	9.57	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-7453	-10213	-90	0.736	906.2	0.953	11.22639	5.26967	Si
SLV 9	-8420	-12537	-237	0.648	1004.5	0.957	9.84541	4.55335	Si
SLV 10	-8132	-12112	-237	0.668	975.2	0.956	10.15178	4.55335	Si
SLV 14	-7025	-9582	-90	0.773	862.7	0.951	11.82403	5.26967	Si
SLV 5	-7549	-11236	-226	0.712	916	0.953	10.85634	4.55335	Si
SLV 6	-7261	-10811	-226	0.736	886.7	0.952	11.23319	4.55335	Si
SLV 15	-5692	-6833	47	0.927	727.5	0.943	14.29584	5.26967	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-5264	-6202	47	0.988	684.2	0.94	15.28885	5.26967	Si
SLV 1	-4549	-5878	-53	1.111	611.8	0.934	17.29413	5.26967	Si
SLV 2	-4121	-5247	-53	1.202	568.6	0.93	18.78722	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.608	SLU 49	Si
V_SLU	19.886	SLU 70	Si
PF_SLV	0.174	SLV 8	No
V_SLV	1.779	SLV 4	Si
PFFP_SLV	0	SLV 11	No
R_SLV	2.13	SLV 13	Si

Maschio 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L5	L6	3.211	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	4.4	4158.84	-16961	-0.0000701	0.0004492	0.0035	3.2107	18820.09	24220.9	24220.9	5.82	No	Si
SLU 50	6.5	-325.4	-13018	-0.0000376	0.0004492	0.0035	3.2107	15944.67	24289.37	24289.37	74.64	No	Si
SLU 66	4.4	4616.29	-19294	-0.0000799	0.0004492	0.0035	3.2107	20093.02	26895.03	26895.03	5.83	No	Si
SLU 66	6.5	-280.68	-14973	-0.000043	0.0004492	0.0035	3.2107	17484	26718.9	26718.9	95.19	No	Si
SLU 48	4.4	4200.72	-17170	-0.000071	0.0004492	0.0035	3.2107	18946.83	24459.94	24459.94	5.82	No	Si
SLU 48	6.5	-333.76	-13225	-0.0000383	0.0004492	0.0035	3.2107	16118.57	24547.1	24547.1	73.55	No	Si
SLU 43	4.4	4038.65	-16411	-0.0000678	0.0004492	0.0035	3.2107	18473.39	23590.01	23590.01	5.84	No	Si
SLU 43	6.5	-471.88	-12453	-0.0000368	0.0004492	0.0035	3.2107	15459.05	23559.01	23559.01	49.93	No	Si
SLU 79	4.4	4933.32	-21240	-0.0000878	0.0004492	0.0035	3.2107	20911.39	29125.55	29125.55	5.9	No	Si
SLU 79	6.5	-63.42	-16655	-0.0000467	0.0004492	0.0035	3.2107	18629.47	28785.97	28785.97	453.92	No	Si
SLU 77	4.4	4975.2	-21449	-0.0000887	0.0004492	0.0035	3.2107	20985.96	29364.59	29364.59	5.9	No	Si
SLU 77	6.5	-71.77	-16863	-0.0000474	0.0004492	0.0035	3.2107	18759.25	29028.45	29028.45	404.44	No	Si
SLU 71	4.4	4634.51	-19361	-0.0000802	0.0004492	0.0035	3.2107	20124.71	26971.43	26971.43	5.82	No	Si
SLU 71	6.5	-199.08	-15048	-0.0000428	0.0004492	0.0035	3.2107	17538.32	26811.62	26811.62	134.67	No	Si
SLU 69	4.4	4676.39	-19570	-0.0000811	0.0004492	0.0035	3.2107	20222.19	27210.47	27210.47	5.82	No	Si
SLU 69	6.5	-207.44	-15255	-0.0000434	0.0004492	0.0035	3.2107	17687.6	27069.35	27069.35	130.49	No	Si
SLU 45	4.4	4140.63	-16895	-0.0000698	0.0004492	0.0035	3.2107	18779.05	24144.5	24144.5	5.83	No	Si
SLU 45	6.5	-406.99	-12943	-0.0000378	0.0004492	0.0035	3.2107	15881.5	24196.65	24196.65	59.45	No	Si
SLU 64	4.4	4514.32	-18811	-0.0000778	0.0004492	0.0035	3.2107	19855.22	26340.54	26340.54	5.83	No	Si
SLU 64	6.5	-345.56	-14484	-0.0000419	0.0004492	0.0035	3.2107	17119.64	26110.72	26110.72	75.56	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	4.4	7559.56	-11378	-0.0000717	0.0006738	0.0035	3.2107		17855.17	17855.17	2.36		Si
SLD 11	6.5	-2828.56	-5867	-0.0000302	0.0006738	0.0035	3.2107		14707.77	14707.77	5.2		Si
SLD 12	4.4	7526.65	-11315	-0.0000714	0.0006738	0.0035	3.2107		17768.64	17768.64	2.36		Si
SLD 12	6.5	-2937.71	-5883	-0.0000308	0.0006738	0.0035	3.2107		14732.58	14732.58	5.01		Si
SLV 8	4.4	9707.8	-10482	-0.0000926	0.0006738	0.0035	3.2107		16608.74	16608.74	1.71		Si
SLV 8	6.5	-4974.95	-4233	-0.000057	0.0006738	0.0035	2.5686		12302.21	12302.21	2.47		Si
SLV 7	4.4	9762.02	-10586	-0.000093	0.0006738	0.0035	3.2107		16753.01	16753.01	1.72		Si
SLV 7	6.5	-4795.08	-4205	-0.0000524	0.0006738	0.0035	2.5686		12260.8	12260.8	2.56		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	4.4	7131.9	-12230	-0.0000709	0.0006738	0.0035	3.2107		19021.6	19021.6	2.67		Si
SLD 7	6.5	-2915.94	-7133	-0.0000342	0.0006738	0.0035	3.2107		16516.47	16516.47	5.66		Si
SLV 15	4.4	6603.16	-10922	-0.0000645	0.0006738	0.0035	3.2107		17221.58	17221.58	2.61		Si
SLV 15	6.5	-1265.77	-5446	-0.0000211	0.0006738	0.0035	3.2107		14091.14	14091.14	11.13		Si
SLV 12	4.4	10382.14	-9133	-0.0001186	0.0006738	0.0035	3.2107		14711.66	14711.66	1.42		Si
SLV 12	6.5	-4840.35	-2247	-0.0002037	0.0006738	0.0035	2.5686		9330.21	9330.21	1.93		Si
SLD 8	4.4	7099	-12167	-0.0000706	0.0006738	0.0035	3.2107		18935.54	18935.54	2.67		Si
SLD 8	6.5	-3025.09	-7150	-0.0000348	0.0006738	0.0035	3.2107		16540.53	16540.53	5.47		Si
SLV 11	4.4	10436.36	-9237	-0.0001182	0.0006738	0.0035	3.2107		14858.38	14858.38	1.42		Si
SLV 11	6.5	-4660.49	-2219	-0.0001912	0.0006738	0.0035	2.5686		9287.91	9287.91	1.99		Si
SLV 16	4.4	6522.62	-10768	-0.0000636	0.0006738	0.0035	3.2107		17007.28	17007.28	2.61		Si
SLV 16	6.5	-1532.94	-5487	-0.0000226	0.0006738	0.0035	3.2107		14151.87	14151.87	9.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	4.4	4915.1	-21174	-11740	4027	3.2107	3.2107	-26118	10833	6595	115546	16154	16375	32528	No	8.08	Si
SLU 74	6.5	-145.01	-16581	-9193	4032	3.2107	3.2107	-20452	10833	5674	115546	16154	16375	32528	No	8.07	Si
SLU 81	4.4	4941.19	-21495	-11918	4136	3.2107	3.2107	-26515	10833	6660	115546	16154	16375	32528	No	7.86	Si
SLU 81	6.5	-151.75	-16780	-9304	4141	3.2107	3.2107	-20699	10833	5714	115546	16154	16375	32528	No	7.85	Si
SLU 75	4.4	4801.58	-21219	-11765	3849	3.2107	3.2107	-26173	10833	6604	115546	16154	16375	32528	No	8.45	Si
SLU 75	6.5	-65.17	-16700	-9259	3926	3.2107	3.2107	-20599	10833	5698	115546	16154	16375	32528	No	8.28	Si
SLU 80	4.4	4819.8	-21285	-11802	3813	3.2107	3.2107	-26255	10833	6618	115546	16154	16375	32528	No	8.53	Si
SLU 80	6.5	16.43	-16774	-9301	3890	3.2107	3.2107	-20691	10833	5713	115546	16154	16375	32528	No	8.36	Si
SLU 83	4.4	5001.28	-21771	-12071	4124	3.2107	3.2107	-26854	10833	6715	115546	16154	16375	32528	No	7.89	Si
SLU 83	6.5	-78.51	-17062	-9460	4130	3.2107	3.2107	-21046	10833	5771	115546	16154	16375	32528	No	7.88	Si
SLU 78	4.4	4861.68	-21494	-11917	3838	3.2107	3.2107	-26513	10833	6660	115546	16154	16375	32528	No	8.48	Si
SLU 78	6.5	8.07	-16982	-9416	3915	3.2107	3.2107	-20947	10833	5755	115546	16154	16375	32528	No	8.31	Si
SLU 79	4.4	4933.32	-21240	-11777	3991	3.2107	3.2107	-26200	10833	6609	115546	16154	16375	32528	No	8.15	Si
SLU 79	6.5	-63.42	-16655	-9235	3996	3.2107	3.2107	-20544	10833	5689	115546	16154	16375	32528	No	8.14	Si
SLU 77	4.4	4975.2	-21449	-11893	4015	3.2107	3.2107	-26457	10833	6651	115546	16154	16375	32528	No	8.1	Si
SLU 77	6.5	-71.77	-16863	-9350	4021	3.2107	3.2107	-20800	10833	5731	115546	16154	16375	32528	No	8.09	Si
SLU 84	4.4	4887.76	-21815	-12096	3947	3.2107	3.2107	-26909	10833	6724	115546	16154	16375	32528	No	8.24	Si
SLU 84	6.5	1.33	-17181	-9526	4024	3.2107	3.2107	-21193	10833	5795	115546	16154	16375	32528	No	8.08	Si
SLU 82	4.4	4827.66	-21540	-11943	3958	3.2107	3.2107	-26570	10833	6669	115546	16154	16375	32528	No	8.22	Si
SLU 82	6.5	-71.91	-16899	-9370	4035	3.2107	3.2107	-20845	10833	5738	115546	16154	16375	32528	No	8.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	4.4	7099	-12167	-6746	7310	3.2107	3.0657	-15009	15502	6653	115546	24231	16375	40605		5.56	Si
SLD 8	6.5	-3025.09	-7150	-3964	7027	3.2107	3.2107	-8820	14264	6412	115546	24231	16375	40605		5.78	Si
SLV 7	4.4	9762.02	-10586	-5869	10521	3.2107	2.0495	-13058	15112	5646	115546	24231	16375	40605		3.86	Si
SLV 7	6.5	-4795.08	-4205	-2331	10035	2.5686	1.3949	0	0	0	115546	19385	13100	32484		3.24	Si
SLV 11	4.4	10436.36	-9237	-5121	11332	3.2107	1.4265	-11394	14779	5375	115546	24231	16375	40605		3.58	Si
SLV 11	6.5	-4660.49	-2219	-1231	10835	2.5686	0	0	0	0	115546	19385	13100	32484		3	Si
SLD 7	4.4	7131.9	-12230	-6781	7334	3.2107	3.0666	-15086	15517	6662	115546	24231	16375	40605		5.54	Si
SLD 7	6.5	-2915.94	-7133	-3955	7052	3.2107	3.2107	-8799	14260	6410	115546	24231	16375	40605		5.76	Si
SLD 12	4.4	7526.65	-11315	-6274	7825	3.2107	2.8205	-13957	15291	6038	115546	24231	16375	40605		5.19	Si
SLD 12	6.5	-2937.71	-5883	-3262	7538	3.2107	3.2107	-7257	13951	6271	115546	24231	16375	40605		5.39	Si
SLV 12	4.4	10382.14	-9133	-5064	11292	3.2107	1.4058	-11266	14753	5355	115546	24231	16375	40605		3.6	Si
SLV 12	6.5	-4840.35	-2247	-1246	10794	2.5686	0	0	0	0	115546	19385	13100	32484		3.01	Si
SLV 16	4.4	6522.62	-10768	-5971	6607	3.2107	2.9989	-13283	15157	6363	115546	24231	16375	40605		6.15	Si
SLV 16	6.5	-1532.94	-5487	-3043	6443	3.2107	3.2107	-6769	13854	6227	115546	24231	16375	40605		6.3	Si
SLV 15	4.4	6603.16	-10922	-6056	6667	3.2107	3.0024	-13473	15195	6387	115546	24231	16375	40605		6.09	Si
SLV 15	6.5	-1265.77	-5446	-3020	6504	3.2107	3.2107	-6718	13844	6223	115546	24231	16375	40605		6.24	Si
SLD 11	4.4	7559.56	-11378	-6309	7850	3.2107	2.8228	-14035	15307	6049	115546	24231	16375	40605		5.17	Si
SLD 11	6.5	-2828.56	-5867	-3253	7563	3.2107	3.2107	-7236	13947	6269	115546	24231	16375	40605		5.37	Si
SLV 8	4.4	9707.8	-10482	-5812	10481	3.2107	2.0376	-12930	15086	5625	115546	24231	16375	40605		3.87	Si
SLV 8	6.5	-4974.95	-4233	-2347	9995	2.5686	1.29	0	0	0	115546	19385	13100	32484		3.25	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-3315	0.38	180.98	222.7	492.73	357.71	1.98	Si
SLV 11	-3319	0.38	180.98	222.97	493.1	358.03	1.98	Si
SLV 8	-5171	0.38	180.98	339.27	654.15	496.71	2.74	Si
SLV 7	-5175	0.38	180.98	339.52	654.51	497.02	2.75	Si
SLV 16	-6423	0.38	180.98	414.58	761.68	588.13	3.25	Si
SLV 15	-6430	0.38	180.98	414.94	762.21	588.58	3.25	Si
SLV 14	-10945	0.38	180.98	664.38	1144.42	904.4	5	Si
SLV 13	-10952	0.38	180.98	664.7	1144.94	904.82	5	Si
SLV 4	-12612	0.38	180.98	747.68	1281.84	1014.76	5.61	Si
SLV 3	-12618	0.38	180.98	747.98	1282.35	1015.17	5.61	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-11571	-18190	-291	1.386	1403.4	0.953	21.13231	9.04822	Si
SLV 2	-11561	-18036	-291	1.387	1402.4	0.953	21.14907	9.04822	Si
SLV 3	-9530	-15418	-255	1.644	1196.2	0.946	25.24611	9.04822	Si
SLV 4	-9520	-15265	-255	1.645	1195.2	0.946	25.27001	9.04822	Si
SLV 5	-12649	-19825	-142	1.292	1512.9	0.956	19.63691	6.58815	Si
SLV 6	-12642	-19722	-142	1.293	1512.3	0.956	19.64656	6.58815	Si
SLV 9	-11533	-18477	22	1.411	1399.6	0.953	21.51234	6.58815	Si
SLV 10	-11527	-18373	22	1.411	1398.9	0.953	21.52379	6.58815	Si
SLV 13	-7852	-13694	255	1.937	1026.1	0.939	29.9897	9.04822	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-7842	-13540	255	1.939	1025.1	0.939	30.02327	9.04822	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.819	SLU 69	Si
V_SLU	7.854	SLU 81	Si
PF_SLV	1.417	SLV 12	Si
V_SLV	2.998	SLV 11	Si
PFFP_SLV	1.977	SLV 12	Si
R_SLV	2.336	SLV 1	Si

Maschio 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.363	-3.169	L5	L6	1.61	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	4.4	-943.33	-7772	-0.0000385	0.0003743	0.0035	1.61	5196.99	6145.68	6145.68	6.51	No	Si
SLU 73	6.5	2083.71	-14136	-0.0000787	0.0003743	0.0035	1.61	7874.58	8885.99	8885.99	4.26	No	Si
SLU 84	4.4	-990.51	-8075	-0.0000403	0.0003743	0.0035	1.61	5356.56	6331.84	6331.84	6.39	No	Si
SLU 84	6.5	2155.05	-14875	-0.0000828	0.0003743	0.0035	1.61	8093.45	9260.92	9260.92	4.3	No	Si
SLU 75	4.4	-939.27	-8017	-0.0000394	0.0003743	0.0035	1.61	5326.31	6296.11	6296.11	6.7	No	Si
SLU 75	6.5	2103.96	-14501	-0.0000805	0.0003743	0.0035	1.61	7985	9070.24	9070.24	4.31	No	Si
SLU 83	4.4	-991.21	-8001	-0.00004	0.0003743	0.0035	1.61	5317.84	6286.14	6286.14	6.34	No	Si
SLU 83	6.5	2150.32	-14817	-0.0000824	0.0003743	0.0035	1.61	8077.15	9231.59	9231.59	4.29	No	Si
SLU 74	4.4	-939.97	-7943	-0.0000391	0.0003743	0.0035	1.61	5287.44	6250.5	6250.5	6.65	No	Si
SLU 74	6.5	2099.24	-14443	-0.0000802	0.0003743	0.0035	1.61	7967.95	9041.16	9041.16	4.31	No	Si
SLU 39	4.4	-935.06	-6409	-0.0000335	0.0003743	0.0035	1.61	4438.86	5290.2	5290.2	5.66	No	Si
SLU 39	6.5	1888.95	-12510	-0.0000693	0.0003743	0.0035	1.61	7325.64	8081.96	8081.96	4.28	No	Si
SLU 31	4.4	-874.1	-6366	-0.0000326	0.0003743	0.0035	1.61	4413.68	5262.55	5262.55	6.02	No	Si
SLU 31	6.5	1818.25	-12058	-0.0000665	0.0003743	0.0035	1.61	7156.47	7863.4	7863.4	4.32	No	Si
SLU 82	4.4	-1003.6	-7889	-0.0000398	0.0003743	0.0035	1.61	5259.24	6217.63	6217.63	6.2	No	Si
SLU 82	6.5	2159.15	-14645	-0.0000819	0.0003743	0.0035	1.61	8027.55	9143.82	9143.82	4.23	No	Si
SLU 81	4.4	-1004.29	-7815	-0.0000395	0.0003743	0.0035	1.61	5220.04	6172.22	6172.22	6.15	No	Si
SLU 81	6.5	2154.42	-14588	-0.0000816	0.0003743	0.0035	1.61	8010.78	9114.65	9114.65	4.23	No	Si
SLU 40	4.4	-934.37	-6483	-0.0000338	0.0003743	0.0035	1.61	4481.72	5337.51	5337.51	5.71	No	Si
SLU 40	6.5	1893.68	-12567	-0.0000696	0.0003743	0.0035	1.61	7346.58	8109.85	8109.85	4.28	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	4.4	-2562.87	-2927	-0.0003916	0.0005615	0.0035	1.288		2935.09	2935.09	1.15		Si
SLD 15	6.5	4487.88	-11636	-0.0001046	0.0005615	0.0035	1.61		8141.8	8141.8	1.81		Si
SLV 7	4.4	328.52	1377	0	0.0005615	0.0035	1.288		0	0	0		No
SLV 7	6.5	-470.14	-1744	-0.0000114	0.0005615	0.0035	1.61		2039.09	2039.09	4.34		Si
SLV 4	4.4	2601.11	-5456	-0.0000605	0.0005615	0.0035	1.61		4272.7	4272.7	1.64		Si
SLV 4	6.5	-3832.68	-2861	-0.0017065	0.0005615	0.0035	1.288		2886.19	2886.19	0.75		No
SLV 12	4.4	-1014.98	2326	0.2444544	0.0005615	0.0035	1.288		0	0	0		No
SLV 12	6.5	1643.87	-3684	-0.0000367	0.0005615	0.0035	1.61		2988.86	2988.86	1.82		Si
SLD 11	4.4	-1113.16	-795	-0.0003439	0.0005615	0.0035	1.288		1306.55	1306.55	1.17		Si
SLD 11	6.5	1998.38	-6684	-0.0000476	0.0005615	0.0035	1.61		5131.7	5131.7	2.57		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	4.4	697.91	1158	0.1113135	0.0005615	0.0035	1.288		0	0	0		No
SLV 8	6.5	-1087.65	-1089	-0.0002126	0.0005615	0.0035	1.288		1535.07	1535.07	1.41		Si
SLV 16	4.4	-3108.53	-1564	-0.0017589	0.0005615	0.0035	1.288		1901.38	1901.38	0.61		No
SLV 16	6.5	5272.39	-11510	-0.0001273	0.0005615	0.0035	1.61		8063.67	8063.67	1.53		Si
SLV 11	4.4	-1384.37	2545	0.2685307	0.0005615	0.0035	1.288		0	0	0		No
SLV 11	6.5	2261.38	-4339	-0.0000555	0.0005615	0.0035	1.61		3468.75	3468.75	1.53		Si
SLV 3	4.4	2052.42	-5131	-0.0000456	0.0005615	0.0035	1.61		4040.48	4040.48	1.97		Si
SLV 3	6.5	-2915.43	-3834	-0.0002287	0.0005615	0.0035	1.288		3601.63	3601.63	1.24		Si
SLV 15	4.4	-3657.22	-1239	-0.0029102	0.0005615	0.0035	1.288		1650.69	1650.69	0.45		No
SLV 15	6.5	6189.64	-12482	-0.000159	0.0005615	0.0035	1.61		8670.01	8670.01	1.4		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	4.4	-926.19	-8202	-6830	-4643	1.61	1.61	-15151	8965	4041	40441	13499	4106	17605	No	3.79	Si
SLU 78	6.5	2099.87	-14730	-12266	-5541	1.61	1.61	-27209	10572	4766	40441	13499	4106	17605	No	3.18	Si
SLU 84	4.4	-990.51	-8075	-6724	-4800	1.61	1.61	-14915	8933	4027	40441	13499	4106	17605	No	3.67	Si
SLU 84	6.5	2155.05	-14875	-12386	-5706	1.61	1.61	-27476	10608	4782	40441	13499	4106	17605	No	3.09	Si
SLU 77	4.4	-926.88	-8128	-6768	-4648	1.61	1.61	-15014	8946	4033	40441	13499	4106	17605	No	3.79	Si
SLU 77	6.5	2095.14	-14673	-12218	-5545	1.61	1.61	-27103	10558	4760	40441	13499	4106	17605	No	3.17	Si
SLU 83	4.4	-991.21	-8001	-6662	-4805	1.61	1.61	-14779	8915	4019	40441	13499	4106	17605	No	3.66	Si
SLU 83	6.5	2150.32	-14817	-12339	-5709	1.61	1.61	-27371	10594	4776	40441	13499	4106	17605	No	3.08	Si
SLU 75	4.4	-939.27	-8017	-6676	-4634	1.61	1.61	-14809	8919	4021	40441	13499	4106	17605	No	3.8	Si
SLU 75	6.5	2103.96	-14501	-12075	-5533	1.61	1.61	-26785	10516	4741	40441	13499	4106	17605	No	3.18	Si
SLU 80	4.4	-917.62	-8093	-6739	-4603	1.61	1.61	-14950	8938	4029	40441	13499	4106	17605	No	3.82	Si
SLU 80	6.5	2072.37	-14556	-12121	-5490	1.61	1.61	-26888	10530	4747	40441	13499	4106	17605	No	3.21	Si
SLU 82	4.4	-1003.6	-7889	-6570	-4792	1.61	1.61	-14573	8888	4007	40441	13499	4106	17605	No	3.67	Si
SLU 82	6.5	2159.15	-14645	-12195	-5697	1.61	1.61	-27053	10551	4757	40441	13499	4106	17605	No	3.09	Si
SLU 79	4.4	-918.32	-8019	-6678	-4607	1.61	1.61	-14813	8920	4021	40441	13499	4106	17605	No	3.82	Si
SLU 79	6.5	2067.64	-14499	-12074	-5494	1.61	1.61	-26782	10515	4740	40441	13499	4106	17605	No	3.2	Si
SLU 81	4.4	-1004.29	-7815	-6508	-4796	1.61	1.61	-14436	8869	3998	40441	13499	4106	17605	No	3.67	Si
SLU 81	6.5	2154.42	-14588	-12148	-5701	1.61	1.61	-26947	10537	4750	40441	13499	4106	17605	No	3.09	Si
SLU 74	4.4	-939.97	-7943	-6614	-4639	1.61	1.61	-14672	8901	4012	40441	13499	4106	17605	No	3.8	Si
SLU 74	6.5	2099.24	-14443	-12027	-5537	1.61	1.61	-26679	10502	4734	40441	13499	4106	17605	No	3.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	4.4	-2562.87	-2927	-2437	-7461	1.288	0	0	0	0	40441	16199	3284	19483		2.61	Si
SLD 15	6.5	4487.88	-11636	-9689	-7264	1.61	1.2579	-21493	14715	5183	40441	20248	4106	24354		3.35	Si
SLV 9	4.4	-1912.45	-12310	-10251	-5959	1.61	1.61	-22739	14964	6746	40441	20248	4106	24354		4.09	Si
SLV 9	6.5	3951.7	-18504	-15409	-5790	1.61	1.61	-34181	16250	7326	40441	20248	4106	24354		4.21	Si
SLV 11	4.4	-1384.37	2545	2119	-4898	1.288	0.7831	0	0	0	40441	16199	3284	19483		3.98	Si
SLV 11	6.5	2261.38	-4339	-3613	-5516	1.61	0.8513	-8014	12019	3134	40441	20248	4106	24354		4.42	Si
SLV 13	4.4	-3815.64	-5695	-4743	-10197	1.288	0.4052	0	0	0	40441	16199	3284	19483		1.91	Si
SLV 13	6.5	6696.73	-16732	-13933	-9317	1.61	1.2143	-30907	16250	5885	40441	20248	4106	24354		2.61	Si
SLV 15	4.4	-3657.22	-1239	-1032	-9878	1.288	0	0	0	0	40441	16199	3284	19483		1.97	Si
SLV 15	6.5	6189.64	-12482	-10394	-9235	1.61	0.9274	-23057	15028	4942	40441	20248	4106	24354		2.64	Si
SLD 14	4.4	-2307.51	-5738	-4778	-6891	1.61	1.2085	-14215	13260	4487	40441	20248	4106	24354		3.53	Si
SLD 14	6.5	4202.99	-13505	-11246	-6548	1.61	1.4813	-24946	15406	6390	40441	20248	4106	24354		3.72	Si
SLV 14	4.4	-3266.95	-6021	-5013	-9005	1.288	0.7871	0	0	0	40441	16199	3284	19483		2.16	Si
SLV 14	6.5	5779.48	-15760	-13123	-8112	1.61	1.3148	-29111	16239	5978	40441	20248	4106	24354		3	Si
SLD 16	4.4	-2214.78	-3133	-2609	-6704	1.288	0.2944	0	0	0	40441	16199	3284	19483		2.91	Si
SLD 16	6.5	3905.97	-11019	-9175	-6499	1.61	1.3516	-20354	14487	5483	40441	20248	4106	24354		3.75	Si
SLD 13	4.4	-2655.61	-5532	-4606	-7647	1.288	0.9748	0	0	0	40441	16199	3284	19483		2.55	Si
SLD 13	6.5	4784.91	-14122	-11759	-7313	1.61	1.3985	-26086	15634	6122	40441	20248	4106	24354		3.33	Si
SLV 16	4.4	-3108.53	-1564	-1302	-8686	1.288	0	0	0	0	40441	16199	3284	19483		2.24	Si
SLV 16	6.5	5272.39	-11510	-9584	-8030	1.61	1.0408	-21261	14669	4726	40441	20248	4106	24354		3.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	3053	-1376	166.78	188.84	1.13	Si
SLV 7	179667	0.38	4506	-2031	166.78	275.97	1.65	Si
SLV 4	179667	0.38	7004	-3158	166.78	421.79	2.53	Si
SLV 12	179667	0.38	8790	-3963	166.78	522.83	3.13	Si
SLV 3	179667	0.38	9162	-4130	166.78	543.54	3.26	Si
SLV 11	179667	0.38	10243	-4617	166.78	603.08	3.62	Si
SLV 2	179667	0.38	16431	-7407	166.78	925.4	5.55	Si
SLV 1	179667	0.38	18588	-8380	166.78	1030.34	6.18	Si
SLV 16	179667	0.38	26128	-11778	166.78	1366.86	8.2	Si
SLV 15	179667	0.38	28285	-12751	166.78	1454.51	8.72	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-12142	-13697	-202	0.695	1462.1	0.955	10.57291	4.55335	Si
SLV 5	-12007	-13478	-201	0.701	1448.3	0.954	10.6784	4.55335	Si
SLV 2	-10132	-9913	-64	0.82	1257.9	0.948	12.5719	5.26967	Si
SLV 1	-9930	-9588	-63	0.834	1237.5	0.948	12.79496	5.26967	Si
SLV 10	-11412	-12529	-200	0.732	1387.9	0.953	11.16713	4.55335	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-11276	-12310	-199	0.739	1374.1	0.952	11.28543	4.55335	Si
SLV 14	-7698	-6021	-56	1.029	1011.2	0.938	15.94969	5.26967	Si
SLV 4	-7650	-5456	57	1.034	1006.4	0.937	16.03329	5.26967	Si
SLV 13	-7496	-5695	-55	1.052	990.8	0.937	16.31513	5.26967	Si
SLV 3	-7449	-5131	58	1.057	986	0.936	16.39905	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.231	SLU 81	Si
V_SLU	3.084	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	1.911	SLV 13	Si
PFFP_SLV	1.132	SLV 8	Si
R_SLV	2.322	SLV 6	Si

Maschio 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.661	L5	L6	4.455	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	4.4	-21803.4	-25674	-0.0001166	0.0004492	0.0035	4.455	37922.05	59689.46	59689.46	2.74	No	Si
SLU 77	6.5	-6343.4	-22311	-0.0000627	0.0004492	0.0035	4.455	35148.15	54198.86	54198.86	8.54	No	Si
SLU 83	4.4	-22327.73	-25792	-0.0001188	0.0004492	0.0035	4.455	38007.95	59881.78	59881.78	2.68	No	Si
SLU 83	6.5	-6528.28	-22430	-0.0000635	0.0004492	0.0035	4.455	35257.4	54403.36	54403.36	8.33	No	Si
SLU 78	4.4	-21859.76	-25630	-0.0001167	0.0004492	0.0035	4.455	37890.29	59618.8	59618.8	2.73	No	Si
SLU 78	6.5	-6313.84	-22267	-0.0000625	0.0004492	0.0035	4.455	35107.81	54123.73	54123.73	8.57	No	Si
SLU 42	4.4	-19449.9	-21344	-0.0001002	0.0004492	0.0035	4.455	34228.26	52534.36	52534.36	2.7	No	Si
SLU 42	6.5	-5448.42	-18658	-0.0000523	0.0004492	0.0035	4.455	31385.42	47909.42	47909.42	8.79	No	Si
SLU 40	4.4	-19166.8	-21118	-0.0000987	0.0004492	0.0035	4.455	34004.77	52144.28	52144.28	2.72	No	Si
SLU 40	6.5	-5453.47	-18431	-0.0000518	0.0004492	0.0035	4.455	31126.36	47519.35	47519.35	8.71	No	Si
SLU 84	4.4	-22384.1	-25749	-0.0001189	0.0004492	0.0035	4.455	37976.49	59811.12	59811.12	2.67	No	Si
SLU 84	6.5	-6498.73	-22386	-0.0000633	0.0004492	0.0035	4.455	35217.36	54328.23	54328.23	8.36	No	Si
SLU 81	4.4	-22044.63	-25566	-0.0001173	0.0004492	0.0035	4.455	37843.39	59514.92	59514.92	2.7	No	Si
SLU 81	6.5	-6533.33	-22203	-0.000063	0.0004492	0.0035	4.455	35048.3	54013.28	54013.28	8.27	No	Si
SLU 41	4.4	-19393.54	-21388	-0.0001	0.0004492	0.0035	4.455	34270.95	52609.49	52609.49	2.71	No	Si
SLU 41	6.5	-5477.97	-18702	-0.0000525	0.0004492	0.0035	4.455	31434.97	47984.55	47984.55	8.76	No	Si
SLU 39	4.4	-19110.43	-21161	-0.0000986	0.0004492	0.0035	4.455	34048.05	52219.41	52219.41	2.73	No	Si
SLU 39	6.5	-5483.03	-18475	-0.000052	0.0004492	0.0035	4.455	31176.49	47594.47	47594.47	8.68	No	Si
SLU 82	4.4	-22100.99	-25522	-0.0001174	0.0004492	0.0035	4.455	37811.35	59444.27	59444.27	2.69	No	Si
SLU 82	6.5	-6503.78	-22160	-0.0000628	0.0004492	0.0035	4.455	35007.68	53938.15	53938.15	8.29	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	4.4	-22637.94	-15673	-0.0001213	0.0006738	0.0035	3.564		43132.54	43132.54	1.91		Si
SLV 9	6.5	-4730.22	-12885	-0.0000378	0.0006738	0.0035	4.455		37813.62	37813.62	7.99		Si
SLV 6	4.4	-24616.99	-16019	-0.0001415	0.0006738	0.0035	3.564		43782.2	43782.2	1.78		Si
SLV 6	6.5	-5319.42	-13230	-0.0000401	0.0006738	0.0035	4.455		38493.47	38493.47	7.24		Si
SLD 10	4.4	-19176.1	-16726	-0.0000928	0.0006738	0.0035	4.455		45111.22	45111.22	2.35		Si
SLD 10	6.5	-4681.34	-14042	-0.00004	0.0006738	0.0035	4.455		40069.35	40069.35	8.56		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	4.4	-24600.36	-16042	-0.0001411	0.0006738	0.0035	3.564		43826.33	43826.33	1.78		Si
SLV 5	6.5	-5215.26	-13253	-0.0000399	0.0006738	0.0035	4.455		38539.79	38539.79	7.39		Si
SLV 2	4.4	-20458.55	-18145	-0.0000992	0.0006738	0.0035	4.455		47776.51	47776.51	2.34		Si
SLV 2	6.5	-5540.65	-15527	-0.0000454	0.0006738	0.0035	4.455		42858.42	42858.42	7.74		Si
SLD 5	4.4	-20422.13	-16977	-0.0000997	0.0006738	0.0035	4.455		45582.74	45582.74	2.23		Si
SLD 5	6.5	-4928.75	-14293	-0.0000412	0.0006738	0.0035	4.455		40539.59	40539.59	8.23		Si
SLV 10	4.4	-22654.57	-15649	-0.0001217	0.0006738	0.0035	3.564		43088.41	43088.41	1.9		Si
SLV 10	6.5	-4834.38	-12862	-0.0000381	0.0006738	0.0035	4.455		37767.29	37767.29	7.81		Si
SLV 1	4.4	-20433.84	-18180	-0.0000991	0.0006738	0.0035	4.455		47842.06	47842.06	2.34		Si
SLV 1	6.5	-5385.93	-15562	-0.000045	0.0006738	0.0035	4.455		42923.97	42923.97	7.97		Si
SLD 9	4.4	-19166.01	-16740	-0.0000927	0.0006738	0.0035	4.455		45138	45138	2.36		Si
SLD 9	6.5	-4618.13	-14057	-0.0000399	0.0006738	0.0035	4.455		40096.13	40096.13	8.68		Si
SLD 6	4.4	-20432.22	-16963	-0.0000998	0.0006738	0.0035	4.455		45555.96	45555.96	2.23		Si
SLD 6	6.5	-4991.96	-14278	-0.0000414	0.0006738	0.0035	4.455		40512.82	40512.82	8.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	4.4	-22327.73	-25792	-14301	-7500	4.455	4.0855	-25488	10833	9323	115546	22414	22721	45135	No	6.02	Si
SLU 83	6.5	-6528.28	-22430	-12436	-7500	4.455	4.455	-19940	10833	8577	115546	22414	22721	45135	No	6.02	Si
SLU 84	4.4	-22384.1	-25749	-14277	-7541	4.455	4.0745	-25514	10833	9313	115546	22414	22721	45135	No	5.99	Si
SLU 84	6.5	-6498.73	-22386	-12412	-7541	4.455	4.455	-19901	10833	8568	115546	22414	22721	45135	No	5.99	Si
SLU 81	4.4	-22044.63	-25566	-14175	-7362	4.455	4.0957	-25195	10833	9273	115546	22414	22721	45135	No	6.13	Si
SLU 81	6.5	-6533.33	-22203	-12311	-7362	4.455	4.455	-19738	10833	8527	115546	22414	22721	45135	No	6.13	Si
SLU 79	4.4	-21588.6	-25552	-14168	-7250	4.455	4.1479	-24858	10833	9270	115546	22414	22721	45135	No	6.23	Si
SLU 79	6.5	-6313.64	-22190	-12303	-7250	4.455	4.455	-19726	10833	8524	115546	22414	22721	45135	No	6.23	Si
SLU 74	4.4	-21520.3	-25447	-14109	-7201	4.455	4.1454	-24768	10833	9246	115546	22414	22721	45135	No	6.27	Si
SLU 74	6.5	-6348.45	-22085	-12245	-7201	4.455	4.455	-19633	10833	8501	115546	22414	22721	45135	No	6.27	Si
SLU 75	4.4	-21576.66	-25403	-14085	-7242	4.455	4.1344	-24792	10833	9237	115546	22414	22721	45135	No	6.23	Si
SLU 75	6.5	-6318.9	-22041	-12221	-7242	4.455	4.455	-19594	10833	8491	115546	22414	22721	45135	No	6.23	Si
SLU 78	4.4	-21859.76	-25630	-14211	-7379	4.455	4.1238	-25084	10833	9287	115546	22414	22721	45135	No	6.12	Si
SLU 78	6.5	-6313.84	-22267	-12346	-7379	4.455	4.455	-19795	10833	8541	115546	22414	22721	45135	No	6.12	Si
SLU 82	4.4	-22100.99	-25522	-14151	-7403	4.455	4.0846	-25220	10833	9263	115546	22414	22721	45135	No	6.1	Si
SLU 82	6.5	-6503.78	-22160	-12287	-7403	4.455	4.455	-19699	10833	8517	115546	22414	22721	45135	No	6.1	Si
SLU 80	4.4	-21644.96	-25509	-14144	-7291	4.455	4.1369	-24882	10833	9260	115546	22414	22721	45135	No	6.19	Si
SLU 80	6.5	-6284.09	-22146	-12279	-7291	4.455	4.455	-19688	10833	8514	115546	22414	22721	45135	No	6.19	Si
SLU 77	4.4	-21803.4	-25674	-14235	-7338	4.455	4.1347	-25059	10833	9297	115546	22414	22721	45135	No	6.15	Si
SLU 77	6.5	-6343.4	-22311	-12371	-7338	4.455	4.455	-19834	10833	8551	115546	22414	22721	45135	No	6.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	4.4	-22637.94	-15673	-8690	-8580	3.564	2.3493	0	0	0	115546	26897	18176	45073		5.25	Si
SLV 9	6.5	-4730.22	-12885	-7144	-8178	4.455	4.455	-11455	14791	9225	115546	33621	22721	56342		6.89	Si
SLD 9	4.4	-19166.01	-16740	-9282	-6953	4.455	3.2478	-20602	16250	9117	115546	33621	22721	56342		8.1	Si
SLD 9	6.5	-4618.13	-14057	-7794	-6717	4.455	4.455	-12496	14999	9355	115546	33621	22721	56342		8.39	Si
SLV 6	4.4	-24616.99	-16019	-8882	-9249	3.564	2.0722	0	0	0	115546	26897	18176	45073		4.87	Si
SLV 6	6.5	-5319.42	-13230	-7335	-8890	4.455	4.455	-11761	14852	9263	115546	33621	22721	56342		6.34	Si
SLV 2	4.4	-20458.55	-18145	-10061	-7119	4.455	3.3	-21996	16250	9429	115546	33621	22721	56342		7.91	Si
SLV 2	6.5	-5540.65	-15527	-8609	-7077	4.455	4.455	-13803	15261	9518	115546	33621	22721	56342		7.96	Si
SLD 6	4.4	-20432.22	-16963	-9405	-7382	4.455	3.0689	-22098	16250	9166	115546	33621	22721	56342		7.63	Si
SLD 6	6.5	-4991.96	-14278	-7917	-7174	4.455	4.455	-12693	15039	9380	115546	33621	22721	56342		7.85	Si
SLD 5	4.4	-20422.13	-16977	-9413	-7407	4.455	3.0737	-22082	16250	9170	115546	33621	22721	56342		7.61	Si
SLD 5	6.5	-4928.75	-14293	-7925	-7199	4.455	4.455	-12706	15041	9381	115546	33621	22721	56342		7.83	Si
SLD 10	4.4	-19176.1	-16726	-9274	-6927	4.455	3.2431	-20614	16250	9114	115546	33621	22721	56342		8.13	Si
SLD 10	6.5	-4681.34	-14042	-7786	-6692	4.455	4.455	-12483	14997	9353	115546	33621	22721	56342		8.42	Si
SLV 1	4.4	-20433.84	-18180	-10080	-7181	4.455	3.3105	-21968	16250	9436	115546	33621	22721	56342		7.85	Si
SLV 1	6.5	-5385.93	-15562	-8628	-7139	4.455	4.455	-13834	15267	9522	115546	33621	22721	56342		7.89	Si
SLV 10	4.4	-22654.57	-15649	-8677	-8538	3.564	2.3396	0	0	0	115546	26897	18176	45073		5.28	Si
SLV 10	6.5	-4834.38	-12862	-7131	-8136	4.455	4.455	-11434	14787	9222	115546	33621	22721	56342		6.92	Si
SLV 5	4.4	-24600.36	-16042	-8895	-9291	3.564	2.0821	0	0	0	115546	26897	18176	45073		4.85	Si
SLV 5	6.5	-5215.26	-13253	-7348	-8932	4.455	4.455	-11782	14856	9266	115546	33621	22721	56342		6.31	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-13670	0.38	251.12	842.47	1457.42	1149.94	4.58	Si
SLV 9	-13693	0.38	251.12	843.72	1459.35	1151.53	4.59	Si
SLV 6	-14041	0.38	251.12	862.14	1487.89	1175.01	4.68	Si
SLV 5	-14064	0.38	251.12	863.38	1489.82	1176.6	4.69	Si
SLV 14	-14888	0.38	251.12	906.44	1557.56	1232	4.91	Si
SLV 13	-14923	0.38	251.12	908.24	1560.43	1234.34	4.92	Si
SLV 2	-16125	0.38	251.12	969.52	1659.5	1314.51	5.23	Si
SLV 1	-16160	0.38	251.12	971.27	1662.38	1316.83	5.24	Si
SLV 16	-16308	0.38	251.12	978.71	1674.63	1326.67	5.28	Si
SLV 15	-16343	0.38	251.12	980.46	1677.51	1328.98	5.29	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-14233	-19638	-393	1.54	1762.2	0.949	23.58922	9.04822	Si
SLV 4	-14186	-19603	-393	1.545	1757.4	0.949	23.66019	9.04822	Si
SLV 1	-13563	-18180	-391	1.606	1694.2	0.947	24.64118	9.04822	Si
SLV 2	-13515	-18145	-391	1.611	1689.4	0.947	24.71864	9.04822	Si
SLV 15	-12897	-18407	391	1.677	1626.7	0.945	25.78057	9.04822	Si
SLV 16	-12850	-18372	391	1.682	1621.9	0.945	25.8654	9.04822	Si
SLV 13	-12227	-16949	393	1.755	1558.7	0.943	27.03835	9.04822	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-12179	-16914	393	1.76	1553.9	0.943	27.13169	9.04822	Si
SLV 7	-14540	-20902	-121	1.528	1793.4	0.95	23.38964	6.58815	Si
SLV 8	-14508	-20879	-121	1.531	1790.2	0.95	23.43606	6.58815	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.672	SLU 84	Si
V_SLU	5.986	SLU 84	Si
PF_SLV	1.779	SLV 6	Si
V_SLV	4.852	SLV 5	Si
PFFP_SLV	4.579	SLV 10	Si
R_SLV	2.607	SLV 3	Si

Maschio 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L5	Z medio 617 cm	1.281	0.28	1.77	1.78	1.76			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	4.4	-771.03	-17544	-0.0001	0.0003743	0.0035	1.2809	5837.57	7655.18	7655.18	9.93	No	Si
SLU 76	6.16	150.65	-13780	-0.0000654	0.0003743	0.0035	1.2809	5494.82	6522.89	6522.89	43.3	No	Si
SLU 84	4.4	-807.5	-18155	-0.0001044	0.0003743	0.0035	1.2809	5846.32	7803.95	7803.95	9.66	No	Si
SLU 84	6.16	153.44	-14288	-0.0000681	0.0003743	0.0035	1.2809	5570.18	6651.05	6651.05	43.35	No	Si
SLU 81	4.4	-793.43	-17873	-0.0001024	0.0003743	0.0035	1.2809	5843.92	7734.89	7734.89	9.75	No	Si
SLU 81	6.16	143.96	-14027	-0.0000665	0.0003743	0.0035	1.2809	5532.67	6585.05	6585.05	45.74	No	Si
SLU 82	4.4	-799.72	-17938	-0.000103	0.0003743	0.0035	1.2809	5844.72	7750.76	7750.76	9.69	No	Si
SLU 82	6.16	148.83	-14074	-0.0000669	0.0003743	0.0035	1.2809	5539.48	6596.69	6596.69	44.32	No	Si
SLU 77	4.4	-775.31	-17797	-0.0001016	0.0003743	0.0035	1.2809	5842.78	7716.23	7716.23	9.95	No	Si
SLU 77	6.16	150.97	-14051	-0.0000668	0.0003743	0.0035	1.2809	5536.15	6590.97	6590.97	43.66	No	Si
SLU 78	4.4	-781.59	-17862	-0.0001021	0.0003743	0.0035	1.2809	5843.76	7732.05	7732.05	9.89	No	Si
SLU 78	6.16	155.84	-14097	-0.0000672	0.0003743	0.0035	1.2809	5542.92	6602.62	6602.62	42.37	No	Si
SLU 75	4.4	-773.82	-17646	-0.0001007	0.0003743	0.0035	1.2809	5839.94	7679.62	7679.62	9.92	No	Si
SLU 75	6.16	151.22	-13882	-0.000066	0.0003743	0.0035	1.2809	5510.78	6548.61	6548.61	43.3	No	Si
SLU 83	4.4	-801.21	-18090	-0.0001039	0.0003743	0.0035	1.2809	5846.01	7787.91	7787.91	9.72	No	Si
SLU 83	6.16	148.57	-14242	-0.0000677	0.0003743	0.0035	1.2809	5563.72	6639.33	6639.33	44.69	No	Si
SLU 73	4.4	-763.25	-17328	-0.0000986	0.0003743	0.0035	1.2809	5831.34	7603.59	7603.59	9.96	No	Si
SLU 73	6.16	146.03	-13565	-0.0000643	0.0003743	0.0035	1.2809	5460.29	6469.44	6469.44	44.3	No	Si
SLU 80	4.4	-774.62	-17717	-0.0001011	0.0003743	0.0035	1.2809	5841.38	7696.83	7696.83	9.94	No	Si
SLU 80	6.16	152.01	-13964	-0.0000664	0.0003743	0.0035	1.2809	5523.12	6568.98	6568.98	43.21	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	4.4	-1109.99	-17258	-0.0001006	0.0005615	0.0035	1.2809		8783.26	8783.26	7.91		Si
SLD 5	6.16	336.38	-12928	-0.000063	0.0005615	0.0035	1.2809		6867.47	6867.47	20.42		Si
SLV 5	4.4	-1528.74	-20873	-0.0001288	0.0005615	0.0035	1.2809		9938.02	9938.02	6.5		Si
SLV 5	6.16	516.13	-15431	-0.0000787	0.0005615	0.0035	1.2809		7806.36	7806.36	15.12		Si
SLD 6	4.4	-1124.7	-17350	-0.0001014	0.0005615	0.0035	1.2809		8811.54	8811.54	7.83		Si
SLD 6	6.16	318.91	-12869	-0.0000624	0.0005615	0.0035	1.2809		6845.62	6845.62	21.47		Si
SLV 11	4.4	531.18	-3155	-0.0000234	0.0005615	0.0035	1.2809		2023.66	2023.66	3.81		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	6.16	-311.17	-3508	-0.0000206	0.0005615	0.0035	1.2809		2498.3	2498.3	8.03		Si
SLV 12	4.4	506.94	-3307	-0.0000236	0.0005615	0.0035	1.2809		2112.58	2112.58	4.17		Si
SLV 12	6.16	-339.97	-3411	-0.0000208	0.0005615	0.0035	1.2809		2442.45	2442.45	7.18		Si
SLV 9	4.4	-1426.02	-19767	-0.0001206	0.0005615	0.0035	1.2809		9577.19	9577.19	6.72		Si
SLV 9	6.16	673.18	-15836	-0.000084	0.0005615	0.0035	1.2809		7961.48	7961.48	11.83		Si
SLV 6	4.4	-1552.99	-21024	-0.0001302	0.0005615	0.0035	1.2809		9983.59	9983.59	6.43		Si
SLV 6	6.16	487.33	-15333	-0.0000776	0.0005615	0.0035	1.2809		7769.2	7769.2	15.94		Si
SLV 8	4.4	404.22	-4413	-0.0000263	0.0005615	0.0035	1.2809		2745.18	2745.18	6.79		Si
SLV 8	6.16	-497.02	-3005	-0.0000221	0.0005615	0.0035	1.2809		2204.17	2204.17	4.43		Si
SLV 10	4.4	-1450.27	-19918	-0.000122	0.0005615	0.0035	1.2809		9626.63	9626.63	6.64		Si
SLV 10	6.16	644.38	-15739	-0.0000829	0.0005615	0.0035	1.2809		7924.11	7924.11	12.3		Si
SLV 7	4.4	428.46	-4261	-0.0000262	0.0005615	0.0035	1.2809		2659.77	2659.77	6.21		Si
SLV 7	6.16	-468.22	-3103	-0.000022	0.0005615	0.0035	1.2809		2261.62	2261.62	4.83		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	4.4	-773.82	-17646	-14694	-5008	1.2809	1.2809	-40969	10833	5503	19031	10740	3266	14006	No	2.8	Si
SLU 75	6.16	151.22	-13882	-11560	-1829	1.2809	1.2809	-32232	10833	4596	19031	10740	3266	14006	No	7.66	Si
SLU 77	4.4	-775.31	-17797	-14820	-5018	1.2809	1.2809	-41320	10833	5539	19031	10740	3266	14006	No	2.79	Si
SLU 77	6.16	150.97	-14051	-11700	-1813	1.2809	1.2809	-32623	10833	4636	19031	10740	3266	14006	No	7.73	Si
SLU 82	4.4	-799.72	-17938	-14938	-5112	1.2809	1.2809	-41649	10833	5573	19031	10740	3266	14006	No	2.74	Si
SLU 82	6.16	148.83	-14074	-11719	-1881	1.2809	1.2809	-32676	10833	4642	19031	10740	3266	14006	No	7.45	Si
SLU 76	4.4	-771.03	-17544	-14609	-4991	1.2809	1.2809	-40733	10833	5478	19031	10740	3266	14006	No	2.81	Si
SLU 76	6.16	150.65	-13780	-11474	-1825	1.2809	1.2809	-31993	10833	4571	19031	10740	3266	14006	No	7.68	Si
SLU 80	4.4	-774.62	-17717	-14753	-5021	1.2809	1.2809	-41134	10833	5520	19031	10740	3266	14006	No	2.79	Si
SLU 80	6.16	152.01	-13964	-11628	-1821	1.2809	1.2809	-32420	10833	4615	19031	10740	3266	14006	No	7.69	Si
SLU 84	4.4	-807.5	-18155	-15118	-5184	1.2809	1.2809	-42151	10833	5625	19031	10740	3266	14006	No	2.7	Si
SLU 84	6.16	153.44	-14288	-11898	-1904	1.2809	1.2809	-33174	10833	4693	19031	10740	3266	14006	No	7.36	Si
SLU 78	4.4	-781.59	-17862	-14874	-5080	1.2809	1.2809	-41471	10833	5555	19031	10740	3266	14006	No	2.76	Si
SLU 78	6.16	155.84	-14097	-11739	-1852	1.2809	1.2809	-32730	10833	4647	19031	10740	3266	14006	No	7.56	Si
SLU 83	4.4	-801.21	-18090	-15064	-5122	1.2809	1.2809	-42000	10833	5610	19031	10740	3266	14006	No	2.73	Si
SLU 83	6.16	148.57	-14242	-11860	-1864	1.2809	1.2809	-33067	10833	4682	19031	10740	3266	14006	No	7.51	Si
SLU 79	4.4	-768.33	-17652	-14699	-4959	1.2809	1.2809	-40984	10833	5504	19031	10740	3266	14006	No	2.82	Si
SLU 79	6.16	147.15	-13917	-11589	-1782	1.2809	1.2809	-32313	10833	4604	19031	10740	3266	14006	No	7.86	Si
SLU 81	4.4	-793.43	-17873	-14883	-5050	1.2809	1.2809	-41498	10833	5558	19031	10740	3266	14006	No	2.77	Si
SLU 81	6.16	143.96	-14027	-11681	-1841	1.2809	1.2809	-32569	10833	4631	19031	10740	3266	14006	No	7.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	4.4	-615.28	-12625	-10513	-10643	1.2809	1.2809	-29313	16250	5828	19031	16110	3266	19376		1.82	Si
SLV 13	6.16	518.87	-12018	-10008	-7844	1.2809	1.2809	-27904	15997	5738	19031	16110	3266	19376		2.47	Si
SLD 10	4.4	-1059.17	-16641	-13857	-7788	1.2809	1.2809	-38637	16250	5885	19031	16110	3266	19376		2.49	Si
SLD 10	6.16	419.16	-13129	-10932	-4840	1.2809	1.2809	-30482	16250	5828	19031	16110	3266	19376		4	Si
SLV 9	4.4	-1426.02	-19767	-16460	-11384	1.2809	1.2809	-45894	16250	6639	19031	16110	3266	19376		1.7	Si
SLV 9	6.16	673.18	-15836	-13187	-7849	1.2809	1.2809	-36768	16250	5828	19031	16110	3266	19376		2.47	Si
SLD 14	4.4	-585.21	-12438	-10357	-7380	1.2809	1.2809	-28877	16192	5807	19031	16110	3266	19376		2.63	Si
SLD 14	6.16	328.51	-10890	-9068	-4864	1.2809	1.2809	-25284	15474	5550	19031	16110	3266	19376		3.98	Si
SLV 14	4.4	-651.29	-12850	-10700	-9844	1.2809	1.2809	-29835	16250	5828	19031	16110	3266	19376		1.97	Si
SLV 14	6.16	476.09	-11873	-9887	-7085	1.2809	1.2809	-27567	15930	5713	19031	16110	3266	19376		2.73	Si
SLV 10	4.4	-1450.27	-19918	-16586	-10846	1.2809	1.2809	-46245	16250	6675	19031	16110	3266	19376		1.79	Si
SLV 10	6.16	644.38	-15739	-13106	-7338	1.2809	1.2809	-36542	16250	5828	19031	16110	3266	19376		2.64	Si
SLD 9	4.4	-1044.45	-16549	-13781	-8114	1.2809	1.2809	-38423	16250	5863	19031	16110	3266	19376		2.39	Si
SLD 9	6.16	436.64	-13188	-10982	-5150	1.2809	1.2809	-30619	16250	5828	19031	16110	3266	19376		3.76	Si
SLD 13	4.4	-562.36	-12295	-10238	-7888	1.2809	1.2809	-28546	16126	5784	19031	16110	3266	19376		2.46	Si
SLD 13	6.16	355.65	-10982	-9145	-5345	1.2809	1.2809	-25498	15516	5565	19031	16110	3266	19376		3.63	Si
SLV 6	4.4	-1552.99	-21024	-17507	-7798	1.2809	1.2809	-48814	16250	6942	19031	16110	3266	19376		2.48	Si
SLV 6	6.16	487.33	-15333	-12768	-4437	1.2809	1.2809	-35600	16250	5828	19031	16110	3266	19376		4.37	Si
SLV 5	4.4	-1528.74	-20873	-17381	-8336	1.2809	1.2809	-48462	16250	6905	19031	16110	3266	19376		2.32	Si
SLV 5	6.16	516.13	-15431	-12849	-4948	1.2809	1.2809	-35826	16250	5828	19031	16110	3266	19376		3.92	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 5.28 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.36	8179	-2933	32.11	388.66	12.1	Si
SLV 7	179667	0.36	8397	-3012	32.11	398.43	12.41	Si
SLV 12	179667	0.36	8891	-3189	32.11	420.43	13.09	Si
SLV 11	179667	0.36	9109	-3267	32.11	430.1	13.39	Si
SLV 4	179667	0.36	22355	-8018	32.11	958.16	29.84	Si
SLV 3	179667	0.36	22679	-8134	32.11	969.64	30.2	Si
SLV 16	179667	0.36	24729	-8869	32.11	1040.63	32.41	Si
SLV 15	179667	0.36	25054	-8986	32.11	1051.6	32.75	Si
SLV 2	179667	0.36	35264	-12647	32.11	1361.78	42.41	Si
SLV 1	179667	0.36	35588	-12764	32.11	1370.51	42.68	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 5.28 Wa = 0.05 Ta = 0.0187

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-15836	-19767	28	0.519	1702.2	0.983	7.66482	3.39756	Si
SLV 10	-15739	-19918	28	0.521	1692.2	0.983	7.70397	3.39756	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-15431	-20873	18	0.53	1660.8	0.983	7.84184	3.39756	Si
SLV 6	-15333	-21024	18	0.533	1650.9	0.983	7.8831	3.39756	Si
SLV 13	-12018	-12625	22	0.652	1313.1	0.979	9.6875	3.511	Si
SLV 14	-11873	-12850	23	0.659	1298.4	0.979	9.78804	3.511	Si
SLV 1	-10666	-16313	-11	0.722	1175.4	0.976	10.75146	3.511	Si
SLV 2	-10521	-16538	-11	0.731	1160.7	0.976	10.88054	3.511	Si
SLV 15	-8320	-7642	7	0.893	936.4	0.971	13.36221	3.511	Si
SLV 16	-8175	-7867	8	0.906	921.7	0.97	13.56877	3.511	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.664	SLU 84	Si
V_SLU	2.702	SLU 84	Si
PF_SLV	3.81	SLV 11	Si
V_SLV	1.702	SLV 9	Si
PFFP_SLV	12.104	SLV 8	Si
R_SLV	2.256	SLV 9	Si

Maschio 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	Z medio 617 cm	L6	1.281	0.28	1.78	1.77	1.79			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	6.18	-378.2	-11711	-0.0000602	0.0003743	0.0035	1.2809	5094.8	6085.5	6085.5	16.09	No	Si
SLU 42	7.95	-129.88	-10069	-0.0000468	0.0003743	0.0035	1.2809	4670.35	5557	5557	42.78	No	Si
SLU 73	6.18	-414.91	-13035	-0.0000676	0.0003743	0.0035	1.2809	5368.13	6500.03	6500.03	15.67	No	Si
SLU 73	7.95	-169.77	-11075	-0.0000525	0.0003743	0.0035	1.2809	4941.59	5896.52	5896.52	34.73	No	Si
SLU 40	6.18	-378.31	-11500	-0.0000591	0.0003743	0.0035	1.2809	5045.71	6022.28	6022.28	15.92	No	Si
SLU 40	7.95	-121.07	-9842	-0.0000456	0.0003743	0.0035	1.2809	4604.38	5466.88	5466.88	45.15	No	Si
SLU 76	6.18	-414.8	-13245	-0.0000687	0.0003743	0.0035	1.2809	5405.9	6568.53	6568.53	15.84	No	Si
SLU 76	7.95	-178.58	-11301	-0.0000538	0.0003743	0.0035	1.2809	4997.77	5963.04	5963.04	33.39	No	Si
SLU 34	6.18	-371.48	-11244	-0.0000577	0.0003743	0.0035	1.2809	4983.75	5946.17	5946.17	16.01	No	Si
SLU 34	7.95	-123.3	-9640	-0.0000447	0.0003743	0.0035	1.2809	4544.02	5387.23	5387.23	43.69	No	Si
SLU 84	6.18	-421.53	-13712	-0.0000712	0.0003743	0.0035	1.2809	5484.17	6723.12	6723.12	15.95	No	Si
SLU 84	7.95	-185.16	-11730	-0.000056	0.0003743	0.0035	1.2809	5099.13	6091.19	6091.19	32.9	No	Si
SLU 78	6.18	-410.42	-13560	-0.0000702	0.0003743	0.0035	1.2809	5459.51	6672.37	6672.37	16.26	No	Si
SLU 78	7.95	-196.07	-11646	-0.0000559	0.0003743	0.0035	1.2809	5079.81	6065.89	6065.89	30.94	No	Si
SLU 31	6.18	-371.58	-11034	-0.0000567	0.0003743	0.0035	1.2809	4931.22	5884.56	5884.56	15.84	No	Si
SLU 31	7.95	-114.49	-9413	-0.0000434	0.0003743	0.0035	1.2809	4474.64	5295.91	5295.91	46.26	No	Si
SLU 75	6.18	-410.52	-13350	-0.0000691	0.0003743	0.0035	1.2809	5424.06	6602.79	6602.79	16.08	No	Si
SLU 75	7.95	-187.26	-11419	-0.0000546	0.0003743	0.0035	1.2809	5026.37	5998.09	5998.09	32.03	No	Si
SLU 82	6.18	-421.64	-13502	-0.0000701	0.0003743	0.0035	1.2809	5449.85	6653.02	6653.02	15.78	No	Si
SLU 82	7.95	-176.35	-11503	-0.0000547	0.0003743	0.0035	1.2809	5046.35	6023.09	6023.09	34.15	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	6.18	1075.93	-7533	-0.0000536	0.0005615	0.0035	1.2809		4335.28	4335.28	4.03		Si
SLV 4	7.95	-1151.37	-6589	-0.0000508	0.0005615	0.0035	1.2809		4197.32	4197.32	3.65		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	6.18	-1455.26	-10644	-0.0000758	0.0005615	0.0035	1.2809		6198	6198	4.26		Si
SLV 14	7.95	710.94	-8807	-0.0000519	0.0005615	0.0035	1.2809		4939.07	4939.07	6.95		Si
SLV 12	6.18	610.39	-3845	-0.0000279	0.0005615	0.0035	1.2809		2422.98	2422.98	3.97		Si
SLV 12	7.95	-594.51	-4384	-0.00003	0.0005615	0.0035	1.2809		2996.26	2996.26	5.04		Si
SLV 13	6.18	-1606.07	-10675	-0.0000791	0.0005615	0.0035	1.2809		6212.31	6212.31	3.87		Si
SLV 13	7.95	837.51	-8868	-0.0000547	0.0005615	0.0035	1.2809		4968.1	4968.1	5.93		Si
SLV 3	6.18	925.11	-7564	-0.0000506	0.0005615	0.0035	1.2809		4349.82	4349.82	4.7		Si
SLV 3	7.95	-1024.8	-6649	-0.0000485	0.0005615	0.0035	1.2809		4229.25	4229.25	4.13		Si
SLV 10	6.18	-1599.47	-14332	-0.0000968	0.0005615	0.0035	1.2809		7783.72	7783.72	4.87		Si
SLV 10	7.95	642.77	-11094	-0.0000609	0.0005615	0.0035	1.2809		6052.58	6052.58	9.42		Si
SLV 9	6.18	-1701	-14353	-0.0000991	0.0005615	0.0035	1.2809		7792	7792	4.58		Si
SLV 9	7.95	727.98	-11134	-0.0000629	0.0005615	0.0035	1.2809		6072.82	6072.82	8.34		Si
SLV 7	6.18	1069.32	-3877	-0.0000381	0.0005615	0.0035	1.2809		2440.97	2440.97	2.28		Si
SLV 7	7.95	-956.64	-4363	-0.000037	0.0005615	0.0035	1.2809		2984.42	2984.42	3.12		Si
SLV 11	6.18	508.86	-3866	-0.000026	0.0005615	0.0035	1.2809		2434.98	2434.98	4.79		Si
SLV 11	7.95	-509.3	-4425	-0.0000285	0.0005615	0.0035	1.2809		3019.29	3019.29	5.93		Si
SLV 8	6.18	1170.86	-3856	-0.0000411	0.0005615	0.0035	1.2809		2428.98	2428.98	2.07		Si
SLV 8	7.95	-1041.85	-4322	-0.0000387	0.0005615	0.0035	1.2809		2961.35	2961.35	2.84		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	6.18	-414.8	-13245	-11030	-2125	1.2809	1.2809	-30753	10833	4417	19031	10740	3266	14006	No	6.59	Si
SLU 76	7.95	-178.58	-11301	-9411	294	1.2809	1.2809	-26239	10443	3951	19031	10740	3266	14006	No	47.56	Si
SLU 77	6.18	-395.85	-13525	-11262	-2031	1.2809	1.2809	-31402	10833	4484	19031	10740	3266	14006	No	6.9	Si
SLU 77	7.95	-210.77	-11639	-9692	441	1.2809	1.2809	-27023	10547	4032	19031	10740	3266	14006	No	31.79	Si
SLU 82	6.18	-421.64	-13502	-11243	-2155	1.2809	1.2809	-31348	10833	4479	19031	10740	3266	14006	No	6.5	Si
SLU 82	7.95	-176.35	-11503	-9579	288	1.2809	1.2809	-26708	10505	4000	19031	10740	3266	14006	No	48.58	Si
SLU 75	6.18	-410.52	-13350	-11117	-2100	1.2809	1.2809	-30995	10833	4442	19031	10740	3266	14006	No	6.67	Si
SLU 75	7.95	-187.26	-11419	-9509	336	1.2809	1.2809	-26513	10480	3979	19031	10740	3266	14006	No	41.65	Si
SLU 83	6.18	-406.96	-13677	-11389	-2086	1.2809	1.2809	-31755	10833	4521	19031	10740	3266	14006	No	6.71	Si
SLU 83	7.95	-199.86	-11723	-9762	393	1.2809	1.2809	-27217	10573	4052	19031	10740	3266	14006	No	35.67	Si
SLU 84	6.18	-421.53	-13712	-11418	-2173	1.2809	1.2809	-31837	10833	4529	19031	10740	3266	14006	No	6.45	Si
SLU 84	7.95	-185.16	-11730	-9767	318	1.2809	1.2809	-27234	10576	4054	19031	10740	3266	14006	No	44.05	Si
SLU 73	6.18	-414.91	-13035	-10854	-2107	1.2809	1.2809	-30264	10833	4367	19031	10740	3266	14006	No	6.65	Si
SLU 73	7.95	-169.77	-11075	-9222	265	1.2809	1.2809	-25713	10373	3897	19031	10740	3266	14006	No	52.89	Si
SLU 81	6.18	-407.07	-13467	-11214	-2069	1.2809	1.2809	-31266	10833	4470	19031	10740	3266	14006	No	6.77	Si
SLU 81	7.95	-191.05	-11496	-9573	363	1.2809	1.2809	-26691	10503	3998	19031	10740	3266	14006	No	38.59	Si
SLU 80	6.18	-404.99	-13432	-11185	-2084	1.2809	1.2809	-31187	10833	4462	19031	10740	3266	14006	No	6.72	Si
SLU 80	7.95	-197.19	-11523	-9595	374	1.2809	1.2809	-26754	10512	4004	19031	10740	3266	14006	No	37.46	Si
SLU 78	6.18	-410.42	-13560	-11292	-2117	1.2809	1.2809	-31484	10833	4493	19031	10740	3266	14006	No	6.62	Si
SLU 78	7.95	-196.07	-11646	-9698	366	1.2809	1.2809	-27039	10550	4034	19031	10740	3266	14006	No	38.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	6.18	-1606.07	-10675	-8889	-7574	1.2809	1.2809	-24786	15374	5514	19031	16110	3266	19376		2.56	Si
SLV 13	7.95	837.51	-8868	-7385	-5612	1.2809	1.2809	-20590	14535	5213	19031	16110	3266	19376		3.45	Si
SLV 7	6.18	1069.32	-3877	-3228	4971	1.2809	1.0938	-9001	12217	3742	19031	16110	3266	19376		3.9	Si
SLV 7	7.95	-956.64	-4363	-3633	5785	1.2809	1.2636	-10130	12443	4402	19031	16110	3266	19376		3.35	Si
SLV 14	6.18	-1455.26	-10644	-8864	-6851	1.2809	1.2809	-24714	15359	5509	19031	16110	3266	19376		2.83	Si
SLV 14	7.95	710.94	-8807	-7334	-4915	1.2809	1.2809	-20449	14506	5203	19031	16110	3266	19376		3.94	Si
SLV 10	6.18	-1599.47	-14332	-11934	-7559	1.2809	1.2809	-33275	16250	5828	19031	16110	3266	19376		2.56	Si
SLV 10	7.95	642.77	-11094	-9238	-5052	1.2809	1.2809	-25757	15568	5584	19031	16110	3266	19376		3.84	Si
SLV 3	6.18	925.11	-7564	-6299	4263	1.2809	1.2809	-17562	13929	4996	19031	16110	3266	19376		4.55	Si
SLV 3	7.95	-1024.8	-6649	-5537	5648	1.2809	1.2809	-15438	13504	4843	19031	16110	3266	19376		3.43	Si
SLV 9	6.18	-1701	-14353	-11952	-8046	1.2809	1.2809	-33324	16250	5828	19031	16110	3266	19376		2.41	Si
SLV 9	7.95	727.98	-11134	-9272	-5521	1.2809	1.2809	-25852	15587	5590	19031	16110	3266	19376		3.51	Si
SLV 4	6.18	1075.93	-7533	-6273	4986	1.2809	1.2809	-17490	13915	4991	19031	16110	3266	19376		3.89	Si
SLV 4	7.95	-1151.37	-6589	-5487	6345	1.2809	1.2809	-15298	13476	4833	19031	16110	3266	19376		3.05	Si
SLV 5	6.18	-1140.53	-14363	-11960	-5431	1.2809	1.2809	-33348	16250	5828	19031	16110	3266	19376		3.57	Si
SLV 5	7.95	280.65	-11073	-9220	-2927	1.2809	1.2809	-25708	15558	5580	19031	16110	3266	19376		6.62	Si
SLV 8	6.18	1170.86	-3856	-3211	5458	1.2809	1.0104	-8952	12207	3453	19031	16110	3266	19376		3.55	Si
SLV 8	7.95	-1041.85	-4322	-3599	6254	1.2809	1.1983	-10036	12424	4168	19031	16110	3266	19376		3.1	Si
SLD 9	6.18	-1121.45	-12176	-10139	-5326	1.2809	1.2809	-28270	16071	5764	19031	16110	3266	19376		3.64	Si
SLD 9	7.95	375.34	-9722	-8096	-3158	1.2809	1.2809	-22573	14931	5355	19031	16110	3266	19376		6.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.065 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.4	11526	-4134	35.96	535.04	14.88	Si
SLV 12	179667	0.4	11717	-4203	35.96	543.21	15.11	Si
SLV 7	179667	0.4	12979	-4655	35.96	596.3	16.58	Si
SLV 8	179667	0.4	13171	-4724	35.96	604.29	16.81	Si
SLV 15	179667	0.4	17019	-6104	35.96	759.3	21.12	Si
SLV 16	179667	0.4	17304	-6206	35.96	770.4	21.43	Si
SLV 3	179667	0.4	21863	-7841	35.96	940.61	26.16	Si
SLV 4	179667	0.4	22148	-7943	35.96	950.8	26.44	Si
SLV 13	179667	0.4	23220	-8328	35.96	988.64	27.5	Si
SLV 14	179667	0.4	23505	-8430	35.96	998.58	27.77	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.065 Wa = 0.05 Ta = 0.0189

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-11134	-14353	29	0.694	1223.6	0.977	10.32843	3.67251	Si
SLV 10	-11094	-14332	30	0.697	1219.4	0.977	10.36006	3.67251	Si
SLV 5	-11073	-14363	-6	0.7	1217.3	0.977	10.40849	3.67251	Si
SLV 6	-11032	-14342	-5	0.702	1213.1	0.977	10.44295	3.67251	Si
SLV 13	-8868	-10675	59	0.839	992.8	0.972	12.54386	3.7966	Si
SLV 14	-8807	-10644	60	0.844	986.6	0.972	12.61723	3.7966	Si
SLV 1	-8662	-10710	-58	0.856	971.8	0.972	12.80588	3.7966	Si
SLV 2	-8602	-10679	-57	0.861	965.6	0.971	12.88719	3.7966	Si
SLV 15	-6855	-7529	49	1.046	787.8	0.966	15.75107	3.7966	Si
SLV 16	-6795	-7498	51	1.054	781.7	0.965	15.87219	3.7966	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.666	SLU 73	Si
V_SLU	6.446	SLU 84	Si
PF_SLV	2.075	SLV 8	Si
V_SLV	2.408	SLV 9	Si
PFFP_SLV	14.88	SLV 11	Si
R_SLV	2.812	SLV 9	Si

Maschio 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	-0.354	Z medio 528 cm	L6	3.051	0.28	2.67	1.79	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	6.16	2662.83	-36250	-0.0000802	0.0003743	0.0035	3.0507	32245.76	39060.01	39060.01	14.67	No	Si
SLU 83	7.95	1474.42	-29925	-0.0000618	0.0003743	0.0035	3.0507	29939.03	34850.4	34850.4	23.64	No	Si
SLU 80	6.16	2628.36	-35709	-0.0000788	0.0003743	0.0035	3.0507	32103.29	38722.41	38722.41	14.73	No	Si
SLU 80	7.95	1370.4	-29483	-0.0000605	0.0003743	0.0035	3.0507	29725.52	34423.47	34423.47	25.12	No	Si
SLU 79	6.16	2680.53	-35624	-0.0000788	0.0003743	0.0035	3.0507	32080.15	38669.99	38669.99	14.43	No	Si
SLU 79	7.95	1321.86	-29423	-0.0000601	0.0003743	0.0035	3.0507	29695.9	34365.49	34365.49	26	No	Si
SLU 71	6.16	2518.61	-32543	-0.0000715	0.0003743	0.0035	3.0507	31064.01	36796.2	36796.2	14.61	No	Si
SLU 71	7.95	787.35	-26697	-0.0000525	0.0003743	0.0035	3.0507	28221.16	31783.92	31783.92	40.37	No	Si
SLU 69	6.16	2543.91	-32909	-0.0000724	0.0003743	0.0035	3.0507	31202.22	37014.78	37014.78	14.55	No	Si
SLU 69	7.95	808.08	-27046	-0.0000533	0.0003743	0.0035	3.0507	28424.55	32109.6	32109.6	39.74	No	Si
SLU 50	6.16	2259.44	-28486	-0.0000618	0.0003743	0.0035	3.0507	29218.73	33468.86	33468.86	14.81	No	Si
SLU 50	7.95	554.5	-23260	-0.0000447	0.0003743	0.0035	3.0507	25990.5	28638.28	28638.28	51.65	No	Si
SLU 48	6.16	2284.74	-28853	-0.0000627	0.0003743	0.0035	3.0507	29409.05	33818.37	33818.37	14.8	No	Si
SLU 48	7.95	575.23	-23610	-0.0000455	0.0003743	0.0035	3.0507	26235.97	28951.73	28951.73	50.33	No	Si
SLU 78	6.16	2653.66	-36075	-0.0000797	0.0003743	0.0035	3.0507	32200.82	38950.59	38950.59	14.68	No	Si
SLU 78	7.95	1391.13	-29832	-0.0000613	0.0003743	0.0035	3.0507	29894.8	34760.63	34760.63	24.99	No	Si
SLU 74	6.16	2618.74	-35296	-0.0000779	0.0003743	0.0035	3.0507	31987.6	38466.3	38466.3	14.69	No	Si
SLU 74	7.95	1266.07	-29105	-0.0000593	0.0003743	0.0035	3.0507	29537.66	34060.51	34060.51	26.9	No	Si
SLU 77	6.16	2705.83	-35991	-0.0000798	0.0003743	0.0035	3.0507	32178.77	38897.92	38897.92	14.38	No	Si
SLU 77	7.95	1342.59	-29772	-0.000061	0.0003743	0.0035	3.0507	29865.92	34702.41	34702.41	25.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	6.16	6851	-15148	-0.0000509	0.0005615	0.0035	3.0507		21380.25	21380.25	3.12		Si
SLV 12	7.95	-1716.22	-12906	-0.0000287	0.0005615	0.0035	3.0507		20678.87	20678.87	12.05		Si
SLD 7	6.16	4871.21	-19186	-0.0000515	0.0005615	0.0035	3.0507		25911.69	25911.69	5.32		Si
SLD 7	7.95	-801.77	-15952	-0.000031	0.0005615	0.0035	3.0507		24562.1	24562.1	30.63		Si
SLD 12	6.16	4750.66	-18774	-0.0000503	0.0005615	0.0035	3.0507		25444.62	25444.62	5.36		Si
SLD 12	7.95	-762.57	-15640	-0.0000303	0.0005615	0.0035	3.0507		24179.65	24179.65	31.71		Si
SLV 7	6.16	7048.15	-15780	-0.0000528	0.0005615	0.0035	3.0507		22082.57	22082.57	3.13		Si
SLV 7	7.95	-1787.41	-13393	-0.0000298	0.0005615	0.0035	3.0507		21299.74	21299.74	11.92		Si
SLV 3	6.16	3617.93	-22452	-0.0000532	0.0005615	0.0035	3.0507		29664.67	29664.67	8.2		Si
SLV 3	7.95	-185.05	-18346	-0.0000332	0.0005615	0.0035	3.0507		27513.17	27513.17	148.68		Si
SLV 4	6.16	3536.85	-22439	-0.0000529	0.0005615	0.0035	3.0507		29649.08	29649.08	8.38		Si
SLV 4	7.95	-110.29	-18210	-0.0000327	0.0005615	0.0035	3.0507		27344.78	27344.78	247.94		Si
SLD 11	6.16	4783.79	-18780	-0.0000504	0.0005615	0.0035	3.0507		25450.84	25450.84	5.32		Si
SLD 11	7.95	-793.11	-15695	-0.0000305	0.0005615	0.0035	3.0507		24247.72	24247.72	30.57		Si
SLV 11	6.16	6905.58	-15157	-0.0000511	0.0005615	0.0035	3.0507		21390.26	21390.26	3.1		Si
SLV 11	7.95	-1766.56	-12997	-0.000029	0.0005615	0.0035	3.0507		20794.89	20794.89	11.77		Si
SLV 8	6.16	6993.57	-15771	-0.0000526	0.0005615	0.0035	3.0507		22072.52	22072.52	3.16		Si
SLV 8	7.95	-1737.08	-13302	-0.0000295	0.0005615	0.0035	3.0507		21183.32	21183.32	12.19		Si
SLD 8	6.16	4838.09	-19180	-0.0000514	0.0005615	0.0035	3.0507		25905.45	25905.45	5.35		Si
SLD 8	7.95	-771.22	-15896	-0.0000308	0.0005615	0.0035	3.0507		24494.69	24494.69	31.76		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	6.16	2344.42	-31152	-25941	3233	3.0507	3.0507	-30369	10833	14488	28547	25578	7779	33358	No	10.32	Si
SLU 64	7.95	634.32	-25364	-21121	3051	3.0507	3.0507	-24727	10241	12560	28547	25578	7779	33358	No	10.93	Si
SLU 50	6.16	2259.44	-28486	-23721	3336	3.0507	3.0507	-27770	10647	13600	28547	25578	7779	33358	No	10	Si
SLU 50	7.95	554.5	-23260	-19369	3190	3.0507	3.0507	-22676	9968	11859	28547	25578	7779	33358	No	10.46	Si
SLU 53	6.16	2359.57	-31239	-26013	3166	3.0507	3.0507	-30454	10833	14517	28547	25578	7779	33358	No	10.54	Si
SLU 53	7.95	1033.22	-25669	-21375	2873	3.0507	3.0507	-25024	10281	12662	28547	25578	7779	33358	No	11.61	Si
SLU 71	6.16	2518.61	-32543	-27099	3203	3.0507	3.0507	-31724	10833	14951	28547	25578	7779	33358	No	10.41	Si
SLU 71	7.95	787.35	-26697	-22231	3045	3.0507	3.0507	-26026	10415	13004	28547	25578	7779	33358	No	10.96	Si
SLU 69	6.16	2543.91	-32909	-27404	3184	3.0507	3.0507	-32081	10833	15073	28547	25578	7779	33358	No	10.48	Si
SLU 69	7.95	808.08	-27046	-22522	3030	3.0507	3.0507	-26366	10460	13120	28547	25578	7779	33358	No	11.01	Si
SLU 43	6.16	2085.25	-27096	-22563	3366	3.0507	3.0507	-26415	10466	13137	28547	25578	7779	33358	No	9.91	Si
SLU 43	7.95	401.47	-21928	-18260	3196	3.0507	3.0507	-21377	9795	11416	28547	25578	7779	33358	No	10.44	Si
SLU 48	6.16	2284.74	-28853	-24026	3317	3.0507	3.0507	-28127	10695	13722	28547	25578	7779	33358	No	10.06	Si
SLU 48	7.95	575.23	-23610	-19660	3175	3.0507	3.0507	-23016	10013	11976	28547	25578	7779	33358	No	10.51	Si
SLU 58	6.16	2421.37	-31568	-26287	3169	3.0507	3.0507	-30774	10833	14627	28547	25578	7779	33358	No	10.53	Si
SLU 58	7.95	1089.01	-25986	-21639	2885	3.0507	3.0507	-25333	10322	12767	28547	25578	7779	33358	No	11.56	Si
SLU 66	6.16	2456.81	-32214	-26825	3199	3.0507	3.0507	-31404	10833	14842	28547	25578	7779	33358	No	10.43	Si
SLU 66	7.95	731.56	-26380	-21967	3033	3.0507	3.0507	-25716	10373	12898	28547	25578	7779	33358	No	11	Si
SLU 45	6.16	2197.65	-28158	-23447	3332	3.0507	3.0507	-27450	10604	13491	28547	25578	7779	33358	No	10.01	Si
SLU 45	7.95	498.71	-22943	-19105	3178	3.0507	3.0507	-22366	9927	11754	28547	25578	7779	33358	No	10.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	6.16	6851	-15148	-12614	20677	3.0507	3.0507	-14767	13370	11421	28547	38367	7779	39967		1.93	Si
SLV 12	7.95	-1716.22	-12906	-10747	19850	3.0507	3.0507	-12582	12933	11047	28547	38367	7779	39594		1.99	Si
SLV 5	6.16	-3265.59	-32757	-27278	-15739	3.0507	3.0507	-31934	16250	17079	28547	38367	7779	45625		2.9	Si
SLV 5	7.95	2895.18	-26163	-21786	-15267	3.0507	3.0507	-25505	15518	14882	28547	38367	7779	43429		2.84	Si
SLV 8	6.16	6993.57	-15771	-13133	22859	3.0507	3.0507	-15375	13492	11524	28547	38367	7779	40071		1.75	Si
SLV 8	7.95	-1737.08	-13302	-11076	22084	3.0507	3.0507	-12967	13010	11113	28547	38367	7779	39660		1.8	Si
SLD 8	6.16	4838.09	-19180	-15972	14468	3.0507	3.0507	-18698	14156	12557	28547	38367	7779	41103		2.84	Si
SLD 8	7.95	-771.22	-15896	-13237	13942	3.0507	3.0507	-15497	13516	11545	28547	38367	7779	40092		2.88	Si
SLV 10	6.16	-3462.75	-32125	-26751	-17872	3.0507	3.0507	-31317	16250	16868	28547	38367	7779	45414		2.54	Si
SLV 10	7.95	2966.37	-25677	-21381	-17434	3.0507	3.0507	-25031	15423	14720	28547	38367	7779	43267		2.48	Si
SLV 7	6.16	7048.15	-15780	-13141	22810	3.0507	3.0507	-15384	13493	11526	28547	38367	7779	40073		1.76	Si
SLV 7	7.95	-1787.41	-13393	-11152	22017	3.0507	3.0507	-13056	13028	11128	28547	38367	7779	39675		1.8	Si
SLV 6	6.16	-3320.17	-32748	-27270	-15690	3.0507	3.0507	-31925	16250	17076	28547	38367	7779	45622		2.91	Si
SLV 6	7.95	2945.51	-26072	-21710	-15200	3.0507	3.0507	-25416	15500	14852	28547	38367	7779	43398		2.86	Si
SLV 11	6.16	6905.58	-15157	-12621	20628	3.0507	3.0507	-14775	13372	11422	28547	38367	7779	39969		1.94	Si
SLV 11	7.95	-1766.56	-12997	-10823	19783	3.0507	3.0507	-12670	12951	11062	28547	38367	7779	39609		2	Si
SLD 7	6.16	4871.21	-19186	-15976	14439	3.0507	3.0507	-18703	14157	12558	28547	38367	7779	41105		2.85	Si
SLD 7	7.95	-801.77	-15952	-13283	13902	3.0507	3.0507	-15551	13527	11554	28547	38367	7779	40101		2.88	Si
SLV 9	6.16	-3408.16	-32134	-26758	-17921	3.0507	3.0507	-31326	16250	16871	28547	38367	7779	45417		2.53	Si
SLV 9	7.95	2916.03	-25768	-21457	-17501	3.0507	3.0507	-25120	15441	14751	28547	38367	7779	43297		2.47	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.055 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.4	16987	-14510	192.58	1805.46	9.38	Si
SLV 11	179667	0.4	17032	-14548	192.58	1809.62	9.4	Si
SLV 8	179667	0.4	17632	-15061	192.58	1865.11	9.68	Si
SLV 7	179667	0.4	17677	-15099	192.58	1869.22	9.71	Si
SLV 16	179667	0.4	22102	-18879	192.58	2260.54	11.74	Si
SLV 15	179667	0.4	22168	-18936	192.58	2266.19	11.77	Si
SLV 4	179667	0.4	24252	-20716	192.58	2439.63	12.67	Si
SLV 3	179667	0.4	24318	-20772	192.58	2445.05	12.7	Si
SLV 14	179667	0.4	27140	-23183	192.58	2668.78	13.86	Si
SLV 13	179667	0.4	27206	-23239	192.58	2673.9	13.88	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.

- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.055 Wa = 0.05 Ta = 0.0425

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-26163	-32757	-333	0.652	2984.8	0.967	9.79167	4.07099	Si
SLV 6	-26072	-32748	-333	0.654	2975.5	0.967	9.8217	4.07099	Si
SLV 9	-25768	-32134	272	0.662	2944.5	0.967	9.95676	4.07099	Si
SLV 10	-25677	-32125	272	0.664	2935.3	0.967	9.98795	4.07099	Si
SLV 1	-22177	-27545	-1005	0.723	2579.1	0.963	10.9095	4.40165	Si
SLV 2	-22042	-27532	-1005	0.726	2565.4	0.962	10.96825	4.40165	Si
SLV 13	-20859	-25466	1013	0.761	2445	0.961	11.50831	4.40165	Si
SLV 14	-20723	-25453	1013	0.765	2431.3	0.961	11.57452	4.40165	Si
SLV 3	-18346	-22452	-975	0.85	2189.5	0.957	12.91179	4.40165	Si
SLV 4	-18210	-22439	-975	0.855	2175.7	0.956	12.99583	4.40165	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.376	SLU 77	Si
V_SLU	9.91	SLU 43	Si
PF_SLV	3.098	SLV 11	Si
V_SLV	1.753	SLV 8	Si
PFFP_SLV	9.375	SLV 12	Si
R_SLV	2.405	SLV 5	Si

Maschio 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-0.354	-13.753	1.141	L5	L6	1.495	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	4.4	1655.71	-17912	-0.0000983	0.0003743	0.0035	1.495	7761.87	9439.38	9439.38	5.7	No	Si
SLU 39	7.95	-67.7	-14515	-0.0000565	0.0003743	0.0035	1.495	7154.73	8608.31	8608.31	127.15	No	Si
SLU 82	4.4	1877.51	-20998	-0.0001176	0.0003743	0.0035	1.495	7962.62	10385.11	10385.11	5.53	No	Si
SLU 82	7.95	-33.31	-16880	-0.000066	0.0003743	0.0035	1.495	7620.28	9490.17	9490.17	284.92	No	Si
SLU 62	4.4	1786.82	-18949	-0.0001057	0.0003743	0.0035	1.495	7866.61	9749.36	9749.36	5.46	No	Si
SLU 62	7.95	-123.18	-15247	-0.0000605	0.0003743	0.0035	1.495	7319.85	8876.5	8876.5	72.06	No	Si
SLU 41	4.4	1682.13	-18342	-0.0001009	0.0003743	0.0035	1.495	7809.87	9567.71	9567.71	5.69	No	Si
SLU 41	7.95	-43.91	-14979	-0.0000581	0.0003743	0.0035	1.495	7261.39	8776.98	8776.98	199.87	No	Si
SLU 60	4.4	1760.41	-18519	-0.0001031	0.0003743	0.0035	1.495	7827.76	9620.38	9620.38	5.46	No	Si
SLU 60	7.95	-146.97	-14784	-0.0000589	0.0003743	0.0035	1.495	7217.57	8705.8	8705.8	59.24	No	Si
SLU 63	4.4	1765.27	-18961	-0.0001053	0.0003743	0.0035	1.495	7867.57	9752.9	9752.9	5.52	No	Si
SLU 63	7.95	-98.55	-15293	-0.0000603	0.0003743	0.0035	1.495	7329.51	8893.48	8893.48	90.24	No	Si
SLU 61	4.4	1738.85	-18531	-0.0001028	0.0003743	0.0035	1.495	7828.9	9623.87	9623.87	5.53	No	Si
SLU 61	7.95	-122.34	-14830	-0.0000587	0.0003743	0.0035	1.495	7227.96	8722.44	8722.44	71.3	No	Si
SLU 83	4.4	1925.48	-21416	-0.0001206	0.0003743	0.0035	1.495	7964.11	10519.19	10519.19	5.46	No	Si
SLU 83	7.95	-34.14	-17298	-0.0000679	0.0003743	0.0035	1.495	7682.12	9615.92	9615.92	281.62	No	Si
SLU 84	4.4	1903.93	-21428	-0.0001203	0.0003743	0.0035	1.495	7964.07	10522.96	10522.96	5.53	No	Si
SLU 84	7.95	-9.52	-17344	-0.0000677	0.0003743	0.0035	1.495	7688.5	9626.82	9626.82	1011.37	No	Si
SLU 81	4.4	1899.07	-20986	-0.0001179	0.0003743	0.0035	1.495	7962.49	10381.37	10381.37	5.47	No	Si
SLU 81	7.95	-57.93	-16835	-0.0000663	0.0003743	0.0035	1.495	7613.17	9474.49	9474.49	163.54	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	4.4	2140.63	-14067	-0.000085	0.0005615	0.0035	1.495		8868	8868	4.14		Si
SLV 3	7.95	-668.38	-11407	-0.0000517	0.0005615	0.0035	1.495		7901.18	7901.18	11.82		Si
SLD 12	4.4	2157.88	-14270	-0.0000861	0.0005615	0.0035	1.495		8985.06	8985.06	4.16		Si
SLD 12	7.95	-792.56	-9323	-0.0000456	0.0005615	0.0035	1.495		6709.96	6709.96	8.47		Si
SLV 12	4.4	2905.23	-14282	-0.0000979	0.0005615	0.0035	1.495		8992.04	8992.04	3.1		Si
SLV 12	7.95	-1432.62	-8076	-0.0000503	0.0005615	0.0035	1.495		5964.75	5964.75	4.16		Si
SLD 7	4.4	2327.48	-14212	-0.0000885	0.0005615	0.0035	1.495		8951.4	8951.4	3.85		Si
SLD 7	7.95	-900.32	-9746	-0.0000488	0.0005615	0.0035	1.495		6959.03	6959.03	7.73		Si
SLV 4	4.4	2147.67	-14020	-0.0000849	0.0005615	0.0035	1.495		8840.58	8840.58	4.12		Si
SLV 4	7.95	-670.01	-11413	-0.0000518	0.0005615	0.0035	1.495		7904.33	7904.33	11.8		Si
SLD 11	4.4	2155	-14289	-0.0000861	0.0005615	0.0035	1.495		8996.01	8996.01	4.17		Si
SLD 11	7.95	-791.9	-9321	-0.0000455	0.0005615	0.0035	1.495		6708.6	6708.6	8.47		Si
SLV 8	4.4	3175.04	-14161	-0.0001017	0.0005615	0.0035	1.495		8922.11	8922.11	2.81		Si
SLV 8	7.95	-1603.63	-8731	-0.0000554	0.0005615	0.0035	1.495		6364.04	6364.04	3.97		Si
SLV 7	4.4	3170.31	-14193	-0.0001017	0.0005615	0.0035	1.495		8940.6	8940.6	2.82		Si
SLV 7	7.95	-1602.53	-8727	-0.0000553	0.0005615	0.0035	1.495		6361.83	6361.83	3.97		Si
SLD 8	4.4	2330.35	-14192	-0.0000885	0.0005615	0.0035	1.495		8940.17	8940.17	3.84		Si
SLD 8	7.95	-900.98	-9748	-0.0000488	0.0005615	0.0035	1.495		6960.4	6960.4	7.73		Si
SLV 11	4.4	2900.5	-14314	-0.0000979	0.0005615	0.0035	1.495		9009.71	9009.71	3.11		Si
SLV 11	7.95	-1431.53	-8072	-0.0000503	0.0005615	0.0035	1.495		5962.4	5962.4	4.17		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	4.4	1903.93	-21428	-17843	4766	1.495	1.495	-42626	10833	6101	40441	12535	3812	16347	No	3.43	Si
SLU 84	7.95	-9.52	-17344	-14442	-1300	1.495	1.495	-34501	10833	5195	40441	12535	3812	16347	No	12.57	Si
SLU 81	4.4	1899.07	-20986	-17476	4824	1.495	1.495	-41748	10833	6003	40441	12535	3812	16347	No	3.39	Si
SLU 81	7.95	-57.93	-16835	-14018	-1103	1.495	1.495	-33489	10833	5082	40441	12535	3812	16347	No	14.83	Si
SLU 77	4.4	1796.97	-21334	-17765	4767	1.495	1.495	-42439	10833	6081	40441	12535	3812	16347	No	3.43	Si
SLU 77	7.95	87.46	-17256	-14370	-1243	1.495	1.495	-34328	10833	5175	40441	12535	3812	16347	No	13.15	Si
SLU 78	4.4	1775.41	-21346	-17775	4647	1.495	1.495	-42462	10833	6083	40441	12535	3812	16347	No	3.52	Si
SLU 78	7.95	112.09	-17302	-14408	-1378	1.495	1.495	-34418	10833	5185	40441	12535	3812	16347	No	11.86	Si
SLU 79	4.4	1787.68	-21134	-17598	4744	1.495	1.495	-42041	10833	6036	40441	12535	3812	16347	No	3.45	Si
SLU 79	7.95	76.96	-17045	-14193	-1204	1.495	1.495	-33906	10833	5128	40441	12535	3812	16347	No	13.57	Si
SLU 74	4.4	1770.55	-20904	-17407	4704	1.495	1.495	-41584	10833	5985	40441	12535	3812	16347	No	3.47	Si
SLU 74	7.95	63.67	-16793	-13984	-1181	1.495	1.495	-33406	10833	5072	40441	12535	3812	16347	No	13.84	Si
SLU 60	4.4	1760.41	-18519	-15421	4691	1.495	1.495	-36839	10833	5455	40441	12535	3812	16347	No	3.49	Si
SLU 60	7.95	-146.97	-14784	-12311	-533	1.495	1.495	-29410	10833	4626	40441	12535	3812	16347	No	30.68	Si
SLU 83	4.4	1925.48	-21416	-17834	4887	1.495	1.495	-42603	10833	6099	40441	12535	3812	16347	No	3.35	Si
SLU 83	7.95	-34.14	-17298	-14404	-1165	1.495	1.495	-34411	10833	5184	40441	12535	3812	16347	No	14.03	Si
SLU 82	4.4	1877.51	-20998	-17485	4703	1.495	1.495	-41771	10833	6006	40441	12535	3812	16347	No	3.48	Si
SLU 82	7.95	-33.31	-16880	-14056	-1237	1.495	1.495	-33580	10833	5092	40441	12535	3812	16347	No	13.21	Si
SLU 62	4.4	1786.82	-18949	-15779	4754	1.495	1.495	-37695	10833	5551	40441	12535	3812	16347	No	3.44	Si
SLU 62	7.95	-123.18	-15247	-12697	-595	1.495	1.495	-30331	10833	4729	40441	12535	3812	16347	No	27.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	4.4	2330.35	-14192	-11818	9300	1.495	1.495	-28232	16063	6724	40441	18802	3812	22614		2.43	Si
SLD 8	7.95	-900.98	-9748	-8118	5481	1.495	1.495	-19392	14295	5984	40441	18802	3812	22614		4.13	Si
SLV 9	4.4	-937.53	-14337	-11938	-6901	1.495	1.495	-28520	16121	6748	40441	18802	3812	22614		3.28	Si
SLV 9	7.95	1806.71	-13547	-11281	-11134	1.495	1.495	-26948	15806	6617	40441	18802	3812	22614		2.03	Si
SLV 5	4.4	-667.72	-14215	-11837	-5516	1.495	1.495	-28278	16072	6728	40441	18802	3812	22614		4.1	Si
SLV 5	7.95	1635.71	-14202	-11826	-9826	1.495	1.495	-28251	16067	6726	40441	18802	3812	22614		2.3	Si
SLD 7	4.4	2327.48	-14212	-11834	9290	1.495	1.495	-28271	16071	6727	40441	18802	3812	22614		2.43	Si
SLD 7	7.95	-900.32	-9746	-8116	5468	1.495	1.495	-19387	14294	5984	40441	18802	3812	22614		4.14	Si
SLV 6	4.4	-662.98	-14183	-11811	-5501	1.495	1.495	-28215	16060	6723	40441	18802	3812	22614		4.11	Si
SLV 6	7.95	1634.61	-14206	-11829	-9805	1.495	1.495	-28259	16068	6726	40441	18802	3812	22614		2.31	Si
SLV 12	4.4	2905.23	-14282	-11893	12099	1.495	1.495	-28411	16099	6739	40441	18802	3812	22614		1.87	Si
SLV 12	7.95	-1432.62	-8076	-6725	8469	1.495	1.495	-16066	13630	5705	40441	18802	3812	22614		2.67	Si
SLV 7	4.4	3170.31	-14193	-11819	13469	1.495	1.495	-28234	16063	6724	40441	18802	3812	22614		1.68	Si
SLV 7	7.95	-1602.53	-8727	-7267	9757	1.495	1.495	-17361	13889	5814	40441	18802	3812	22614		2.32	Si
SLV 10	4.4	-932.8	-14305	-11912	-6886	1.495	1.495	-28456	16108	6743	40441	18802	3812	22614		3.28	Si
SLV 10	7.95	1805.61	-13551	-11284	-11113	1.495	1.495	-26956	15808	6617	40441	18802	3812	22614		2.03	Si
SLV 8	4.4	3175.04	-14161	-11792	13484	1.495	1.495	-28170	16051	6719	40441	18802	3812	22614		1.68	Si
SLV 8	7.95	-1603.63	-8731	-7271	9777	1.495	1.495	-17369	13890	5815	40441	18802	3812	22614		2.31	Si
SLV 11	4.4	2900.5	-14314	-11920	12084	1.495	1.495	-28475	16112	6744	40441	18802	3812	22614		1.87	Si
SLV 11	7.95	-1431.53	-8072	-6722	8449	1.495	1.495	-16058	13628	5705	40441	18802	3812	22614		2.68	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.38	27674	-11584	158.86	1327.92	8.36	Si
SLV 11	179667	0.38	27686	-11590	158.86	1328.38	8.36	Si
SLV 8	179667	0.38	28406	-11891	158.86	1355.08	8.53	Si
SLV 7	179667	0.38	28419	-11896	158.86	1355.53	8.53	Si
SLV 16	179667	0.38	29183	-12216	158.86	1383.41	8.71	Si
SLV 15	179667	0.38	29201	-12224	158.86	1384.08	8.71	Si
SLV 14	179667	0.38	31210	-13065	158.86	1455.26	9.16	Si
SLV 13	179667	0.38	31229	-13072	158.86	1455.89	9.16	Si
SLV 4	179667	0.38	31623	-13238	158.86	1469.5	9.25	Si
SLV 3	179667	0.38	31642	-13245	158.86	1470.13	9.25	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-13055	-14026	-280	0.607	1538.6	0.96	9.19547	5.26967	Si
SLV 1	-13049	-14074	-280	0.607	1538	0.96	9.19887	5.26967	Si
SLV 6	-14206	-14183	-102	0.577	1655.6	0.962	8.70826	4.55335	Si
SLV 5	-14202	-14215	-102	0.577	1655.3	0.962	8.71025	4.55335	Si
SLV 4	-11413	-14020	-256	0.682	1371.6	0.955	10.37854	5.26967	Si
SLV 3	-11407	-14067	-256	0.682	1371.1	0.955	10.38293	5.26967	Si
SLV 10	-13551	-14305	74	0.602	1589	0.961	9.10793	4.55335	Si
SLV 9	-13547	-14337	73	0.602	1588.6	0.961	9.11027	4.55335	Si
SLV 14	-10871	-14431	306	0.707	1316.6	0.953	10.76892	5.26967	Si
SLV 13	-10865	-14478	306	0.707	1316	0.953	10.77399	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.456	SLU 62	Si
V_SLU	3.345	SLU 83	Si
PF_SLV	2.81	SLV 8	Si
V_SLV	1.677	SLV 8	Si
PFFP_SLV	8.359	SLV 12	Si
R_SLV	1.745	SLV 2	Si

Maschio 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.743	6.661	L5	L6	2.015	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	5.3	1505.61	-17047	-0.0000609	0.0003743	0.0035	2.015	12077.7	13507.91	13507.91	8.97	No	Si
SLU 43	7.1	779.33	-14419	-0.0000465	0.0003743	0.0035	2.015	10880.39	11964.69	11964.69	15.35	No	Si
SLU 56	5.3	1709.77	-20740	-0.0000746	0.0003743	0.0035	2.015	13350.87	15760.24	15760.24	9.22	No	Si
SLU 56	7.1	1072.39	-18112	-0.0000604	0.0003743	0.0035	2.015	12493.99	14155.12	14155.12	13.2	No	Si
SLU 69	5.3	1769.86	-21737	-0.0000784	0.0003743	0.0035	2.015	13612.64	16176.17	16176.17	9.14	No	Si
SLU 69	7.1	1140.58	-19066	-0.000064	0.0003743	0.0035	2.015	12833.26	14744.16	14744.16	12.93	No	Si
SLU 48	5.3	1634.25	-18586	-0.0000669	0.0003743	0.0035	2.015	12666.56	14446.81	14446.81	8.84	No	Si
SLU 48	7.1	851.02	-15958	-0.0000518	0.0003743	0.0035	2.015	11611.16	12860.27	12860.27	15.11	No	Si
SLU 50	5.3	1608.02	-18284	-0.0000657	0.0003743	0.0035	2.015	12557.65	14261.16	14261.16	8.87	No	Si
SLU 50	7.1	830.9	-15656	-0.0000507	0.0003743	0.0035	2.015	11474.42	12682.97	12682.97	15.26	No	Si
SLU 49	5.3	1567.8	-18585	-0.0000663	0.0003743	0.0035	2.015	12666.18	14446.16	14446.16	9.21	No	Si
SLU 49	7.1	887.53	-15957	-0.0000521	0.0003743	0.0035	2.015	11610.68	12859.65	12859.65	14.49	No	Si
SLU 71	5.3	1743.63	-21435	-0.0000772	0.0003743	0.0035	2.015	13537.09	16058.3	16058.3	9.21	No	Si
SLU 71	7.1	1120.46	-18764	-0.0000629	0.0003743	0.0035	2.015	12729.43	14556.95	14556.95	12.99	No	Si
SLU 77	5.3	1845.39	-23890	-0.0000864	0.0003743	0.0035	2.015	14058.91	17031.33	17031.33	9.23	No	Si
SLU 77	7.1	1361.95	-21220	-0.000073	0.0003743	0.0035	2.015	13481.28	15973.08	15973.08	11.73	No	Si
SLU 51	5.3	1541.57	-18283	-0.0000651	0.0003743	0.0035	2.015	12557.26	14260.51	14260.51	9.25	No	Si
SLU 51	7.1	867.42	-15655	-0.000051	0.0003743	0.0035	2.015	11473.93	12682.35	12682.35	14.62	No	Si
SLU 45	5.3	1583.05	-17967	-0.0000645	0.0003743	0.0035	2.015	12439.85	14066.54	14066.54	8.89	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 45	7.1	825.23	-15339	-0.0000497	0.0003743	0.0035	2.015	11327.41	12497.31	12497.31	15.14	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	5.3	5168.65	-11645	-0.0000761	0.0005615	0.0035	2.015		10570.59	10570.59	2.05		Si
SLD 15	7.1	-2464.67	-9650	-0.0000456	0.0005615	0.0035	2.015		9941.01	9941.01	4.03		Si
SLV 15	5.3	7506.63	-9528	-0.0001728	0.0005615	0.0035	2.015		9007	9007	1.2		Si
SLV 15	7.1	-4391.8	-7572	-0.0000647	0.0005615	0.0035	1.612		8160.92	8160.92	1.86		Si
SLD 16	5.3	5985.22	-10445	-0.0000895	0.0005615	0.0035	2.015		9694.84	9694.84	1.62		Si
SLD 16	7.1	-3099.98	-8449	-0.0000475	0.0005615	0.0035	2.015		8919.61	8919.61	2.88		Si
SLV 14	5.3	5610.2	-7094	-0.0001255	0.0005615	0.0035	2.015		6902.83	6902.83	1.23		Si
SLV 14	7.1	-3543.38	-5164	-0.0000582	0.0005615	0.0035	1.612		6004.6	6004.6	1.69		Si
SLV 11	5.3	7718.16	-14854	-0.0001158	0.0005615	0.0035	2.015		12963.14	12963.14	1.68		Si
SLV 11	7.1	-3360.97	-12797	-0.0000621	0.0005615	0.0035	2.015		12498.74	12498.74	3.72		Si
SLD 14	5.3	4121.97	-10129	-0.0000615	0.0005615	0.0035	2.015		9465.89	9465.89	2.3		Si
SLD 14	7.1	-2017.2	-8148	-0.0000378	0.0005615	0.0035	2.015		8665.98	8665.98	4.3		Si
SLD 12	5.3	5639.91	-14228	-0.0000865	0.0005615	0.0035	2.015		12490.77	12490.77	2.21		Si
SLD 12	7.1	-2106.19	-12175	-0.0000499	0.0005615	0.0035	2.015		12013.78	12013.78	5.7		Si
SLV 12	5.3	8584.68	-13580	-0.0001403	0.0005615	0.0035	2.015		12004.1	12004.1	1.4		Si
SLV 12	7.1	-4035.15	-11524	-0.000064	0.0005615	0.0035	2.015		11481.68	11481.68	2.85		Si
SLV 16	5.3	8793.75	-7635	-0.011654	0.0005615	0.0035	2.015		7379.4	7379.4	0.84		No
SLV 16	7.1	-5393.22	-5680	-0.0002717	0.0005615	0.0035	1.612		6479.75	6479.75	1.2		Si
SLV 13	5.3	4323.08	-8986	-0.0000622	0.0005615	0.0035	2.015		8547.71	8547.71	1.98		Si
SLV 13	7.1	-2541.96	-7056	-0.000039	0.0005615	0.0035	2.015		7702.44	7702.44	3.03		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	5.3	1634.25	-18586	-15477	452	2.015	2.015	-27431	10602	5982	40441	16895	5138	22033	No	48.69	Si
SLU 48	7.1	851.02	-15958	-13289	452	2.015	2.015	-23553	10085	5690	40441	16895	5138	22033	No	48.69	Si
SLU 49	5.3	1567.8	-18585	-15476	395	2.015	2.015	-27430	10602	5982	40441	16895	5138	22033	No	55.74	Si
SLU 49	7.1	887.53	-15957	-13288	395	2.015	2.015	-23551	10085	5690	40441	16895	5138	22033	No	55.74	Si
SLU 58	5.3	1683.54	-20438	-17019	368	2.015	2.015	-30164	10833	6349	40441	16895	5138	22033	No	59.86	Si
SLU 58	7.1	1052.27	-17810	-14831	368	2.015	2.015	-26286	10449	5895	40441	16895	5138	22033	No	59.86	Si
SLU 69	5.3	1769.86	-21737	-18101	367	2.015	2.015	-32082	10833	6637	40441	16895	5138	22033	No	60.01	Si
SLU 69	7.1	1140.58	-19066	-15877	367	2.015	2.015	-28140	10696	6044	40441	16895	5138	22033	No	60.01	Si
SLU 43	5.3	1505.61	-17047	-14195	421	2.015	2.015	-25159	10299	5811	40441	16895	5138	22033	No	52.35	Si
SLU 43	7.1	779.33	-14419	-12007	421	2.015	2.015	-21281	9782	5519	40441	16895	5138	22033	No	52.35	Si
SLU 56	5.3	1709.77	-20740	-17270	371	2.015	2.015	-30610	10833	6416	40441	16895	5138	22033	No	59.31	Si
SLU 56	7.1	1072.39	-18112	-15082	371	2.015	2.015	-26731	10509	5929	40441	16895	5138	22033	No	59.31	Si
SLU 45	5.3	1583.05	-17967	-14962	438	2.015	2.015	-26518	10480	5913	40441	16895	5138	22033	No	50.26	Si
SLU 45	7.1	825.23	-15339	-12773	438	2.015	2.015	-22640	9963	5621	40441	16895	5138	22033	No	50.26	Si
SLU 50	5.3	1608.02	-18284	-15225	449	2.015	2.015	-26986	10543	5948	40441	16895	5138	22033	No	49.06	Si
SLU 50	7.1	830.9	-15656	-13037	449	2.015	2.015	-23107	10025	5656	40441	16895	5138	22033	No	49.06	Si
SLU 46	5.3	1516.6	-17966	-14961	381	2.015	2.015	-26517	10480	5913	40441	16895	5138	22033	No	57.8	Si
SLU 46	7.1	861.75	-15338	-12772	381	2.015	2.015	-22638	9963	5621	40441	16895	5138	22033	No	57.8	Si
SLU 51	5.3	1541.57	-18283	-15225	392	2.015	2.015	-26984	10542	5948	40441	16895	5138	22033	No	56.22	Si
SLU 51	7.1	867.42	-15655	-13036	392	2.015	2.015	-23106	10025	5656	40441	16895	5138	22033	No	56.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	5.3	8793.75	-7635	-6358	7978	2.015	0	-236562	16250	4411	40441	25342	5138	30480		3.82	Si
SLV 16	7.1	-5393.22	-5680	-4730	7742	1.612	0.1738	0	0	0	40441	20274	4111	24384		3.15	Si
SLV 5	5.3	-6076.17	-17339	-14438	-6538	2.015	1.9712	-25591	15535	8574	40441	25342	5138	30480		4.66	Si
SLV 5	7.1	5678.82	-15305	-12745	-6466	2.015	1.9094	-22589	14935	7984	40441	25342	5138	30480		4.71	Si
SLV 1	5.3	-6285.24	-23283	-19388	-7471	2.015	2.015	-34364	16250	9168	40441	25342	5138	30480		4.08	Si
SLV 1	7.1	7036.89	-21149	-17611	-7235	2.015	2.015	-31214	16250	9168	40441	25342	5138	30480		4.21	Si
SLV 2	5.3	-4998.12	-21391	-17813	-6199	2.015	2.015	-31571	16250	9168	40441	25342	5138	30480		4.92	Si
SLV 2	7.1	6035.47	-19257	-16036	-5964	2.015	2.015	-28422	16101	9084	40441	25342	5138	30480		5.11	Si
SLV 11	5.3	7718.16	-14854	-12369	6190	2.015	1.4637	-21923	14801	6066	40441	25342	5138	30480		4.92	Si
SLV 11	7.1	-3360.97	-12797	-10656	6117	2.015	2.015	-18888	14194	8008	40441	25342	5138	30480		4.98	Si
SLV 6	5.3	-5209.65	-16065	-13378	-5682	2.015	2.015	-23711	15159	8553	40441	25342	5138	30480		5.36	Si
SLV 6	7.1	5004.64	-14031	-11684	-5610	2.015	1.9525	-20709	14559	7959	40441	25342	5138	30480		5.43	Si
SLV 12	5.3	8584.68	-13580	-11308	7046	2.015	1.126	-20043	14425	5731	40441	25342	5138	30480		4.33	Si
SLV 12	7.1	-4035.15	-11524	-9596	6973	2.015	1.972	-17008	13818	7630	40441	25342	5138	30480		4.37	Si
SLV 15	5.3	7506.63	-9528	-7934	6707	2.015	0.6588	-44109	16250	4832	40441	25342	5138	30480		4.54	Si
SLV 15	7.1	-4391.8	-7572	-6305	6471	1.612	1.2824	0	0	0	40441	20274	4111	24384		3.77	Si
SLV 14	5.3	5610.2	-7094	-5908	5184	2.015	0.6501	-33038	16250	4291	40441	25342	5138	30480		5.88	Si
SLV 14	7.1	-3543.38	-5164	-4300	4950	1.612	0.9638	0	0	0	40441	20274	4111	24384		4.93	Si
SLD 16	5.3	5985.22	-10445	-8698	5117	2.015	1.3035	-15416	13500	5035	40441	25342	5138	30480		5.96	Si
SLD 16	7.1	-3099.98	-8449	-7036	4966	2.015	1.9218	-13154	13048	7021	40441	25342	5138	30480		6.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.38	10912	-6156	208.73	800.31	3.83	Si
SLV 16	179667	0.38	11970	-6753	208.73	871.38	4.17	Si
SLV 13	179667	0.38	14265	-8048	208.73	1021.53	4.89	Si
SLV 15	179667	0.38	15324	-8646	208.73	1088.93	5.22	Si
SLV 10	179667	0.38	19142	-10800	208.73	1322.45	6.34	Si
SLV 9	179667	0.38	21399	-12074	208.73	1453.44	6.96	Si
SLV 12	179667	0.38	22670	-12790	208.73	1524.82	7.31	Si
SLV 11	179667	0.38	24927	-14064	208.73	1647.57	7.89	Si
SLV 6	179667	0.38	26785	-15112	208.73	1744.6	8.36	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.38	29042	-16386	208.73	1857.74	8.9	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-15655	-25871	-247	0.678	1876.4	0.956	10.30549	5.26967	Si
SLV 4	-14797	-23185	-246	0.711	1789.3	0.954	10.82915	5.26967	Si
SLV 7	-15891	-16031	-811	0.637	1900.5	0.956	9.68558	4.55335	Si
SLV 8	-15314	-14222	-811	0.657	1841.8	0.955	10.0054	4.55335	Si
SLV 1	-13644	-27290	240	0.761	1672.2	0.951	11.63307	5.26967	Si
SLV 2	-12786	-24603	241	0.804	1585.1	0.949	12.31167	5.26967	Si
SLV 11	-14204	-9392	-808	0.701	1729	0.952	10.68961	4.55335	Si
SLV 12	-13626	-7583	-808	0.725	1670.3	0.951	11.08459	4.55335	Si
SLV 15	-10029	-3741	-236	0.982	1305.5	0.939	15.19489	5.26967	Si
SLV 16	-9171	-1054	-236	1.056	1218.7	0.936	16.398	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.84	SLU 48	Si
V_SLU	48.692	SLU 48	Si
PF_SLV	0.839	SLV 16	No
V_SLV	3.149	SLV 16	Si
PFFP_SLV	3.834	SLV 14	Si
R_SLV	1.956	SLV 3	Si

Maschio 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.843	6.661	-12.818	6.661	L5	L6	4.025	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	5.3	-1288.96	-51405	-0.0000783	0.0003743	0.0035	4.025	57104.94	73763.18	73763.18	57.23	No	Si
SLU 72	7.1	84.8	-46163	-0.0000668	0.0003743	0.0035	4.025	55526.02	66579.61	66579.61	785.13	No	Si
SLU 68	5.3	-1250.72	-49922	-0.0000757	0.0003743	0.0035	4.025	56756.02	72881.38	72881.38	58.27	No	Si
SLU 68	7.1	166.85	-44680	-0.0000646	0.0003743	0.0035	4.025	54904.4	65369.75	65369.75	391.79	No	Si
SLU 77	5.3	-1330.31	-57555	-0.0000889	0.0003743	0.0035	4.025	57728.53	77687.9	77687.9	58.4	No	Si
SLU 77	7.1	130.52	-52313	-0.0000771	0.0003743	0.0035	4.025	57280.43	71791.16	71791.16	550.03	No	Si
SLU 70	5.3	-1295.3	-52142	-0.0000796	0.0003743	0.0035	4.025	57249.71	74211.75	74211.75	57.29	No	Si
SLU 70	7.1	118.49	-46900	-0.0000681	0.0003743	0.0035	4.025	55806.4	67187.99	67187.99	567.04	No	Si
SLU 80	5.3	-1368.03	-56644	-0.0000874	0.0003743	0.0035	4.025	57719.88	77095.67	77095.67	56.36	No	Si
SLU 80	7.1	124.48	-51402	-0.0000755	0.0003743	0.0035	4.025	57104.4	70999.98	70999.98	570.38	No	Si
SLU 84	5.3	-1334.3	-57522	-0.0000889	0.0003743	0.0035	4.025	57728.72	77667.29	77667.29	58.21	No	Si
SLU 84	7.1	205.1	-52280	-0.0000772	0.0003743	0.0035	4.025	57274.63	71762.72	71762.72	349.89	No	Si
SLU 79	5.3	-1323.98	-56817	-0.0000876	0.0003743	0.0035	4.025	57723.76	77211.34	77211.34	58.32	No	Si
SLU 79	7.1	96.83	-51575	-0.0000758	0.0003743	0.0035	4.025	57140.06	71149.66	71149.66	734.76	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	5.3	-1329.79	-55161	-0.0000848	0.0003743	0.0035	4.025	57643.53	76118.09	76118.09	57.24	No	Si
SLU 76	7.1	206.53	-49919	-0.0000733	0.0003743	0.0035	4.025	56755.35	69725.67	69725.67	337.61	No	Si
SLU 78	5.3	-1374.36	-57382	-0.0000888	0.0003743	0.0035	4.025	57729.12	77578.41	77578.41	56.45	No	Si
SLU 78	7.1	158.17	-52140	-0.0000769	0.0003743	0.0035	4.025	57249.25	71640.42	71640.42	452.95	No	Si
SLU 38	5.3	-1232.19	-49072	-0.0000743	0.0003743	0.0035	4.025	56521.23	72283.94	72283.94	58.66	No	Si
SLU 38	7.1	144.88	-44997	-0.0000651	0.0003743	0.0035	4.025	55043.9	65627.11	65627.11	452.97	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	5.3	-10806.72	-24541	-0.0000552	0.0005615	0.0035	4.025		48579.59	48579.59	4.5		Si
SLV 5	7.1	8352.79	-20498	-0.0000444	0.0005615	0.0035	4.025		37856.68	37856.68	4.53		Si
SLV 1	5.3	-19815.63	-37098	-0.0000931	0.0005615	0.0035	4.025		67193.54	67193.54	3.39		Si
SLV 1	7.1	16897.55	-33066	-0.0000806	0.0005615	0.0035	4.025		57001.69	57001.69	3.37		Si
SLV 13	5.3	12256.94	-29858	-0.000066	0.0005615	0.0035	4.025		52004.06	52004.06	4.24		Si
SLV 13	7.1	-12390.46	-25847	-0.0000604	0.0005615	0.0035	4.025		50619.96	50619.96	4.09		Si
SLV 2	5.3	-16295.3	-36485	-0.0000845	0.0005615	0.0035	4.025		66337.52	66337.52	4.07		Si
SLV 2	7.1	14446.45	-32453	-0.0000745	0.0005615	0.0035	4.025		56040.89	56040.89	3.88		Si
SLV 15	5.3	14649.79	-38363	-0.0000839	0.0005615	0.0035	4.025		64955.57	64955.57	4.43		Si
SLV 15	7.1	-14196.05	-34368	-0.0000768	0.0005615	0.0035	4.025		63406.03	63406.03	4.47		Si
SLD 1	5.3	-12901.27	-37448	-0.0000787	0.0005615	0.0035	4.025		67683.18	67683.18	5.25		Si
SLD 1	7.1	10807.25	-33423	-0.0000682	0.0005615	0.0035	4.025		57563.79	57563.79	5.33		Si
SLV 3	5.3	-17422.78	-45603	-0.0001013	0.0005615	0.0035	4.025		78348.78	78348.78	4.5		Si
SLV 3	7.1	15091.96	-41587	-0.0000898	0.0005615	0.0035	4.025		68751.25	68751.25	4.56		Si
SLV 16	5.3	18170.12	-37750	-0.0000905	0.0005615	0.0035	4.025		64239.88	64239.88	3.54		Si
SLV 16	7.1	-16647.15	-33755	-0.0000811	0.0005615	0.0035	4.025		62517.85	62517.85	3.76		Si
SLV 4	5.3	-13902.44	-44990	-0.0000925	0.0005615	0.0035	4.025		77596.18	77596.18	5.58		Si
SLV 4	7.1	12640.85	-40974	-0.0000835	0.0005615	0.0035	4.025		68025.28	68025.28	5.38		Si
SLV 14	5.3	15777.27	-29245	-0.0000725	0.0005615	0.0035	4.025		51057.73	51057.73	3.24		Si
SLV 14	7.1	-14841.56	-25234	-0.0000646	0.0005615	0.0035	4.025		49676.4	49676.4	3.35		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	5.3	-1290.25	-57695	-48043	-753	4.025	4.025	-42629	10833	24642	40441	33747	10264	44011	No	58.46	Si
SLU 83	7.1	177.46	-52453	-43678	-753	4.025	4.025	-38756	10833	22896	40441	33747	10264	44011	No	58.46	Si
SLU 80	5.3	-1368.03	-56644	-47169	-767	4.025	4.025	-41853	10833	24292	40441	33747	10264	44011	No	57.41	Si
SLU 80	7.1	124.48	-51402	-42804	-767	4.025	4.025	-37980	10833	22546	40441	33747	10264	44011	No	57.41	Si
SLU 78	5.3	-1374.36	-57382	-47783	-789	4.025	4.025	-42398	10833	24538	40441	33747	10264	44011	No	55.79	Si
SLU 78	7.1	158.17	-52140	-43418	-789	4.025	4.025	-38525	10833	22792	40441	33747	10264	44011	No	55.79	Si
SLU 82	5.3	-1266.69	-56154	-46760	-790	4.025	4.025	-41491	10833	24129	40441	33747	10264	44011	No	55.68	Si
SLU 82	7.1	268.72	-50912	-42395	-790	4.025	4.025	-37618	10833	22383	40441	33747	10264	44011	No	55.68	Si
SLU 84	5.3	-1334.3	-57522	-47899	-793	4.025	4.025	-42502	10833	24584	40441	33747	10264	44011	No	55.52	Si
SLU 84	7.1	205.1	-52280	-43534	-793	4.025	4.025	-38629	10833	22838	40441	33747	10264	44011	No	55.52	Si
SLU 75	5.3	-1306.75	-56014	-46644	-787	4.025	4.025	-41387	10833	24082	40441	33747	10264	44011	No	55.95	Si
SLU 75	7.1	221.79	-50772	-42279	-787	4.025	4.025	-37514	10833	22336	40441	33747	10264	44011	No	55.95	Si
SLU 76	5.3	-1329.79	-55161	-45934	-791	4.025	4.025	-40757	10833	23798	40441	33747	10264	44011	No	55.64	Si
SLU 76	7.1	206.53	-49919	-41569	-791	4.025	4.025	-36884	10833	22052	40441	33747	10264	44011	No	55.64	Si
SLU 73	5.3	-1262.17	-53794	-44795	-789	4.025	4.025	-39747	10833	23342	40441	33747	10264	44011	No	55.8	Si
SLU 73	7.1	270.15	-48552	-40430	-789	4.025	4.025	-35874	10833	21597	40441	33747	10264	44011	No	55.8	Si
SLU 77	5.3	-1330.31	-57555	-47927	-749	4.025	4.025	-42526	10833	24595	40441	33747	10264	44011	No	58.76	Si
SLU 77	7.1	130.52	-52313	-43561	-749	4.025	4.025	-38653	10833	22849	40441	33747	10264	44011	No	58.76	Si
SLU 81	5.3	-1222.64	-56327	-46904	-751	4.025	4.025	-41619	10833	24186	40441	33747	10264	44011	No	58.63	Si
SLU 81	7.1	241.08	-51085	-42539	-751	4.025	4.025	-37746	10833	22440	40441	33747	10264	44011	No	58.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	5.3	12256.94	-29858	-24863	14071	4.025	4.025	-22061	14829	18083	40441	50621	10264	58524		4.16	Si
SLV 13	7.1	-12390.46	-25847	-21523	13526	4.025	4.025	-19098	14236	16747	40441	50621	10264	57188		4.23	Si
SLD 1	5.3	-12901.27	-37448	-31183	-13196	4.025	4.025	-27669	15950	20611	40441	50621	10264	60885		4.61	Si
SLD 1	7.1	10807.25	-33423	-27832	-12947	4.025	4.025	-24696	15356	19270	40441	50621	10264	59711		4.61	Si
SLV 15	5.3	14649.79	-38363	-31945	16174	4.025	4.025	-28345	16086	20916	40441	50621	10264	60885		3.76	Si
SLV 15	7.1	-14196.05	-34368	-28619	15798	4.025	4.025	-25394	15495	19585	40441	50621	10264	60026		3.8	Si
SLV 1	5.3	-19815.63	-37098	-30892	-20448	4.025	4.025	-27411	15899	20494	40441	50621	10264	60885		2.98	Si
SLV 1	7.1	16897.55	-33066	-27534	-20073	4.025	4.025	-24431	15303	19151	40441	50621	10264	59592		2.97	Si
SLV 2	5.3	-16295.3	-36485	-30382	-17131	4.025	4.025	-26958	15808	20290	40441	50621	10264	60731		3.55	Si
SLV 2	7.1	14446.45	-32453	-27024	-16755	4.025	4.025	-23978	15212	18947	40441	50621	10264	59388		3.54	Si
SLV 4	5.3	-13902.44	-44990	-37464	-15028	4.025	4.025	-33242	16250	23123	40441	50621	10264	60885		4.05	Si
SLV 4	7.1	12640.85	-40974	-34119	-14484	4.025	4.025	-30274	16250	21785	40441	50621	10264	60885		4.2	Si
SLD 16	5.3	11255.76	-37400	-31144	12239	4.025	4.025	-27634	15944	20595	40441	50621	10264	60885		4.97	Si
SLD 16	7.1	-10556.85	-33398	-27811	11990	4.025	4.025	-24677	15352	19262	40441	50621	10264	59703		4.98	Si
SLV 14	5.3	15777.27	-29245	-24352	17388	4.025	4.025	-21608	14738	17879	40441	50621	10264	58320		3.35	Si
SLV 14	7.1	-14841.56	-25234	-21013	16844	4.025	4.025	-18645	14146	16543	40441	50621	10264	56984		3.38	Si
SLV 16	5.3	18170.12	-37750	-31435	19491	4.025	4.025	-27892	15995	20711	40441	50621	10264	60885		3.12	Si
SLV 16	7.1	-16647.15	-33755	-28109	19116	4.025	4.025	-24941	15405	19381	40441	50621	10264	59822		3.13	Si
SLV 3	5.3	-17422.78	-45603	-37975	-18345	4.025	4.025	-33695	16250	23327	40441	50621	10264	60885		3.32	Si
SLV 3	7.1	15091.96	-41587	-34630	-17801	4.025	4.025	-30727	16250	21989	40441	50621	10264	60885		3.42	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.38	17721	-19972	416.95	2471.63	5.93	Si
SLV 9	179667	0.38	18088	-20385	416.95	2515.86	6.03	Si
SLV 6	179667	0.38	19654	-22150	416.95	2701.9	6.48	Si
SLV 5	179667	0.38	20020	-22563	416.95	2744.68	6.58	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.38	24207	-27281	416.95	3213.98	7.71	Si
SLV 13	179667	0.38	24751	-27894	416.95	3272.29	7.85	Si
SLV 2	179667	0.38	30648	-34541	416.95	3865.24	9.27	Si
SLV 1	179667	0.38	31192	-35154	416.95	3916.32	9.39	Si
SLV 16	179667	0.38	31775	-35810	416.95	3970.31	9.52	Si
SLV 15	179667	0.38	32319	-36423	416.95	4020.12	9.64	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-36984	-53428	-1758	0.557	4329.1	0.961	8.41773	4.55335	Si
SLV 8	-36668	-53025	-1758	0.561	4296.9	0.961	8.48146	4.55335	Si
SLV 11	-35601	-50837	-1763	0.575	4188.5	0.96	8.70199	4.55335	Si
SLV 12	-35285	-50434	-1763	0.579	4156.4	0.96	8.77045	4.55335	Si
SLV 3	-31677	-45705	-520	0.67	3789.5	0.956	10.17737	5.26967	Si
SLV 4	-31207	-45106	-520	0.678	3741.8	0.956	10.31197	5.26967	Si
SLV 15	-27070	-37068	-539	0.764	3321.4	0.951	11.67311	5.26967	Si
SLV 16	-26600	-36469	-539	0.775	3273.8	0.95	11.85308	5.26967	Si
SLV 1	-25681	-36411	535	0.798	3180.4	0.949	12.22475	5.26967	Si
SLV 2	-25211	-35811	535	0.81	3132.7	0.948	12.42299	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	56.355	SLU 80	Si
V_SLU	55.52	SLU 84	Si
PF_SLV	3.236	SLV 14	Si
V_SLV	2.969	SLV 1	Si
PFFP_SLV	5.928	SLV 10	Si
R_SLV	1.849	SLV 7	Si

Maschio 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.918	6.661	-7.913	6.661	L5	L6	4.005	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	5.3	-2647.84	-52265	-0.0000835	0.0003743	0.0035	4.005	56749.29	73738.59	73738.59	27.85	No	Si
SLU 79	7.1	1644.62	-47177	-0.0000725	0.0003743	0.0035	4.005	55434.81	66940.5	66940.5	40.7	No	Si
SLU 71	5.3	-2604.34	-47197	-0.0000748	0.0003743	0.0035	4.005	55441.82	70288.45	70288.45	26.99	No	Si
SLU 71	7.1	1494.87	-42109	-0.0000639	0.0003743	0.0035	4.005	53222.76	62847.46	62847.46	42.04	No	Si
SLU 48	5.3	-2314.89	-40947	-0.0000639	0.0003743	0.0035	4.005	52588.87	64687.52	64687.52	27.94	No	Si
SLU 48	7.1	1285.25	-35944	-0.0000537	0.0003743	0.0035	4.005	49317.36	55903.2	55903.2	43.5	No	Si
SLU 50	5.3	-2318.86	-40174	-0.0000627	0.0003743	0.0035	4.005	52140.56	64014.25	64014.25	27.61	No	Si
SLU 50	7.1	1234.1	-35171	-0.0000524	0.0003743	0.0035	4.005	48733.32	54941.93	54941.93	44.52	No	Si
SLU 77	5.3	-2643.87	-53038	-0.0000848	0.0003743	0.0035	4.005	56869.58	74214.87	74214.87	28.07	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	7.1	1695.77	-47950	-0.0000739	0.0003743	0.0035	4.005	55693.14	67583.81	67583.81	39.85	No	Si
SLU 72	5.3	-2530.78	-47092	-0.0000745	0.0003743	0.0035	4.005	55405.12	70200.79	70200.79	27.74	No	Si
SLU 72	7.1	1477.06	-42004	-0.0000637	0.0003743	0.0035	4.005	53167.27	62764.72	62764.72	42.49	No	Si
SLU 69	5.3	-2600.37	-47970	-0.0000761	0.0003743	0.0035	4.005	55699.6	70920.68	70920.68	27.27	No	Si
SLU 69	7.1	1546.02	-42882	-0.0000653	0.0003743	0.0035	4.005	53618.57	63458.32	63458.32	41.05	No	Si
SLU 66	5.3	-2463.81	-47026	-0.0000742	0.0003743	0.0035	4.005	55382.11	70146.08	70146.08	28.47	No	Si
SLU 66	7.1	1687.56	-41938	-0.0000641	0.0003743	0.0035	4.005	53132.58	62713.32	62713.32	37.16	No	Si
SLU 51	5.3	-2245.3	-40069	-0.0000624	0.0003743	0.0035	4.005	52077.93	63923.4	63923.4	28.47	No	Si
SLU 51	7.1	1216.29	-35065	-0.0000522	0.0003743	0.0035	4.005	48652.22	54811.67	54811.67	45.06	No	Si
SLU 70	5.3	-2526.81	-47865	-0.0000757	0.0003743	0.0035	4.005	55665.76	70835.89	70835.89	28.03	No	Si
SLU 70	7.1	1528.21	-42777	-0.0000651	0.0003743	0.0035	4.005	53565.95	63374.91	63374.91	41.47	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	5.3	13372.99	-36210	-0.0000784	0.0005615	0.0035	4.005		61653.22	61653.22	4.61		Si
SLV 13	7.1	-11754.3	-32365	-0.0000691	0.0005615	0.0035	4.005		60129.12	60129.12	5.12		Si
SLV 3	5.3	-20290.12	-32225	-0.0000873	0.0005615	0.0035	4.005		59923.41	59923.41	2.95		Si
SLV 3	7.1	16688.16	-28280	-0.0000735	0.0005615	0.0035	4.005		49294.38	49294.38	2.95		Si
SLV 4	5.3	-16858.83	-33305	-0.0000815	0.0005615	0.0035	4.005		61510.41	61510.41	3.65		Si
SLV 4	7.1	14460.57	-29359	-0.0000704	0.0005615	0.0035	4.005		50949.03	50949.03	3.52		Si
SLD 3	5.3	-13548.99	-32975	-0.0000739	0.0005615	0.0035	4.005		61025.86	61025.86	4.5		Si
SLD 3	7.1	11159.26	-29054	-0.0000629	0.0005615	0.0035	4.005		50481.05	50481.05	4.52		Si
SLV 14	5.3	16804.28	-37290	-0.0000875	0.0005615	0.0035	4.005		63276.55	63276.55	3.77		Si
SLV 14	7.1	-13981.88	-33445	-0.0000755	0.0005615	0.0035	4.005		61715.33	61715.33	4.41		Si
SLV 2	5.3	-14512.39	-27485	-0.0000677	0.0005615	0.0035	4.005		52851.46	52851.46	3.64		Si
SLV 2	7.1	13914.58	-23388	-0.0000604	0.0005615	0.0035	4.005		41903.84	41903.84	3.01		Si
SLV 16	5.3	14457.85	-43110	-0.0000914	0.0005615	0.0035	4.005		70112.5	70112.5	4.85		Si
SLV 16	7.1	-13435.9	-39416	-0.0000835	0.0005615	0.0035	4.005		69972.3	69972.3	5.21		Si
SLD 2	5.3	-9995.41	-30252	-0.0000623	0.0005615	0.0035	4.005		57048.55	57048.55	5.71		Si
SLD 2	7.1	9426.26	-26243	-0.0000552	0.0005615	0.0035	4.005		46195.98	46195.98	4.9		Si
SLD 1	5.3	-12172.26	-29567	-0.0000658	0.0005615	0.0035	4.005		56059.69	56059.69	4.61		Si
SLD 1	7.1	10839.47	-25558	-0.0000571	0.0005615	0.0035	4.005		45161.01	45161.01	4.17		Si
SLV 1	5.3	-17943.68	-26405	-0.0000734	0.0005615	0.0035	4.005		51194.67	51194.67	2.85		Si
SLV 1	7.1	16142.17	-22309	-0.0000637	0.0005615	0.0035	4.005		40296.7	40296.7	2.5		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	5.3	-2529.91	-53493	-44544	-2451	4.005	4.005	-39722	10833	23215	40441	33580	10213	43792	No	17.87	Si
SLU 83	7.1	1850.35	-48405	-40307	-2451	4.005	4.005	-35944	10833	21521	40441	33580	10213	43792	No	17.87	Si
SLU 78	5.3	-2570.31	-52933	-44078	-2377	4.005	4.005	-39306	10833	23029	40441	33580	10213	43792	No	18.42	Si
SLU 78	7.1	1677.96	-47845	-39841	-2377	4.005	4.005	-35528	10833	21334	40441	33580	10213	43792	No	18.42	Si
SLU 75	5.3	-2433.75	-51989	-43292	-2380	4.005	4.005	-38605	10833	22715	40441	33580	10213	43792	No	18.4	Si
SLU 75	7.1	1819.51	-46901	-39055	-2380	4.005	4.005	-34827	10833	21020	40441	33580	10213	43792	No	18.4	Si
SLU 81	5.3	-2393.35	-52549	-43758	-2453	4.005	4.005	-39021	10833	22901	40441	33580	10213	43792	No	17.85	Si
SLU 81	7.1	1991.89	-47461	-39521	-2453	4.005	4.005	-35243	10833	21206	40441	33580	10213	43792	No	17.85	Si
SLU 74	5.3	-2507.31	-52094	-43380	-2431	4.005	4.005	-38684	10833	22750	40441	33580	10213	43792	No	18.01	Si
SLU 74	7.1	1837.32	-47006	-39143	-2431	4.005	4.005	-34905	10833	21055	40441	33580	10213	43792	No	18.01	Si
SLU 80	5.3	-2574.28	-52160	-43434	-2351	4.005	4.005	-38732	10833	22771	40441	33580	10213	43792	No	18.63	Si
SLU 80	7.1	1626.81	-47072	-39197	-2351	4.005	4.005	-34954	10833	21077	40441	33580	10213	43792	No	18.63	Si
SLU 77	5.3	-2643.87	-53038	-44166	-2428	4.005	4.005	-39385	10833	23064	40441	33580	10213	43792	No	18.04	Si
SLU 77	7.1	1695.77	-47950	-39929	-2428	4.005	4.005	-35606	10833	21369	40441	33580	10213	43792	No	18.04	Si
SLU 79	5.3	-2647.84	-52265	-43522	-2402	4.005	4.005	-38810	10833	22806	40441	33580	10213	43792	No	18.23	Si
SLU 79	7.1	1644.62	-47177	-39285	-2402	4.005	4.005	-35032	10833	21112	40441	33580	10213	43792	No	18.23	Si
SLU 82	5.3	-2319.79	-52444	-43671	-2403	4.005	4.005	-38943	10833	22866	40441	33580	10213	43792	No	18.23	Si
SLU 82	7.1	1974.08	-47356	-39434	-2403	4.005	4.005	-35165	10833	21171	40441	33580	10213	43792	No	18.23	Si
SLU 84	5.3	-2456.35	-53388	-44457	-2400	4.005	4.005	-39644	10833	23180	40441	33580	10213	43792	No	18.25	Si
SLU 84	7.1	1832.54	-48300	-40220	-2400	4.005	4.005	-35866	10833	21486	40441	33580	10213	43792	No	18.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	5.3	14457.85	-43110	-35898	15742	4.005	4.005	-32012	16250	22456	40441	50370	10213	60582		3.85	Si
SLV 16	7.1	-13435.9	-39416	-32822	15286	4.005	4.005	-29269	16250	21226	40441	50370	10213	60582		3.96	Si
SLV 14	5.3	16804.28	-37290	-31052	17481	4.005	4.005	-27690	15955	20518	40441	50370	10213	60582		3.47	Si
SLV 14	7.1	-13981.88	-33445	-27850	17034	4.005	4.005	-24835	15384	19237	40441	50370	10213	59678		3.5	Si
SLV 15	5.3	11026.56	-42030	-34999	12598	4.005	4.005	-31210	16250	22097	40441	50370	10213	60582		4.81	Si
SLV 15	7.1	-11208.31	-38336	-31923	12142	4.005	4.005	-28467	16110	20866	40441	50370	10213	60582		4.99	Si
SLV 3	5.3	-20290.12	-32225	-26834	-20947	4.005	4.005	-23929	15203	18831	40441	50370	10213	59272		2.83	Si
SLV 3	7.1	16688.16	-28280	-23549	-20501	4.005	4.005	-20999	14617	17517	40441	50370	10213	57958		2.83	Si
SLV 13	5.3	13372.99	-36210	-30153	14337	4.005	4.005	-26889	15794	20158	40441	50370	10213	60582		4.23	Si
SLV 13	7.1	-11754.3	-32365	-26951	13891	4.005	4.005	-24033	15223	18878	40441	50370	10213	59318		4.27	Si
SLD 1	5.3	-12172.26	-29567	-24621	-12957	4.005	4.005	-21955	14808	17945	40441	50370	10213	58386		4.51	Si
SLD 1	7.1	10839.47	-25558	-21283	-12663	4.005	4.005	-18979	14212	16610	40441	50370	10213	57051		4.51	Si
SLV 1	5.3	-17943.68	-26405	-21988	-19209	4.005	3.9688	-19981	14413	16892	40441	50370	10213	57333		2.98	Si
SLV 1	7.1	16142.17	-22309	-18577	-18752	4.005	3.8368	-16566	13730	15528	40441	50370	10213	55969		2.98	Si
SLV 4	5.3	-16858.83	-33305	-27733	-17804	4.005	4.005	-24731	15363	19190	40441	50370	10213	59631		3.35	Si
SLV 4	7.1	14460.57	-29359	-24448	-17357	4.005	4.005	-21801	14777	17876	40441	50370	10213	58317		3.36	Si
SLD 3	5.3	-13548.99	-32975	-27459	-13983	4.005	4.005	-24486	15314	19081	40441	50370	10213	59522		4.26	Si
SLD 3	7.1	11159.26	-29054	-24194	-13696	4.005	4.005	-21575	14732	17775	40441	50370	10213	58216		4.25	Si
SLV 2	5.3	-14512.39	-27485	-22887	-16065	4.005	4.005	-20409	14498	17252	40441	50370	10213	57693		3.59	Si
SLV 2	7.1	13914.58	-23388	-19476	-15608	4.005	4.005	-17367	13890	15888	40441	50370	10213	56328		3.61	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.38	18549	-20800	414.88	2558.35	6.17	Si
SLV 6	179667	0.38	19197	-21527	414.88	2634.95	6.35	Si
SLV 9	179667	0.38	21227	-23805	414.88	2869.4	6.92	Si
SLV 1	179667	0.38	21474	-24081	414.88	2897.26	6.98	Si
SLV 10	179667	0.38	21876	-24531	414.88	2942.43	7.09	Si
SLV 2	179667	0.38	22436	-25160	414.88	3004.94	7.24	Si
SLV 3	179667	0.38	26795	-30048	414.88	3468.62	8.36	Si
SLV 4	179667	0.38	27758	-31128	414.88	3565.77	8.59	Si
SLV 13	179667	0.38	30404	-34095	414.88	3822.98	9.21	Si
SLV 14	179667	0.38	31366	-35174	414.88	3912.98	9.43	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-34817	-43813	-1528	0.589	4105.9	0.959	8.92462	4.55335	Si
SLV 16	-30964	-41837	-463	0.681	3714.2	0.956	10.36172	5.26967	Si
SLV 11	-34336	-43089	-1528	0.596	4057	0.959	9.03459	4.55335	Si
SLV 15	-30249	-40761	-462	0.695	3641.6	0.955	10.57694	5.26967	Si
SLV 8	-32986	-40536	-1525	0.617	3919.8	0.958	9.35987	4.55335	Si
SLV 7	-32505	-39812	-1524	0.624	3870.8	0.957	9.4816	4.55335	Si
SLV 14	-25731	-36715	454	0.796	3182.7	0.949	12.19202	5.26967	Si
SLV 13	-25016	-35640	454	0.815	3110.1	0.948	12.49502	5.26967	Si
SLV 4	-24862	-30913	-451	0.819	3094.5	0.948	12.56424	5.26967	Si
SLV 3	-24147	-29838	-451	0.84	3022	0.947	12.88755	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	26.989	SLU 71	Si
V_SLU	17.849	SLU 81	Si
PF_SLV	2.496	SLV 1	Si
V_SLV	2.827	SLV 3	Si
PFFP_SLV	6.167	SLV 5	Si
R_SLV	1.96	SLV 12	Si

Maschio 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.013	6.661	-5.018	6.661	L5	L6	1.995	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	5.3	-1918.55	-16799	-0.0000646	0.0003743	0.0035	1.995	11807.31	14298.47	14298.47	7.45	No	Si
SLU 49	7.1	-434.91	-14266	-0.0000436	0.0003743	0.0035	1.995	10660.71	12738.75	12738.75	29.29	No	Si
SLU 50	5.3	-1931.69	-16340	-0.0000633	0.0003743	0.0035	1.995	11616.28	14026.4	14026.4	7.26	No	Si
SLU 50	7.1	-417.43	-13807	-0.0000421	0.0003743	0.0035	1.995	10428.9	12438.52	12438.52	29.8	No	Si
SLU 48	5.3	-1955.52	-16767	-0.0000649	0.0003743	0.0035	1.995	11794.23	14279.38	14279.38	7.3	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	7.1	-426.86	-14234	-0.0000434	0.0003743	0.0035	1.995	10644.79	12718.45	12718.45	29.8	No	Si
SLU 71	5.3	-2158.18	-19459	-0.0000755	0.0003743	0.0035	1.995	12769.11	15549.18	15549.18	7.2	No	Si
SLU 71	7.1	-555.25	-16884	-0.0000527	0.0003743	0.0035	1.995	11841.77	14349.09	14349.09	25.84	No	Si
SLU 70	5.3	-2145.04	-19918	-0.0000769	0.0003743	0.0035	1.995	12909.93	15753.2	15753.2	7.34	No	Si
SLU 70	7.1	-572.73	-17343	-0.0000542	0.0003743	0.0035	1.995	12024.05	14624.12	14624.12	25.53	No	Si
SLU 79	5.3	-2231.07	-21882	-0.0000843	0.0003743	0.0035	1.995	13429	16665.34	16665.34	7.47	No	Si
SLU 79	7.1	-692.07	-19306	-0.0000615	0.0003743	0.0035	1.995	12720.53	15481.94	15481.94	22.37	No	Si
SLU 72	5.3	-2121.21	-19491	-0.0000753	0.0003743	0.0035	1.995	12779.17	15563.29	15563.29	7.34	No	Si
SLU 72	7.1	-563.29	-16916	-0.0000528	0.0003743	0.0035	1.995	11854.72	14368.24	14368.24	25.51	No	Si
SLU 69	5.3	-2182	-19886	-0.0000771	0.0003743	0.0035	1.995	12900.35	15738.85	15738.85	7.21	No	Si
SLU 69	7.1	-564.68	-17311	-0.0000541	0.0003743	0.0035	1.995	12011.58	14606.02	14606.02	25.87	No	Si
SLU 51	5.3	-1894.73	-16372	-0.0000631	0.0003743	0.0035	1.995	11629.84	14045.25	14045.25	7.41	No	Si
SLU 51	7.1	-425.47	-13839	-0.0000422	0.0003743	0.0035	1.995	10445.3	12459.74	12459.74	29.28	No	Si
SLU 66	5.3	-2114.18	-19766	-0.0000761	0.0003743	0.0035	1.995	12863.99	15685.05	15685.05	7.42	No	Si
SLU 66	7.1	-529.52	-17190	-0.0000534	0.0003743	0.0035	1.995	11964.35	14533.25	14533.25	27.45	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	5.3	-5848.55	-4291	-0.0011893	0.0005615	0.0035	1.596		5154.68	5154.68	0.88		No
SLV 1	7.1	3449.21	-2324	-0.0083068	0.0005615	0.0035	1.596		2470.48	2470.48	0.72		No
SLD 2	5.3	-3669.61	-9699	-0.0000569	0.0005615	0.0035	1.995		9879.88	9879.88	2.69		Si
SLD 2	7.1	1662.75	-7741	-0.0000343	0.0005615	0.0035	1.995		7390.07	7390.07	4.44		Si
SLV 2	5.3	-4812.24	-6861	-0.0000857	0.0005615	0.0035	1.596		7454.1	7454.1	1.55		Si
SLV 2	7.1	2786.57	-4894	-0.000041	0.0005615	0.0035	1.995		4863.52	4863.52	1.75		Si
SLV 4	5.3	-6223.76	-6142	-0.0005107	0.0005615	0.0035	1.596		6827.88	6827.88	1.1		Si
SLV 4	7.1	2942.01	-4010	-0.0000551	0.0005615	0.0035	1.995		4052.08	4052.08	1.38		Si
SLV 3	5.3	-7260.07	-3571	-0.0029407	0.0005615	0.0035	1.596		4497.74	4497.74	0.62		No
SLV 3	7.1	3604.65	-1440	-0.0148957	0.0005615	0.0035	1.596		1621.01	1621.01	0.45		No
SLV 8	5.3	-4883.34	-11584	-0.000074	0.0005615	0.0035	1.995		11409.06	11409.06	2.34		Si
SLV 8	7.1	727.44	-9315	-0.0000311	0.0005615	0.0035	1.995		8728.67	8728.67	12		Si
SLV 7	5.3	-5581.01	-9854	-0.0000847	0.0005615	0.0035	1.596		10009.6	10009.6	1.79		Si
SLV 7	7.1	1173.54	-7585	-0.0000299	0.0005615	0.0035	1.995		7254.32	7254.32	6.18		Si
SLD 1	5.3	-4327.06	-8069	-0.0000638	0.0005615	0.0035	1.995		8509.99	8509.99	1.97		Si
SLD 1	7.1	2083.13	-6111	-0.0000332	0.0005615	0.0035	1.995		5960.45	5960.45	2.86		Si
SLD 3	5.3	-5155.09	-7644	-0.0000877	0.0005615	0.0035	1.596		8142.04	8142.04	1.58		Si
SLD 3	7.1	2176.67	-5590	-0.0000328	0.0005615	0.0035	1.995		5492.3	5492.3	2.52		Si
SLD 4	5.3	-4497.64	-9275	-0.0000661	0.0005615	0.0035	1.995		9520.92	9520.92	2.12		Si
SLD 4	7.1	1756.28	-7220	-0.0000336	0.0005615	0.0035	1.995		6937.17	6937.17	3.95		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	5.3	-2254.9	-22309	-18577	-902	1.995	1.995	-33256	10833	6746	40441	16727	5087	21814	No	24.19	Si
SLU 77	7.1	-701.5	-19733	-16432	-902	1.995	1.995	-29417	10833	6174	40441	16727	5087	21814	No	24.19	Si
SLU 64	5.3	-2022.54	-19219	-16004	-893	1.995	1.995	-28650	10764	6060	40441	16727	5087	21814	No	24.43	Si
SLU 64	7.1	-484.92	-16643	-13859	-893	1.995	1.995	-24810	10252	5727	40441	16727	5087	21814	No	24.43	Si
SLU 71	5.3	-2158.18	-19459	-16204	-929	1.995	1.995	-29008	10812	6114	40441	16727	5087	21814	No	23.48	Si
SLU 71	7.1	-555.25	-16884	-14059	-929	1.995	1.995	-25169	10300	5754	40441	16727	5087	21814	No	23.48	Si
SLU 72	5.3	-2121.21	-19491	-16231	-904	1.995	1.995	-29056	10819	6121	40441	16727	5087	21814	No	24.13	Si
SLU 72	7.1	-563.29	-16916	-14086	-904	1.995	1.995	-25217	10307	5757	40441	16727	5087	21814	No	24.13	Si
SLU 79	5.3	-2231.07	-21882	-18221	-894	1.995	1.995	-32620	10833	6652	40441	16727	5087	21814	No	24.41	Si
SLU 79	7.1	-692.07	-19306	-16077	-894	1.995	1.995	-28780	10782	6080	40441	16727	5087	21814	No	24.41	Si
SLU 66	5.3	-2114.18	-19766	-16459	-919	1.995	1.995	-29465	10833	6182	40441	16727	5087	21814	No	23.74	Si
SLU 66	7.1	-529.52	-17190	-14315	-919	1.995	1.995	-25626	10361	5788	40441	16727	5087	21814	No	23.74	Si
SLU 67	5.3	-2077.22	-19798	-16486	-894	1.995	1.995	-29513	10833	6189	40441	16727	5087	21814	No	24.4	Si
SLU 67	7.1	-537.56	-17222	-14341	-894	1.995	1.995	-25674	10368	5791	40441	16727	5087	21814	No	24.4	Si
SLU 48	5.3	-1955.52	-16767	-13962	-888	1.995	1.995	-24995	10277	5741	40441	16727	5087	21814	No	24.57	Si
SLU 48	7.1	-426.86	-14234	-11853	-888	1.995	1.995	-21219	9774	5460	40441	16727	5087	21814	No	24.57	Si
SLU 69	5.3	-2182	-19886	-16560	-937	1.995	1.995	-29645	10833	6208	40441	16727	5087	21814	No	23.28	Si
SLU 69	7.1	-564.68	-17311	-14415	-937	1.995	1.995	-25806	10385	5801	40441	16727	5087	21814	No	23.28	Si
SLU 70	5.3	-2145.04	-19918	-16586	-912	1.995	1.995	-29693	10833	6216	40441	16727	5087	21814	No	23.92	Si
SLU 70	7.1	-572.73	-17343	-14442	-912	1.995	1.995	-25853	10392	5805	40441	16727	5087	21814	No	23.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	5.3	3170.07	-23439	-19518	4049	1.995	1.995	-34940	16250	9077	40441	25090	5087	30178		7.45	Si
SLV 13	7.1	-3705.64	-21626	-18008	3792	1.995	1.995	-32239	16250	9077	40441	25090	5087	30178		7.96	Si
SLV 1	5.3	-5848.55	-4291	-3573	-5356	1.596	0	0	0	0	40441	20072	4070	24142		4.51	Si
SLV 1	7.1	3449.21	-2324	-1935	-5118	1.596	0	0	0	0	40441	20072	4070	24142		4.72	Si
SLV 14	5.3	4206.38	-26009	-21658	4993	1.995	1.995	-38772	16250	9077	40441	25090	5087	30178		6.04	Si
SLV 14	7.1	-4368.28	-24196	-20149	4736	1.995	1.995	-36070	16250	9077	40441	25090	5087	30178		6.37	Si
SLD 3	5.3	-5155.09	-7644	-6366	-4258	1.596	0.9694	0	0	0	40441	20072	4070	24142		5.67	Si
SLD 3	7.1	2176.67	-5590	-4655	-4096	1.995	1.8243	-8333	12083	6172	40441	25090	5087	30178		7.37	Si
SLD 1	5.3	-4327.06	-8069	-6719	-3690	1.995	1.3837	-17487	13914	5391	40441	25090	5087	30178		8.18	Si
SLD 1	7.1	2083.13	-6111	-5088	-3538	1.995	1.9698	-9109	12238	6750	40441	25090	5087	30178		8.53	Si
SLV 4	5.3	-6223.76	-6142	-5114	-5380	1.596	0	0	0	0	40441	20072	4070	24142		4.49	Si
SLV 4	7.1	2942.01	-4010	-3340	-5124	1.995	0.7917	-5978	11612	3580	40441	25090	5087	30178		5.89	Si
SLV 3	5.3	-7260.07	-3571	-2974	-6324	1.596	0	0	0	0	40441	20072	4070	24142		3.82	Si
SLV 3	7.1	3604.65	-1440	-1199	-6068	1.596	0	0	0	0	40441	20072	4070	24142		3.98	Si
SLV 2	5.3	-4812.24	-6861	-5713	-4412	1.596	0.8883	0	0	0	40441	20072	4070	24142		5.47	Si
SLV 2	7.1	2786.57	-4894	-4075	-4175	1.995	1.2844	-7296	11876	4271	40441	25090	5087	30178		7.23	Si
SLV 7	5.3	-5581.01	-9854	-8205	-4008	1.596	1.2934	0	0	0	40441	20072	4070	24142		6.02	Si
SLV 7	7.1	1173.54	-7585	-6316	-3903	1.995	1.995	-11307	12678	7082	40441	25090	5087	30178		7.73	Si
SLV 16	5.3	2794.86	-25290	-21059	4024	1.995	1.995	-37700	16250	9077	40441	25090	5087	30178		7.5	Si
SLV 16	7.1	-4212.83	-23313	-19413	3787	1.995	1.995	-34753	16250	9077	40441	25090	5087	30178		7.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.38	4391	-2453	206.66	333.51	1.61	Si
SLV 1	179667	0.38	5438	-3037	206.66	410.1	1.98	Si
SLV 4	179667	0.38	8992	-5023	206.66	661.8	3.2	Si
SLV 2	179667	0.38	10039	-5608	206.66	733.47	3.55	Si
SLV 7	179667	0.38	16011	-8944	206.66	1120.84	5.42	Si
SLV 8	179667	0.38	19108	-10674	206.66	1307.38	6.33	Si
SLV 5	179667	0.38	19500	-10893	206.66	1330.26	6.44	Si
SLV 6	179667	0.38	22598	-12623	206.66	1505.73	7.29	Si
SLV 11	179667	0.38	26373	-14732	206.66	1706.31	8.26	Si
SLV 12	179667	0.38	29471	-16462	206.66	1859.97	9	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-17754	-28735	203	0.606	2087	0.96	9.17547	5.26967	Si
SLV 16	-16973	-27163	-247	0.627	2007.6	0.959	9.51108	5.26967	Si
SLV 13	-16098	-25545	203	0.659	1918.6	0.957	10.00244	5.26967	Si
SLV 15	-15317	-23972	-247	0.684	1839.3	0.955	10.41099	5.26967	Si
SLV 10	-14514	-21033	745	0.686	1757.6	0.954	10.4499	4.55335	Si
SLV 9	-13399	-18886	745	0.733	1644.4	0.951	11.20601	4.55335	Si
SLV 12	-11911	-15791	-754	0.808	1493.4	0.946	12.40389	4.55335	Si
SLV 6	-11187	-13306	760	0.85	1420	0.944	13.08863	4.55335	Si
SLV 11	-10796	-13644	-754	0.876	1380.3	0.943	13.50303	4.55335	Si
SLV 5	-10072	-11158	760	0.926	1307	0.94	14.32398	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.205	SLU 71	Si
V_SLU	23.277	SLU 69	Si
PF_SLV	0.45	SLV 3	No
V_SLV	3.817	SLV 3	Si
PFFP_SLV	1.614	SLV 3	Si
R_SLV	1.741	SLV 14	Si

Maschio 130

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.423	1.141	-24.614	1.141	L5	L6	5.192	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	4.4	-20527.77	-78892	-0.0001067	0.0004492	0.0035	5.1915	113825.54	169645.94	169645.94	8.26	No	Si
SLU 75	6.5	-16091.7	-71804	-0.0000927	0.0004492	0.0035	5.1915	111036.84	159655.8	159655.8	9.92	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	4.4	-20633	-79489	-0.0001075	0.0004492	0.0035	5.1915	113993.46	170482.72	170482.72	8.26	No	Si
SLU 80	6.5	-16380.69	-72395	-0.0000937	0.0004492	0.0035	5.1915	111325.88	160545.92	160545.92	9.8	No	Si
SLU 77	4.4	-20774.93	-80310	-0.0001087	0.0004492	0.0035	5.1915	114207.18	171632.44	171632.44	8.26	No	Si
SLU 77	6.5	-16729.96	-73325	-0.0000952	0.0004492	0.0035	5.1915	111758.97	161847.4	161847.4	9.67	No	Si
SLU 81	4.4	-20588.24	-79065	-0.000107	0.0004492	0.0035	5.1915	113875.43	169889.18	169889.18	8.25	No	Si
SLU 81	6.5	-16489.88	-72503	-0.000094	0.0004492	0.0035	5.1915	111377.09	160695.95	160695.95	9.75	No	Si
SLU 76	4.4	-20372.17	-78076	-0.0001055	0.0004492	0.0035	5.1915	113579.39	168503.31	168503.31	8.27	No	Si
SLU 76	6.5	-15800.15	-70911	-0.0000913	0.0004492	0.0035	5.1915	110581.41	158297.36	158297.36	10.02	No	Si
SLU 84	4.4	-20917.4	-80453	-0.000109	0.0004492	0.0035	5.1915	114242.48	171833.21	171833.21	8.21	No	Si
SLU 84	6.5	-16781.86	-73806	-0.0000959	0.0004492	0.0035	5.1915	111973.53	162521.98	162521.98	9.68	No	Si
SLU 83	4.4	-20876.4	-80468	-0.000109	0.0004492	0.0035	5.1915	114246.18	171853.77	171853.77	8.23	No	Si
SLU 83	6.5	-16954.99	-73915	-0.0000962	0.0004492	0.0035	5.1915	112021.01	162674.23	162674.23	9.59	No	Si
SLU 78	4.4	-20815.93	-80295	-0.0001087	0.0004492	0.0035	5.1915	114203.41	171611.21	171611.21	8.24	No	Si
SLU 78	6.5	-16556.82	-73216	-0.0000949	0.0004492	0.0035	5.1915	111709.61	161695.15	161695.15	9.77	No	Si
SLU 79	4.4	-20592	-79504	-0.0001075	0.0004492	0.0035	5.1915	113997.59	170503.96	170503.96	8.28	No	Si
SLU 79	6.5	-16553.83	-72504	-0.0000941	0.0004492	0.0035	5.1915	111377.85	160698.17	160698.17	9.71	No	Si
SLU 82	4.4	-20629.24	-79050	-0.000107	0.0004492	0.0035	5.1915	113871.11	169867.95	169867.95	8.23	No	Si
SLU 82	6.5	-16316.74	-72394	-0.0000936	0.0004492	0.0035	5.1915	111325.12	160543.7	160543.7	9.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	4.4	-20890.29	-39454	-0.0000617	0.0006738	0.0035	5.1915		107368.3	107368.3	5.14		Si
SLV 15	6.5	-313.84	-33841	-0.0000326	0.0006738	0.0035	5.1915		95435.1	95435.1	304.09		Si
SLV 8	4.4	-8106.3	-56028	-0.0000637	0.0006738	0.0035	5.1915		140651.92	140651.92	17.35		Si
SLV 8	6.5	-26233.53	-57724	-0.0000868	0.0006738	0.0035	5.1915		143804.37	143804.37	5.48		Si
SLD 14	4.4	-19989.33	-45825	-0.0000671	0.0006738	0.0035	5.1915		120610.04	120610.04	6.03		Si
SLD 14	6.5	-172.68	-37545	-0.0000361	0.0006738	0.0035	5.1915		103401.07	103401.07	598.8		Si
SLV 16	4.4	-21027.53	-39277	-0.0000616	0.0006738	0.0035	5.1915		106999.71	106999.71	5.09		Si
SLV 16	6.5	-1107.5	-33958	-0.0000337	0.0006738	0.0035	5.1915		95690.83	95690.83	86.4		Si
SLV 3	4.4	-5263.71	-68151	-0.0000729	0.0006738	0.0035	5.1915		162858.27	162858.27	30.94		Si
SLV 3	6.5	-26796.14	-65626	-0.0000959	0.0006738	0.0035	5.1915		158443.16	158443.16	5.91		Si
SLD 13	4.4	-19902.27	-45937	-0.0000672	0.0006738	0.0035	5.1915		120840.71	120840.71	6.07		Si
SLD 13	6.5	330.83	-37471	-0.0000362	0.0006738	0.0035	5.1915		90780.79	90780.79	274.4		Si
SLV 14	4.4	-23377.42	-40932	-0.000066	0.0006738	0.0035	5.1915		110440.12	110440.12	4.72		Si
SLV 14	6.5	5785.81	-31280	-0.0000363	0.0006738	0.0035	5.1915		77396.62	77396.62	13.38		Si
SLV 13	4.4	-23240.18	-41109	-0.0000661	0.0006738	0.0035	5.1915		110808.72	110808.72	4.77		Si
SLV 13	6.5	6579.48	-31163	-0.0000371	0.0006738	0.0035	5.1915		77139.56	77139.56	11.72		Si
SLV 4	4.4	-5400.95	-67974	-0.0000728	0.0006738	0.0035	5.1915		162548.2	162548.2	30.1		Si
SLV 4	6.5	-27589.81	-65743	-0.000097	0.0006738	0.0035	5.1915		158647.47	158647.47	5.75		Si
SLV 7	4.4	-8013.9	-56147	-0.0000638	0.0006738	0.0035	5.1915		140873.8	140873.8	17.58		Si
SLV 7	6.5	-25699.22	-57645	-0.0000861	0.0006738	0.0035	5.1915		143658.17	143658.17	5.59		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	4.4	-17522.85	-66641	-47540	-5200	5.1915	5.1915	-32705	10833	27413	115546	52240	26477	78717	No	15.14	Si
SLU 49	6.5	-12098.3	-57702	-41163	-5180	5.1915	5.1915	-28317	10833	24862	115546	52240	26477	78717	No	15.2	Si
SLU 47	4.4	-17079.09	-64423	-45958	-5276	5.1915	5.1915	-31616	10833	26780	115546	52240	26477	78717	No	14.92	Si
SLU 47	6.5	-11341.64	-55397	-39519	-5257	5.1915	5.1915	-27186	10833	24204	115546	52240	26477	78717	No	14.97	Si
SLU 43	4.4	-16722.59	-63045	-44975	-5410	5.1915	5.1915	-30940	10833	26387	115546	52240	26477	78717	No	14.55	Si
SLU 43	6.5	-11165.08	-54165	-38640	-5391	5.1915	5.1915	-26582	10833	23853	115546	52240	26477	78717	No	14.6	Si
SLU 51	4.4	-17339.92	-65836	-46966	-5197	5.1915	5.1915	-32309	10833	27183	115546	52240	26477	78717	No	15.15	Si
SLU 51	6.5	-11922.18	-56881	-40578	-5177	5.1915	5.1915	-27915	10833	24628	115546	52240	26477	78717	No	15.2	Si
SLU 46	4.4	-17234.69	-65238	-46540	-5295	5.1915	5.1915	-32016	10833	27012	115546	52240	26477	78717	No	14.87	Si
SLU 46	6.5	-11633.19	-56289	-40155	-5276	5.1915	5.1915	-27624	10833	24459	115546	52240	26477	78717	No	14.92	Si
SLU 44	4.4	-16790.93	-63020	-44957	-5371	5.1915	5.1915	-30927	10833	26379	115546	52240	26477	78717	No	14.66	Si
SLU 44	6.5	-10876.52	-53984	-38511	-5352	5.1915	5.1915	-26493	10833	23801	115546	52240	26477	78717	No	14.71	Si
SLU 45	4.4	-17193.69	-65254	-46550	-5318	5.1915	5.1915	-32023	10833	27017	115546	52240	26477	78717	No	14.8	Si
SLU 45	6.5	-11806.32	-56398	-40233	-5299	5.1915	5.1915	-27678	10833	24490	115546	52240	26477	78717	No	14.86	Si
SLU 50	4.4	-17298.92	-65851	-46977	-5220	5.1915	5.1915	-32317	10833	27187	115546	52240	26477	78717	No	15.08	Si
SLU 50	6.5	-12095.31	-56990	-40655	-5200	5.1915	5.1915	-27968	10833	24659	115546	52240	26477	78717	No	15.14	Si
SLU 64	4.4	-18679.67	-71175	-50775	-4726	5.1915	5.1915	-34930	10833	28706	115546	52240	26477	78717	No	16.66	Si
SLU 64	6.5	-13602.28	-63093	-45009	-4705	5.1915	5.1915	-30963	10833	26400	115546	52240	26477	78717	No	16.73	Si
SLU 48	4.4	-17481.85	-66657	-47551	-5223	5.1915	5.1915	-32712	10833	27417	115546	52240	26477	78717	No	15.07	Si
SLU 48	6.5	-12271.44	-57810	-41240	-5203	5.1915	5.1915	-28371	10833	24893	115546	52240	26477	78717	No	15.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	4.4	-19902.27	-45937	-32770	-13686	5.1915	5.1915	-22544	16250	25704	115546	78360	26477	104837		7.66	Si
SLD 13	6.5	330.83	-37471	-26731	-13006	5.1915	5.1915	-18389	16178	23517	115546	78360	26477	104837		8.06	Si
SLV 13	4.4	-23240.18	-41109	-29326	-19348	5.1915	5.1915	-20174	16250	24326	115546	78360	26477	104837		5.42	Si
SLV 13	6.5	6579.48	-31163	-22231	-18301	5.1915	5.1915	-15293	15559	22617	115546	78360	26477	104837		5.73	Si
SLD 14	4.4	-19989.33	-45825	-32690	-13547	5.1915	5.1915	-22489	16250	25671	115546	78360	26477	104837		7.74	Si
SLD 14	6.5	-172.68	-37545	-26784	-12866	5.1915	5.1915	-18426	16185	23527	115546	78360	26477	104837		8.15	Si
SLD 15	4.4	-18525.33	-44965	-32077	-14253	5.1915	5.1915	-22067	16250	25426	115546	78360	26477	104837		7.36	Si
SLD 15	6.5	-3709.51	-39042	-27852	-13531	5.1915	5.1915	-19160	16250	23736	115546	78360	26477	104837		7.75	Si
SLD 16	4.4	-18612.39	-44853	-31997	-14113	5.1915	5.1915	-22012	16250	25394	115546	78360	26477	104837		7.43	Si
SLD 16	6.5	-4213.02	-39116	-27905	-13391	5.1915	5.1915	-19196	16250	23757	115546	78360	26477	104837		7.83	Si
SLV 1	4.4	-7613.6	-69806	-49798	12969	5.1915	5.1915	-34258	16250	32514	115546	78360	26477	104837		8.08	Si
SLV 1	6.5	-19902.83	-62947	-44905	11894	5.1915	5.1915	-30892	16250	30557	115546	78360	26477	104837		8.81	Si
SLV 14	4.4	-23377.42	-40932	-29200	-19128	5.1915	5.1915	-20087	16250	24275	115546	78360	26477	104837		5.48	Si
SLV 14	6.5	5785.81	-31280	-22314	-18081	5.1915	5.1915	-15351	15570	22633	115546	78360	26477	104837		5.8	Si
SLV 2	4.4	-7750.84	-69629	-49671	13190	5.1915	5.1915	-34171	16250	32464	115546	78360	26477	104837		7.95	Si
SLV 2	6.5	-20696.49	-63064	-44989	12114	5.1915	5.1915	-30949	16250	30591	115546	78360	26477	104837		8.65	Si
SLV 15	4.4	-20890.29	-39454	-28146	-20312	5.1915	5.1915	-19362	16250	23854	115546	78360	26477	104837		5.16	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	6.5	-313.84	-33841	-24142	-19203	5.1915	5.1915	-16608	15822	22999	115546	78360	26477	104837		5.46	Si
SLV 16	4.4	-21027.53	-39277	-28019	-20091	5.1915	5.1915	-19275	16250	23803	115546	78360	26477	104837		5.22	Si
SLV 16	6.5	-1107.5	-33958	-24225	-18983	5.1915	5.1915	-16665	15833	23015	115546	78360	26477	104837		5.52	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-32166	0.38	551.67	3959.58	5561.86	4760.72	8.63	Si
SLV 14	-32283	0.38	551.67	3971.98	5579.07	4775.53	8.66	Si
SLV 15	-34844	0.38	551.67	4240.2	5956.46	5098.33	9.24	Si
SLV 16	-34961	0.38	551.67	4252.27	5973.69	5112.98	9.27	Si
SLV 9	-40133	0.38	551.67	4772.22	6735.82	5754.02	10.43	Si
SLV 10	-40211	0.38	551.67	4779.91	6747.31	5763.61	10.45	Si
SLV 11	-49059	0.38	551.67	5603.57	8035.45	6819.51	12.36	Si
SLV 12	-49138	0.38	551.67	5610.53	8046.76	6828.64	12.38	Si
SLV 5	-49623	0.38	551.67	5653.22	8116.44	6884.83	12.48	Si
SLV 6	-49701	0.38	551.67	5660.13	8127.75	6893.94	12.5	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-51435	-67974	208	0.559	5963.5	0.963	8.43253	5.26967	Si
SLV 3	-51358	-68151	209	0.56	5955.7	0.963	8.44324	5.26967	Si
SLV 2	-50446	-69629	-371	0.565	5862.9	0.963	8.53372	5.26967	Si
SLV 1	-50370	-69806	-369	0.566	5855.1	0.963	8.54558	5.26967	Si
SLV 8	-46612	-56028	933	0.594	5472.9	0.96	8.98426	4.55335	Si
SLV 7	-46561	-56147	934	0.594	5467.6	0.96	8.99274	4.55335	Si
SLV 6	-43317	-61545	-995	0.631	5137.8	0.958	9.5641	4.55335	Si
SLV 5	-43266	-61664	-994	0.631	5132.6	0.958	9.57445	4.55335	Si
SLV 12	-41501	-47418	976	0.654	4953.2	0.957	9.93783	4.55335	Si
SLV 11	-41449	-47538	977	0.655	4947.9	0.957	9.94839	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.215	SLU 84	Si
V_SLU	14.551	SLU 43	Si
PF_SLV	4.724	SLV 14	Si
V_SLV	5.161	SLV 15	Si
PFFP_SLV	8.63	SLV 13	Si
R_SLV	1.6	SLV 4	Si

Maschio 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-18.623	1.141	L5	L6	6.36	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	4.4	18987.52	-117165	-0.0001162	0.0004492	0.0035	6.36	171961.53	269534.67	269534.67	14.2	No	Si
SLU 79	6.9	6005.38	-98874	-0.0000872	0.0004492	0.0035	6.36	171546.43	239592.63	239592.63	39.9	No	Si
SLU 77	4.4	19109.99	-118297	-0.0001174	0.0004492	0.0035	6.36	171665.97	270935.56	270935.56	14.18	No	Si
SLU 77	6.9	6051.07	-99956	-0.0000883	0.0004492	0.0035	6.36	171843.18	241526.96	241526.96	39.91	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	4.4	18925.97	-118204	-0.0001172	0.0004492	0.0035	6.36	171691.64	270820.57	270820.57	14.31	No	Si
SLU 78	6.9	5926.96	-100051	-0.0000882	0.0004492	0.0035	6.36	171867.7	241697.52	241697.52	40.78	No	Si
SLU 75	4.4	18645.44	-115755	-0.0001145	0.0004492	0.0035	6.36	172277.34	267789.6	267789.6	14.36	No	Si
SLU 75	6.9	5849.38	-97647	-0.000086	0.0004492	0.0035	6.36	171168.85	237401.04	237401.04	40.59	No	Si
SLU 82	4.4	19045.43	-116224	-0.0001153	0.0004492	0.0035	6.36	172178.8	268369.73	268369.73	14.09	No	Si
SLU 82	6.9	5767.5	-98175	-0.0000864	0.0004492	0.0035	6.36	171336.76	238344.36	238344.36	41.33	No	Si
SLU 74	4.4	18829.47	-115848	-0.0001148	0.0004492	0.0035	6.36	172258.32	267904.59	267904.59	14.23	No	Si
SLU 74	6.9	5973.49	-97552	-0.000086	0.0004492	0.0035	6.36	171137.62	237230.48	237230.48	39.71	No	Si
SLU 83	4.4	19509.98	-118766	-0.0001183	0.0004492	0.0035	6.36	171532.61	271515.7	271515.7	13.92	No	Si
SLU 83	6.9	5969.2	-100484	-0.0000887	0.0004492	0.0035	6.36	171975.47	242470.28	242470.28	40.62	No	Si
SLU 81	4.4	19229.46	-116317	-0.0001156	0.0004492	0.0035	6.36	172158.5	268484.72	268484.72	13.96	No	Si
SLU 81	6.9	5891.61	-98080	-0.0000864	0.0004492	0.0035	6.36	171307	238173.8	238173.8	40.43	No	Si
SLU 80	4.4	18803.5	-117072	-0.0001159	0.0004492	0.0035	6.36	171984.13	269419.68	269419.68	14.33	No	Si
SLU 80	6.9	5881.27	-98969	-0.0000872	0.0004492	0.0035	6.36	171573.97	239763.19	239763.19	40.77	No	Si
SLU 84	4.4	19325.96	-118673	-0.000118	0.0004492	0.0035	6.36	171559.55	271400.7	271400.7	14.04	No	Si
SLU 84	6.9	5845.09	-100579	-0.0000887	0.0004492	0.0035	6.36	171998.52	242640.84	242640.84	41.51	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	4.4	29845.56	-80294	-0.0000875	0.0006738	0.0035	6.36		216519.96	216519.96	7.25		Si
SLD 1	6.9	-3982.25	-69968	-0.0000585	0.0006738	0.0035	6.36		214462.71	214462.71	53.85		Si
SLD 4	4.4	32003.26	-83423	-0.000092	0.0006738	0.0035	6.36		223827.37	223827.37	6.99		Si
SLD 4	6.9	-2470.98	-68260	-0.0000559	0.0006738	0.0035	6.36		210557.16	210557.16	85.21		Si
SLV 7	4.4	27993.16	-89914	-0.0000944	0.0006738	0.0035	6.36		238984.71	238984.71	8.54		Si
SLV 7	6.9	7512.55	-62487	-0.000055	0.0006738	0.0035	6.36		174935.73	174935.73	23.29		Si
SLV 1	4.4	39280.09	-80757	-0.0000955	0.0006738	0.0035	6.36		217601.19	217601.19	5.54		Si
SLV 1	6.9	-8806.74	-72815	-0.0000646	0.0006738	0.0035	6.36		220929.22	220929.22	25.09		Si
SLV 2	4.4	39015.27	-80442	-0.000095	0.0006738	0.0035	6.36		216864.66	216864.66	5.56		Si
SLV 2	6.9	-9923.96	-72638	-0.0000653	0.0006738	0.0035	6.36		220526.14	220526.14	22.22		Si
SLD 2	4.4	29677.55	-80094	-0.0000872	0.0006738	0.0035	6.36		216052.7	216052.7	7.28		Si
SLD 2	6.9	-4691.03	-69856	-0.0000589	0.0006738	0.0035	6.36		214206.99	214206.99	45.66		Si
SLV 4	4.4	42964.14	-86128	-0.0001032	0.0006738	0.0035	6.36		230142.86	230142.86	5.36		Si
SLV 4	6.9	-6132.48	-69913	-0.0000601	0.0006738	0.0035	6.36		214336.85	214336.85	34.95		Si
SLV 8	4.4	27814.87	-89701	-0.0000941	0.0006738	0.0035	6.36		238488.86	238488.86	8.57		Si
SLV 8	6.9	6760.41	-62367	-0.0000544	0.0006738	0.0035	6.36		174656.73	174656.73	25.84		Si
SLV 3	4.4	43228.97	-86443	-0.0001036	0.0006738	0.0035	6.36		230879.38	230879.38	5.34		Si
SLV 3	6.9	-5015.25	-70090	-0.0000594	0.0006738	0.0035	6.36		214739.92	214739.92	42.82		Si
SLD 3	4.4	32171.27	-83623	-0.0000923	0.0006738	0.0035	6.36		224294.64	224294.64	6.97		Si
SLD 3	6.9	-1762.2	-68372	-0.0000554	0.0006738	0.0035	6.36		210828.14	210828.14	119.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	4.4	19509.98	-118766	-84724	1096	6.36	6.36	-47577	10833	44176	115546	63998	32436	96434	No	88	Si
SLU 83	6.9	5969.2	-100484	-71682	4067	6.36	6.36	-40253	10833	38959	115546	63998	32436	96434	No	23.71	Si
SLU 79	4.4	18987.52	-117165	-83583	951	6.36	6.36	-46936	10833	43719	115546	63998	32436	96434	No	101.41	Si
SLU 79	6.9	6005.38	-98874	-70534	3881	6.36	6.36	-39608	10833	38500	115546	63998	32436	96434	No	24.85	Si
SLU 84	4.4	19325.96	-118673	-84658	910	6.36	6.36	-47539	10833	44149	115546	63998	32436	96434	No	105.93	Si
SLU 84	6.9	5845.09	-100579	-71751	3931	6.36	6.36	-40291	10833	38986	115546	63998	32436	96434	No	24.53	Si
SLU 62	4.4	17547.75	-106050	-75653	1245	6.36	6.36	-42483	10833	40547	115546	63998	32436	96434	No	77.44	Si
SLU 62	6.9	5584.31	-87993	-62772	3941	6.36	6.36	-35250	10833	35395	115546	63998	32436	96434	No	24.47	Si
SLU 82	4.4	19045.43	-116224	-82911	807	6.36	6.36	-46559	10833	43451	115546	63998	32436	96434	No	119.44	Si
SLU 82	6.9	5767.5	-98175	-70036	3800	6.36	6.36	-39328	10833	38300	115546	63998	32436	96434	No	25.38	Si
SLU 81	4.4	19229.46	-116317	-82978	993	6.36	6.36	-46596	10833	43477	115546	63998	32436	96434	No	97.12	Si
SLU 81	6.9	5891.61	-98080	-69968	3937	6.36	6.36	-39290	10833	38273	115546	63998	32436	96434	No	24.5	Si
SLU 63	4.4	17363.73	-105957	-75587	1060	6.36	6.36	-42446	10833	40521	115546	63998	32436	96434	No	90.99	Si
SLU 63	6.9	5460.2	-88089	-62840	3804	6.36	6.36	-35288	10833	35422	115546	63998	32436	96434	No	25.35	Si
SLU 77	4.4	19109.99	-118297	-84390	921	6.36	6.36	-47389	10833	44042	115546	63998	32436	96434	No	104.67	Si
SLU 77	6.9	6051.07	-99956	-71306	3885	6.36	6.36	-40042	10833	38809	115546	63998	32436	96434	No	24.82	Si
SLU 60	4.4	17267.23	-103601	-73907	1142	6.36	6.36	-41502	10833	39849	115546	63998	32436	96434	No	84.41	Si
SLU 60	6.9	5506.73	-85590	-61058	3810	6.36	6.36	-34287	10833	34709	115546	63998	32436	96434	No	25.31	Si
SLU 56	4.4	17147.76	-105581	-75319	1071	6.36	6.36	-42295	10833	40414	115546	63998	32436	96434	No	90.06	Si
SLU 56	6.9	5666.19	-87466	-62396	3758	6.36	6.36	-35038	10833	35245	115546	63998	32436	96434	No	25.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	4.4	39280.09	-80757	-57610	23554	6.36	6.36	-32351	16250	38474	115546	95996	32436	128432		5.45	Si
SLV 1	6.9	-8806.74	-72815	-51945	22395	6.36	6.36	-29169	16250	36208	115546	95996	32436	128432		5.73	Si
SLV 8	4.4	27814.87	-89701	-63991	21594	6.36	6.36	-35934	16250	41026	115546	95996	32436	128432		5.95	Si
SLV 8	6.9	6760.41	-62367	-44491	18896	6.36	6.36	-24984	16250	33227	115546	95996	32436	128432		6.8	Si
SLV 3	4.4	43228.97	-86443	-61666	31245	6.36	6.36	-34628	16250	40096	115546	95996	32436	128432		4.11	Si
SLV 3	6.9	-5015.25	-70090	-50001	28023	6.36	6.36	-28078	16250	35430	115546	95996	32436	128432		4.58	Si
SLV 14	4.4	-17554.92	-71552	-51044	-30592	6.36	6.36	-28663	16250	35848	115546	95996	32436	128432		4.2	Si
SLV 14	6.9	13753	-60080	-42859	-23224	6.36	6.36	-24067	16250	32574	115546	95996	32436	128432		5.53	Si
SLV 4	4.4	42964.14	-86128	-61441	31918	6.36	6.36	-34502	16250	40006	115546	95996	32436	128432		4.02	Si
SLV 4	6.9	-6132.48	-69913	-49874	28582	6.36	6.36	-28007	16250	35380	115546	95996	32436	128432		4.49	Si
SLV 13	4.4	-17290.1	-71868	-51269	-31266	6.36	6.36	-28790	16250	35938	115546	95996	32436	128432		4.11	Si
SLV 13	6.9	14870.23	-60257	-42986	-23783	6.36	6.36	-24139	16250	32625	115546	95996	32436	128432		5.4	Si
SLV 7	4.4	27993.16	-89914	-64142	21141	6.36	6.36	-36019	16250	41087	115546	95996	32436	128432		6.08	Si
SLV 7	6.9	7512.55	-62487	-44577	18519	6.36	6.36	-25032	16250	33261	115546	95996	32436	128432		6.94	Si
SLV 15	4.4	-13341.22	-77554	-55325	-23575	6.36	6.36	-31067	16250	37560	115546	95996	32436	128432		5.45	Si
SLV 15	6.9	18661.72	-57532	-41042	-18154	6.36	6.36	-23047	16250	31847	115546	95996	32436	128432		7.07	Si
SLV 2	4.4	39015.27	-80442	-57385	24227	6.36	6.36	-32224	16250	38384	115546	95996	32436	128432		5.3	Si
SLV 2	6.9	-9923.96	-72638	-51818	22953	6.36	6.36	-29098	16250	36157	115546	95996	32436	128432		5.6	Si
SLV 16	4.4	-13606.04	-77238	-55100	-22902	6.36	6.36	-30941	16250	37470	115546	95996	32436	128432		5.61	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	6.9	17544.49	-57355	-40915	-17595	6.36	6.36	-22976	16250	31796	115546	95996	32436	128432		7.3	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-64998	0.38	675.83	7287.57	10544.17	8915.87	13.19	Si
SLV 16	-65077	0.38	675.83	7294.22	10555.53	8924.87	13.21	Si
SLV 11	-65211	0.38	675.83	7305.5	10574.83	8940.17	13.23	Si
SLV 15	-65394	0.38	675.83	7320.82	10601.08	8960.95	13.26	Si
SLV 8	-67067	0.38	675.83	7460	10841.91	9150.96	13.54	Si
SLV 14	-67258	0.38	675.83	7475.73	10869.4	9172.56	13.57	Si
SLV 7	-67280	0.38	675.83	7477.55	10872.59	9175.07	13.58	Si
SLV 13	-67574	0.38	675.83	7501.73	10914.66	9208.2	13.62	Si
SLV 4	-71972	0.38	675.83	7854.22	11542.8	9698.51	14.35	Si
SLV 10	-72267	0.38	675.83	7877.22	11584.86	9731.04	14.4	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-68689	-80757	-291	0.519	7883.5	0.966	7.80672	5.26967	Si
SLV 2	-68575	-80442	-292	0.52	7871.8	0.966	7.81815	5.26967	Si
SLV 3	-67010	-86443	159	0.532	7712.5	0.965	8.00654	5.26967	Si
SLV 4	-66895	-86128	159	0.533	7700.9	0.965	8.01873	5.26967	Si
SLV 5	-65583	-70961	-772	0.533	7567.4	0.965	8.03055	4.55335	Si
SLV 6	-65506	-70748	-772	0.534	7559.5	0.965	8.03883	4.55335	Si
SLV 13	-54269	-71868	-162	0.636	6416.4	0.959	9.64444	5.26967	Si
SLV 14	-54155	-71552	-163	0.637	6404.8	0.959	9.66235	5.26967	Si
SLV 9	-61257	-68294	-733	0.565	7127.2	0.963	8.5375	4.55335	Si
SLV 15	-52589	-77554	288	0.651	6245.7	0.958	9.88286	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.917	SLU 83	Si
V_SLU	23.709	SLU 83	Si
PF_SLV	5.341	SLV 3	Si
V_SLV	4.024	SLV 4	Si
PFFP_SLV	13.192	SLV 12	Si
R_SLV	1.481	SLV 1	Si

Maschio 132

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L5	L6	0.676	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	4.4	-155.35	-11653	-0.0001041	0.0004492	0.0035	0.6764	1956.32	2990.78	2990.78	19.25	No	Si
SLU 49	6.9	-146.47	-10530	-0.0000934	0.0004492	0.0035	0.6764	1940.62	2813.72	2813.72	19.21	No	Si
SLU 43	4.4	-148.89	-10895	-0.0000968	0.0004492	0.0035	0.6764	1949.76	2871.29	2871.29	19.28	No	Si
SLU 43	6.9	-140.79	-9770	-0.0000863	0.0004492	0.0035	0.6764	1909.08	2693.87	2693.87	19.13	No	Si
SLU 2	4.4	-125.56	-8879	-0.0000775	0.0004492	0.0035	0.6764	1850.62	2530.86	2530.86	20.16	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 2	6.9	-119.46	-8006	-0.0000697	0.0004492	0.0035	0.6764	1770.73	2349.24	2349.24	19.67	No	Si
SLU 45	4.4	-149.52	-11329	-0.0001007	0.0004492	0.0035	0.6764	1955.57	2939.69	2939.69	19.66	No	Si
SLU 45	6.9	-140.84	-10206	-0.0000901	0.0004492	0.0035	0.6764	1929.21	2762.52	2762.52	19.61	No	Si
SLU 68	4.4	-161.85	-12968	-0.0001167	0.0004492	0.0035	0.6764	1927.88	3196.25	3196.25	19.75	No	Si
SLU 68	6.9	-153.07	-11812	-0.0001053	0.0004492	0.0035	0.6764	1955.56	3015.89	3015.89	19.7	No	Si
SLU 46	4.4	-155.66	-11354	-0.0001014	0.0004492	0.0035	0.6764	1955.74	2943.65	2943.65	18.91	No	Si
SLU 46	6.9	-147.15	-10230	-0.0000908	0.0004492	0.0035	0.6764	1930.19	2766.44	2766.44	18.8	No	Si
SLU 51	4.4	-154.43	-11518	-0.0001028	0.0004492	0.0035	0.6764	1956.38	2969.49	2969.49	19.23	No	Si
SLU 51	6.9	-145.74	-10395	-0.0000921	0.0004492	0.0035	0.6764	1936.23	2792.35	2792.35	19.16	No	Si
SLU 47	4.4	-158.82	-11236	-0.0001006	0.0004492	0.0035	0.6764	1954.79	2925.01	2925.01	18.42	No	Si
SLU 47	6.9	-150.63	-10112	-0.00009	0.0004492	0.0035	0.6764	1925.33	2747.69	2747.69	18.24	No	Si
SLU 44	4.4	-159.12	-10937	-0.0000979	0.0004492	0.0035	0.6764	1950.56	2877.89	2877.89	18.09	No	Si
SLU 44	6.9	-151.31	-9812	-0.0000875	0.0004492	0.0035	0.6764	1911.24	2700.41	2700.41	17.85	No	Si
SLU 65	4.4	-162.15	-12669	-0.0001139	0.0004492	0.0035	0.6764	1938.78	3151.01	3151.01	19.43	No	Si
SLU 65	6.9	-153.75	-11512	-0.0001027	0.0004492	0.0035	0.6764	1956.37	2968.62	2968.62	19.31	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	4.4	-148.25	-14506	-10348	-1	0.6764	0.6764	-54642	10833	3489	115546	6806	3449	10255	No	7242.7	Si
SLU 80	6.9	-138.67	-13351	-9524	1	0.6764	0.6764	-50292	10833	3269	115546	6806	3449	10255	No	10866.56	Si
SLU 78	4.4	-149.18	-14641	-10445	-1	0.6764	0.6764	-55150	10833	3514	115546	6806	3449	10255	No	7191.2	Si
SLU 78	6.9	-139.4	-13487	-9621	1	0.6764	0.6764	-50803	10833	3295	115546	6806	3449	10255	No	10746.77	Si
SLU 75	4.4	-149.49	-14342	-10231	-1	0.6764	0.6764	-54025	10833	3458	115546	6806	3449	10255	No	7369.79	Si
SLU 75	6.9	-140.08	-13187	-9407	1	0.6764	0.6764	-49673	10833	3238	115546	6806	3449	10255	No	10894.3	Si
SLU 83	4.4	-138.48	-14721	-10501	-2	0.6764	0.6764	-55451	10833	3530	115546	6806	3449	10255	No	6736.23	Si
SLU 83	6.9	-128.96	-13565	-9677	1	0.6764	0.6764	-51097	10833	3310	115546	6806	3449	10255	No	11216.37	Si
SLU 81	4.4	-138.78	-14422	-10288	-1	0.6764	0.6764	-54325	10833	3473	115546	6806	3449	10255	No	6892.69	Si
SLU 81	6.9	-129.64	-13265	-9463	1	0.6764	0.6764	-49968	10833	3253	115546	6806	3449	10255	No	11377.18	Si
SLU 82	4.4	-144.91	-14447	-10306	-1	0.6764	0.6764	-54420	10833	3478	115546	6806	3449	10255	No	7062.62	Si
SLU 82	6.9	-135.95	-13290	-9481	1	0.6764	0.6764	-50062	10833	3257	115546	6806	3449	10255	No	10848.91	Si
SLU 79	4.4	-142.12	-14481	-10330	-1	0.6764	0.6764	-54548	10833	3484	115546	6806	3449	10255	No	7064.1	Si
SLU 79	6.9	-132.36	-13326	-9507	1	0.6764	0.6764	-50198	10833	3264	115546	6806	3449	10255	No	11396.59	Si
SLU 74	4.4	-143.35	-14317	-10214	-1	0.6764	0.6764	-53931	10833	3453	115546	6806	3449	10255	No	7184.95	Si
SLU 74	6.9	-133.77	-13162	-9390	1	0.6764	0.6764	-49580	10833	3233	115546	6806	3449	10255	No	11427.11	Si
SLU 77	4.4	-143.05	-14616	-10427	-1	0.6764	0.6764	-55056	10833	3510	115546	6806	3449	10255	No	7015.1	Si
SLU 77	6.9	-133.09	-13462	-9603	1	0.6764	0.6764	-50709	10833	3290	115546	6806	3449	10255	No	11264.89	Si
SLU 84	4.4	-144.61	-14746	-10519	-1	0.6764	0.6764	-55545	10833	3534	115546	6806	3449	10255	No	6898.44	Si
SLU 84	6.9	-135.27	-13590	-9695	1	0.6764	0.6764	-51191	10833	3314	115546	6806	3449	10255	No	10702.6	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-6953	0.38	71.87	778.45	1104.74	941.6	13.1	Si
SLV 7	-7003	0.38	71.87	782.6	1111.91	947.26	13.18	Si
SLV 4	-7013	0.38	71.87	783.42	1113.32	948.37	13.2	Si
SLV 8	-7043	0.38	71.87	785.93	1117.68	951.81	13.24	Si
SLV 1	-7903	0.38	71.87	854.54	1242.03	1048.29	14.59	Si
SLV 2	-7963	0.38	71.87	859.05	1250.59	1054.82	14.68	Si
SLV 11	-7987	0.38	71.87	860.9	1254.12	1057.51	14.71	Si
SLV 12	-8027	0.38	71.87	863.92	1259.89	1061.9	14.77	Si
SLV 5	-10170	0.38	71.87	1006.65	1558.12	1282.39	17.84	Si
SLV 6	-10210	0.38	71.87	1008.96	1563.34	1286.15	17.89	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-7845	-11429	23	0.489	893.4	0.968	7.34468	5.26967	Si
SLV 13	-7814	-11368	24	0.491	890.2	0.968	7.36992	5.26967	Si
SLV 16	-7266	-10488	24	0.522	834.4	0.966	7.85654	5.26967	Si
SLV 15	-7235	-10427	25	0.524	831.2	0.966	7.88581	5.26967	Si
SLV 10	-7807	-11653	15	0.492	889.5	0.968	7.39144	4.55335	Si
SLV 9	-7786	-11611	15	0.493	887.3	0.968	7.40861	4.55335	Si
SLV 6	-7199	-10911	9	0.528	827.6	0.965	7.95101	4.55335	Si
SLV 5	-7178	-10870	9	0.529	825.5	0.965	7.97113	4.55335	Si
SLV 2	-5821	-8956	2	0.634	687.4	0.959	9.60819	5.26967	Si
SLV 1	-5789	-8895	3	0.637	684.2	0.959	9.65316	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	17.847	SLU 44	Si
V_SLU	6736.228	SLU 83	Si
PFFP_SLV	13.101	SLV 3	Si
R_SLV	1.394	SLV 14	Si

Maschio 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L5	L6	1.944	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	4.4	2214.92	-35316	-0.0001189	0.0004492	0.0035	1.9436	16093.08	25026.66	25026.66	11.3	No	Si
SLU 41	6.9	320.74	-29033	-0.0000815	0.0004492	0.0035	1.9436	15895.85	21734.75	21734.75	67.76	No	Si
SLU 84	4.4	2453.42	-41560	-0.0001423	0.0004492	0.0035	1.9436	15146	27342.71	27342.71	11.14	No	Si
SLU 84	6.9	595.13	-33918	-0.0000989	0.0004492	0.0035	1.9436	16149.03	24361.99	24361.99	40.94	No	Si
SLU 81	4.4	2434.5	-40677	-0.0001391	0.0004492	0.0035	1.9436	15349.07	27015.23	27015.23	11.1	No	Si
SLU 81	6.9	526.7	-33097	-0.0000957	0.0004492	0.0035	1.9436	16155.24	23920.5	23920.5	45.42	No	Si
SLU 79	4.4	2370.65	-40941	-0.0001393	0.0004492	0.0035	1.9436	15290.8	27113.06	27113.06	11.44	No	Si
SLU 79	6.9	549.94	-33336	-0.0000966	0.0004492	0.0035	1.9436	16155.47	24049.12	24049.12	43.73	No	Si
SLU 77	4.4	2382.88	-41310	-0.0001407	0.0004492	0.0035	1.9436	15205.84	27249.94	27249.94	11.44	No	Si
SLU 77	6.9	563.55	-33675	-0.0000978	0.0004492	0.0035	1.9436	16152.92	24231.24	24231.24	43	No	Si
SLU 83	4.4	2465.13	-41464	-0.0001421	0.0004492	0.0035	1.9436	15169.16	27307.13	27307.13	11.08	No	Si
SLU 83	6.9	521.95	-33812	-0.0000979	0.0004492	0.0035	1.9436	16150.93	24305.14	24305.14	46.57	No	Si
SLU 39	4.4	2184.29	-34529	-0.0001161	0.0004492	0.0035	1.9436	16131.59	24690.87	24690.87	11.3	No	Si
SLU 39	6.9	325.5	-28317	-0.0000794	0.0004492	0.0035	1.9436	15800.25	21350.11	21350.11	65.59	No	Si
SLU 82	4.4	2422.8	-40773	-0.0001393	0.0004492	0.0035	1.9436	15328.12	27050.8	27050.8	11.17	No	Si
SLU 82	6.9	599.88	-33203	-0.0000967	0.0004492	0.0035	1.9436	16155.55	23977.35	23977.35	39.97	No	Si
SLU 42	4.4	2203.21	-35412	-0.0001191	0.0004492	0.0035	1.9436	16087.15	25062.23	25062.23	11.38	No	Si
SLU 42	6.9	393.92	-29138	-0.0000825	0.0004492	0.0035	1.9436	15908.72	21791.59	21791.59	55.32	No	Si
SLU 40	4.4	2172.59	-34625	-0.0001163	0.0004492	0.0035	1.9436	16127.87	24742.45	24742.45	11.39	No	Si
SLU 40	6.9	398.68	-28423	-0.0000804	0.0004492	0.0035	1.9436	15815.32	21406.95	21406.95	53.69	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	4.4	5857.94	-29495	-0.0001287	0.0006738	0.0035	1.9436		23707.94	23707.94	4.05		Si
SLV 4	6.9	-6535.77	-19361	-0.0001048	0.0006738	0.0035	1.9436		18438.83	18438.83	2.82		Si
SLV 10	4.4	-224.13	-34254	-0.000093	0.0006738	0.0035	1.9436		28105.99	28105.99	125.4		Si
SLV 10	6.9	7165.85	-30596	-0.0001436	0.0006738	0.0035	1.9436		24336.38	24336.38	3.4		Si
SLV 14	4.4	-2727.75	-26492	-0.0000926	0.0006738	0.0035	1.9436		23379.21	23379.21	8.57		Si
SLV 14	6.9	7547.36	-25592	-0.0001318	0.0006738	0.0035	1.9436		20958.09	20958.09	2.78		Si
SLV 13	4.4	-2778.71	-26130	-0.000092	0.0006738	0.0035	1.9436		23139.98	23139.98	8.33		Si
SLV 13	6.9	7518.8	-25310	-0.0001307	0.0006738	0.0035	1.9436		20759.79	20759.79	2.76		Si
SLV 9	4.4	-258.44	-34010	-0.0000926	0.0006738	0.0035	1.9436		27964.64	27964.64	108.21		Si
SLV 9	6.9	7146.62	-30406	-0.0001429	0.0006738	0.0035	1.9436		24232.7	24232.7	3.39		Si
SLV 7	4.4	3303.36	-21370	-0.000083	0.0006738	0.0035	1.9436		17984.37	17984.37	5.44		Si
SLV 7	6.9	-6182.82	-14075	-0.0000899	0.0006738	0.0035	1.9436		14405.69	14405.69	2.33		Si
SLV 15	4.4	-2453.62	-21666	-0.0000767	0.0006738	0.0035	1.9436		20097.51	20097.51	8.19		Si
SLV 15	6.9	4517.31	-20542	-0.0000909	0.0006738	0.0035	1.9436		17401.03	17401.03	3.85		Si
SLV 16	4.4	-2402.66	-22028	-0.0000773	0.0006738	0.0035	1.9436		20351.37	20351.37	8.47		Si
SLV 16	6.9	4545.87	-20824	-0.000092	0.0006738	0.0035	1.9436		17599.34	17599.34	3.87		Si
SLV 8	4.4	3337.67	-21614	-0.000084	0.0006738	0.0035	1.9436		18156.1	18156.1	5.44		Si
SLV 8	6.9	-6163.59	-14265	-0.0000899	0.0006738	0.0035	1.9436		14553.87	14553.87	2.36		Si
SLV 3	4.4	5806.98	-29133	-0.0001271	0.0006738	0.0035	1.9436		23452.86	23452.86	4.04		Si
SLV 3	6.9	-6564.33	-19080	-0.0001043	0.0006738	0.0035	1.9436		18230.1	18230.1	2.78		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	4.4	2434.5	-40677	-29018	3130	1.9436	1.9436	-53321	10833	9834	115546	19558	9913	29470	No	9.42	Si
SLU 81	6.9	526.7	-33097	-23610	-137	1.9436	1.9436	-43384	10833	8392	115546	19558	9913	29470	No	215.55	Si
SLU 79	4.4	2370.65	-40941	-29206	3111	1.9436	1.9436	-53666	10833	9884	115546	19558	9913	29470	No	9.47	Si
SLU 79	6.9	549.94	-33336	-23781	-213	1.9436	1.9436	-43698	10833	8437	115546	19558	9913	29470	No	138.48	Si
SLU 75	4.4	2340.55	-40619	-28976	3037	1.9436	1.9436	-53244	10833	9823	115546	19558	9913	29470	No	9.7	Si
SLU 75	6.9	641.48	-33065	-23588	-260	1.9436	1.9436	-43343	10833	8386	115546	19558	9913	29470	No	113.35	Si
SLU 77	4.4	2382.88	-41310	-29469	3129	1.9436	1.9436	-54150	10833	9954	115546	19558	9913	29470	No	9.42	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	6.9	563.55	-33675	-24023	-222	1.9436	1.9436	-44142	10833	8502	115546	19558	9913	29470	No	132.82	Si
SLU 82	4.4	2422.8	-40773	-29086	3092	1.9436	1.9436	-53446	10833	9852	115546	19558	9913	29470	No	9.53	Si
SLU 82	6.9	599.88	-33203	-23686	-171	1.9436	1.9436	-43523	10833	8412	115546	19558	9913	29470	No	172.73	Si
SLU 80	4.4	2358.95	-41036	-29274	3074	1.9436	1.9436	-53792	10833	9902	115546	19558	9913	29470	No	9.59	Si
SLU 80	6.9	623.13	-33442	-23856	-247	1.9436	1.9436	-43836	10833	8457	115546	19558	9913	29470	No	119.45	Si
SLU 74	4.4	2352.25	-40523	-28908	3074	1.9436	1.9436	-53118	10833	9804	115546	19558	9913	29470	No	9.59	Si
SLU 74	6.9	568.3	-32959	-23512	-226	1.9436	1.9436	-43204	10833	8366	115546	19558	9913	29470	No	130.34	Si
SLU 78	4.4	2371.17	-41406	-29538	3091	1.9436	1.9436	-54276	10833	9972	115546	19558	9913	29470	No	9.53	Si
SLU 78	6.9	636.73	-33780	-24098	-256	1.9436	1.9436	-44280	10833	8522	115546	19558	9913	29470	No	115.22	Si
SLU 84	4.4	2453.42	-41560	-29648	3146	1.9436	1.9436	-54478	10833	10002	115546	19558	9913	29470	No	9.37	Si
SLU 84	6.9	595.13	-33918	-24196	-166	1.9436	1.9436	-44460	10833	8548	115546	19558	9913	29470	No	177.1	Si
SLU 83	4.4	2465.13	-41464	-29579	3184	1.9436	1.9436	-54352	10833	9983	115546	19558	9913	29470	No	9.26	Si
SLU 83	6.9	521.95	-33812	-24121	-133	1.9436	1.9436	-44322	10833	8528	115546	19558	9913	29470	No	222.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	4.4	3337.67	-21614	-15419	6343	1.9436	1.9436	-28333	16250	8844	115546	29337	9913	39249		6.19	Si
SLV 8	6.9	-6163.59	-14265	-10176	2880	1.9436	1.6192	-22679	16250	7367	115546	29337	9913	39249		13.63	Si
SLV 4	4.4	5857.94	-29495	-21041	9069	1.9436	1.9436	-38663	16250	8844	115546	29337	9913	39249		4.33	Si
SLV 4	6.9	-6535.77	-19361	-13812	3068	1.9436	1.9027	-25379	16250	8657	115546	29337	9913	39249		12.79	Si
SLD 2	4.4	4103.26	-31632	-22565	5673	1.9436	1.9436	-41464	16250	9161	115546	29337	9913	39249		6.92	Si
SLD 2	6.9	-2168.2	-23355	-16661	971	1.9436	1.9436	-30614	16250	8844	115546	29337	9913	39249		40.42	Si
SLD 4	4.4	4294.45	-29017	-20700	6512	1.9436	1.9436	-38036	16250	8844	115546	29337	9913	39249		6.03	Si
SLD 4	6.9	-3927.29	-20561	-14668	1812	1.9436	1.9436	-26952	16250	8844	115546	29337	9913	39249		21.66	Si
SLV 1	4.4	5481.89	-33597	-23967	7589	1.9436	1.9436	-44040	16250	9535	115546	29337	9913	39249		5.17	Si
SLV 1	6.9	-3562.85	-23847	-17012	1626	1.9436	1.9436	-31260	16250	8844	115546	29337	9913	39249		24.14	Si
SLV 2	4.4	5532.85	-33959	-24225	7639	1.9436	1.9436	-44514	16250	9604	115546	29337	9913	39249		5.14	Si
SLV 2	6.9	-3534.28	-24129	-17213	1633	1.9436	1.9436	-31629	16250	8844	115546	29337	9913	39249		24.04	Si
SLV 7	4.4	3303.36	-21370	-15245	6309	1.9436	1.9436	-28013	16250	8844	115546	29337	9913	39249		6.22	Si
SLV 7	6.9	-6182.82	-14075	-10041	2875	1.9436	1.5977	-22678	16250	7269	115546	29337	9913	39249		13.65	Si
SLD 3	4.4	4262.12	-28787	-20536	6480	1.9436	1.9436	-37735	16250	8844	115546	29337	9913	39249		6.06	Si
SLD 3	6.9	-3945.41	-20383	-14540	1807	1.9436	1.9436	-26718	16250	8844	115546	29337	9913	39249		21.72	Si
SLV 3	4.4	5806.98	-29133	-20783	9019	1.9436	1.9436	-38188	16250	8844	115546	29337	9913	39249		4.35	Si
SLV 3	6.9	-6564.33	-19080	-13611	3061	1.9436	1.8833	-26119	16250	8569	115546	29337	9913	39249		12.82	Si
SLD 1	4.4	4070.94	-31402	-22402	5641	1.9436	1.9436	-41163	16250	9117	115546	29337	9913	39249		6.96	Si
SLD 1	6.9	-2186.32	-23176	-16533	967	1.9436	1.9436	-30380	16250	8844	115546	29337	9913	39249		40.61	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-17727	0.38	206.54	2040.74	2923.86	2482.3	12.02	Si
SLV 12	-17976	0.38	206.54	2063.09	2959.73	2511.41	12.16	Si
SLV 7	-20079	0.38	206.54	2245.22	3262.7	2753.96	13.33	Si
SLV 15	-20183	0.38	206.54	2253.86	3277.62	2765.74	13.39	Si
SLV 8	-20328	0.38	206.54	2265.93	3298.53	2782.23	13.47	Si
SLV 16	-20552	0.38	206.54	2284.46	3330.85	2807.65	13.59	Si
SLV 13	-24692	0.38	206.54	2601.1	3921.16	3261.13	15.79	Si
SLV 14	-25061	0.38	206.54	2627.02	3972.14	3299.58	15.98	Si
SLV 3	-28023	0.38	206.54	2821.02	4380.95	3600.98	17.44	Si
SLV 4	-28393	0.38	206.54	2843.48	4431.18	3637.33	17.61	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-19803	-22028	85	0.545	2288.3	0.964	8.22161	5.26967	Si
SLV 15	-19804	-21666	85	0.545	2288.3	0.964	8.22167	5.26967	Si
SLV 13	-19496	-26130	-159	0.549	2257.1	0.964	8.28317	5.26967	Si
SLV 14	-19496	-26492	-159	0.549	2257	0.964	8.28333	5.26967	Si
SLV 4	-19467	-29495	155	0.55	2254.1	0.964	8.29689	5.26967	Si
SLV 3	-19467	-29133	155	0.55	2254.1	0.964	8.29694	5.26967	Si
SLV 1	-19160	-33597	-89	0.561	2222.8	0.963	8.46225	5.26967	Si
SLV 2	-19160	-33959	-88	0.561	2222.8	0.963	8.46242	5.26967	Si
SLV 12	-20044	-19374	394	0.526	2312.8	0.965	7.92075	4.55335	Si
SLV 11	-20044	-19130	394	0.526	2312.8	0.965	7.92079	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.077	SLU 83	Si
V_SLU	9.257	SLU 83	Si
PF_SLV	2.33	SLV 7	Si
V_SLV	4.328	SLV 4	Si
PFFP_SLV	12.019	SLV 11	Si
R_SLV	1.56	SLV 16	Si

Maschio 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L5	L6	1.55	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	4.4	1122.28	-25342	-0.0001033	0.0004492	0.0035	1.55	10254.33	14792.35	14792.35	13.18	No	Si
SLU 51	6.5	-1574.35	-21244	-0.0000939	0.0004492	0.0035	1.55	9868.51	14064.35	14064.35	8.93	No	Si
SLU 49	4.4	1115.3	-25618	-0.0001043	0.0004492	0.0035	1.55	10262.68	14914.56	14914.56	13.37	No	Si
SLU 49	6.5	-1578.71	-21501	-0.000095	0.0004492	0.0035	1.55	9907.12	14174.64	14174.64	8.98	No	Si
SLU 45	4.4	1025.19	-24943	-0.0001003	0.0004492	0.0035	1.55	10238.36	14616.2	14616.2	14.26	No	Si
SLU 45	6.5	-1576.13	-20868	-0.0000925	0.0004492	0.0035	1.55	9808.4	13899.72	13899.72	8.82	No	Si
SLU 48	4.4	1020.2	-25583	-0.0001027	0.0004492	0.0035	1.55	10261.77	14899.36	14899.36	14.6	No	Si
SLU 48	6.5	-1588.17	-21473	-0.000095	0.0004492	0.0035	1.55	9902.9	14162.33	14162.33	8.92	No	Si
SLU 43	4.4	1037.16	-24027	-0.0000969	0.0004492	0.0035	1.55	10184.02	14210.82	14210.82	13.7	No	Si
SLU 43	6.5	-1559.73	-20006	-0.000089	0.0004492	0.0035	1.55	9655.29	13499.62	13499.62	8.66	No	Si
SLU 47	4.4	1190.66	-24725	-0.0001019	0.0004492	0.0035	1.55	10227.61	14519.32	14519.32	12.19	No	Si
SLU 47	6.5	-1556	-20659	-0.0000914	0.0004492	0.0035	1.55	9773.25	13802.65	13802.65	8.87	No	Si
SLU 44	4.4	1195.64	-24085	-0.0000994	0.0004492	0.0035	1.55	10188.14	14236.16	14236.16	11.91	No	Si
SLU 44	6.5	-1543.96	-20054	-0.000089	0.0004492	0.0035	1.55	9664.35	13521.8	13521.8	8.76	No	Si
SLU 64	4.4	1136.67	-27062	-0.0001103	0.0004492	0.0035	1.55	10270.06	15527.24	15527.24	13.66	No	Si
SLU 64	6.5	-1669.08	-23337	-0.0001035	0.0004492	0.0035	1.55	10126.87	14961.79	14961.79	8.96	No	Si
SLU 50	4.4	1027.19	-25307	-0.0001017	0.0004492	0.0035	1.55	10253.13	14777.14	14777.14	14.39	No	Si
SLU 50	6.5	-1583.82	-21216	-0.000094	0.0004492	0.0035	1.55	9864.08	14052.04	14052.04	8.87	No	Si
SLU 46	4.4	1120.28	-24978	-0.0001018	0.0004492	0.0035	1.55	10239.92	14631.4	14631.4	13.06	No	Si
SLU 46	6.5	-1566.67	-20896	-0.0000925	0.0004492	0.0035	1.55	9813.12	13913.03	13913.03	8.88	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	4.4	-7505.75	-20071	-0.0001798	0.0006738	0.0035	1.55		14284.33	14284.33	1.9		Si
SLV 11	6.5	220.9	-17438	-0.0000596	0.0006738	0.0035	1.55		11660.97	11660.97	52.79		Si
SLV 3	4.4	6051	-12330	-0.0001533	0.0006738	0.0035	1.55		8723.1	8723.1	1.44		Si
SLV 3	6.5	-7375.58	-11211	-0.0003532	0.0006738	0.0035	1.24		9121.88	9121.88	1.24		Si
SLD 1	4.4	6423.69	-16406	-0.000151	0.0006738	0.0035	1.55		11067.15	11067.15	1.72		Si
SLD 1	6.5	-5042.62	-14477	-0.0001173	0.0006738	0.0035	1.55		11127.73	11127.73	2.21		Si
SLV 5	4.4	8998.02	-21364	-0.0002229	0.0006738	0.0035	1.55		13918.77	13918.77	1.55		Si
SLV 5	6.5	-2688.95	-18460	-0.0000959	0.0006738	0.0035	1.55		13416.64	13416.64	4.99		Si
SLV 6	4.4	9242.46	-21396	-0.0002316	0.0006738	0.0035	1.55		13937.27	13937.27	1.51		Si
SLV 6	6.5	-2735.8	-18437	-0.0000964	0.0006738	0.0035	1.55		13404.05	13404.05	4.9		Si
SLD 2	4.4	6654.04	-16436	-0.0001573	0.0006738	0.0035	1.55		11084.59	11084.59	1.67		Si
SLD 2	6.5	-5086.77	-14456	-0.0001182	0.0006738	0.0035	1.55		11115.18	11115.18	2.19		Si
SLV 1	4.4	9707.49	-14070	-0.001556	0.0006738	0.0035	1.55		9723.57	9723.57	1		Si
SLV 1	6.5	-7160.37	-12606	-0.0002224	0.0006738	0.0035	1.24		9994.26	9994.26	1.4		Si
SLV 12	4.4	-7261.3	-20103	-0.0001739	0.0006738	0.0035	1.55		14301.38	14301.38	1.97		Si
SLV 12	6.5	174.05	-17416	-0.0000589	0.0006738	0.0035	1.55		11648.07	11648.07	66.92		Si
SLV 4	4.4	6414.1	-12378	-0.0001724	0.0006738	0.0035	1.55		8750.58	8750.58	1.36		Si
SLV 4	6.5	-7445.17	-11178	-0.0003768	0.0006738	0.0035	1.24		9101.04	9101.04	1.22		Si
SLV 2	4.4	10070.59	-14117	-0.0049085	0.0006738	0.0035	1.55		9751.05	9751.05	0.97		No
SLV 2	6.5	-7229.96	-12572	-0.0002304	0.0006738	0.0035	1.24		9973.43	9973.43	1.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	4.4	1295.15	-27120	-19346	734	1.55	1.55	-44577	10833	6830	115546	15597	7905	23502	No	32.02	Si
SLU 65	6.5	-1653.31	-23385	-16682	728	1.55	1.55	-38438	10833	6120	115546	15597	7905	23502	No	32.27	Si
SLU 44	4.4	1195.64	-24085	-17181	759	1.55	1.55	-39588	10833	6253	115546	15597	7905	23502	No	30.96	Si
SLU 44	6.5	-1543.96	-20054	-14306	754	1.55	1.55	-32963	10833	5486	115546	15597	7905	23502	No	31.16	Si
SLU 46	4.4	1120.28	-24978	-17819	675	1.55	1.55	-41057	10833	6423	115546	15597	7905	23502	No	34.84	Si
SLU 46	6.5	-1566.67	-20896	-14907	669	1.55	1.55	-34348	10833	5646	115546	15597	7905	23502	No	35.11	Si
SLU 51	4.4	1122.28	-25342	-18078	707	1.55	1.55	-41654	10833	6492	115546	15597	7905	23502	No	33.22	Si
SLU 51	6.5	-1574.35	-21244	-15155	702	1.55	1.55	-34920	10833	5713	115546	15597	7905	23502	No	33.47	Si
SLU 47	4.4	1190.66	-24725	-17638	774	1.55	1.55	-40640	10833	6375	115546	15597	7905	23502	No	30.34	Si
SLU 47	6.5	-1556	-20659	-14737	769	1.55	1.55	-33957	10833	5601	115546	15597	7905	23502	No	30.55	Si
SLU 49	4.4	1115.3	-25618	-18275	690	1.55	1.55	-42108	10833	6545	115546	15597	7905	23502	No	34.07	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	6.5	-1578.71	-21501	-15338	685	1.55	1.55	-35342	10833	5762	115546	15597	7905	23502	No	34.32	Si
SLU 72	4.4	1221.79	-28377	-20243	682	1.55	1.55	-46643	10833	7069	115546	15597	7905	23502	No	34.45	Si
SLU 72	6.5	-1683.7	-24576	-17532	676	1.55	1.55	-40395	10833	6346	115546	15597	7905	23502	No	34.75	Si
SLU 55	4.4	1246.2	-26766	-19094	688	1.55	1.55	-43996	10833	6763	115546	15597	7905	23502	No	34.15	Si
SLU 55	6.5	-1547.51	-23173	-16531	682	1.55	1.55	-38090	10833	6079	115546	15597	7905	23502	No	34.44	Si
SLU 68	4.4	1290.17	-27760	-19803	749	1.55	1.55	-45629	10833	6952	115546	15597	7905	23502	No	31.37	Si
SLU 68	6.5	-1665.35	-23990	-17114	743	1.55	1.55	-39432	10833	6235	115546	15597	7905	23502	No	31.61	Si
SLU 52	4.4	1251.19	-26126	-18638	673	1.55	1.55	-42944	10833	6641	115546	15597	7905	23502	No	34.93	Si
SLU 52	6.5	-1535.47	-22568	-16099	667	1.55	1.55	-37095	10833	5964	115546	15597	7905	23502	No	35.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	4.4	8998.02	-21364	-15240	10964	1.55	1.0614	-35116	16250	6571	115546	23395	7905	31300		2.85	Si
SLV 5	6.5	-2688.95	-18460	-13169	10854	1.55	1.55	-30343	16250	7053	115546	23395	7905	31300		2.88	Si
SLD 6	4.4	5890.09	-20998	-14979	6843	1.55	1.4835	-34515	16250	6750	115546	23395	7905	31300		4.57	Si
SLD 6	6.5	-2221.98	-18131	-12934	6773	1.55	1.55	-29803	16250	7053	115546	23395	7905	31300		4.62	Si
SLV 1	4.4	9707.49	-14070	-10037	10404	1.55	0.2551	-170074	16250	5184	115546	23395	7905	31300		3.01	Si
SLV 1	6.5	-7160.37	-12606	-8993	10062	1.24	0.6209	0	0	0	115546	18716	6324	25040		2.49	Si
SLV 2	4.4	10070.59	-14117	-10071	10746	1.55	0.185	-210689	16250	5193	115546	23395	7905	31300		2.91	Si
SLV 2	6.5	-7229.96	-12572	-8969	10403	1.24	0.5998	0	0	0	115546	18716	6324	25040		2.41	Si
SLV 16	4.4	-7970.77	-27397	-19545	-9630	1.55	1.4522	-49303	16250	7719	115546	23395	7905	31300		3.25	Si
SLV 16	6.5	4645.48	-23270	-16600	-9296	1.55	1.55	-38249	16250	7053	115546	23395	7905	31300		3.37	Si
SLV 15	4.4	-8333.87	-27350	-19511	-9971	1.55	1.4109	-50703	16250	7710	115546	23395	7905	31300		3.14	Si
SLV 15	6.5	4715.07	-23303	-16624	-9638	1.55	1.55	-38304	16250	7053	115546	23395	7905	31300		3.25	Si
SLV 12	4.4	-7261.3	-20103	-14341	-10190	1.55	1.2414	-42114	16250	6331	115546	23395	7905	31300		3.07	Si
SLV 12	6.5	174.05	-17416	-12424	-10089	1.55	1.55	-28627	16250	7053	115546	23395	7905	31300		3.1	Si
SLV 6	4.4	9242.46	-21396	-15263	11194	1.55	1.0291	-35169	16250	6577	115546	23395	7905	31300		2.8	Si
SLV 6	6.5	-2735.8	-18437	-13153	11084	1.55	1.55	-30306	16250	7053	115546	23395	7905	31300		2.82	Si
SLV 11	4.4	-7505.75	-20071	-14318	-10420	1.55	1.2031	-43430	16250	6325	115546	23395	7905	31300		3	Si
SLV 11	6.5	220.9	-17438	-12440	-10319	1.55	1.55	-28663	16250	7053	115546	23395	7905	31300		3.03	Si
SLD 2	4.4	6654.04	-16436	-11725	6877	1.55	1.1105	-27016	16250	5634	115546	23395	7905	31300		4.55	Si
SLD 2	6.5	-5086.77	-14456	-10313	6661	1.55	1.2694	-29416	16250	5776	115546	23395	7905	31300		4.7	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-11465	0.38	164.71	1373.75	1936.23	1654.99	10.05	Si
SLV 3	-11498	0.38	164.71	1377.07	1941.19	1659.13	10.07	Si
SLV 2	-12854	0.38	164.71	1508.77	2140.88	1824.82	11.08	Si
SLV 1	-12887	0.38	164.71	1511.93	2145.77	1828.85	11.1	Si
SLV 8	-14075	0.38	164.71	1621.84	2320.04	1970.94	11.97	Si
SLV 7	-14098	0.38	164.71	1623.87	2323.28	1973.57	11.98	Si
SLV 12	-17697	0.38	164.71	1926.35	2841.96	2384.16	14.48	Si
SLV 11	-17719	0.38	164.71	1928.1	2845.19	2386.64	14.49	Si
SLV 6	-18706	0.38	164.71	2002.95	2987.19	2495.07	15.15	Si
SLV 5	-18728	0.38	164.71	2004.61	2990.42	2497.51	15.16	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-17727	-29089	26	0.496	2021.7	0.967	7.45736	5.26967	Si
SLV 14	-17685	-29137	27	0.497	2017.5	0.967	7.47205	5.26967	Si
SLV 15	-17594	-27350	-4	0.501	2008.1	0.967	7.52517	5.26967	Si
SLV 16	-17552	-27397	-3	0.502	2003.9	0.967	7.54177	5.26967	Si
SLV 9	-15468	-25869	49	0.556	1791.8	0.964	8.39053	4.55335	Si
SLV 10	-15440	-25902	50	0.557	1788.9	0.964	8.40338	4.55335	Si
SLV 11	-15023	-20071	-51	0.57	1746.5	0.963	8.60811	4.55335	Si
SLV 12	-14995	-20103	-50	0.571	1743.7	0.963	8.623	4.55335	Si
SLV 5	-13403	-21364	39	0.629	1581.8	0.959	9.53263	4.55335	Si
SLV 6	-13375	-21396	39	0.63	1579	0.959	9.54958	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.655	SLU 43	Si
V_SLU	30.345	SLU 47	Si
PF_SLV	0.968	SLV 2	No
V_SLV	2.407	SLV 2	Si
PFFP_SLV	10.048	SLV 4	Si
R_SLV	1.415	SLV 13	Si

Maschio 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L5	L6	3.97	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	4.4	7421.57	-49517	-0.0000804	0.0004492	0.0035	3.97	62457.3	79718.6	79718.6	10.74	No	Si
SLU 51	6.5	3875.18	-42920	-0.0000635	0.0004492	0.0035	3.97	58274.51	71253.28	71253.28	18.39	No	Si
SLU 49	4.4	7488.34	-50070	-0.0000814	0.0004492	0.0035	3.97	62750.14	80337.1	80337.1	10.73	No	Si
SLU 49	6.5	3937.32	-43470	-0.0000644	0.0004492	0.0035	3.97	58672.14	72048.65	72048.65	18.3	No	Si
SLU 46	4.4	7319.21	-48860	-0.0000792	0.0004492	0.0035	3.97	62097.96	78984.17	78984.17	10.79	No	Si
SLU 46	6.5	3676.98	-42187	-0.0000621	0.0004492	0.0035	3.97	57730.79	70193.23	70193.23	19.09	No	Si
SLU 71	4.4	8017.18	-55345	-0.0000903	0.0004492	0.0035	3.97	65094.74	86238.25	86238.25	10.76	No	Si
SLU 71	6.5	4761.08	-49337	-0.0000745	0.0004492	0.0035	3.97	62360.23	79517.64	79517.64	16.7	No	Si
SLU 50	4.4	7437.93	-49557	-0.0000805	0.0004492	0.0035	3.97	62478.9	79763.58	79763.58	10.72	No	Si
SLU 50	6.5	3882.44	-42957	-0.0000636	0.0004492	0.0035	3.97	58301.46	71306.65	71306.65	18.37	No	Si
SLU 70	4.4	8067.59	-55858	-0.0000911	0.0004492	0.0035	3.97	65279.24	86811.77	86811.77	10.76	No	Si
SLU 70	6.5	4815.95	-49850	-0.0000753	0.0004492	0.0035	3.97	62635.15	80091.97	80091.97	16.63	No	Si
SLU 72	4.4	8000.82	-55305	-0.0000902	0.0004492	0.0035	3.97	65079.95	86193.28	86193.28	10.77	No	Si
SLU 72	6.5	4753.82	-49300	-0.0000744	0.0004492	0.0035	3.97	62340.16	79476.33	79476.33	16.72	No	Si
SLU 45	4.4	7335.57	-48900	-0.0000793	0.0004492	0.0035	3.97	62120.33	79029.15	79029.15	10.77	No	Si
SLU 45	6.5	3684.24	-42223	-0.0000621	0.0004492	0.0035	3.97	57758.54	70246.6	70246.6	19.07	No	Si
SLU 48	4.4	7504.7	-50110	-0.0000815	0.0004492	0.0035	3.97	62771.09	80382.07	80382.07	10.71	No	Si
SLU 48	6.5	3944.57	-43507	-0.0000645	0.0004492	0.0035	3.97	58698.5	72102.02	72102.02	18.28	No	Si
SLU 69	4.4	8083.95	-55898	-0.0000912	0.0004492	0.0035	3.97	65293.38	86856.75	86856.75	10.74	No	Si
SLU 69	6.5	4823.21	-49887	-0.0000754	0.0004492	0.0035	3.97	62654.63	80133.28	80133.28	16.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	4.4	4325.81	-53263	-0.0000769	0.0006738	0.0035	3.97		88984.57	88984.57	20.57		Si
SLV 13	6.5	16132.58	-51223	-0.0000983	0.0006738	0.0035	3.97		86006.79	86006.79	5.33		Si
SLV 15	4.4	5134.75	-53585	-0.000079	0.0006738	0.0035	3.97		89455.57	89455.57	17.42		Si
SLV 15	6.5	16412.8	-51740	-0.0000996	0.0006738	0.0035	3.97		86761.82	86761.82	5.29		Si
SLV 16	4.4	4813.82	-53414	-0.0000782	0.0006738	0.0035	3.97		89205.9	89205.9	18.53		Si
SLV 16	6.5	16041.48	-51537	-0.0000986	0.0006738	0.0035	3.97		86465.08	86465.08	5.39		Si
SLD 13	4.4	4943.04	-48682	-0.000072	0.0006738	0.0035	3.97		82296.91	82296.91	16.65		Si
SLD 13	6.5	11535.68	-45695	-0.0000813	0.0006738	0.0035	3.97		77934.55	77934.55	6.76		Si
SLV 2	4.4	6553.96	-27454	-0.000047	0.0006738	0.0035	3.97		51185.26	51185.26	7.81		Si
SLV 2	6.5	-9878.84	-19995	-0.0000438	0.0006738	0.0035	3.97		45866.19	45866.19	4.64		Si
SLV 3	4.4	7683.83	-27947	-0.0000499	0.0006738	0.0035	3.97		52003.35	52003.35	6.77		Si
SLV 3	6.5	-9227.3	-20715	-0.0000434	0.0006738	0.0035	3.97		47098.61	47098.61	5.1		Si
SLV 1	4.4	6874.89	-27625	-0.0000479	0.0006738	0.0035	3.97		51468.68	51468.68	7.49		Si
SLV 1	6.5	-9507.52	-20198	-0.0000433	0.0006738	0.0035	3.97		46223.57	46223.57	4.86		Si
SLV 4	4.4	7362.9	-27776	-0.000049	0.0006738	0.0035	3.97		51719.93	51719.93	7.02		Si
SLV 4	6.5	-9598.62	-20512	-0.0000439	0.0006738	0.0035	3.97		46758.28	46758.28	4.87		Si
SLD 15	4.4	5419.81	-48871	-0.0000732	0.0006738	0.0035	3.97		82571.71	82571.71	15.24		Si
SLD 15	6.5	11698.05	-45997	-0.000082	0.0006738	0.0035	3.97		78375.27	78375.27	6.7		Si
SLV 14	4.4	4004.88	-53092	-0.0000761	0.0006738	0.0035	3.97		88734.9	88734.9	22.16		Si
SLV 14	6.5	15761.26	-51020	-0.0000973	0.0006738	0.0035	3.97		85710.05	85710.05	5.44		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	4.4	7437.93	-49557	-35353	2564	3.97	3.97	-31803	10833	20562	115546	39948	20247	60195	No	23.48	Si
SLU 50	6.5	3882.44	-42957	-30644	2548	3.97	3.97	-27568	10833	18679	115546	39948	20247	60195	No	23.62	Si
SLU 49	4.4	7488.34	-50070	-35718	2561	3.97	3.97	-32132	10833	20708	115546	39948	20247	60195	No	23.5	Si
SLU 49	6.5	3937.32	-43470	-31011	2545	3.97	3.97	-27897	10833	18825	115546	39948	20247	60195	No	23.65	Si
SLU 64	4.4	7678.94	-52926	-37756	1940	3.97	3.97	-33966	10833	21523	115546	39948	20247	60195	No	31.03	Si
SLU 64	6.5	4240.41	-46769	-33364	1922	3.97	3.97	-30014	10833	19767	115546	39948	20247	60195	No	31.31	Si
SLU 45	4.4	7335.57	-48900	-34884	2682	3.97	3.97	-31382	10833	20375	115546	39948	20247	60195	No	22.44	Si
SLU 45	6.5	3684.24	-42223	-30121	2666	3.97	3.97	-27097	10833	18469	115546	39948	20247	60195	No	22.58	Si
SLU 51	4.4	7421.57	-49517	-35324	2557	3.97	3.97	-31778	10833	20550	115546	39948	20247	60195	No	23.55	Si
SLU 51	6.5	3875.18	-42920	-30618	2541	3.97	3.97	-27544	10833	18668	115546	39948	20247	60195	No	23.69	Si
SLU 46	4.4	7319.21	-48860	-34856	2675	3.97	3.97	-31356	10833	20363	115546	39948	20247	60195	No	22.5	Si
SLU 46	6.5	3676.98	-42187	-30095	2659	3.97	3.97	-27073	10833	18459	115546	39948	20247	60195	No	22.64	Si
SLU 43	4.4	7099.69	-47138	-33627	2791	3.97	3.97	-30251	10833	19872	115546	39948	20247	60195	No	21.57	Si
SLU 43	6.5	3361.77	-40389	-28813	2776	3.97	3.97	-25920	10833	17946	115546	39948	20247	60195	No	21.69	Si
SLU 47	4.4	7241.54	-48280	-34442	2665	3.97	3.97	-30984	10833	20198	115546	39948	20247	60195	No	22.59	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	6.5	3610.01	-41611	-29685	2649	3.97	3.97	-26704	10833	18295	115546	39948	20247	60195	No	22.72	Si
SLU 44	4.4	7072.42	-47071	-33579	2778	3.97	3.97	-30208	10833	19853	115546	39948	20247	60195	No	21.67	Si
SLU 44	6.5	3349.68	-40328	-28769	2763	3.97	3.97	-25880	10833	17928	115546	39948	20247	60195	No	21.79	Si
SLU 48	4.4	7504.7	-50110	-35747	2569	3.97	3.97	-32158	10833	20720	115546	39948	20247	60195	No	23.43	Si
SLU 48	6.5	3944.57	-43507	-31037	2553	3.97	3.97	-27921	10833	18836	115546	39948	20247	60195	No	23.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	4.4	6874.89	-27625	-19707	10554	3.97	3.97	-17728	16046	17836	115546	59922	20247	80169		7.6	Si
SLV 1	6.5	-9507.52	-20198	-14409	9787	3.97	3.97	-12962	15092	16777	115546	59922	20247	80169		8.19	Si
SLV 16	4.4	4813.82	-53414	-38104	-7726	3.97	3.97	-34279	16250	24873	115546	59922	20247	80169		10.38	Si
SLV 16	6.5	16041.48	-51537	-36765	-6987	3.97	3.97	-33074	16250	24338	115546	59922	20247	80169		11.47	Si
SLV 4	4.4	7362.9	-27776	-19815	10659	3.97	3.97	-17826	16065	17858	115546	59922	20247	80169		7.52	Si
SLV 4	6.5	-9598.62	-20512	-14633	9795	3.97	3.97	-13163	15133	16822	115546	59922	20247	80169		8.19	Si
SLV 15	4.4	5134.75	-53585	-38226	-7780	3.97	3.97	-34389	16250	24922	115546	59922	20247	80169		10.3	Si
SLV 15	6.5	16412.8	-51740	-36910	-7041	3.97	3.97	-33205	16250	24396	115546	59922	20247	80169		11.39	Si
SLV 13	4.4	4325.81	-53263	-37996	-7831	3.97	3.97	-34182	16250	24830	115546	59922	20247	80169		10.24	Si
SLV 13	6.5	16132.58	-51223	-36541	-6994	3.97	3.97	-32873	16250	24248	115546	59922	20247	80169		11.46	Si
SLV 3	4.4	7683.83	-27947	-19937	10604	3.97	3.97	-17935	16087	17882	115546	59922	20247	80169		7.56	Si
SLV 3	6.5	-9227.3	-20715	-14777	9740	3.97	3.97	-13294	15159	16851	115546	59922	20247	80169		8.23	Si
SLD 2	4.4	6268.9	-32169	-22948	7293	3.97	3.97	-20644	16250	18811	115546	59922	20247	80169		10.99	Si
SLD 2	6.5	-5164.09	-25738	-18361	6786	3.97	3.97	-16518	15804	17567	115546	59922	20247	80169		11.81	Si
SLV 14	4.4	4004.88	-53092	-37874	-7776	3.97	3.97	-34072	16250	24781	115546	59922	20247	80169		10.31	Si
SLV 14	6.5	15761.26	-51020	-36396	-6940	3.97	3.97	-32742	16250	24190	115546	59922	20247	80169		11.55	Si
SLV 2	4.4	6553.96	-27454	-19585	10608	3.97	3.97	-17619	16024	17812	115546	59922	20247	80169		7.56	Si
SLV 2	6.5	-9878.84	-19995	-14264	9841	3.97	3.97	-12832	15066	16748	115546	59922	20247	80169		8.15	Si
SLD 4	4.4	6745.67	-32357	-23083	7323	3.97	3.97	-20765	16250	18865	115546	59922	20247	80169		10.95	Si
SLD 4	6.5	-5001.73	-26040	-18576	6762	3.97	3.97	-16711	15842	17610	115546	59922	20247	80169		11.86	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-20727	0.38	421.86	2606.57	3680.73	3143.65	7.45	Si
SLV 1	-20930	0.38	421.86	2629.2	3711.23	3170.21	7.51	Si
SLV 4	-21222	0.38	421.86	2661.63	3755.07	3208.35	7.61	Si
SLV 3	-21426	0.38	421.86	2684.13	3785.57	3234.85	7.67	Si
SLV 6	-31033	0.38	421.86	3682.85	5208.34	4445.6	10.54	Si
SLV 5	-31170	0.38	421.86	3696.16	5228.31	4462.24	10.58	Si
SLV 8	-32684	0.38	421.86	3841.71	5449.39	4645.55	11.01	Si
SLV 7	-32821	0.38	421.86	3854.71	5469.37	4662.04	11.05	Si
SLV 10	-40334	0.38	421.86	4528.83	6556.08	5542.45	13.14	Si
SLV 9	-40471	0.38	421.86	4540.39	6575.74	5558.07	13.18	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-40000	-53585	251	0.549	4628.3	0.964	8.27637	5.26967	Si
SLV 13	-39886	-53263	-265	0.55	4616.6	0.964	8.2922	5.26967	Si
SLV 16	-39852	-53414	252	0.551	4613.1	0.964	8.30332	5.26967	Si
SLV 14	-39737	-53092	-264	0.552	4601.5	0.964	8.31987	5.26967	Si
SLV 11	-34138	-44960	857	0.612	4031.9	0.959	9.27501	4.55335	Si
SLV 12	-34038	-44845	858	0.614	4021.7	0.959	9.29879	4.55335	Si
SLV 9	-33757	-43885	-863	0.618	3993.2	0.959	9.36496	4.55335	Si
SLV 10	-33657	-43770	-862	0.619	3983	0.959	9.38971	4.55335	Si
SLV 7	-29020	-37269	861	0.702	3511.7	0.954	10.69695	4.55335	Si
SLV 8	-28920	-37154	862	0.704	3501.5	0.954	10.72914	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.711	SLU 48	Si
V_SLU	21.568	SLU 43	Si
PF_SLV	4.643	SLV 2	Si
V_SLV	7.521	SLV 4	Si
PFFP_SLV	7.452	SLV 2	Si
R_SLV	1.571	SLV 15	Si

Maschio 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	L5	Z medio 617 cm	1.281	0.28	1.77	1.78	1.76			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	4.4	-124.78	-18949	-0.0000922	0.0003743	0.0035	1.2809	5838.05	7983.29	7983.29	63.98	No	Si
SLU 70	6.16	182.47	-14847	-0.0000716	0.0003743	0.0035	1.2809	5642.47	6794.27	6794.27	37.24	No	Si
SLU 66	4.4	-129.13	-18648	-0.0000906	0.0003743	0.0035	1.2809	5843.75	7926.47	7926.47	61.38	No	Si
SLU 66	6.16	188.48	-14615	-0.0000705	0.0003743	0.0035	1.2809	5613.72	6734.39	6734.39	35.73	No	Si
SLU 64	4.4	-134.38	-18255	-0.0000886	0.0003743	0.0035	1.2809	5846.43	7828.82	7828.82	58.26	No	Si
SLU 64	6.16	188.32	-14300	-0.0000689	0.0003743	0.0035	1.2809	5571.77	6653.99	6653.99	35.33	No	Si
SLU 67	4.4	-132.72	-18698	-0.000091	0.0003743	0.0035	1.2809	5843.02	7937.78	7937.78	59.81	No	Si
SLU 67	6.16	185.62	-14655	-0.0000707	0.0003743	0.0035	1.2809	5618.78	6744.62	6744.62	36.34	No	Si
SLU 69	4.4	-121.2	-18899	-0.0000918	0.0003743	0.0035	1.2809	5839.22	7978.01	7978.01	65.83	No	Si
SLU 69	6.16	185.33	-14807	-0.0000715	0.0003743	0.0035	1.2809	5637.67	6783.98	6783.98	36.61	No	Si
SLU 71	4.4	-118.51	-18756	-0.000091	0.0003743	0.0035	1.2809	5842.06	7950.68	7950.68	67.09	No	Si
SLU 71	6.16	182.01	-14685	-0.0000708	0.0003743	0.0035	1.2809	5622.62	6752.47	6752.47	37.1	No	Si
SLU 22	4.4	-108.48	-15101	-0.0000712	0.0003743	0.0035	1.2809	5671.75	7103.26	7103.26	65.48	No	Si
SLU 22	6.16	159.55	-11853	-0.0000561	0.0003743	0.0035	1.2809	5127	5857.25	5857.25	36.71	No	Si
SLU 68	4.4	-132.42	-18589	-0.0000904	0.0003743	0.0035	1.2809	5844.5	7912.54	7912.54	59.75	No	Si
SLU 68	6.16	180.4	-14559	-0.0000701	0.0003743	0.0035	1.2809	5606.54	6720.07	6720.07	37.25	No	Si
SLU 24	4.4	-103.24	-15494	-0.0000731	0.0003743	0.0035	1.2809	5712.52	7187.72	7187.72	69.62	No	Si
SLU 24	6.16	159.71	-12168	-0.0000576	0.0003743	0.0035	1.2809	5195.97	5982.14	5982.14	37.46	No	Si
SLU 65	4.4	-140.35	-18339	-0.0000892	0.0003743	0.0035	1.2809	5846.32	7849.65	7849.65	55.93	No	Si
SLU 65	6.16	183.55	-14366	-0.0000692	0.0003743	0.0035	1.2809	5580.91	6670.88	6670.88	36.34	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	4.4	993.92	-6423	-0.0000469	0.0005615	0.0035	1.2809		3818.96	3818.96	3.84		Si
SLV 7	6.16	-210.81	-5033	-0.0000252	0.0005615	0.0035	1.2809		3359.24	3359.24	15.93		Si
SLD 7	4.4	540.02	-9567	-0.0000518	0.0005615	0.0035	1.2809		5304.48	5304.48	9.82		Si
SLD 7	6.16	-63.46	-7538	-0.0000331	0.0005615	0.0035	1.2809		4690.89	4690.89	73.92		Si
SLV 11	4.4	1004.1	-8181	-0.000055	0.0005615	0.0035	1.2809		4640.6	4640.6	4.62		Si
SLV 11	6.16	-452.2	-4234	-0.0000265	0.0005615	0.0035	1.2809		2911.03	2911.03	6.44		Si
SLV 9	4.4	-1199.95	-22014	-0.0001273	0.0005615	0.0035	1.2809		10219.14	10219.14	8.52		Si
SLV 9	6.16	439.65	-16792	-0.0000836	0.0005615	0.0035	1.2809		8329.75	8329.75	18.95		Si
SLV 5	4.4	-1210.13	-20256	-0.0001182	0.0005615	0.0035	1.2809		9737.61	9737.61	8.05		Si
SLV 5	6.16	681.03	-17591	-0.0000928	0.0005615	0.0035	1.2809		8640.85	8640.85	12.69		Si
SLV 12	4.4	995.12	-7951	-0.0000538	0.0005615	0.0035	1.2809		4532.03	4532.03	4.55		Si
SLV 12	6.16	-416.86	-4459	-0.0000268	0.0005615	0.0035	1.2809		3038.69	3038.69	7.29		Si
SLV 6	4.4	-1219.11	-20027	-0.0001173	0.0005615	0.0035	1.2809		9662.18	9662.18	7.93		Si
SLV 6	6.16	716.37	-17817	-0.0000947	0.0005615	0.0035	1.2809		8729.35	8729.35	12.19		Si
SLV 8	4.4	984.94	-6193	-0.0000457	0.0005615	0.0035	1.2809		3713.11	3713.11	3.77		Si
SLV 8	6.16	-175.47	-5258	-0.0000255	0.0005615	0.0035	1.2809		3482.14	3482.14	19.84		Si
SLV 10	4.4	-1208.93	-21785	-0.0001263	0.0005615	0.0035	1.2809		10169.01	10169.01	8.41		Si
SLV 10	6.16	474.99	-17018	-0.0000855	0.0005615	0.0035	1.2809		8417.29	8417.29	17.72		Si
SLD 8	4.4	534.57	-9427	-0.0000511	0.0005615	0.0035	1.2809		5237.13	5237.13	9.8		Si
SLD 8	6.16	-42.02	-7675	-0.0000333	0.0005615	0.0035	1.2809		4760.55	4760.55	113.29		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	4.4	-132.6	-18011	-14998	76	1.2809	1.2809	-41819	10833	5591	19031	10740	3266	14006	No	184.71	Si
SLU 41	6.16	125.18	-14067	-11714	145	1.2809	1.2809	-32660	10833	4640	19031	10740	3266	14006	No	96.43	Si
SLU 65	4.4	-140.35	-18339	-15271	-136	1.2809	1.2809	-42579	10833	5670	19031	10740	3266	14006	No	103.22	Si
SLU 65	6.16	183.55	-14366	-11963	-64	1.2809	1.2809	-33356	10833	4712	19031	10740	3266	14006	No	218.6	Si
SLU 64	4.4	-134.38	-18255	-15201	-143	1.2809	1.2809	-42385	10833	5650	19031	10740	3266	14006	No	97.99	Si
SLU 64	6.16	188.32	-14300	-11908	-82	1.2809	1.2809	-33202	10833	4696	19031	10740	3266	14006	No	170.91	Si
SLU 47	4.4	-122.07	-16448	-13697	-134	1.2809	1.2809	-38189	10833	5214	19031	10740	3266	14006	No	104.86	Si
SLU 47	6.16	150.69	-12835	-10688	-69	1.2809	1.2809	-29799	10833	4343	19031	10740	3266	14006	No	203.95	Si
SLU 38	4.4	-118.64	-17514	-14584	60	1.2809	1.2809	-40665	10833	5471	19031	10740	3266	14006	No	233	Si
SLU 38	6.16	128.53	-13693	-11402	131	1.2809	1.2809	-31792	10833	4550	19031	10740	3266	14006	No	106.57	Si
SLU 43	4.4	-124.03	-16114	-13418	-166	1.2809	1.2809	-37413	10833	5133	19031	10740	3266	14006	No	84.55	Si
SLU 43	6.16	158.61	-12576	-10472	-112	1.2809	1.2809	-29198	10833	4281	19031	10740	3266	14006	No	124.74	Si
SLU 46	4.4	-122.37	-16557	-13787	-140	1.2809	1.2809	-38442	10833	5240	19031	10740	3266	14006	No	99.94	Si
SLU 46	6.16	155.91	-12930	-10767	-79	1.2809	1.2809	-30021	10833	4366	19031	10740	3266	14006	No	176.96	Si
SLU 45	4.4	-118.78	-16507	-13745	-144	1.2809	1.2809	-38325	10833	5228	19031	10740	3266	14006	No	96.93	Si
SLU 45	6.16	158.77	-12890	-10734	-90	1.2809	1.2809	-29929	10833	4356	19031	10740	3266	14006	No	155.84	Si
SLU 42	4.4	-136.19	-18062	-15040	80	1.2809	1.2809	-41935	10833	5603	19031	10740	3266	14006	No	174.7	Si
SLU 42	6.16	122.32	-14107	-11747	156	1.2809	1.2809	-32752	10833	4650	19031	10740	3266	14006	No	89.8	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	4.4	-130	-16198	-13488	-158	1.2809	1.2809	-37607	10833	5154	19031	10740	3266	14006	No	88.41	Si
SLU 44	6.16	153.84	-12642	-10527	-94	1.2809	1.2809	-29352	10833	4297	19031	10740	3266	14006	No	148.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	4.4	-1210.13	-20256	-16868	-3393	1.2809	1.2809	-47031	16250	6757	19031	16109	3266	19376		5.71	Si
SLV 5	6.16	681.03	-17591	-14648	-1993	1.2809	1.2809	-40843	16250	6114	19031	16109	3266	19376		9.72	Si
SLV 4	4.4	199.47	-8928	-7435	-1903	1.2809	1.2809	-20730	14563	5223	19031	16109	3266	19376		10.18	Si
SLV 4	6.16	426.86	-10641	-8861	-2286	1.2809	1.2809	-24706	15358	5508	19031	16109	3266	19376		8.47	Si
SLV 15	4.4	246.74	-15129	-12598	3356	1.2809	1.2809	-35127	16250	5828	19031	16109	3266	19376		5.77	Si
SLV 15	6.16	-430.24	-7642	-6364	3022	1.2809	1.2809	-17744	13965	5009	19031	16109	3266	19376		6.41	Si
SLV 2	4.4	-461.75	-13078	-10891	-3526	1.2809	1.2809	-30366	16250	5828	19031	16109	3266	19376		5.49	Si
SLV 2	6.16	694.41	-14408	-11998	-3094	1.2809	1.2809	-33453	16250	5828	19031	16109	3266	19376		6.26	Si
SLV 6	4.4	-1219.11	-20027	-16677	-3649	1.2809	1.2809	-46498	16250	6701	19031	16109	3266	19376		5.31	Si
SLV 6	6.16	716.37	-17817	-14836	-2249	1.2809	1.2809	-41367	16250	6169	19031	16109	3266	19376		8.61	Si
SLV 11	4.4	1004.1	-8181	-6812	3479	1.2809	1.2809	-18994	14216	5098	19031	16109	3266	19376		5.57	Si
SLV 11	6.16	-452.2	-4234	-3525	2177	1.2809	1.2809	-9830	12383	4441	19031	16109	3266	19376		8.9	Si
SLV 1	4.4	-448.4	-13419	-11175	-3146	1.2809	1.2809	-31157	16250	5828	19031	16109	3266	19376		6.16	Si
SLV 1	6.16	641.93	-14073	-11719	-2713	1.2809	1.2809	-32675	16250	5828	19031	16109	3266	19376		7.14	Si
SLV 16	4.4	233.4	-14788	-12314	2976	1.2809	1.2809	-34335	16250	5828	19031	16109	3266	19376		6.51	Si
SLV 16	6.16	-377.75	-7978	-6643	2641	1.2809	1.2809	-18522	14121	5065	19031	16109	3266	19376		7.34	Si
SLD 2	4.4	-316.38	-13330	-11100	-2241	1.2809	1.2809	-30949	16250	5828	19031	16109	3266	19376		8.65	Si
SLD 2	6.16	484.92	-13087	-10897	-1972	1.2809	1.2809	-30384	16250	5828	19031	16109	3266	19376		9.83	Si
SLV 12	4.4	995.12	-7951	-6621	3223	1.2809	1.2809	-18461	14109	5060	19031	16109	3266	19376		6.01	Si
SLV 12	6.16	-416.86	-4459	-3713	1920	1.2809	1.2809	-10354	12487	4479	19031	16109	3266	19376		10.09	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 5.28 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.36	16381	-5875	32.11	734.29	22.87	Si
SLV 12	179667	0.36	16718	-5996	32.11	747.54	23.28	Si
SLV 7	179667	0.36	17108	-6136	32.11	762.76	23.75	Si
SLV 8	179667	0.36	17444	-6256	32.11	775.85	24.16	Si
SLV 15	179667	0.36	27521	-9870	32.11	1132.83	35.28	Si
SLV 16	179667	0.36	28021	-10050	32.11	1148.81	35.78	Si
SLV 3	179667	0.36	29942	-10739	32.11	1208.65	37.64	Si
SLV 4	179667	0.36	30442	-10918	32.11	1223.84	38.11	Si
SLV 13	179667	0.36	37865	-13580	32.11	1429.85	44.53	Si
SLV 14	179667	0.36	38365	-13760	32.11	1442.43	44.92	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 5.28 Wa = 0.05 Ta = 0.0187

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-17817	-20027	-54	0.47	1904	0.985	6.93145	3.39756	Si
SLV 5	-17591	-20256	-55	0.475	1881	0.985	7.00404	3.39756	Si
SLV 10	-17018	-21785	-17	0.49	1822.6	0.985	7.22943	3.39756	Si
SLV 9	-16792	-22014	-17	0.495	1799.6	0.984	7.30935	3.39756	Si
SLV 2	-14408	-13078	-72	0.558	1556.7	0.982	8.25238	3.511	Si
SLV 1	-14073	-13419	-73	0.569	1522.5	0.982	8.41729	3.511	Si
SLV 14	-11745	-18938	53	0.663	1285.3	0.978	9.84348	3.511	Si
SLV 13	-11410	-19279	52	0.679	1251.2	0.978	10.09251	3.511	Si
SLV 4	-10641	-8928	-50	0.72	1172.8	0.976	10.72245	3.511	Si
SLV 3	-10306	-9269	-50	0.74	1138.7	0.976	11.02351	3.511	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	35.334	SLU 64	Si
V_SLU	84.545	SLU 43	Si
PF_SLV	3.77	SLV 8	Si
V_SLV	5.309	SLV 6	Si
PFFP_SLV	22.868	SLV 11	Si
R_SLV	2.04	SLV 6	Si

Maschio 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	Z medio 617 cm	L6	1.281	0.28	1.78	1.77	1.79			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 56	6.18	158.86	-14372	-0.0000686	0.0003743	0.0035	1.2809	5581.68	6672.32	6672.32	42	No	Si
SLU 56	7.95	-171.58	-11843	-0.0000563	0.0003743	0.0035	1.2809	5124.75	6125.46	6125.46	35.7	No	Si
SLU 74	6.18	190.63	-15888	-0.0000772	0.0003743	0.0035	1.2809	5747.99	7066.27	7066.27	37.07	No	Si
SLU 74	7.95	-179.53	-13176	-0.000063	0.0003743	0.0035	1.2809	5393.49	6545.67	6545.67	36.46	No	Si
SLU 35	6.18	170.44	-13637	-0.0000652	0.0003743	0.0035	1.2809	5471.96	6487.22	6487.22	38.06	No	Si
SLU 35	7.95	-166.4	-11355	-0.0000538	0.0003743	0.0035	1.2809	5010.72	5978.82	5978.82	35.93	No	Si
SLU 77	6.18	192.5	-16076	-0.0000782	0.0003743	0.0035	1.2809	5763	7115.87	7115.87	36.97	No	Si
SLU 77	7.95	-190.4	-13336	-0.0000641	0.0003743	0.0035	1.2809	5421.66	6598.26	6598.26	34.65	No	Si
SLU 62	6.18	162.61	-14641	-0.0000701	0.0003743	0.0035	1.2809	5617.08	6741.17	6741.17	41.46	No	Si
SLU 62	7.95	-170.14	-12045	-0.0000572	0.0003743	0.0035	1.2809	5169.59	6187.42	6187.42	36.37	No	Si
SLU 79	6.18	190.08	-15953	-0.0000775	0.0003743	0.0035	1.2809	5753.33	7083.42	7083.42	37.27	No	Si
SLU 79	7.95	-189.7	-13222	-0.0000635	0.0003743	0.0035	1.2809	5401.7	6560.79	6560.79	34.59	No	Si
SLU 58	6.18	156.45	-14249	-0.0000679	0.0003743	0.0035	1.2809	5564.66	6641.07	6641.07	42.45	No	Si
SLU 58	7.95	-170.88	-11728	-0.0000557	0.0003743	0.0035	1.2809	5098.8	6090.78	6090.78	35.64	No	Si
SLU 83	6.18	196.25	-16345	-0.0000798	0.0003743	0.0035	1.2809	5782.32	7187.34	7187.34	36.62	No	Si
SLU 83	7.95	-188.95	-13539	-0.0000651	0.0003743	0.0035	1.2809	5455.89	6665.15	6665.15	35.27	No	Si
SLU 37	6.18	168.03	-13514	-0.0000645	0.0003743	0.0035	1.2809	5451.77	6456.71	6456.71	38.43	No	Si
SLU 37	7.95	-165.7	-11240	-0.0000532	0.0003743	0.0035	1.2809	4982.81	5945.04	5945.04	35.88	No	Si
SLU 41	6.18	174.19	-13906	-0.0000666	0.0003743	0.0035	1.2809	5514.31	6554.42	6554.42	37.63	No	Si
SLU 41	7.95	-164.95	-11557	-0.0000547	0.0003743	0.0035	1.2809	5059.02	6039.16	6039.16	36.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	6.18	247.4	-11421	-0.0000542	0.0005615	0.0035	1.2809		6215.07	6215.07	25.12		Si
SLV 14	7.95	-732.29	-7618	-0.000047	0.0005615	0.0035	1.2809		4731.72	4731.72	6.46		Si
SLV 13	6.18	277.27	-11020	-0.000053	0.0005615	0.0035	1.2809		6016.21	6016.21	21.7		Si
SLV 13	7.95	-875.99	-6887	-0.0000466	0.0005615	0.0035	1.2809		4354.78	4354.78	4.97		Si
SLV 16	6.18	193.04	-7459	-0.0000354	0.0005615	0.0035	1.2809		4300.46	4300.46	22.28		Si
SLV 16	7.95	-944.51	-3805	-0.0000346	0.0005615	0.0035	1.2809		2667.75	2667.75	2.82		Si
SLD 11	6.18	99.95	-6678	-0.0000301	0.0005615	0.0035	1.2809		3936.85	3936.85	39.39		Si
SLD 11	7.95	-502.56	-4477	-0.0000285	0.0005615	0.0035	1.2809		3048.45	3048.45	6.07		Si
SLD 15	6.18	189.6	-8570	-0.0000402	0.0005615	0.0035	1.2809		4825.42	4825.42	25.45		Si
SLD 15	7.95	-731.38	-5334	-0.0000368	0.0005615	0.0035	1.2809		3523.2	3523.2	4.82		Si
SLD 16	6.18	170.65	-8824	-0.000041	0.0005615	0.0035	1.2809		4946.81	4946.81	28.99		Si
SLD 16	7.95	-640.21	-5798	-0.000037	0.0005615	0.0035	1.2809		3778.08	3778.08	5.9		Si
SLV 15	6.18	222.92	-7058	-0.0000342	0.0005615	0.0035	1.2809		4113.39	4113.39	18.45		Si
SLV 15	7.95	-1088.21	-3074	-0.0000384	0.0005615	0.0035	1.2809		2244.69	2244.69	2.06		Si
SLD 12	6.18	87.75	-6842	-0.0000306	0.0005615	0.0035	1.2809		4012.67	4012.67	45.73		Si
SLD 12	7.95	-443.85	-4776	-0.0000287	0.0005615	0.0035	1.2809		3216.16	3216.16	7.25		Si
SLV 12	6.18	58.74	-3971	-0.0000177	0.0005615	0.0035	1.2809		2495.25	2495.25	42.48		Si
SLV 12	7.95	-657.95	-1835	-0.000023	0.0005615	0.0035	1.0247		1511.29	1511.29	2.3		Si
SLV 11	6.18	78.85	-3702	-0.0000169	0.0005615	0.0035	1.2809		2340.31	2340.31	29.68		Si
SLV 11	7.95	-754.69	-1342	-0.0000579	0.0005615	0.0035	1.0247		1211.86	1211.86	1.61		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	6.18	194.38	-16157	-13454	513	1.2809	1.2809	-37514	10833	5115	19031	10740	3266	14006	No	27.33	Si
SLU 81	7.95	-178.08	-13378	-11140	556	1.2809	1.2809	-31061	10833	4449	19031	10740	3266	14006	No	25.17	Si
SLU 78	6.18	186.12	-16119	-13422	471	1.2809	1.2809	-37425	10833	5106	19031	10740	3266	14006	No	29.74	Si
SLU 78	7.95	-174.82	-13384	-11145	525	1.2809	1.2809	-31075	10833	4450	19031	10740	3266	14006	No	26.66	Si
SLU 79	6.18	190.08	-15953	-13285	506	1.2809	1.2809	-37041	10833	5066	19031	10740	3266	14006	No	27.68	Si
SLU 79	7.95	-189.7	-13222	-11010	555	1.2809	1.2809	-30698	10833	4411	19031	10740	3266	14006	No	25.22	Si
SLU 41	6.18	174.19	-13906	-11580	497	1.2809	1.2809	-32286	10833	4575	19031	10740	3266	14006	No	28.19	Si
SLU 41	7.95	-164.95	-11557	-9624	536	1.2809	1.2809	-26833	10522	4012	19031	10740	3266	14006	No	26.14	Si
SLU 77	6.18	192.5	-16076	-13387	508	1.2809	1.2809	-37326	10833	5096	19031	10740	3266	14006	No	27.57	Si
SLU 77	7.95	-190.4	-13336	-11105	558	1.2809	1.2809	-30964	10833	4439	19031	10740	3266	14006	No	25.1	Si
SLU 84	6.18	189.87	-16388	-13646	501	1.2809	1.2809	-38050	10833	5170	19031	10740	3266	14006	No	27.97	Si
SLU 84	7.95	-173.37	-13586	-11314	550	1.2809	1.2809	-31545	10833	4499	19031	10740	3266	14006	No	25.45	Si
SLU 80	6.18	183.7	-15996	-13320	469	1.2809	1.2809	-37139	10833	5076	19031	10740	3266	14006	No	29.86	Si
SLU 80	7.95	-174.11	-13270	-11050	523	1.2809	1.2809	-30809	10833	4423	19031	10740	3266	14006	No	26.8	Si
SLU 82	6.18	188	-16200	-13490	476	1.2809	1.2809	-37613	10833	5125	19031	10740	3266	14006	No	29.45	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	7.95	-162.49	-13426	-11180	524	1.2809	1.2809	-31172	10833	4460	19031	10740	3266	14006	No	26.74	Si
SLU 83	6.18	196.25	-16345	-13611	538	1.2809	1.2809	-37951	10833	5160	19031	10740	3266	14006	No	26.05	Si
SLU 83	7.95	-188.95	-13539	-11274	583	1.2809	1.2809	-31434	10833	4487	19031	10740	3266	14006	No	24.02	Si
SLU 74	6.18	190.63	-15888	-13230	483	1.2809	1.2809	-36889	10833	5051	19031	10740	3266	14006	No	29.01	Si
SLU 74	7.95	-179.53	-13176	-10971	531	1.2809	1.2809	-30591	10833	4400	19031	10740	3266	14006	No	26.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	6.18	221.93	-10888	-9067	1636	1.2809	1.2809	-25280	15473	5549	19031	16109	3266	19376		11.84	Si
SLD 13	7.95	-607.47	-7564	-6299	1922	1.2809	1.2809	-17563	13929	4996	19031	16109	3266	19376		10.08	Si
SLD 15	6.18	189.6	-8570	-7136	1997	1.2809	1.2809	-19897	14396	5163	19031	16109	3266	19376		9.7	Si
SLD 15	7.95	-731.38	-5334	-4441	1814	1.2809	1.2809	-12384	12893	4624	19031	16109	3266	19376		10.68	Si
SLV 14	6.18	247.4	-11421	-9510	1987	1.2809	1.2809	-26516	15720	5638	19031	16109	3266	19376		9.75	Si
SLV 14	7.95	-732.29	-7618	-6344	2447	1.2809	1.2809	-17689	13954	5005	19031	16109	3266	19376		7.92	Si
SLV 1	6.18	60.77	-14448	-12031	-2061	1.2809	1.2809	-33545	16250	5828	19031	16109	3266	19376		9.4	Si
SLV 1	7.95	717.25	-14308	-11915	-1648	1.2809	1.2809	-33221	16250	5828	19031	16109	3266	19376		11.76	Si
SLV 13	6.18	277.27	-11020	-9177	2379	1.2809	1.2809	-25587	15534	5571	19031	16109	3266	19376		8.15	Si
SLV 13	7.95	-875.99	-6887	-5735	2838	1.2809	1.2809	-15990	13615	4883	19031	16109	3266	19376		6.83	Si
SLV 15	6.18	222.92	-7058	-5878	2995	1.2809	1.2809	-16388	13694	4911	19031	16109	3266	19376		6.47	Si
SLV 15	7.95	-1088.21	-3074	-2560	2654	1.2809	0.8593	-10689	12555	3021	19031	16109	3266	19376		7.3	Si
SLV 2	6.18	30.89	-14848	-12365	-2452	1.2809	1.2809	-34475	16250	5828	19031	16109	3266	19376		7.9	Si
SLV 2	7.95	860.96	-15040	-12524	-2040	1.2809	1.2809	-34919	16250	5828	19031	16109	3266	19376		9.5	Si
SLV 4	6.18	-23.46	-10887	-9066	-1835	1.2809	1.2809	-25277	15472	5549	19031	16109	3266	19376		10.56	Si
SLV 4	7.95	648.73	-11227	-9349	-2224	1.2809	1.2809	-26066	15630	5606	19031	16109	3266	19376		8.71	Si
SLV 11	6.18	78.85	-3702	-3082	2097	1.2809	1.2809	-8594	12136	4352	19031	16109	3266	19376		9.24	Si
SLV 11	7.95	-754.69	-1342	-1118	804	1.0247	0.2348	0	0	0	19031	12888	2613	15501		19.27	Si
SLV 16	6.18	193.04	-7459	-6211	2604	1.2809	1.2809	-17318	13880	4978	19031	16109	3266	19376		7.44	Si
SLV 16	7.95	-944.51	-3805	-3169	2262	1.2809	1.1768	-8836	12184	4014	19031	16109	3266	19376		8.57	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.065 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.4	6602	-2368	35.96	317.18	8.82	Si
SLV 12	179667	0.4	7532	-2701	35.96	359.54	10	Si
SLV 7	179667	0.4	10352	-3713	35.96	484.54	13.48	Si
SLV 8	179667	0.4	11281	-4046	35.96	524.61	14.59	Si
SLV 15	179667	0.4	15775	-5658	35.96	710.28	19.75	Si
SLV 16	179667	0.4	17156	-6153	35.96	764.67	21.27	Si
SLV 13	179667	0.4	27581	-9892	35.96	1134.76	31.56	Si
SLV 3	179667	0.4	28273	-10140	35.96	1156.81	32.17	Si
SLV 14	179667	0.4	28962	-10387	35.96	1178.43	32.77	Si
SLV 4	179667	0.4	29654	-10636	35.96	1199.85	33.37	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.065 Wa = 0.05 Ta = 0.0189

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-16771	-18205	-42	0.494	1797.9	0.984	7.28895	3.67251	Si
SLV 5	-16279	-17936	-43	0.506	1747.8	0.984	7.47009	3.67251	Si
SLV 2	-15040	-14848	-51	0.539	1621.5	0.983	7.97326	3.7966	Si
SLV 1	-14308	-14448	-53	0.562	1547	0.982	8.31272	3.7966	Si
SLV 10	-14545	-17177	-15	0.557	1571.1	0.982	8.23605	3.67251	Si
SLV 9	-14052	-16907	-16	0.573	1520.9	0.981	8.47763	3.67251	Si
SLV 4	-11227	-10887	-32	0.689	1233	0.977	10.25186	3.7966	Si
SLV 3	-10495	-10486	-34	0.73	1158.5	0.976	10.86456	3.7966	Si
SLV 14	-7618	-11421	39	0.958	865.5	0.968	14.36972	3.7966	Si
SLV 13	-6887	-11020	37	1.044	791.1	0.966	15.71147	3.7966	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	34.586	SLU 79	Si
V_SLU	24.018	SLU 83	Si
PF_SLV	1.606	SLV 11	Si
V_SLV	6.469	SLV 15	Si
PFFP_SLV	8.821	SLV 11	Si
R_SLV	1.985	SLV 6	Si

Maschio 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.404	-11.003	-0.749	L5	L6	2.656	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	4.4	-1345.75	-36992	-0.0000906	0.0003743	0.0035	2.6557	25118.05	33324.5	33324.5	24.76	No	Si
SLU 84	7.95	-537.62	-30095	-0.0000686	0.0003743	0.0035	2.6557	24075.59	30158.13	30158.13	56.1	No	Si
SLU 40	4.4	-1257.42	-30682	-0.0000739	0.0003743	0.0035	2.6557	24229.19	30535.27	30535.27	24.28	No	Si
SLU 40	7.95	-599	-25257	-0.0000572	0.0003743	0.0035	2.6557	22348.53	27181.94	27181.94	45.38	No	Si
SLU 41	4.4	-1240.21	-31060	-0.0000747	0.0003743	0.0035	2.6557	24321.78	30737.61	30737.61	24.78	No	Si
SLU 41	7.95	-539.1	-25613	-0.0000578	0.0003743	0.0035	2.6557	22503.32	27387.42	27387.42	50.8	No	Si
SLU 83	4.4	-1343.85	-36908	-0.0000904	0.0003743	0.0035	2.6557	25115.38	33286.64	33286.64	24.77	No	Si
SLU 83	7.95	-519.58	-30005	-0.0000683	0.0003743	0.0035	2.6557	24050.86	30099.02	30099.02	57.93	No	Si
SLU 81	4.4	-1359.16	-36446	-0.0000893	0.0003743	0.0035	2.6557	25096.3	33080.64	33080.64	24.34	No	Si
SLU 81	7.95	-561.44	-29559	-0.0000674	0.0003743	0.0035	2.6557	23924.68	29809.41	29809.41	53.09	No	Si
SLU 19	4.4	-1067.8	-27120	-0.0000641	0.0003743	0.0035	2.6557	23110.68	28282.16	28282.16	26.49	No	Si
SLU 19	7.95	-487.68	-21928	-0.0000489	0.0003743	0.0035	2.6557	20682.82	24995.44	24995.44	51.25	No	Si
SLU 42	4.4	-1242.11	-31144	-0.0000749	0.0003743	0.0035	2.6557	24341.75	30781.5	30781.5	24.78	No	Si
SLU 42	7.95	-557.14	-25703	-0.0000581	0.0003743	0.0035	2.6557	22541.98	27440.01	27440.01	49.25	No	Si
SLU 18	4.4	-1065.91	-27036	-0.0000639	0.0003743	0.0035	2.6557	23078.8	28231.12	28231.12	26.49	No	Si
SLU 18	7.95	-469.64	-21837	-0.0000486	0.0003743	0.0035	2.6557	20632.2	24924.41	24924.41	53.07	No	Si
SLU 39	4.4	-1255.52	-30598	-0.0000736	0.0003743	0.0035	2.6557	24207.85	30488.88	30488.88	24.28	No	Si
SLU 39	7.95	-580.96	-25167	-0.0000569	0.0003743	0.0035	2.6557	22308.47	27130.02	27130.02	46.7	No	Si
SLU 82	4.4	-1361.05	-36530	-0.0000895	0.0003743	0.0035	2.6557	25100.34	33118.02	33118.02	24.33	No	Si
SLU 82	7.95	-579.48	-29650	-0.0000677	0.0003743	0.0035	2.6557	23950.82	29867.87	29867.87	51.54	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	4.4	-1361.05	-36530	-30419	14	2.6557	2.6557	-40908	10833	11780	40441	22266	6772	29038	No	2103.45	Si
SLU 82	7.95	-579.48	-29650	-24690	-5	2.6557	2.6557	-33204	10833	10065	40441	22266	6772	29038	No	6166.72	Si
SLU 74	4.4	-1204.94	-36111	-30070	14	2.6557	2.6557	-40439	10833	11675	40441	22266	6772	29038	No	2084.51	Si
SLU 74	7.95	-405.31	-29231	-24341	-4	2.6557	2.6557	-32735	10833	9961	40441	22266	6772	29038	No	7123.45	Si
SLU 75	4.4	-1206.83	-36195	-30140	14	2.6557	2.6557	-40534	10833	11696	40441	22266	6772	29038	No	2086.87	Si
SLU 75	7.95	-423.36	-29321	-24416	-4	2.6557	2.6557	-32836	10833	9984	40441	22266	6772	29038	No	6956.84	Si
SLU 78	4.4	-1191.52	-36658	-30525	14	2.6557	2.6557	-41051	10833	11812	40441	22266	6772	29038	No	2059.37	Si
SLU 78	7.95	-381.49	-29767	-24788	-4	2.6557	2.6557	-33335	10833	10095	40441	22266	6772	29038	No	6935.9	Si
SLU 81	4.4	-1359.16	-36446	-30349	14	2.6557	2.6557	-40814	10833	11759	40441	22266	6772	29038	No	2101.05	Si
SLU 81	7.95	-561.44	-29559	-24614	-5	2.6557	2.6557	-33102	10833	10043	40441	22266	6772	29038	No	6297.27	Si
SLU 83	4.4	-1343.85	-36908	-30734	14	2.6557	2.6557	-41332	10833	11874	40441	22266	6772	29038	No	2073.18	Si
SLU 83	7.95	-519.58	-30005	-24986	-5	2.6557	2.6557	-33602	10833	10154	40441	22266	6772	29038	No	6280.11	Si
SLU 77	4.4	-1189.63	-36573	-30455	14	2.6557	2.6557	-40957	10833	11791	40441	22266	6772	29038	No	2057.08	Si
SLU 77	7.95	-363.45	-29677	-24712	-4	2.6557	2.6557	-33234	10833	10072	40441	22266	6772	29038	No	7101.49	Si
SLU 80	4.4	-1179.32	-36413	-30322	14	2.6557	2.6557	-40778	10833	11751	40441	22266	6772	29038	No	2075.71	Si
SLU 80	7.95	-373.51	-29524	-24585	-4	2.6557	2.6557	-33063	10833	10034	40441	22266	6772	29038	No	6969.9	Si
SLU 79	4.4	-1177.42	-36329	-30251	14	2.6557	2.6557	-40683	10833	11730	40441	22266	6772	29038	No	2073.38	Si
SLU 79	7.95	-355.47	-29434	-24510	-4	2.6557	2.6557	-32962	10833	10012	40441	22266	6772	29038	No	7137.14	Si
SLU 84	4.4	-1345.75	-36992	-30804	14	2.6557	2.6557	-41426	10833	11895	40441	22266	6772	29038	No	2075.51	Si
SLU 84	7.95	-537.62	-30095	-25061	-5	2.6557	2.6557	-33703	10833	10176	40441	22266	6772	29038	No	6150.25	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	19771	-14701	282.2	1791.73	6.35	Si
SLV 12	179667	0.38	20381	-15155	282.2	1838.57	6.52	Si
SLV 7	179667	0.38	22377	-16639	282.2	1988.18	7.05	Si
SLV 8	179667	0.38	22988	-17093	282.2	2032.85	7.2	Si
SLV 15	179667	0.38	23044	-17135	282.2	2036.97	7.22	Si
SLV 16	179667	0.38	23951	-17810	282.2	2102.31	7.45	Si
SLV 13	179667	0.38	28584	-21254	282.2	2418.68	8.57	Si
SLV 14	179667	0.38	29490	-21929	282.2	2477.17	8.78	Si
SLV 3	179667	0.38	31733	-23596	282.2	2617.02	9.27	Si
SLV 4	179667	0.38	32639	-24270	282.2	2671.62	9.47	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.

- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-26186	-30335	-582	0.545	3037.8	0.963	8.21696	5.26967	Si
SLV 1	-25429	-29746	-581	0.558	2960.8	0.962	8.43226	5.26967	Si
SLV 6	-28239	-33127	-195	0.523	3246.8	0.965	7.87852	4.55335	Si
SLV 5	-27730	-32730	-195	0.532	3194.9	0.965	8.00622	4.55335	Si
SLV 4	-22105	-26232	-557	0.63	2622.8	0.958	9.55473	5.26967	Si
SLV 10	-26025	-31499	161	0.562	3021.4	0.963	8.48515	4.55335	Si
SLV 3	-21349	-25643	-556	0.649	2545.9	0.957	9.85239	5.26967	Si
SLV 9	-25515	-31102	162	0.572	2969.6	0.962	8.63435	4.55335	Si
SLV 14	-18804	-24909	606	0.72	2287.3	0.953	10.97853	5.26967	Si
SLV 13	-18047	-24319	606	0.745	2210.4	0.951	11.37997	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	24.284	SLU 39	Si
V_SLU	2057.075	SLU 77	Si
PFFP_SLV	6.349	SLV 11	Si
R_SLV	1.559	SLV 2	Si

Maschio 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.661	L5	L6	5.52	0.2	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	4.4	-30761.48	-51357	-0.0001092	0.0004492	0.0035	5.52	87780.46	132345.51	132345.51	4.3	No	Si
SLU 83	7.95	1391.73	-37456	-0.0000477	0.0004492	0.0035	5.52	74674.07	90220.07	90220.07	64.83	No	Si
SLU 81	4.4	-30709.02	-50158	-0.0001073	0.0004492	0.0035	5.52	86961.48	130264.05	130264.05	4.24	No	Si
SLU 81	7.95	1441.58	-36411	-0.0000464	0.0004492	0.0035	5.52	73368.62	88140.96	88140.96	61.14	No	Si
SLU 40	4.4	-27099.41	-42268	-0.0000907	0.0004492	0.0035	5.52	80105.26	115685.36	115685.36	4.27	No	Si
SLU 40	7.95	1706.64	-30907	-0.0000398	0.0004492	0.0035	5.52	65758.61	77195.56	77195.56	45.23	No	Si
SLU 75	4.4	-29885.23	-49772	-0.0001055	0.0004492	0.0035	5.52	86685.07	129593.41	129593.41	4.34	No	Si
SLU 75	7.95	1406.29	-36404	-0.0000463	0.0004492	0.0035	5.52	73360.11	88127.62	88127.62	62.67	No	Si
SLU 42	4.4	-27151.87	-43467	-0.0000925	0.0004492	0.0035	5.52	81311.43	117921.86	117921.86	4.34	No	Si
SLU 42	7.95	1656.79	-31952	-0.000041	0.0004492	0.0035	5.52	67299.53	79274.68	79274.68	47.85	No	Si
SLU 73	4.4	-29764.44	-47889	-0.0001026	0.0004492	0.0035	5.52	85250.38	126168.36	126168.36	4.24	No	Si
SLU 73	7.95	1533.7	-34820	-0.0000445	0.0004492	0.0035	5.52	71296.57	84977.56	84977.56	55.41	No	Si
SLU 31	4.4	-25795.25	-40403	-0.0000862	0.0004492	0.0035	5.52	78113.14	112021.17	112021.17	4.34	No	Si
SLU 31	7.95	1625.21	-29538	-0.0000379	0.0004492	0.0035	5.52	63673.1	74472.91	74472.91	45.82	No	Si
SLU 84	4.4	-31121.07	-50952	-0.0001091	0.0004492	0.0035	5.52	87510.32	131642.2	131642.2	4.23	No	Si
SLU 84	7.95	1565.28	-37235	-0.0000476	0.0004492	0.0035	5.52	74401.07	89779.33	89779.33	57.36	No	Si
SLU 82	4.4	-31068.6	-49753	-0.0001073	0.0004492	0.0035	5.52	86671.45	129560.74	129560.74	4.17	No	Si
SLU 82	7.95	1615.13	-36189	-0.0000464	0.0004492	0.0035	5.52	73086.15	87700.22	87700.22	54.3	No	Si
SLU 76	4.4	-29816.91	-49088	-0.0001044	0.0004492	0.0035	5.52	86180.74	128404.86	128404.86	4.31	No	Si
SLU 76	7.95	1483.85	-35866	-0.0000458	0.0004492	0.0035	5.52	72670.07	87056.68	87056.68	58.67	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	4.4	-56758.45	-4134	-0.0012835	0.0006738	0.0035	4.416		29435.34	29435.34	0.52		No
SLV 9	7.95	7716.76	-7740	-0.0000188	0.0006738	0.0035	5.52		23576.88	23576.88	3.06		Si
SLD 5	4.4	-40202.32	-18140	-0.0001487	0.0006738	0.0035	4.416		64758.71	64758.71	1.61		Si
SLD 5	7.95	4923.28	-14841	-0.0000239	0.0006738	0.0035	5.52		41746.57	41746.57	8.48		Si
SLV 10	4.4	-57556.4	-3709	-0.0013221	0.0006738	0.0035	4.416		28327.19	28327.19	0.49		No
SLV 10	7.95	8180.76	-7545	-0.0000195	0.0006738	0.0035	5.52		23071.6	23071.6	2.82		Si
SLD 10	4.4	-41991.06	-16296	-0.0002586	0.0006738	0.0035	4.416		60260.52	60260.52	1.44		Si
SLD 10	7.95	5017.98	-14643	-0.0000238	0.0006738	0.0035	5.52		41247.81	41247.81	8.22		Si
SLV 13	4.4	-33522.47	-21733	-0.0000801	0.0006738	0.0035	4.416		73525.46	73525.46	2.19		Si
SLV 13	7.95	2027.91	-19552	-0.0000258	0.0006738	0.0035	5.52		53403.5	53403.5	26.33		Si
SLD 6	4.4	-40686.55	-17882	-0.0001622	0.0006738	0.0035	4.416		64129.47	64129.47	1.58		Si
SLD 6	7.95	5204.86	-14723	-0.0000242	0.0006738	0.0035	5.52		41449.33	41449.33	7.96		Si
SLV 14	4.4	-34707.74	-21102	-0.0000851	0.0006738	0.0035	4.416		71985.25	71985.25	2.07		Si
SLV 14	7.95	2717.12	-19264	-0.0000264	0.0006738	0.0035	5.52		52698.92	52698.92	19.4		Si
SLD 9	4.4	-41506.83	-16554	-0.0002311	0.0006738	0.0035	4.416		60889.76	60889.76	1.47		Si
SLD 9	7.95	4736.41	-14761	-0.0000236	0.0006738	0.0035	5.52		41545.05	41545.05	8.77		Si
SLV 5	4.4	-54725.52	-6612	-0.0011444	0.0006738	0.0035	4.416		35876.09	35876.09	0.66		No
SLV 5	7.95	8008.01	-7865	-0.0000196	0.0006738	0.0035	5.52		23902.83	23902.83	2.98		Si
SLV 6	4.4	-55523.48	-6187	-0.0011855	0.0006738	0.0035	4.416		34779.27	34779.27	0.63		No
SLV 6	7.95	8472.01	-7671	-0.0000201	0.0006738	0.0035	5.52		23397.55	23397.55	2.76		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	4.4	-29937.7	-50971	-32621	-6096	5.52	5.52	-29548	10833	19426	115546	39675	28152	67827	No	11.13	Si
SLU 78	7.95	1356.43	-37450	-23968	-6108	5.52	5.52	-21710	10833	15964	115546	39675	28152	67827	No	11.1	Si
SLU 83	4.4	-30761.48	-51357	-32869	-6042	5.52	5.52	-29772	10833	19524	115546	39675	28152	67827	No	11.23	Si
SLU 83	7.95	1391.73	-37456	-23972	-6059	5.52	5.52	-21714	10833	15966	115546	39675	28152	67827	No	11.2	Si
SLU 73	4.4	-29764.44	-47889	-30649	-6449	5.52	5.52	-27761	10833	18637	115546	39675	28152	67827	No	10.52	Si
SLU 73	7.95	1533.7	-34820	-22285	-6461	5.52	5.52	-20186	10833	15291	115546	39675	28152	67827	No	10.5	Si
SLU 65	4.4	-26162.04	-44169	-28268	-5983	5.52	5.52	-25605	10833	17684	115546	39675	28152	67827	No	11.34	Si
SLU 65	7.95	1073.74	-31970	-20461	-5986	5.52	5.52	-18534	10804	14562	115546	39675	28152	67827	No	11.33	Si
SLU 76	4.4	-29816.91	-49088	-31416	-6331	5.52	5.52	-28457	10833	18943	115546	39675	28152	67827	No	10.71	Si
SLU 76	7.95	1483.85	-35866	-22954	-6342	5.52	5.52	-20792	10833	15559	115546	39675	28152	67827	No	10.69	Si
SLU 75	4.4	-29885.23	-49772	-31854	-6215	5.52	5.52	-28853	10833	19119	115546	39675	28152	67827	No	10.91	Si
SLU 75	7.95	1406.29	-36404	-23299	-6227	5.52	5.52	-21104	10833	15697	115546	39675	28152	67827	No	10.89	Si
SLU 80	4.4	-29629.65	-50557	-32356	-6017	5.52	5.52	-29308	10833	19320	115546	39675	28152	67827	No	11.27	Si
SLU 80	7.95	1318.29	-37059	-23718	-6029	5.52	5.52	-21483	10833	15864	115546	39675	28152	67827	No	11.25	Si
SLU 84	4.4	-31121.07	-50952	-32609	-6335	5.52	5.52	-29537	10833	19421	115546	39675	28152	67827	No	10.71	Si
SLU 84	7.95	1565.28	-37235	-23830	-6351	5.52	5.52	-21585	10833	15909	115546	39675	28152	67827	No	10.68	Si
SLU 81	4.4	-30709.02	-50158	-32101	-6161	5.52	5.52	-29077	10833	19218	115546	39675	28152	67827	No	11.01	Si
SLU 81	7.95	1441.58	-36411	-23303	-6177	5.52	5.52	-21108	10833	15698	115546	39675	28152	67827	No	10.98	Si
SLU 82	4.4	-31068.6	-49753	-31842	-6454	5.52	5.52	-28842	10833	19114	115546	39675	28152	67827	No	10.51	Si
SLU 82	7.95	1615.13	-36189	-23161	-6470	5.52	5.52	-20979	10833	15642	115546	39675	28152	67827	No	10.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	4.4	-54725.52	-6612	-4232	-25495	4.416	0	0	0	0	115546	47610	22522	70132		2.75	Si
SLV 5	7.95	8008.01	-7865	-5033	-23162	5.52	5.2254	-4559	13412	14016	115546	59513	28152	87665		3.78	Si
SLV 10	4.4	-57556.4	-3709	-2374	-28407	4.416	0	0	0	0	115546	47610	22522	70132		2.47	Si
SLV 10	7.95	8180.76	-7545	-4829	-26084	5.52	5.0274	-4374	13375	13448	115546	59513	28152	87665		3.36	Si
SLV 7	4.4	17886.07	-64862	-41512	19904	5.52	5.52	-37601	16250	26170	115546	59513	28152	87665		4.4	Si
SLV 7	7.95	-6953.28	-41898	-26815	17569	5.52	5.52	-24289	16250	20292	115546	59513	28152	87665		4.99	Si
SLV 9	4.4	-56758.45	-4134	-2646	-27872	4.416	0	0	0	0	115546	47610	22522	70132		2.52	Si
SLV 9	7.95	7716.76	-7740	-4953	-25550	5.52	5.2888	-4487	13397	14171	115546	59513	28152	87665		3.43	Si
SLD 6	4.4	-40686.55	-17882	-11444	-16948	4.416	1.4542	0	0	0	115546	47610	22522	70132		4.14	Si
SLD 6	7.95	5204.86	-14723	-9423	-15604	5.52	5.52	-8535	14207	15685	115546	59513	28152	87665		5.62	Si
SLV 6	4.4	-55523.48	-6187	-3960	-26030	4.416	0	0	0	0	115546	47610	22522	70132		2.69	Si
SLV 6	7.95	8472.01	-7671	-4909	-23696	5.52	4.9666	-4447	13389	13300	115546	59513	28152	87665		3.7	Si
SLD 9	4.4	-41506.83	-16554	-10595	-18142	4.416	0.7579	0	0	0	115546	47610	22522	70132		3.87	Si
SLD 9	7.95	4736.41	-14761	-9447	-16805	5.52	5.52	-8557	14211	15689	115546	59513	28152	87665		5.22	Si
SLD 5	4.4	-40202.32	-18140	-11610	-16623	4.416	1.6313	0	0	0	115546	47610	22522	70132		4.22	Si
SLD 5	7.95	4923.28	-14841	-9498	-15280	5.52	5.52	-8603	14221	15700	115546	59513	28152	87665		5.74	Si
SLV 8	4.4	17088.12	-64437	-41240	19368	5.52	5.52	-37355	16250	26061	115546	59513	28152	87665		4.53	Si
SLV 8	7.95	-6489.28	-41704	-26690	17035	5.52	5.52	-24176	16250	20242	115546	59513	28152	87665		5.15	Si
SLD 10	4.4	-41991.06	-16296	-10429	-18467	4.416	0.5497	0	0	0	115546	47610	22522	70132		3.8	Si
SLD 10	7.95	5017.98	-14643	-9371	-17129	5.52	5.52	-8489	14198	15674	115546	59513	28152	87665		5.12	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.11 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	261	0.38	429.19	0	417.88	208.94	0.49	No
SLV 9	-164	0.38	429.19	0	478.44	239.22	0.56	No
SLV 6	-2198	0.38	429.19	0	741.32	370.66	0.86	No
SLV 5	-2623	0.38	429.19	0	793.51	396.75	0.92	No
SLV 14	-17484	0.38	429.19	1597.32	2519.19	2058.25	4.8	Si
SLV 13	-18115	0.38	429.19	1649.34	2590.88	2120.11	4.94	Si
SLV 2	-25681	0.38	429.19	2242.16	3433.44	2837.8	6.61	Si
SLV 1	-26312	0.38	429.19	2289.07	3503.02	2896.04	6.75	Si
SLV 16	-35241	0.38	429.19	2910.36	4483.83	3697.09	8.61	Si
SLV 15	-35873	0.38	429.19	2951.3	4552.96	3752.13	8.74	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.04 Ta = 0.1052

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-41898	-64862	-631	0.699	4817.5	0.965	10.52301	5.25693	Si
SLV 8	-41704	-64437	-631	0.702	4797.8	0.965	10.56779	5.25693	Si
SLV 11	-41773	-62384	30	0.714	4804.8	0.965	10.75164	5.25693	Si
SLV 12	-41579	-61959	30	0.717	4785	0.965	10.79756	5.25693	Si
SLV 3	-30180	-47469	-1195	0.916	3625.7	0.955	13.92916	6.51072	Si
SLV 4	-29891	-46838	-1195	0.923	3596.4	0.955	14.05044	6.51072	Si
SLV 15	-29762	-39208	1010	0.932	3583.3	0.955	14.19006	6.51072	Si
SLV 16	-29474	-38577	1010	0.94	3554	0.954	14.31527	6.51072	Si
SLV 1	-19970	-29994	-1016	1.309	2589.6	0.94	20.23321	6.51072	Si
SLV 2	-19681	-29363	-1016	1.325	2560.4	0.939	20.49172	6.51072	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.17	SLU 82	Si
V_SLU	10.484	SLU 82	Si
PF_SLV	0.492	SLV 10	No
V_SLV	2.469	SLV 10	Si
PFFP_SLV	0.487	SLV 10	No
R_SLV	2.002	SLV 7	Si

Maschio 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-11.003	-3.169	L5	L6	1.559	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	4.4	249.18	-6474	-0.0000259	0.0003743	0.0035	1.5594	4312.66	4504.64	4504.64	18.08	No	Si
SLU 73	6.5	1217.53	-5495	-0.0000355	0.0003743	0.0035	1.5594	3754.85	3937.46	3937.46	3.23	No	Si
SLU 64	4.4	212.02	-5995	-0.0000237	0.0003743	0.0035	1.5594	4043.88	4225.1	4225.1	19.93	No	Si
SLU 64	6.5	1109.52	-4924	-0.0000319	0.0003743	0.0035	1.5594	3413.96	3613.92	3613.92	3.26	No	Si
SLU 31	4.4	252.69	-5304	-0.0000217	0.0003743	0.0035	1.5594	3642.14	3828.68	3828.68	15.15	No	Si
SLU 31	6.5	1062.7	-4618	-0.0000302	0.0003743	0.0035	1.5594	3226.7	3442.86	3442.86	3.24	No	Si
SLU 23	4.4	230.44	-4860	-0.0000198	0.0003743	0.0035	1.5594	3375.17	3578.11	3578.11	15.53	No	Si
SLU 23	6.5	972.35	-4086	-0.000027	0.0003743	0.0035	1.5594	2893.16	3105.37	3105.37	3.19	No	Si
SLU 40	4.4	256.26	-5480	-0.0000224	0.0003743	0.0035	1.5594	3746.16	3929.01	3929.01	15.33	No	Si
SLU 40	6.5	1094.36	-4830	-0.0000314	0.0003743	0.0035	1.5594	3357.07	3561.47	3561.47	3.25	No	Si
SLU 82	4.4	252.75	-6650	-0.0000266	0.0003743	0.0035	1.5594	4409.45	4608.36	4608.36	18.23	No	Si
SLU 82	6.5	1249.19	-5707	-0.0000367	0.0003743	0.0035	1.5594	3878.69	4059.13	4059.13	3.25	No	Si
SLU 65	4.4	226.93	-6030	-0.000024	0.0003743	0.0035	1.5594	4063.91	4245.52	4245.52	18.71	No	Si
SLU 65	6.5	1127.18	-4963	-0.0000323	0.0003743	0.0035	1.5594	3437.67	3635.9	3635.9	3.23	No	Si
SLU 39	4.4	247.31	-5459	-0.0000222	0.0003743	0.0035	1.5594	3733.73	3916.94	3916.94	15.84	No	Si
SLU 39	6.5	1083.76	-4807	-0.0000312	0.0003743	0.0035	1.5594	3342.74	3548.33	3548.33	3.27	No	Si
SLU 22	4.4	215.52	-4825	-0.0000195	0.0003743	0.0035	1.5594	3353.69	3558.37	3558.37	16.51	No	Si
SLU 22	6.5	954.69	-4047	-0.0000266	0.0003743	0.0035	1.5594	2868.25	3078.96	3078.96	3.23	No	Si
SLU 81	4.4	243.8	-6629	-0.0000264	0.0003743	0.0035	1.5594	4397.9	4595.89	4595.89	18.85	No	Si
SLU 81	6.5	1238.59	-5684	-0.0000365	0.0003743	0.0035	1.5594	3865.08	4045.66	4045.66	3.27	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	4.4	222	-6778	-5644	0	1.5594	1.5594	-12927	8668	3785	40441	13075	3977	17052	No	72767.34	Si
SLU 78	6.5	1212.37	-5827	-4852	31	1.5594	1.5594	-11113	8426	3679	40441	13075	3977	17052	No	545.94	Si
SLU 74	4.4	223.92	-6631	-5522	0	1.5594	1.5594	-12646	8631	3768	40441	13075	3977	17052	No	83003.01	Si
SLU 74	6.5	1204.84	-5668	-4720	31	1.5594	1.5594	-10809	8386	3662	40441	13075	3977	17052	No	555.66	Si
SLU 83	4.4	232.93	-6755	-5625	0	1.5594	1.5594	-12882	8662	3782	40441	13075	3977	17052	No	58591.23	Si
SLU 83	6.5	1235.52	-5820	-4846	31	1.5594	1.5594	-11099	8424	3678	40441	13075	3977	17052	No	550.48	Si
SLU 81	4.4	243.8	-6629	-5520	0	1.5594	1.5594	-12642	8630	3768	40441	13075	3977	17052	No	66223.16	Si
SLU 81	6.5	1238.59	-5684	-4733	31	1.5594	1.5594	-10839	8390	3663	40441	13075	3977	17052	No	548.99	Si
SLU 82	4.4	252.75	-6650	-5538	0	1.5594	1.5594	-12682	8635	3771	40441	13075	3977	17052	No	67439.13	Si
SLU 82	6.5	1249.19	-5707	-4752	32	1.5594	1.5594	-10884	8396	3666	40441	13075	3977	17052	No	538.07	Si
SLU 77	4.4	213.05	-6757	-5627	0	1.5594	1.5594	-12886	8663	3782	40441	13075	3977	17052	No	71353.65	Si
SLU 77	6.5	1201.77	-5804	-4833	31	1.5594	1.5594	-11068	8420	3677	40441	13075	3977	17052	No	557.19	Si
SLU 73	4.4	249.18	-6474	-5391	0	1.5594	1.5594	-12346	8591	3751	40441	13075	3977	17052	No	89630.71	Si
SLU 73	6.5	1217.53	-5495	-4576	31	1.5594	1.5594	-10479	8342	3642	40441	13075	3977	17052	No	547.91	Si
SLU 76	4.4	238.31	-6600	-5496	0	1.5594	1.5594	-12587	8623	3765	40441	13075	3977	17052	No	76197.25	Si
SLU 76	6.5	1214.47	-5631	-4689	31	1.5594	1.5594	-10738	8376	3657	40441	13075	3977	17052	No	549.4	Si
SLU 84	4.4	241.88	-6776	-5643	0	1.5594	1.5594	-12923	8667	3785	40441	13075	3977	17052	No	59541.07	Si
SLU 84	6.5	1246.12	-5843	-4866	32	1.5594	1.5594	-11143	8430	3681	40441	13075	3977	17052	No	539.5	Si
SLU 75	4.4	232.87	-6652	-5539	0	1.5594	1.5594	-12686	8636	3771	40441	13075	3977	17052	No	84922.19	Si
SLU 75	6.5	1215.43	-5691	-4739	31	1.5594	1.5594	-10854	8392	3664	40441	13075	3977	17052	No	544.48	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.38	0	249	161.54	0	0	No, Trazione
SLV 8	179667	0.38	0	-66	161.54	0	0	No, e>t/2
SLV 3	179667	0.38	0	-105	161.54	0	0	No, e>t/2
SLV 7	179667	0.38	0	-304	161.54	0	0	No, e>t/2
SLV 2	179667	0.38	3484	-1521	161.54	208.1	1.29	Si
SLV 1	179667	0.38	4293	-1875	161.54	255.08	1.58	Si
SLV 12	179667	0.38	4706	-2055	161.54	278.83	1.73	Si
SLV 11	179667	0.38	5252	-2293	161.54	309.99	1.92	Si
SLV 6	179667	0.38	13660	-5964	161.54	760.34	4.71	Si
SLV 5	179667	0.38	14205	-6203	161.54	787.58	4.88	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-7184	-9441	-38	1.062	951.9	0.936	16.49176	5.26967	Si
SLV 14	-6668	-9013	-37	1.128	899.7	0.933	17.56808	5.26967	Si
SLV 15	-6173	-8127	69	1.195	849.8	0.93	18.67195	5.26967	Si
SLV 16	-5657	-7699	70	1.279	797.7	0.926	20.07013	5.26967	Si
SLV 9	-5261	-8156	-172	1.338	757.9	0.924	21.05575	4.55335	Si
SLV 10	-4913	-7868	-171	1.41	722.9	0.921	22.25172	4.55335	Si
SLV 5	-2673	-5800	-180	2.162	500.5	0.899	34.95963	4.55335	Si
SLV 6	-2325	-5512	-179	2.361	466.8	0.895	38.32661	4.55335	Si
SLV 11	-1891	-3775	185	2.666	425.2	0.891	43.47409	4.55335	Si
SLV 12	-1543	-3487	186	2.976	392.7	0.889	48.65042	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.194	SLU 23	Si
V_SLU	538.074	SLU 82	Si
PFFP_SLV	0	SLV 4	No
R_SLV	3.13	SLV 13	Si

Maschio 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L5	L6	4.31	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 71	4.4	4063.33	-27319	-0.0000698	0.0004492	0.0035	4.31	37058.15	50603.27	50603.27	12.45	No	Si
SLU 71	7.95	3467.55	-19436	-0.0000505	0.0004492	0.0035	4.31	30842.76	38403.67	38403.67	11.08	No	Si
SLU 29	4.4	3469.54	-22953	-0.0000582	0.0004492	0.0035	4.31	34064.67	43846.56	43846.56	12.64	No	Si
SLU 29	7.95	2989.8	-16383	-0.0000424	0.0004492	0.0035	4.31	27460.73	33536.02	33536.02	11.22	No	Si
SLU 78	4.4	4516.37	-30472	-0.0000785	0.0004492	0.0035	4.31	38526.76	55482.14	55482.14	12.28	No	Si
SLU 78	7.95	3717.25	-21487	-0.0000557	0.0004492	0.0035	4.31	32809.86	41578.28	41578.28	11.19	No	Si
SLU 79	4.4	4479.91	-30024	-0.0000774	0.0004492	0.0035	4.31	38353.56	54789.12	54789.12	12.23	No	Si
SLU 79	7.95	3665.84	-21144	-0.0000548	0.0004492	0.0035	4.31	32497.49	41046.48	41046.48	11.2	No	Si
SLU 70	4.4	4099.79	-27767	-0.000071	0.0004492	0.0035	4.31	37302.17	51296.29	51296.29	12.51	No	Si
SLU 70	7.95	3518.96	-19779	-0.0000514	0.0004492	0.0035	4.31	31189.43	38935.47	38935.47	11.06	No	Si
SLU 30	4.4	3494.47	-23133	-0.0000587	0.0004492	0.0035	4.31	34209.78	44124.48	44124.48	12.63	No	Si
SLU 30	7.95	3027.39	-16440	-0.0000426	0.0004492	0.0035	4.31	27527.88	33635.55	33635.55	11.11	No	Si
SLU 80	4.4	4504.84	-30204	-0.0000779	0.0004492	0.0035	4.31	38424.43	55067.03	55067.03	12.22	No	Si
SLU 80	7.95	3703.43	-21200	-0.000055	0.0004492	0.0035	4.31	32549.01	41133.39	41133.39	11.11	No	Si
SLU 28	4.4	3506	-23401	-0.0000593	0.0004492	0.0035	4.31	34423	44539.59	44539.59	12.7	No	Si
SLU 28	7.95	3041.22	-16727	-0.0000433	0.0004492	0.0035	4.31	27868.72	34145.04	34145.04	11.23	No	Si
SLU 69	4.4	4074.86	-27588	-0.0000705	0.0004492	0.0035	4.31	37205.72	51018.37	51018.37	12.52	No	Si
SLU 69	7.95	3481.38	-19723	-0.0000511	0.0004492	0.0035	4.31	31133.25	38848.56	38848.56	11.16	No	Si
SLU 72	4.4	4088.26	-27499	-0.0000703	0.0004492	0.0035	4.31	37157.42	50881.19	50881.19	12.45	No	Si
SLU 72	7.95	3505.14	-19492	-0.0000507	0.0004492	0.0035	4.31	30899.88	38490.58	38490.58	10.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	4.4	2392.39	-4479	-0.0000156	0.0006738	0.0035	4.31		11114.46	11114.46	4.65		Si
SLV 8	7.95	664.21	-7373	-0.0000167	0.0006738	0.0035	4.31		16937.63	16937.63	25.5		Si
SLV 7	4.4	2280.13	-4152	-0.0000147	0.0006738	0.0035	4.31		10450.62	10450.62	4.58		Si
SLV 7	7.95	584.8	-7410	-0.0000165	0.0006738	0.0035	4.31		17011.81	17011.81	29.09		Si
SLD 2	4.4	4132.63	-22157	-0.0000575	0.0006738	0.0035	4.31		44143.56	44143.56	10.68		Si
SLD 2	7.95	3427.97	-12919	-0.0000359	0.0006738	0.0035	4.31		27696.04	27696.04	8.08		Si
SLV 6	4.4	4473.02	-35481	-0.0000876	0.0006738	0.0035	4.31		64975.69	64975.69	14.53		Si
SLV 6	7.95	4692.96	-18822	-0.000052	0.0006738	0.0035	4.31		38574.58	38574.58	8.22		Si
SLD 1	4.4	4026.84	-21849	-0.0000565	0.0006738	0.0035	4.31		43661.81	43661.81	10.84		Si
SLD 1	7.95	3353.13	-12954	-0.0000358	0.0006738	0.0035	4.31		27762.68	27762.68	8.28		Si
SLV 3	4.4	4111.63	-13782	-0.0000397	0.0006738	0.0035	4.31		29318.75	29318.75	7.13		Si
SLV 3	7.95	2812.41	-8991	-0.000026	0.0006738	0.0035	4.31		20126.71	20126.71	7.16		Si
SLV 2	4.4	4902.57	-23568	-0.0000628	0.0006738	0.0035	4.31		46349.81	46349.81	9.45		Si
SLV 2	7.95	4139	-12370	-0.0000368	0.0006738	0.0035	4.31		26650.11	26650.11	6.44		Si
SLV 5	4.4	4360.76	-35154	-0.0000865	0.0006738	0.0035	4.31		64464.47	64464.47	14.78		Si
SLV 5	7.95	4613.55	-18859	-0.0000518	0.0006738	0.0035	4.31		38640.67	38640.67	8.38		Si
SLV 4	4.4	4278.38	-14267	-0.0000412	0.0006738	0.0035	4.31		30229.22	30229.22	7.07		Si
SLV 4	7.95	2930.37	-8935	-0.0000263	0.0006738	0.0035	4.31		20018.25	20018.25	6.83		Si
SLV 1	4.4	4735.82	-23082	-0.0000612	0.0006738	0.0035	4.31		45590.46	45590.46	9.63		Si
SLV 1	7.95	4021.04	-12425	-0.0000366	0.0006738	0.0035	4.31		26755.15	26755.15	6.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	4.4	4533.56	-30898	-17132	5395	4.31	4.31	-28392	10833	10338	115546	21685	21981	43666	No	8.09	Si
SLU 84	7.95	3563.07	-21450	-11893	5480	4.31	4.31	-19710	10833	8243	115546	21685	21981	43666	No	7.97	Si
SLU 79	4.4	4479.91	-30024	-16647	5486	4.31	4.31	-27589	10833	10144	115546	21685	21981	43666	No	7.96	Si
SLU 79	7.95	3665.84	-21144	-11723	5465	4.31	4.31	-19428	10833	8175	115546	21685	21981	43666	No	7.99	Si
SLU 83	4.4	4508.63	-30719	-17032	5715	4.31	4.31	-28227	10833	10298	115546	21685	21981	43666	No	7.64	Si
SLU 83	7.95	3525.49	-21394	-11862	5692	4.31	4.31	-19659	10833	8230	115546	21685	21981	43666	No	7.67	Si
SLU 75	4.4	4366.56	-30007	-16638	5301	4.31	4.31	-27573	10833	10140	115546	21685	21981	43666	No	8.24	Si
SLU 75	7.95	3491.92	-21006	-11647	5386	4.31	4.31	-19302	10833	8144	115546	21685	21981	43666	No	8.11	Si
SLU 81	4.4	4358.82	-30253	-16774	5790	4.31	4.31	-27799	10833	10195	115546	21685	21981	43666	No	7.54	Si
SLU 81	7.95	3300.15	-20913	-11595	5768	4.31	4.31	-19216	10833	8124	115546	21685	21981	43666	No	7.57	Si
SLU 60	4.4	3803.2	-26768	-14842	5428	4.31	4.31	-24597	10833	9422	115546	21685	21981	43666	No	8.04	Si
SLU 60	7.95	2858.38	-18464	-10238	5408	4.31	4.31	-16967	10596	7581	115546	21685	21981	43666	No	8.07	Si
SLU 62	4.4	3953.02	-27233	-15100	5352	4.31	4.31	-25024	10833	9525	115546	21685	21981	43666	No	8.16	Si
SLU 62	7.95	3083.71	-18946	-10505	5332	4.31	4.31	-17409	10655	7687	115546	21685	21981	43666	No	8.19	Si
SLU 74	4.4	4341.63	-29828	-16538	5620	4.31	4.31	-27408	10833	10101	115546	21685	21981	43666	No	7.77	Si
SLU 74	7.95	3454.33	-20950	-11616	5599	4.31	4.31	-19250	10833	8132	115546	21685	21981	43666	No	7.8	Si
SLU 82	4.4	4383.75	-30433	-16874	5471	4.31	4.31	-27965	10833	10235	115546	21685	21981	43666	No	7.98	Si
SLU 82	7.95	3337.74	-20969	-11626	5556	4.31	4.31	-19268	10833	8136	115546	21685	21981	43666	No	7.86	Si
SLU 77	4.4	4491.44	-30293	-16796	5545	4.31	4.31	-27835	10833	10204	115546	21685	21981	43666	No	7.88	Si
SLU 77	7.95	3679.66	-21431	-11883	5523	4.31	4.31	-19693	10833	8239	115546	21685	21981	43666	No	7.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	4.4	1947.92	-11435	-6340	14938	4.31	4.31	-10508	14602	8811	115546	32527	21981	54508		3.65	Si
SLD 11	7.95	849.44	-11485	-6368	14165	4.31	4.31	-10553	14611	8816	115546	32527	21981	54508		3.85	Si
SLD 7	4.4	2550.98	-10819	-5999	14432	4.31	4.31	-9941	14488	8742	115546	32527	21981	54508		3.78	Si
SLD 7	7.95	1303.26	-10147	-5626	13701	4.31	4.31	-9324	14365	8668	115546	32527	21981	54508		3.98	Si
SLV 11	4.4	1311.11	-5131	-2845	22579	4.31	4.31	-4715	13443	8112	115546	32527	21981	54508		2.41	Si
SLV 11	7.95	-132.48	-9498	-5266	21272	4.31	4.31	-8727	14245	8596	115546	32527	21981	54508		2.56	Si
SLV 8	4.4	2392.39	-4479	-2484	21729	4.31	4.31	-4116	13323	8039	115546	32527	21981	54508		2.51	Si
SLV 8	7.95	664.21	-7373	-4088	20488	4.31	4.31	-6775	13855	8360	115546	32527	21981	54508		2.66	Si
SLV 6	4.4	4473.02	-35481	-19673	-14410	4.31	4.31	-32603	16250	13097	115546	32527	21981	54508		3.78	Si
SLV 6	7.95	4692.96	-18822	-10436	-13131	4.31	4.31	-17295	15959	9630	115546	32527	21981	54508		4.15	Si
SLD 8	4.4	2619.11	-11017	-6109	14400	4.31	4.31	-10124	14525	8764	115546	32527	21981	54508		3.79	Si
SLD 8	7.95	1351.45	-10125	-5614	13669	4.31	4.31	-9303	14361	8665	115546	32527	21981	54508		3.99	Si
SLV 7	4.4	2280.13	-4152	-2302	21782	4.31	4.31	-3816	13263	8003	115546	32527	21981	54508		2.5	Si
SLV 7	7.95	584.8	-7410	-4109	20540	4.31	4.31	-6809	13862	8364	115546	32527	21981	54508		2.65	Si
SLD 12	4.4	2016.05	-11634	-6450	14906	4.31	4.31	-10690	14638	8833	115546	32527	21981	54508		3.66	Si
SLD 12	7.95	897.63	-11463	-6355	14133	4.31	4.31	-10533	14607	8814	115546	32527	21981	54508		3.86	Si
SLV 12	4.4	1423.37	-5458	-3026	22526	4.31	4.31	-5015	13503	8148	115546	32527	21981	54508		2.42	Si
SLV 12	7.95	-53.07	-9461	-5245	21219	4.31	4.31	-8693	14239	8592	115546	32527	21981	54508		2.57	Si
SLV 5	4.4	4360.76	-35154	-19491	-14356	4.31	4.31	-32303	16250	13025	115546	32527	21981	54508		3.8	Si
SLV 5	7.95	4613.55	-18859	-10456	-13079	4.31	4.31	-17329	15966	9634	115546	32527	21981	54508		4.17	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-7179	0.38	242.95	469.94	904.27	687.1	2.83	Si
SLV 8	-7260	0.38	242.95	474.85	911.21	693.03	2.85	Si
SLV 3	-10208	0.38	242.95	648.58	1163.3	905.94	3.73	Si
SLV 4	-10327	0.38	242.95	655.41	1173.44	914.43	3.76	Si
SLV 11	-10341	0.38	242.95	656.18	1174.59	915.39	3.77	Si
SLV 12	-10422	0.38	242.95	660.77	1181.43	921.1	3.79	Si
SLV 1	-15981	0.38	242.95	957.04	1644.51	1300.77	5.35	Si
SLV 2	-16101	0.38	242.95	963	1654.4	1308.7	5.39	Si
SLV 15	-20746	0.38	242.95	1179.8	2033.1	1606.45	6.61	Si
SLV 16	-20866	0.38	242.95	1185.04	2042.69	1613.87	6.64	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-19384	-26345	321	1.142	2275.4	0.96	17.28612	9.04822	Si
SLV 14	-19329	-26831	321	1.145	2269.8	0.96	17.33173	9.04822	Si
SLV 15	-15949	-17044	277	1.361	1926.2	0.954	20.72471	9.04822	Si
SLV 16	-15894	-17530	277	1.365	1920.6	0.954	20.79042	9.04822	Si
SLV 9	-20946	-36133	162	1.073	2434.3	0.963	16.19083	6.58815	Si
SLV 10	-20909	-36460	162	1.074	2430.5	0.963	16.21752	6.58815	Si
SLV 5	-18859	-35154	-18	1.185	2222	0.96	17.95199	6.58815	Si
SLV 6	-18822	-35481	-18	1.187	2218.2	0.96	17.98475	6.58815	Si
SLV 1	-12425	-23082	-278	1.69	1568.4	0.945	25.98422	9.04822	Si
SLV 2	-12370	-23568	-278	1.696	1562.8	0.945	26.08794	9.04822	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.981	SLU 72	Si
V_SLU	7.541	SLU 81	Si
PF_SLV	4.583	SLV 7	Si
V_SLV	2.414	SLV 11	Si
PFFP_SLV	2.828	SLV 7	Si
R_SLV	1.91	SLV 13	Si

Maschio 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.403	-3.169	-8.543	-3.169	L5	L6	1.141	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	5.3	-350.76	-10516	-0.0000621	0.0003743	0.0035	1.1406	4057.57	4916.6	4916.6	14.02	No	Si
SLU 72	7.1	-715.91	-8033	-0.0000584	0.0003743	0.0035	1.1406	3449.46	4112	4112	5.74	No	Si
SLU 65	5.3	-309.75	-10242	-0.0000594	0.0003743	0.0035	1.1406	4001.01	4849.33	4849.33	15.66	No	Si
SLU 65	7.1	-718.54	-7854	-0.0000575	0.0003743	0.0035	1.1406	3397.24	4047.03	4047.03	5.63	No	Si
SLU 68	5.3	-321.86	-10389	-0.0000606	0.0003743	0.0035	1.1406	4031.59	4885.16	4885.16	15.18	No	Si
SLU 68	7.1	-724.84	-7964	-0.0000582	0.0003743	0.0035	1.1406	3429.27	4086.9	4086.9	5.64	No	Si
SLU 69	5.3	-370.12	-10614	-0.0000632	0.0003743	0.0035	1.1406	4077.13	4940.92	4940.92	13.35	No	Si
SLU 69	7.1	-710.49	-8104	-0.0000586	0.0003743	0.0035	1.1406	3469.7	4137.46	4137.46	5.82	No	Si
SLU 44	5.3	-285.31	-9148	-0.0000528	0.0003743	0.0035	1.1406	3749.3	4512.15	4512.15	15.81	No	Si
SLU 44	7.1	-631.53	-6825	-0.0000496	0.0003743	0.0035	1.1406	3075.25	3642.86	3642.86	5.77	No	Si
SLU 66	5.3	-358.01	-10467	-0.000062	0.0003743	0.0035	1.1406	4047.7	4904.54	4904.54	13.7	No	Si
SLU 66	7.1	-704.19	-7995	-0.0000578	0.0003743	0.0035	1.1406	3438.21	4097.98	4097.98	5.82	No	Si
SLU 70	5.3	-344.94	-10643	-0.0000626	0.0003743	0.0035	1.1406	4082.81	4948.1	4948.1	14.34	No	Si
SLU 70	7.1	-733.32	-8163	-0.0000596	0.0003743	0.0035	1.1406	3486.67	4159.05	4159.05	5.67	No	Si
SLU 67	5.3	-332.82	-10496	-0.0000615	0.0003743	0.0035	1.1406	4053.53	4911.64	4911.64	14.76	No	Si
SLU 67	7.1	-727.03	-8054	-0.0000588	0.0003743	0.0035	1.1406	3455.4	4119.44	4119.44	5.67	No	Si
SLU 46	5.3	-308.39	-9403	-0.0000548	0.0003743	0.0035	1.1406	3811.57	4598.99	4598.99	14.91	No	Si
SLU 46	7.1	-640.02	-7025	-0.0000509	0.0003743	0.0035	1.1406	3140.62	3723.41	3723.41	5.82	No	Si
SLU 47	5.3	-297.42	-9295	-0.0000539	0.0003743	0.0035	1.1406	3785.52	4562.13	4562.13	15.34	No	Si
SLU 47	7.1	-637.83	-6934	-0.0000503	0.0003743	0.0035	1.1406	3111.23	3687.11	3687.11	5.78	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	5.3	3097.8	-2205	-0.039563	0.0005615	0.0035	0.9125		1282.41	1282.41	0.41		No
SLV 1	7.1	-2534.59	-5679	-0.0001809	0.0005615	0.0035	0.9125		3285.7	3285.7	1.3		Si
SLV 4	5.3	2109.24	-15	-0.0455263	0.0005615	0.0035	0.9125		82.74	82.74	0.04		No
SLV 4	7.1	-1586.74	-2598	-0.0004733	0.0005615	0.0035	0.9125		1752.73	1752.73	1.1		Si
SLV 2	5.3	3607.83	-1409	-0.0598373	0.0005615	0.0035	0.9125		854.99	854.99	0.24		No
SLV 2	7.1	-2849.92	-5672	-0.0003455	0.0005615	0.0035	0.9125		3282.42	3282.42	1.15		Si
SLV 3	5.3	1599.2	-812	-0.02412	0.0005615	0.0035	0.9125		527.59	527.59	0.33		No
SLV 3	7.1	-1271.41	-2605	-0.0001137	0.0005615	0.0035	0.9125		1756.38	1756.38	1.38		Si
SLV 12	5.3	-3497.71	-7340	-0.0003474	0.0005615	0.0035	0.9125		4044.41	4044.41	1.16		Si
SLV 12	7.1	1960.66	-1400	-0.0249138	0.0005615	0.0035	0.9125		850.61	850.61	0.43		No
SLD 2	5.3	2158.96	-3699	-0.0050786	0.0005615	0.0035	0.9125		2055.93	2055.93	0.95		No
SLD 2	7.1	-1970.45	-5692	-0.0000949	0.0005615	0.0035	0.9125		3291.93	3291.93	1.67		Si
SLV 11	5.3	-3841.08	-7876	-0.000458	0.0005615	0.0035	0.9125		4282.57	4282.57	1.11		Si
SLV 11	7.1	2172.95	-1405	-0.0293058	0.0005615	0.0035	0.9125		853.18	853.18	0.39		No
SLV 7	5.3	-2098.66	-3805	-0.0004087	0.0005615	0.0035	0.9125		2370.58	2370.58	1.13		Si
SLV 7	7.1	1239.64	-303	-0.0227353	0.0005615	0.0035	0.9125		244.61	244.61	0.2		No
SLV 8	5.3	-1755.29	-3269	-0.0002763	0.0005615	0.0035	0.9125		2100.07	2100.07	1.2		Si
SLV 8	7.1	1027.35	-298	-0.0181583	0.0005615	0.0035	0.9125		241.96	241.96	0.24		No
SLV 6	5.3	3240.03	-7914	-0.0002006	0.0005615	0.0035	1.1406		3940.29	3940.29	1.22		Si
SLV 6	7.1	-3183.26	-10546	-0.000154	0.0005615	0.0035	1.1406		5386.73	5386.73	1.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 39	5.3	-459.35	-9851	-8203	-249	1.1406	1.1406	-25685	10369	3312	40441	9563	2908	12472	No	50.1	Si
SLU 39	7.1	-570.62	-7655	-6375	-545	1.1406	1.1406	-19961	9606	3068	40441	9563	2908	12472	No	22.9	Si
SLU 40	5.3	-434.17	-9880	-8227	-204	1.1406	1.1406	-25760	10379	3315	40441	9563	2908	12472	No	61.16	Si
SLU 40	7.1	-593.46	-7715	-6424	-529	1.1406	1.1406	-20116	9627	3074	40441	9563	2908	12472	No	23.56	Si
SLU 82	5.3	-503.25	-11691	-9736	-253	1.1406	1.1406	-30484	10833	3621	40441	9563	2908	12472	No	49.25	Si
SLU 82	7.1	-707.46	-8996	-7491	-572	1.1406	1.1406	-23456	10072	3217	40441	9563	2908	12472	No	21.8	Si
SLU 84	5.3	-515.36	-11838	-9858	-274	1.1406	1.1406	-30867	10833	3654	40441	9563	2908	12472	No	45.46	Si
SLU 84	7.1	-713.76	-9105	-7582	-571	1.1406	1.1406	-23741	10110	3229	40441	9563	2908	12472	No	21.85	Si
SLU 41	5.3	-471.46	-9998	-8325	-270	1.1406	1.1406	-26068	10420	3328	40441	9563	2908	12472	No	46.19	Si
SLU 41	7.1	-576.92	-7765	-6466	-543	1.1406	1.1406	-20246	9644	3080	40441	9563	2908	12472	No	22.96	Si
SLU 77	5.3	-493.82	-11642	-9695	-261	1.1406	1.1406	-30356	10833	3610	40441	9563	2908	12472	No	47.81	Si
SLU 77	7.1	-713.39	-8931	-7437	-525	1.1406	1.1406	-23286	10049	3209	40441	9563	2908	12472	No	23.74	Si
SLU 81	5.3	-528.43	-11663	-9712	-298	1.1406	1.1406	-30409	10833	3615	40441	9563	2908	12472	No	41.82	Si
SLU 81	7.1	-684.63	-8936	-7441	-587	1.1406	1.1406	-23300	10051	3210	40441	9563	2908	12472	No	21.23	Si
SLU 74	5.3	-481.71	-11495	-9572	-240	1.1406	1.1406	-29973	10833	3577	40441	9563	2908	12472	No	52.02	Si
SLU 74	7.1	-707.09	-8821	-7346	-527	1.1406	1.1406	-23001	10011	3197	40441	9563	2908	12472	No	23.68	Si
SLU 42	5.3	-446.28	-10026	-8349	-225	1.1406	1.1406	-26143	10430	3331	40441	9563	2908	12472	No	55.43	Si
SLU 42	7.1	-599.75	-7824	-6515	-528	1.1406	1.1406	-20402	9665	3087	40441	9563	2908	12472	No	23.63	Si
SLU 83	5.3	-540.55	-11809	-9834	-319	1.1406	1.1406	-30792	10833	3647	40441	9563	2908	12472	No	39.06	Si
SLU 83	7.1	-690.92	-9046	-7532	-586	1.1406	1.1406	-23585	10089	3222	40441	9563	2908	12472	No	21.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	5.3	3240.03	-7914	-6590	5935	1.1406	0.4826	-20635	14544	3295	40441	14345	2908	17253		2.91	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	7.1	-3183.26	-10546	-8782	1662	1.1406	0.8053	-39812	16250	3879	40441	14345	2908	17253		10.38	Si
SLV 4	5.3	2109.24	-15	-13	4292	0.9125	0	0	0	0	40441	11476	2327	13803		3.22	Si
SLV 4	7.1	-1586.74	-2598	-2163	339	0.9125	0	0	0	0	40441	11476	2327	13803		40.71	Si
SLV 2	5.3	3607.83	-1409	-1173	6807	0.9125	0	0	0	0	40441	11476	2327	13803		2.03	Si
SLV 2	7.1	-2849.92	-5672	-4723	1295	0.9125	0.2035	0	0	0	40441	11476	2327	13803		10.66	Si
SLV 1	5.3	3097.8	-2205	-1836	5915	0.9125	0	0	0	0	40441	11476	2327	13803		2.33	Si
SLV 1	7.1	-2534.59	-5679	-4729	1053	0.9125	0.3719	0	0	0	40441	11476	2327	13803		13.11	Si
SLV 5	5.3	2896.66	-8450	-7036	5334	1.1406	0.6825	-22033	14823	3414	40441	14345	2908	17253		3.23	Si
SLV 5	7.1	-2970.97	-10550	-8786	1498	1.1406	0.8661	-36971	16250	3941	40441	14345	2908	17253		11.51	Si
SLV 15	5.3	-4208.88	-14381	-11975	-7060	1.1406	0.8329	-53008	16250	4731	40441	14345	2908	17253		2.44	Si
SLV 15	7.1	1839.62	-6279	-5229	-1931	1.1406	0.8319	-16372	13691	3189	40441	14345	2908	17253		8.94	Si
SLV 16	5.3	-3698.85	-13585	-11312	-6168	1.1406	0.894	-46421	16250	4554	40441	14345	2908	17253		2.8	Si
SLV 16	7.1	1524.28	-6272	-5223	-1688	1.1406	0.9818	-16354	13687	3763	40441	14345	2908	17253		10.22	Si
SLV 11	5.3	-3841.08	-7876	-6558	-6188	0.9125	0.2478	0	0	0	40441	11476	2327	13803		2.23	Si
SLV 11	7.1	2172.95	-1405	-1170	-2297	0.9125	0	0	0	0	40441	11476	2327	13803		6.01	Si
SLD 2	5.3	2158.96	-3699	-3080	4243	0.9125	0	0	0	0	40441	11476	2327	13803		3.25	Si
SLD 2	7.1	-1970.45	-5692	-4740	687	0.9125	0.6724	0	0	0	40441	11476	2327	13803		20.08	Si
SLV 12	5.3	-3497.71	-7340	-6112	-5587	0.9125	0.2812	0	0	0	40441	11476	2327	13803		2.47	Si
SLV 12	7.1	1960.66	-1400	-1166	-2134	0.9125	0	0	0	0	40441	11476	2327	13803		6.47	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.38	0	-381	118.15	0	0	No, e>t/2
SLV 4	179667	0.38	0	415	118.15	0	0	No, Trazione
SLV 2	179667	0.38	3037	-970	118.15	133.11	1.13	Si
SLV 1	179667	0.38	5532	-1767	118.15	238.36	2.02	Si
SLV 8	179667	0.38	8818	-2816	118.15	371.49	3.14	Si
SLV 7	179667	0.38	10497	-3352	118.15	437.07	3.7	Si
SLV 12	179667	0.38	21480	-6860	118.15	825.3	6.99	Si
SLV 11	179667	0.38	23159	-7396	118.15	878.43	7.43	Si
SLV 6	179667	0.38	23278	-7434	118.15	882.15	7.47	Si
SLV 5	179667	0.38	24957	-7970	118.15	933.51	7.9	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-7269	-10301	-94	0.806	900.4	0.949	12.34403	5.26967	Si
SLV 14	-7057	-10414	-97	0.826	878.9	0.948	12.66113	5.26967	Si
SLV 9	-6996	-13759	-322	0.804	872.7	0.947	12.32655	4.55335	Si
SLV 15	-6066	-6577	97	0.935	778.4	0.942	14.43214	5.26967	Si
SLV 10	-6854	-13835	-323	0.817	858.2	0.947	12.54535	4.55335	Si
SLV 16	-5855	-6690	95	0.963	757	0.941	14.88537	5.26967	Si
SLV 5	-5589	-12983	-325	0.966	730.1	0.939	14.94919	4.55335	Si
SLV 6	-5447	-13059	-327	0.986	715.7	0.938	15.27755	4.55335	Si
SLV 1	-2580	-7716	-105	1.801	427.7	0.908	28.82472	5.26967	Si
SLV 11	-2988	-1347	316	1.569	468.2	0.913	24.96297	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.632	SLU 65	Si
V_SLU	21.231	SLU 81	Si
PF_SLV	0.039	SLV 4	No
V_SLV	2.028	SLV 2	Si
PFFP_SLV	0	SLV 4	No
R_SLV	2.342	SLV 13	Si

Maschio 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L5	L6	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	4.4	-7784.85	-36791	-0.0000935	0.0004492	0.0035	4.67	46343.1	81218.33	81218.33	10.43	No	Si
SLU 61	7.95	-3546.12	-22476	-0.000052	0.0004492	0.0035	4.67	37715.96	57909.68	57909.68	16.33	No	Si
SLU 84	4.4	-8829.65	-42676	-0.0001096	0.0004492	0.0035	4.67	46415.21	89564.34	89564.34	10.14	No	Si
SLU 84	7.95	-3950.23	-26681	-0.0000616	0.0004492	0.0035	4.67	41492.64	65195.16	65195.16	16.5	No	Si
SLU 76	4.4	-8404.33	-41059	-0.0001048	0.0004492	0.0035	4.67	46597.14	87340.56	87340.56	10.39	No	Si
SLU 76	7.95	-3685.7	-25837	-0.0000592	0.0004492	0.0035	4.67	40817.33	63762.12	63762.12	17.3	No	Si
SLU 81	4.4	-8858.42	-41960	-0.0001081	0.0004492	0.0035	4.67	46514.62	88579.67	88579.67	10	No	Si
SLU 81	7.95	-4114.96	-25663	-0.0000599	0.0004492	0.0035	4.67	40673.29	63467.42	63467.42	15.42	No	Si
SLU 60	4.4	-7834.31	-37076	-0.0000943	0.0004492	0.0035	4.67	46393.32	81641.54	81641.54	10.42	No	Si
SLU 60	7.95	-3546.75	-22599	-0.0000522	0.0004492	0.0035	4.67	37841.21	58131.86	58131.86	16.39	No	Si
SLU 74	4.4	-8568.82	-41861	-0.000107	0.0004492	0.0035	4.67	46526.08	88442.71	88442.71	10.32	No	Si
SLU 74	7.95	-3797.89	-26264	-0.0000604	0.0004492	0.0035	4.67	41163.93	64486.57	64486.57	16.98	No	Si
SLU 83	4.4	-8879.11	-42962	-0.0001104	0.0004492	0.0035	4.67	46367.23	89956.89	89956.89	10.13	No	Si
SLU 83	7.95	-3950.86	-26804	-0.0000619	0.0004492	0.0035	4.67	41587.63	65404.11	65404.11	16.55	No	Si
SLU 75	4.4	-8519.36	-41575	-0.0001062	0.0004492	0.0035	4.67	46555.69	88050.17	88050.17	10.34	No	Si
SLU 75	7.95	-3797.27	-26140	-0.0000601	0.0004492	0.0035	4.67	41065.05	64277.61	64277.61	16.93	No	Si
SLU 73	4.4	-8383.65	-40058	-0.0001024	0.0004492	0.0035	4.67	46633.18	85963.34	85963.34	10.25	No	Si
SLU 73	7.95	-3849.8	-24696	-0.0000573	0.0004492	0.0035	4.67	39838.47	61825.43	61825.43	16.06	No	Si
SLU 82	4.4	-8808.97	-41675	-0.0001073	0.0004492	0.0035	4.67	46545.9	88187.12	88187.12	10.01	No	Si
SLU 82	7.95	-4114.33	-25540	-0.0000597	0.0004492	0.0035	4.67	40570.09	63258.46	63258.46	15.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	4.4	-4297.26	-7143	-0.0000235	0.0006738	0.0035	4.67		28287.36	28287.36	6.58		Si
SLV 6	7.95	-3511.31	-6896	-0.0000212	0.0006738	0.0035	4.67		27759.95	27759.95	7.91		Si
SLD 14	4.4	-7667.45	-27936	-0.0000724	0.0006738	0.0035	4.67		69061.51	69061.51	9.01		Si
SLD 14	7.95	-4433.84	-18126	-0.0000449	0.0006738	0.0035	4.67		50736.57	50736.57	11.44		Si
SLD 9	4.4	-6026.12	-18271	-0.0000491	0.0006738	0.0035	4.67		51021.99	51021.99	8.47		Si
SLD 9	7.95	-4076.49	-12748	-0.0000336	0.0006738	0.0035	4.67		39980.89	39980.89	9.81		Si
SLV 14	4.4	-8688.26	-27121	-0.0000734	0.0006738	0.0035	4.67		67615.75	67615.75	7.78		Si
SLV 14	7.95	-5523.92	-18179	-0.0000477	0.0006738	0.0035	4.67		50840.61	50840.61	9.2		Si
SLD 13	4.4	-7638.53	-28629	-0.0000737	0.0006738	0.0035	4.67		70289.95	70289.95	9.2		Si
SLD 13	7.95	-4498.61	-18289	-0.0000454	0.0006738	0.0035	4.67		51056.64	51056.64	11.35		Si
SLV 5	4.4	-4266.57	-7878	-0.0000248	0.0006738	0.0035	4.67		29854.25	29854.25	7		Si
SLV 5	7.95	-3580.04	-7069	-0.0000217	0.0006738	0.0035	4.67		28128.64	28128.64	7.86		Si
SLD 10	4.4	-6044.74	-17825	-0.0000483	0.0006738	0.0035	4.67		50143.53	50143.53	8.3		Si
SLD 10	7.95	-4034.78	-12643	-0.0000333	0.0006738	0.0035	4.67		39764.53	39764.53	9.86		Si
SLV 10	4.4	-6108.07	-10152	-0.0000336	0.0006738	0.0035	4.67		34613.51	34613.51	5.67		Si
SLV 10	7.95	-5016.12	-9031	-0.0000288	0.0006738	0.0035	4.67		32295.49	32295.49	6.44		Si
SLV 9	4.4	-6077.38	-10887	-0.000035	0.0006738	0.0035	4.67		36133.1	36133.1	5.95		Si
SLV 9	7.95	-5084.86	-9203	-0.0000293	0.0006738	0.0035	4.67		32652.03	32652.03	6.42		Si
SLV 13	4.4	-8642.68	-28213	-0.0000755	0.0006738	0.0035	4.67		69552.09	69552.09	8.05		Si
SLV 13	7.95	-5626.02	-18435	-0.0000484	0.0006738	0.0035	4.67		51345.12	51345.12	9.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	4.4	-6600.47	-34364	-19053	-3938	4.67	4.67	-29142	10833	11398	115546	23496	23817	47313	No	12.01	Si
SLU 49	7.95	-2448.68	-22439	-12442	-1586	4.67	4.67	-19030	10833	8753	115546	23496	23817	47313	No	29.83	Si
SLU 72	4.4	-7542.52	-38922	-21581	-3880	4.67	4.67	-33008	10833	12409	115546	23496	23817	47313	No	12.19	Si
SLU 72	7.95	-2905.73	-25281	-14017	-1311	4.67	4.67	-21440	10833	9384	115546	23496	23817	47313	No	36.09	Si
SLU 46	4.4	-6579.79	-33362	-18498	-3856	4.67	4.67	-28293	10833	11176	115546	23496	23817	47313	No	12.27	Si
SLU 46	7.95	-2612.78	-21298	-11809	-1699	4.67	4.67	-18062	10742	8500	115546	23496	23817	47313	No	27.84	Si
SLU 47	4.4	-6464.75	-32846	-18212	-4011	4.67	4.67	-27855	10833	11061	115546	23496	23817	47313	No	11.8	Si
SLU 47	7.95	-2501.21	-20995	-11641	-1879	4.67	4.67	-17804	10707	8433	115546	23496	23817	47313	No	25.19	Si
SLU 55	4.4	-7380.22	-36175	-20058	-3887	4.67	4.67	-30678	10833	11800	115546	23496	23817	47313	No	12.17	Si
SLU 55	7.95	-3117.49	-22773	-12627	-1754	4.67	4.67	-19313	10833	8827	115546	23496	23817	47313	No	26.98	Si
SLU 44	4.4	-6444.07	-31845	-17657	-3928	4.67	4.67	-27006	10833	10839	115546	23496	23817	47313	No	12.05	Si
SLU 44	7.95	-2665.31	-19854	-11008	-1992	4.67	4.67	-16837	10578	8180	115546	23496	23817	47313	No	23.75	Si
SLU 65	4.4	-7468.19	-36729	-20365	-3860	4.67	4.67	-31148	10833	11922	115546	23496	23817	47313	No	12.26	Si
SLU 65	7.95	-3233.52	-22918	-12707	-1715	4.67	4.67	-19435	10833	8859	115546	23496	23817	47313	No	27.59	Si
SLU 51	4.4	-6518.41	-34038	-18873	-3947	4.67	4.67	-28866	10833	11326	115546	23496	23817	47313	No	11.99	Si
SLU 51	7.95	-2337.53	-22218	-12319	-1588	4.67	4.67	-18842	10833	8704	115546	23496	23817	47313	No	29.79	Si
SLU 70	4.4	-7624.58	-39248	-21761	-3871	4.67	4.67	-33284	10833	12481	115546	23496	23817	47313	No	12.22	Si
SLU 70	7.95	-3016.89	-25503	-14140	-1309	4.67	4.67	-21628	10833	9433	115546	23496	23817	47313	No	36.16	Si
SLU 68	4.4	-7488.87	-37730	-20920	-3943	4.67	4.67	-31997	10833	12144	115546	23496	23817	47313	No	12	Si
SLU 68	7.95	-3069.42	-24058	-13339	-1601	4.67	4.67	-20403	10833	9112	115546	23496	23817	47313	No	29.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	4.4	-7392.04	-49850	-27640	14755	4.67	4.67	-42276	16250	16721	115546	35244	23817	59061		4	Si
SLV 11	7.95	-1567.33	-28347	-15717	18660	4.67	4.67	-24039	16250	11952	115546	35244	23817	59061		3.17	Si
SLD 6	4.4	-4890.17	-15900	-8816	-12909	4.67	4.67	-13484	15197	9936	115546	35244	23817	59061		4.58	Si
SLD 6	7.95	-3064.22	-11283	-6256	-12519	4.67	4.67	-9568	14414	9424	115546	35244	23817	59061		4.72	Si
SLV 12	4.4	-7422.72	-49115	-27232	14924	4.67	4.67	-41652	16250	16558	115546	35244	23817	59061		3.96	Si
SLV 12	7.95	-1498.6	-28174	-15621	18420	4.67	4.67	-23893	16250	11914	115546	35244	23817	59061		3.21	Si
SLV 10	4.4	-6108.07	-10152	-5629	-18649	4.67	4.67	-8609	14222	9298	115546	35244	23817	59061		3.17	Si
SLV 10	7.95	-5016.12	-9031	-5007	-20647	4.67	4.67	-7658	14032	9174	115546	35244	23817	59061		2.86	Si
SLV 6	4.4	-4297.26	-7143	-3961	-20091	4.67	4.67	-6058	13712	8965	115546	35244	23817	59061		2.94	Si
SLV 6	7.95	-3511.31	-6896	-3824	-20668	4.67	4.67	-5848	13670	8937	115546	35244	23817	59061		2.86	Si
SLV 7	4.4	-5581.23	-46842	-25972	13313	4.67	4.67	-39724	16250	16053	115546	35244	23817	59061		4.44	Si
SLV 7	7.95	-62.52	-26212	-14534	18639	4.67	4.67	-22229	16250	11478	115546	35244	23817	59061		3.17	Si
SLV 8	4.4	-5611.91	-46107	-25564	13482	4.67	4.67	-39101	16250	15890	115546	35244	23817	59061		4.38	Si
SLV 8	7.95	6.21	-26040	-14438	18399	4.67	4.67	-22083	16250	11440	115546	35244	23817	59061		3.21	Si
SLV 5	4.4	-4266.57	-7878	-4368	-20260	4.67	4.67	-6681	13836	9046	115546	35244	23817	59061		2.92	Si
SLV 5	7.95	-3580.04	-7069	-3919	-20427	4.67	4.67	-5995	13699	8956	115546	35244	23817	59061		2.89	Si
SLV 9	4.4	-6077.38	-10887	-6036	-18818	4.67	4.67	-9233	14347	9380	115546	35244	23817	59061		3.14	Si
SLV 9	7.95	-5084.86	-9203	-5103	-20406	4.67	4.67	-7805	14061	9193	115546	35244	23817	59061		2.89	Si
SLD 5	4.4	-4871.55	-16346	-9063	-13011	4.67	4.67	-13862	15272	9985	115546	35244	23817	59061		4.54	Si
SLD 5	7.95	-3105.93	-11387	-6314	-12373	4.67	4.67	-9657	14431	9435	115546	35244	23817	59061		4.77	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.175 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-9214	0.38	263.24	595.4	1094.21	844.8	3.21	Si
SLV 5	-9718	0.38	263.24	625.08	1137.26	881.17	3.35	Si
SLV 10	-11110	0.38	263.24	705.57	1255.88	980.73	3.73	Si
SLV 9	-11613	0.38	263.24	734.14	1298.45	1016.29	3.86	Si
SLV 2	-16312	0.38	263.24	986.43	1689.3	1337.86	5.08	Si
SLV 1	-17061	0.38	263.24	1024.21	1751.04	1387.63	5.27	Si
SLV 14	-22630	0.38	263.24	1284.96	2205.99	1745.47	6.63	Si
SLV 13	-23379	0.38	263.24	1317.22	2265.94	1791.58	6.81	Si
SLV 4	-24397	0.38	263.24	1360.08	2347.6	1853.84	7.04	Si
SLV 3	-25145	0.38	263.24	1390.8	2407.62	1899.21	7.21	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-24178	-39902	416	1.004	2788.5	0.965	15.12692	9.04822	Si
SLV 16	-23922	-38810	416	1.014	2762.4	0.964	15.27783	9.04822	Si
SLV 11	-28347	-49850	102	0.88	3212.7	0.969	13.19178	6.58815	Si
SLV 12	-28174	-49115	102	0.884	3195.2	0.969	13.26744	6.58815	Si
SLV 13	-18435	-28213	430	1.279	2204.3	0.956	19.43515	9.04822	Si
SLV 7	-26212	-46842	-152	0.943	2995.5	0.967	14.16856	6.58815	Si
SLV 8	-26040	-46107	-152	0.948	2977.9	0.967	14.25626	6.58815	Si
SLV 14	-18179	-27121	430	1.295	2178.3	0.956	19.68664	9.04822	Si
SLV 3	-17064	-29873	-431	1.369	2065	0.954	20.86217	9.04822	Si
SLV 4	-16808	-28781	-431	1.387	2038.9	0.953	21.15253	9.04822	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.999	SLU 81	Si
V_SLU	11.797	SLU 47	Si
PF_SLV	5.667	SLV 10	Si
V_SLV	2.858	SLV 6	Si
PFFP_SLV	3.209	SLV 6	Si
R_SLV	1.672	SLV 15	Si

Maschio 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.503	-3.169	L5	L6	0.565	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	6.4	-79.76	-6201	-0.0000727	0.0003743	0.0035	0.565	1077.33	1327.31	1327.31	16.64	No	Si
SLU 70	7.2	-356.27	-5925	-0.0001022	0.0003743	0.0035	0.565	1058.04	1289.25	1289.25	3.62	No	Si
SLU 66	6.4	-71.9	-6095	-0.0000706	0.0003743	0.0035	0.565	1070.25	1313.33	1313.33	18.27	No	Si
SLU 66	7.2	-353.92	-5857	-0.0001011	0.0003743	0.0035	0.565	1052.96	1279.05	1279.05	3.61	No	Si
SLU 75	6.4	-98.12	-6815	-0.0000822	0.0003743	0.0035	0.565	1110.62	1390.89	1390.89	14.18	No	Si
SLU 75	7.2	-371.78	-6542	-0.0001121	0.0003743	0.0035	0.565	1097.48	1363.5	1363.5	3.67	No	Si
SLU 68	6.4	-73.5	-6046	-0.0000702	0.0003743	0.0035	0.565	1066.89	1306.69	1306.69	17.78	No	Si
SLU 68	7.2	-353.54	-5785	-0.0001001	0.0003743	0.0035	0.565	1047.25	1268	1268	3.59	No	Si
SLU 65	6.4	-67.26	-5965	-0.0000685	0.0003743	0.0035	0.565	1061.01	1295.11	1295.11	19.25	No	Si
SLU 65	7.2	-354.96	-5726	-0.0000995	0.0003743	0.0035	0.565	1042.51	1259.14	1259.14	3.55	No	Si
SLU 64	6.4	-64.55	-5925	-0.0000677	0.0003743	0.0035	0.565	1058.04	1289.25	1289.25	19.97	No	Si
SLU 64	7.2	-348.67	-5712	-0.0000986	0.0003743	0.0035	0.565	1041.38	1257.07	1257.07	3.61	No	Si
SLU 69	6.4	-78.14	-6177	-0.0000722	0.0003743	0.0035	0.565	1075.75	1324.19	1324.19	16.95	No	Si
SLU 69	7.2	-352.5	-5916	-0.0001016	0.0003743	0.0035	0.565	1057.42	1288.03	1288.03	3.65	No	Si
SLU 72	6.4	-78.65	-6112	-0.0000716	0.0003743	0.0035	0.565	1071.44	1315.67	1315.67	16.73	No	Si
SLU 72	7.2	-349.59	-5838	-0.0001003	0.0003743	0.0035	0.565	1051.44	1276.07	1276.07	3.65	No	Si
SLU 67	6.4	-73.52	-6119	-0.000071	0.0003743	0.0035	0.565	1071.9	1316.57	1316.57	17.91	No	Si
SLU 67	7.2	-357.7	-5866	-0.0001016	0.0003743	0.0035	0.565	1053.59	1280.31	1280.31	3.58	No	Si
SLU 73	6.4	-91.86	-6660	-0.0000796	0.0003743	0.0035	0.565	1103.5	1375.26	1375.26	14.97	No	Si
SLU 73	7.2	-369.04	-6402	-0.0001099	0.0003743	0.0035	0.565	1089.72	1349.77	1349.77	3.66	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	6.4	317.21	-2709	-0.0000596	0.0005615	0.0035	0.565		712.96	712.96	2.25		Si
SLD 1	7.2	-748.01	-3414	-0.0002212	0.0005615	0.0035	0.452		929.27	929.27	1.24		Si
SLV 3	6.4	458.29	-1017	-0.0147999	0.0005615	0.0035	0.452		295.78	295.78	0.65		No
SLV 3	7.2	-725.5	-2622	-0.0009651	0.0005615	0.0035	0.452		746.97	746.97	1.03		Si
SLV 2	6.4	650.03	-1214	-0.0256095	0.0005615	0.0035	0.452		347.37	347.37	0.53		No
SLV 2	7.2	-1182.62	-2728	-0.0080858	0.0005615	0.0035	0.452		771.79	771.79	0.65		No
SLV 6	6.4	283.73	-4493	-0.0000737	0.0005615	0.0035	0.565		1092.29	1092.29	3.85		Si
SLV 6	7.2	-1034.05	-4261	-0.0006003	0.0005615	0.0035	0.452		1113.24	1113.24	1.08		Si
SLD 2	6.4	395.71	-2412	-0.000075	0.0005615	0.0035	0.565		648.31	648.31	1.64		Si
SLD 2	7.2	-842.36	-3322	-0.0005707	0.0005615	0.0035	0.452		908.98	908.98	1.08		Si
SLV 5	6.4	200.42	-4808	-0.0000681	0.0005615	0.0035	0.565		1161.73	1161.73	5.8		Si
SLV 5	7.2	-933.92	-4358	-0.0002758	0.0005615	0.0035	0.452		1133.55	1133.55	1.21		Si
SLD 4	6.4	356.1	-2021	-0.0000697	0.0005615	0.0035	0.565		552.58	552.58	1.55		Si
SLD 4	7.2	-661.88	-3176	-0.0001694	0.0005615	0.0035	0.452		876.32	876.32	1.32		Si
SLV 4	6.4	582.03	-549	-0.0341303	0.0005615	0.0035	0.452		170.63	170.63	0.29		No
SLV 4	7.2	-874.23	-2478	-0.0040204	0.0005615	0.0035	0.452		713.07	713.07	0.82		No
SLV 1	6.4	526.29	-1682	-0.0073079	0.0005615	0.0035	0.452		467.6	467.6	0.89		No
SLV 1	7.2	-1033.89	-2872	-0.0054303	0.0005615	0.0035	0.452		805.64	805.64	0.78		No
SLD 6	6.4	154.79	-4473	-0.0000597	0.0005615	0.0035	0.565		1087.85	1087.85	7.03		Si
SLD 6	7.2	-726.45	-4295	-0.0001478	0.0005615	0.0035	0.452		1120.25	1120.25	1.54		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	6.4	-102.73	-6872	-5723	-137	0.565	0.565	-36174	10833	2034	40441	4737	1441	6178	No	45.13	Si
SLU 77	7.2	-366.57	-6593	-5490	488	0.565	0.565	-34703	10833	1972	40441	4737	1441	6178	No	12.65	Si
SLU 73	6.4	-91.86	-6660	-5546	-97	0.565	0.565	-35058	10833	1987	40441	4737	1441	6178	No	63.78	Si
SLU 73	7.2	-369.04	-6402	-5331	488	0.565	0.565	-33700	10833	1929	40441	4737	1441	6178	No	12.66	Si
SLU 74	6.4	-96.49	-6791	-5655	-120	0.565	0.565	-35744	10833	2016	40441	4737	1441	6178	No	51.34	Si
SLU 74	7.2	-368	-6534	-5441	496	0.565	0.565	-34393	10833	1959	40441	4737	1441	6178	No	12.46	Si
SLU 78	6.4	-104.35	-6896	-5743	-131	0.565	0.565	-36301	10833	2039	40441	4737	1441	6178	No	47.13	Si
SLU 78	7.2	-370.35	-6601	-5497	483	0.565	0.565	-34746	10833	1973	40441	4737	1441	6178	No	12.8	Si
SLU 79	6.4	-101.62	-6784	-5649	-140	0.565	0.565	-35708	10833	2014	40441	4737	1441	6178	No	44.22	Si
SLU 79	7.2	-359.89	-6506	-5418	483	0.565	0.565	-34247	10833	1952	40441	4737	1441	6178	No	12.8	Si
SLU 81	6.4	-99.69	-6918	-5761	-141	0.565	0.565	-36417	10833	2044	40441	4737	1441	6178	No	43.93	Si
SLU 81	7.2	-368.78	-6679	-5561	510	0.565	0.565	-35154	10833	1991	40441	4737	1441	6178	No	12.1	Si
SLU 82	6.4	-101.31	-6943	-5781	-135	0.565	0.565	-36543	10833	2049	40441	4737	1441	6178	No	45.82	Si
SLU 82	7.2	-372.55	-6687	-5568	505	0.565	0.565	-35198	10833	1993	40441	4737	1441	6178	No	12.24	Si
SLU 75	6.4	-98.12	-6815	-5675	-115	0.565	0.565	-35870	10833	2021	40441	4737	1441	6178	No	53.95	Si
SLU 75	7.2	-371.78	-6542	-5448	490	0.565	0.565	-34437	10833	1960	40441	4737	1441	6178	No	12.61	Si
SLU 84	6.4	-107.55	-7024	-5849	-151	0.565	0.565	-36974	10833	2067	40441	4737	1441	6178	No	40.81	Si
SLU 84	7.2	-371.13	-6746	-5617	497	0.565	0.565	-35507	10833	2006	40441	4737	1441	6178	No	12.42	Si
SLU 83	6.4	-105.92	-7000	-5829	-157	0.565	0.565	-36847	10833	2062	40441	4737	1441	6178	No	39.3	Si
SLU 83	7.2	-367.35	-6737	-5610	503	0.565	0.565	-35464	10833	2004	40441	4737	1441	6178	No	12.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	6.4	650.03	-1214	-1011	2992	0.452	0	0	0	0	40441	5685	1153	6837		2.29	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	7.2	-1182.62	-2728	-2271	1159	0.452	0	0	0	0	40441	5685	1153	6837		5.9	Si
SLV 16	6.4	-633.44	-7483	-6232	-2600	0.565	0.565	-39391	16250	2571	40441	7106	1441	8547		3.29	Si
SLV 16	7.2	508.83	-5960	-4963	-255	0.565	0.565	-31372	16250	2571	40441	7106	1441	8547		33.48	Si
SLV 6	6.4	283.73	-4493	-3742	2125	0.565	0.565	-23651	15147	2396	40441	7106	1441	8547		4.02	Si
SLV 6	7.2	-1034.05	-4261	-3548	595	0.452	0.1195	0	0	0	40441	5685	1153	6837		11.48	Si
SLV 1	6.4	526.29	-1682	-1400	2519	0.452	0	0	0	0	40441	5685	1153	6837		2.71	Si
SLV 1	7.2	-1033.89	-2872	-2391	971	0.452	0	0	0	0	40441	5685	1153	6837		7.04	Si
SLV 4	6.4	582.03	-549	-457	2222	0.452	0	0	0	0	40441	5685	1153	6837		3.08	Si
SLV 4	7.2	-874.23	-2478	-2064	1183	0.452	0	0	0	0	40441	5685	1153	6837		5.78	Si
SLD 15	6.4	-502.87	-6753	-5624	-1959	0.565	0.565	-35547	16250	2571	40441	7106	1441	8547		4.36	Si
SLD 15	7.2	317.31	-5510	-4588	-157	0.565	0.565	-29002	16217	2566	40441	7106	1441	8547		54.5	Si
SLV 3	6.4	458.29	-1017	-847	1749	0.452	0	0	0	0	40441	5685	1153	6837		3.91	Si
SLV 3	7.2	-725.5	-2622	-2184	995	0.452	0.0175	0	0	0	40441	5685	1153	6837		6.87	Si
SLV 15	6.4	-757.18	-7952	-6621	-3072	0.565	0.5618	-41854	16250	2556	40441	7106	1441	8547		2.78	Si
SLV 15	7.2	657.56	-6104	-5083	-443	0.565	0.5243	-32131	16250	2386	40441	7106	1441	8547		19.28	Si
SLV 11	6.4	-390.88	-4672	-3890	-2206	0.565	0.565	-24592	15335	2426	40441	7106	1441	8547		3.87	Si
SLV 11	7.2	508.99	-4571	-3806	120	0.565	0.5134	-24060	15229	2189	40441	7106	1441	8547		71.28	Si
SLV 13	6.4	-689.18	-8617	-7175	-2303	0.565	0.565	-45355	16250	2675	40441	7106	1441	8547		3.71	Si
SLV 13	7.2	349.17	-6354	-5291	-468	0.565	0.565	-33444	16250	2571	40441	7106	1441	8547		18.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	6359	-1006	58.53	134.98	2.31	Si
SLV 7	179667	0.38	7108	-1125	58.53	150.1	2.56	Si
SLV 4	179667	0.38	7492	-1185	58.53	157.8	2.7	Si
SLV 3	179667	0.38	8605	-1361	58.53	179.84	3.07	Si
SLV 12	179667	0.38	12514	-1980	58.53	254.45	4.35	Si
SLV 11	179667	0.38	13263	-2098	58.53	268.23	4.58	Si
SLV 2	179667	0.38	14774	-2337	58.53	295.56	5.05	Si
SLV 1	179667	0.38	15886	-2513	58.53	315.25	5.39	Si
SLV 16	179667	0.38	28008	-4431	58.53	506.55	8.65	Si
SLV 15	179667	0.38	29120	-4607	58.53	521.97	8.92	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-3978	-4468	-27	0.746	484.3	0.952	11.38048	5.26967	Si
SLV 14	-3873	-4584	-26	0.763	473.6	0.951	11.65283	5.26967	Si
SLV 15	-3609	-2643	-50	0.803	446.8	0.949	12.30653	5.26967	Si
SLV 16	-3504	-2758	-49	0.824	436.2	0.948	12.63002	5.26967	Si
SLV 9	-3552	-6434	9	0.824	441.1	0.948	12.63227	4.55335	Si
SLV 10	-3482	-6512	9	0.838	433.9	0.948	12.85453	4.55335	Si
SLV 5	-2833	-6278	16	0.991	368.2	0.94	15.32747	4.55335	Si
SLV 6	-2763	-6356	17	1.011	361.1	0.939	15.66129	4.55335	Si
SLV 11	-2322	-351	-68	1.145	316.6	0.932	17.85654	4.55335	Si
SLV 12	-2252	-428	-68	1.173	309.4	0.93	18.32625	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.547	SLU 65	Si
V_SLU	12.103	SLU 81	Si
PF_SLV	0.293	SLV 4	No
V_SLV	2.285	SLV 2	Si
PFFP_SLV	2.306	SLV 8	Si
R_SLV	2.16	SLV 13	Si

Maschio 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.113	-3.169	-5.438	-3.169	L5	L6	2.325	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 66	6.4	1957.93	-19650	-0.0000605	0.0003743	0.0035	2.325	16070.94	17967.62	17967.62	9.18	No	Si
SLU 66	7.2	1327.04	-17298	-0.0000501	0.0003743	0.0035	2.325	14860.85	16328.05	16328.05	12.3	No	Si
SLU 75	6.4	2110.54	-21824	-0.0000675	0.0003743	0.0035	2.325	17016.4	19536.26	19536.26	9.26	No	Si
SLU 75	7.2	1549.8	-19382	-0.0000571	0.0003743	0.0035	2.325	15942.54	17777.47	17777.47	11.47	No	Si
SLU 69	6.4	1970.64	-19837	-0.0000611	0.0003743	0.0035	2.325	16158.55	18100.06	18100.06	9.18	No	Si
SLU 69	7.2	1373.58	-17481	-0.0000509	0.0003743	0.0035	2.325	14962.08	16453.74	16453.74	11.98	No	Si
SLU 71	6.4	1941.06	-19513	-0.00006	0.0003743	0.0035	2.325	16005.35	17869.9	17869.9	9.21	No	Si
SLU 71	7.2	1348.78	-17174	-0.0000499	0.0003743	0.0035	2.325	14791.68	16243.23	16243.23	12.04	No	Si
SLU 64	6.4	1915.64	-19140	-0.0000589	0.0003743	0.0035	2.325	15824.67	17606.86	17606.86	9.19	No	Si
SLU 64	7.2	1255.69	-16808	-0.0000484	0.0003743	0.0035	2.325	14584.09	15993.56	15993.56	12.74	No	Si
SLU 74	6.4	2113.87	-21615	-0.000067	0.0003743	0.0035	2.325	16933	19384.1	19384.1	9.17	No	Si
SLU 74	7.2	1559.16	-19206	-0.0000567	0.0003743	0.0035	2.325	15857.21	17653.6	17653.6	11.32	No	Si
SLU 83	6.4	2151.13	-22133	-0.0000687	0.0003743	0.0035	2.325	17137.61	19763.12	19763.12	9.19	No	Si
SLU 83	7.2	1633.84	-19717	-0.0000586	0.0003743	0.0035	2.325	16102.14	18014.52	18014.52	11.03	No	Si
SLU 81	6.4	2138.42	-21947	-0.000068	0.0003743	0.0035	2.325	17065.02	19626.38	19626.38	9.18	No	Si
SLU 81	7.2	1587.3	-19533	-0.0000578	0.0003743	0.0035	2.325	16015.27	17884.61	17884.61	11.27	No	Si
SLU 77	6.4	2126.59	-21802	-0.0000676	0.0003743	0.0035	2.325	17007.76	19520.38	19520.38	9.18	No	Si
SLU 77	7.2	1605.71	-19389	-0.0000575	0.0003743	0.0035	2.325	15946.18	17782.8	17782.8	11.07	No	Si
SLU 79	6.4	2097.01	-21477	-0.0000665	0.0003743	0.0035	2.325	16876.92	19283.19	19283.19	9.2	No	Si
SLU 79	7.2	1580.9	-19082	-0.0000565	0.0003743	0.0035	2.325	15796.34	17566.39	17566.39	11.11	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	6.4	163.09	-4208	-0.0000105	0.0005615	0.0035	2.325		4993.68	4993.68	30.62		Si
SLV 12	7.2	2830.39	-4615	-0.0000299	0.0005615	0.0035	2.325		5433.81	5433.81	1.92		Si
SLD 16	6.4	849.89	-12639	-0.0000345	0.0005615	0.0035	2.325		13318.37	13318.37	15.67		Si
SLD 16	7.2	3512.28	-12176	-0.0000496	0.0005615	0.0035	2.325		12921.71	12921.71	3.68		Si
SLV 16	6.4	465.73	-11211	-0.0000288	0.0005615	0.0035	2.325		12100.39	12100.39	25.98		Si
SLV 16	7.2	4947.74	-11524	-0.0000571	0.0005615	0.0035	2.325		12366.18	12366.18	2.5		Si
SLV 4	6.4	1990.91	-12631	-0.0000414	0.0005615	0.0035	2.325		13310.82	13310.82	6.69		Si
SLV 4	7.2	-3311.65	-9349	-0.0000415	0.0005615	0.0035	2.325		11592.6	11592.6	3.5		Si
SLV 14	6.4	1152.57	-17537	-0.0000484	0.0005615	0.0035	2.325		17608.33	17608.33	15.28		Si
SLV 14	7.2	4406.62	-16761	-0.0000667	0.0005615	0.0035	2.325		16916.91	16916.91	3.84		Si
SLD 11	6.4	606.07	-8246	-0.0000226	0.0005615	0.0035	2.325		9243.49	9243.49	15.25		Si
SLD 11	7.2	2481.77	-7979	-0.0000331	0.0005615	0.0035	2.325		8970.87	8970.87	3.61		Si
SLV 13	6.4	937.45	-16799	-0.0000452	0.0005615	0.0035	2.325		16950.52	16950.52	18.08		Si
SLV 13	7.2	5276.49	-16522	-0.0000716	0.0005615	0.0035	2.325		16704.83	16704.83	3.17		Si
SLV 11	6.4	18.27	-3711	-0.0000086	0.0005615	0.0035	2.325		4452.39	4452.39	243.74		Si
SLV 11	7.2	3416.01	-4454	-0.0000404	0.0005615	0.0035	2.325		5260.07	5260.07	1.54		Si
SLV 15	6.4	250.62	-10473	-0.0000257	0.0005615	0.0035	2.325		11470.19	11470.19	45.77		Si
SLV 15	7.2	5817.61	-11285	-0.0000637	0.0005615	0.0035	2.325		12163.33	12163.33	2.09		Si
SLD 15	6.4	713.42	-12171	-0.0000326	0.0005615	0.0035	2.325		12917.41	12917.41	18.11		Si
SLD 15	7.2	4064.13	-12025	-0.0000526	0.0005615	0.0035	2.325		12792.23	12792.23	3.15		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	6.4	2110.54	-21824	-18173	2685	2.325	2.325	-27915	10666	6944	40441	19494	5929	25423	No	9.47	Si
SLU 75	7.2	1549.8	-19382	-16139	2034	2.325	2.325	-24792	10250	6673	40441	19494	5929	25423	No	12.5	Si
SLU 82	6.4	2135.08	-22155	-18449	2685	2.325	2.325	-28339	10723	7009	40441	19494	5929	25423	No	9.47	Si
SLU 82	7.2	1577.94	-19709	-16412	2047	2.325	2.325	-25210	10306	6709	40441	19494	5929	25423	No	12.42	Si
SLU 68	6.4	1922.8	-19673	-16382	2705	2.325	2.325	-25164	10300	6705	40441	19494	5929	25423	No	9.4	Si
SLU 68	7.2	1286.63	-17284	-14392	2031	2.325	2.325	-22108	9892	6440	40441	19494	5929	25423	No	12.52	Si
SLU 73	6.4	2066.03	-21452	-17863	2730	2.325	2.325	-27439	10603	6903	40441	19494	5929	25423	No	9.31	Si
SLU 73	7.2	1472.21	-19008	-15829	2067	2.325	2.325	-24314	10186	6631	40441	19494	5929	25423	No	12.3	Si
SLU 76	6.4	2078.74	-21638	-18018	2692	2.325	2.325	-27678	10635	6923	40441	19494	5929	25423	No	9.44	Si
SLU 76	7.2	1518.76	-19192	-15981	2030	2.325	2.325	-24549	10218	6652	40441	19494	5929	25423	No	12.52	Si
SLU 78	6.4	2123.25	-22010	-18328	2647	2.325	2.325	-28154	10698	6977	40441	19494	5929	25423	No	9.6	Si
SLU 78	7.2	1596.35	-19565	-16292	1996	2.325	2.325	-25026	10281	6693	40441	19494	5929	25423	No	12.73	Si
SLU 84	6.4	2147.8	-22341	-18604	2647	2.325	2.325	-28577	10755	7050	40441	19494	5929	25423	No	9.6	Si
SLU 84	7.2	1624.48	-19892	-16565	2010	2.325	2.325	-25445	10337	6729	40441	19494	5929	25423	No	12.65	Si
SLU 67	6.4	1954.6	-19859	-16537	2698	2.325	2.325	-25402	10331	6726	40441	19494	5929	25423	No	9.42	Si
SLU 67	7.2	1317.68	-17474	-14551	2034	2.325	2.325	-22351	9925	6461	40441	19494	5929	25423	No	12.5	Si
SLU 70	6.4	1967.31	-20045	-16692	2661	2.325	2.325	-25640	10363	6746	40441	19494	5929	25423	No	9.56	Si
SLU 70	7.2	1364.22	-17657	-14703	1997	2.325	2.325	-22586	9956	6481	40441	19494	5929	25423	No	12.73	Si
SLU 65	6.4	1910.08	-19487	-16227	2743	2.325	2.325	-24926	10268	6684	40441	19494	5929	25423	No	9.27	Si
SLU 65	7.2	1240.09	-17101	-14240	2068	2.325	2.325	-21874	9861	6419	40441	19494	5929	25423	No	12.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	6.4	2078.47	-16790	-13981	8150	2.325	2.325	-21476	14712	9577	40441	29241	5929	35170		4.32	Si
SLD 1	7.2	-1547.43	-13695	-11404	6162	2.325	2.325	-17518	13920	9062	40441	29241	5929	35170		5.71	Si
SLV 2	6.4	2677.74	-18956	-15785	13901	2.325	2.325	-24247	15266	9938	40441	29241	5929	35170		2.53	Si
SLV 2	7.2	-3852.76	-14586	-12146	10493	2.325	2.325	-18657	14148	9210	40441	29241	5929	35170		3.35	Si
SLV 1	6.4	2462.63	-18218	-15170	11750	2.325	2.325	-23303	15077	9815	40441	29241	5929	35170		2.99	Si
SLV 1	7.2	-2982.89	-14347	-11947	8865	2.325	2.325	-18351	14087	9171	40441	29241	5929	35170		3.97	Si
SLV 3	6.4	1775.79	-11893	-9903	8360	2.325	2.325	-15212	13459	8762	40441	29241	5929	35170		4.21	Si
SLV 3	7.2	-2441.77	-9110	-7586	6612	2.325	2.325	-11653	12747	8299	40441	29241	5929	35170		5.32	Si
SLD 2	6.4	2214.94	-17258	-14371	9515	2.325	2.325	-22075	14832	9655	40441	29241	5929	35170		3.7	Si
SLD 2	7.2	-2099.28	-13847	-11530	7195	2.325	2.325	-17712	13959	9087	40441	29241	5929	35170		4.89	Si
SLV 15	6.4	250.62	-10473	-8721	-9925	2.325	2.325	-13397	13096	8525	40441	29241	5929	35170		3.54	Si
SLV 15	7.2	5817.61	-11285	-9398	-7460	2.325	1.941	-14436	13304	7230	40441	29241	5929	35170		4.71	Si
SLV 6	6.4	2910.09	-25718	-21416	11104	2.325	2.325	-32897	16250	10579	40441	29241	5929	35170		3.17	Si
SLV 6	7.2	-1451.16	-21417	-17834	7929	2.325	2.325	-27395	15896	10348	40441	29241	5929	35170		4.44	Si
SLV 4	6.4	1990.91	-12631	-10518	10511	2.325	2.325	-16156	13648	8885	40441	29241	5929	35170		3.35	Si
SLV 4	7.2	-3311.65	-9349	-7785	8240	2.325	2.325	-11959	12808	8338	40441	29241	5929	35170		4.27	Si
SLV 16	6.4	465.73	-11211	-9336	-7774	2.325	2.325	-14341	13285	8648	40441	29241	5929	35170		4.52	Si
SLV 16	7.2	4947.74	-11524	-9597	-5832	2.325	2.1995	-14741	13365	8231	40441	29241	5929	35170		6.03	Si
SLV 5	6.4	2765.27	-25221	-21002	9656	2.325	2.325	-32262	16250	10579	40441	29241	5929	35170		3.64	Si
SLV 5	7.2	-865.54	-21256	-17700	6833	2.325	2.325	-27190	15855	10321	40441	29241	5929	35170		5.15	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.38	6452	-4201	240.85	563.23	2.34	Si
SLV 11	179667	0.38	6547	-4262	240.85	571.1	2.37	Si
SLV 8	179667	0.38	6993	-4552	240.85	608.12	2.52	Si
SLV 12	179667	0.38	7087	-4614	240.85	615.94	2.56	Si
SLV 3	179667	0.38	16506	-10745	240.85	1341.77	5.57	Si
SLV 15	179667	0.38	16821	-10950	240.85	1364.2	5.66	Si
SLV 4	179667	0.38	17308	-11268	240.85	1398.7	5.81	Si
SLV 16	179667	0.38	17623	-11473	240.85	1420.83	5.9	Si
SLV 1	179667	0.38	25330	-16490	240.85	1925.69	8	Si
SLV 13	179667	0.38	25645	-16695	240.85	1944.8	8.07	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-17252	-20740	-646	0.686	2082.7	0.954	10.44513	4.55335	Si
SLV 9	-17122	-20576	-646	0.69	2069.5	0.954	10.51471	4.55335	Si
SLV 6	-16714	-19976	-525	0.711	2028	0.953	10.83805	4.55335	Si
SLV 5	-16584	-19812	-525	0.715	2014.8	0.953	10.91254	4.55335	Si
SLV 14	-13582	-15640	-381	0.854	1710.1	0.946	13.12914	5.26967	Si
SLV 13	-13389	-15396	-381	0.864	1690.5	0.945	13.29324	5.26967	Si
SLV 2	-11788	-13093	25	0.985	1528.3	0.94	15.23232	5.26967	Si
SLV 1	-11595	-12849	25	0.999	1508.7	0.939	15.44959	5.26967	Si
SLV 16	-9871	-10470	-31	1.136	1334.4	0.933	17.703	5.26967	Si
SLV 15	-9678	-10226	-31	1.154	1314.9	0.932	17.99945	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.17	SLU 74	Si
V_SLU	9.268	SLU 65	Si
PF_SLV	1.54	SLV 11	Si
V_SLV	2.53	SLV 2	Si
PFFP_SLV	2.339	SLV 7	Si
R_SLV	2.294	SLV 10	Si

Maschio 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-2.213	-3.169	L5	L6	2.09	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	5.3	114.3	-14449	-0.0000393	0.0003743	0.0035	2.09	11437.71	12585.97	12585.97	110.11	No	Si
SLU 40	7.1	1282.52	-15355	-0.0000512	0.0003743	0.0035	2.09	11910.43	13120.89	13120.89	10.23	No	Si
SLU 35	5.3	112.68	-14240	-0.0000387	0.0003743	0.0035	2.09	11324.36	12463.69	12463.69	110.61	No	Si
SLU 35	7.1	1249.17	-15075	-0.0000501	0.0003743	0.0035	2.09	11767.55	12954.71	12954.71	10.37	No	Si
SLU 41	5.3	43.96	-14438	-0.0000387	0.0003743	0.0035	2.09	11431.31	12579.01	12579.01	286.16	No	Si
SLU 41	7.1	1334.07	-15479	-0.000052	0.0003743	0.0035	2.09	11973.21	13195.22	13195.22	9.89	No	Si
SLU 81	5.3	162.88	-16927	-0.0000468	0.0003743	0.0035	2.09	12663.15	14069.71	14069.71	86.38	No	Si
SLU 81	7.1	1418.88	-17716	-0.0000593	0.0003743	0.0035	2.09	13008.2	14556.24	14556.24	10.26	No	Si
SLU 83	5.3	161.09	-17066	-0.0000472	0.0003743	0.0035	2.09	12725.63	14155.04	14155.04	87.87	No	Si
SLU 83	7.1	1437.13	-17858	-0.0000599	0.0003743	0.0035	2.09	13068.18	14644.87	14644.87	10.19	No	Si
SLU 42	5.3	112.51	-14589	-0.0000397	0.0003743	0.0035	2.09	11512.29	12667.62	12667.62	112.59	No	Si
SLU 42	7.1	1300.77	-15497	-0.0000518	0.0003743	0.0035	2.09	11982.2	13205.94	13205.94	10.15	No	Si
SLU 37	5.3	102.12	-14020	-0.000038	0.0003743	0.0035	2.09	11203.62	12335.78	12335.78	120.8	No	Si
SLU 37	7.1	1230.76	-14826	-0.0000493	0.0003743	0.0035	2.09	11637.91	12807.39	12807.39	10.41	No	Si
SLU 84	5.3	229.65	-17217	-0.0000482	0.0003743	0.0035	2.09	12792.67	14247.91	14247.91	62.04	No	Si
SLU 84	7.1	1403.82	-17876	-0.0000597	0.0003743	0.0035	2.09	13075.68	14656.04	14656.04	10.44	No	Si
SLU 32	5.3	114.47	-14101	-0.0000383	0.0003743	0.0035	2.09	11248.08	12382.61	12382.61	108.18	No	Si
SLU 32	7.1	1230.92	-14933	-0.0000496	0.0003743	0.0035	2.09	11693.66	12870.36	12870.36	10.46	No	Si
SLU 39	5.3	45.74	-14298	-0.0000384	0.0003743	0.0035	2.09	11356	12497.61	12497.61	273.21	No	Si
SLU 39	7.1	1315.83	-15337	-0.0000514	0.0003743	0.0035	2.09	11901.34	13110.2	13110.2	9.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	5.3	-4560.75	-1628	-0.0015284	0.0005615	0.0035	1.672		2780.09	2780.09	0.61		No
SLV 11	7.1	4820.76	-11281	-0.0000668	0.0005615	0.0035	2.09		10787.28	10787.28	2.24		Si
SLV 12	5.3	-3964.33	-2103	-0.0009156	0.0005615	0.0035	1.672		3255.05	3255.05	0.82		No
SLV 12	7.1	4193.24	-10688	-0.0000596	0.0005615	0.0035	2.09		10343.12	10343.12	2.47		Si
SLD 11	5.3	-2628.17	-5753	-0.0000349	0.0005615	0.0035	2.09		6789.2	6789.2	2.58		Si
SLD 11	7.1	3224.89	-11516	-0.0000541	0.0005615	0.0035	2.09		10964.61	10964.61	3.4		Si
SLV 1	5.3	4288.35	-13615	-0.0000682	0.0005615	0.0035	2.09		12561.65	12561.65	2.93		Si
SLV 1	7.1	-3478.95	-7395	-0.0000464	0.0005615	0.0035	2.09		8307.62	8307.62	2.39		Si
SLV 8	5.3	-1905.54	-1749	-0.0001363	0.0005615	0.0035	1.672		2901.45	2901.45	1.52		Si
SLV 8	7.1	1795.67	-7478	-0.0000324	0.0005615	0.0035	2.09		7541.42	7541.42	4.2		Si
SLV 16	5.3	-3780.58	-9560	-0.0000533	0.0005615	0.0035	2.09		10248	10248	2.71		Si
SLV 16	7.1	5084.2	-15865	-0.000081	0.0005615	0.0035	2.09		14310.4	14310.4	2.81		Si
SLV 15	5.3	-4666.49	-8854	-0.0000623	0.0005615	0.0035	2.09		9623.39	9623.39	2.06		Si
SLV 15	7.1	6016.32	-16746	-0.0000911	0.0005615	0.0035	2.09		15004.63	15004.63	2.49		Si
SLV 2	5.3	5174.26	-14320	-0.0000773	0.0005615	0.0035	2.09		13105.86	13105.86	2.53		Si
SLV 2	7.1	-4411.06	-6515	-0.0000646	0.0005615	0.0035	1.672		7499.05	7499.05	1.7		Si
SLV 7	5.3	-2501.96	-1274	-0.0005216	0.0005615	0.0035	1.672		2424.37	2424.37	0.97		No
SLV 7	7.1	2423.19	-8071	-0.0000387	0.0005615	0.0035	2.09		8081.34	8081.34	3.34		Si
SLV 4	5.3	3082.04	-8381	-0.0000445	0.0005615	0.0035	2.09		8363.47	8363.47	2.71		Si
SLV 4	7.1	-2907.71	-5164	-0.0000383	0.0005615	0.0035	2.09		6226.36	6226.36	2.14		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	5.3	43.96	-14438	-12022	-2500	2.09	2.09	-20544	9684	5667	40441	17524	5330	22853	No	9.14	Si
SLU 41	7.1	1334.07	-15479	-12890	-2499	2.09	2.09	-22026	9881	5783	40441	17524	5330	22853	No	9.15	Si
SLU 79	5.3	219.25	-16649	-13864	-2457	2.09	2.09	-23690	10103	5912	40441	17524	5330	22853	No	9.3	Si
SLU 79	7.1	1333.81	-17205	-14327	-2455	2.09	2.09	-24482	10209	5974	40441	17524	5330	22853	No	9.31	Si
SLU 42	5.3	112.51	-14589	-12148	-2372	2.09	2.09	-20759	9712	5684	40441	17524	5330	22853	No	9.63	Si
SLU 42	7.1	1300.77	-15497	-12905	-2359	2.09	2.09	-22051	9885	5785	40441	17524	5330	22853	No	9.69	Si
SLU 77	5.3	229.81	-16869	-14047	-2478	2.09	2.09	-24003	10145	5937	40441	17524	5330	22853	No	9.22	Si
SLU 77	7.1	1352.22	-17454	-14534	-2476	2.09	2.09	-24836	10256	6002	40441	17524	5330	22853	No	9.23	Si
SLU 39	5.3	45.74	-14298	-11906	-2487	2.09	2.09	-20346	9657	5651	40441	17524	5330	22853	No	9.19	Si
SLU 39	7.1	1315.83	-15337	-12771	-2486	2.09	2.09	-21823	9854	5767	40441	17524	5330	22853	No	9.19	Si
SLU 82	5.3	231.43	-17078	-14221	-2542	2.09	2.09	-24301	10185	5960	40441	17524	5330	22853	No	8.99	Si
SLU 82	7.1	1385.57	-17733	-14767	-2529	2.09	2.09	-25234	10309	6033	40441	17524	5330	22853	No	9.03	Si
SLU 74	5.3	231.6	-16729	-13931	-2465	2.09	2.09	-23805	10118	5921	40441	17524	5330	22853	No	9.27	Si
SLU 74	7.1	1333.97	-17312	-14416	-2463	2.09	2.09	-24633	10229	5986	40441	17524	5330	22853	No	9.28	Si
SLU 83	5.3	161.09	-17066	-14211	-2684	2.09	2.09	-24284	10182	5959	40441	17524	5330	22853	No	8.52	Si
SLU 83	7.1	1437.13	-17858	-14871	-2682	2.09	2.09	-25411	10333	6047	40441	17524	5330	22853	No	8.52	Si
SLU 84	5.3	229.65	-17217	-14337	-2555	2.09	2.09	-24499	10211	5975	40441	17524	5330	22853	No	8.94	Si
SLU 84	7.1	1403.82	-17876	-14886	-2542	2.09	2.09	-25437	10336	6049	40441	17524	5330	22853	No	8.99	Si
SLU 81	5.3	162.88	-16927	-14095	-2671	2.09	2.09	-24086	10156	5943	40441	17524	5330	22853	No	8.56	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	7.1	1418.88	-17716	-14752	-2669	2.09	2.09	-25208	10306	6031	40441	17524	5330	22853	No	8.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	5.3	5068.52	-21546	-17942	8907	2.09	2.09	-30659	16250	9510	40441	26285	5330	31615		3.55	Si
SLV 6	7.1	-3215.51	-11980	-9976	8780	2.09	2.09	-17047	13826	8091	40441	26285	5330	31615		3.6	Si
SLV 16	5.3	-3780.58	-9560	-7960	-10095	2.09	1.9486	-14687	13354	7286	40441	26285	5330	31615		3.13	Si
SLV 16	7.1	5084.2	-15865	-13211	-9572	2.09	2.09	-22575	14932	8738	40441	26285	5330	31615		3.3	Si
SLD 11	5.3	-2628.17	-5753	-4790	-7713	2.09	1.7644	-9739	12365	6109	40441	26285	5330	31615		4.1	Si
SLD 11	7.1	3224.89	-11516	-9590	-7628	2.09	2.09	-16387	13694	8014	40441	26285	5330	31615		4.14	Si
SLV 2	5.3	5174.26	-14320	-11925	9047	2.09	2.051	-20377	14492	8323	40441	26285	5330	31615		3.49	Si
SLV 2	7.1	-4411.06	-6515	-5425	8527	1.672	1.1038	0	0	0	40441	21028	4264	25292		2.97	Si
SLV 15	5.3	-4666.49	-8854	-7373	-12025	2.09	1.5539	-17087	13834	6019	40441	26285	5330	31615		2.63	Si
SLV 15	7.1	6016.32	-16746	-13944	-11502	2.09	2.0572	-23828	15182	8745	40441	26285	5330	31615		2.75	Si
SLD 15	5.3	-2835.46	-9993	-8321	-8106	2.09	2.09	-14219	13260	7760	40441	26285	5330	31615		3.9	Si
SLD 15	7.1	4091.51	-14944	-12444	-7770	2.09	2.09	-21265	14670	8585	40441	26285	5330	31615		4.07	Si
SLV 12	5.3	-3964.33	-2103	-1751	-10586	1.672	0	0	0	0	40441	21028	4264	25292		2.39	Si
SLV 12	7.1	4193.24	-10688	-8900	-10456	2.09	1.958	-15209	13458	7379	40441	26285	5330	31615		3.02	Si
SLV 8	5.3	-1905.54	-1749	-1457	-6203	1.672	0	0	0	0	40441	21028	4264	25292		4.08	Si
SLV 8	7.1	1795.67	-7478	-6227	-6392	2.09	2.09	-10641	12545	7341	40441	26285	5330	31615		4.95	Si
SLV 7	5.3	-2501.96	-1274	-1061	-7502	1.672	0	0	0	0	40441	21028	4264	25292		3.37	Si
SLV 7	7.1	2423.19	-8071	-6720	-7691	2.09	2.09	-11484	12713	7440	40441	26285	5330	31615		4.11	Si
SLV 11	5.3	-4560.75	-1628	-1356	-11885	1.672	0	0	0	0	40441	21028	4264	25292		2.13	Si
SLV 11	7.1	4820.76	-11281	-9394	-11755	2.09	1.853	-16052	13627	7070	40441	26285	5330	31615		2.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	9270	-5425	216.5	713.35	3.29	Si
SLV 7	179667	0.38	9559	-5594	216.5	734.16	3.39	Si
SLV 4	179667	0.38	11364	-6650	216.5	861.77	3.98	Si
SLV 3	179667	0.38	11795	-6902	216.5	891.69	4.12	Si
SLV 12	179667	0.38	12834	-7511	216.5	963.12	4.45	Si
SLV 11	179667	0.38	13124	-7680	216.5	982.83	4.54	Si
SLV 2	179667	0.38	16785	-9822	216.5	1224	5.65	Si
SLV 1	179667	0.38	17215	-10074	216.5	1251.42	5.78	Si
SLV 16	179667	0.38	23247	-13604	216.5	1614.64	7.46	Si
SLV 15	179667	0.38	23677	-13856	216.5	1639.07	7.57	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-14109	-16672	95	0.773	1730	0.951	11.81149	5.26967	Si
SLV 14	-13654	-16765	96	0.794	1683.9	0.95	12.15426	5.26967	Si
SLV 15	-12804	-11482	330	0.822	1597.6	0.947	12.61091	5.26967	Si
SLV 16	-12349	-11575	330	0.847	1551.5	0.946	13.01275	5.26967	Si
SLV 9	-13427	-20388	-331	0.79	1660.8	0.949	12.09816	4.55335	Si
SLV 10	-13121	-20451	-331	0.805	1629.7	0.948	12.34442	4.55335	Si
SLV 5	-11602	-18371	-462	0.882	1475.6	0.944	13.58503	4.55335	Si
SLV 6	-11295	-18433	-462	0.902	1444.6	0.943	13.90261	4.55335	Si
SLV 1	-8024	-9948	-342	1.199	1113.8	0.929	18.75896	5.26967	Si
SLV 11	-9078	-3090	450	1.077	1220.2	0.934	16.7668	4.55335	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.891	SLU 41	Si
V_SLU	8.516	SLU 83	Si
PF_SLV	0.61	SLV 11	No
V_SLV	2.128	SLV 11	Si
PFFP_SLV	3.295	SLV 8	Si
R_SLV	2.241	SLV 13	Si

Maschio 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.853	5.951	-5.158	5.951	L5	L6	2.305	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	5.3	-674.67	-23387	-0.0000628	0.0003743	0.0035	2.305	17360.18	21354.09	21354.09	31.65	No	Si
SLU 83	7.1	-1228.53	-24824	-0.0000707	0.0003743	0.0035	2.305	17801.24	22088.22	22088.22	17.98	No	Si
SLU 81	5.3	-673.06	-22552	-0.0000605	0.0003743	0.0035	2.305	17070.67	20943.38	20943.38	31.12	No	Si
SLU 81	7.1	-1303.68	-23951	-0.0000687	0.0003743	0.0035	2.305	17542.11	21638.46	21638.46	16.6	No	Si
SLU 18	5.3	-487.23	-16495	-0.000043	0.0003743	0.0035	2.305	14238.51	17114.97	17114.97	35.13	No	Si
SLU 18	7.1	-985.51	-17507	-0.000049	0.0003743	0.0035	2.305	14800.93	17850.4	17850.4	18.11	No	Si
SLU 64	5.3	-423.32	-20421	-0.000053	0.0003743	0.0035	2.305	16220.81	19868.82	19868.82	46.94	No	Si
SLU 64	7.1	-1142.53	-21369	-0.0000604	0.0003743	0.0035	2.305	16618.64	20381.22	20381.22	17.84	No	Si
SLU 61	5.3	-538.21	-19724	-0.0000519	0.0003743	0.0035	2.305	15908.29	19395.98	19395.98	36.04	No	Si
SLU 61	7.1	-1175.37	-20789	-0.0000591	0.0003743	0.0035	2.305	16379.15	20100.68	20100.68	17.1	No	Si
SLU 73	5.3	-664	-21630	-0.0000579	0.0003743	0.0035	2.305	16722.6	20503.28	20503.28	30.88	No	Si
SLU 73	7.1	-1221.2	-22896	-0.0000652	0.0003743	0.0035	2.305	17192.93	21111.24	21111.24	17.29	No	Si
SLU 43	5.3	-248.96	-17762	-0.0000448	0.0003743	0.0035	2.305	14937.25	18034.93	18034.93	72.44	No	Si
SLU 43	7.1	-1034.71	-18375	-0.0000516	0.0003743	0.0035	2.305	15255.29	18476.64	18476.64	17.86	No	Si
SLU 60	5.3	-498.7	-19893	-0.0000521	0.0003743	0.0035	2.305	15985.86	19510.21	19510.21	39.12	No	Si
SLU 60	7.1	-1195.85	-20958	-0.0000597	0.0003743	0.0035	2.305	16449.95	20191.17	20191.17	16.88	No	Si
SLU 82	5.3	-712.57	-22382	-0.0000603	0.0003743	0.0035	2.305	17008.9	20861.4	20861.4	29.28	No	Si
SLU 82	7.1	-1283.19	-23783	-0.0000681	0.0003743	0.0035	2.305	17489	21553.06	21553.06	16.8	No	Si
SLU 52	5.3	-489.63	-18971	-0.0000496	0.0003743	0.0035	2.305	15551.82	18894.88	18894.88	38.59	No	Si
SLU 52	7.1	-1113.37	-19902	-0.0000562	0.0003743	0.0035	2.305	15989.93	19516.27	19516.27	17.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	5.3	-2420.97	-6980	-0.0000308	0.0005615	0.0035	2.305		9103.65	9103.65	3.76		Si
SLD 10	7.1	324.51	-7204	-0.0000186	0.0005615	0.0035	2.305		8094.84	8094.84	24.94		Si
SLV 10	5.3	-3801.84	-923	-0.0008887	0.0005615	0.0035	1.844		2606.39	2606.39	0.69		No
SLV 10	7.1	1106.14	-879	-0.0003165	0.0005615	0.0035	2.305		1274.55	1274.55	1.15		Si
SLD 9	5.3	-1992.3	-7362	-0.0000291	0.0005615	0.0035	2.305		9491.97	9491.97	4.76		Si
SLD 9	7.1	-2.32	-8080	-0.0000187	0.0005615	0.0035	2.305		10210.08	10210.08	4395.84		Si
SLV 1	5.3	2412.95	-11543	-0.0000419	0.0005615	0.0035	2.305		12246.92	12246.92	5.08		Si
SLV 1	7.1	-3198.07	-16179	-0.0000584	0.0005615	0.0035	2.305		17840.4	17840.4	5.58		Si
SLV 14	5.3	-4432.63	-10939	-0.000053	0.0005615	0.0035	2.305		13028.38	13028.38	2.94		Si
SLV 14	7.1	2056.88	-8128	-0.0000313	0.0005615	0.0035	2.305		9035.47	9035.47	4.39		Si
SLV 13	5.3	-3383.37	-11873	-0.0000487	0.0005615	0.0035	2.305		13930.87	13930.87	4.12		Si
SLV 13	7.1	1256.88	-10270	-0.0000316	0.0005615	0.0035	2.305		11164.64	11164.64	8.88		Si
SLD 14	5.3	-2910.83	-12842	-0.0000482	0.0005615	0.0035	2.305		14826.25	14826.25	5.09		Si
SLD 14	7.1	978.44	-11307	-0.0000324	0.0005615	0.0035	2.305		12047.5	12047.5	12.31		Si
SLV 5	5.3	-1356.55	-1452	-0.0000229	0.0005615	0.0035	1.844		3195.84	3195.84	2.36		Si
SLV 5	7.1	-768.92	-4093	-0.000014	0.0005615	0.0035	2.305		6079.33	6079.33	7.91		Si
SLV 6	5.3	-2062.94	-824	-0.0003309	0.0005615	0.0035	1.844		2495.96	2495.96	1.21		Si
SLV 6	7.1	-230.35	-2651	-0.0000074	0.0005615	0.0035	2.305		4516.43	4516.43	19.61		Si
SLV 9	5.3	-3095.45	-1551	-0.0004381	0.0005615	0.0035	1.844		3305.45	3305.45	1.07		Si
SLV 9	7.1	567.56	-2321	-0.0000087	0.0005615	0.0035	2.305		2886.61	2886.61	5.09		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	5.3	-664	-21630	-18012	2853	2.305	2.305	-27908	10665	6883	40441	19326	5878	25204	No	8.83	Si
SLU 73	7.1	-1221.2	-22896	-19066	2857	2.305	2.305	-29541	10833	7155	40441	19326	5878	25204	No	8.82	Si
SLU 82	5.3	-712.57	-22382	-18638	2947	2.305	2.305	-28878	10795	7041	40441	19326	5878	25204	No	8.55	Si
SLU 82	7.1	-1283.19	-23783	-19804	2951	2.305	2.305	-30685	10833	7352	40441	19326	5878	25204	No	8.54	Si
SLU 78	5.3	-671.65	-23618	-19667	2844	2.305	2.305	-30473	10833	7316	40441	19326	5878	25204	No	8.86	Si
SLU 78	7.1	-1103.32	-24979	-20800	2848	2.305	2.305	-32228	10833	7618	40441	19326	5878	25204	No	8.85	Si
SLU 79	5.3	-601.35	-23582	-19637	2870	2.305	2.305	-30427	10833	7308	40441	19326	5878	25204	No	8.78	Si
SLU 79	7.1	-1105.05	-24922	-20753	2874	2.305	2.305	-32155	10833	7605	40441	19326	5878	25204	No	8.77	Si
SLU 74	5.3	-630.53	-22953	-19113	2895	2.305	2.305	-29614	10833	7168	40441	19326	5878	25204	No	8.71	Si
SLU 74	7.1	-1198.95	-24275	-20214	2899	2.305	2.305	-31320	10833	7461	40441	19326	5878	25204	No	8.69	Si
SLU 84	5.3	-714.18	-23217	-19333	2928	2.305	2.305	-29956	10833	7227	40441	19326	5878	25204	No	8.61	Si
SLU 84	7.1	-1208.05	-24655	-20531	2932	2.305	2.305	-31811	10833	7546	40441	19326	5878	25204	No	8.6	Si
SLU 81	5.3	-673.06	-22552	-18779	2979	2.305	2.305	-29097	10824	7079	40441	19326	5878	25204	No	8.46	Si
SLU 81	7.1	-1303.68	-23951	-19945	2983	2.305	2.305	-30903	10833	7390	40441	19326	5878	25204	No	8.45	Si
SLU 83	5.3	-674.67	-23387	-19474	2961	2.305	2.305	-30174	10833	7264	40441	19326	5878	25204	No	8.51	Si
SLU 83	7.1	-1228.53	-24824	-20671	2965	2.305	2.305	-32028	10833	7583	40441	19326	5878	25204	No	8.5	Si
SLU 75	5.3	-670.05	-22783	-18972	2862	2.305	2.305	-29396	10833	7130	40441	19326	5878	25204	No	8.81	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7.1	-1178.46	-24106	-20073	2866	2.305	2.305	-31102	10833	7424	40441	19326	5878	25204	No	8.79	Si
SLU 77	5.3	-632.14	-23788	-19808	2876	2.305	2.305	-30692	10833	7353	40441	19326	5878	25204	No	8.76	Si
SLU 77	7.1	-1123.8	-25147	-20940	2881	2.305	2.305	-32445	10833	7655	40441	19326	5878	25204	No	8.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	5.3	2412.95	-11543	-9612	7607	2.305	2.305	-14894	13395	8645	40441	28989	5878	34867		4.58	Si
SLV 1	7.1	-3198.07	-16179	-13472	7228	2.305	2.305	-20874	14591	9417	40441	28989	5878	34867		4.82	Si
SLV 8	5.3	2420.93	-29549	-24606	4682	2.305	2.305	-38125	16250	10488	40441	28989	5878	34867		7.45	Si
SLV 8	7.1	-2342.36	-30272	-25208	4433	2.305	2.305	-39058	16250	10488	40441	28989	5878	34867		7.87	Si
SLD 3	5.3	2236.31	-18259	-15204	6227	2.305	2.305	-23558	15128	9764	40441	28989	5878	34867		5.6	Si
SLD 3	7.1	-2753.24	-21285	-17725	5936	2.305	2.305	-27463	15909	10268	40441	28989	5878	34867		5.87	Si
SLV 3	5.3	3758.11	-20161	-16788	8598	2.305	2.305	-26012	15619	10081	40441	28989	5878	34867		4.06	Si
SLV 3	7.1	-3831.68	-24465	-20372	8143	2.305	2.305	-31565	16250	10488	40441	28989	5878	34867		4.28	Si
SLD 4	5.3	1570.64	-17666	-14711	5085	2.305	2.305	-22794	14975	9665	40441	28989	5878	34867		6.86	Si
SLD 4	7.1	-2245.71	-19927	-16593	4793	2.305	2.305	-25710	15559	10042	40441	28989	5878	34867		7.27	Si
SLV 7	5.3	3127.32	-30178	-25129	5895	2.305	2.305	-38936	16250	10488	40441	28989	5878	34867		5.92	Si
SLV 7	7.1	-2880.94	-31714	-26408	5645	2.305	2.305	-40918	16250	10488	40441	28989	5878	34867		6.18	Si
SLV 2	5.3	1363.69	-10610	-8835	5807	2.305	2.305	-13689	13154	8490	40441	28989	5878	34867		6	Si
SLV 2	7.1	-2398.07	-14037	-11689	5427	2.305	2.305	-18111	14039	9061	40441	28989	5878	34867		6.42	Si
SLD 2	5.3	781.31	-12619	-10508	4502	2.305	2.305	-16281	13673	8824	40441	28989	5878	34867		7.74	Si
SLD 2	7.1	-1873.27	-15073	-12551	4256	2.305	2.305	-19448	14306	9233	40441	28989	5878	34867		8.19	Si
SLD 1	5.3	1446.98	-13211	-11001	5644	2.305	2.305	-17045	13826	8923	40441	28989	5878	34867		6.18	Si
SLD 1	7.1	-2380.8	-16432	-13683	5398	2.305	2.305	-21201	14657	9460	40441	28989	5878	34867		6.46	Si
SLV 4	5.3	2708.85	-19227	-16011	6798	2.305	2.305	-24807	15378	9925	40441	28989	5878	34867		5.13	Si
SLV 4	7.1	-3031.68	-22323	-18589	6342	2.305	2.305	-28802	16177	10441	40441	28989	5878	34867		5.5	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.38	0	-792	238.78	0	0	No, e>t/2
SLV 9	179667	0.38	3032	-1957	238.78	268.55	1.12	Si
SLV 6	179667	0.38	3123	-2016	238.78	276.4	1.16	Si
SLV 5	179667	0.38	4928	-3180	238.78	430.88	1.8	Si
SLV 14	179667	0.38	14320	-9242	238.78	1172.59	4.91	Si
SLV 13	179667	0.38	17001	-10973	238.78	1365.14	5.72	Si
SLV 2	179667	0.38	20638	-13320	238.78	1612.78	6.75	Si
SLV 1	179667	0.38	23319	-15050	238.78	1785.28	7.48	Si
SLV 16	179667	0.38	27813	-17951	238.78	2055.41	8.61	Si
SLV 15	179667	0.38	30494	-19681	238.78	2205.16	9.24	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-23202	-30215	746	0.526	2684.9	0.964	7.92522	4.55335	Si
SLV 11	-22301	-29764	766	0.543	2593.2	0.963	8.19401	4.55335	Si
SLV 8	-22068	-29347	744	0.549	2569.5	0.962	8.28344	4.55335	Si
SLV 12	-21166	-28895	764	0.567	2477.8	0.961	8.58008	4.55335	Si
SLV 3	-18742	-20646	197	0.656	2231.3	0.957	9.96244	5.26967	Si
SLV 4	-17058	-19355	195	0.711	2060.1	0.954	10.82502	5.26967	Si
SLV 15	-15739	-19142	263	0.757	1926.1	0.951	11.55827	5.26967	Si
SLV 16	-14054	-17852	261	0.832	1755.1	0.947	12.76097	5.26967	Si
SLV 1	-13783	-11812	-254	0.846	1727.6	0.946	12.98616	5.26967	Si
SLV 2	-12098	-10521	-256	0.941	1556.8	0.941	14.53353	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.598	SLU 81	Si
V_SLU	8.448	SLU 81	Si
PF_SLV	0.686	SLV 10	No
V_SLV	4.055	SLV 3	Si
PFFP_SLV	0	SLV 10	No
R_SLV	1.741	SLV 7	Si

Maschio 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.953	5.951	L5	L6	1.83	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	5.3	1212.35	-13084	-0.0000524	0.0003743	0.0035	1.83	8969.38	9844.8	9844.8	8.12	No	Si
SLU 50	7.1	639.89	-11897	-0.0000426	0.0003743	0.0035	1.83	8403.48	9225.1	9225.1	14.42	No	Si
SLU 51	5.3	1172.72	-12979	-0.0000516	0.0003743	0.0035	1.83	8921.33	9789.34	9789.34	8.35	No	Si
SLU 51	7.1	660.15	-11887	-0.0000427	0.0003743	0.0035	1.83	8398.07	9219.5	9219.5	13.97	No	Si
SLU 47	5.3	1112.59	-12423	-0.0000492	0.0003743	0.0035	1.83	8660	9497.3	9497.3	8.54	No	Si
SLU 47	7.1	642.33	-11390	-0.0000409	0.0003743	0.0035	1.83	8146.35	8891.76	8891.76	13.84	No	Si
SLU 46	5.3	1146.97	-12653	-0.0000503	0.0003743	0.0035	1.83	8769.68	9617.96	9617.96	8.39	No	Si
SLU 46	7.1	643.37	-11568	-0.0000415	0.0003743	0.0035	1.83	8237.45	9022.01	9022.01	14.02	No	Si
SLU 44	5.3	1078.88	-11936	-0.0000472	0.0003743	0.0035	1.83	8422.61	9244.94	9244.94	8.57	No	Si
SLU 44	7.1	611.01	-10900	-0.000039	0.0003743	0.0035	1.83	7889.83	8534.8	8534.8	13.97	No	Si
SLU 1	5.3	885.49	-9778	-0.0000382	0.0003743	0.0035	1.83	7270.03	7727.88	7727.88	8.73	No	Si
SLU 1	7.1	508.78	-8955	-0.0000318	0.0003743	0.0035	1.83	6787.56	7150.66	7150.66	14.05	No	Si
SLU 43	5.3	1144.93	-12111	-0.0000485	0.0003743	0.0035	1.83	8508.89	9335.32	9335.32	8.15	No	Si
SLU 43	7.1	577.26	-10919	-0.0000387	0.0003743	0.0035	1.83	7899.49	8547.98	8547.98	14.81	No	Si
SLU 45	5.3	1186.6	-12758	-0.000051	0.0003743	0.0035	1.83	8818.94	9673.03	9673.03	8.15	No	Si
SLU 45	7.1	623.12	-11579	-0.0000413	0.0003743	0.0035	1.83	8242.99	9029.98	9029.98	14.49	No	Si
SLU 48	5.3	1220.31	-13245	-0.000053	0.0003743	0.0035	1.83	9042.28	9930.07	9930.07	8.14	No	Si
SLU 48	7.1	654.44	-12068	-0.0000433	0.0003743	0.0035	1.83	8487.86	9313.16	9313.16	14.23	No	Si
SLU 49	5.3	1180.68	-13140	-0.0000523	0.0003743	0.0035	1.83	8994.82	9874.41	9874.41	8.36	No	Si
SLU 49	7.1	674.69	-12057	-0.0000434	0.0003743	0.0035	1.83	8482.5	9307.53	9307.53	13.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	5.3	2458.39	-7759	-0.0000467	0.0005615	0.0035	1.83		6742.97	6742.97	2.74		Si
SLV 1	7.1	-1129.63	-6361	-0.0000294	0.0005615	0.0035	1.83		6296.87	6296.87	5.57		Si
SLV 10	5.3	-2393.41	639	0.0622553	0.0005615	0.0035	1.464		0	0	0		No
SLV 10	7.1	3022.77	-6288	-0.0000524	0.0005615	0.0035	1.83		5576.44	5576.44	1.84		Si
SLV 5	5.3	-703.52	78	0.0050723	0.0005615	0.0035	1.464		663.2	663.2	0.94		No
SLV 5	7.1	1443.42	-4670	-0.0000274	0.0005615	0.0035	1.83		4250.82	4250.82	2.94		Si
SLV 9	5.3	-1846.64	143	0.0002032	0.0005615	0.0035	1.464		0	0	0		No
SLV 9	7.1	2610.09	-5810	-0.0000449	0.0005615	0.0035	1.83		5188.91	5188.91	1.99		Si
SLV 4	5.3	3099.56	-13570	-0.0000717	0.0005615	0.0035	1.83		10750.3	10750.3	3.47		Si
SLV 4	7.1	-1469.58	-9759	-0.0000432	0.0005615	0.0035	1.83		8927.7	8927.7	6.07		Si
SLV 14	5.3	-2164.19	-6802	-0.0000409	0.0005615	0.0035	1.83		6654.23	6654.23	3.07		Si
SLV 14	7.1	3372.29	-10871	-0.0000657	0.0005615	0.0035	1.83		8897.26	8897.26	2.64		Si
SLV 13	5.3	-1352.02	-7539	-0.0000352	0.0005615	0.0035	1.83		7234.13	7234.13	5.35		Si
SLV 13	7.1	2759.3	-10161	-0.0000573	0.0005615	0.0035	1.83		8419	8419	3.05		Si
SLV 3	5.3	3911.73	-14307	-0.0000825	0.0005615	0.0035	1.83		11265.61	11265.61	2.88		Si
SLV 3	7.1	-2082.57	-9049	-0.000047	0.0005615	0.0035	1.83		8402.96	8402.96	4.03		Si
SLV 6	5.3	-1250.29	574	0.0545405	0.0005615	0.0035	1.464		0	0	0		No
SLV 6	7.1	1856.1	-5148	-0.0000331	0.0005615	0.0035	1.83		4647.14	4647.14	2.5		Si
SLD 10	5.3	-1075.51	-3992	-0.0000218	0.0005615	0.0035	1.83		4352.43	4352.43	4.05		Si
SLD 10	7.1	2071.59	-7849	-0.0000432	0.0005615	0.0035	1.83		6812.91	6812.91	3.29		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 39	5.3	819.12	-12909	-10749	-1076	1.83	1.83	-20978	9742	4992	40441	15344	4667	20010	No	18.6	Si
SLU 39	7.1	1083.99	-13073	-10886	-1077	1.83	1.83	-21245	9777	5010	40441	15344	4667	20010	No	18.58	Si
SLU 34	5.3	812.13	-12807	-10665	-1046	1.83	1.83	-20813	9720	4980	40441	15344	4667	20010	No	19.13	Si
SLU 34	7.1	1050.13	-12942	-10777	-1047	1.83	1.83	-21033	9749	4995	40441	15344	4667	20010	No	19.11	Si
SLU 84	5.3	1072.64	-15623	-13010	-1103	1.83	1.83	-25390	10330	5293	40441	15344	4667	20010	No	18.15	Si
SLU 84	7.1	1204.04	-15515	-12919	-1104	1.83	1.83	-25214	10306	5281	40441	15344	4667	20010	No	18.13	Si
SLU 83	5.3	1112.26	-15728	-13097	-1022	1.83	1.83	-25560	10352	5305	40441	15344	4667	20010	No	19.59	Si
SLU 83	7.1	1183.79	-15526	-12928	-1023	1.83	1.83	-25231	10309	5282	40441	15344	4667	20010	No	19.56	Si
SLU 82	5.3	1038.93	-15137	-12604	-1103	1.83	1.83	-24599	10224	5239	40441	15344	4667	20010	No	18.15	Si
SLU 82	7.1	1172.72	-15025	-12512	-1104	1.83	1.83	-24418	10200	5227	40441	15344	4667	20010	No	18.13	Si
SLU 41	5.3	852.83	-13395	-11155	-1076	1.83	1.83	-21769	9847	5046	40441	15344	4667	20010	No	18.6	Si
SLU 41	7.1	1115.31	-13563	-11294	-1077	1.83	1.83	-22041	9883	5064	40441	15344	4667	20010	No	18.58	Si
SLU 42	5.3	813.2	-13291	-11067	-1157	1.83	1.83	-21599	9824	5034	40441	15344	4667	20010	No	17.3	Si
SLU 42	7.1	1135.56	-13552	-11285	-1158	1.83	1.83	-22023	9881	5063	40441	15344	4667	20010	No	17.28	Si
SLU 31	5.3	778.42	-12320	-10259	-1046	1.83	1.83	-20022	9614	4926	40441	15344	4667	20010	No	19.13	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 31	7.1	1018.81	-12453	-10370	-1047	1.83	1.83	-20237	9643	4941	40441	15344	4667	20010	No	19.11	Si
SLU 81	5.3	1078.55	-15242	-12692	-1021	1.83	1.83	-24769	10247	5251	40441	15344	4667	20010	No	19.59	Si
SLU 81	7.1	1152.47	-15036	-12521	-1023	1.83	1.83	-24436	10203	5228	40441	15344	4667	20010	No	19.57	Si
SLU 40	5.3	779.49	-12804	-10662	-1157	1.83	1.83	-20808	9719	4980	40441	15344	4667	20010	No	17.3	Si
SLU 40	7.1	1104.24	-13062	-10877	-1158	1.83	1.83	-21228	9775	5009	40441	15344	4667	20010	No	17.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	5.3	4140.95	-21748	-18110	6664	1.83	1.83	-35344	16250	8327	40441	23015	4667	27682		4.15	Si
SLV 7	7.1	-1733.06	-13632	-11351	6538	1.83	1.83	-22153	14847	7608	40441	23015	4667	27682		4.23	Si
SLV 9	5.3	-1846.64	143	119	-6437	1.464	0	0	0	0	40441	18412	3733	22145		3.44	Si
SLV 9	7.1	2610.09	-5810	-4838	-6313	1.83	1.3973	-9442	12305	4814	40441	23015	4667	27682		4.38	Si
SLV 6	5.3	-1250.29	574	478	-5406	1.464	0	0	0	0	40441	18412	3733	22145		4.1	Si
SLV 6	7.1	1856.1	-5148	-4287	-5599	1.83	1.6633	-8366	12090	5631	40441	23015	4667	27682		4.94	Si
SLV 5	5.3	-703.52	78	65	-4379	1.464	0	0	0	0	40441	18412	3733	22145		5.06	Si
SLV 5	7.1	1443.42	-4670	-3889	-4572	1.83	1.8178	-7589	11935	6074	40441	23015	4667	27682		6.06	Si
SLV 14	5.3	-2164.19	-6802	-5664	-6250	1.83	1.7905	-11055	12628	6331	40441	23015	4667	27682		4.43	Si
SLV 14	7.1	3372.29	-10871	-9052	-5733	1.83	1.8143	-17666	13950	7087	40441	23015	4667	27682		4.83	Si
SLV 3	5.3	3911.73	-14307	-11913	5449	1.83	1.83	-23250	15067	7720	40441	23015	4667	27682		5.08	Si
SLV 3	7.1	-2082.57	-9049	-7535	4931	1.83	1.83	-14706	13358	6845	40441	23015	4667	27682		5.61	Si
SLV 10	5.3	-2393.41	639	532	-7464	1.464	0	0	0	0	40441	18412	3733	22145		2.97	Si
SLV 10	7.1	3022.77	-6288	-5236	-7341	1.83	1.3028	-10219	12460	4545	40441	23015	4667	27682		3.77	Si
SLV 11	5.3	2997.83	-21682	-18055	4606	1.83	1.83	-35237	16250	8327	40441	23015	4667	27682		6.01	Si
SLV 11	7.1	-566.38	-14772	-12301	4797	1.83	1.83	-24006	15218	7798	40441	23015	4667	27682		5.77	Si
SLV 13	5.3	-1352.02	-7539	-6278	-4723	1.83	1.83	-12252	12867	6593	40441	23015	4667	27682		5.86	Si
SLV 13	7.1	2759.3	-10161	-8461	-4207	1.83	1.83	-16513	13719	7030	40441	23015	4667	27682		6.58	Si
SLV 8	5.3	3594.18	-21252	-17697	5636	1.83	1.83	-34538	16250	8327	40441	23015	4667	27682		4.91	Si
SLV 8	7.1	-1320.38	-14110	-11749	5511	1.83	1.83	-22930	15003	7687	40441	23015	4667	27682		5.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.38	5786	-2965	189.57	399.35	2.11	Si
SLV 6	179667	0.38	5951	-3049	189.57	410.28	2.16	Si
SLV 9	179667	0.38	6900	-3536	189.57	472.61	2.49	Si
SLV 10	179667	0.38	7065	-3620	189.57	483.37	2.55	Si
SLV 1	179667	0.38	14245	-7299	189.57	926.54	4.89	Si
SLV 2	179667	0.38	14490	-7425	189.57	940.83	4.96	Si
SLV 13	179667	0.38	17957	-9201	189.57	1136.7	6	Si
SLV 14	179667	0.38	18202	-9327	189.57	1150.13	6.07	Si
SLV 3	179667	0.38	22643	-11602	189.57	1383.48	7.3	Si
SLV 4	179667	0.38	22888	-11728	189.57	1395.83	7.36	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-12455	-19146	291	0.753	1525.1	0.951	11.502	4.55335	Si
SLV 8	-12196	-18073	381	0.76	1498.8	0.95	11.61654	4.55335	Si
SLV 11	-12243	-19239	291	0.764	1503.6	0.951	11.67646	4.55335	Si
SLV 7	-11984	-18166	380	0.771	1477.3	0.95	11.79626	4.55335	Si
SLV 16	-10246	-13931	-46	0.906	1300.9	0.944	13.94967	5.26967	Si
SLV 15	-9931	-14069	-47	0.93	1269	0.943	14.32979	5.26967	Si
SLV 4	-9381	-10354	253	0.955	1213.3	0.941	14.76148	5.26967	Si
SLV 3	-9067	-10493	252	0.982	1181.5	0.939	15.20041	5.26967	Si
SLV 14	-8049	-8407	-246	1.082	1078.5	0.934	16.82949	5.26967	Si
SLV 13	-7734	-8545	-247	1.117	1046.7	0.933	17.40291	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.12	SLU 50	Si
V_SLU	17.28	SLU 42	Si
PF_SLV	0	SLV 6	No
V_SLV	2.967	SLV 10	Si
PFFP_SLV	2.107	SLV 5	Si
R_SLV	2.526	SLV 12	Si

Maschio 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-0.123	5.951	L5	L6	9.12	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 19	4.4	-13670.4	-79623	-0.0000552	0.0003743	0.0035	9.12	251883.31	308747.12	308747.12	22.59	No	Si
SLU 19	7.95	-5990.96	-55441	-0.000036	0.0003743	0.0035	9.12	198898.62	238567.44	238567.44	39.82	No	Si
SLU 55	4.4	-14784.38	-93259	-0.0000652	0.0003743	0.0035	9.12	272716.36	336958.34	336958.34	22.79	No	Si
SLU 55	7.95	-5238.64	-65490	-0.0000422	0.0003743	0.0035	9.12	223409.66	269465.86	269465.86	51.44	No	Si
SLU 60	4.4	-15690.3	-95495	-0.0000671	0.0003743	0.0035	9.12	275509.06	341161.92	341161.92	21.74	No	Si
SLU 60	7.95	-7178.88	-66423	-0.0000436	0.0003743	0.0035	9.12	225505.38	272266.46	272266.46	37.93	No	Si
SLU 52	4.4	-15899.09	-91372	-0.0000643	0.0003743	0.0035	9.12	270222.31	333388.7	333388.7	20.97	No	Si
SLU 52	7.95	-6441.93	-63717	-0.0000415	0.0003743	0.0035	9.12	219341.94	264115.78	264115.78	41	No	Si
SLU 82	4.4	-17133.89	-107748	-0.0000767	0.0003743	0.0035	9.12	287703.78	363722.69	363722.69	21.23	No	Si
SLU 82	7.95	-7379.73	-75400	-0.0000497	0.0003743	0.0035	9.12	244109.27	297204.01	297204.01	40.27	No	Si
SLU 63	4.4	-15259.73	-97264	-0.0000682	0.0003743	0.0035	9.12	277595.49	344470.22	344470.22	22.57	No	Si
SLU 63	7.95	-5900.71	-68145	-0.0000442	0.0003743	0.0035	9.12	229293.38	277256.19	277256.19	46.99	No	Si
SLU 81	4.4	-16449.74	-107865	-0.0000764	0.0003743	0.0035	9.12	287795.28	363935.24	363935.24	22.12	No	Si
SLU 81	7.95	-7454.6	-75451	-0.0000497	0.0003743	0.0035	9.12	244207.56	297345.08	297345.08	39.89	No	Si
SLU 10	4.4	-13195.05	-75618	-0.0000523	0.0003743	0.0035	9.12	244525.84	297802.78	297802.78	22.57	No	Si
SLU 10	7.95	-5328.88	-52786	-0.000034	0.0003743	0.0035	9.12	191831.63	230043.23	230043.23	43.17	No	Si
SLU 73	4.4	-16658.53	-103743	-0.0000735	0.0003743	0.0035	9.12	284297.44	356438.18	356438.18	21.4	No	Si
SLU 73	7.95	-6717.65	-72745	-0.0000476	0.0003743	0.0035	9.12	238901.2	289907.76	289907.76	43.16	No	Si
SLU 61	4.4	-16374.44	-95377	-0.0000674	0.0003743	0.0035	9.12	275366.54	340941.51	340941.51	20.82	No	Si
SLU 61	7.95	-7104.01	-66372	-0.0000435	0.0003743	0.0035	9.12	225390.82	272112.3	272112.3	38.3	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	4.4	-96010.68	-63106	-0.0000765	0.0005615	0.0035	9.12		276975.23	276975.23	2.88		Si
SLV 5	7.95	-19087.87	-46793	-0.0000352	0.0005615	0.0035	9.12		218328.75	218328.75	11.44		Si
SLV 7	4.4	79977.96	-69633	-0.0000743	0.0005615	0.0035	9.12		273673.46	273673.46	3.42		Si
SLV 7	7.95	12587.57	-50489	-0.0000349	0.0005615	0.0035	9.12		208083.74	208083.74	16.53		Si
SLV 10	4.4	-101416.7	-75976	-0.0000874	0.0005615	0.0035	9.12		320412.87	320412.87	3.16		Si
SLV 10	7.95	-21611.91	-51676	-0.0000392	0.0005615	0.0035	9.12		236187.64	236187.64	10.93		Si
SLV 8	4.4	79462.63	-69711	-0.0000741	0.0005615	0.0035	9.12		273948.26	273948.26	3.45		Si
SLV 8	7.95	14619.5	-50807	-0.0000359	0.0005615	0.0035	9.12		209152.24	209152.24	14.31		Si
SLV 12	4.4	74571.94	-82502	-0.0000806	0.0005615	0.0035	9.12		319277.05	319277.05	4.28		Si
SLV 12	7.95	10063.53	-55373	-0.0000369	0.0005615	0.0035	9.12		224562.43	224562.43	22.31		Si
SLV 6	4.4	-96526.01	-63185	-0.0000768	0.0005615	0.0035	9.12		277248.66	277248.66	2.87		Si
SLV 6	7.95	-17055.94	-47111	-0.0000346	0.0005615	0.0035	9.12		219549.93	219549.93	12.87		Si
SLD 6	4.4	-60786.47	-66859	-0.0000646	0.0005615	0.0035	9.12		290098.91	290098.91	4.77		Si
SLD 6	7.95	-11707.4	-48665	-0.0000334	0.0005615	0.0035	9.12		225301.47	225301.47	19.24		Si
SLV 11	4.4	75087.27	-82424	-0.0000808	0.0005615	0.0035	9.12		318994.68	318994.68	4.25		Si
SLV 11	7.95	8031.6	-55054	-0.0000359	0.0005615	0.0035	9.12		223483.09	223483.09	27.83		Si
SLV 9	4.4	-100901.37	-75897	-0.0000872	0.0005615	0.0035	9.12		320151.37	320151.37	3.17		Si
SLV 9	7.95	-23643.84	-51358	-0.0000398	0.0005615	0.0035	9.12		235032.29	235032.29	9.94		Si
SLD 5	4.4	-60473.75	-66811	-0.0000644	0.0005615	0.0035	9.12		289931.17	289931.17	4.79		Si
SLD 5	7.95	-12940.47	-48472	-0.0000338	0.0005615	0.0035	9.12		224606.48	224606.48	17.36		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	4.4	-13288.87	-107713	-89694	1017	9.12	9.12	-35125	10833	48169	40441	76466	23256	88610	No	87.09	Si
SLU 79	7.95	-4435.84	-76377	-63600	1024	9.12	9.12	-24906	10265	37732	40441	76466	23256	78173	No	76.35	Si
SLU 81	4.4	-16449.74	-107865	-89821	1131	9.12	9.12	-35174	10833	48220	40441	76466	23256	88661	No	78.42	Si
SLU 81	7.95	-7454.6	-75451	-62829	1136	9.12	9.12	-24604	10225	37424	40441	76466	23256	77865	No	68.52	Si
SLU 83	4.4	-15335.03	-109752	-91392	1113	9.12	9.12	-35790	10833	48848	40441	76466	23256	89289	No	80.23	Si
SLU 83	7.95	-6251.3	-77225	-64306	1119	9.12	9.12	-25183	10302	38014	40441	76466	23256	78455	No	70.11	Si
SLU 32	4.4	-11904.11	-91075	-75840	1052	9.12	9.12	-29699	10833	42628	40441	76466	23256	83069	No	78.93	Si
SLU 32	7.95	-4764.23	-64625	-53814	1058	9.12	9.12	-21074	9754	33818	40441	76466	23256	74259	No	70.22	Si
SLU 39	4.4	-13745.7	-92111	-76702	1091	9.12	9.12	-30037	10833	42973	40441	76466	23256	83414	No	76.46	Si
SLU 39	7.95	-6341.54	-64520	-53727	1096	9.12	9.12	-21040	9750	33783	40441	76466	23256	74224	No	67.74	Si
SLU 74	4.4	-14608.16	-106830	-88959	1092	9.12	9.12	-34837	10833	47875	40441	76466	23256	88316	No	80.87	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	7.95	-5877.28	-75557	-62917	1098	9.12	9.12	-24639	10230	37459	40441	76466	23256	77900	No	70.93	Si
SLU 35	4.4	-10789.4	-92963	-77411	1035	9.12	9.12	-30315	10833	43256	40441	76466	23256	83697	No	80.88	Si
SLU 35	7.95	-3560.93	-66399	-55291	1040	9.12	9.12	-21652	9831	34408	40441	76466	23256	74849	No	71.95	Si
SLU 41	4.4	-12630.99	-93998	-78274	1073	9.12	9.12	-30652	10833	43601	40441	76466	23256	84042	No	78.3	Si
SLU 41	7.95	-5138.25	-66293	-55203	1078	9.12	9.12	-21618	9827	34373	40441	76466	23256	74814	No	69.38	Si
SLU 37	4.4	-10584.83	-91959	-76575	978	9.12	9.12	-29987	10833	42922	40441	76466	23256	83363	No	85.26	Si
SLU 37	7.95	-3322.79	-65446	-54498	983	9.12	9.12	-21342	9790	34091	40441	76466	23256	74532	No	75.81	Si
SLU 77	4.4	-13493.45	-108717	-90530	1075	9.12	9.12	-35452	10833	48503	40441	76466	23256	88944	No	82.78	Si
SLU 77	7.95	-4673.98	-77330	-64394	1081	9.12	9.12	-25217	10307	38049	40441	76466	23256	78490	No	72.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	4.4	-96010.68	-63106	-52550	-50793	9.12	9.1158	-20801	14577	39458	40441	114699	23256	79899		1.57	Si
SLV 5	7.95	-19087.87	-46793	-38965	-47648	9.12	9.12	-15259	13468	34393	40441	114699	23256	74834		1.57	Si
SLV 11	4.4	75087.27	-82424	-68635	57190	9.12	9.12	-26878	15792	45892	40441	114699	23256	86333		1.51	Si
SLV 11	7.95	8031.6	-55054	-45845	54052	9.12	9.12	-17953	14007	36777	40441	114699	23256	77217		1.43	Si
SLV 6	4.4	-96526.01	-63185	-52615	-55890	9.12	9.097	-20870	14591	39485	40441	114699	23256	79926		1.43	Si
SLV 6	7.95	-17055.94	-47111	-39230	-52744	9.12	9.12	-15363	13489	34446	40441	114699	23256	74887		1.42	Si
SLV 7	4.4	79977.96	-69633	-57984	52768	9.12	9.12	-22707	14958	41632	40441	114699	23256	82073		1.56	Si
SLV 7	7.95	12587.57	-50489	-42043	49884	9.12	9.12	-16464	13709	35256	40441	114699	23256	75697		1.52	Si
SLV 10	4.4	-101416.7	-75976	-63266	-51468	9.12	9.12	-24775	15372	43745	40441	114699	23256	84186		1.64	Si
SLV 10	7.95	-21611.91	-51676	-43032	-48575	9.12	9.12	-16851	13787	35651	40441	114699	23256	76092		1.57	Si
SLD 11	4.4	39347.74	-78750	-65576	33937	9.12	9.12	-25680	15553	44669	40441	114699	23256	85110		2.51	Si
SLD 11	7.95	2683.06	-53500	-44550	32092	9.12	9.12	-17446	13906	36259	40441	114699	23256	76700		2.39	Si
SLD 6	4.4	-60786.47	-66859	-55675	-32637	9.12	9.12	-21802	14777	40708	40441	114699	23256	81149		2.49	Si
SLD 6	7.95	-11707.4	-48665	-40524	-30783	9.12	9.12	-15869	13591	34705	40441	114699	23256	75146		2.44	Si
SLV 9	4.4	-100901.37	-75897	-63201	-46371	9.12	9.12	-24750	15367	43719	40441	114699	23256	84160		1.81	Si
SLV 9	7.95	-23643.84	-51358	-42767	-43479	9.12	9.12	-16748	13766	35545	40441	114699	23256	75986		1.75	Si
SLV 8	4.4	79462.63	-69711	-58050	47672	9.12	9.12	-22732	14963	41658	40441	114699	23256	82099		1.72	Si
SLV 8	7.95	14619.5	-50807	-42308	44788	9.12	9.12	-16568	13730	35362	40441	114699	23256	75803		1.69	Si
SLV 12	4.4	74571.94	-82502	-68701	52093	9.12	9.12	-26904	15797	45919	40441	114699	23256	86360		1.66	Si
SLV 12	7.95	10063.53	-55373	-46110	48956	9.12	9.12	-18057	14028	36883	40441	114699	23256	77323		1.58	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.175 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.38	18587	-47464	944.74	5836.2	6.18	Si
SLV 2	179667	0.38	18732	-47834	944.74	5875.34	6.22	Si
SLV 3	179667	0.38	19192	-49008	944.74	5998.85	6.35	Si
SLV 4	179667	0.38	19336	-49378	944.74	6037.59	6.39	Si
SLV 5	179667	0.38	21372	-54576	944.74	6571.31	6.96	Si
SLV 6	179667	0.38	21470	-54825	944.74	6596.4	6.98	Si
SLV 7	179667	0.38	23387	-59721	944.74	7080.57	7.49	Si
SLV 8	179667	0.38	23485	-59970	944.74	7104.74	7.52	Si
SLV 9	179667	0.38	24343	-62163	944.74	7315.58	7.74	Si
SLV 10	179667	0.38	24441	-62412	944.74	7339.31	7.77	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.175 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-59482	-95160	2191	0.769	7337.7	0.95	11.77096	5.26967	Si
SLV 15	-59010	-95043	2191	0.774	7289.7	0.949	11.85324	5.26967	Si
SLV 14	-58374	-93202	2179	0.781	7225.1	0.949	11.96853	5.26967	Si
SLV 13	-57901	-93085	2179	0.787	7177.1	0.949	12.0537	5.26967	Si
SLV 12	-55373	-82502	686	0.84	6920.6	0.947	12.89161	4.55335	Si
SLV 11	-55054	-82424	686	0.844	6888.3	0.947	12.95646	4.55335	Si
SLV 4	-44264	-52523	-2149	0.982	5794.8	0.938	15.20589	5.26967	Si
SLV 3	-43792	-52407	-2149	0.99	5746.9	0.938	15.34563	5.26967	Si
SLV 2	-43156	-50565	-2161	1.002	5682.6	0.937	15.53441	5.26967	Si
SLV 1	-42683	-50449	-2161	1.011	5634.7	0.937	15.68048	5.26967	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.822	SLU 61	Si
V_SLU	67.742	SLU 39	Si
PF_SLV	2.872	SLV 6	Si
V_SLV	1.42	SLV 6	Si
PFFP_SLV	6.178	SLV 1	Si
R_SLV	2.234	SLV 16	Si

Maschio 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	-3.169	-24.614	5.951	L6	L7	9.121	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	7.95	-8591.17	-57432	-0.0000347	0.0004492	0.0035	9.1207	213704.27	281904.44	281904.44	32.81	No	Si
SLU 52	11.5	-2649.84	-30141	-0.0000172	0.0004492	0.0035	9.1207	124177.12	178163.74	178163.74	67.24	No	Si
SLU 62	7.95	-8638.45	-61505	-0.0000371	0.0004492	0.0035	9.1207	225199.06	296191.32	296191.32	34.29	No	Si
SLU 62	11.5	-3260.64	-32833	-0.0000189	0.0004492	0.0035	9.1207	133973.57	188758.21	188758.21	57.89	No	Si
SLU 60	7.95	-8931.75	-59794	-0.0000362	0.0004492	0.0035	9.1207	220429.08	290189.3	290189.3	32.49	No	Si
SLU 60	11.5	-3340.83	-31283	-0.0000181	0.0004492	0.0035	9.1207	128357.94	182657.17	182657.17	54.67	No	Si
SLU 73	7.95	-9019.43	-65284	-0.0000394	0.0004492	0.0035	9.1207	235430.93	309447.56	309447.56	34.31	No	Si
SLU 73	11.5	-2834.63	-34589	-0.0000198	0.0004492	0.0035	9.1207	140252.17	195671.72	195671.72	69.03	No	Si
SLU 61	7.95	-9048.81	-59748	-0.0000362	0.0004492	0.0035	9.1207	220300.43	290028.9	290028.9	32.05	No	Si
SLU 61	11.5	-3053.34	-31244	-0.000018	0.0004492	0.0035	9.1207	128216.32	182504.3	182504.3	59.77	No	Si
SLU 81	7.95	-9360.01	-67646	-0.0000409	0.0004492	0.0035	9.1207	241613.63	317732.42	317732.42	33.95	No	Si
SLU 81	11.5	-3525.62	-35730	-0.0000206	0.0004492	0.0035	9.1207	144284.6	200165.15	200165.15	56.77	No	Si
SLU 19	7.95	-7512.66	-49779	-0.00003	0.0004492	0.0035	9.1207	190794.46	253710.89	253710.89	33.77	No	Si
SLU 19	11.5	-2494.06	-26026	-0.0000149	0.0004492	0.0035	9.1207	108788.4	161732.13	161732.13	64.85	No	Si
SLU 63	7.95	-8755.51	-61459	-0.0000371	0.0004492	0.0035	9.1207	225072.7	296030.91	296030.91	33.81	No	Si
SLU 63	11.5	-2973.15	-32794	-0.0000188	0.0004492	0.0035	9.1207	133833.71	188605.34	188605.34	63.44	No	Si
SLU 82	7.95	-9477.07	-67600	-0.0000409	0.0004492	0.0035	9.1207	241495.48	317572.02	317572.02	33.51	No	Si
SLU 82	11.5	-3238.13	-35691	-0.0000205	0.0004492	0.0035	9.1207	144148.03	200012.28	200012.28	61.77	No	Si
SLU 18	7.95	-7395.59	-49824	-0.0000299	0.0004492	0.0035	9.1207	190936.43	253881.09	253881.09	34.33	No	Si
SLU 18	11.5	-2781.56	-26065	-0.000015	0.0004492	0.0035	9.1207	108935.93	161893.34	161893.34	58.2	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	7.95	30273.38	-45367	-0.0000355	0.0006738	0.0035	9.1207		200705.6	200705.6	6.63		Si
SLV 11	11.5	-5666.13	-26173	-0.0000161	0.0006738	0.0035	9.1207		163643.04	163643.04	28.88		Si
SLD 5	7.95	-27003.53	-46609	-0.000035	0.0006738	0.0035	9.1207		246545.79	246545.79	9.13		Si
SLD 5	11.5	939.49	-23520	-0.0000129	0.0006738	0.0035	9.1207		110806.97	110806.97	117.94		Si
SLV 5	7.95	-41671.72	-46954	-0.0000405	0.0006738	0.0035	9.1207		247937.28	247937.28	5.95		Si
SLV 5	11.5	3228.56	-22890	-0.0000134	0.0006738	0.0035	9.1207		108139.49	108139.49	33.49		Si
SLV 6	7.95	-42452.29	-46578	-0.0000406	0.0006738	0.0035	9.1207		246420.58	246420.58	5.8		Si
SLV 6	11.5	1127.23	-22756	-0.0000126	0.0006738	0.0035	9.1207		107569.56	107569.56	95.43		Si
SLV 8	7.95	23875.63	-49041	-0.0000352	0.0006738	0.0035	9.1207		215314.24	215314.24	9.02		Si
SLV 8	11.5	-10050.21	-25364	-0.0000172	0.0006738	0.0035	9.1207		160281.34	160281.34	15.95		Si
SLV 10	7.95	-36835.1	-42529	-0.0000363	0.0006738	0.0035	9.1207		230094.89	230094.89	6.25		Si
SLV 10	11.5	3409.97	-23430	-0.0000138	0.0006738	0.0035	9.1207		110425.6	110425.6	32.38		Si
SLV 9	7.95	-36054.53	-42905	-0.0000362	0.0006738	0.0035	9.1207		231611.58	231611.58	6.42		Si
SLV 9	11.5	5511.31	-23564	-0.0000146	0.0006738	0.0035	9.1207		110995.54	110995.54	20.14		Si
SLV 7	7.95	24656.19	-49417	-0.0000357	0.0006738	0.0035	9.1207		216810.42	216810.42	8.79		Si
SLV 7	11.5	-7948.87	-25499	-0.0000165	0.0006738	0.0035	9.1207		160840.58	160840.58	20.23		Si
SLD 6	7.95	-27477.21	-46381	-0.000035	0.0006738	0.0035	9.1207		245625.39	245625.39	8.94		Si
SLD 6	11.5	-335.7	-23438	-0.0000127	0.0006738	0.0035	9.1207		152207.98	152207.98	453.41		Si
SLV 12	7.95	29492.82	-44991	-0.000035	0.0006738	0.0035	9.1207		199209.43	199209.43	6.75		Si
SLV 12	11.5	-7767.47	-26038	-0.0000167	0.0006738	0.0035	9.1207		163083.8	163083.8	21		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	7.95	-8297.86	-59143	-42191	-996	9.1207	9.1207	-16521	10536	31628	115546	91777	46516	138293	No	138.84	Si
SLU 55	11.5	-2569.65	-31691	-22608	-886	9.1207	9.1207	-8853	9514	24296	115546	91777	46516	138293	No	156	Si
SLU 5	7.95	-5511.76	-43840	-31275	-824	9.1207	9.1207	-12246	9966	27262	115546	91777	46516	138293	No	167.87	Si
SLU 5	11.5	-1516.09	-23961	-17093	-714	9.1207	9.1207	-6693	9226	23561	115546	91777	46516	138293	No	193.8	Si
SLU 44	7.95	-7341.22	-52098	-37166	-1004	9.1207	9.1207	-14553	10274	29618	115546	91777	46516	138293	No	137.69	Si
SLU 44	11.5	-2155.54	-27629	-19710	-895	9.1207	9.1207	-7718	9362	23910	115546	91777	46516	138293	No	154.48	Si
SLU 61	7.95	-9048.81	-59748	-42623	-761	9.1207	9.1207	-16690	10559	31801	115546	91777	46516	138293	No	181.67	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	11.5	-3053.34	-31244	-22289	-697	9.1207	9.1207	-8728	9497	24253	115546	91777	46516	138293	No	198.44	Si
SLU 47	7.95	-7047.92	-53810	-38386	-957	9.1207	9.1207	-15031	10337	30107	115546	91777	46516	138293	No	144.45	Si
SLU 47	11.5	-2075.36	-29179	-20815	-847	9.1207	9.1207	-8151	9420	24057	115546	91777	46516	138293	No	163.22	Si
SLU 13	7.95	-6761.7	-49174	-35079	-862	9.1207	9.1207	-13736	10165	28784	115546	91777	46516	138293	No	160.34	Si
SLU 13	11.5	-2010.38	-26473	-18885	-753	9.1207	9.1207	-7395	9319	23800	115546	91777	46516	138293	No	183.71	Si
SLU 2	7.95	-5805.07	-42129	-30054	-871	9.1207	9.1207	-11768	9902	26774	115546	91777	46516	138293	No	158.81	Si
SLU 2	11.5	-1596.27	-22411	-15987	-762	9.1207	9.1207	-6260	9168	23413	115546	91777	46516	138293	No	181.6	Si
SLU 73	7.95	-9019.43	-65284	-46572	-763	9.1207	9.1207	-18236	10765	33381	115546	91777	46516	138293	No	181.3	Si
SLU 73	11.5	-2834.63	-34589	-24675	-654	9.1207	9.1207	-9662	9622	24622	115546	91777	46516	138293	No	211.3	Si
SLU 10	7.95	-7055.01	-47462	-33859	-909	9.1207	9.1207	-13258	10101	28296	115546	91777	46516	138293	No	152.06	Si
SLU 10	11.5	-2090.56	-24923	-17780	-801	9.1207	9.1207	-6962	9262	23652	115546	91777	46516	138293	No	172.72	Si
SLU 52	7.95	-8591.17	-57432	-40970	-1043	9.1207	9.1207	-16043	10472	31140	115546	91777	46516	138293	No	132.59	Si
SLU 52	11.5	-2649.84	-30141	-21502	-934	9.1207	9.1207	-8420	9456	24149	115546	91777	46516	138293	No	148	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	7.95	14824.63	-45336	-32342	23847	9.1207	9.1207	-12664	15033	38391	115546	137665	46516	153936		6.46	Si
SLD 12	11.5	-5478.39	-25409	-18126	21317	9.1207	9.1207	-7098	13920	35548	115546	137665	46516	151093		7.09	Si
SLV 11	7.95	30273.38	-45367	-32364	37186	9.1207	9.1207	-12673	15035	38395	115546	137665	46516	153941		4.14	Si
SLV 11	11.5	-5666.13	-26173	-18671	32888	9.1207	9.1207	-7311	13962	35657	115546	137665	46516	151202		4.6	Si
SLD 5	7.95	-27003.53	-46609	-33250	-23958	9.1207	9.1207	-13020	15104	38572	115546	137665	46516	154118		6.43	Si
SLD 5	11.5	939.49	-23520	-16778	-21431	9.1207	9.1207	-6570	13814	35278	115546	137665	46516	150824		7.04	Si
SLV 12	7.95	29492.82	-44991	-32096	40662	9.1207	9.1207	-12568	15014	38342	115546	137665	46516	153887		3.78	Si
SLV 12	11.5	-7767.47	-26038	-18575	36363	9.1207	9.1207	-7273	13955	35637	115546	137665	46516	151183		4.16	Si
SLV 5	7.95	-41671.72	-46954	-33496	-40774	9.1207	9.1207	-13116	15123	38622	115546	137665	46516	154167		3.78	Si
SLV 5	11.5	3228.56	-22890	-16329	-36477	9.1207	9.1207	-6394	13779	35188	115546	137665	46516	150734		4.13	Si
SLV 8	7.95	23875.63	-49041	-34984	39660	9.1207	9.1207	-13699	15240	38919	115546	137665	46516	154465		3.89	Si
SLV 8	11.5	-10050.21	-25364	-18094	35325	9.1207	9.1207	-7085	13917	35541	115546	137665	46516	151087		4.28	Si
SLV 6	7.95	-42452.29	-46578	-33228	-37298	9.1207	9.1207	-13011	15102	38568	115546	137665	46516	154114		4.13	Si
SLV 6	11.5	1127.23	-22756	-16234	-33002	9.1207	9.1207	-6357	13771	35169	115546	137665	46516	150715		4.57	Si
SLV 10	7.95	-36835.1	-42529	-30339	-36296	9.1207	9.1207	-11880	14876	37990	115546	137665	46516	153536		4.23	Si
SLV 10	11.5	3409.97	-23430	-16714	-31964	9.1207	9.1207	-6545	13809	35265	115546	137665	46516	150811		4.72	Si
SLV 7	7.95	24656.19	-49417	-35253	36184	9.1207	9.1207	-13804	15261	38973	115546	137665	46516	154519		4.27	Si
SLV 7	11.5	-7948.87	-25499	-18190	31850	9.1207	9.1207	-7123	13925	35560	115546	137665	46516	151106		4.74	Si
SLV 9	7.95	-36054.53	-42905	-30607	-39772	9.1207	9.1207	-11985	14897	38044	115546	137665	46516	153589		3.86	Si
SLV 9	11.5	5511.31	-23564	-16810	-35439	9.1207	9.1207	-6582	13816	35284	115546	137665	46516	150830		4.26	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-31658	0.45	1136.03	4132.33	6024.96	5078.64	4.47	Si
SLV 13	-32030	0.45	1136.03	4177.34	6081.71	5129.52	4.52	Si
SLV 16	-32281	0.45	1136.03	4207.61	6119.93	5163.77	4.55	Si
SLV 15	-32653	0.45	1136.03	4252.48	6176.27	5214.38	4.59	Si
SLV 10	-32694	0.45	1136.03	4257.39	6182.43	5219.91	4.59	Si
SLV 9	-32944	0.45	1136.03	4287.55	6220.34	5253.94	4.62	Si
SLV 6	-34152	0.45	1136.03	4432.4	6403.09	5417.75	4.77	Si
SLV 5	-34402	0.45	1136.03	4462.34	6440.92	5451.63	4.8	Si
SLV 12	-34769	0.45	1136.03	4506.12	6496.29	5501.21	4.84	Si
SLV 11	-35020	0.45	1136.03	4535.97	6534.1	5535.03	4.87	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-26078	-39873	2504	1.472	3962.2	0.917	23.3353	6.07522	Si
SLV 16	-25878	-39314	2504	1.48	3942.2	0.916	23.47644	6.07522	Si
SLV 13	-25296	-39134	2491	1.506	3883.9	0.916	23.90428	6.07522	Si
SLV 14	-25096	-38575	2491	1.515	3864	0.915	24.05235	6.07522	Si
SLV 3	-23833	-53370	-2497	1.573	3737.8	0.913	25.02989	6.07522	Si
SLV 4	-23633	-52812	-2497	1.582	3717.9	0.913	25.19207	6.07522	Si
SLV 1	-23050	-52632	-2510	1.611	3659.8	0.912	25.6713	6.07522	Si
SLV 2	-22850	-52073	-2510	1.621	3639.9	0.912	25.8419	6.07522	Si
SLV 11	-26173	-45367	769	1.519	3971.6	0.917	24.07017	5.24939	Si
SLV 12	-26038	-44991	769	1.524	3958.2	0.917	24.1678	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	32.052	SLU 61	Si
V_SLU	132.589	SLU 52	Si
PF_SLV	5.805	SLV 6	Si
V_SLV	3.781	SLV 5	Si
PFFP_SLV	4.471	SLV 14	Si
R_SLV	3.841	SLV 15	Si

Maschio 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.778	5.951	-24.614	5.951	L6	L7	1.837	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	8.85	-598.16	-9586	-0.0000345	0.0003743	0.0035	1.8365	7190.97	8502.14	8502.14	14.21	No	Si
SLU 82	10.65	-905.11	-9157	-0.0000362	0.0003743	0.0035	1.8365	6937.81	8201.45	8201.45	9.06	No	Si
SLU 81	8.85	-630.8	-9621	-0.000035	0.0003743	0.0035	1.8365	7210.96	8525.21	8525.21	13.51	No	Si
SLU 81	10.65	-885.68	-9127	-0.000036	0.0003743	0.0035	1.8365	6919.93	8180.37	8180.37	9.24	No	Si
SLU 31	8.85	-430.03	-7825	-0.0000274	0.0003743	0.0035	1.8365	6111.36	7261.29	7261.29	16.89	No	Si
SLU 31	10.65	-800.34	-7676	-0.0000305	0.0003743	0.0035	1.8365	6015.34	7151.49	7151.49	8.94	No	Si
SLU 84	8.85	-617.24	-10011	-0.0000361	0.0003743	0.0035	1.8365	7434.79	8782.67	8782.67	14.23	No	Si
SLU 84	10.65	-917.15	-9611	-0.0000378	0.0003743	0.0035	1.8365	7205.37	8518.76	8518.76	9.29	No	Si
SLU 39	8.85	-456.44	-8059	-0.0000283	0.0003743	0.0035	1.8365	6261.14	7433.69	7433.69	16.29	No	Si
SLU 39	10.65	-842.26	-7964	-0.0000319	0.0003743	0.0035	1.8365	6200.97	7365.01	7365.01	8.74	No	Si
SLU 40	8.85	-423.8	-8024	-0.0000279	0.0003743	0.0035	1.8365	6239.26	7409.14	7409.14	17.48	No	Si
SLU 40	10.65	-861.69	-7994	-0.0000321	0.0003743	0.0035	1.8365	6220.07	7387.28	7387.28	8.57	No	Si
SLU 41	8.85	-475.52	-8483	-0.0000299	0.0003743	0.0035	1.8365	6527.7	7731.56	7731.56	16.26	No	Si
SLU 41	10.65	-854.31	-8419	-0.0000334	0.0003743	0.0035	1.8365	6487.53	7686.86	7686.86	9	No	Si
SLU 42	8.85	-442.88	-8449	-0.0000294	0.0003743	0.0035	1.8365	6506.34	7707.83	7707.83	17.4	No	Si
SLU 42	10.65	-873.74	-8449	-0.0000337	0.0003743	0.0035	1.8365	6506.15	7707.62	7707.62	8.82	No	Si
SLU 34	8.85	-449.11	-8249	-0.0000289	0.0003743	0.0035	1.8365	6381.41	7568.37	7568.37	16.85	No	Si
SLU 34	10.65	-812.38	-8130	-0.0000321	0.0003743	0.0035	1.8365	6306.49	7484.52	7484.52	9.21	No	Si
SLU 33	8.85	-484.66	-8458	-0.0000299	0.0003743	0.0035	1.8365	6511.71	7713.79	7713.79	15.92	No	Si
SLU 33	10.65	-826.17	-8310	-0.0000328	0.0003743	0.0035	1.8365	6419.91	7611.39	7611.39	9.21	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	8.85	1031.79	-3651	-0.0000203	0.0005615	0.0035	1.8365		3407.93	3407.93	3.3		Si
SLD 9	10.65	-1398.18	-6315	-0.0000317	0.0005615	0.0035	1.8365		6283.15	6283.15	4.49		Si
SLV 6	8.85	2075.59	-1050	-0.0087531	0.0005615	0.0035	1.4692		1136.97	1136.97	0.55		No
SLV 6	10.65	-2248.46	-6327	-0.0000403	0.0005615	0.0035	1.8365		6292.56	6292.56	2.8		Si
SLV 8	8.85	-3233.26	-12296	-0.0000685	0.0005615	0.0035	1.8365		10811.2	10811.2	3.34		Si
SLV 8	10.65	1065.05	-5671	-0.0000266	0.0005615	0.0035	1.8365		5095.5	5095.5	4.78		Si
SLV 5	8.85	2531.38	-832	-0.0141292	0.0005615	0.0035	1.4692		941.71	941.71	0.37		No
SLV 5	10.65	-2644.47	-6888	-0.0000464	0.0005615	0.0035	1.8365		6748.56	6748.56	2.55		Si
SLV 10	8.85	1694.34	-1588	-0.001381	0.0005615	0.0035	1.4692		1614.99	1614.99	0.95		No
SLV 10	10.65	-1657.35	-5918	-0.000033	0.0005615	0.0035	1.8365		5962.83	5962.83	3.6		Si
SLV 1	8.85	1228.7	-4088	-0.0000234	0.0005615	0.0035	1.8365		3780.09	3780.09	3.08		Si
SLV 1	10.65	-2270.47	-7272	-0.0000431	0.0005615	0.0035	1.8365		7055.44	7055.44	3.11		Si
SLD 6	8.85	993.73	-3435	-0.0000193	0.0005615	0.0035	1.8365		3223.64	3223.64	3.24		Si
SLD 6	10.65	-1529.64	-6222	-0.0000327	0.0005615	0.0035	1.8365		6207.92	6207.92	4.06		Si
SLV 9	8.85	2150.13	-1370	-0.0071132	0.0005615	0.0035	1.4692		1422.17	1422.17	0.66		No
SLV 9	10.65	-2053.36	-6480	-0.0000386	0.0005615	0.0035	1.8365		6416.15	6416.15	3.12		Si
SLV 12	8.85	-3614.51	-12834	-0.0000741	0.0005615	0.0035	1.8365		11194.61	11194.61	3.1		Si
SLV 12	10.65	1656.16	-5262	-0.000031	0.0005615	0.0035	1.8365		4760.26	4760.26	2.87		Si
SLD 5	8.85	1270.33	-3303	-0.0000219	0.0005615	0.0035	1.8365		3110.6	3110.6	2.45		Si
SLD 5	10.65	-1769.95	-6563	-0.0000361	0.0005615	0.0035	1.8365		6483.78	6483.78	3.66		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	8.85	-442.88	-8449	-7035	1164	1.8365	1.8365	-13682	8769	4509	40441	15398	4683	20082	No	17.25	Si
SLU 42	10.65	-873.74	-8449	-7035	1163	1.8365	1.8365	-13681	8769	4509	40441	15398	4683	20082	No	17.26	Si
SLU 81	8.85	-630.8	-9621	-8011	1079	1.8365	1.8365	-15579	9022	4639	40441	15398	4683	20082	No	18.61	Si
SLU 81	10.65	-885.68	-9127	-7600	1078	1.8365	1.8365	-14779	8915	4584	40441	15398	4683	20082	No	18.62	Si
SLU 82	8.85	-598.16	-9586	-7983	1141	1.8365	1.8365	-15523	9014	4635	40441	15398	4683	20082	No	17.6	Si
SLU 82	10.65	-905.11	-9157	-7625	1140	1.8365	1.8365	-14828	8921	4588	40441	15398	4683	20082	No	17.61	Si
SLU 41	8.85	-475.52	-8483	-7064	1102	1.8365	1.8365	-13737	8776	4513	40441	15398	4683	20082	No	18.22	Si
SLU 41	10.65	-854.31	-8419	-7010	1102	1.8365	1.8365	-13633	8762	4506	40441	15398	4683	20082	No	18.23	Si
SLU 83	8.85	-649.88	-10045	-8365	1090	1.8365	1.8365	-16266	9113	4686	40441	15398	4683	20082	No	18.42	Si
SLU 83	10.65	-897.72	-9581	-7978	1090	1.8365	1.8365	-15515	9013	4635	40441	15398	4683	20082	No	18.43	Si
SLU 34	8.85	-449.11	-8249	-6869	1066	1.8365	1.8365	-13358	8726	4487	40441	15398	4683	20082	No	18.84	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 34	10.65	-812.38	-8130	-6770	1065	1.8365	1.8365	-13166	8700	4474	40441	15398	4683	20082	No	18.85	Si
SLU 31	8.85	-430.03	-7825	-6516	1055	1.8365	1.8365	-12671	8634	4440	40441	15398	4683	20082	No	19.04	Si
SLU 31	10.65	-800.34	-7676	-6392	1054	1.8365	1.8365	-12430	8602	4423	40441	15398	4683	20082	No	19.05	Si
SLU 84	8.85	-617.24	-10011	-8336	1152	1.8365	1.8365	-16210	9106	4683	40441	15398	4683	20082	No	17.43	Si
SLU 84	10.65	-917.15	-9611	-8003	1151	1.8365	1.8365	-15563	9020	4638	40441	15398	4683	20082	No	17.44	Si
SLU 40	8.85	-423.8	-8024	-6682	1153	1.8365	1.8365	-12994	8677	4462	40441	15398	4683	20082	No	17.42	Si
SLU 40	10.65	-861.69	-7994	-6657	1152	1.8365	1.8365	-12946	8671	4459	40441	15398	4683	20082	No	17.43	Si
SLU 39	8.85	-456.44	-8059	-6711	1091	1.8365	1.8365	-13050	8684	4466	40441	15398	4683	20082	No	18.41	Si
SLU 39	10.65	-842.26	-7964	-6632	1091	1.8365	1.8365	-12897	8664	4455	40441	15398	4683	20082	No	18.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	8.85	2075.59	-1050	-874	5930	1.4692	0	0	0	0	40441	18478	3747	22225		3.75	Si
SLV 6	10.65	-2248.46	-6327	-5269	5855	1.8365	1.6887	-11194	12656	5984	40441	23098	4683	27781		4.74	Si
SLV 9	8.85	2150.13	-1370	-1141	5676	1.4692	0	0	0	0	40441	18478	3747	22225		3.92	Si
SLV 9	10.65	-2053.36	-6480	-5396	5860	1.8365	1.8041	-10493	12515	6322	40441	23098	4683	27781		4.74	Si
SLV 11	8.85	-3158.72	-12616	-10505	-4934	1.8365	1.8365	-20429	14502	7458	40441	23098	4683	27781		5.63	Si
SLV 11	10.65	1260.15	-5824	-4849	-4861	1.8365	1.8365	-9430	12303	6326	40441	23098	4683	27781		5.72	Si
SLV 8	8.85	-3233.26	-12296	-10239	-4680	1.8365	1.8365	-19911	14399	7404	40441	23098	4683	27781		5.94	Si
SLV 8	10.65	1065.05	-5671	-4722	-4865	1.8365	1.8365	-9183	12253	6301	40441	23098	4683	27781		5.71	Si
SLV 12	8.85	-3614.51	-12834	-10687	-5805	1.8365	1.8365	-20782	14573	7494	40441	23098	4683	27781		4.79	Si
SLV 12	10.65	1656.16	-5262	-4382	-5731	1.8365	1.8106	-8521	12121	6145	40441	23098	4683	27781		4.85	Si
SLV 1	8.85	1228.7	-4088	-3404	4610	1.8365	1.8365	-6620	11741	6037	40441	23098	4683	27781		6.03	Si
SLV 1	10.65	-2270.47	-7272	-6055	4195	1.8365	1.8181	-11775	12772	6502	40441	23098	4683	27781		6.62	Si
SLV 10	8.85	1694.34	-1588	-1322	4805	1.4692	0	0	0	0	40441	18478	3747	22225		4.63	Si
SLV 10	10.65	-1657.35	-5918	-4928	4989	1.8365	1.8365	-9584	12333	6342	40441	23098	4683	27781		5.57	Si
SLD 5	8.85	1270.33	-3303	-2750	4224	1.8365	1.601	-5349	11486	5149	40441	23098	4683	27781		6.58	Si
SLD 5	10.65	-1769.95	-6563	-5465	4170	1.8365	1.8365	-10628	12542	6450	40441	23098	4683	27781		6.66	Si
SLV 5	8.85	2531.38	-832	-693	6800	1.4692	0	0	0	0	40441	18478	3747	22225		3.27	Si
SLV 5	10.65	-2644.47	-6888	-5736	6726	1.8365	1.6031	-12857	12988	5830	40441	23098	4683	27781		4.13	Si
SLV 7	8.85	-2777.47	-12078	-10058	-3810	1.8365	1.8365	-19558	14328	7368	40441	23098	4683	27781		7.29	Si
SLV 7	10.65	669.04	-6232	-5190	-3995	1.8365	1.8365	-10092	12435	6395	40441	23098	4683	27781		6.95	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	8794	-4522	228.75	596.62	2.61	Si
SLV 6	179667	0.45	8884	-4568	228.75	602.38	2.63	Si
SLV 9	179667	0.45	9280	-4772	228.75	627.47	2.74	Si
SLV 5	179667	0.45	9370	-4818	228.75	633.19	2.77	Si
SLV 14	179667	0.45	11235	-5777	228.75	749.34	3.28	Si
SLV 2	179667	0.45	11537	-5933	228.75	767.82	3.36	Si
SLV 13	179667	0.45	11957	-6149	228.75	793.43	3.47	Si
SLV 1	179667	0.45	12259	-6304	228.75	811.7	3.55	Si
SLV 16	179667	0.45	13519	-6952	228.75	887.14	3.88	Si
SLV 4	179667	0.45	13821	-7107	228.75	904.97	3.96	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-5252	-7503	271	1.506	797.9	0.917	23.86727	6.07522	Si
SLV 1	-5239	-5464	-265	1.509	796.6	0.917	23.92937	6.07522	Si
SLV 13	-5276	-5050	81	1.528	800.3	0.917	24.21661	6.07522	Si
SLV 3	-5215	-7917	-75	1.542	794.2	0.917	24.4548	6.07522	Si
SLV 16	-4800	-7298	271	1.609	752.8	0.913	25.59853	6.07522	Si
SLV 2	-4787	-5259	-266	1.613	751.4	0.913	25.66537	6.07522	Si
SLV 14	-4824	-4845	81	1.632	755.2	0.913	25.96731	6.07522	Si
SLV 4	-4763	-7712	-76	1.648	749	0.913	26.23657	6.07522	Si
SLV 5	-5206	-2424	-365	1.502	793.3	0.916	23.81499	5.24939	Si
SLV 9	-5217	-2300	-261	1.514	794.4	0.917	24.01511	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.573	SLU 40	Si
V_SLU	17.252	SLU 42	Si
PF_SLV	0.372	SLV 5	No
V_SLV	3.268	SLV 5	Si
PFFP_SLV	2.608	SLV 10	Si
R_SLV	3.929	SLV 15	Si

Maschio 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.878	5.951	L6	L7	2.26	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	8.85	-464.23	-13522	-0.0000361	0.0003743	0.0035	2.26	12072.72	14303.24	14303.24	30.81	No	Si
SLU 50	10.65	1314.17	-10750	-0.0000345	0.0003743	0.0035	2.26	10120.8	10640.62	10640.62	8.1	No	Si
SLU 51	8.85	-436.9	-13455	-0.0000357	0.0003743	0.0035	2.26	12028.54	14248.55	14248.55	32.61	No	Si
SLU 51	10.65	1282.24	-10683	-0.0000342	0.0003743	0.0035	2.26	10070.08	10582.63	10582.63	8.25	No	Si
SLU 43	8.85	-629.17	-12855	-0.0000354	0.0003743	0.0035	2.26	11627.46	13756.93	13756.93	21.87	No	Si
SLU 43	10.65	1169.97	-10083	-0.0000319	0.0003743	0.0035	2.26	9610.68	10068.77	10068.77	8.61	No	Si
SLU 9	8.85	-300.08	-11003	-0.0000285	0.0003743	0.0035	2.26	10310.26	12212.21	12212.21	40.7	No	Si
SLU 9	10.65	1035.39	-8858	-0.0000279	0.0003743	0.0035	2.26	8633.18	9037.59	9037.59	8.73	No	Si
SLU 8	8.85	-327.42	-11071	-0.0000289	0.0003743	0.0035	2.26	10360.23	12269.91	12269.91	37.47	No	Si
SLU 8	10.65	1067.32	-8925	-0.0000283	0.0003743	0.0035	2.26	8688.21	9093.56	9093.56	8.52	No	Si
SLU 49	8.85	-433.61	-13811	-0.0000366	0.0003743	0.0035	2.26	12260.78	14536.14	14536.14	33.52	No	Si
SLU 49	10.65	1288.87	-11039	-0.0000351	0.0003743	0.0035	2.26	10336.96	10890.65	10890.65	8.45	No	Si
SLU 48	8.85	-460.94	-13878	-0.000037	0.0003743	0.0035	2.26	12304.12	14589.69	14589.69	31.65	No	Si
SLU 48	10.65	1320.8	-11107	-0.0000355	0.0003743	0.0035	2.26	10386.84	10949.03	10949.03	8.29	No	Si
SLU 46	8.85	-516.07	-13477	-0.0000363	0.0003743	0.0035	2.26	12043.48	14267.05	14267.05	27.65	No	Si
SLU 46	10.65	1216.78	-10706	-0.0000338	0.0003743	0.0035	2.26	10087.24	10602.22	10602.22	8.71	No	Si
SLU 47	8.85	-501.14	-13076	-0.0000352	0.0003743	0.0035	2.26	11777.01	13937.8	13937.8	27.81	No	Si
SLU 47	10.65	1188.86	-10305	-0.0000326	0.0003743	0.0035	2.26	9781.76	10257.79	10257.79	8.63	No	Si
SLU 45	8.85	-543.41	-13545	-0.0000367	0.0003743	0.0035	2.26	12087.61	14321.68	14321.68	26.36	No	Si
SLU 45	10.65	1248.7	-10773	-0.0000342	0.0003743	0.0035	2.26	10137.91	10660.23	10660.23	8.54	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	8.85	-3325.8	-18438	-0.0000668	0.0005615	0.0035	2.26		19190.4	19190.4	5.77		Si
SLV 12	10.65	4559.86	-16127	-0.0000689	0.0005615	0.0035	2.26		15856.03	15856.03	3.48		Si
SLV 5	8.85	2276.94	-4127	-0.0000253	0.0005615	0.0035	2.26		4784.81	4784.81	2.1		Si
SLV 5	10.65	-2657.19	-2118	-0.0002011	0.0005615	0.0035	1.808		3686.93	3686.93	1.39		Si
SLV 11	8.85	-2532.99	-17681	-0.0000595	0.0005615	0.0035	2.26		18558.17	18558.17	7.33		Si
SLV 11	10.65	4085.85	-15370	-0.0000638	0.0005615	0.0035	2.26		15203.83	15203.83	3.72		Si
SLV 15	8.85	-1899.41	-13420	-0.0000444	0.0005615	0.0035	2.26		14887.56	14887.56	7.84		Si
SLV 15	10.65	3057.23	-10668	-0.000045	0.0005615	0.0035	2.26		11250.68	11250.68	3.68		Si
SLV 14	8.85	-1879.78	-10610	-0.0000373	0.0005615	0.0035	2.26		12291.01	12291.01	6.54		Si
SLV 14	10.65	2024.51	-7841	-0.0000313	0.0005615	0.0035	2.26		8587.76	8587.76	4.24		Si
SLV 9	8.85	1457.84	-4567	-0.0000198	0.0005615	0.0035	2.26		5247.13	5247.13	3.6		Si
SLV 9	10.65	-1703.47	-2197	-0.0000218	0.0005615	0.0035	1.808		3772.85	3772.85	2.21		Si
SLV 16	8.85	-3077.03	-14545	-0.000055	0.0005615	0.0035	2.26		15876.93	15876.93	5.16		Si
SLV 16	10.65	3761.31	-11793	-0.0000524	0.0005615	0.0035	2.26		12181.52	12181.52	3.24		Si
SLD 16	8.85	-2085.32	-13220	-0.0000451	0.0005615	0.0035	2.26		14706.35	14706.35	7.05		Si
SLD 16	10.65	2686.62	-10704	-0.0000427	0.0005615	0.0035	2.26		11280.25	11280.25	4.2		Si
SLV 10	8.85	665.04	-5324	-0.0000167	0.0005615	0.0035	2.26		6035.07	6035.07	9.07		Si
SLV 10	10.65	-1229.46	-2955	-0.0000146	0.0005615	0.0035	2.26		4585.93	4585.93	3.73		Si
SLV 6	8.85	1484.14	-4885	-0.0000207	0.0005615	0.0035	2.26		5580.16	5580.16	3.76		Si
SLV 6	10.65	-2183.18	-2875	-0.0000275	0.0005615	0.0035	1.808		4500.66	4500.66	2.06		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	8.85	-655.67	-16622	-13841	-1136	2.26	2.26	-21873	9861	6240	40441	18949	5763	24712	No	21.76	Si
SLU 74	10.65	1347.44	-13799	-11490	-1136	2.26	2.26	-18158	9365	5926	40441	18949	5763	24712	No	21.76	Si
SLU 77	8.85	-573.21	-16955	-14119	-1130	2.26	2.26	-22312	9919	6277	40441	18949	5763	24712	No	21.87	Si
SLU 77	10.65	1419.54	-14132	-11768	-1130	2.26	2.26	-18597	9424	5964	40441	18949	5763	24712	No	21.87	Si
SLU 79	8.85	-576.5	-16599	-13822	-1128	2.26	2.26	-21843	9857	6237	40441	18949	5763	24712	No	21.9	Si
SLU 79	10.65	1412.9	-13776	-11471	-1128	2.26	2.26	-18128	9361	5924	40441	18949	5763	24712	No	21.9	Si
SLU 75	8.85	-628.33	-16555	-13785	-1103	2.26	2.26	-21784	9849	6232	40441	18949	5763	24712	No	22.4	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	10.65	1315.51	-13731	-11434	-1103	2.26	2.26	-18069	9354	5919	40441	18949	5763	24712	No	22.4	Si
SLU 84	8.85	-666.12	-16680	-13889	-1123	2.26	2.26	-21949	9871	6246	40441	18949	5763	24712	No	22.01	Si
SLU 84	10.65	1313.58	-13856	-11538	-1123	2.26	2.26	-18234	9376	5933	40441	18949	5763	24712	No	22.01	Si
SLU 82	8.85	-748.59	-16346	-13612	-1129	2.26	2.26	-21510	9812	6209	40441	18949	5763	24712	No	21.89	Si
SLU 82	10.65	1241.49	-13523	-11261	-1129	2.26	2.26	-17795	9317	5896	40441	18949	5763	24712	No	21.89	Si
SLU 60	8.85	-744.16	-14459	-12041	-1096	2.26	2.26	-19027	9481	6000	40441	18949	5763	24712	No	22.54	Si
SLU 60	10.65	1185.66	-11688	-9733	-1096	2.26	2.26	-15380	8995	5692	40441	18949	5763	24712	No	22.54	Si
SLU 83	8.85	-693.46	-16747	-13945	-1156	2.26	2.26	-22038	9883	6254	40441	18949	5763	24712	No	21.38	Si
SLU 83	10.65	1345.51	-13924	-11594	-1156	2.26	2.26	-18322	9387	5940	40441	18949	5763	24712	No	21.38	Si
SLU 78	8.85	-545.87	-16888	-14063	-1097	2.26	2.26	-22223	9908	6270	40441	18949	5763	24712	No	22.52	Si
SLU 78	10.65	1387.61	-14065	-11712	-1097	2.26	2.26	-18508	9412	5956	40441	18949	5763	24712	No	22.52	Si
SLU 81	8.85	-775.93	-16413	-13668	-1162	2.26	2.26	-21599	9824	6217	40441	18949	5763	24712	No	21.27	Si
SLU 81	10.65	1273.41	-13590	-11317	-1162	2.26	2.26	-17883	9329	5903	40441	18949	5763	24712	No	21.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	8.85	2276.94	-4127	-3437	2695	2.26	1.735	-5431	11503	5588	40441	28423	5763	34186		12.69	Si
SLV 5	10.65	-2657.19	-2118	-1764	2608	1.808	0	0	0	0	40441	22739	4610	27349		10.49	Si
SLD 12	8.85	-2184.27	-15482	-12892	-2935	2.26	2.26	-20373	14491	9170	40441	28423	5763	34186		11.65	Si
SLD 12	10.65	3090.94	-13230	-11016	-2877	2.26	2.26	-17409	13898	8795	40441	28423	5763	34186		11.88	Si
SLD 16	8.85	-2085.32	-13220	-11009	-2664	2.26	2.26	-17397	13896	8793	40441	28423	5763	34186		12.83	Si
SLD 16	10.65	2686.62	-10704	-8913	-2458	2.26	2.26	-14086	13234	8374	40441	28423	5763	34186		13.91	Si
SLV 16	8.85	-3077.03	-14545	-12111	-3791	2.26	2.26	-19139	14245	9014	40441	28423	5763	34186		9.02	Si
SLV 16	10.65	3761.31	-11793	-9820	-3484	2.26	2.26	-15519	13520	8556	40441	28423	5763	34186		9.81	Si
SLV 8	8.85	-2506.7	-17999	-14988	-3397	2.26	2.26	-23685	15154	9589	40441	28423	5763	34186		10.06	Si
SLV 8	10.65	3606.14	-16047	-13363	-3496	2.26	2.26	-21117	14640	9264	40441	28423	5763	34186		9.78	Si
SLD 11	8.85	-1703.16	-15022	-12509	-2508	2.26	2.26	-19768	14370	9093	40441	28423	5763	34186		13.63	Si
SLD 11	10.65	2803.3	-12770	-10634	-2450	2.26	2.26	-16804	13778	8718	40441	28423	5763	34186		13.96	Si
SLV 11	8.85	-2532.99	-17681	-14723	-3667	2.26	2.26	-23266	15070	9536	40441	28423	5763	34186		9.32	Si
SLV 11	10.65	4085.85	-15370	-12798	-3580	2.26	2.26	-20225	14462	9151	40441	28423	5763	34186		9.55	Si
SLV 12	8.85	-3325.8	-18438	-15354	-4371	2.26	2.26	-24263	15269	9662	40441	28423	5763	34186		7.82	Si
SLV 12	10.65	4559.86	-16127	-13429	-4284	2.26	2.26	-21222	14661	9277	40441	28423	5763	34186		7.98	Si
SLV 15	8.85	-1899.41	-13420	-11175	-2746	2.26	2.26	-17659	13949	8827	40441	28423	5763	34186		12.45	Si
SLV 15	10.65	3057.23	-10668	-8884	-2439	2.26	2.26	-14039	13224	8368	40441	28423	5763	34186		14.02	Si
SLV 7	8.85	-1713.9	-17241	-14357	-2694	2.26	2.26	-22688	14954	9463	40441	28423	5763	34186		12.69	Si
SLV 7	10.65	3132.13	-15290	-12732	-2792	2.26	2.26	-20121	14441	9138	40441	28423	5763	34186		12.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.45	5084	-3217	281.5	435.39	1.55	Si
SLV 9	179667	0.45	5496	-3478	281.5	469.38	1.67	Si
SLV 6	179667	0.45	6281	-3974	281.5	533.52	1.9	Si
SLV 10	179667	0.45	6693	-4235	281.5	566.94	2.01	Si
SLV 1	179667	0.45	11602	-7342	281.5	949.73	3.37	Si
SLV 13	179667	0.45	12976	-8211	281.5	1051.88	3.74	Si
SLV 2	179667	0.45	13379	-8466	281.5	1081.46	3.84	Si
SLV 14	179667	0.45	14754	-9336	281.5	1180.77	4.19	Si
SLV 3	179667	0.45	17850	-11295	281.5	1396.5	4.96	Si
SLV 15	179667	0.45	19224	-12165	281.5	1488.69	5.29	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-11258	-20514	875	0.936	1465.2	0.939	14.47356	5.24939	Si
SLV 7	-10995	-19247	875	0.954	1438.6	0.938	14.7684	5.24939	Si
SLV 12	-10870	-21683	891	0.961	1426	0.938	14.89328	5.24939	Si
SLV 11	-10607	-20417	891	0.98	1399.4	0.937	15.20657	5.24939	Si
SLV 4	-9026	-13399	238	1.174	1239.6	0.93	18.34046	6.07522	Si
SLV 3	-8635	-11518	238	1.216	1200.2	0.929	19.02728	6.07522	Si
SLV 16	-7733	-17298	292	1.319	1109.3	0.924	20.7447	6.07522	Si
SLV 15	-7342	-15417	292	1.372	1070.1	0.922	21.63386	6.07522	Si
SLV 2	-6670	-8207	-291	1.476	1002.6	0.918	23.35899	6.07522	Si
SLV 1	-6280	-6327	-292	1.543	963.5	0.916	24.4928	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.097	SLU 50	Si
V_SLU	21.274	SLU 81	Si
PF_SLV	1.388	SLV 5	Si
V_SLV	7.822	SLV 12	Si
PFFP_SLV	1.547	SLV 5	Si
R_SLV	2.757	SLV 8	Si

Maschio 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.478	-3.169	-24.614	-3.169	L6	L7	2.137	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	8.85	492.19	-10480	-0.0000304	0.0003743	0.0035	2.1365	9269.04	9763.81	9763.81	19.84	No	Si
SLU 41	10.65	-1517.09	-10626	-0.0000383	0.0003743	0.0035	2.1365	9371.3	11179.43	11179.43	7.37	No	Si
SLU 40	8.85	477.18	-10119	-0.0000293	0.0003743	0.0035	2.1365	9013.75	9465.32	9465.32	19.84	No	Si
SLU 40	10.65	-1531.99	-10172	-0.0000372	0.0003743	0.0035	2.1365	9051.72	10817.12	10817.12	7.06	No	Si
SLU 42	8.85	442.18	-10528	-0.0000301	0.0003743	0.0035	2.1365	9302.5	9803.56	9803.56	22.17	No	Si
SLU 42	10.65	-1496.84	-10600	-0.0000381	0.0003743	0.0035	2.1365	9352.71	11158.01	11158.01	7.45	No	Si
SLU 83	8.85	455.84	-12459	-0.0000355	0.0003743	0.0035	2.1365	10587.09	11439.91	11439.91	25.1	No	Si
SLU 83	10.65	-1653.37	-12186	-0.0000437	0.0003743	0.0035	2.1365	10413.43	12405.41	12405.41	7.5	No	Si
SLU 39	8.85	527.19	-10071	-0.0000295	0.0003743	0.0035	2.1365	8979.61	9425.99	9425.99	17.88	No	Si
SLU 39	10.65	-1552.24	-10199	-0.0000374	0.0003743	0.0035	2.1365	9070.71	10838.36	10838.36	6.98	No	Si
SLU 81	8.85	490.84	-12050	-0.0000346	0.0003743	0.0035	2.1365	10326.05	11088.66	11088.66	22.59	No	Si
SLU 81	10.65	-1688.52	-11758	-0.0000427	0.0003743	0.0035	2.1365	10136.23	12083.93	12083.93	7.16	No	Si
SLU 32	8.85	406.47	-10381	-0.0000295	0.0003743	0.0035	2.1365	9199.55	9681.68	9681.68	23.82	No	Si
SLU 32	10.65	-1448.73	-10387	-0.0000372	0.0003743	0.0035	2.1365	9203.57	10987.74	10987.74	7.58	No	Si
SLU 84	8.85	405.83	-12507	-0.0000352	0.0003743	0.0035	2.1365	10617.23	11481.06	11481.06	28.29	No	Si
SLU 84	10.65	-1633.12	-12159	-0.0000434	0.0003743	0.0035	2.1365	10396.3	12385.22	12385.22	7.58	No	Si
SLU 31	8.85	356.02	-9861	-0.0000277	0.0003743	0.0035	2.1365	8828.56	9253.52	9253.52	25.99	No	Si
SLU 31	10.65	-1395.58	-9685	-0.0000349	0.0003743	0.0035	2.1365	8701.37	10422.79	10422.79	7.47	No	Si
SLU 82	8.85	440.83	-12098	-0.0000344	0.0003743	0.0035	2.1365	10356.87	11129.67	11129.67	25.25	No	Si
SLU 82	10.65	-1668.27	-11732	-0.0000425	0.0003743	0.0035	2.1365	10118.7	12063.97	12063.97	7.23	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	8.85	3102.05	-3149	-0.0001447	0.0005615	0.0035	2.1365		3512	3512	1.13		Si
SLV 12	10.65	-2578.19	-8071	-0.0000385	0.0005615	0.0035	2.1365		9287.91	9287.91	3.6		Si
SLV 7	8.85	3500.02	-3898	-0.0000848	0.0005615	0.0035	2.1365		4263.04	4263.04	1.22		Si
SLV 7	10.65	-3434.84	-9111	-0.0000475	0.0005615	0.0035	2.1365		10242.02	10242.02	2.98		Si
SLV 8	8.85	3932.18	-3790	-0.0004431	0.0005615	0.0035	2.1365		4155.09	4155.09	1.06		Si
SLV 8	10.65	-3889.97	-9697	-0.0000526	0.0005615	0.0035	2.1365		10765.62	10765.62	2.77		Si
SLV 9	8.85	-3583.27	-13134	-0.0000594	0.0005615	0.0035	2.1365		13766.65	13766.65	3.84		Si
SLV 9	10.65	1899.87	-5909	-0.0000281	0.0005615	0.0035	2.1365		6234.73	6234.73	3.28		Si
SLD 8	8.85	2399.37	-5740	-0.0000314	0.0005615	0.0035	2.1365		6071.62	6071.62	2.53		Si
SLD 8	10.65	-2729.54	-8960	-0.000042	0.0005615	0.0035	2.1365		10108.08	10108.08	3.7		Si
SLV 4	8.85	2816.94	-7970	-0.00004	0.0005615	0.0035	2.1365		8186.03	8186.03	2.91		Si
SLV 4	10.65	-4122.82	-11185	-0.0000581	0.0005615	0.0035	2.1365		12094.13	12094.13	2.93		Si
SLV 11	8.85	2669.89	-3257	-0.0000472	0.0005615	0.0035	2.1365		3620.72	3620.72	1.36		Si
SLV 11	10.65	-2123.05	-7485	-0.0000337	0.0005615	0.0035	2.1365		8737.73	8737.73	4.12		Si
SLD 12	8.85	1874.37	-5336	-0.0000264	0.0005615	0.0035	2.1365		5680.07	5680.07	3.03		Si
SLD 12	10.65	-1893.86	-7930	-0.0000333	0.0005615	0.0035	2.1365		9155.03	9155.03	4.83		Si
SLV 13	8.85	-2468.03	-8955	-0.0000401	0.0005615	0.0035	2.1365		10103.39	10103.39	4.09		Si
SLV 13	10.65	2132.72	-4421	-0.0000268	0.0005615	0.0035	2.1365		4783.6	4783.6	2.24		Si
SLD 7	8.85	2137.11	-5805	-0.0000295	0.0005615	0.0035	2.1365		6134.69	6134.69	2.87		Si
SLD 7	10.65	-2453.35	-8604	-0.000039	0.0005615	0.0035	2.1365		9784.09	9784.09	3.99		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	8.85	490.84	-12050	-10034	2696	2.1365	2.1365	-16773	9181	5492	40441	17914	5448	23362	No	8.66	Si
SLU 81	10.65	-1688.52	-11758	-9791	2696	2.1365	2.1365	-16367	9127	5460	40441	17914	5448	23362	No	8.67	Si
SLU 39	8.85	527.19	-10071	-8386	2521	2.1365	2.1365	-14018	8814	5273	40441	17914	5448	23362	No	9.27	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 39	10.65	-1552.24	-10199	-8493	2521	2.1365	2.1365	-14196	8837	5287	40441	17914	5448	23362	No	9.27	Si
SLU 83	8.85	455.84	-12459	-10375	2668	2.1365	2.1365	-17343	9257	5538	40441	17914	5448	23362	No	8.76	Si
SLU 83	10.65	-1653.37	-12186	-10148	2668	2.1365	2.1365	-16962	9206	5507	40441	17914	5448	23362	No	8.76	Si
SLU 77	8.85	335.12	-12769	-10633	2471	2.1365	2.1365	-17774	9314	5572	40441	17914	5448	23362	No	9.45	Si
SLU 77	10.65	-1549.86	-12374	-10304	2471	2.1365	2.1365	-17224	9241	5528	40441	17914	5448	23362	No	9.46	Si
SLU 74	8.85	370.12	-12360	-10292	2499	2.1365	2.1365	-17205	9238	5527	40441	17914	5448	23362	No	9.35	Si
SLU 74	10.65	-1585.01	-11946	-9948	2499	2.1365	2.1365	-16629	9162	5481	40441	17914	5448	23362	No	9.35	Si
SLU 82	8.85	440.83	-12098	-10074	2619	2.1365	2.1365	-16840	9190	5498	40441	17914	5448	23362	No	8.92	Si
SLU 82	10.65	-1668.27	-11732	-9769	2607	2.1365	2.1365	-16330	9122	5457	40441	17914	5448	23362	No	8.96	Si
SLU 41	8.85	492.19	-10480	-8727	2493	2.1365	2.1365	-14587	8889	5318	40441	17914	5448	23362	No	9.37	Si
SLU 41	10.65	-1517.09	-10626	-8849	2493	2.1365	2.1365	-14791	8917	5334	40441	17914	5448	23362	No	9.37	Si
SLU 75	8.85	320.12	-12408	-10332	2422	2.1365	2.1365	-17271	9247	5532	40441	17914	5448	23362	No	9.65	Si
SLU 75	10.65	-1564.76	-11920	-9926	2410	2.1365	2.1365	-16592	9157	5478	40441	17914	5448	23362	No	9.69	Si
SLU 40	8.85	477.18	-10119	-8426	2443	2.1365	2.1365	-14085	8822	5278	40441	17914	5448	23362	No	9.56	Si
SLU 40	10.65	-1531.99	-10172	-8470	2432	2.1365	2.1365	-14159	8832	5284	40441	17914	5448	23362	No	9.61	Si
SLU 84	8.85	405.83	-12507	-10415	2591	2.1365	2.1365	-17409	9266	5543	40441	17914	5448	23362	No	9.02	Si
SLU 84	10.65	-1633.12	-12159	-10125	2579	2.1365	2.1365	-16925	9201	5504	40441	17914	5448	23362	No	9.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	8.85	2137.11	-5805	-4834	5537	2.1365	2.1004	-8080	12033	7077	40441	26871	5448	32319		5.84	Si
SLD 7	10.65	-2453.35	-8604	-7165	5470	2.1365	2.1365	-11977	12812	7665	40441	26871	5448	32319		5.91	Si
SLV 10	8.85	-3151.11	-13026	-10847	-5244	2.1365	2.1365	-18132	14043	8401	40441	26871	5448	32319		6.16	Si
SLV 10	10.65	1444.74	-6495	-5409	-5151	2.1365	2.1365	-9041	12225	7313	40441	26871	5448	32319		6.27	Si
SLV 11	8.85	2669.89	-3257	-2712	6271	2.1365	0.7453	-4533	11323	3603	40441	26871	5448	32319		5.15	Si
SLV 11	10.65	-2123.05	-7485	-6232	6522	2.1365	2.1365	-10418	12500	7478	40441	26871	5448	32319		4.96	Si
SLV 12	8.85	3102.05	-3149	-2622	7176	2.1365	0.2491	-37668	16250	3579	40441	26871	5448	32319		4.5	Si
SLV 12	10.65	-2578.19	-8071	-6721	7427	2.1365	2.1365	-11234	12663	7576	40441	26871	5448	32319		4.35	Si
SLV 3	8.85	2175.01	-8130	-6770	6100	2.1365	2.1365	-11317	12680	7586	40441	26871	5448	32319		5.3	Si
SLV 3	10.65	-3446.76	-10314	-8589	5551	2.1365	2.1365	-14356	13288	7949	40441	26871	5448	32319		5.82	Si
SLV 9	8.85	-3583.27	-13134	-10937	-6148	2.1365	2.1365	-18282	14073	8419	40441	26871	5448	32319		5.26	Si
SLV 9	10.65	1899.87	-5909	-4921	-6056	2.1365	2.1365	-8225	12062	7216	40441	26871	5448	32319		5.34	Si
SLV 7	8.85	3500.02	-3898	-3246	8300	2.1365	0.5114	-22929	15003	3745	40441	26871	5448	32319		3.89	Si
SLV 7	10.65	-3434.84	-9111	-7586	8207	2.1365	2.0738	-13146	13046	7575	40441	26871	5448	32319		3.94	Si
SLV 4	8.85	2816.94	-7970	-6637	7444	2.1365	2.1365	-11094	12635	7559	40441	26871	5448	32319		4.34	Si
SLV 4	10.65	-4122.82	-11185	-9314	6895	2.1365	2.099	-15969	13610	7999	40441	26871	5448	32319		4.69	Si
SLV 8	8.85	3932.18	-3790	-3156	9204	2.1365	0.0925	-92615	16250	3722	40441	26871	5448	32319		3.51	Si
SLV 8	10.65	-3889.97	-9697	-8075	9112	2.1365	2.0013	-14504	13318	7463	40441	26871	5448	32319		3.55	Si
SLD 8	8.85	2399.37	-5740	-4779	6086	2.1365	1.9507	-7989	12014	6562	40441	26871	5448	32319		5.31	Si
SLD 8	10.65	-2729.54	-8960	-7461	6019	2.1365	2.1365	-12472	12911	7724	40441	26871	5448	32319		5.37	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.45	9188	-5496	266.12	723.21	2.72	Si
SLV 16	179667	0.45	9955	-5956	266.12	779.43	2.93	Si
SLV 11	179667	0.45	10089	-6036	266.12	789.15	2.97	Si
SLV 13	179667	0.45	10602	-6342	266.12	826.29	3.1	Si
SLV 12	179667	0.45	10606	-6345	266.12	826.56	3.11	Si
SLV 14	179667	0.45	11369	-6801	266.12	881.32	3.31	Si
SLV 7	179667	0.45	12168	-7279	266.12	937.89	3.52	Si
SLV 8	179667	0.45	12684	-7588	266.12	974.12	3.66	Si
SLV 9	179667	0.45	14802	-8855	266.12	1119.56	4.21	Si
SLV 10	179667	0.45	15319	-9164	266.12	1154.3	4.34	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-7526	-10421	517	1.264	1070.4	0.925	19.8582	6.07522	Si
SLV 2	-7428	-12521	218	1.309	1060.6	0.925	20.57461	6.07522	Si
SLV 3	-7059	-10084	518	1.328	1023.5	0.923	20.91711	6.07522	Si
SLV 1	-6962	-12184	218	1.376	1013.7	0.922	21.68512	6.07522	Si
SLV 8	-6775	-5990	609	1.36	994.9	0.921	21.45462	5.24939	Si
SLV 7	-6461	-5763	610	1.409	963.4	0.919	22.28201	5.24939	Si
SLV 6	-6450	-12988	-389	1.437	962.3	0.919	22.72783	5.24939	Si
SLV 14	-5176	-7015	-518	1.67	835.1	0.91	26.66287	6.07522	Si
SLV 16	-5274	-4915	-219	1.69	844.8	0.911	26.95482	6.07522	Si
SLV 5	-6136	-12761	-389	1.492	930.9	0.917	23.64304	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.982	SLU 39	Si
V_SLU	8.665	SLU 81	Si
PF_SLV	1.057	SLV 8	Si
V_SLV	3.511	SLV 8	Si
PFFP_SLV	2.718	SLV 15	Si
R_SLV	3.269	SLV 4	Si

Maschio 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.578	-3.169	L6	L7	2.285	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	9.95	-699.51	-11651	-0.0000324	0.0003743	0.0035	2.285	10930.07	12925.57	12925.57	18.48	No	Si
SLU 41	10.75	-1082.06	-10015	-0.0000307	0.0003743	0.0035	2.285	9682.72	11502.01	11502.01	10.63	No	Si
SLU 42	9.95	-695.56	-11732	-0.0000326	0.0003743	0.0035	2.285	10989.84	12997.42	12997.42	18.69	No	Si
SLU 42	10.75	-1059.36	-10073	-0.0000307	0.0003743	0.0035	2.285	9728.78	11556.05	11556.05	10.91	No	Si
SLU 82	9.95	-848.79	-13498	-0.0000381	0.0003743	0.0035	2.285	12226	14461.51	14461.51	17.04	No	Si
SLU 82	10.75	-1192.61	-11433	-0.000035	0.0003743	0.0035	2.285	10769.26	12734.2	12734.2	10.68	No	Si
SLU 40	9.95	-718.5	-11512	-0.0000321	0.0003743	0.0035	2.285	10827.93	12803.67	12803.67	17.82	No	Si
SLU 40	10.75	-1073.9	-9892	-0.0000303	0.0003743	0.0035	2.285	9585.67	11388.87	11388.87	10.61	No	Si
SLU 32	9.95	-712.81	-11598	-0.0000323	0.0003743	0.0035	2.285	10891.32	12879.18	12879.18	18.07	No	Si
SLU 32	10.75	-1052.94	-9948	-0.0000304	0.0003743	0.0035	2.285	9630.08	11440.52	11440.52	10.87	No	Si
SLU 83	9.95	-829.8	-13637	-0.0000383	0.0003743	0.0035	2.285	12318.47	14575.61	14575.61	17.57	No	Si
SLU 83	10.75	-1200.78	-11555	-0.0000354	0.0003743	0.0035	2.285	10859.7	12841.46	12841.46	10.69	No	Si
SLU 84	9.95	-825.85	-13719	-0.0000385	0.0003743	0.0035	2.285	12372.55	14642.34	14642.34	17.73	No	Si
SLU 84	10.75	-1178.07	-11613	-0.0000354	0.0003743	0.0035	2.285	10902.61	12892.68	12892.68	10.94	No	Si
SLU 74	9.95	-843.1	-13584	-0.0000382	0.0003743	0.0035	2.285	12283.4	14532.33	14532.33	17.24	No	Si
SLU 74	10.75	-1171.66	-11488	-0.000035	0.0003743	0.0035	2.285	10810.65	12783.17	12783.17	10.91	No	Si
SLU 81	9.95	-852.74	-13417	-0.0000379	0.0003743	0.0035	2.285	12171.29	14394.03	14394.03	16.88	No	Si
SLU 81	10.75	-1215.32	-11374	-0.000035	0.0003743	0.0035	2.285	10725.98	12683.2	12683.2	10.44	No	Si
SLU 39	9.95	-722.45	-11430	-0.000032	0.0003743	0.0035	2.285	10767.54	12732.16	12732.16	17.62	No	Si
SLU 39	10.75	-1096.6	-9834	-0.0000303	0.0003743	0.0035	2.285	9539.24	11335.07	11335.07	10.34	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	9.95	-209.42	-6354	-0.0000161	0.0005615	0.0035	2.285		8212.49	8212.49	39.22		Si
SLD 8	10.75	-2203.85	-5931	-0.0000273	0.0005615	0.0035	2.285		7770.81	7770.81	3.53		Si
SLV 3	9.95	70.94	-7885	-0.0000189	0.0005615	0.0035	2.285		8737.72	8737.72	123.16		Si
SLV 3	10.75	-3230.24	-7522	-0.0000377	0.0005615	0.0035	2.285		9393.59	9393.59	2.91		Si
SLD 7	9.95	-311.23	-6492	-0.000017	0.0005615	0.0035	2.285		8354.7	8354.7	26.84		Si
SLD 7	10.75	-1933.03	-5914	-0.0000256	0.0005615	0.0035	2.285		7752.13	7752.13	4.01		Si
SLV 2	9.95	102.48	-10367	-0.000025	0.0005615	0.0035	2.285		11156.77	11156.77	108.87		Si
SLV 2	10.75	-3002.19	-9475	-0.0000409	0.0005615	0.0035	2.285		11335.75	11335.75	3.78		Si
SLV 8	9.95	51.58	-4356	-0.0000104	0.0005615	0.0035	2.285		5087.77	5087.77	98.64		Si
SLV 8	10.75	-3163.66	-4714	-0.0000357	0.0005615	0.0035	1.828		6504.8	6504.8	2.06		Si
SLV 7	9.95	-116.19	-4583	-0.0000113	0.0005615	0.0035	2.285		6368.89	6368.89	54.81		Si
SLV 7	10.75	-2717.39	-4685	-0.0000296	0.0005615	0.0035	2.285		6474.55	6474.55	2.38		Si
SLV 13	9.95	-1523.34	-10819	-0.000035	0.0005615	0.0035	2.285		12636.63	12636.63	8.3		Si
SLV 13	10.75	2405.24	-7666	-0.0000328	0.0005615	0.0035	2.285		8517.67	8517.67	3.54		Si
SLD 4	9.95	-27.66	-8225	-0.0000194	0.0005615	0.0035	2.285		10101.37	10101.37	365.25		Si
SLD 4	10.75	-2730.35	-7641	-0.0000347	0.0005615	0.0035	2.285		9512.55	9512.55	3.48		Si
SLV 4	9.95	320.16	-7549	-0.0000196	0.0005615	0.0035	2.285		8398.46	8398.46	26.23		Si
SLV 4	10.75	-3893.13	-7566	-0.0000433	0.0005615	0.0035	2.285		9437.19	9437.19	2.42		Si
SLV 12	9.95	-361.4	-4390	-0.0000124	0.0005615	0.0035	2.285		6167.04	6167.04	17.06		Si
SLV 12	10.75	-1740.3	-4184	-0.0000203	0.0005615	0.0035	2.285		5950.15	5950.15	3.42		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	9.95	-660.4	-10793	-8988	-995	2.285	2.285	-14048	8817	5641	40441	19158	5827	24985	No	25.11	Si
SLU 47	10.75	-699.82	-8714	-7257	-707	2.285	2.285	-11342	8457	5411	40441	19158	5827	24985	No	35.35	Si
SLU 70	9.95	-779.01	-12921	-10760	-919	2.285	2.285	-16817	9187	5878	40441	19158	5827	24985	No	27.18	Si
SLU 70	10.75	-955.86	-10750	-8952	-654	2.285	2.285	-13992	8810	5637	40441	19158	5827	24985	No	38.21	Si
SLU 46	9.95	-692.28	-11100	-9243	-944	2.285	2.285	-14447	8871	5675	40441	19158	5827	24985	No	26.46	Si
SLU 46	10.75	-762.36	-9028	-7518	-675	2.285	2.285	-11750	8511	5445	40441	19158	5827	24985	No	37	Si
SLU 49	9.95	-669.34	-11320	-9427	-995	2.285	2.285	-14734	8909	5700	40441	19158	5827	24985	No	25.1	Si
SLU 49	10.75	-747.82	-9208	-7668	-690	2.285	2.285	-11985	8542	5465	40441	19158	5827	24985	No	36.22	Si
SLU 51	9.95	-640.09	-10959	-9126	-1007	2.285	2.285	-14264	8846	5660	40441	19158	5827	24985	No	24.82	Si
SLU 51	10.75	-700.42	-8856	-7375	-696	2.285	2.285	-11526	8481	5426	40441	19158	5827	24985	No	35.9	Si
SLU 72	9.95	-749.76	-12560	-10459	-930	2.285	2.285	-16347	9124	5838	40441	19158	5827	24985	No	26.86	Si
SLU 72	10.75	-908.46	-10398	-8659	-660	2.285	2.285	-13533	8749	5598	40441	19158	5827	24985	No	37.86	Si
SLU 68	9.95	-770.06	-12394	-10321	-919	2.285	2.285	-16131	9095	5819	40441	19158	5827	24985	No	27.19	Si
SLU 68	10.75	-907.86	-10256	-8541	-671	2.285	2.285	-13349	8724	5582	40441	19158	5827	24985	No	37.24	Si
SLU 48	9.95	-673.29	-11239	-9359	-936	2.285	2.285	-14627	8895	5691	40441	19158	5827	24985	No	26.7	Si
SLU 48	10.75	-770.53	-9150	-7619	-652	2.285	2.285	-11909	8532	5459	40441	19158	5827	24985	No	38.35	Si
SLU 44	9.95	-683.34	-10573	-8804	-944	2.285	2.285	-13761	8779	5617	40441	19158	5827	24985	No	26.47	Si
SLU 44	10.75	-714.36	-8534	-7106	-692	2.285	2.285	-11107	8425	5391	40441	19158	5827	24985	No	36.1	Si
SLU 50	9.95	-644.04	-10878	-9058	-947	2.285	2.285	-14158	8832	5651	40441	19158	5827	24985	No	26.39	Si
SLU 50	10.75	-723.13	-8798	-7326	-658	2.285	2.285	-11450	8471	5420	40441	19158	5827	24985	No	38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	9.95	-1305.67	-8001	-6662	-5357	2.285	2.285	-10413	12499	7997	40441	28738	5827	34564		6.45	Si
SLV 15	10.75	1514.3	-5757	-4794	-4280	2.285	2.285	-7493	11915	7623	40441	28738	5827	34564		8.08	Si
SLD 13	9.95	-1175.53	-10142	-8446	-5386	2.285	2.285	-13200	13057	8354	40441	28738	5827	34564		6.42	Si
SLD 13	10.75	1242.46	-7591	-6321	-4061	2.285	2.285	-9880	12393	7929	40441	28738	5827	34564		8.51	Si
SLV 9	9.95	-1254.77	-14012	-11668	-7615	2.285	2.285	-18237	14064	8998	40441	28738	5827	34564		4.54	Si
SLV 9	10.75	1675.77	-10518	-8759	-5348	2.285	2.285	-13690	13155	8416	40441	28738	5827	34564		6.46	Si
SLV 13	9.95	-1523.34	-10819	-9009	-8274	2.285	2.285	-14081	13233	8466	40441	28738	5827	34564		4.18	Si
SLV 13	10.75	2405.24	-7666	-6384	-6218	2.285	2.285	-9978	12412	7941	40441	28738	5827	34564		5.56	Si
SLV 10	9.95	-1086.99	-13785	-11479	-6443	2.285	2.285	-17942	14005	8960	40441	28738	5827	34564		5.36	Si
SLV 10	10.75	1229.5	-10547	-8783	-4456	2.285	2.285	-13728	13162	8421	40441	28738	5827	34564		7.76	Si
SLV 8	9.95	51.58	-4356	-3627	6516	2.285	2.285	-5669	11550	7390	40441	28738	5827	34564		5.3	Si
SLV 8	10.75	-3163.66	-4714	-3925	4497	1.828	1.4141	0	0	0	40441	22990	4661	27652		6.15	Si
SLV 3	9.95	70.94	-7885	-6566	5434	2.285	2.285	-10263	12469	7978	40441	28738	5827	34564		6.36	Si
SLV 3	10.75	-3230.24	-7522	-6264	4042	2.285	2.1392	-10505	12518	7498	40441	28738	5827	34564		8.55	Si
SLV 7	9.95	-116.19	-4583	-3816	5344	2.285	2.285	-5964	11610	7428	40441	28738	5827	34564		6.47	Si
SLV 7	10.75	-2717.39	-4685	-3901	3605	2.285	1.6873	-8287	12074	5704	40441	28738	5827	34564		9.59	Si
SLV 14	9.95	-1274.13	-10482	-8729	-6533	2.285	2.285	-13643	13145	8410	40441	28738	5827	34564		5.29	Si
SLV 14	10.75	1742.35	-7710	-6420	-4893	2.285	2.285	-10034	12424	7949	40441	28738	5827	34564		7.06	Si
SLV 4	9.95	320.16	-7549	-6286	7174	2.285	2.285	-9825	12382	7922	40441	28738	5827	34564		4.82	Si
SLV 4	10.75	-3893.13	-7566	-6300	5367	2.285	1.8838	-12011	12819	6762	40441	28738	5827	34564		6.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.45	6558	-4196	284.61	562.19	1.98	Si
SLV 11	179667	0.45	6582	-4211	284.61	564.19	1.98	Si
SLV 8	179667	0.45	7393	-4730	284.61	630.16	2.21	Si
SLV 7	179667	0.45	7418	-4746	284.61	632.14	2.22	Si
SLV 16	179667	0.45	9817	-6281	284.61	822.78	2.89	Si
SLV 15	179667	0.45	9853	-6304	284.61	825.61	2.9	Si
SLV 4	179667	0.45	12600	-8062	284.61	1035.52	3.64	Si
SLV 3	179667	0.45	12637	-8085	284.61	1038.24	3.65	Si
SLV 14	179667	0.45	13450	-8605	284.61	1098.64	3.86	Si
SLV 13	179667	0.45	13486	-8629	284.61	1101.32	3.87	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-8479	-13470	-810	1.19	1188.1	0.927	18.64492	5.24939	Si
SLV 5	-8479	-13347	-810	1.19	1188	0.927	18.64539	5.24939	Si
SLV 2	-7146	-11907	-402	1.401	1054.1	0.92	22.1219	6.07522	Si
SLV 1	-7146	-11725	-402	1.401	1054	0.92	22.1228	6.07522	Si
SLV 10	-8257	-12194	-705	1.225	1165.7	0.926	19.21625	5.24939	Si
SLV 9	-8257	-12071	-705	1.225	1165.7	0.926	19.21674	5.24939	Si
SLV 14	-6407	-7655	-50	1.562	980	0.916	24.77843	6.07522	Si
SLV 13	-6407	-7473	-50	1.562	980	0.916	24.77948	6.07522	Si
SLV 4	-5782	-9267	53	1.683	917.6	0.912	26.81734	6.07522	Si
SLV 3	-5782	-9085	53	1.683	917.6	0.912	26.81788	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.337	SLU 39	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	24.823	SLU 51	Si
PF_SLV	2.056	SLV 8	Si
V_SLV	4.178	SLV 13	Si
PFFP_SLV	1.975	SLV 12	Si
R_SLV	3.552	SLV 6	Si

Maschio 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.213	-3.169	-18.793	-3.169	L6	L7	0.58	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	9.95	66.42	-3123	-0.0000362	0.0003743	0.0035	0.58	734.62	783.26	783.26	11.79	No	Si
SLU 47	10.75	177.72	-2744	-0.0000435	0.0003743	0.0035	0.58	663.75	698.75	698.75	3.93	No	Si
SLU 49	9.95	74.86	-3283	-0.0000386	0.0003743	0.0035	0.58	763.03	819.64	819.64	10.95	No	Si
SLU 49	10.75	181.87	-2882	-0.0000454	0.0003743	0.0035	0.58	690.13	729.24	729.24	4.01	No	Si
SLU 43	9.95	63.74	-3072	-0.0000354	0.0003743	0.0035	0.58	725.44	771.83	771.83	12.11	No	Si
SLU 43	10.75	174.34	-2699	-0.0000427	0.0003743	0.0035	0.58	654.98	688.85	688.85	3.95	No	Si
SLU 46	9.95	71.05	-3234	-0.0000378	0.0003743	0.0035	0.58	754.35	808.35	808.35	11.38	No	Si
SLU 46	10.75	181.62	-2843	-0.0000449	0.0003743	0.0035	0.58	682.67	720.51	720.51	3.97	No	Si
SLU 51	9.95	70.69	-3172	-0.0000371	0.0003743	0.0035	0.58	743.41	794.36	794.36	11.24	No	Si
SLU 51	10.75	176.71	-2781	-0.0000438	0.0003743	0.0035	0.58	670.9	706.91	706.91	4	No	Si
SLU 68	9.95	84.98	-3623	-0.0000431	0.0003743	0.0035	0.58	820.4	895.24	895.24	10.53	No	Si
SLU 68	10.75	199.46	-3215	-0.0000506	0.0003743	0.0035	0.58	751.14	804.22	804.22	4.03	No	Si
SLU 65	9.95	81.17	-3573	-0.0000422	0.0003743	0.0035	0.58	812.3	884.84	884.84	10.9	No	Si
SLU 65	10.75	199.21	-3176	-0.0000502	0.0003743	0.0035	0.58	744.14	795.28	795.28	3.99	No	Si
SLU 50	9.95	71.37	-3171	-0.0000372	0.0003743	0.0035	0.58	743.29	794.19	794.19	11.13	No	Si
SLU 50	10.75	174.82	-2778	-0.0000436	0.0003743	0.0035	0.58	670.24	706.16	706.16	4.04	No	Si
SLU 45	9.95	71.73	-3233	-0.0000378	0.0003743	0.0035	0.58	754.22	808.18	808.18	11.27	No	Si
SLU 45	10.75	179.74	-2839	-0.0000447	0.0003743	0.0035	0.58	682.02	719.75	719.75	4	No	Si
SLU 44	9.95	62.6	-3074	-0.0000353	0.0003743	0.0035	0.58	725.65	772.1	772.1	12.33	No	Si
SLU 44	10.75	177.48	-2705	-0.0000431	0.0003743	0.0035	0.58	656.1	690.1	690.1	3.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	9.95	-138.2	-1407	-0.000026	0.0005615	0.0035	0.58		457.8	457.8	3.31		Si
SLD 16	10.75	328.41	-1846	-0.0000599	0.0005615	0.0035	0.58		523.93	523.93	1.6		Si
SLD 15	9.95	-215.11	-1085	-0.0000424	0.0005615	0.0035	0.464		372.62	372.62	1.73		Si
SLD 15	10.75	407.74	-1746	-0.0001178	0.0005615	0.0035	0.58		497.98	497.98	1.22		Si
SLD 14	9.95	-195.29	-1331	-0.0000331	0.0005615	0.0035	0.58		437.89	437.89	2.24		Si
SLD 14	10.75	415.73	-1887	-0.0001019	0.0005615	0.0035	0.58		534.31	534.31	1.29		Si
SLV 9	9.95	-264.4	-1637	-0.0000459	0.0005615	0.0035	0.464		518.75	518.75	1.96		Si
SLV 9	10.75	561.83	-2209	-0.0002662	0.0005615	0.0035	0.58		616.51	616.51	1.1		Si
SLV 13	9.95	-466.43	-17	-0.006	0.0005615	0.0035	0.464		76.36	76.36	0.16		No
SLV 13	10.75	700.69	-1436	-0.0227512	0.0005615	0.0035	0.464		416.93	416.93	0.6		No
SLD 13	9.95	-272.19	-1009	-0.0001514	0.0005615	0.0035	0.464		352.38	352.38	1.29		Si
SLD 13	10.75	495.06	-1786	-0.0009448	0.0005615	0.0035	0.464		508.36	508.36	1.03		Si
SLV 14	9.95	-345.21	-525	-0.0016822	0.0005615	0.0035	0.464		219.32	219.32	0.64		No
SLV 14	10.75	575.65	-1595	-0.0110539	0.0005615	0.0035	0.464		458.57	458.57	0.8		No
SLV 10	9.95	-182.79	-1979	-0.0000358	0.0005615	0.0035	0.58		606.68	606.68	3.32		Si
SLV 10	10.75	477.65	-2316	-0.0001042	0.0005615	0.0035	0.58		643.45	643.45	1.35		Si
SLV 16	9.95	-247.65	-654	-0.0005276	0.0005615	0.0035	0.464		255.08	255.08	1.03		Si
SLV 16	10.75	426.52	-1526	-0.0007605	0.0005615	0.0035	0.464		440.6	440.6	1.03		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	9.95	-368.87	-146	-0.0034775	0.0005615	0.0035	0.464		112.97	112.97	0.31		No
SLV 15	10.75	551.56	-1368	-0.013465	0.0005615	0.0035	0.464		398.78	398.78	0.72		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	9.95	119.44	-4162	-3466	204	0.58	0.58	-21343	9790	1590	40441	4863	1479	6342	No	31.14	Si
SLU 83	10.75	195.34	-3704	-3084	-118	0.58	0.58	-18991	9477	1539	40441	4863	1479	6342	No	53.77	Si
SLU 42	9.95	108.94	-3586	-2986	199	0.58	0.58	-18386	9396	1526	40441	4863	1479	6342	No	31.84	Si
SLU 42	10.75	162.72	-3209	-2672	-96	0.58	0.58	-16452	9138	1484	40441	4863	1479	6342	No	66.37	Si
SLU 82	9.95	114.93	-4114	-3425	190	0.58	0.58	-21093	9757	1585	40441	4863	1479	6342	No	33.44	Si
SLU 82	10.75	196.98	-3668	-3054	-121	0.58	0.58	-18807	9452	1535	40441	4863	1479	6342	No	52.33	Si
SLU 77	9.95	117.43	-4161	-3465	185	0.58	0.58	-21333	9789	1590	40441	4863	1479	6342	No	34.24	Si
SLU 77	10.75	201.03	-3696	-3077	-120	0.58	0.58	-18950	9471	1538	40441	4863	1479	6342	No	52.99	Si
SLU 35	9.95	107.62	-3583	-2984	185	0.58	0.58	-18374	9394	1526	40441	4863	1479	6342	No	34.29	Si
SLU 35	10.75	166.53	-3197	-2662	-95	0.58	0.58	-16393	9130	1483	40441	4863	1479	6342	No	67	Si
SLU 41	9.95	109.62	-3585	-2985	203	0.58	0.58	-18383	9395	1526	40441	4863	1479	6342	No	31.19	Si
SLU 41	10.75	160.84	-3205	-2669	-93	0.58	0.58	-16434	9136	1484	40441	4863	1479	6342	No	68.25	Si
SLU 39	9.95	105.81	-3536	-2944	194	0.58	0.58	-18129	9362	1520	40441	4863	1479	6342	No	32.76	Si
SLU 39	10.75	160.59	-3166	-2636	-94	0.58	0.58	-16233	9109	1479	40441	4863	1479	6342	No	67.8	Si
SLU 84	9.95	118.75	-4163	-3467	199	0.58	0.58	-21346	9791	1590	40441	4863	1479	6342	No	31.8	Si
SLU 84	10.75	197.22	-3707	-3087	-121	0.58	0.58	-19009	9479	1539	40441	4863	1479	6342	No	52.59	Si
SLU 40	9.95	105.12	-3536	-2945	189	0.58	0.58	-18133	9362	1520	40441	4863	1479	6342	No	33.49	Si
SLU 40	10.75	162.48	-3169	-2639	-96	0.58	0.58	-16250	9111	1480	40441	4863	1479	6342	No	65.94	Si
SLU 81	9.95	115.62	-4113	-3425	194	0.58	0.58	-21089	9756	1584	40441	4863	1479	6342	No	32.71	Si
SLU 81	10.75	195.09	-3664	-3051	-119	0.58	0.58	-18789	9450	1535	40441	4863	1479	6342	No	53.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	9.95	-345.21	-525	-437	-1636	0.464	0	0	0	0	40441	5836	1183	7019		4.29	Si
SLV 14	10.75	575.65	-1595	-1328	-569	0.464	0	0	0	0	40441	5836	1183	7019		12.33	Si
SLV 15	9.95	-368.87	-146	-122	-1638	0.464	0	0	0	0	40441	5836	1183	7019		4.29	Si
SLV 15	10.75	551.56	-1368	-1139	-564	0.464	0	0	0	0	40441	5836	1183	7019		12.45	Si
SLD 4	9.95	403.99	-4483	-3733	1457	0.58	0.58	-22986	15014	2438	40441	7294	1479	8773		6.02	Si
SLD 4	10.75	-203.36	-3082	-2566	300	0.58	0.58	-15803	13577	2205	40441	7294	1479	8773		29.23	Si
SLV 13	9.95	-466.43	-17	-14	-2111	0.464	0	0	0	0	40441	5836	1183	7019		3.33	Si
SLV 13	10.75	700.69	-1436	-1196	-716	0.464	0	0	0	0	40441	5836	1183	7019		9.81	Si
SLV 9	9.95	-264.4	-1637	-1363	-1387	0.464	0.3855	0	0	0	40441	5836	1183	7019		5.06	Si
SLV 9	10.75	561.83	-2209	-1839	-536	0.58	0.107	-63710	16250	1272	40441	7294	1479	8773		16.38	Si
SLV 8	9.95	396.19	-3855	-3210	1537	0.58	0.5617	-19767	14370	2260	40441	7294	1479	8773		5.71	Si
SLV 8	10.75	-270.12	-2659	-2214	354	0.58	0.5652	-13635	13144	2080	40441	7294	1479	8773		24.8	Si
SLD 13	9.95	-272.19	-1009	-840	-1307	0.464	0.0609	0	0	0	40441	5836	1183	7019		5.37	Si
SLD 13	10.75	495.06	-1786	-1487	-482	0.464	0.0384	0	0	0	40441	5836	1183	7019		14.56	Si
SLV 2	9.95	500.66	-5346	-4452	1788	0.58	0.58	-27412	15899	2582	40441	7294	1479	8773		4.91	Si
SLV 2	10.75	-259.85	-3500	-2915	382	0.58	0.58	-17947	14006	2275	40441	7294	1479	8773		22.98	Si
SLV 4	9.95	598.23	-5475	-4559	2261	0.58	0.5422	-28073	16031	2434	40441	7294	1479	8773		3.88	Si
SLV 4	10.75	-408.99	-3432	-2858	534	0.58	0.5125	-17596	13936	2000	40441	7294	1479	8773		16.44	Si
SLV 3	9.95	477.01	-4967	-4136	1786	0.58	0.58	-25469	15510	2519	40441	7294	1479	8773		4.91	Si
SLV 3	10.75	-283.95	-3273	-2726	387	0.58	0.58	-16783	13773	2237	40441	7294	1479	8773		22.67	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.45	5182	-842	72.24	113.82	1.58	Si
SLV 13	179667	0.45	6392	-1038	72.24	139.24	1.93	Si
SLV 16	179667	0.45	6432	-1045	72.24	140.08	1.94	Si
SLV 14	179667	0.45	7642	-1241	72.24	165.05	2.28	Si
SLV 11	179667	0.45	8766	-1424	72.24	187.86	2.6	Si
SLV 12	179667	0.45	9607	-1560	72.24	204.69	2.83	Si
SLV 9	179667	0.45	12799	-2079	72.24	266.61	3.69	Si
SLV 7	179667	0.45	12873	-2091	72.24	268	3.71	Si
SLV 10	179667	0.45	13640	-2215	72.24	282.43	3.91	Si
SLV 8	179667	0.45	13714	-2227	72.24	283.8	3.93	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-2250	-3001	-37	1.21	311.4	0.929	18.92259	6.07522	Si
SLV 4	-2181	-2136	-9	1.25	304.5	0.928	19.58367	6.07522	Si
SLV 1	-2112	-3020	-36	1.272	297.5	0.927	19.94663	6.07522	Si
SLV 3	-2043	-2156	-8	1.316	290.5	0.925	20.67357	6.07522	Si
SLV 6	-1751	-3715	-62	1.456	261.3	0.919	23.02725	5.24939	Si
SLV 5	-1658	-3729	-61	1.517	252	0.917	24.04742	5.24939	Si
SLV 8	-1521	-833	33	1.631	238.2	0.913	25.94645	5.24939	Si
SLV 7	-1428	-846	33	1.706	228.9	0.911	27.22459	5.24939	Si
SLV 10	-1274	-3460	-55	1.837	213.7	0.907	29.44458	5.24939	Si
SLV 9	-1181	-3474	-54	1.936	204.5	0.904	31.11909	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.888	SLU 44	Si
V_SLU	31.142	SLU 83	Si
PF_SLV	0.164	SLV 13	No
V_SLV	3.325	SLV 13	Si
PFFP_SLV	1.576	SLV 15	Si
R_SLV	3.115	SLV 2	Si

Maschio 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L6	L7	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	7.95	-4297.26	-21219	-0.0000514	0.0004492	0.0035	4.6702	36387.28	55641.78	55641.78	12.95	No	Si
SLU 60	11.5	-765.23	-11754	-0.0000239	0.0004492	0.0035	4.6702	23408.27	37600.02	37600.02	49.14	No	Si
SLU 65	7.95	-4330.72	-21418	-0.0000518	0.0004492	0.0035	4.6702	36604.55	56001.95	56001.95	12.93	No	Si
SLU 65	11.5	-762.6	-12175	-0.0000247	0.0004492	0.0035	4.6702	24097.24	38450.79	38450.79	50.42	No	Si
SLU 73	7.95	-4646.43	-23148	-0.0000562	0.0004492	0.0035	4.6702	38390.78	59124.78	59124.78	12.72	No	Si
SLU 73	11.5	-829.19	-13008	-0.0000264	0.0004492	0.0035	4.6702	25429	40133.02	40133.02	48.4	No	Si
SLU 82	7.95	-4737.83	-23951	-0.000058	0.0004492	0.0035	4.6702	39160.34	60563.46	60563.46	12.78	No	Si
SLU 82	11.5	-894.07	-13385	-0.0000273	0.0004492	0.0035	4.6702	26018.38	40894.35	40894.35	45.74	No	Si
SLU 44	7.95	-3956	-18593	-0.0000452	0.0004492	0.0035	4.6702	33311.98	50885.21	50885.21	12.86	No	Si
SLU 44	11.5	-579.26	-10514	-0.000021	0.0004492	0.0035	4.6702	21320.22	35095.9	35095.9	60.59	No	Si
SLU 55	7.95	-4194.41	-21111	-0.0000509	0.0004492	0.0035	4.6702	36269.04	55447.37	55447.37	13.22	No	Si
SLU 55	11.5	-605.84	-12107	-0.0000242	0.0004492	0.0035	4.6702	23986.04	38312.61	38312.61	63.24	No	Si
SLU 81	7.95	-4671.98	-24043	-0.0000581	0.0004492	0.0035	4.6702	39246.33	60720.04	60720.04	13	No	Si
SLU 81	11.5	-948.58	-13415	-0.0000275	0.0004492	0.0035	4.6702	26064.9	40954.9	40954.9	43.18	No	Si
SLU 52	7.95	-4271.71	-20323	-0.0000495	0.0004492	0.0035	4.6702	35383.9	54025.94	54025.94	12.65	No	Si
SLU 52	11.5	-645.84	-11347	-0.0000228	0.0004492	0.0035	4.6702	22732.85	36778.14	36778.14	56.95	No	Si
SLU 61	7.95	-4363.11	-21126	-0.0000513	0.0004492	0.0035	4.6702	36286.06	55475.29	55475.29	12.71	No	Si
SLU 61	11.5	-710.72	-11724	-0.0000237	0.0004492	0.0035	4.6702	23358.84	37539.46	37539.46	52.82	No	Si
SLU 54	7.95	-4236.57	-21470	-0.0000517	0.0004492	0.0035	4.6702	36660.12	56094.7	56094.7	13.24	No	Si
SLU 54	11.5	-750.87	-12365	-0.000025	0.0004492	0.0035	4.6702	24404.16	38833.98	38833.98	51.72	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	7.95	-10080.63	-10411	-0.0000445	0.0006738	0.0035	4.6702		35151.04	35151.04	3.49		Si
SLV 5	11.5	3435.41	-7870	-0.0000228	0.0006738	0.0035	4.6702		19773.54	19773.54	5.76		Si
SLD 5	7.95	-7250.23	-12979	-0.0000418	0.0006738	0.0035	4.6702		40458.96	40458.96	5.58		Si
SLD 5	11.5	1763.48	-8502	-0.00002	0.0006738	0.0035	4.6702		21126.38	21126.38	11.98		Si
SLV 6	7.95	-10443.94	-10313	-0.0000456	0.0006738	0.0035	4.6702		34946.98	34946.98	3.35		Si
SLV 6	11.5	3065.75	-7682	-0.0000216	0.0006738	0.0035	4.6702		19368.09	19368.09	6.32		Si
SLD 10	7.95	-7421.61	-11547	-0.0000395	0.0006738	0.0035	4.6702		37499.06	37499.06	5.05		Si
SLD 10	11.5	1278.69	-7233	-0.0000164	0.0006738	0.0035	4.6702		18394.31	18394.31	14.39		Si
SLD 9	7.95	-7201.14	-11607	-0.0000391	0.0006738	0.0035	4.6702		37622.89	37622.89	5.22		Si
SLD 9	11.5	1503.02	-7347	-0.0000172	0.0006738	0.0035	4.6702		18641.88	18641.88	12.4		Si
SLV 14	7.95	-5501.63	-10667	-0.0000331	0.0006738	0.0035	4.6702		35679.38	35679.38	6.49		Si
SLV 14	11.5	-484.48	-5401	-0.0000111	0.0006738	0.0035	4.6702		24531.92	24531.92	50.64		Si
SLV 10	7.95	-10375.02	-8168	-0.0000448	0.0006738	0.0035	4.6702		30473.71	30473.71	2.94		Si
SLV 10	11.5	2658.17	-5873	-0.0000172	0.0006738	0.0035	4.6702		15442.37	15442.37	5.81		Si
SLV 9	7.95	-10011.71	-8267	-0.0000429	0.0006738	0.0035	4.6702		30684.12	30684.12	3.06		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	11.5	3027.82	-6061	-0.0000184	0.0006738	0.0035	4.6702		15850.33	15850.33	5.23		Si
SLV 13	7.95	-4961.98	-10814	-0.0000321	0.0006738	0.0035	4.6702		35982.48	35982.48	7.25		Si
SLV 13	11.5	64.6	-5680	-0.0000106	0.0006738	0.0035	4.6702		15018.8	15018.8	232.49		Si
SLD 6	7.95	-7470.71	-12919	-0.0000423	0.0006738	0.0035	4.6702		40335.13	40335.13	5.4		Si
SLD 6	11.5	1539.16	-8388	-0.0000192	0.0006738	0.0035	4.6702		20882.56	20882.56	13.57		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	7.95	-3855.02	-19832	-10996	-1761	4.6702	4.6702	-16818	10576	8175	115546	23497	23818	47314	No	26.86	Si
SLU 45	11.5	-738.8	-11562	-6411	-445	4.6702	4.6702	-9805	9641	6341	115546	23497	23818	47314	No	106.22	Si
SLU 47	7.95	-3878.71	-19381	-10746	-2072	4.6702	4.6702	-16435	10525	8075	115546	23497	23818	47314	No	22.83	Si
SLU 47	11.5	-539.25	-11274	-6251	-792	4.6702	4.6702	-9561	9608	6282	115546	23497	23818	47314	No	59.71	Si
SLU 49	7.95	-3843.57	-20527	-11381	-1933	4.6702	4.6702	-17407	10654	8329	115546	23497	23818	47314	No	24.47	Si
SLU 49	11.5	-644.28	-12292	-6815	-552	4.6702	4.6702	-10424	9723	6503	115546	23497	23818	47314	No	85.66	Si
SLU 46	7.95	-3920.87	-19739	-10945	-1926	4.6702	4.6702	-16740	10565	8155	115546	23497	23818	47314	No	24.56	Si
SLU 46	11.5	-684.29	-11532	-6394	-621	4.6702	4.6702	-9779	9637	6334	115546	23497	23818	47314	No	76.21	Si
SLU 44	7.95	-3956	-18593	-10309	-2066	4.6702	4.6702	-15768	10436	7900	115546	23497	23818	47314	No	22.91	Si
SLU 44	11.5	-579.26	-10514	-5830	-861	4.6702	4.6702	-8916	9522	6226	115546	23497	23818	47314	No	54.96	Si
SLU 43	7.95	-3846.25	-18747	-10394	-1790	4.6702	4.6702	-15898	10453	7935	115546	23497	23818	47314	No	26.43	Si
SLU 43	11.5	-670.11	-10564	-5857	-569	4.6702	4.6702	-8959	9528	6229	115546	23497	23818	47314	No	83.22	Si
SLU 55	7.95	-4194.41	-21111	-11705	-1736	4.6702	4.6702	-17903	10720	8459	115546	23497	23818	47314	No	27.26	Si
SLU 55	11.5	-605.84	-12107	-6713	-376	4.6702	4.6702	-10267	9702	6462	115546	23497	23818	47314	No	125.77	Si
SLU 48	7.95	-3777.72	-20619	-11432	-1768	4.6702	4.6702	-17486	10665	8350	115546	23497	23818	47314	No	26.76	Si
SLU 48	11.5	-698.8	-12322	-6832	-377	4.6702	4.6702	-10449	9727	6510	115546	23497	23818	47314	No	125.52	Si
SLU 51	7.95	-3757.5	-20230	-11217	-1969	4.6702	4.6702	-17155	10621	8263	115546	23497	23818	47314	No	24.03	Si
SLU 51	11.5	-535.59	-12054	-6683	-607	4.6702	4.6702	-10222	9696	6450	115546	23497	23818	47314	No	77.95	Si
SLU 50	7.95	-3691.65	-20322	-11268	-1804	4.6702	4.6702	-17234	10631	8284	115546	23497	23818	47314	No	26.23	Si
SLU 50	11.5	-590.1	-12084	-6700	-432	4.6702	4.6702	-10247	9700	6457	115546	23497	23818	47314	No	109.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	7.95	-10080.63	-10411	-5773	-15982	4.6702	4.1005	-10102	14521	8336	115546	35245	23818	59063		3.7	Si
SLV 5	11.5	3435.41	-7870	-4363	-14747	4.6702	4.6702	-6674	13835	9045	115546	35245	23818	59063		4	Si
SLV 12	7.95	3571.14	-22523	-12488	13791	4.6702	4.6702	-19100	16250	10660	115546	35245	23818	59063		4.28	Si
SLV 12	11.5	-4705.87	-10684	-5924	14666	4.6702	4.6702	-9060	14312	9358	115546	35245	23818	59063		4.03	Si
SLV 10	7.95	-10375.02	-8168	-4529	-15212	4.6702	3.1948	-10160	14533	7477	115546	35245	23818	59063		3.88	Si
SLV 10	11.5	2658.17	-5873	-3256	-13719	4.6702	4.6702	-4980	13496	8824	115546	35245	23818	59063		4.31	Si
SLV 9	7.95	-10011.71	-8267	-4584	-15288	4.6702	3.3721	-9745	14450	7499	115546	35245	23818	59063		3.86	Si
SLV 9	11.5	3027.82	-6061	-3361	-13863	4.6702	4.6702	-5140	13528	8845	115546	35245	23818	59063		4.26	Si
SLD 6	7.95	-7470.71	-12919	-7163	-9786	4.6702	4.6702	-10955	14691	9605	115546	35245	23818	59063		6.04	Si
SLD 6	11.5	1539.16	-8388	-4651	-8586	4.6702	4.6702	-7114	13923	9103	115546	35245	23818	59063		6.88	Si
SLV 6	7.95	-10443.94	-10313	-5718	-15907	4.6702	3.967	-10344	14569	8091	115546	35245	23818	59063		3.71	Si
SLV 6	11.5	3065.75	-7682	-4259	-14604	4.6702	4.6702	-6514	13803	9025	115546	35245	23818	59063		4.04	Si
SLV 8	7.95	3502.22	-24667	-13677	13096	4.6702	4.6702	-20919	16250	11136	115546	35245	23818	59063		4.51	Si
SLV 8	11.5	-4298.28	-12493	-6927	13781	4.6702	4.6702	-10594	14619	9558	115546	35245	23818	59063		4.29	Si
SLV 11	7.95	3934.45	-22622	-12543	13716	4.6702	4.6702	-19184	16250	10682	115546	35245	23818	59063		4.31	Si
SLV 11	11.5	-4336.22	-10872	-6028	14523	4.6702	4.6702	-9220	14344	9378	115546	35245	23818	59063		4.07	Si
SLD 5	7.95	-7250.23	-12979	-7196	-9832	4.6702	4.6702	-11006	14701	9612	115546	35245	23818	59063		6.01	Si
SLD 5	11.5	1763.48	-8502	-4714	-8673	4.6702	4.6702	-7210	13942	9116	115546	35245	23818	59063		6.81	Si
SLV 7	7.95	3865.53	-24766	-13732	13021	4.6702	4.6702	-21002	16250	11158	115546	35245	23818	59063		4.54	Si
SLV 7	11.5	-3928.63	-12681	-7031	13638	4.6702	4.6702	-10754	14651	9579	115546	35245	23818	59063		4.33	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-6163	0.45	316.53	409.21	831.55	620.38	1.96	Si
SLV 9	-6325	0.45	316.53	419.35	845.54	632.44	2	Si
SLV 14	-7509	0.45	316.53	492.66	948	720.33	2.28	Si
SLV 13	-7749	0.45	316.53	507.33	968.77	738.05	2.33	Si
SLV 6	-8537	0.45	316.53	555.03	1036.29	795.66	2.51	Si
SLV 5	-8699	0.45	316.53	564.72	1050.12	807.42	2.55	Si
SLV 16	-11070	0.45	316.53	703.32	1252.54	977.93	3.09	Si
SLV 15	-11310	0.45	316.53	716.98	1272.87	994.93	3.14	Si
SLV 2	-15423	0.45	316.53	940.67	1616.02	1278.35	4.04	Si
SLV 1	-15663	0.45	316.53	953.12	1635.8	1294.46	4.09	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-13152	-22268	-359	1.72	1668	0.944	26.4755	10.43136	Si
SLV 4	-12873	-22121	-359	1.752	1639.7	0.943	26.9874	10.43136	Si
SLV 1	-11709	-17961	-377	1.897	1521.7	0.94	29.33335	10.43136	Si
SLV 2	-11430	-17815	-377	1.935	1493.5	0.939	29.96335	10.43136	Si
SLV 7	-12681	-24766	-80	1.793	1620.1	0.943	27.64329	7.59525	Si
SLV 8	-12493	-24667	-80	1.816	1601.1	0.942	28.01289	7.59525	Si
SLV 11	-10872	-22622	141	2.036	1437	0.937	31.58924	7.59525	Si
SLV 12	-10684	-22523	141	2.066	1418	0.936	32.07358	7.59525	Si
SLV 15	-7124	-15120	377	2.831	1059.2	0.919	44.74491	10.43136	Si
SLV 16	-6845	-14973	377	2.918	1031.2	0.918	46.21451	10.43136	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.647	SLU 52	Si
V_SLU	22.831	SLU 47	Si
PF_SLV	2.937	SLV 10	Si
V_SLV	3.695	SLV 5	Si
PFFP_SLV	1.96	SLV 10	Si
R_SLV	2.538	SLV 3	Si

Maschio 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.811	-19.618	6.521	L6	L7	0.71	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	7.95	407.82	-3828	-0.0000571	0.0003743	0.0035	0.71	1101.93	1174.25	1174.25	2.88	No	Si
SLU 60	11.5	180.55	-3588	-0.0000397	0.0003743	0.0035	0.71	1047.98	1110.16	1110.16	6.15	No	Si
SLU 81	7.95	457.22	-4327	-0.0000649	0.0003743	0.0035	0.71	1207.61	1310.36	1310.36	2.87	No	Si
SLU 81	11.5	199.97	-4093	-0.0000452	0.0003743	0.0035	0.71	1159.08	1245.98	1245.98	6.23	No	Si
SLU 73	7.95	434.38	-4166	-0.0000619	0.0003743	0.0035	0.71	1174.52	1266.1	1266.1	2.91	No	Si
SLU 73	11.5	200.43	-4014	-0.0000446	0.0003743	0.0035	0.71	1142.44	1224.66	1224.66	6.11	No	Si
SLU 82	7.95	448.59	-4266	-0.0000638	0.0003743	0.0035	0.71	1195.33	1293.74	1293.74	2.88	No	Si
SLU 82	11.5	202.83	-4108	-0.0000455	0.0003743	0.0035	0.71	1162.37	1250.24	1250.24	6.16	No	Si
SLU 39	7.95	382.65	-3621	-0.0000536	0.0003743	0.0035	0.71	1055.51	1118.91	1118.91	2.92	No	Si
SLU 39	11.5	166.74	-3478	-0.0000378	0.0003743	0.0035	0.71	1022.44	1080.94	1080.94	6.48	No	Si
SLU 64	7.95	429.01	-4125	-0.0000612	0.0003743	0.0035	0.71	1165.99	1254.94	1254.94	2.93	No	Si
SLU 64	11.5	185.64	-3745	-0.0000413	0.0003743	0.0035	0.71	1083.56	1152.05	1152.05	6.21	No	Si
SLU 83	7.95	475.38	-4641	-0.0000691	0.0003743	0.0035	0.71	1269.87	1395.48	1395.48	2.94	No	Si
SLU 83	11.5	213.3	-4404	-0.0000488	0.0003743	0.0035	0.71	1223.34	1331.98	1331.98	6.24	No	Si
SLU 52	7.95	384.98	-3667	-0.0000542	0.0003743	0.0035	0.71	1066.04	1131.25	1131.25	2.94	No	Si
SLU 52	11.5	181.01	-3510	-0.0000391	0.0003743	0.0035	0.71	1029.95	1089.46	1089.46	6.02	No	Si
SLU 61	7.95	399.19	-3768	-0.000056	0.0003743	0.0035	0.71	1088.6	1158.1	1158.1	2.9	No	Si
SLU 61	11.5	183.41	-3604	-0.00004	0.0003743	0.0035	0.71	1051.54	1114.29	1114.29	6.08	No	Si
SLU 74	7.95	473.2	-4627	-0.0000688	0.0003743	0.0035	0.71	1266.99	1391.65	1391.65	2.94	No	Si
SLU 74	11.5	210.25	-4344	-0.000048	0.0003743	0.0035	0.71	1211.16	1315.21	1315.21	6.26	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	7.95	-396.72	2990	0.731613	0.0005615	0.0035	0.568		0	0	0		No
SLV 10	11.5	264.04	-2946	-0.0000393	0.0005615	0.0035	0.71		999.26	999.26	3.78		Si
SLV 9	7.95	-463.81	2812	0.6899946	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	11.5	269.39	-3180	-0.0000415	0.0005615	0.0035	0.71		1069.79	1069.79	3.97		Si
SLV 16	7.95	932.74	-4855	-0.0001131	0.0005615	0.0035	0.71		1513.51	1513.51	1.62		Si
SLV 16	11.5	81.77	-1489	-0.0000163	0.0005615	0.0035	0.71		537.96	537.96	6.58		Si
SLD 6	7.95	-208.38	495	0.1232971	0.0005615	0.0035	0.568		0	0	0		No
SLD 6	11.5	219.21	-3274	-0.000039	0.0005615	0.0035	0.71		1097.31	1097.31	5.01		Si
SLD 5	7.95	-249.09	387	0.0973495	0.0005615	0.0035	0.568		0	0	0		No
SLD 5	11.5	222.46	-3416	-0.0000403	0.0005615	0.0035	0.71		1137.61	1137.61	5.11		Si
SLD 9	7.95	-132.97	356	0.0885272	0.0005615	0.0035	0.568		0	0	0		No
SLD 9	11.5	216.04	-3025	-0.0000368	0.0005615	0.0035	0.71		1023.06	1023.06	4.74		Si
SLD 10	7.95	-92.26	464	0.1141182	0.0005615	0.0035	0.568		0	0	0		No
SLD 10	11.5	212.79	-2883	-0.0000355	0.0005615	0.0035	0.71		980.29	980.29	4.61		Si
SLV 5	7.95	-646.34	2857	0.7043323	0.0005615	0.0035	0.568		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	11.5	279.33	-3791	-0.000047	0.0005615	0.0035	0.71		1239.23	1239.23	4.44		Si
SLV 14	7.95	424.94	-1239	-0.0003619	0.0005615	0.0035	0.568		455.45	455.45	1.07		Si
SLV 14	11.5	159.94	-1807	-0.0000237	0.0005615	0.0035	0.71		641.28	641.28	4.01		Si
SLV 6	7.95	-579.26	3035	0.7462285	0.0005615	0.0035	0.568		0	0	0		No
SLV 6	11.5	273.98	-3557	-0.0000448	0.0005615	0.0035	0.71		1177.12	1177.12	4.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	7.95	473.2	-4627	-3853	881	0.71	0.71	-19379	9528	1894	40441	5953	1811	7763	No	8.81	Si
SLU 74	11.5	210.25	-4344	-3617	-702	0.71	0.71	-18196	9371	1863	40441	5953	1811	7763	No	11.05	Si
SLU 79	7.95	485.08	-4896	-4077	909	0.71	0.71	-20508	9679	1924	40441	5953	1811	7763	No	8.54	Si
SLU 79	11.5	222.33	-4612	-3841	-731	0.71	0.71	-19320	9520	1893	40441	5953	1811	7763	No	10.62	Si
SLU 78	7.95	482.73	-4881	-4065	903	0.71	0.71	-20447	9671	1923	40441	5953	1811	7763	No	8.6	Si
SLU 78	11.5	226.43	-4672	-3890	-747	0.71	0.71	-19568	9554	1899	40441	5953	1811	7763	No	10.4	Si
SLU 69	7.95	471.62	-4801	-3997	881	0.71	0.71	-20108	9626	1914	40441	5953	1811	7763	No	8.81	Si
SLU 69	11.5	213.54	-4413	-3675	-698	0.71	0.71	-18485	9409	1871	40441	5953	1811	7763	No	11.12	Si
SLU 75	7.95	464.57	-4566	-3803	861	0.71	0.71	-19127	9495	1888	40441	5953	1811	7763	No	9.02	Si
SLU 75	11.5	213.1	-4360	-3630	-712	0.71	0.71	-18261	9379	1865	40441	5953	1811	7763	No	10.9	Si
SLU 77	7.95	491.36	-4941	-4115	923	0.71	0.71	-20698	9704	1929	40441	5953	1811	7763	No	8.41	Si
SLU 77	11.5	223.58	-4656	-3877	-737	0.71	0.71	-19503	9545	1898	40441	5953	1811	7763	No	10.53	Si
SLU 71	7.95	465.33	-4755	-3960	868	0.71	0.71	-19918	9600	1909	40441	5953	1811	7763	No	8.95	Si
SLU 71	11.5	212.3	-4369	-3638	-692	0.71	0.71	-18302	9385	1866	40441	5953	1811	7763	No	11.22	Si
SLU 84	7.95	466.75	-4581	-3815	866	0.71	0.71	-19190	9503	1889	40441	5953	1811	7763	No	8.97	Si
SLU 84	11.5	216.16	-4420	-3681	-723	0.71	0.71	-18514	9413	1871	40441	5953	1811	7763	No	10.74	Si
SLU 80	7.95	476.45	-4836	-4027	889	0.71	0.71	-20256	9645	1917	40441	5953	1811	7763	No	8.73	Si
SLU 80	11.5	225.19	-4628	-3854	-741	0.71	0.71	-19385	9529	1894	40441	5953	1811	7763	No	10.48	Si
SLU 83	7.95	475.38	-4641	-3865	886	0.71	0.71	-19442	9537	1896	40441	5953	1811	7763	No	8.76	Si
SLU 83	11.5	213.3	-4404	-3668	-713	0.71	0.71	-18449	9404	1870	40441	5953	1811	7763	No	10.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	7.95	857.98	-6703	-5581	1771	0.71	0.681	-28075	16032	3057	40441	8929	1811	10740		6.06	Si
SLD 11	11.5	63.58	-2405	-2003	-107	0.71	0.71	-10075	12432	2471	40441	8929	1811	10740		100.66	Si
SLV 11	7.95	1228.85	-9243	-7697	2595	0.71	0.6661	-38716	16250	3031	40441	8929	1811	10740		4.14	Si
SLV 11	11.5	8.82	-2122	-1767	152	0.71	0.71	-8889	12194	2424	40441	8929	1811	10740		70.87	Si
SLV 16	7.95	932.74	-4855	-4043	1655	0.71	0.4887	-20337	14484	2035	40441	8929	1811	10740		6.49	Si
SLV 16	11.5	81.77	-1489	-1240	-136	0.71	0.71	-6238	11664	2319	40441	8929	1811	10740		78.72	Si
SLV 12	7.95	1295.93	-9065	-7549	2680	0.71	0.6361	-37971	16250	2970	40441	8929	1811	10740		4.01	Si
SLV 12	11.5	3.46	-1888	-1573	168	0.71	0.71	-7910	11999	2385	40441	8929	1811	10740		63.88	Si
SLV 5	7.95	-646.34	2857	2379	-1496	0.568	0.3863	0	0	0	40441	7144	1448	8592		5.74	Si
SLV 5	11.5	279.33	-3791	-3157	-1122	0.71	0.71	-15878	13592	2702	40441	8929	1811	10740		9.57	Si
SLV 7	7.95	1046.32	-9198	-7659	2340	0.71	0.71	-38527	16250	3231	40441	8929	1811	10740		4.59	Si
SLV 7	11.5	18.75	-2733	-2276	61	0.71	0.71	-11448	12706	2526	40441	8929	1811	10740		175.54	Si
SLD 12	7.95	898.68	-6595	-5491	1823	0.71	0.6562	-27623	15941	2929	40441	8929	1811	10740		5.89	Si
SLD 12	11.5	60.33	-2264	-1885	-97	0.71	0.71	-9481	12313	2448	40441	8929	1811	10740		111.15	Si
SLV 6	7.95	-579.26	3035	2527	-1411	0.568	0.4924	0	0	0	40441	7144	1448	8592		6.09	Si
SLV 6	11.5	273.98	-3557	-2962	-1105	0.71	0.71	-14900	13397	2663	40441	8929	1811	10740		9.72	Si
SLV 8	7.95	1113.4	-9020	-7511	2425	0.71	0.6947	-37782	16250	3161	40441	8929	1811	10740		4.43	Si
SLV 8	11.5	13.4	-2499	-2081	78	0.71	0.71	-10469	12510	2487	40441	8929	1811	10740		138.09	Si
SLD 8	7.95	782.56	-6564	-5466	1660	0.71	0.7073	-27495	15916	3152	40441	8929	1811	10740		6.47	Si
SLD 8	11.5	66.75	-2654	-2210	-155	0.71	0.71	-11117	12640	2513	40441	8929	1811	10740		69.4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	0	-514	88.43	0	0	No, e>t/2
SLV 9	179667	0.45	3617	-719	88.43	98.29	1.11	Si
SLV 6	179667	0.45	4263	-847	88.43	115.33	1.3	Si
SLV 5	179667	0.45	5293	-1052	88.43	142.2	1.61	Si
SLV 14	179667	0.45	7382	-1468	88.43	195.52	2.21	Si
SLV 13	179667	0.45	8911	-1772	88.43	233.54	2.64	Si
SLV 2	179667	0.45	12966	-2578	88.43	330.23	3.73	Si
SLV 16	179667	0.45	13380	-2660	88.43	339.78	3.84	Si
SLV 1	179667	0.45	14495	-2882	88.43	365.14	4.13	Si
SLV 15	179667	0.45	14910	-2964	88.43	374.46	4.23	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-4190	-1353	-178	0.834	526.5	0.946	12.81828	6.07522	Si
SLV 3	-3873	-4969	-163	0.893	494.3	0.943	13.77126	6.07522	Si
SLV 2	-3843	-1089	-178	0.896	491.3	0.943	13.81314	6.07522	Si
SLV 4	-3526	-4705	-163	0.965	459.2	0.939	14.9276	6.07522	Si
SLV 5	-3791	2857	-76	0.929	486	0.942	14.33241	5.24939	Si, Trazione
SLV 6	-3557	3035	-76	0.979	462.4	0.94	15.13748	5.24939	Si, Trazione
SLV 9	-3180	2812	26	1.084	424.2	0.935	16.85388	5.24939	Si, Trazione
SLV 10	-2946	2990	26	1.153	400.6	0.932	17.97289	5.24939	Si, Trazione
SLV 7	-2733	-9198	-27	1.223	379.1	0.929	19.13167	5.24939	Si
SLV 13	-2154	-1503	162	1.42	320.8	0.919	22.45487	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.866	SLU 81	Si
V_SLU	8.414	SLU 77	Si
PF_SLV	0	SLD 5	No
V_SLV	4.008	SLV 12	Si
PFFP_SLV	0	SLV 10	No
R_SLV	2.11	SLV 1	Si

Maschio 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.263	-3.169	-17.313	-3.169	L6	L7	1.05	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 64	8.85	-198.63	-5581	-0.0000352	0.0003743	0.0035	1.05	2383.66	2778.49	2778.49	13.99	No	Si
SLU 64	10.65	576.16	-4318	-0.0000397	0.0003743	0.0035	1.05	1940.08	2033.58	2033.58	3.53	No	Si
SLU 46	8.85	-168.99	-5297	-0.0000327	0.0003743	0.0035	1.05	2288.94	2669.01	2669.01	15.79	No	Si
SLU 46	10.65	528.39	-3971	-0.0000363	0.0003743	0.0035	1.05	1808.23	1898.3	1898.3	3.59	No	Si
SLU 65	8.85	-207.38	-5623	-0.0000357	0.0003743	0.0035	1.05	2397.53	2794.95	2794.95	13.48	No	Si
SLU 65	10.65	586.82	-4367	-0.0000403	0.0003743	0.0035	1.05	1958.36	2052.85	2052.85	3.5	No	Si
SLU 44	8.85	-180.71	-5041	-0.0000317	0.0003743	0.0035	1.05	2200.67	2567.24	2567.24	14.21	No	Si
SLU 44	10.65	515.93	-3755	-0.0000347	0.0003743	0.0035	1.05	1724.05	1815.15	1815.15	3.52	No	Si
SLU 68	8.85	-196.59	-5737	-0.000036	0.0003743	0.0035	1.05	2434.56	2839.41	2839.41	14.44	No	Si
SLU 68	10.65	587.41	-4443	-0.0000407	0.0003743	0.0035	1.05	1986.51	2082.77	2082.77	3.55	No	Si
SLU 66	8.85	-190.4	-5855	-0.0000365	0.0003743	0.0035	1.05	2472.47	2884.67	2884.67	15.15	No	Si
SLU 66	10.65	592.88	-4554	-0.0000415	0.0003743	0.0035	1.05	2027.16	2126.55	2126.55	3.59	No	Si
SLU 47	8.85	-169.92	-5154	-0.000032	0.0003743	0.0035	1.05	2240.02	2614.22	2614.22	15.38	No	Si
SLU 47	10.65	516.53	-3831	-0.0000352	0.0003743	0.0035	1.05	1753.82	1844.29	1844.29	3.57	No	Si
SLU 67	8.85	-195.65	-5880	-0.0000368	0.0003743	0.0035	1.05	2480.56	2894.25	2894.25	14.79	No	Si
SLU 67	10.65	599.27	-4584	-0.0000419	0.0003743	0.0035	1.05	2037.89	2138.22	2138.22	3.57	No	Si
SLU 43	8.85	-171.97	-4998	-0.0000312	0.0003743	0.0035	1.05	2185.93	2549.85	2549.85	14.83	No	Si
SLU 43	10.65	505.27	-3706	-0.0000341	0.0003743	0.0035	1.05	1704.72	1796.38	1796.38	3.56	No	Si
SLU 72	8.85	-182.29	-5834	-0.0000361	0.0003743	0.0035	1.05	2465.73	2876.7	2876.7	15.78	No	Si
SLU 72	10.65	583.75	-4500	-0.0000409	0.0003743	0.0035	1.05	2007.25	2105.03	2105.03	3.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	8.85	2541.03	-6741	-0.000183	0.0005615	0.0035	1.05		3127.05	3127.05	1.23		Si
SLV 4	10.65	-1457.1	-2221	-0.0010151	0.0005615	0.0035	0.84		1359.21	1359.21	0.93		No
SLD 14	8.85	-1483.98	-3033	-0.0002709	0.0005615	0.0035	0.84		1746.18	1746.18	1.18		Si
SLD 14	10.65	1365.52	-3807	-0.0000849	0.0005615	0.0035	1.05		1940.14	1940.14	1.42		Si
SLV 13	8.85	-2800.5	-1815	-0.0076701	0.0005615	0.0035	0.84		1162.85	1162.85	0.42		No
SLV 13	10.65	2304.35	-4340	-0.0062784	0.0005615	0.0035	0.84		2179.88	2179.88	0.95		No
SLV 15	8.85	-2252.5	-889	-0.0068698	0.0005615	0.0035	0.84		702.61	702.61	0.31		No
SLV 15	10.65	1780.58	-2939	-0.008208	0.0005615	0.0035	0.84		1535.51	1535.51	0.86		No
SLD 15	8.85	-1500.95	-2134	-0.0012476	0.0005615	0.0035	0.84		1317.56	1317.56	0.88		No
SLD 15	10.65	1304.09	-3097	-0.0001131	0.0005615	0.0035	1.05		1610.02	1610.02	1.23		Si
SLV 14	8.85	-2267.92	-2378	-0.0042323	0.0005615	0.0035	0.84		1434.88	1434.88	0.63		No
SLV 14	10.65	1917.95	-4167	-0.0002799	0.0005615	0.0035	1.05		2104.04	2104.04	1.1		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	8.85	-1821.86	-2676	-0.0015898	0.0005615	0.0035	0.84		1577.7	1577.7	0.87		No
SLD 13	10.65	1610.66	-3917	-0.0001327	0.0005615	0.0035	1.05		1989.95	1989.95	1.24		Si
SLV 8	8.85	1602.02	-3718	-0.0001551	0.0005615	0.0035	1.05		1899.03	1899.03	1.19		Si
SLV 8	10.65	-1007.07	-806	-0.0013533	0.0005615	0.0035	0.84		660.79	660.79	0.66		No
SLV 16	8.85	-1719.92	-1452	-0.0031678	0.0005615	0.0035	0.84		984.28	984.28	0.57		No
SLV 16	10.65	1394.19	-2767	-0.0006599	0.0005615	0.0035	0.84		1453.86	1453.86	1.04		Si
SLV 7	8.85	1243.47	-3338	-0.000081	0.0005615	0.0035	1.05		1723.46	1723.46	1.39		Si
SLV 7	10.65	-746.94	-922	-0.0005872	0.0005615	0.0035	0.84		719.33	719.33	0.96		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	8.85	-179.61	-5968	-4970	-569	1.05	1.05	-16904	9198	2704	40441	8804	2678	11481	No	20.19	Si
SLU 69	10.65	593.47	-4630	-3856	-262	1.05	1.05	-13114	8693	2556	40441	8804	2678	11481	No	43.85	Si
SLU 73	8.85	-147.18	-6018	-5011	-576	1.05	1.05	-17046	9217	2710	40441	8804	2678	11481	No	19.95	Si
SLU 73	10.65	572.83	-4694	-3908	-142	1.05	1.05	-13294	8717	2563	40441	8804	2678	11481	No	80.78	Si
SLU 68	8.85	-196.59	-5737	-4777	-595	1.05	1.05	-16249	9111	2679	40441	8804	2678	11481	No	19.29	Si
SLU 68	10.65	587.41	-4443	-3700	-261	1.05	1.05	-12585	8623	2535	40441	8804	2678	11481	No	44.03	Si
SLU 75	8.85	-135.45	-6275	-5225	-558	1.05	1.05	-17773	9314	2738	40441	8804	2678	11481	No	20.59	Si
SLU 75	10.65	585.29	-4910	-4088	-149	1.05	1.05	-13906	8799	2587	40441	8804	2678	11481	No	76.8	Si
SLU 72	8.85	-182.29	-5834	-4858	-565	1.05	1.05	-16523	9147	2689	40441	8804	2678	11481	No	20.34	Si
SLU 72	10.65	583.75	-4500	-3747	-261	1.05	1.05	-12745	8644	2541	40441	8804	2678	11481	No	43.96	Si
SLU 70	8.85	-184.86	-5994	-4991	-577	1.05	1.05	-16976	9208	2707	40441	8804	2678	11481	No	19.89	Si
SLU 70	10.65	599.87	-4660	-3880	-268	1.05	1.05	-13198	8704	2559	40441	8804	2678	11481	No	42.82	Si
SLU 66	8.85	-190.4	-5855	-4875	-594	1.05	1.05	-16582	9155	2692	40441	8804	2678	11481	No	19.34	Si
SLU 66	10.65	592.88	-4554	-3792	-257	1.05	1.05	-12899	8664	2547	40441	8804	2678	11481	No	44.64	Si
SLU 67	8.85	-195.65	-5880	-4896	-602	1.05	1.05	-16654	9165	2695	40441	8804	2678	11481	No	19.06	Si
SLU 67	10.65	599.27	-4584	-3817	-263	1.05	1.05	-12982	8675	2551	40441	8804	2678	11481	No	43.57	Si
SLU 65	8.85	-207.38	-5623	-4682	-620	1.05	1.05	-15927	9068	2666	40441	8804	2678	11481	No	18.51	Si
SLU 65	10.65	586.82	-4367	-3637	-256	1.05	1.05	-12370	8594	2527	40441	8804	2678	11481	No	44.82	Si
SLU 64	8.85	-198.63	-5581	-4647	-606	1.05	1.05	-15807	9052	2661	40441	8804	2678	11481	No	18.95	Si
SLU 64	10.65	576.16	-4318	-3596	-246	1.05	1.05	-12231	8575	2521	40441	8804	2678	11481	No	46.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	8.85	-1719.92	-1452	-1209	-3173	0.84	0	0	0	0	40441	10564	2142	12706		4	Si
SLV 16	10.65	1394.19	-2767	-2304	-912	0.84	0.0633	0	0	0	40441	10564	2142	12706		13.93	Si
SLV 4	8.85	2541.03	-6741	-5613	3989	1.05	0.4441	-19092	14235	2912	40441	13206	2678	15883		3.98	Si
SLV 4	10.65	-1457.1	-2221	-1850	1671	0.84	0	0	0	0	40441	10564	2142	12706		7.6	Si
SLD 14	8.85	-1483.98	-3033	-2526	-2679	0.84	0.1072	0	0	0	40441	10564	2142	12706		4.74	Si
SLD 14	10.65	1365.52	-3807	-3170	-1040	1.05	0.499	-10784	12573	2261	40441	13206	2678	15883		15.27	Si
SLD 15	8.85	-1500.95	-2134	-1777	-2764	0.84	0	0	0	0	40441	10564	2142	12706		4.6	Si
SLD 15	10.65	1304.09	-3097	-2579	-923	1.05	0.3118	-30016	16250	2103	40441	13206	2678	15883		17.22	Si
SLD 13	8.85	-1821.86	-2676	-2228	-3234	0.84	0	0	0	0	40441	10564	2142	12706		3.93	Si
SLD 13	10.65	1610.66	-3917	-3262	-1306	1.05	0.3413	-11094	12635	2285	40441	13206	2678	15883		12.17	Si
SLV 2	8.85	1993.03	-7666	-6384	3187	1.05	0.7951	-21714	14759	3286	40441	13206	2678	15883		4.98	Si
SLV 2	10.65	-933.33	-3622	-3016	1017	1.05	0.8019	-13511	13119	2945	40441	13206	2678	15883		15.62	Si
SLV 14	8.85	-2267.92	-2378	-1980	-3975	0.84	0	0	0	0	40441	10564	2142	12706		3.2	Si
SLV 14	10.65	1917.95	-4167	-3470	-1566	1.05	0.1943	-66341	16250	2341	40441	13206	2678	15883		10.14	Si
SLV 15	8.85	-2252.5	-889	-741	-4048	0.84	0	0	0	0	40441	10564	2142	12706		3.14	Si
SLV 15	10.65	1780.58	-2939	-2448	-1330	0.84	0	0	0	0	40441	10564	2142	12706		9.55	Si
SLV 13	8.85	-2800.5	-1815	-1511	-4850	0.84	0	0	0	0	40441	10564	2142	12706		2.62	Si
SLV 13	10.65	2304.35	-4340	-3614	-1984	0.84	0	0	0	0	40441	10564	2142	12706		6.4	Si
SLV 9	8.85	-1861.48	-4838	-4029	-3137	0.84	0.4208	0	0	0	40441	10564	2142	12706		4.05	Si
SLV 9	10.65	1854.32	-5754	-4792	-1775	1.05	0.6083	-16299	13676	2693	40441	13206	2678	15883		8.95	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.45	0	-874	130.78	0	0	No, e>t/2
SLV 15	179667	0.45	0	-311	130.78	0	0	No, e>t/2
SLV 11	179667	0.45	3885	-1142	130.78	155.83	1.19	Si
SLV 13	179667	0.45	4300	-1264	130.78	172.01	1.32	Si
SLV 12	179667	0.45	5174	-1521	130.78	205.75	1.57	Si
SLV 14	179667	0.45	6215	-1827	130.78	245.41	1.88	Si
SLV 7	179667	0.45	9281	-2729	130.78	358.8	2.74	Si
SLV 8	179667	0.45	10571	-3108	130.78	404.97	3.1	Si
SLV 9	179667	0.45	14692	-4319	130.78	546.53	4.18	Si
SLV 10	179667	0.45	15981	-4698	130.78	588.94	4.5	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-4186	-6829	-39	1.19	575.1	0.93	18.58751	6.07522	Si
SLV 14	-3942	-6428	-38	1.247	550.5	0.928	19.53893	6.07522	Si
SLV 9	-4609	-7913	-110	1.089	617.9	0.934	16.94336	5.24939	Si
SLV 10	-4445	-7643	-110	1.121	601.3	0.933	17.46998	5.24939	Si
SLV 5	-4189	-7131	-109	1.176	575.4	0.93	18.3643	5.24939	Si
SLV 6	-4024	-6862	-108	1.213	558.9	0.929	18.98598	5.24939	Si
SLV 15	-3368	-5062	24	1.412	492.8	0.921	22.26533	6.07522	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-3124	-4662	25	1.494	468.4	0.918	23.6391	6.07522	Si
SLV 1	-2784	-4224	-33	1.624	434.4	0.914	25.8351	6.07522	Si
SLV 2	-2541	-3824	-32	1.736	410.1	0.91	27.71036	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.498	SLU 65	Si
V_SLU	18.508	SLU 65	Si
PF_SLV	0.312	SLV 15	No
V_SLV	2.62	SLV 13	Si
PFFP_SLV	0	SLV 15	No
R_SLV	3.06	SLV 13	Si

Maschio 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L6	L7	3.211	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	7.95	2152.26	-10839	-0.0000411	0.0004492	0.0035	3.2107	13966.44	16828.48	16828.48	7.82	No	Si
SLU 51	10.05	482.72	-7991	-0.0000242	0.0004492	0.0035	3.2107	10962.41	12920.29	12920.29	26.77	No	Si
SLU 46	7.95	2165.54	-10822	-0.0000411	0.0004492	0.0035	3.2107	13949.41	16805.01	16805.01	7.76	No	Si
SLU 46	10.05	327.82	-7940	-0.0000233	0.0004492	0.0035	3.2107	10904.1	12849.06	12849.06	39.2	No	Si
SLU 44	7.95	2101.95	-10415	-0.0000396	0.0004492	0.0035	3.2107	13548.96	16259.84	16259.84	7.74	No	Si
SLU 44	10.05	233.99	-7516	-0.0000216	0.0004492	0.0035	3.2107	10415.05	12250.24	12250.24	52.35	No	Si
SLU 50	7.95	2204.48	-10806	-0.0000413	0.0004492	0.0035	3.2107	13934.68	16784.72	16784.72	7.61	No	Si
SLU 50	10.05	408.96	-7918	-0.0000237	0.0004492	0.0035	3.2107	10878.97	12818.41	12818.41	31.34	No	Si
SLU 64	7.95	2349.3	-11832	-0.000045	0.0004492	0.0035	3.2107	14902.28	18154.84	18154.84	7.73	No	Si
SLU 64	10.05	337.73	-8631	-0.0000253	0.0004492	0.0035	3.2107	11678.59	13810.94	13810.94	40.89	No	Si
SLU 48	7.95	2225.5	-11012	-0.000042	0.0004492	0.0035	3.2107	14133.5	17060.15	17060.15	7.67	No	Si
SLU 48	10.05	403.01	-8129	-0.0000242	0.0004492	0.0035	3.2107	11118.48	13111.87	13111.87	32.53	No	Si
SLU 45	7.95	2217.76	-10789	-0.0000413	0.0004492	0.0035	3.2107	13917.61	16761.24	16761.24	7.56	No	Si
SLU 45	10.05	254.06	-7867	-0.0000227	0.0004492	0.0035	3.2107	10820.43	12747.18	12747.18	50.17	No	Si
SLU 47	7.95	2109.7	-10638	-0.0000403	0.0004492	0.0035	3.2107	13769.72	16558.75	16558.75	7.85	No	Si
SLU 47	10.05	382.94	-7778	-0.0000231	0.0004492	0.0035	3.2107	10718.46	12621.7	12621.7	32.96	No	Si
SLU 43	7.95	2188.98	-10360	-0.0000399	0.0004492	0.0035	3.2107	13494.64	16186.14	16186.14	7.39	No	Si
SLU 43	10.05	111.06	-7394	-0.0000207	0.0004492	0.0035	3.2107	10272.41	12077.28	12077.28	108.75	No	Si
SLU 1	7.95	1726.11	-8358	-0.0000318	0.0004492	0.0035	3.2107	11375.19	13429.99	13429.99	7.78	No	Si
SLU 1	10.05	145.21	-6014	-0.000017	0.0004492	0.0035	3.2107	8597.63	10105.51	10105.51	69.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	7.95	5289.57	-6787	-0.0000481	0.0006738	0.0035	3.2107		11339.38	11339.38	2.14		Si
SLV 7	10.05	-4025.22	-2206	-0.0001377	0.0006738	0.0035	2.5686		9268.24	9268.24	2.3		Si
SLD 7	7.95	3820.99	-7754	-0.0000406	0.0006738	0.0035	3.2107		12740.52	12740.52	3.33		Si
SLD 7	10.05	-2243.6	-4062	-0.0000223	0.0006738	0.0035	3.2107		12047.97	12047.97	5.37		Si
SLV 11	7.95	5888.82	-5809	-0.0000578	0.0006738	0.0035	3.2107		9908.94	9908.94	1.68		Si
SLV 11	10.05	-4105.32	-905	-0.0002287	0.0006738	0.0035	2.5686		7288.62	7288.62	1.78		Si
SLD 12	7.95	4141.53	-7113	-0.0000405	0.0006738	0.0035	3.2107		11816.05	11816.05	2.85		Si
SLD 12	10.05	-2351.97	-3256	-0.0000213	0.0006738	0.0035	3.2107		10847.34	10847.34	4.61		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	7.95	3988.31	-6626	-0.0000385	0.0006738	0.0035	3.2107		11103.36	11103.36	2.78		Si
SLV 15	10.05	-1107.84	-2898	-0.0000133	0.0006738	0.0035	3.2107		10309.5	10309.5	9.31		Si
SLV 12	7.95	5786.05	-5777	-0.0000563	0.0006738	0.0035	3.2107		9862.23	9862.23	1.7		Si
SLV 12	10.05	-4200.39	-947	-0.0002334	0.0006738	0.0035	2.5686		7353.7	7353.7	1.75		Si
SLD 11	7.95	4203.9	-7132	-0.0000409	0.0006738	0.0035	3.2107		11844.4	11844.4	2.82		Si
SLD 11	10.05	-2294.28	-3230	-0.0000208	0.0006738	0.0035	3.2107		10808.59	10808.59	4.71		Si
SLD 8	7.95	3758.62	-7735	-0.0000402	0.0006738	0.0035	3.2107		12712.62	12712.62	3.38		Si
SLD 8	10.05	-2301.29	-4087	-0.0000227	0.0006738	0.0035	3.2107		12086.29	12086.29	5.25		Si
SLV 16	7.95	3835.65	-6578	-0.0000375	0.0006738	0.0035	3.2107		11033.97	11033.97	2.88		Si
SLV 16	10.05	-1249.05	-2961	-0.0000142	0.0006738	0.0035	3.2107		10404.36	10404.36	8.33		Si
SLV 8	7.95	5186.8	-6755	-0.0000472	0.0006738	0.0035	3.2107		11292.66	11292.66	2.18		Si
SLV 8	10.05	-4120.28	-2249	-0.0001421	0.0006738	0.0035	2.5686		9332.74	9332.74	2.27		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	7.95	2320	-12895	-7150	1374	3.2107	3.2107	-15906	10454	4935	115546	16154	16375	32528	No	23.67	Si
SLU 73	10.05	670.27	-9598	-5322	1483	3.2107	3.2107	-11839	9912	4455	115546	16154	16375	32528	No	21.94	Si
SLU 83	7.95	2439.53	-13496	-7483	1501	3.2107	3.2107	-16648	10553	5056	115546	16154	16375	32528	No	21.67	Si
SLU 83	10.05	786.12	-10100	-5600	1488	3.2107	3.2107	-12458	9994	4492	115546	16154	16375	32528	No	21.85	Si
SLU 74	7.95	2435.81	-13269	-7357	1487	3.2107	3.2107	-16368	10516	5010	115546	16154	16375	32528	No	21.88	Si
SLU 74	10.05	690.34	-9949	-5516	1474	3.2107	3.2107	-12272	9970	4481	115546	16154	16375	32528	No	22.06	Si
SLU 62	7.95	2279.21	-12025	-6667	1466	3.2107	3.2107	-14833	10311	4760	115546	16154	16375	32528	No	22.19	Si
SLU 62	10.05	559.45	-8863	-4914	1455	3.2107	3.2107	-10932	9791	4401	115546	16154	16375	32528	No	22.35	Si
SLU 61	7.95	2219.25	-11835	-6562	1443	3.2107	3.2107	-14598	10280	4722	115546	16154	16375	32528	No	22.55	Si
SLU 61	10.05	484.26	-8674	-4809	1504	3.2107	3.2107	-10700	9760	4387	115546	16154	16375	32528	No	21.63	Si
SLU 81	7.95	2431.78	-13273	-7360	1598	3.2107	3.2107	-16373	10516	5011	115546	16154	16375	32528	No	20.35	Si
SLU 81	10.05	637.17	-9838	-5455	1585	3.2107	3.2107	-12135	9951	4473	115546	16154	16375	32528	No	20.52	Si
SLU 64	7.95	2349.3	-11832	-6560	1520	3.2107	3.2107	-14595	10279	4722	115546	16154	16375	32528	No	21.4	Si
SLU 64	10.05	337.73	-8631	-4786	1510	3.2107	3.2107	-10647	9753	4384	115546	16154	16375	32528	No	21.54	Si
SLU 82	7.95	2379.56	-13306	-7378	1478	3.2107	3.2107	-16413	10522	5017	115546	16154	16375	32528	No	22.01	Si
SLU 82	10.05	710.93	-9911	-5495	1537	3.2107	3.2107	-12225	9963	4478	115546	16154	16375	32528	No	21.16	Si
SLU 43	7.95	2188.98	-10360	-5744	1485	3.2107	3.2107	-12780	10037	4512	115546	16154	16375	32528	No	21.9	Si
SLU 43	10.05	111.06	-7394	-4100	1477	3.2107	3.2107	-9121	9549	4292	115546	16154	16375	32528	No	22.03	Si
SLU 60	7.95	2271.47	-11802	-6544	1563	3.2107	3.2107	-14558	10274	4716	115546	16154	16375	32528	No	20.81	Si
SLU 60	10.05	410.5	-8601	-4769	1552	3.2107	3.2107	-10609	9748	4382	115546	16154	16375	32528	No	20.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	7.95	5289.57	-6787	-3763	6881	3.2107	2.4779	-8372	14174	4917	115546	24231	16375	40605		5.9	Si
SLV 7	10.05	-4025.22	-2206	-1223	6029	2.5686	0	0	0	0	115546	19385	13100	32484		5.39	Si
SLV 10	7.95	-1712.75	-11346	-6291	-4526	3.2107	3.2107	-13995	15299	6877	115546	24231	16375	40605		8.97	Si
SLV 10	10.05	4564.94	-11011	-6105	-3690	3.2107	3.2107	-13583	15217	6840	115546	24231	16375	40605		11	Si
SLD 11	7.95	4203.9	-7132	-3954	4870	3.2107	3.0477	-8797	14259	6084	115546	24231	16375	40605		8.34	Si
SLD 11	10.05	-2294.28	-3230	-1791	4397	3.2107	2.6854	-4774	13455	5058	115546	24231	16375	40605		9.24	Si
SLD 7	7.95	3820.99	-7754	-4299	4503	3.2107	3.2107	-9565	14413	6479	115546	24231	16375	40605		9.02	Si
SLD 7	10.05	-2243.6	-4062	-2252	3998	3.2107	3.1588	-5010	13502	5971	115546	24231	16375	40605		10.16	Si
SLV 8	7.95	5186.8	-6755	-3745	6820	3.2107	2.5125	-8332	14166	4983	115546	24231	16375	40605		5.95	Si
SLV 8	10.05	-4120.28	-2249	-1247	5969	2.5686	0	0	0	0	115546	19385	13100	32484		5.44	Si
SLD 12	7.95	4141.53	-7113	-3944	4833	3.2107	3.0692	-8773	14255	6125	115546	24231	16375	40605		8.4	Si
SLD 12	10.05	-2351.97	-3256	-1805	4360	3.2107	2.6491	-4878	13476	4998	115546	24231	16375	40605		9.31	Si
SLV 12	7.95	5786.05	-5777	-3203	7396	3.2107	1.8115	-7126	13925	4681	115546	24231	16375	40605		5.49	Si
SLV 12	10.05	-4200.39	-947	-525	6593	2.5686	0	0	0	0	115546	19385	13100	32484		4.93	Si
SLV 5	7.95	-2209.22	-12355	-6850	-5042	3.2107	3.2107	-15240	15548	6989	115546	24231	16375	40605		8.05	Si
SLV 5	10.05	4740.11	-12271	-6803	-4254	3.2107	3.2107	-15136	15527	6979	115546	24231	16375	40605		9.54	Si
SLV 6	7.95	-2312	-12323	-6833	-5102	3.2107	3.2107	-15201	15540	6985	115546	24231	16375	40605		7.96	Si
SLV 6	10.05	4645.05	-12313	-6827	-4315	3.2107	3.2107	-15188	15538	6984	115546	24231	16375	40605		9.41	Si
SLV 11	7.95	5888.82	-5809	-3221	7457	3.2107	1.775	-7166	13933	4688	115546	24231	16375	40605		5.45	Si
SLV 11	10.05	-4105.32	-905	-502	6653	2.5686	0	0	0	0	115546	19385	13100	32484		4.88	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-1632	0.45	217.61	0	343.53	171.76	0.79	No
SLV 12	-1650	0.45	217.61	0	345.24	172.62	0.79	No
SLV 7	-2840	0.45	217.61	0	450.99	225.5	1.04	Si
SLV 8	-2859	0.45	217.61	0	452.67	226.33	1.04	Si
SLV 15	-3609	0.45	217.61	241.58	518.5	380.04	1.75	Si
SLV 16	-3637	0.45	217.61	243.38	520.96	382.17	1.76	Si
SLV 13	-6517	0.45	217.61	420.09	769.7	594.9	2.73	Si
SLV 14	-6545	0.45	217.61	421.75	772.11	596.93	2.74	Si
SLV 3	-7637	0.45	217.61	485.05	865.46	675.25	3.1	Si
SLV 4	-7666	0.45	217.61	486.66	867.85	677.25	3.11	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-5768	-11555	-299	2.485	815.7	0.926	39.00386	10.43136	Si
SLV 2	-5694	-11507	-299	2.511	808.2	0.926	39.43147	10.43136	Si
SLV 3	-4553	-9884	-277	2.989	693.7	0.916	47.40446	10.43136	Si
SLV 4	-4479	-9837	-277	3.027	686.2	0.916	48.03273	10.43136	Si
SLV 5	-6517	-12355	-122	2.275	891.2	0.931	35.51484	7.59525	Si
SLV 6	-6467	-12323	-122	2.29	886.2	0.931	35.75072	7.59525	Si
SLV 9	-5955	-11378	50	2.457	834.5	0.927	38.50139	7.59525	Si
SLV 10	-5904	-11346	50	2.474	829.4	0.927	38.77717	7.59525	Si
SLV 13	-3893	-8296	277	3.357	627.8	0.91	53.59651	10.43136	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-3818	-8249	277	3.405	620.4	0.91	54.39603	10.43136	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.394	SLU 43	Si
V_SLU	20.354	SLU 81	Si
PF_SLV	1.683	SLV 11	Si
V_SLV	4.882	SLV 11	Si
PFFP_SLV	0.789	SLV 11	No
R_SLV	3.739	SLV 1	Si

Maschio 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.363	-3.169	L6	L7	1.61	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	7.95	-1677.17	-9080	-0.0000531	0.0003743	0.0035	1.61	5863.37	6925.71	6925.71	4.13	No	Si
SLU 84	10.05	1990.31	-11395	-0.0000663	0.0003743	0.0035	1.61	6895.55	7547.13	7547.13	3.79	No	Si
SLU 19	7.95	-1193.31	-6604	-0.0000375	0.0003743	0.0035	1.61	4551.57	5415.34	5415.34	4.54	No	Si
SLU 19	10.05	1500.86	-8150	-0.0000472	0.0003743	0.0035	1.61	5395.7	5709.1	5709.1	3.8	No	Si
SLU 41	7.95	-1499.16	-7483	-0.0000447	0.0003743	0.0035	1.61	5041.45	5969.53	5969.53	3.98	No	Si
SLU 41	10.05	1773.82	-9773	-0.000057	0.0003743	0.0035	1.61	6192.01	6749.48	6749.48	3.81	No	Si
SLU 83	7.95	-1676.26	-9045	-0.0000529	0.0003743	0.0035	1.61	5846.29	6905.31	6905.31	4.12	No	Si
SLU 83	10.05	1981.78	-11373	-0.0000661	0.0003743	0.0035	1.61	6886.45	7536.49	7536.49	3.8	No	Si
SLU 40	7.95	-1521.97	-7266	-0.0000442	0.0003743	0.0035	1.61	4923.26	5839.02	5839.02	3.84	No	Si
SLU 40	10.05	1798.99	-9607	-0.0000567	0.0003743	0.0035	1.61	6114.67	6641.52	6641.52	3.69	No	Si
SLU 81	7.95	-1698.15	-8794	-0.0000523	0.0003743	0.0035	1.61	5722.56	6759.77	6759.77	3.98	No	Si
SLU 81	10.05	1998.41	-11184	-0.0000655	0.0003743	0.0035	1.61	6809.19	7447.16	7447.16	3.73	No	Si
SLU 82	7.95	-1699.07	-8829	-0.0000524	0.0003743	0.0035	1.61	5739.96	6779.99	6779.99	3.99	No	Si
SLU 82	10.05	2006.94	-11206	-0.0000657	0.0003743	0.0035	1.61	6818.44	7457.75	7457.75	3.72	No	Si
SLU 18	7.95	-1192.39	-6569	-0.0000374	0.0003743	0.0035	1.61	4531.44	5392.82	5392.82	4.52	No	Si
SLU 18	10.05	1492.33	-8127	-0.000047	0.0003743	0.0035	1.61	5384.05	5695.04	5695.04	3.82	No	Si
SLU 42	7.95	-1500.07	-7518	-0.0000449	0.0003743	0.0035	1.61	5060.45	5990.78	5990.78	3.99	No	Si
SLU 42	10.05	1782.35	-9795	-0.0000572	0.0003743	0.0035	1.61	6202.37	6764.05	6764.05	3.8	No	Si
SLU 39	7.95	-1521.06	-7231	-0.0000441	0.0003743	0.0035	1.61	4903.94	5817.96	5817.96	3.82	No	Si
SLU 39	10.05	1790.46	-9584	-0.0000565	0.0003743	0.0035	1.61	6104.17	6626.98	6626.98	3.7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	7.95	-1974.81	-1464	-0.0006548	0.0005615	0.0035	1.288		1824	1824	0.92		No
SLV 11	10.05	1379.17	-5428	-0.0000352	0.0005615	0.0035	1.61		4252.73	4252.73	3.08		Si
SLD 13	7.95	-3514.65	-5354	-0.0001358	0.0005615	0.0035	1.288		4699.09	4699.09	1.34		Si
SLD 13	10.05	3241.75	-10550	-0.0000782	0.0005615	0.0035	1.61		7472.07	7472.07	2.3		Si
SLV 16	7.95	-3972.29	-2987	-0.0017921	0.0005615	0.0035	1.288		2980.09	2980.09	0.75		No
SLV 16	10.05	3335.25	-9377	-0.000077	0.0005615	0.0035	1.61		6759.01	6759.01	2.03		Si
SLV 12	7.95	-1507.33	-1755	-0.0002006	0.0005615	0.0035	1.288		2047.85	2047.85	1.36		Si
SLV 12	10.05	989.09	-4867	-0.0000284	0.0005615	0.0035	1.61		3851.37	3851.37	3.89		Si
SLV 15	7.95	-4666.67	-2554	-0.003365	0.0005615	0.0035	1.288		2655.61	2655.61	0.57		No
SLV 15	10.05	3914.66	-10211	-0.0000903	0.0005615	0.0035	1.61		7264.97	7264.97	1.86		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	7.95	-4883.18	-4937	-0.0014699	0.0005615	0.0035	1.288		4405.03	4405.03	0.9		No
SLV 13	10.05	4409.75	-12280	-0.0001037	0.0005615	0.0035	1.61		8543.29	8543.29	1.94		Si
SLV 14	7.95	-4188.8	-5370	-0.0004179	0.0005615	0.0035	1.288		4710.81	4710.81	1.12		Si
SLV 14	10.05	3830.33	-11446	-0.0000907	0.0005615	0.0035	1.61		8024.34	8024.34	2.09		Si
SLD 15	7.95	-3388.1	-3959	-0.0005085	0.0005615	0.0035	1.288		3693.73	3693.73	1.09		Si
SLD 15	10.05	2951.83	-9339	-0.0000701	0.0005615	0.0035	1.61		6735.78	6735.78	2.28		Si
SLV 4	7.95	2672.92	-7612	-0.0000611	0.0005615	0.0035	1.61		5705.18	5705.18	2.13		Si
SLV 4	10.05	-1988.24	-2998	-0.0000757	0.0005615	0.0035	1.288		2988.25	2988.25	1.5		Si
SLD 16	7.95	-2947.58	-4234	-0.000141	0.0005615	0.0035	1.288		3896.52	3896.52	1.32		Si
SLD 16	10.05	2584.24	-8810	-0.0000628	0.0005615	0.0035	1.61		6417.63	6417.63	2.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	7.95	-1677.17	-9080	-7561	-2856	1.61	1.61	-16773	9181	4139	40441	13499	4106	17605	No	6.16	Si
SLU 84	10.05	1990.31	-11395	-9489	-4112	1.61	1.61	-21049	9751	4396	40441	13499	4106	17605	No	4.28	Si
SLU 77	7.95	-1604.4	-9266	-7716	-2802	1.61	1.61	-17117	9227	4159	40441	13499	4106	17605	No	6.28	Si
SLU 77	10.05	1864.78	-11446	-9532	-4067	1.61	1.61	-21144	9764	4401	40441	13499	4106	17605	No	4.33	Si
SLU 75	7.95	-1627.21	-9050	-7536	-2838	1.61	1.61	-16717	9173	4135	40441	13499	4106	17605	No	6.2	Si
SLU 75	10.05	1889.95	-11280	-9393	-4137	1.61	1.61	-20836	9723	4383	40441	13499	4106	17605	No	4.26	Si
SLU 83	7.95	-1676.26	-9045	-7532	-2860	1.61	1.61	-16708	9172	4135	40441	13499	4106	17605	No	6.16	Si
SLU 83	10.05	1981.78	-11373	-9470	-4099	1.61	1.61	-21007	9745	4393	40441	13499	4106	17605	No	4.29	Si
SLU 73	7.95	-1631.73	-8670	-7220	-2830	1.61	1.61	-16016	9080	4093	40441	13499	4106	17605	No	6.22	Si
SLU 73	10.05	1875.09	-10882	-9062	-4107	1.61	1.61	-20101	9625	4339	40441	13499	4106	17605	No	4.29	Si
SLU 74	7.95	-1626.3	-9015	-7507	-2841	1.61	1.61	-16653	9165	4131	40441	13499	4106	17605	No	6.2	Si
SLU 74	10.05	1881.42	-11258	-9374	-4123	1.61	1.61	-20795	9717	4380	40441	13499	4106	17605	No	4.27	Si
SLU 81	7.95	-1698.15	-8794	-7323	-2898	1.61	1.61	-16243	9110	4107	40441	13499	4106	17605	No	6.07	Si
SLU 81	10.05	1998.41	-11184	-9313	-4155	1.61	1.61	-20659	9699	4372	40441	13499	4106	17605	No	4.24	Si
SLU 76	7.95	-1609.84	-8922	-7429	-2791	1.61	1.61	-16480	9142	4121	40441	13499	4106	17605	No	6.31	Si
SLU 76	10.05	1858.46	-11071	-9219	-4052	1.61	1.61	-20450	9671	4360	40441	13499	4106	17605	No	4.35	Si
SLU 78	7.95	-1605.32	-9302	-7746	-2799	1.61	1.61	-17182	9235	4163	40441	13499	4106	17605	No	6.29	Si
SLU 78	10.05	1873.31	-11469	-9550	-4081	1.61	1.61	-21185	9769	4404	40441	13499	4106	17605	No	4.31	Si
SLU 82	7.95	-1699.07	-8829	-7352	-2895	1.61	1.61	-16308	9119	4111	40441	13499	4106	17605	No	6.08	Si
SLU 82	10.05	2006.94	-11206	-9332	-4168	1.61	1.61	-20700	9704	4375	40441	13499	4106	17605	No	4.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	7.95	-4188.8	-5370	-4472	-6866	1.288	0.075	0	0	0	40441	16199	3284	19483		2.84	Si
SLV 14	10.05	3830.33	-11446	-9532	-6601	1.61	1.4111	-21144	14645	5787	40441	20248	4106	24354		3.69	Si
SLV 16	7.95	-3972.29	-2987	-2488	-6849	1.288	0	0	0	0	40441	16199	3284	19483		2.84	Si
SLV 16	10.05	3335.25	-9377	-7809	-5659	1.61	1.348	-17321	13881	5239	40441	20248	4106	24354		4.3	Si
SLV 15	7.95	-4666.67	-2554	-2127	-7938	1.288	0	0	0	0	40441	16199	3284	19483		2.45	Si
SLV 15	10.05	3914.66	-10211	-8503	-6774	1.61	1.2649	-18861	14189	5025	40441	20248	4106	24354		3.6	Si
SLV 10	7.95	-2229.01	-9698	-8076	-3276	1.61	1.61	-17914	13999	6311	40441	20248	4106	24354		7.43	Si
SLV 10	10.05	2639.39	-11764	-9796	-5232	1.61	1.61	-21730	14763	6655	40441	20248	4106	24354		4.65	Si
SLD 15	7.95	-3388.1	-3959	-3297	-5795	1.288	0	0	0	0	40441	16199	3284	19483		3.36	Si
SLD 15	10.05	2951.83	-9339	-7776	-5399	1.61	1.4668	-17250	13867	5695	40441	20248	4106	24354		4.51	Si
SLV 13	7.95	-4883.18	-4937	-4111	-7954	1.288	0	0	0	0	40441	16199	3284	19483		2.45	Si
SLV 13	10.05	4409.75	-12280	-10226	-7716	1.61	1.3377	-22684	14953	5601	40441	20248	4106	24354		3.16	Si
SLD 14	7.95	-3074.12	-5629	-4687	-5114	1.288	0.7765	0	0	0	40441	16199	3284	19483		3.81	Si
SLD 14	10.05	2874.16	-10021	-8344	-5243	1.61	1.5545	-18510	14119	6146	40441	20248	4106	24354		4.64	Si
SLD 16	7.95	-2947.58	-4234	-3526	-5104	1.288	0.3266	0	0	0	40441	16199	3284	19483		3.82	Si
SLD 16	10.05	2584.24	-8810	-7336	-4691	1.61	1.535	-16273	13671	5876	40441	20248	4106	24354		5.19	Si
SLD 13	7.95	-3514.65	-5354	-4458	-5804	1.288	0.4455	0	0	0	40441	16199	3284	19483		3.36	Si
SLD 13	10.05	3241.75	-10550	-8785	-5951	1.61	1.4932	-19487	14314	5985	40441	20248	4106	24354		4.09	Si
SLV 9	7.95	-2696.49	-9406	-7832	-4009	1.61	1.555	-17375	13892	6048	40441	20248	4106	24354		6.07	Si
SLV 9	10.05	3029.47	-12325	-10263	-5983	1.61	1.61	-22767	14970	6749	40441	20248	4106	24354		4.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.45	6575	-2964	200.53	397.08	1.98	Si
SLV 7	179667	0.45	7550	-3404	200.53	452.97	2.26	Si
SLV 4	179667	0.45	7806	-3519	200.53	467.47	2.33	Si
SLV 3	179667	0.45	9255	-4172	200.53	548.73	2.74	Si
SLV 12	179667	0.45	9979	-4499	200.53	588.64	2.94	Si
SLV 11	179667	0.45	10955	-4938	200.53	641.78	3.2	Si
SLV 2	179667	0.45	12469	-5621	200.53	722.67	3.6	Si
SLV 1	179667	0.45	13918	-6274	200.53	798.35	3.98	Si
SLV 16	179667	0.45	19154	-8634	200.53	1057.21	5.27	Si
SLV 15	179667	0.45	20603	-9288	200.53	1124.87	5.61	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-5301	-9995	-48	1.382	769.3	0.923	21.7766	6.07522	Si
SLV 1	-5106	-9561	-47	1.422	749.8	0.921	22.44413	6.07522	Si
SLV 6	-5619	-11085	-235	1.295	801.3	0.925	20.35243	5.24939	Si
SLV 5	-5488	-10793	-235	1.319	788.2	0.924	20.74829	5.24939	Si
SLV 4	-4542	-7612	98	1.544	693.3	0.916	24.49477	6.07522	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-5160	-9698	-250	1.38	755.2	0.921	21.77178	5.24939	Si
SLV 3	-4347	-7179	99	1.595	673.8	0.915	25.34206	6.07522	Si
SLV 9	-5029	-9406	-249	1.408	742.1	0.92	22.22637	5.24939	Si
SLV 14	-3771	-5370	-96	1.767	616.4	0.909	28.2491	6.07522	Si
SLV 13	-3577	-4937	-95	1.834	597.2	0.907	29.38445	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.692	SLU 40	Si
V_SLU	4.224	SLU 82	Si
PF_SLV	0.569	SLV 15	No
V_SLV	2.449	SLV 13	Si
PFFP_SLV	1.98	SLV 8	Si
R_SLV	3.584	SLV 2	Si

Maschio 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.521	L6	L7	4.315	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 36	7.95	-9116.01	-9512	-0.0000469	0.0004492	0.0035	4.315	17877.65	30019.52	30019.52	3.29	No	Si
SLU 36	10.05	-5115.28	-6912	-0.0000284	0.0004492	0.0035	4.315	13515.71	25068.55	25068.55	4.9	No	Si
SLU 42	7.95	-9415.18	-9499	-0.0000482	0.0004492	0.0035	4.315	17856	29994.37	29994.37	3.19	No	Si
SLU 42	10.05	-5249.43	-6898	-0.0000288	0.0004492	0.0035	4.315	13492	25042.03	25042.03	4.77	No	Si
SLU 81	7.95	-10547.16	-11810	-0.0000557	0.0004492	0.0035	4.315	21403.55	34296.73	34296.73	3.25	No	Si
SLU 81	10.05	-5967.88	-8556	-0.0000343	0.0004492	0.0035	4.315	16319.03	28239.16	28239.16	4.73	No	Si
SLU 35	7.95	-9186.48	-9531	-0.0000473	0.0004492	0.0035	4.315	17908.37	30055.23	30055.23	3.27	No	Si
SLU 35	10.05	-5216.62	-6931	-0.0000288	0.0004492	0.0035	4.315	13549.34	25106.19	25106.19	4.81	No	Si
SLU 82	7.95	-10476.69	-11791	-0.0000554	0.0004492	0.0035	4.315	21375.39	34261.02	34261.02	3.27	No	Si
SLU 82	10.05	-5866.54	-8536	-0.000034	0.0004492	0.0035	4.315	16287.22	28203.45	28203.45	4.81	No	Si
SLU 39	7.95	-9323.41	-9482	-0.0000478	0.0004492	0.0035	4.315	17829.97	29964.14	29964.14	3.21	No	Si
SLU 39	10.05	-5244.76	-6882	-0.0000288	0.0004492	0.0035	4.315	13463.5	25010.17	25010.17	4.77	No	Si
SLU 83	7.95	-10709.4	-11846	-0.0000563	0.0004492	0.0035	4.315	21455.49	34362.67	34362.67	3.21	No	Si
SLU 83	10.05	-6073.89	-8591	-0.0000347	0.0004492	0.0035	4.315	16377.71	28305.1	28305.1	4.66	No	Si
SLU 40	7.95	-9252.94	-9463	-0.0000475	0.0004492	0.0035	4.315	17799.2	29928.43	29928.43	3.23	No	Si
SLU 40	10.05	-5143.42	-6863	-0.0000284	0.0004492	0.0035	4.315	13429.82	24972.52	24972.52	4.86	No	Si
SLU 84	7.95	-10638.93	-11826	-0.000056	0.0004492	0.0035	4.315	21427.37	34326.96	34326.96	3.23	No	Si
SLU 84	10.05	-5972.55	-8572	-0.0000344	0.0004492	0.0035	4.315	16345.94	28269.39	28269.39	4.73	No	Si
SLU 41	7.95	-9485.65	-9518	-0.0000486	0.0004492	0.0035	4.315	17886.73	30030.08	30030.08	3.17	No	Si
SLU 41	10.05	-5350.77	-6917	-0.0000292	0.0004492	0.0035	4.315	13525.65	25079.68	25079.68	4.69	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	7.95	-7649.88	-7117	-0.0000383	0.0006738	0.0035	4.315		25610.32	25610.32	3.35		Si
SLV 6	10.05	1766.54	-4778	-0.0000145	0.0006738	0.0035	4.315		11739.09	11739.09	6.65		Si
SLV 7	7.95	-6659.64	-10430	-0.0000399	0.0006738	0.0035	4.315		31991.89	31991.89	4.8		Si
SLV 7	10.05	-9709.64	-7822	-0.0000499	0.0006738	0.0035	3.452		26997.4	26997.4	2.78		Si
SLV 1	7.95	-8432.1	-8076	-0.0000423	0.0006738	0.0035	4.315		27495.79	27495.79	3.26		Si
SLV 1	10.05	-2520.39	-5613	-0.0000183	0.0006738	0.0035	4.315		22630.01	22630.01	8.98		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	7.95	-7573.9	-7116	-0.0000379	0.0006738	0.0035	4.315		25608.23	25608.23	3.38		Si
SLV 5	10.05	1890.02	-4777	-0.0000148	0.0006738	0.0035	4.315		11736.92	11736.92	6.21		Si
SLV 11	7.95	-5633.96	-10602	-0.0000373	0.0006738	0.0035	4.315		32318.5	32318.5	5.74		Si
SLV 11	10.05	-9383.49	-8019	-0.0000475	0.0006738	0.0035	4.315		27384.81	27384.81	2.92		Si
SLD 8	7.95	-6721.3	-9781	-0.0000387	0.0006738	0.0035	4.315		30754.41	30754.41	4.58		Si
SLD 8	10.05	-7346.83	-7228	-0.0000369	0.0006738	0.0035	4.315		25828.56	25828.56	3.52		Si
SLV 12	7.95	-5709.94	-10603	-0.0000376	0.0006738	0.0035	4.315		32320.53	32320.53	5.66		Si
SLV 12	10.05	-9506.98	-8021	-0.0000483	0.0006738	0.0035	4.315		27386.9	27386.9	2.88		Si
SLV 2	7.95	-8544.96	-8077	-0.0000429	0.0006738	0.0035	4.315		27498.9	27498.9	3.22		Si
SLV 2	10.05	-2703.82	-5615	-0.0000188	0.0006738	0.0035	4.315		22633.16	22633.16	8.37		Si
SLD 7	7.95	-6675.19	-9781	-0.0000386	0.0006738	0.0035	4.315		30753.18	30753.18	4.61		Si
SLD 7	10.05	-7271.89	-7227	-0.0000365	0.0006738	0.0035	4.315		25827.29	25827.29	3.55		Si
SLV 8	7.95	-6735.62	-10432	-0.0000401	0.0006738	0.0035	4.315		31993.92	31993.92	4.75		Si
SLV 8	10.05	-9833.12	-7823	-0.0000508	0.0006738	0.0035	3.452		26999.49	26999.49	2.75		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	7.95	-10271.59	-11850	-6570	-2077	4.315	3.872	-12205	9961	6118	115546	21710	22006	43716	No	21.05	Si
SLU 79	10.05	-5863.94	-8595	-4766	-2077	4.315	4.315	-7889	9385	5670	115546	21710	22006	43716	No	21.05	Si
SLU 83	7.95	-10709.4	-11846	-6568	-2185	4.315	3.7602	-12585	10011	6117	115546	21710	22006	43716	No	20	Si
SLU 83	10.05	-6073.89	-8591	-4763	-2185	4.315	4.315	-7885	9385	5669	115546	21710	22006	43716	No	20	Si
SLU 75	7.95	-10177.52	-11804	-6545	-2095	4.315	3.886	-12116	9949	6108	115546	21710	22006	43716	No	20.87	Si
SLU 75	10.05	-5732.39	-8550	-4740	-2095	4.315	4.315	-7847	9380	5666	115546	21710	22006	43716	No	20.87	Si
SLU 81	7.95	-10547.16	-11810	-6548	-2159	4.315	3.7933	-12437	9992	6109	115546	21710	22006	43716	No	20.25	Si
SLU 81	10.05	-5967.88	-8556	-4744	-2159	4.315	4.315	-7852	9380	5667	115546	21710	22006	43716	No	20.25	Si
SLU 78	7.95	-10339.76	-11840	-6565	-2122	4.315	3.8526	-12255	9967	6116	115546	21710	22006	43716	No	20.61	Si
SLU 78	10.05	-5838.4	-8585	-4760	-2122	4.315	4.315	-7880	9384	5669	115546	21710	22006	43716	No	20.61	Si
SLU 74	7.95	-10248	-11824	-6556	-2080	4.315	3.8723	-12178	9957	6112	115546	21710	22006	43716	No	21.02	Si
SLU 74	10.05	-5833.73	-8569	-4751	-2080	4.315	4.315	-7865	9382	5668	115546	21710	22006	43716	No	21.02	Si
SLU 80	7.95	-10201.11	-11831	-6560	-2092	4.315	3.8857	-12144	9953	6113	115546	21710	22006	43716	No	20.9	Si
SLU 80	10.05	-5762.6	-8576	-4755	-2092	4.315	4.315	-7871	9383	5668	115546	21710	22006	43716	No	20.9	Si
SLU 82	7.95	-10476.69	-11791	-6538	-2173	4.315	3.8069	-12372	9983	6105	115546	21710	22006	43716	No	20.11	Si
SLU 82	10.05	-5866.54	-8536	-4733	-2173	4.315	4.315	-7835	9378	5665	115546	21710	22006	43716	No	20.11	Si
SLU 84	7.95	-10638.93	-11826	-6557	-2200	4.315	3.7737	-12519	10003	6113	115546	21710	22006	43716	No	19.87	Si
SLU 84	10.05	-5972.55	-8572	-4753	-2200	4.315	4.315	-7867	9382	5668	115546	21710	22006	43716	No	19.87	Si
SLU 77	7.95	-10410.23	-11859	-6575	-2107	4.315	3.839	-12317	9976	6120	115546	21710	22006	43716	No	20.75	Si
SLU 77	10.05	-5939.74	-8604	-4771	-2107	4.315	4.315	-7897	9386	5670	115546	21710	22006	43716	No	20.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	7.95	-8544.96	-8077	-4479	-2678	4.315	3.2989	-9731	14447	7026	115546	32565	22006	54571		20.38	Si
SLV 2	10.05	-2703.82	-5615	-3113	-2531	4.315	4.315	-5153	13531	8174	115546	32565	22006	54571		21.56	Si
SLV 6	7.95	-7649.88	-7117	-3946	-4292	4.315	3.2479	-8708	14242	6813	115546	32565	22006	54571		12.72	Si
SLV 6	10.05	1766.54	-4778	-2649	-3666	4.315	4.315	-4386	13377	8081	115546	32565	22006	54571		14.89	Si
SLV 9	7.95	-6548.22	-7287	-4041	-4003	4.315	3.7768	-7668	14034	7420	115546	32565	22006	54571		13.63	Si
SLV 9	10.05	2216.17	-4974	-2758	-3351	4.315	4.315	-4565	13413	8103	115546	32565	22006	54571		16.28	Si
SLV 10	7.95	-6624.2	-7288	-4041	-3981	4.315	3.7459	-7733	14047	7366	115546	32565	22006	54571		13.71	Si
SLV 10	10.05	2092.68	-4975	-2759	-3329	4.315	4.315	-4566	13413	8103	115546	32565	22006	54571		16.39	Si
SLD 10	7.95	-6608.65	-7938	-4401	-2878	4.315	3.975	-7935	14087	7839	115546	32565	22006	54571		18.96	Si
SLD 10	10.05	-345.06	-5570	-3088	-2490	4.315	4.315	-5113	13523	8169	115546	32565	22006	54571		21.92	Si
SLV 5	7.95	-7573.9	-7116	-3946	-4314	4.315	3.2795	-8618	14224	6813	115546	32565	22006	54571		12.65	Si
SLV 5	10.05	1890.02	-4777	-2649	-3689	4.315	4.315	-4385	13377	8081	115546	32565	22006	54571		14.79	Si
SLD 6	7.95	-7265.48	-7829	-4341	-3077	4.315	3.6884	-8438	14188	7326	115546	32565	22006	54571		17.74	Si
SLD 6	10.05	-555.75	-5445	-3019	-2706	4.315	4.315	-4998	13500	8155	115546	32565	22006	54571		20.17	Si
SLD 9	7.95	-6562.54	-7938	-4401	-2892	4.315	3.9922	-7900	14080	7869	115546	32565	22006	54571		18.87	Si
SLD 9	10.05	-270.12	-5570	-3088	-2504	4.315	4.315	-5112	13522	8169	115546	32565	22006	54571		21.8	Si
SLV 1	7.95	-8432.1	-8076	-4478	-2712	4.315	3.3402	-9610	14422	7026	115546	32565	22006	54571		20.12	Si
SLV 1	10.05	-2520.39	-5613	-3112	-2564	4.315	4.315	-5152	13530	8174	115546	32565	22006	54571		21.28	Si
SLD 5	7.95	-7219.38	-7828	-4340	-3090	4.315	3.7058	-8397	14180	7357	115546	32565	22006	54571		17.66	Si
SLD 5	10.05	-480.82	-5444	-3019	-2720	4.315	4.315	-4997	13499	8155	115546	32565	22006	54571		20.07	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-5217	0.45	292.46	348	734.01	541	1.85	Si
SLV 6	-5218	0.45	292.46	348.07	734.1	541.08	1.85	Si
SLV 9	-5407	0.45	292.46	360.02	750.56	555.29	1.9	Si
SLV 10	-5408	0.45	292.46	360.09	750.65	555.37	1.9	Si
SLV 1	-6095	0.45	292.46	403.14	810.41	606.77	2.07	Si
SLV 2	-6096	0.45	292.46	403.24	810.54	606.89	2.08	Si
SLV 13	-6728	0.45	292.46	442.31	865.22	653.77	2.24	Si
SLV 14	-6729	0.45	292.46	442.41	865.36	653.89	2.24	Si
SLV 3	-7037	0.45	292.46	461.27	892	676.63	2.31	Si
SLV 4	-7038	0.45	292.46	461.36	892.13	676.75	2.31	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-4334	-9641	421	3.828	754.8	0.904	61.56546	10.43136	Si
SLV 16	-4321	-9643	421	3.836	753.5	0.904	61.69955	10.43136	Si
SLV 13	-4037	-8647	421	4.017	725.6	0.901	64.77326	10.43136	Si
SLV 3	-4035	-9070	-421	4.018	725.4	0.901	64.7929	10.43136	Si
SLV 14	-4024	-8649	421	4.026	724.3	0.901	64.92112	10.43136	Si
SLV 4	-4022	-9072	-421	4.027	724.2	0.901	64.94084	10.43136	Si
SLV 1	-3739	-8076	-421	4.228	696.4	0.899	68.34335	10.43136	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-3726	-8077	-421	4.237	695.1	0.899	68.5072	10.43136	Si
SLV 11	-4573	-10602	125	3.733	778.4	0.906	59.9188	7.59525	Si
SLV 12	-4564	-10603	125	3.738	777.6	0.905	60.00345	7.59525	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.166	SLU 41	Si
V_SLU	19.87	SLU 84	Si
PF_SLV	2.746	SLV 8	Si
V_SLV	12.649	SLV 5	Si
PFFP_SLV	1.85	SLV 5	Si
R_SLV	5.902	SLV 15	Si

Maschio 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L6	Z medio 965 cm	1.281	0.28	1.7	1.71	1.69			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	7.95	-640.31	-9259	-0.0000539	0.0003743	0.0035	1.2809	4426.39	5231.25	5231.25	8.17	No	Si
SLU 40	9.64	523.09	-7444	-0.0000428	0.0003743	0.0035	1.2809	3795.57	4087.4	4087.4	7.81	No	Si
SLU 82	7.95	-723	-10901	-0.0000637	0.0003743	0.0035	1.2809	4897.38	5846.18	5846.18	8.09	No	Si
SLU 82	9.64	543.51	-8699	-0.0000491	0.0003743	0.0035	1.2809	4244.11	4663.52	4663.52	8.58	No	Si
SLU 83	7.95	-732.79	-11134	-0.0000651	0.0003743	0.0035	1.2809	4956.51	5913.9	5913.9	8.07	No	Si
SLU 83	9.64	532.04	-8955	-0.0000501	0.0003743	0.0035	1.2809	4328.63	4756.22	4756.22	8.94	No	Si
SLU 78	7.95	-715.88	-11089	-0.0000645	0.0003743	0.0035	1.2809	4945.14	5900.64	5900.64	8.24	No	Si
SLU 78	9.64	468.38	-8946	-0.0000487	0.0003743	0.0035	1.2809	4325.64	4752.89	4752.89	10.15	No	Si
SLU 42	7.95	-649.56	-9487	-0.0000552	0.0003743	0.0035	1.2809	4497.45	5326.65	5326.65	8.2	No	Si
SLU 42	9.64	517.07	-7686	-0.0000438	0.0003743	0.0035	1.2809	3886.33	4209.29	4209.29	8.14	No	Si
SLU 41	7.95	-650.1	-9492	-0.0000552	0.0003743	0.0035	1.2809	4498.92	5328.64	5328.64	8.2	No	Si
SLU 41	9.64	511.62	-7699	-0.0000438	0.0003743	0.0035	1.2809	3891.34	4216.12	4216.12	8.24	No	Si
SLU 81	7.95	-723.55	-10906	-0.0000638	0.0003743	0.0035	1.2809	4898.62	5847.57	5847.57	8.08	No	Si
SLU 81	9.64	538.06	-8713	-0.0000491	0.0003743	0.0035	1.2809	4248.65	4668.41	4668.41	8.68	No	Si
SLU 84	7.95	-732.25	-11129	-0.0000651	0.0003743	0.0035	1.2809	4955.31	5912.5	5912.5	8.07	No	Si
SLU 84	9.64	537.49	-8941	-0.0000502	0.0003743	0.0035	1.2809	4324.21	4751.3	4751.3	8.84	No	Si
SLU 39	7.95	-640.86	-9264	-0.0000539	0.0003743	0.0035	1.2809	4427.9	5233.26	5233.26	8.17	No	Si
SLU 39	9.64	517.64	-7457	-0.0000428	0.0003743	0.0035	1.2809	3800.7	4094.2	4094.2	7.91	No	Si
SLU 77	7.95	-716.42	-11093	-0.0000645	0.0003743	0.0035	1.2809	4946.34	5902.03	5902.03	8.24	No	Si
SLU 77	9.64	462.93	-8959	-0.0000487	0.0003743	0.0035	1.2809	4330.06	4757.82	4757.82	10.28	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	7.95	-823.65	-8706	-0.0000537	0.0005615	0.0035	1.2809		5279.38	5279.38	6.41		Si
SLD 10	9.64	702.72	-6669	-0.0000421	0.0005615	0.0035	1.2809		3932.73	3932.73	5.6		Si
SLV 14	7.95	-890.29	-7758	-0.0000508	0.0005615	0.0035	1.2809		4802.04	4802.04	5.39		Si
SLV 14	9.64	649.06	-7193	-0.0000434	0.0005615	0.0035	1.2809		4176.26	4176.26	6.43		Si
SLD 9	7.95	-839.78	-8702	-0.000054	0.0005615	0.0035	1.2809		5277.31	5277.31	6.28		Si
SLD 9	9.64	717.55	-6762	-0.0000428	0.0005615	0.0035	1.2809		3975.67	3975.67	5.54		Si
SLV 7	7.95	143.71	-5164	-0.0000244	0.0005615	0.0035	1.2809		3164.03	3164.03	22.02		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	9.64	-515.68	-4447	-0.0000287	0.0005615	0.0035	1.2809		3031.75	3031.75	5.88		Si
SLV 9	7.95	-1097.92	-9637	-0.0000636	0.0005615	0.0035	1.2809		5728.52	5728.52	5.22		Si
SLV 9	9.64	1041.81	-7385	-0.0000522	0.0005615	0.0035	1.2809		4265.95	4265.95	4.09		Si
SLV 10	7.95	-1071.34	-9644	-0.0000631	0.0005615	0.0035	1.2809		5731.84	5731.84	5.35		Si
SLV 10	9.64	1017.37	-7232	-0.000051	0.0005615	0.0035	1.2809		4194.49	4194.49	4.12		Si
SLV 13	7.95	-929.77	-7748	-0.0000515	0.0005615	0.0035	1.2809		4796.94	4796.94	5.16		Si
SLV 13	9.64	685.37	-7420	-0.0000451	0.0005615	0.0035	1.2809		4282.39	4282.39	6.25		Si
SLV 6	7.95	-899.93	-9856	-0.0000606	0.0005615	0.0035	1.2809		5834.18	5834.18	6.48		Si
SLV 6	9.64	896.87	-6556	-0.0000455	0.0005615	0.0035	1.2809		3880.19	3880.19	4.33		Si
SLV 5	7.95	-926.51	-9849	-0.0000611	0.0005615	0.0035	1.2809		5830.99	5830.99	6.29		Si
SLV 5	9.64	921.31	-6708	-0.0000467	0.0005615	0.0035	1.2809		3950.86	3950.86	4.29		Si
SLV 8	7.95	170.29	-5171	-0.000025	0.0005615	0.0035	1.2809		3167.8	3167.8	18.6		Si
SLV 8	9.64	-540.13	-4294	-0.0000285	0.0005615	0.0035	1.2809		2945.43	2945.43	5.45		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	7.95	-723.55	-10906	-9082	-4047	1.2809	1.2809	-25321	10321	4038	19031	10740	3266	14006	No	3.46	Si
SLU 81	9.64	538.06	-8713	-7255	-2354	1.2809	1.2809	-20229	9642	3487	19031	10740	3266	14006	No	5.95	Si
SLU 76	7.95	-696.33	-10743	-8945	-3913	1.2809	1.2809	-24942	10270	3997	19031	10740	3266	14006	No	3.58	Si
SLU 76	9.64	465.94	-8594	-7156	-2159	1.2809	1.2809	-19952	9605	3458	19031	10740	3266	14006	No	6.49	Si
SLU 78	7.95	-715.88	-11089	-9234	-4012	1.2809	1.2809	-25746	10377	4084	19031	10740	3266	14006	No	3.49	Si
SLU 78	9.64	468.38	-8946	-7449	-2191	1.2809	1.2809	-20770	9714	3546	19031	10740	3266	14006	No	6.39	Si
SLU 74	7.95	-707.18	-10865	-9048	-3937	1.2809	1.2809	-25227	10308	4028	19031	10740	3266	14006	No	3.56	Si
SLU 74	9.64	468.95	-8717	-7259	-2185	1.2809	1.2809	-20239	9643	3489	19031	10740	3266	14006	No	6.41	Si
SLU 82	7.95	-723	-10901	-9078	-4080	1.2809	1.2809	-25310	10319	4037	19031	10740	3266	14006	No	3.43	Si
SLU 82	9.64	543.51	-8699	-7244	-2374	1.2809	1.2809	-20198	9637	3484	19031	10740	3266	14006	No	5.9	Si
SLU 77	7.95	-716.42	-11093	-9238	-3978	1.2809	1.2809	-25757	10379	4085	19031	10740	3266	14006	No	3.52	Si
SLU 77	9.64	462.93	-8959	-7460	-2171	1.2809	1.2809	-20801	9718	3549	19031	10740	3266	14006	No	6.45	Si
SLU 84	7.95	-732.25	-11129	-9267	-4121	1.2809	1.2809	-25840	10390	4094	19031	10740	3266	14006	No	3.4	Si
SLU 84	9.64	537.49	-8941	-7445	-2360	1.2809	1.2809	-20759	9712	3545	19031	10740	3266	14006	No	5.93	Si
SLU 75	7.95	-706.63	-10861	-9044	-3971	1.2809	1.2809	-25216	10307	4027	19031	10740	3266	14006	No	3.53	Si
SLU 75	9.64	474.4	-8704	-7248	-2205	1.2809	1.2809	-20208	9639	3485	19031	10740	3266	14006	No	6.35	Si
SLU 83	7.95	-732.79	-11134	-9271	-4088	1.2809	1.2809	-25851	10391	4095	19031	10740	3266	14006	No	3.43	Si
SLU 83	9.64	532.04	-8955	-7457	-2340	1.2809	1.2809	-20791	9717	3548	19031	10740	3266	14006	No	5.99	Si
SLU 80	7.95	-705.94	-10974	-9138	-3932	1.2809	1.2809	-25479	10342	4055	19031	10740	3266	14006	No	3.56	Si
SLU 80	9.64	456.28	-8845	-7365	-2131	1.2809	1.2809	-20535	9682	3521	19031	10740	3266	14006	No	6.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	7.95	-823.65	-8706	-7250	-5988	1.2809	1.2809	-20214	14459	5186	19031	16110	3266	19376		3.24	Si
SLD 10	9.64	702.72	-6669	-5554	-4305	1.2809	1.2809	-15484	13514	4847	19031	16110	3266	19376		4.5	Si
SLD 14	7.95	-728.06	-7589	-6320	-5902	1.2809	1.2809	-17621	13941	5000	19031	16110	3266	19376		3.28	Si
SLD 14	9.64	494.24	-6687	-5568	-4385	1.2809	1.2809	-15525	13522	4850	19031	16110	3266	19376		4.42	Si
SLV 15	7.95	-608.7	-6342	-5281	-5773	1.2809	1.2809	-14725	13362	4792	19031	16110	3266	19376		3.36	Si
SLV 15	9.64	254.27	-6742	-5614	-4432	1.2809	1.2809	-15653	13547	4859	19031	16110	3266	19376		4.37	Si
SLV 13	7.95	-929.77	-7748	-6451	-8622	1.2809	1.2809	-17988	14014	5026	19031	16110	3266	19376		2.25	Si
SLV 13	9.64	685.37	-7420	-6179	-6859	1.2809	1.2809	-17228	13862	4972	19031	16110	3266	19376		2.83	Si
SLV 9	7.95	-1097.92	-9637	-8025	-8801	1.2809	1.2809	-22375	14892	5341	19031	16110	3266	19376		2.2	Si
SLV 9	9.64	1041.81	-7385	-6150	-6760	1.2809	1.2809	-17147	13846	4966	19031	16110	3266	19376		2.87	Si
SLV 5	7.95	-926.51	-9849	-8202	-6204	1.2809	1.2809	-22868	14990	5376	19031	16110	3266	19376		3.12	Si
SLV 5	9.64	921.31	-6708	-5586	-4338	1.2809	1.2809	-15575	13532	4853	19031	16110	3266	19376		4.47	Si
SLD 13	7.95	-753.11	-7583	-6314	-6347	1.2809	1.2809	-17606	13938	4999	19031	16110	3266	19376		3.05	Si
SLD 13	9.64	517.28	-6831	-5688	-4788	1.2809	1.2809	-15859	13589	4874	19031	16110	3266	19376		4.05	Si
SLV 10	7.95	-1071.34	-9644	-8030	-8329	1.2809	1.2809	-22390	14895	5342	19031	16110	3266	19376		2.33	Si
SLV 10	9.64	1017.37	-7232	-6022	-6332	1.2809	1.2809	-16792	13775	4940	19031	16110	3266	19376		3.06	Si
SLV 14	7.95	-890.29	-7758	-6460	-7921	1.2809	1.2809	-18012	14019	5028	19031	16110	3266	19376		2.45	Si
SLV 14	9.64	649.06	-7193	-5990	-6223	1.2809	1.2809	-16701	13757	4934	19031	16110	3266	19376		3.11	Si
SLD 9	7.95	-839.78	-8702	-7246	-6275	1.2809	1.2809	-20204	14458	5185	19031	16110	3266	19376		3.09	Si
SLD 9	9.64	717.55	-6762	-5631	-4565	1.2809	1.2809	-15700	13557	4862	19031	16110	3266	19376		4.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 8.795 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.43	11530	-4135	35.88	535.23	14.92	Si
SLV 7	179667	0.43	12051	-4322	35.88	557.37	15.54	Si
SLV 4	179667	0.43	12907	-4629	35.88	593.31	16.54	Si
SLV 3	179667	0.43	13681	-4907	35.88	625.42	17.43	Si
SLV 12	179667	0.43	13966	-5009	35.88	637.13	17.76	Si
SLV 11	179667	0.43	14487	-5196	35.88	658.43	18.35	Si
SLV 2	179667	0.43	16632	-5965	35.88	744.16	20.74	Si
SLV 1	179667	0.43	17406	-6243	35.88	774.38	21.59	Si
SLV 16	179667	0.43	21027	-7541	35.88	910.43	25.38	Si
SLV 15	179667	0.43	21802	-7819	35.88	938.41	26.16	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 8.795 Wa = 0.05 Ta = 0.0172

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-7420	-7748	77	0.981	841.3	0.969	14.7174	4.02792	Si
SLV 14	-7193	-7758	78	1.008	818.2	0.968	15.1245	4.02792	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-7385	-9637	70	0.986	837.7	0.969	14.79211	3.90803	Si
SLV 10	-7232	-9644	70	1.004	822.2	0.968	15.06627	3.90803	Si
SLV 15	-6742	-6342	46	1.069	772.2	0.966	16.07786	4.02792	Si
SLV 16	-6515	-6352	47	1.101	749.1	0.965	16.57012	4.02792	Si
SLV 5	-6708	-9849	33	1.075	768.8	0.966	16.17543	3.90803	Si
SLV 6	-6556	-9856	34	1.097	753.3	0.966	16.50703	3.90803	Si
SLV 1	-5165	-8456	-46	1.342	611.8	0.958	20.34437	4.02792	Si
SLV 11	-5124	-4952	-32	1.353	607.6	0.958	20.52206	3.90803	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.814	SLU 40	Si
V_SLU	3.398	SLU 84	Si
PF_SLV	4.095	SLV 9	Si
V_SLV	2.201	SLV 9	Si
PFFP_SLV	14.919	SLV 8	Si
R_SLV	3.654	SLV 13	Si

Maschio 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	Z medio 965 cm	L7	1.281	0.28	1.85	1.84	1.86			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	9.66	-604.29	-6460	-0.00004	0.0003743	0.0035	1.2809	3405.17	3978.32	3978.32	6.58	No	Si
SLU 41	11.5	178.77	-4601	-0.000023	0.0003743	0.0035	1.2809	2575.63	2728.45	2728.45	15.26	No	Si
SLU 81	9.66	-642.36	-7422	-0.0000452	0.0003743	0.0035	1.2809	3787.11	4428.98	4428.98	6.89	No	Si
SLU 81	11.5	194.79	-5178	-0.0000258	0.0003743	0.0035	1.2809	2845.96	2993.28	2993.28	15.37	No	Si
SLU 18	9.66	-502.35	-5388	-0.000033	0.0003743	0.0035	1.2809	2941.41	3451.39	3451.39	6.87	No	Si
SLU 18	11.5	134.89	-3727	-0.0000183	0.0003743	0.0035	1.2809	2143.53	2302.11	2302.11	17.07	No	Si
SLU 31	9.66	-540.01	-6055	-0.0000368	0.0003743	0.0035	1.2809	3234.72	3780.19	3780.19	7	No	Si
SLU 31	11.5	222.94	-4181	-0.000022	0.0003743	0.0035	1.2809	2371.18	2538.78	2538.78	11.39	No	Si
SLU 40	9.66	-613.9	-6196	-0.0000389	0.0003743	0.0035	1.2809	3294.73	3850.7	3850.7	6.27	No	Si
SLU 40	11.5	244.25	-4271	-0.0000228	0.0003743	0.0035	1.2809	2415.18	2578.87	2578.87	10.56	No	Si
SLU 39	9.66	-606.26	-6217	-0.0000389	0.0003743	0.0035	1.2809	3303.58	3861.21	3861.21	6.37	No	Si
SLU 39	11.5	220.74	-4319	-0.0000226	0.0003743	0.0035	1.2809	2439.16	2600.88	2600.88	11.78	No	Si
SLU 42	9.66	-611.93	-6439	-0.00004	0.0003743	0.0035	1.2809	3396.49	3968.38	3968.38	6.49	No	Si
SLU 42	11.5	202.28	-4552	-0.0000232	0.0003743	0.0035	1.2809	2552.14	2706.21	2706.21	13.38	No	Si
SLU 84	9.66	-648.03	-7644	-0.0000464	0.0003743	0.0035	1.2809	3870.63	4529.24	4529.24	6.99	No	Si
SLU 84	11.5	176.33	-5411	-0.0000265	0.0003743	0.0035	1.2809	2951.92	3101.86	3101.86	17.59	No	Si
SLU 82	9.66	-650	-7401	-0.0000453	0.0003743	0.0035	1.2809	3779.14	4419.44	4419.44	6.8	No	Si
SLU 82	11.5	218.3	-5129	-0.0000261	0.0003743	0.0035	1.2809	2823.46	2970.59	2970.59	13.61	No	Si
SLU 19	9.66	-509.99	-5367	-0.000033	0.0003743	0.0035	1.2809	2931.95	3440.42	3440.42	6.75	No	Si
SLU 19	11.5	158.4	-3678	-0.0000185	0.0003743	0.0035	1.2809	2118.54	2275.35	2275.35	14.36	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	9.66	-658.39	-5621	-0.0000366	0.0005615	0.0035	1.2809		3680.98	3680.98	5.59		Si
SLV 5	11.5	1254.84	-2039	-0.0002952	0.0005615	0.0035	1.0247		1361.56	1361.56	1.09		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	9.66	-786.95	-5662	-0.0000394	0.0005615	0.0035	1.2809		3703.58	3703.58	4.71		Si
SLD 9	11.5	1020.04	-2650	-0.0000371	0.0005615	0.0035	1.2809		1726.61	1726.61	1.69		Si
SLV 10	9.66	-1013.11	-5832	-0.0000446	0.0005615	0.0035	1.2809		3796.78	3796.78	3.75		Si
SLV 10	11.5	1601.59	-1851	-0.007208	0.0005615	0.0035	1.0247		1247.81	1247.81	0.78		No
SLV 13	9.66	-1264.88	-5980	-0.0000504	0.0005615	0.0035	1.2809		3878.53	3878.53	3.07		Si
SLV 13	11.5	1233.38	-2974	-0.0000475	0.0005615	0.0035	1.2809		1917.52	1917.52	1.55		Si
SLV 14	9.66	-1142.83	-5849	-0.0000473	0.0005615	0.0035	1.2809		3806.61	3806.61	3.33		Si
SLV 14	11.5	1119.68	-2924	-0.0000407	0.0005615	0.0035	1.2809		1887.91	1887.91	1.69		Si
SLV 6	9.66	-576.23	-5534	-0.0000346	0.0005615	0.0035	1.2809		3632.75	3632.75	6.3		Si
SLV 6	11.5	1178.29	-2005	-0.0001449	0.0005615	0.0035	1.2809		1341.05	1341.05	1.14		Si
SLV 9	9.66	-1095.27	-5919	-0.0000467	0.0005615	0.0035	1.2809		3845.3	3845.3	3.51		Si
SLV 9	11.5	1678.14	-1885	-0.0080952	0.0005615	0.0035	1.0247		1268.42	1268.42	0.76		No
SLV 8	9.66	452.42	-4652	-0.0000283	0.0005615	0.0035	1.2809		2880.04	2880.04	6.37		Si
SLV 8	11.5	-1556.56	-5605	-0.0000561	0.0005615	0.0035	1.2809		3672.02	3672.02	2.36		Si
SLD 10	9.66	-737.09	-5609	-0.0000381	0.0005615	0.0035	1.2809		3674.28	3674.28	4.98		Si
SLD 10	11.5	973.59	-2629	-0.0000347	0.0005615	0.0035	1.2809		1714.3	1714.3	1.76		Si
SLD 5	9.66	-507.24	-5472	-0.000033	0.0005615	0.0035	1.2809		3599.12	3599.12	7.1		Si
SLD 5	11.5	749.05	-2749	-0.0000265	0.0005615	0.0035	1.2809		1784.94	1784.94	2.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	9.66	-640.39	-7665	-6382	-2325	1.2809	1.2809	-17795	9317	3342	19031	10740	3266	14006	No	6.02	Si
SLU 83	11.5	152.82	-5460	-4547	-745	1.2809	1.2809	-12677	8635	3097	19031	10740	3266	14006	No	18.81	Si
SLU 42	9.66	-611.93	-6439	-5361	-2250	1.2809	1.2809	-14949	8938	3206	19031	10740	3266	14006	No	6.22	Si
SLU 42	11.5	202.28	-4552	-3791	-883	1.2809	1.2809	-10570	8354	2996	19031	10740	3266	14006	No	15.86	Si
SLU 73	9.66	-576.11	-7260	-6045	-2250	1.2809	1.2809	-16855	9192	3297	19031	10740	3266	14006	No	6.22	Si
SLU 73	11.5	196.99	-5040	-4197	-795	1.2809	1.2809	-11701	8505	3050	19031	10740	3266	14006	No	17.61	Si
SLU 75	9.66	-575.42	-7609	-6336	-2241	1.2809	1.2809	-17666	9300	3335	19031	10740	3266	14006	No	6.25	Si
SLU 75	11.5	162.21	-5414	-4508	-714	1.2809	1.2809	-12570	8620	3092	19031	10740	3266	14006	No	19.62	Si
SLU 76	9.66	-574.14	-7503	-6248	-2223	1.2809	1.2809	-17419	9267	3324	19031	10740	3266	14006	No	6.3	Si
SLU 76	11.5	155.01	-5322	-4431	-704	1.2809	1.2809	-12355	8592	3081	19031	10740	3266	14006	No	19.89	Si
SLU 81	9.66	-642.36	-7422	-6180	-2352	1.2809	1.2809	-17231	9242	3315	19031	10740	3266	14006	No	5.95	Si
SLU 81	11.5	194.79	-5178	-4312	-836	1.2809	1.2809	-12022	8547	3066	19031	10740	3266	14006	No	16.76	Si
SLU 82	9.66	-650	-7401	-6163	-2416	1.2809	1.2809	-17183	9235	3312	19031	10740	3266	14006	No	5.8	Si
SLU 82	11.5	218.3	-5129	-4271	-896	1.2809	1.2809	-11908	8532	3060	19031	10740	3266	14006	No	15.63	Si
SLU 40	9.66	-613.9	-6196	-5159	-2277	1.2809	1.2809	-14385	8862	3179	19031	10740	3266	14006	No	6.15	Si
SLU 40	11.5	244.25	-4271	-3556	-974	1.2809	1.2809	-9915	8266	2965	19031	10740	3266	14006	No	14.38	Si
SLU 84	9.66	-648.03	-7644	-6365	-2389	1.2809	1.2809	-17747	9311	3339	19031	10740	3266	14006	No	5.86	Si
SLU 84	11.5	176.33	-5411	-4506	-805	1.2809	1.2809	-12563	8620	3091	19031	10740	3266	14006	No	17.4	Si
SLU 78	9.66	-573.45	-7852	-6538	-2214	1.2809	1.2809	-18230	9375	3362	19031	10740	3266	14006	No	6.33	Si
SLU 78	11.5	120.24	-5696	-4743	-623	1.2809	1.2809	-13224	8708	3123	19031	10740	3266	14006	No	22.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	9.66	-916.54	-5721	-4764	-4175	1.2809	1.2809	-13282	13073	4689	19031	16110	3266	19376		4.64	Si
SLD 13	11.5	788.67	-3280	-2731	-3031	1.2809	1.2	-7615	11940	4012	19031	16110	3266	19376		6.39	Si
SLD 9	9.66	-786.95	-5662	-4715	-4314	1.2809	1.2809	-13147	13046	4679	19031	16110	3266	19376		4.49	Si
SLD 9	11.5	1020.04	-2650	-2207	-3135	1.2809	0.7665	-6152	11647	2500	19031	16110	3266	19376		6.18	Si
SLV 10	9.66	-1013.11	-5832	-4856	-5983	1.2809	1.2809	-13540	13125	4707	19031	16110	3266	19376		3.24	Si
SLV 10	11.5	1601.59	-1851	-1542	-4722	1.0247	0	0	0	0	19031	12888	2613	15501		3.28	Si
SLV 9	9.66	-1095.27	-5919	-4929	-6350	1.2809	1.2809	-13743	13165	4722	19031	16110	3266	19376		3.05	Si
SLV 9	11.5	1678.14	-1885	-1570	-5051	1.0247	0	0	0	0	19031	12888	2613	15501		3.07	Si
SLV 5	9.66	-658.39	-5621	-4681	-4468	1.2809	1.2809	-13052	13027	4672	19031	16110	3266	19376		4.34	Si
SLV 5	11.5	1254.84	-2039	-1698	-3245	1.0247	0.075	0	0	0	19031	12888	2613	15501		4.78	Si
SLV 8	9.66	452.42	-4652	-3874	3740	1.2809	1.2809	-10801	12577	4511	19031	16110	3266	19376		5.18	Si
SLV 8	11.5	-1556.56	-5605	-4667	4444	1.2809	1.0882	-15433	13503	4115	19031	16110	3266	19376		4.36	Si
SLV 14	9.66	-1142.83	-5849	-4871	-5345	1.2809	1.2809	-13581	13133	4710	19031	16110	3266	19376		3.62	Si
SLV 14	11.5	1119.68	-2924	-2435	-4173	1.2809	0.7726	-6789	11774	2547	19031	16110	3266	19376		4.64	Si
SLV 6	9.66	-576.23	-5534	-4608	-4101	1.2809	1.2809	-12848	12986	4658	19031	16110	3266	19376		4.73	Si
SLV 6	11.5	1178.29	-2005	-1670	-2917	1.2809	0.1583	-37722	16250	2256	19031	16110	3266	19376		6.64	Si
SLV 13	9.66	-1264.88	-5980	-4979	-5891	1.2809	1.2809	-13884	13193	4732	19031	16110	3266	19376		3.29	Si
SLV 13	11.5	1233.38	-2974	-2477	-4660	1.2809	0.6774	-6906	11798	2479	19031	16110	3266	19376		4.16	Si
SLV 7	9.66	370.26	-4740	-3947	3372	1.2809	1.2809	-11005	12618	4525	19031	16110	3266	19376		5.75	Si
SLV 7	11.5	-1480.01	-5639	-4696	4116	1.2809	1.134	-14896	13396	4253	19031	16110	3266	19376		4.71	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.58 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.47	10129	-3633	46.25	474.87	10.27	Si
SLV 5	179667	0.47	10331	-3705	46.25	483.66	10.46	Si
SLV 10	179667	0.47	10491	-3763	46.25	490.6	10.61	Si
SLV 9	179667	0.47	10693	-3835	46.25	499.34	10.8	Si
SLV 2	179667	0.47	10906	-3912	46.25	508.51	11	Si
SLV 1	179667	0.47	11206	-4019	46.25	521.39	11.27	Si
SLV 4	179667	0.47	11976	-4295	46.25	554.18	11.98	Si
SLV 14	179667	0.47	12113	-4344	46.25	559.98	12.11	Si
SLV 3	179667	0.47	12276	-4403	46.25	566.86	12.26	Si
SLV 13	179667	0.47	12413	-4452	46.25	572.63	12.38	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.58 Wa = 0.05 Ta = 0.0204

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-5639	-4740	-67	1.226	667.7	0.959	18.58873	4.23539	Si
SLV 8	-5605	-4652	-64	1.233	664.2	0.958	18.69349	4.23539	Si
SLV 11	-5485	-5038	-20	1.263	652	0.958	19.16322	4.23539	Si
SLV 12	-5451	-4950	-18	1.27	648.6	0.957	19.27406	4.23539	Si
SLV 3	-4566	-4722	-91	1.46	558.7	0.951	22.30646	4.39063	Si
SLV 4	-4516	-4592	-88	1.474	553.5	0.951	22.53443	4.39063	Si
SLV 15	-4054	-5715	64	1.618	506.7	0.947	24.83539	4.39063	Si
SLV 16	-4004	-5585	68	1.635	501.6	0.947	25.09625	4.39063	Si
SLV 1	-3486	-4987	-65	1.833	449.1	0.941	28.29887	4.39063	Si
SLV 2	-3436	-4856	-61	1.856	444	0.941	28.66833	4.39063	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.272	SLU 40	Si
V_SLU	5.797	SLU 82	Si
PF_SLV	0.756	SLV 9	No
V_SLV	3.051	SLV 9	Si
PFFP_SLV	10.268	SLV 6	Si
R_SLV	4.389	SLV 7	Si

Maschio 177

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	-0.354	Z medio 880 cm	L7	3.051	0.28	2.705	1.86	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	9.64	2110.95	-17404	-0.0000391	0.0003743	0.0035	3.0507	21234	22780.14	22780.14	10.79	No	Si
SLU 39	11.5	1334.36	-11917	-0.0000259	0.0003743	0.0035	3.0507	15686.67	16435.92	16435.92	12.32	No	Si
SLU 18	9.64	1796.52	-14918	-0.0000332	0.0003743	0.0035	3.0507	18851.31	19842.71	19842.71	11.05	No	Si
SLU 18	11.5	1076.06	-10194	-0.0000218	0.0003743	0.0035	3.0507	13726.64	14545.08	14545.08	13.52	No	Si
SLU 84	9.64	2462.71	-21298	-0.000048	0.0003743	0.0035	3.0507	24531.16	26900.1	26900.1	10.92	No	Si
SLU 84	11.5	1539.78	-14620	-0.0000317	0.0003743	0.0035	3.0507	18551.63	19498.43	19498.43	12.66	No	Si
SLU 41	9.64	2197.18	-18057	-0.0000406	0.0003743	0.0035	3.0507	21824.16	23568.63	23568.63	10.73	No	Si
SLU 41	11.5	1422.28	-12445	-0.0000272	0.0003743	0.0035	3.0507	16266.91	17025.37	17025.37	11.97	No	Si
SLU 21	9.64	1899.56	-15627	-0.0000349	0.0003743	0.0035	3.0507	19553.05	20669.08	20669.08	10.88	No	Si
SLU 21	11.5	1212.81	-10747	-0.0000233	0.0003743	0.0035	3.0507	14367.34	15147.02	15147.02	12.49	No	Si
SLU 83	9.64	2445.91	-21243	-0.0000478	0.0003743	0.0035	3.0507	24487.66	26851.16	26851.16	10.98	No	Si
SLU 83	11.5	1490.94	-14595	-0.0000314	0.0003743	0.0035	3.0507	18526.49	19469.77	19469.77	13.06	No	Si
SLU 19	9.64	1813.32	-14973	-0.0000333	0.0003743	0.0035	3.0507	18907.2	19907.47	19907.47	10.98	No	Si
SLU 19	11.5	1124.9	-10219	-0.000022	0.0003743	0.0035	3.0507	13755.62	14571.99	14571.99	12.95	No	Si
SLU 42	9.64	2213.99	-18113	-0.0000408	0.0003743	0.0035	3.0507	21873.91	23636.27	23636.27	10.68	No	Si
SLU 42	11.5	1471.11	-12470	-0.0000274	0.0003743	0.0035	3.0507	16293.93	17053.18	17053.18	11.59	No	Si
SLU 20	9.64	1882.75	-15571	-0.0000347	0.0003743	0.0035	3.0507	19498.44	20603.72	20603.72	10.94	No	Si
SLU 20	11.5	1163.98	-10722	-0.0000231	0.0003743	0.0035	3.0507	14338.82	15119.91	15119.91	12.99	No	Si
SLU 40	9.64	2127.76	-17459	-0.0000392	0.0003743	0.0035	3.0507	21285.02	22847.32	22847.32	10.74	No	Si
SLU 40	11.5	1383.2	-11942	-0.0000261	0.0003743	0.0035	3.0507	15714.15	16463.51	16463.51	11.9	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	9.64	1554.05	-17838	-0.0000371	0.0005615	0.0035	3.0507		24385.88	24385.88	15.69		Si
SLD 9	11.5	2570.72	-11346	-0.0000288	0.0005615	0.0035	3.0507		16626.4	16626.4	6.47		Si
SLV 10	9.64	1643.69	-20306	-0.000042	0.0005615	0.0035	3.0507		27189.79	27189.79	16.54		Si
SLV 10	11.5	3935.33	-12421	-0.0000355	0.0005615	0.0035	3.0507		18043.11	18043.11	4.58		Si
SLV 9	9.64	1666.25	-20274	-0.0000421	0.0005615	0.0035	3.0507		27153.12	27153.12	16.3		Si
SLV 9	11.5	3889.77	-12453	-0.0000354	0.0005615	0.0035	3.0507		18085.22	18085.22	4.65		Si
SLV 5	9.64	1815.19	-21181	-0.0000443	0.0005615	0.0035	3.0507		28194.34	28194.34	15.53		Si
SLV 5	11.5	3910.33	-13266	-0.000037	0.0005615	0.0035	3.0507		19144.09	19144.09	4.9		Si
SLV 8	9.64	1133.53	-8651	-0.000019	0.0005615	0.0035	3.0507		12982.58	12982.58	11.45		Si
SLV 8	11.5	-2473.22	-7226	-0.0000211	0.0005615	0.0035	3.0507		13025.82	13025.82	5.27		Si
SLV 7	9.64	1156.09	-8619	-0.000019	0.0005615	0.0035	3.0507		12938.43	12938.43	11.19		Si
SLV 7	11.5	-2518.78	-7258	-0.0000213	0.0005615	0.0035	3.0507		13070.06	13070.06	5.19		Si
SLV 6	9.64	1792.63	-21213	-0.0000443	0.0005615	0.0035	3.0507		28231.21	28231.21	15.75		Si
SLV 6	11.5	3955.89	-13234	-0.0000371	0.0005615	0.0035	3.0507		19102.8	19102.8	4.83		Si
SLV 12	9.64	984.6	-7744	-0.0000169	0.0005615	0.0035	3.0507		11731.46	11731.46	11.91		Si
SLV 12	11.5	-2493.78	-6413	-0.0000197	0.0005615	0.0035	3.0507		11905.74	11905.74	4.77		Si
SLV 11	9.64	1007.15	-7712	-0.0000169	0.0005615	0.0035	3.0507		11686.87	11686.87	11.6		Si
SLV 11	11.5	-2539.34	-6445	-0.0000199	0.0005615	0.0035	3.0507		11949.59	11949.59	4.71		Si
SLD 10	9.64	1540.37	-17857	-0.0000371	0.0005615	0.0035	3.0507		24407.79	24407.79	15.85		Si
SLD 10	11.5	2598.37	-11327	-0.0000289	0.0005615	0.0035	3.0507		16600.42	16600.42	6.39		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 36	9.64	2150.97	-18671	-15548	-1413	3.0507	3.0507	-18201	9371	10331	30925	25578	7779	33358	No	23.6	Si
SLU 36	11.5	1419.16	-12972	-10802	-1367	3.0507	3.0507	-12646	8631	8433	30925	25578	7779	33358	No	24.41	Si
SLU 31	9.64	1956.54	-17059	-14206	-1199	3.0507	3.0507	-16631	9162	9794	30925	25578	7779	33358	No	27.82	Si
SLU 31	11.5	1250.16	-11641	-9693	-1198	3.0507	3.0507	-11348	8458	7989	30925	25578	7779	33358	No	27.85	Si
SLU 42	9.64	2213.99	-18113	-15083	-1372	3.0507	3.0507	-17657	9299	10145	30925	25578	7779	33358	No	24.32	Si
SLU 42	11.5	1471.11	-12470	-10384	-1416	3.0507	3.0507	-12157	8565	8266	30925	25578	7779	33358	No	23.56	Si
SLU 41	9.64	2197.18	-18057	-15036	-1213	3.0507	3.0507	-17603	9291	10126	30925	25578	7779	33358	No	27.5	Si
SLU 41	11.5	1422.28	-12445	-10363	-1267	3.0507	3.0507	-12133	8562	8257	30925	25578	7779	33358	No	26.32	Si
SLU 33	9.64	2064.74	-18018	-15004	-1300	3.0507	3.0507	-17565	9286	10113	30925	25578	7779	33358	No	25.67	Si
SLU 33	11.5	1331.25	-12444	-10362	-1267	3.0507	3.0507	-12131	8562	8257	30925	25578	7779	33358	No	26.32	Si
SLU 34	9.64	2042.77	-17713	-14750	-1313	3.0507	3.0507	-17267	9247	10012	30925	25578	7779	33358	No	25.41	Si
SLU 34	11.5	1338.07	-12169	-10133	-1297	3.0507	3.0507	-11863	8526	8165	30925	25578	7779	33358	No	25.72	Si
SLU 39	9.64	2110.95	-17404	-14492	-1099	3.0507	3.0507	-16966	9207	9909	30925	25578	7779	33358	No	30.34	Si
SLU 39	11.5	1334.36	-11917	-9923	-1168	3.0507	3.0507	-11617	8493	8081	30925	25578	7779	33358	No	28.57	Si
SLU 38	9.64	2117.8	-18329	-15263	-1321	3.0507	3.0507	-17868	9327	10217	30925	25578	7779	33358	No	25.25	Si
SLU 38	11.5	1393.43	-12681	-10560	-1297	3.0507	3.0507	-12362	8593	8336	30925	25578	7779	33358	No	25.71	Si
SLU 40	9.64	2127.76	-17459	-14539	-1258	3.0507	3.0507	-17020	9214	9927	30925	25578	7779	33358	No	26.52	Si
SLU 40	11.5	1383.2	-11942	-9944	-1317	3.0507	3.0507	-11642	8497	8090	30925	25578	7779	33358	No	25.34	Si
SLU 35	9.64	2134.16	-18615	-15501	-1255	3.0507	3.0507	-18147	9364	10312	30925	25578	7779	33358	No	26.58	Si
SLU 35	11.5	1370.33	-12948	-10782	-1218	3.0507	3.0507	-12622	8627	8425	30925	25578	7779	33358	No	27.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	9.64	1540.37	-17857	-14870	-8894	3.0507	3.0507	-17408	13898	12116	30925	38367	7779	43041		4.84	Si
SLD 10	11.5	2598.37	-11327	-9432	-7886	3.0507	3.0507	-11042	12625	10784	30925	38367	7779	41710		5.29	Si
SLV 6	9.64	1792.63	-21213	-17664	-13266	3.0507	3.0507	-20679	14553	13233	30925	38367	7779	44159		3.33	Si
SLV 6	11.5	3955.89	-13234	-11020	-11410	3.0507	3.0507	-12901	12997	11102	30925	38367	7779	42027		3.68	Si
SLV 9	9.64	1666.25	-20274	-16882	-14935	3.0507	3.0507	-19764	14369	12921	30925	38367	7779	43846		2.94	Si
SLV 9	11.5	3889.77	-12453	-10370	-13289	3.0507	3.0507	-12140	12845	10972	30925	38367	7779	41897		3.15	Si
SLV 8	9.64	1133.53	-8651	-7203	14556	3.0507	3.0507	-8433	12103	10339	30925	38367	7779	41264		2.83	Si
SLV 8	11.5	-2473.22	-7226	-6017	13034	3.0507	3.0507	-7044	11825	10101	30925	38367	7779	41027		3.15	Si
SLV 7	9.64	1156.09	-8619	-7177	14600	3.0507	3.0507	-8402	12097	10333	30925	38367	7779	41259		2.83	Si
SLV 7	11.5	-2518.78	-7258	-6043	13043	3.0507	3.0507	-7075	11832	10107	30925	38367	7779	41032		3.15	Si
SLV 10	9.64	1643.69	-20306	-16909	-14978	3.0507	3.0507	-19795	14376	12931	30925	38367	7779	43857		2.93	Si
SLV 10	11.5	3935.33	-12421	-10343	-13297	3.0507	3.0507	-12109	12838	10966	30925	38367	7779	41892		3.15	Si
SLD 9	9.64	1554.05	-17838	-14854	-8868	3.0507	3.0507	-17389	13895	12109	30925	38367	7779	43035		4.85	Si
SLD 9	11.5	2570.72	-11346	-9448	-7881	3.0507	3.0507	-11061	12629	10787	30925	38367	7779	41713		5.29	Si
SLV 11	9.64	1007.15	-7712	-6422	12888	3.0507	3.0507	-7518	11920	10182	30925	38367	7779	41108		3.19	Si
SLV 11	11.5	-2539.34	-6445	-5367	11156	3.0507	3.0507	-6283	11673	9971	30925	38367	7779	40897		3.67	Si
SLV 5	9.64	1815.19	-21181	-17637	-13223	3.0507	3.0507	-20648	14546	13223	30925	38367	7779	44148		3.34	Si
SLV 5	11.5	3910.33	-13266	-11047	-11402	3.0507	3.0507	-12932	13003	11107	30925	38367	7779	42033		3.69	Si
SLV 12	9.64	984.6	-7744	-6448	12844	3.0507	3.0507	-7549	11926	10188	30925	38367	7779	41113		3.2	Si
SLV 12	11.5	-2493.78	-6413	-5340	11147	3.0507	3.0507	-6252	11667	9966	30925	38367	7779	40891		3.67	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.57 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.47	9450	-8072	235.38	1060.2	4.5	Si
SLV 12	179667	0.47	9471	-8090	235.38	1062.39	4.51	Si
SLV 7	179667	0.47	10683	-9125	235.38	1188.18	5.05	Si
SLV 8	179667	0.47	10704	-9143	235.38	1190.33	5.06	Si
SLV 15	179667	0.47	11082	-9466	235.38	1229.1	5.22	Si
SLV 16	179667	0.47	11113	-9493	235.38	1232.28	5.24	Si
SLV 13	179667	0.47	13718	-11718	235.38	1493.11	6.34	Si
SLV 14	179667	0.47	13749	-11744	235.38	1496.16	6.36	Si
SLV 3	179667	0.47	15191	-12976	235.38	1635.94	6.95	Si
SLV 4	179667	0.47	15222	-13003	235.38	1638.91	6.96	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.

- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.57 Wa = 0.05 Ta = 0.0436

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-12119	-17834	-1027	1.194	1561.7	0.941	18.4357	5.08015	Si
SLV 2	-12071	-17881	-1027	1.198	1556.9	0.941	18.49762	5.08015	Si
SLV 5	-13266	-21181	-328	1.154	1677.9	0.945	17.75511	4.68808	Si
SLV 6	-13234	-21213	-328	1.156	1674.7	0.945	17.79207	4.68808	Si
SLV 9	-12453	-20274	290	1.218	1595.6	0.942	18.79203	4.68808	Si
SLV 10	-12421	-20306	290	1.221	1592.3	0.942	18.83378	4.68808	Si
SLV 3	-10316	-14065	-1008	1.361	1379.3	0.935	21.16798	5.08015	Si
SLV 4	-10269	-14113	-1008	1.366	1374.5	0.935	21.2502	5.08015	Si
SLV 13	-9410	-14812	1033	1.463	1287.7	0.931	22.83378	5.08015	Si
SLV 14	-9362	-14859	1033	1.469	1282.9	0.931	22.93045	5.08015	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.676	SLU 42	Si
V_SLU	23.556	SLU 42	Si
PF_SLV	4.585	SLV 10	Si
V_SLV	2.826	SLV 7	Si
PFFP_SLV	4.504	SLV 11	Si
R_SLV	3.629	SLV 1	Si

Maschio 178

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-0.354	-13.753	1.141	L6	L7	1.495	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 27	7.95	418.32	-12240	-0.0000526	0.0003743	0.0035	1.495	6521.68	7262.38	7262.38	17.36	No	Si
SLU 27	11.5	659.04	-8039	-0.0000394	0.0003743	0.0035	1.495	4875.47	5185.71	5185.71	7.87	No	Si
SLU 25	7.95	396.87	-11820	-0.0000506	0.0003743	0.0035	1.495	6385.06	7081.02	7081.02	17.84	No	Si
SLU 25	11.5	625.28	-7626	-0.0000373	0.0003743	0.0035	1.495	4680.4	4954.74	4954.74	7.92	No	Si
SLU 28	7.95	408.01	-12285	-0.0000527	0.0003743	0.0035	1.495	6535.94	7281.92	7281.92	17.85	No	Si
SLU 28	11.5	679.61	-8087	-0.0000399	0.0003743	0.0035	1.495	4898.08	5213.13	5213.13	7.67	No	Si
SLU 70	7.95	524.39	-14531	-0.000064	0.0003743	0.0035	1.495	7158.5	8286.38	8286.38	15.8	No	Si
SLU 70	11.5	735.53	-9434	-0.0000462	0.0003743	0.0035	1.495	5491.09	5988.28	5988.28	8.14	No	Si
SLU 72	7.95	524.55	-14319	-0.0000631	0.0003743	0.0035	1.495	7107.32	8189.29	8189.29	15.61	No	Si
SLU 72	11.5	710.52	-9225	-0.0000449	0.0003743	0.0035	1.495	5403.13	5866.06	5866.06	8.26	No	Si
SLU 29	7.95	418.47	-12028	-0.0000518	0.0003743	0.0035	1.495	6453.48	7170.55	7170.55	17.14	No	Si
SLU 29	11.5	634.03	-7829	-0.0000382	0.0003743	0.0035	1.495	4777.26	5068.2	5068.2	7.99	No	Si
SLU 24	7.95	407.18	-11775	-0.0000505	0.0003743	0.0035	1.495	6370.07	7061.72	7061.72	17.34	No	Si
SLU 24	11.5	604.72	-7577	-0.0000368	0.0003743	0.0035	1.495	4657.01	4927.69	4927.69	8.15	No	Si
SLU 30	7.95	408.16	-12073	-0.0000518	0.0003743	0.0035	1.495	6468.07	7189.98	7189.98	17.62	No	Si
SLU 30	11.5	654.59	-7878	-0.0000387	0.0003743	0.0035	1.495	4800.23	5095.45	5095.45	7.78	No	Si
SLU 23	7.95	379	-11174	-0.0000477	0.0003743	0.0035	1.495	6162.5	6805.05	6805.05	17.96	No	Si
SLU 23	11.5	559.65	-6988	-0.0000338	0.0003743	0.0035	1.495	4366.95	4602.92	4602.92	8.22	No	Si
SLU 26	7.95	390.14	-11638	-0.0000497	0.0003743	0.0035	1.495	6323.92	7003.04	7003.04	17.95	No	Si
SLU 26	11.5	613.97	-7449	-0.0000364	0.0003743	0.0035	1.495	4594.95	4856.57	4856.57	7.91	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	7.95	1567.98	-6999	-0.0000481	0.0005615	0.0035	1.495		4923.64	4923.64	3.14		Si
SLV 11	11.5	-1161.83	-2178	-0.0000362	0.0005615	0.0035	1.196		2095.82	2095.82	1.8		Si
SLV 9	7.95	-940.93	-12348	-0.0000596	0.0005615	0.0035	1.495		8412.48	8412.48	8.94		Si
SLV 9	11.5	1968.58	-9080	-0.0000622	0.0005615	0.0035	1.495		6083.78	6083.78	3.09		Si
SLD 9	7.95	-366.36	-11388	-0.0000471	0.0005615	0.0035	1.495		7890.86	7890.86	21.54		Si
SLD 9	11.5	1319.21	-7876	-0.0000478	0.0005615	0.0035	1.495		5438.88	5438.88	4.12		Si
SLV 12	7.95	1562.84	-7006	-0.0000481	0.0005615	0.0035	1.495		4928.05	4928.05	3.15		Si
SLV 12	11.5	-1155.88	-2192	-0.0000354	0.0005615	0.0035	1.196		2105.53	2105.53	1.82		Si
SLV 6	7.95	-641.13	-13171	-0.0000582	0.0005615	0.0035	1.495		8853.73	8853.73	13.81		Si
SLV 6	11.5	1963.87	-10318	-0.000067	0.0005615	0.0035	1.495		6757.58	6757.58	3.44		Si
SLV 8	7.95	1867.78	-7823	-0.0000558	0.0005615	0.0035	1.495		5410.55	5410.55	2.9		Si
SLV 8	11.5	-1166.54	-3416	-0.0000299	0.0005615	0.0035	1.495		2950.1	2950.1	2.53		Si
SLD 10	7.95	-369.48	-11393	-0.0000472	0.0005615	0.0035	1.495		7893.22	7893.22	21.36		Si
SLD 10	11.5	1322.82	-7884	-0.0000479	0.0005615	0.0035	1.495		5443.31	5443.31	4.11		Si
SLV 10	7.95	-946.07	-12355	-0.0000597	0.0005615	0.0035	1.495		8416.21	8416.21	8.9		Si
SLV 10	11.5	1974.52	-9094	-0.0000624	0.0005615	0.0035	1.495		6091.22	6091.22	3.08		Si
SLV 7	7.95	1872.92	-7816	-0.0000558	0.0005615	0.0035	1.495		5406.83	5406.83	2.89		Si
SLV 7	11.5	-1172.48	-3402	-0.00003	0.0005615	0.0035	1.495		2940.68	2940.68	2.51		Si
SLV 5	7.95	-635.99	-13164	-0.0000581	0.0005615	0.0035	1.495		8849.99	8849.99	13.92		Si
SLV 5	11.5	1957.92	-10304	-0.0000669	0.0005615	0.0035	1.495		6750.02	6750.02	3.45		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	7.95	769.33	-15197	-12655	784	1.495	1.495	-30231	10833	4718	40441	12535	3812	16347	No	20.86	Si
SLU 78	11.5	695.75	-9948	-8283	-3206	1.495	1.495	-19788	9583	4011	40441	12535	3812	16347	No	5.1	Si
SLU 79	7.95	779.79	-14940	-12441	886	1.495	1.495	-29720	10833	4661	40441	12535	3812	16347	No	18.44	Si
SLU 79	11.5	650.17	-9690	-8069	-3032	1.495	1.495	-19275	9514	3983	40441	12535	3812	16347	No	5.39	Si
SLU 84	7.95	863.31	-14806	-12329	841	1.495	1.495	-29453	10833	4631	40441	12535	3812	16347	No	19.43	Si
SLU 84	11.5	599.36	-9497	-7908	-3092	1.495	1.495	-18892	9463	3961	40441	12535	3812	16347	No	5.29	Si
SLU 76	7.95	751.46	-14551	-12116	777	1.495	1.495	-28945	10804	4574	40441	12535	3812	16347	No	21.04	Si
SLU 76	11.5	630.11	-9309	-7752	-3015	1.495	1.495	-18519	9414	3941	40441	12535	3812	16347	No	5.42	Si
SLU 75	7.95	758.19	-14732	-12268	803	1.495	1.495	-29307	10833	4615	40441	12535	3812	16347	No	20.37	Si
SLU 75	11.5	641.42	-9486	-7899	-3044	1.495	1.495	-18871	9461	3960	40441	12535	3812	16347	No	5.37	Si
SLU 35	7.95	663.25	-12906	-10747	474	1.495	1.495	-25674	10368	4340	40441	12535	3812	16347	No	34.46	Si
SLU 35	11.5	619.26	-8552	-7121	-2964	1.495	1.495	-17012	9213	3856	40441	12535	3812	16347	No	5.52	Si
SLU 36	7.95	652.94	-12951	-10784	397	1.495	1.495	-25763	10380	4345	40441	12535	3812	16347	No	41.13	Si
SLU 36	11.5	639.83	-8600	-7162	-3051	1.495	1.495	-17108	9226	3862	40441	12535	3812	16347	No	5.36	Si
SLU 80	7.95	769.48	-14985	-12478	809	1.495	1.495	-29810	10833	4671	40441	12535	3812	16347	No	20.19	Si
SLU 80	11.5	670.73	-9738	-8109	-3119	1.495	1.495	-19372	9527	3988	40441	12535	3812	16347	No	5.24	Si
SLU 83	7.95	873.62	-14761	-12292	918	1.495	1.495	-29364	10833	4621	40441	12535	3812	16347	No	17.8	Si
SLU 83	11.5	578.8	-9448	-7868	-3006	1.495	1.495	-18795	9450	3956	40441	12535	3812	16347	No	5.44	Si
SLU 77	7.95	779.64	-15152	-12617	861	1.495	1.495	-30142	10833	4708	40441	12535	3812	16347	No	19	Si
SLU 77	11.5	675.19	-9899	-8243	-3119	1.495	1.495	-19692	9570	4006	40441	12535	3812	16347	No	5.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	7.95	1567.98	-6999	-5828	7708	1.495	1.495	-13923	13201	5526	40441	18802	3812	22614		2.93	Si
SLV 11	11.5	-1161.83	-2178	-1814	5023	1.196	0.6424	0	0	0	40441	15042	3050	18092		3.6	Si
SLV 7	7.95	1872.92	-7816	-6508	8744	1.495	1.495	-15547	13526	5662	40441	18802	3812	22614		2.59	Si
SLV 7	11.5	-1172.48	-3402	-2833	5766	1.495	1.2085	-8402	12097	4094	40441	18802	3812	22614		3.92	Si
SLD 10	7.95	-369.48	-11393	-9487	-3918	1.495	1.495	-22663	14949	6258	40441	18802	3812	22614		5.77	Si
SLD 10	11.5	1322.82	-7884	-6565	-6175	1.495	1.495	-15684	13554	5674	40441	18802	3812	22614		3.66	Si
SLV 9	7.95	-940.93	-12348	-10282	-7149	1.495	1.495	-24563	15329	6417	40441	18802	3812	22614		3.16	Si
SLV 9	11.5	1968.58	-9080	-7561	-9240	1.495	1.495	-18063	14029	5873	40441	18802	3812	22614		2.45	Si
SLV 10	7.95	-946.07	-12355	-10288	-7191	1.495	1.495	-24577	15332	6418	40441	18802	3812	22614		3.14	Si
SLV 10	11.5	1974.52	-9094	-7573	-9274	1.495	1.495	-18091	14035	5875	40441	18802	3812	22614		2.44	Si
SLV 8	7.95	1867.78	-7823	-6514	8701	1.495	1.495	-15561	13529	5663	40441	18802	3812	22614		2.6	Si
SLV 8	11.5	-1166.54	-3416	-2844	5732	1.495	1.2179	-8371	12091	4123	40441	18802	3812	22614		3.95	Si
SLV 6	7.95	-641.13	-13171	-10968	-6155	1.495	1.495	-26201	15657	6554	40441	18802	3812	22614		3.67	Si
SLV 6	11.5	1963.87	-10318	-8592	-8530	1.495	1.495	-20525	14522	6079	40441	18802	3812	22614		2.65	Si
SLV 12	7.95	1562.84	-7006	-5834	7665	1.495	1.495	-13937	13204	5527	40441	18802	3812	22614		2.95	Si
SLV 12	11.5	-1155.88	-2192	-1825	4988	1.196	0.6606	0	0	0	40441	15042	3050	18092		3.63	Si
SLD 9	7.95	-366.36	-11388	-9483	-3892	1.495	1.495	-22654	14948	6257	40441	18802	3812	22614		5.81	Si
SLD 9	11.5	1319.21	-7876	-6558	-6154	1.495	1.495	-15668	13550	5672	40441	18802	3812	22614		3.67	Si
SLV 5	7.95	-635.99	-13164	-10962	-6112	1.495	1.495	-26187	15654	6553	40441	18802	3812	22614		3.7	Si
SLV 5	11.5	1957.92	-10304	-8580	-8496	1.495	1.495	-20497	14516	6076	40441	18802	3812	22614		2.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.45	11405	-4774	191.02	618.46	3.24	Si
SLV 12	179667	0.45	11443	-4790	191.02	620.35	3.25	Si
SLV 15	179667	0.45	13212	-5531	191.02	707.3	3.7	Si
SLV 16	179667	0.45	13269	-5554	191.02	710.04	3.72	Si
SLV 7	179667	0.45	14192	-5941	191.02	754.42	3.95	Si
SLV 8	179667	0.45	14230	-5957	191.02	756.23	3.96	Si
SLV 13	179667	0.45	17556	-7349	191.02	910.59	4.77	Si
SLV 14	179667	0.45	17613	-7373	191.02	913.14	4.78	Si
SLV 3	179667	0.45	22503	-9420	191.02	1124.43	5.89	Si
SLV 4	179667	0.45	22559	-9443	191.02	1126.77	5.9	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-9333	-12254	-358	0.798	1160.4	0.948	12.23054	6.07522	Si
SLV 1	-9312	-12243	-358	0.799	1158.4	0.948	12.25395	6.07522	Si
SLV 6	-10318	-13171	-142	0.752	1260.4	0.952	11.48797	5.24939	Si
SLV 5	-10304	-13164	-142	0.753	1259	0.952	11.50145	5.24939	Si
SLV 10	-9094	-12355	71	0.843	1136.2	0.947	12.93147	5.24939	Si
SLV 9	-9080	-12348	71	0.844	1134.8	0.947	12.94851	5.24939	Si
SLV 4	-7262	-10649	-329	0.984	950.5	0.938	15.23573	6.07522	Si
SLV 3	-7242	-10639	-329	0.986	948.5	0.938	15.27248	6.07522	Si
SLV 14	-5254	-9532	353	1.268	747.8	0.925	19.91559	6.07522	Si
SLV 13	-5234	-9521	353	1.272	745.7	0.925	19.97905	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.671	SLU 28	Si
V_SLU	5.099	SLU 78	Si
PF_SLV	1.804	SLV 11	Si
V_SLV	2.438	SLV 10	Si
PFFP_SLV	3.238	SLV 11	Si
R_SLV	2.013	SLV 2	Si

Maschio 179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.743	6.661	L6	L7	2.015	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	8.85	489.78	-13016	-0.0000399	0.0003743	0.0035	2.015	10141.88	11132.5	11132.5	22.73	No	Si
SLU 39	10.65	842.32	-11085	-0.0000372	0.0003743	0.0035	2.015	9012.84	9605.9	9605.9	11.4	No	Si
SLU 34	8.85	459.91	-13159	-0.0000401	0.0003743	0.0035	2.015	10220.7	11232.46	11232.46	24.42	No	Si
SLU 34	10.65	867.31	-11229	-0.0000378	0.0003743	0.0035	2.015	9101.4	9717.52	9717.52	11.2	No	Si
SLU 33	8.85	505.54	-13498	-0.0000414	0.0003743	0.0035	2.015	10403.6	11441.16	11441.16	22.63	No	Si
SLU 33	10.65	871.8	-11567	-0.0000389	0.0003743	0.0035	2.015	9307.24	9981.87	9981.87	11.45	No	Si
SLU 41	8.85	511.13	-13660	-0.000042	0.0003743	0.0035	2.015	10489.48	11533.02	11533.02	22.56	No	Si
SLU 41	10.65	892.83	-11729	-0.0000395	0.0003743	0.0035	2.015	9404.07	10108.7	10108.7	11.32	No	Si
SLU 31	8.85	438.56	-12515	-0.000038	0.0003743	0.0035	2.015	9861.79	10732.43	10732.43	24.47	No	Si
SLU 31	10.65	816.8	-10584	-0.0000355	0.0003743	0.0035	2.015	8698.86	9219.89	9219.89	11.29	No	Si
SLU 36	8.85	526.9	-14142	-0.0000435	0.0003743	0.0035	2.015	10740.3	11806.63	11806.63	22.41	No	Si
SLU 36	10.65	922.32	-12211	-0.0000412	0.0003743	0.0035	2.015	9687.57	10490.74	10490.74	11.37	No	Si
SLU 42	8.85	473.39	-13648	-0.0000416	0.0003743	0.0035	2.015	10483.16	11526.27	11526.27	24.35	No	Si
SLU 42	10.65	911.14	-11717	-0.0000396	0.0003743	0.0035	2.015	9396.94	10099.3	10099.3	11.08	No	Si
SLU 38	8.85	506.43	-13811	-0.0000424	0.0003743	0.0035	2.015	10569.23	11618.76	11618.76	22.94	No	Si
SLU 38	10.65	905.62	-11881	-0.0000401	0.0003743	0.0035	2.015	9494.1	10228.42	10228.42	11.29	No	Si
SLU 40	8.85	452.04	-13004	-0.0000395	0.0003743	0.0035	2.015	10135.28	11122.91	11122.91	24.61	No	Si
SLU 40	10.65	860.63	-11073	-0.0000373	0.0003743	0.0035	2.015	9005.43	9596.63	9596.63	11.15	No	Si
SLU 84	8.85	622.28	-15755	-0.0000492	0.0003743	0.0035	2.015	11519.56	12741.04	12741.04	20.47	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	10.65	983.24	-13276	-0.0000448	0.0003743	0.0035	2.015	10283.99	11306.6	11306.6	11.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	8.85	-3717.35	-12135	-0.0000631	0.0005615	0.0035	2.015		11981.85	11981.85	3.22		Si
SLV 1	10.65	4226.93	-10182	-0.0000627	0.0005615	0.0035	2.015		9504.58	9504.58	2.25		Si
SLD 16	8.85	3149.2	-9068	-0.0000496	0.0005615	0.0035	2.015		8616.43	8616.43	2.74		Si
SLD 16	10.65	-1761.23	-7201	-0.0000331	0.0005615	0.0035	2.015		7831.58	7831.58	4.45		Si
SLV 15	8.85	3836.29	-9207	-0.0000566	0.0005615	0.0035	2.015		8734.83	8734.83	2.28		Si
SLV 15	10.65	-2386.64	-7366	-0.0000386	0.0005615	0.0035	2.015		7978.28	7978.28	3.34		Si
SLV 2	8.85	-2816	-11335	-0.0000533	0.0005615	0.0035	2.015		11327.36	11327.36	4.02		Si
SLV 2	10.65	3495.64	-9382	-0.0000535	0.0005615	0.0035	2.015		8883.29	8883.29	2.54		Si
SLV 5	8.85	-3850.42	-9481	-0.0000572	0.0005615	0.0035	2.015		9796.59	9796.59	2.54		Si
SLV 5	10.65	3263.21	-7475	-0.0000472	0.0005615	0.0035	2.015		7238.76	7238.76	2.22		Si
SLV 11	8.85	4263.9	-11600	-0.0000663	0.0005615	0.0035	2.015		10537.44	10537.44	2.47		Si
SLV 11	10.65	-1661.89	-9812	-0.0000396	0.0005615	0.0035	2.015		10079.2	10079.2	6.06		Si
SLV 12	8.85	4870.71	-11062	-0.0000716	0.0005615	0.0035	2.015		10143.18	10143.18	2.08		Si
SLV 12	10.65	-2154.21	-9273	-0.0000421	0.0005615	0.0035	2.015		9619.05	9619.05	4.47		Si
SLV 14	8.85	2809.65	-7419	-0.0000424	0.0005615	0.0035	2.015		7188.93	7188.93	2.56		Si
SLV 14	10.65	-2148.36	-5517	-0.0000318	0.0005615	0.0035	2.015		6330.71	6330.71	2.95		Si
SLV 16	8.85	4737.64	-8407	-0.0000694	0.0005615	0.0035	2.015		8049.47	8049.47	1.7		Si
SLV 16	10.65	-3117.93	-6566	-0.0000443	0.0005615	0.0035	2.015		7270.01	7270.01	2.33		Si
SLV 6	8.85	-3243.61	-8942	-0.0000501	0.0005615	0.0035	2.015		9337.04	9337.04	2.88		Si
SLV 6	10.65	2770.89	-6937	-0.0000409	0.0005615	0.0035	2.015		6763.04	6763.04	2.44		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	8.85	511.13	-13660	-11375	-188	2.015	2.015	-20161	9633	5435	40441	16895	5138	22033	No	117.02	Si
SLU 41	10.65	892.83	-11729	-9767	-188	2.015	2.015	-17311	9253	5220	40441	16895	5138	22033	No	117.02	Si
SLU 33	8.85	505.54	-13498	-11240	-180	2.015	2.015	-19922	9601	5417	40441	16895	5138	22033	No	122.6	Si
SLU 33	10.65	871.8	-11567	-9632	-180	2.015	2.015	-17072	9221	5202	40441	16895	5138	22033	No	122.6	Si
SLU 84	8.85	622.28	-15755	-13119	-169	2.015	2.015	-23253	10045	5667	40441	16895	5138	22033	No	130.16	Si
SLU 84	10.65	983.24	-13276	-11055	-169	2.015	2.015	-19594	9557	5392	40441	16895	5138	22033	No	130.16	Si
SLU 31	8.85	438.56	-12515	-10421	-186	2.015	2.015	-18471	9407	5308	40441	16895	5138	22033	No	118.23	Si
SLU 31	10.65	816.8	-10584	-8814	-186	2.015	2.015	-15622	9027	5093	40441	16895	5138	22033	No	118.23	Si
SLU 34	8.85	459.91	-13159	-10958	-203	2.015	2.015	-19422	9534	5379	40441	16895	5138	22033	No	108.77	Si
SLU 34	10.65	867.31	-11229	-9350	-203	2.015	2.015	-16572	9154	5165	40441	16895	5138	22033	No	108.77	Si
SLU 38	8.85	506.43	-13811	-11501	-198	2.015	2.015	-20384	9662	5452	40441	16895	5138	22033	No	111.27	Si
SLU 38	10.65	905.62	-11881	-9893	-198	2.015	2.015	-17535	9282	5237	40441	16895	5138	22033	No	111.27	Si
SLU 40	8.85	452.04	-13004	-10828	-203	2.015	2.015	-19192	9503	5362	40441	16895	5138	22033	No	108.41	Si
SLU 40	10.65	860.63	-11073	-9221	-203	2.015	2.015	-16343	9123	5147	40441	16895	5138	22033	No	108.41	Si
SLU 39	8.85	489.78	-13016	-10838	-172	2.015	2.015	-19210	9506	5363	40441	16895	5138	22033	No	128.03	Si
SLU 39	10.65	842.32	-11085	-9231	-172	2.015	2.015	-16360	9126	5149	40441	16895	5138	22033	No	128.03	Si
SLU 42	8.85	473.39	-13648	-11365	-219	2.015	2.015	-20143	9630	5433	40441	16895	5138	22033	No	100.41	Si
SLU 42	10.65	911.14	-11717	-9757	-219	2.015	2.015	-17293	9250	5219	40441	16895	5138	22033	No	100.41	Si
SLU 36	8.85	526.9	-14142	-11776	-196	2.015	2.015	-20873	9727	5488	40441	16895	5138	22033	No	112.46	Si
SLU 36	10.65	922.32	-12211	-10169	-196	2.015	2.015	-18023	9348	5274	40441	16895	5138	22033	No	112.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	8.85	-3717.35	-12135	-10105	-4520	2.015	2.015	-17911	13999	7898	40441	25342	5138	30480		6.74	Si
SLV 1	10.65	4226.93	-10182	-8479	-4184	2.015	1.7771	-15028	13422	6679	40441	25342	5138	30480		7.29	Si
SLV 12	8.85	4870.71	-11062	-9211	3969	2.015	1.7015	-16326	13682	6518	40441	25342	5138	30480		7.68	Si
SLV 12	10.65	-2154.21	-9273	-7722	3860	2.015	2.015	-13686	13154	7421	40441	25342	5138	30480		7.9	Si
SLV 6	8.85	-3243.61	-8942	-7446	-3359	2.015	1.9343	-13198	13056	7071	40441	25342	5138	30480		9.07	Si
SLV 6	10.65	2770.89	-6937	-5776	-3250	2.015	1.8241	-10238	12464	6366	40441	25342	5138	30480		9.38	Si
SLV 14	8.85	2809.65	-7419	-6178	2908	2.015	1.8863	-10949	12607	6658	40441	25342	5138	30480		10.48	Si
SLV 14	10.65	-2148.36	-5517	-4594	2577	2.015	1.8543	-8880	12193	6331	40441	25342	5138	30480		11.83	Si
SLV 11	8.85	4263.9	-11600	-9660	3358	2.015	1.9198	-17121	13841	7440	40441	25342	5138	30480		9.08	Si
SLV 11	10.65	-1661.89	-9812	-8171	3249	2.015	2.015	-14482	13313	7511	40441	25342	5138	30480		9.38	Si
SLV 5	8.85	-3850.42	-9481	-7895	-3970	2.015	1.8041	-15725	13562	6851	40441	25342	5138	30480		7.68	Si
SLV 5	10.65	3263.21	-7475	-6225	-3861	2.015	1.7129	-11033	12623	6054	40441	25342	5138	30480		7.89	Si
SLV 16	8.85	4737.64	-8407	-7001	4519	2.015	1.3319	-12408	12898	4810	40441	25342	5138	30480		6.74	Si
SLV 16	10.65	-3117.93	-6566	-5468	4183	2.015	1.5979	-12288	12874	5760	40441	25342	5138	30480		7.29	Si
SLV 2	8.85	-2816	-11335	-9439	-3613	2.015	2.015	-16730	13763	7765	40441	25342	5138	30480		8.44	Si
SLV 2	10.65	3495.64	-9382	-7813	-3277	2.015	1.9047	-13847	13186	7033	40441	25342	5138	30480		9.3	Si
SLV 3	8.85	-1789.36	-13124	-10928	-2909	2.015	2.015	-19370	14291	8063	40441	25342	5138	30480		10.48	Si
SLV 3	10.65	3257.36	-11231	-9352	-2578	2.015	2.015	-16576	13732	7748	40441	25342	5138	30480		11.82	Si
SLV 15	8.85	3836.29	-9207	-7667	3612	2.015	1.7725	-13589	13134	6519	40441	25342	5138	30480		8.44	Si
SLV 15	10.65	-2386.64	-7366	-6134	3276	2.015	2.015	-10872	12591	7104	40441	25342	5138	30480		9.3	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.45	11246	-6345	250.98	822.85	3.28	Si
SLV 10	179667	0.45	11746	-6627	250.98	856.44	3.41	Si
SLV 13	179667	0.45	12664	-7145	250.98	917.36	3.66	Si
SLV 9	179667	0.45	12701	-7166	250.98	919.8	3.66	Si
SLV 16	179667	0.45	13111	-7397	250.98	946.67	3.77	Si
SLV 6	179667	0.45	13842	-7809	250.98	994.23	3.96	Si
SLV 15	179667	0.45	14529	-8197	250.98	1038.44	4.14	Si
SLV 5	179667	0.45	14797	-8348	250.98	1055.52	4.21	Si
SLV 12	179667	0.45	17963	-10135	250.98	1251.96	4.99	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.45	18230	-10286	250.98	1268.09	5.05	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-10220	-8326	-793	0.921	1324.9	0.94	14.23455	5.24939	Si
SLV 12	-10186	-7287	-793	0.923	1321.4	0.94	14.27587	5.24939	Si
SLV 7	-9909	-11171	-805	0.943	1293.4	0.939	14.60014	5.24939	Si
SLV 8	-9875	-10132	-805	0.946	1289.9	0.939	14.64372	5.24939	Si
SLV 15	-8200	-5734	-221	1.156	1120.6	0.931	18.0413	6.07522	Si
SLV 16	-8149	-4191	-221	1.162	1115.4	0.931	18.13621	6.07522	Si
SLV 3	-7163	-15216	-259	1.281	1016.1	0.926	20.10927	6.07522	Si
SLV 4	-7112	-13673	-259	1.288	1010.9	0.925	20.22795	6.07522	Si
SLV 13	-6150	-6141	258	1.439	914.3	0.919	22.74984	6.07522	Si
SLV 14	-6099	-4598	258	1.448	909.1	0.919	22.90172	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.084	SLU 42	Si
V_SLU	100.411	SLU 42	Si
PF_SLV	1.699	SLV 16	Si
V_SLV	6.743	SLV 1	Si
PFFP_SLV	3.279	SLV 14	Si
R_SLV	2.712	SLV 11	Si

Maschio 180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.843	6.661	-12.818	6.661	L6	L7	4.025	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 30	8.85	-393.09	-31284	-0.0000444	0.0003743	0.0035	4.025	45793.78	55261.51	55261.51	140.58	No	Si
SLU 30	10.65	-76.14	-27752	-0.0000385	0.0003743	0.0035	4.025	42342.79	50722.9	50722.9	666.15	No	Si
SLU 29	8.85	-367	-31378	-0.0000445	0.0003743	0.0035	4.025	45879.25	55378.19	55378.19	150.89	No	Si
SLU 29	10.65	-110.98	-27846	-0.0000387	0.0003743	0.0035	4.025	42439.85	50850.82	50850.82	458.22	No	Si
SLU 9	8.85	-305.52	-26113	-0.0000366	0.0003743	0.0035	4.025	40592.72	48509.29	48509.29	158.78	No	Si
SLU 9	10.65	-162.33	-22681	-0.0000313	0.0003743	0.0035	4.025	36623.17	43670.98	43670.98	269.02	No	Si
SLU 27	8.85	-356.07	-32191	-0.0000457	0.0003743	0.0035	4.025	46608.67	56384.38	56384.38	158.35	No	Si
SLU 27	10.65	-70.86	-28659	-0.0000398	0.0003743	0.0035	4.025	43269.97	51932.41	51932.41	732.92	No	Si
SLU 36	8.85	-382.27	-35135	-0.0000502	0.0003743	0.0035	4.025	49057.35	59899.34	59899.34	156.69	No	Si
SLU 36	10.65	-17.59	-31603	-0.0000441	0.0003743	0.0035	4.025	46083.48	55658.02	55658.02	3164.18	No	Si
SLU 70	8.85	-378.95	-37261	-0.0000534	0.0003743	0.0035	4.025	50636.59	61980.37	61980.37	163.56	No	Si
SLU 70	10.65	-83.31	-32734	-0.0000459	0.0003743	0.0035	4.025	47083.48	57049.9	57049.9	684.79	No	Si
SLU 38	8.85	-393.21	-34322	-0.000049	0.0003743	0.0035	4.025	48411.88	58935.03	58935.03	149.88	No	Si
SLU 38	10.65	-57.71	-30790	-0.0000429	0.0003743	0.0035	4.025	45337.31	54640.87	54640.87	946.85	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	8.85	-367.12	-34416	-0.0000491	0.0003743	0.0035	4.025	48487.37	59045.48	59045.48	160.83	No	Si
SLU 37	10.65	-92.54	-30884	-0.0000432	0.0003743	0.0035	4.025	45424.4	54760	54760	591.75	No	Si
SLU 28	8.85	-382.15	-32097	-0.0000456	0.0003743	0.0035	4.025	46525.87	56269.2	56269.2	147.24	No	Si
SLU 28	10.65	-36.03	-28565	-0.0000396	0.0003743	0.0035	4.025	43175.58	51811.26	51811.26	1438.18	No	Si
SLU 72	8.85	-389.88	-36449	-0.0000522	0.0003743	0.0035	4.025	50051.73	61318.54	61318.54	157.28	No	Si
SLU 72	10.65	-123.43	-31921	-0.0000448	0.0003743	0.0035	4.025	46369.55	56052.44	56052.44	454.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	8.85	-4761.74	-18552	-0.0000343	0.0005615	0.0035	4.025		38720.99	38720.99	8.13		Si
SLV 6	10.65	5958.62	-15036	-0.0000319	0.0005615	0.0035	4.025		29051.94	29051.94	4.88		Si
SLV 2	8.85	-8999.08	-25038	-0.0000522	0.0005615	0.0035	4.025		49370.13	49370.13	5.49		Si
SLV 2	10.65	10728.3	-21595	-0.0000508	0.0005615	0.0035	4.025		39482.47	39482.47	3.68		Si
SLV 1	8.85	-11903.27	-25372	-0.0000587	0.0005615	0.0035	4.025		49890.26	49890.26	4.19		Si
SLV 1	10.65	13339.16	-21930	-0.0000566	0.0005615	0.0035	4.025		39979.16	39979.16	3		Si
SLV 5	8.85	-6716.91	-18777	-0.0000386	0.0005615	0.0035	4.025		39101.94	39101.94	5.82		Si
SLV 5	10.65	7716.32	-15261	-0.0000357	0.0005615	0.0035	4.025		29443.5	29443.5	3.82		Si
SLV 15	8.85	8770.19	-25902	-0.0000529	0.0005615	0.0035	4.025		45945.75	45945.75	5.24		Si
SLV 15	10.65	-10786.74	-22423	-0.0000521	0.0005615	0.0035	4.025		45132.66	45132.66	4.18		Si
SLV 3	8.85	-10239.19	-29807	-0.0000617	0.0005615	0.0035	4.025		56723.73	56723.73	5.54		Si
SLV 3	10.65	11197.75	-26405	-0.0000587	0.0005615	0.0035	4.025		46709.4	46709.4	4.17		Si
SLD 1	8.85	-7573.01	-25527	-0.0000499	0.0005615	0.0035	4.025		50129.1	50129.1	6.62		Si
SLD 1	10.65	8454.59	-22076	-0.0000468	0.0005615	0.0035	4.025		40196.71	40196.71	4.75		Si
SLV 16	8.85	11674.38	-25567	-0.0000585	0.0005615	0.0035	4.025		45439.43	45439.43	3.89		Si
SLV 16	10.65	-13397.6	-22089	-0.000057	0.0005615	0.0035	4.025		44594.06	44594.06	3.33		Si
SLV 13	8.85	7106.11	-21467	-0.0000432	0.0005615	0.0035	4.025		39291.37	39291.37	5.53		Si
SLV 13	10.65	-8645.33	-17948	-0.0000414	0.0005615	0.0035	4.025		37701.75	37701.75	4.36		Si
SLV 14	8.85	10010.3	-21133	-0.0000486	0.0005615	0.0035	4.025		38795.85	38795.85	3.88		Si
SLV 14	10.65	-11256.19	-17614	-0.0000462	0.0005615	0.0035	4.025		37139.62	37139.62	3.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 28	8.85	-382.15	-32097	-26728	-241	4.025	4.025	-23716	10107	16116	40441	33747	10264	44011	No	182.25	Si
SLU 28	10.65	-36.03	-28565	-23786	-241	4.025	4.025	-21106	9759	14940	40441	33747	10264	44011	No	182.25	Si
SLU 26	8.85	-315.46	-29681	-24716	-233	4.025	4.025	-21930	9869	15311	40441	33747	10264	44011	No	188.56	Si
SLU 26	10.65	16.1	-26149	-21774	-233	4.025	4.025	-19321	9521	14135	40441	33747	10264	44011	No	188.56	Si
SLU 34	8.85	-315.58	-32719	-27245	-244	4.025	4.025	-24175	10168	16323	40441	33747	10264	44011	No	180.59	Si
SLU 34	10.65	34.54	-29187	-24304	-244	4.025	4.025	-21565	9820	15147	40441	33747	10264	44011	No	180.59	Si
SLU 76	8.85	-312.37	-37883	-31546	-231	4.025	4.025	-27991	10677	18043	40441	33747	10264	44011	No	190.73	Si
SLU 76	10.65	-12.75	-33356	-27776	-231	4.025	4.025	-24646	10231	16535	40441	33747	10264	44011	No	190.73	Si
SLU 70	8.85	-378.95	-37261	-31028	-229	4.025	4.025	-27532	10615	17836	40441	33747	10264	44011	No	192.58	Si
SLU 70	10.65	-83.31	-32734	-27258	-229	4.025	4.025	-24186	10169	16328	40441	33747	10264	44011	No	192.58	Si
SLU 31	8.85	-220.56	-31178	-25962	-229	4.025	4.025	-23036	10016	15810	40441	33747	10264	44011	No	191.96	Si
SLU 31	10.65	103.57	-27645	-23021	-229	4.025	4.025	-20427	9668	14633	40441	33747	10264	44011	No	191.96	Si
SLU 36	8.85	-382.27	-35135	-29258	-252	4.025	4.025	-25961	10406	17128	40441	33747	10264	44011	No	174.79	Si
SLU 36	10.65	-17.59	-31603	-26316	-252	4.025	4.025	-23351	10058	15951	40441	33747	10264	44011	No	174.79	Si
SLU 33	8.85	-287.25	-33594	-27974	-237	4.025	4.025	-24822	10254	16615	40441	33747	10264	44011	No	185.42	Si
SLU 33	10.65	51.44	-30062	-25033	-237	4.025	4.025	-22212	9906	15438	40441	33747	10264	44011	No	185.42	Si
SLU 78	8.85	-379.06	-40299	-33558	-239	4.025	4.025	-29776	10833	18848	40441	33747	10264	44011	No	184.27	Si
SLU 78	10.65	-64.88	-35772	-29788	-239	4.025	4.025	-26431	10469	17340	40441	33747	10264	44011	No	184.27	Si
SLU 38	8.85	-393.21	-34322	-28581	-236	4.025	4.025	-25360	10326	16857	40441	33747	10264	44011	No	186.81	Si
SLU 38	10.65	-57.71	-30790	-25640	-236	4.025	4.025	-22750	9978	15681	40441	33747	10264	44011	No	186.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	8.85	-11903.27	-25372	-21128	-14386	4.025	4.025	-18747	14166	16589	40441	50621	10264	57030		3.96	Si
SLV 1	10.65	13339.16	-21930	-18261	-13691	4.025	4.025	-16203	13657	15442	40441	50621	10264	55883		4.08	Si
SLV 4	8.85	-7335	-29473	-24542	-9437	4.025	4.025	-21777	14772	17955	40441	50621	10264	58396		6.19	Si
SLV 4	10.65	8586.89	-26070	-21709	-8676	4.025	4.025	-19263	14269	16821	40441	50621	10264	57262		6.6	Si
SLV 13	8.85	7106.11	-21467	-17876	9243	4.025	4.025	-15861	13589	15315	40441	50621	10264	55756		6.03	Si
SLV 13	10.65	-8645.33	-17948	-14946	8482	4.025	4.025	-13261	13069	14729	40441	50621	10264	55170		6.5	Si
SLV 2	8.85	-8999.08	-25038	-20849	-11323	4.025	4.025	-18500	14117	16477	40441	50621	10264	56918		5.03	Si
SLV 2	10.65	10728.3	-21595	-17983	-10627	4.025	4.025	-15956	13608	15336	40441	50621	10264	55777		5.25	Si
SLV 3	8.85	-10239.19	-29807	-24821	-12501	4.025	4.025	-22024	14821	18066	40441	50621	10264	58507		4.68	Si
SLV 3	10.65	11197.75	-26405	-21987	-11740	4.025	4.025	-19510	14319	16933	40441	50621	10264	57374		4.89	Si
SLV 14	8.85	10010.3	-21133	-17597	12307	4.025	4.025	-15614	13540	15259	40441	50621	10264	55700		4.53	Si
SLV 14	10.65	-11256.19	-17614	-14667	11546	4.025	4.025	-13015	13020	14673	40441	50621	10264	55114		4.77	Si
SLV 16	8.85	11674.38	-25567	-21290	14193	4.025	4.025	-18891	14195	16654	40441	50621	10264	57095		4.02	Si
SLV 16	10.65	-13397.6	-22089	-18394	13497	4.025	4.025	-16321	13681	15495	40441	50621	10264	55936		4.14	Si
SLD 16	8.85	7344.12	-25413	-21162	8963	4.025	4.025	-18777	14172	16602	40441	50621	10264	57043		6.36	Si
SLD 16	10.65	-8513.03	-21943	-18272	8511	4.025	4.025	-16213	13659	15447	40441	50621	10264	55888		6.57	Si
SLV 15	8.85	8770.19	-25902	-21569	11129	4.025	4.025	-19138	14244	16765	40441	50621	10264	57206		5.14	Si
SLV 15	10.65	-10786.74	-22423	-18672	10433	4.025	4.025	-16568	13730	15607	40441	50621	10264	56047		5.37	Si
SLD 1	8.85	-7573.01	-25527	-21257	-9157	4.025	4.025	-18861	14189	16640	40441	50621	10264	57081		6.23	Si
SLD 1	10.65	8454.59	-22076	-18383	-8704	4.025	4.025	-16311	13679	15491	40441	50621	10264	55932		6.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	13692	-15431	501.34	1966.65	3.92	Si
SLV 9	179667	0.45	13892	-15656	501.34	1992.46	3.97	Si
SLV 6	179667	0.45	14761	-16636	501.34	2103.92	4.2	Si
SLV 5	179667	0.45	14961	-16861	501.34	2129.28	4.25	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.45	17127	-19302	501.34	2399.19	4.79	Si
SLV 13	179667	0.45	17423	-19636	501.34	2435.39	4.86	Si
SLV 2	179667	0.45	20691	-23318	501.34	2822.27	5.63	Si
SLV 1	179667	0.45	20987	-23652	501.34	2856.29	5.7	Si
SLV 16	179667	0.45	21181	-23871	501.34	2878.45	5.74	Si
SLV 15	179667	0.45	21478	-24205	501.34	2912.16	5.81	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-21170	-35399	-1970	0.878	2723	0.942	13.55821	5.24939	Si
SLV 8	-21076	-35106	-1970	0.882	2713.4	0.941	13.61024	5.24939	Si
SLV 3	-18788	-31152	-577	1.03	2481.8	0.937	15.97658	6.07522	Si
SLV 11	-20592	-33714	-1981	0.898	2664.4	0.94	13.87665	5.24939	Si
SLV 4	-18648	-30718	-577	1.036	2467.7	0.936	16.07852	6.07522	Si
SLV 12	-20498	-33422	-1981	0.901	2654.9	0.94	13.93126	5.24939	Si
SLV 15	-16861	-25537	-614	1.121	2287	0.932	17.47773	6.07522	Si
SLV 16	-16721	-25103	-614	1.129	2272.9	0.932	17.60044	6.07522	Si
SLV 1	-16149	-25767	606	1.161	2215.1	0.931	18.12661	6.07522	Si
SLV 2	-16008	-25333	606	1.169	2201	0.93	18.25865	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	140.583	SLU 30	Si
V_SLU	174.786	SLU 36	Si
PF_SLV	2.997	SLV 1	Si
V_SLV	3.964	SLV 1	Si
PFFP_SLV	3.923	SLV 10	Si
R_SLV	2.583	SLV 7	Si

Maschio 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.918	6.661	-7.913	6.661	L6	L7	4.005	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	8.85	-1469.33	-27754	-0.0000417	0.0003743	0.0035	4.005	42066.6	50433.72	50433.72	34.32	No	Si
SLU 50	10.65	-340.25	-23651	-0.0000332	0.0003743	0.0035	4.005	37549.8	44799.89	44799.89	131.67	No	Si
SLU 48	8.85	-1448.24	-28629	-0.0000429	0.0003743	0.0035	4.005	42953.65	51588.84	51588.84	35.62	No	Si
SLU 48	10.65	-283.57	-24533	-0.0000344	0.0003743	0.0035	4.005	38570.47	46066.22	46066.22	162.45	No	Si
SLU 49	8.85	-1399.72	-28616	-0.0000428	0.0003743	0.0035	4.005	42941.31	51572.95	51572.95	36.85	No	Si
SLU 49	10.65	-292.22	-24519	-0.0000344	0.0003743	0.0035	4.005	38555.25	46046.95	46046.95	157.58	No	Si
SLU 9	8.85	-1175.09	-23039	-0.0000341	0.0003743	0.0035	4.005	36825.4	43930.24	43930.24	37.38	No	Si
SLU 9	10.65	-413.17	-19868	-0.000028	0.0003743	0.0035	4.005	32862.78	39267.23	39267.23	95.04	No	Si
SLU 8	8.85	-1223.61	-23051	-0.0000342	0.0003743	0.0035	4.005	36840.16	43947.73	43947.73	35.92	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 8	10.65	-404.51	-19882	-0.000028	0.0003743	0.0035	4.005	32880.19	39287.19	39287.19	97.12	No	Si
SLU 58	8.85	-1459.79	-30684	-0.0000461	0.0003743	0.0035	4.005	44931.1	54183.5	54183.5	37.12	No	Si
SLU 58	10.65	-309.94	-26600	-0.0000375	0.0003743	0.0035	4.005	40856.59	48878.78	48878.78	157.7	No	Si
SLU 71	8.85	-1597.09	-32532	-0.0000492	0.0003743	0.0035	4.005	46583.13	56463.55	56463.55	35.35	No	Si
SLU 71	10.65	-320.94	-28364	-0.0000401	0.0003743	0.0035	4.005	42688.37	51247.88	51247.88	159.68	No	Si
SLU 72	8.85	-1548.57	-32520	-0.000049	0.0003743	0.0035	4.005	46572.49	56448.54	56448.54	36.45	No	Si
SLU 72	10.65	-329.6	-28351	-0.0000401	0.0003743	0.0035	4.005	42674.94	51230.64	51230.64	155.43	No	Si
SLU 69	8.85	-1576	-33408	-0.0000505	0.0003743	0.0035	4.005	47323.48	57510.4	57510.4	36.49	No	Si
SLU 69	10.65	-264.26	-29246	-0.0000413	0.0003743	0.0035	4.005	43563.23	52376.15	52376.15	198.2	No	Si
SLU 51	8.85	-1420.81	-27741	-0.0000416	0.0003743	0.0035	4.005	42053.88	50416.92	50416.92	35.48	No	Si
SLU 51	10.65	-348.91	-23637	-0.0000332	0.0003743	0.0035	4.005	37534.16	44780.86	44780.86	128.35	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	8.85	-6234.41	-21498	-0.0000417	0.0005615	0.0035	4.005		43411.54	43411.54	6.96		Si
SLD 4	10.65	6206.95	-18371	-0.0000373	0.0005615	0.0035	4.005		34506.52	34506.52	5.56		Si
SLD 1	8.85	-6773.12	-20544	-0.0000415	0.0005615	0.0035	4.005		41888.46	41888.46	6.18		Si
SLD 1	10.65	7258.76	-17429	-0.0000381	0.0005615	0.0035	4.005		33012.11	33012.11	4.55		Si
SLV 14	8.85	9948.61	-27094	-0.0000575	0.0005615	0.0035	4.005		47487.03	47487.03	4.77		Si
SLV 14	10.65	-11387.33	-23742	-0.0000556	0.0005615	0.0035	4.005		47021.28	47021.28	4.13		Si
SLV 2	8.85	-7336.12	-19852	-0.0000417	0.0005615	0.0035	4.005		40718.41	40718.41	5.55		Si
SLV 2	10.65	8884.28	-16721	-0.0000404	0.0005615	0.0035	4.005		31802.94	31802.94	3.58		Si
SLV 3	8.85	-11946.33	-19584	-0.0000508	0.0005615	0.0035	4.005		40264.38	40264.38	3.37		Si
SLV 3	10.65	11888.22	-16537	-0.0000464	0.0005615	0.0035	4.005		31487.77	31487.77	2.65		Si
SLD 3	8.85	-7921.44	-20919	-0.0000444	0.0005615	0.0035	4.005		42490.57	42490.57	5.36		Si
SLD 3	10.65	7671.6	-17825	-0.0000395	0.0005615	0.0035	4.005		33671.41	33671.41	4.39		Si
SLV 1	8.85	-9995.32	-18940	-0.0000458	0.0005615	0.0035	4.005		39174.79	39174.79	3.92		Si
SLV 1	10.65	11192.96	-15860	-0.000044	0.0005615	0.0035	4.005		30321.62	30321.62	2.71		Si
SLV 16	8.85	7997.61	-27738	-0.0000544	0.0005615	0.0035	4.005		48467.83	48467.83	6.06		Si
SLV 16	10.65	-10692.07	-24419	-0.0000552	0.0005615	0.0035	4.005		48121.41	48121.41	4.5		Si
SLV 13	8.85	7289.41	-26183	-0.0000506	0.0005615	0.0035	4.005		46104.14	46104.14	6.32		Si
SLV 13	10.65	-9078.65	-22881	-0.0000496	0.0005615	0.0035	4.005		45628.51	45628.51	5.03		Si
SLV 4	8.85	-9287.12	-20496	-0.0000466	0.0005615	0.0035	4.005		41807.87	41807.87	4.5		Si
SLV 4	10.65	9579.54	-17398	-0.0000428	0.0005615	0.0035	4.005		32959.15	32959.15	3.44		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	8.85	-1257.7	-30597	-25479	-978	4.005	4.005	-22721	9974	15590	40441	33580	10213	43792	No	44.79	Si
SLU 65	10.65	305.41	-26410	-21992	-1101	4.005	4.005	-19611	9559	14195	40441	33580	10213	43792	No	39.77	Si
SLU 83	8.85	-1454.19	-35761	-29779	-959	4.005	4.005	-26555	10485	17310	40441	33580	10213	43792	No	45.65	Si
SLU 83	10.65	42.75	-31612	-26324	-1101	4.005	4.005	-23474	10074	15927	40441	33580	10213	43792	No	39.77	Si
SLU 73	8.85	-1248.15	-33528	-27919	-998	4.005	4.005	-24897	10264	16566	40441	33580	10213	43792	No	43.87	Si
SLU 73	10.65	335.73	-29360	-24448	-1131	4.005	4.005	-21802	9851	15177	40441	33580	10213	43792	No	38.71	Si
SLU 74	8.85	-1437.19	-35381	-29462	-973	4.005	4.005	-26273	10447	17183	40441	33580	10213	43792	No	44.99	Si
SLU 74	10.65	86.44	-31230	-26006	-1115	4.005	4.005	-23190	10036	15800	40441	33580	10213	43792	No	39.29	Si
SLU 81	8.85	-1324.93	-34804	-28982	-1060	4.005	4.005	-25844	10390	16991	40441	33580	10213	43792	No	41.3	Si
SLU 81	10.65	363.14	-30646	-25520	-1199	4.005	4.005	-22757	9979	15606	40441	33580	10213	43792	No	36.52	Si
SLU 66	8.85	-1446.73	-32450	-27022	-953	4.005	4.005	-24097	10157	16207	40441	33580	10213	43792	No	45.95	Si
SLU 66	10.65	56.13	-28280	-23549	-1084	4.005	4.005	-21000	9744	14818	40441	33580	10213	43792	No	40.39	Si
SLU 64	8.85	-1338.56	-30618	-25496	-1031	4.005	4.005	-22736	9976	15596	40441	33580	10213	43792	No	42.47	Si
SLU 64	10.65	319.84	-26433	-22011	-1156	4.005	4.005	-19628	9562	14202	40441	33580	10213	43792	No	37.9	Si
SLU 60	8.85	-1197.17	-30025	-25002	-963	4.005	4.005	-22296	9917	15399	40441	33580	10213	43792	No	45.49	Si
SLU 60	10.65	343.83	-25933	-21595	-1083	4.005	4.005	-19257	9512	14036	40441	33580	10213	43792	No	40.45	Si
SLU 75	8.85	-1388.67	-35368	-29452	-941	4.005	4.005	-26263	10446	17179	40441	33580	10213	43792	No	46.52	Si
SLU 75	10.65	77.79	-31216	-25994	-1082	4.005	4.005	-23180	10035	15796	40441	33580	10213	43792	No	40.48	Si
SLU 82	8.85	-1276.41	-34792	-28972	-1028	4.005	4.005	-25835	10389	16987	40441	33580	10213	43792	No	42.59	Si
SLU 82	10.65	354.48	-30633	-25508	-1166	4.005	4.005	-22747	9977	15601	40441	33580	10213	43792	No	37.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	8.85	-9287.12	-20496	-17067	-10777	4.005	4.005	-15220	13461	15095	40441	50370	10213	55536		5.15	Si
SLV 4	10.65	9579.54	-17398	-14488	-10402	4.005	4.005	-12919	13001	14579	40441	50370	10213	55020		5.29	Si
SLV 2	8.85	-7336.12	-19852	-16531	-9673	4.005	4.005	-14741	13365	14987	40441	50370	10213	55428		5.73	Si
SLV 2	10.65	8884.28	-16721	-13924	-9206	4.005	4.005	-12417	12900	14466	40441	50370	10213	54907		5.96	Si
SLV 16	8.85	7997.61	-27738	-23098	10868	4.005	4.005	-20598	14536	17336	40441	50370	10213	57777		5.32	Si
SLV 16	10.65	-10692.07	-24419	-20334	10273	4.005	4.005	-18132	14043	16231	40441	50370	10213	56672		5.52	Si
SLD 1	8.85	-6773.12	-20544	-17107	-8228	4.005	4.005	-15255	13468	15103	40441	50370	10213	55544		6.75	Si
SLD 1	10.65	7258.76	-17429	-14513	-7999	4.005	4.005	-12942	13005	14584	40441	50370	10213	55025		6.88	Si
SLV 14	8.85	9948.61	-27094	-22562	11972	4.005	4.005	-20119	14441	17122	40441	50370	10213	57563		4.81	Si
SLV 14	10.65	-11387.33	-23742	-19770	11469	4.005	4.005	-17630	13943	16005	40441	50370	10213	56446		4.92	Si
SLV 1	8.85	-9995.32	-18940	-15772	-12423	4.005	4.005	-14064	13230	14836	40441	50370	10213	55277		4.45	Si
SLV 1	10.65	11192.96	-15860	-13207	-12017	4.005	3.8904	-11777	12772	13913	40441	50370	10213	54354		4.52	Si
SLV 15	8.85	5338.41	-26827	-22339	8118	4.005	4.005	-19921	14401	17033	40441	50370	10213	57474		7.08	Si
SLV 15	10.65	-8383.4	-23558	-19617	7462	4.005	4.005	-17493	13915	15944	40441	50370	10213	56385		7.56	Si
SLV 13	8.85	7289.41	-26183	-21803	9222	4.005	4.005	-19442	14305	16818	40441	50370	10213	57259		6.21	Si
SLV 13	10.65	-9078.65	-22881	-19053	8658	4.005	4.005	-16991	13815	15719	40441	50370	10213	56160		6.49	Si
SLD 3	8.85	-7921.44	-20919	-17420	-8879	4.005	4.005	-15534	13523	15165	40441	50370	10213	55606		6.26	Si
SLD 3	10.65	7671.6	-17825	-14843	-8706	4.005	4.005	-13236	13064	14650	40441	50370	10213	55091		6.33	Si
SLV 3	8.85	-11946.33	-19584	-16308	-13527	4.005	4.005	-14543	13325	14943	40441	50370	10213	55384		4.09	Si
SLV 3	10.65	11888.22	-16537	-13771	-13213	4.005	3.8509	-12280	12873	13880	40441	50370	10213	54321		4.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	15580	-17471	498.85	2196.42	4.4	Si
SLV 3	179667	0.45	16283	-18260	498.85	2283.79	4.58	Si
SLV 2	179667	0.45	16347	-18332	498.85	2291.76	4.59	Si
SLV 4	179667	0.45	17051	-19121	498.85	2378.02	4.77	Si
SLV 5	179667	0.45	17081	-19154	498.85	2381.69	4.77	Si
SLV 6	179667	0.45	17598	-19734	498.85	2444.41	4.9	Si
SLV 9	179667	0.45	18963	-21265	498.85	2607.48	5.23	Si
SLV 7	179667	0.45	19425	-21783	498.85	2661.76	5.34	Si
SLV 10	179667	0.45	19480	-21845	498.85	2668.21	5.35	Si
SLV 8	179667	0.45	19942	-22363	498.85	2722	5.46	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-18096	-28357	-643	1.054	2408.9	0.935	16.3749	6.07522	Si
SLV 15	-17568	-27374	-643	1.079	2355.6	0.934	16.78958	6.07522	Si
SLV 14	-17665	-27564	527	1.08	2365.3	0.934	16.79718	6.07522	Si
SLV 13	-17137	-26581	527	1.107	2312	0.933	17.23167	6.07522	Si
SLV 12	-16996	-26174	-1969	1.044	2297.8	0.933	16.26042	5.24939	Si
SLV 11	-16641	-25512	-1969	1.061	2261.9	0.932	16.55051	5.24939	Si
SLV 8	-15697	-23648	-1936	1.113	2166.6	0.93	17.40257	5.24939	Si
SLV 10	-15560	-23531	1930	1.121	2152.8	0.929	17.53412	5.24939	Si
SLV 7	-15342	-22986	-1936	1.133	2130.8	0.929	17.73557	5.24939	Si
SLV 4	-13764	-19936	-533	1.314	1971.9	0.924	20.65736	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	34.324	SLU 50	Si
V_SLU	36.525	SLU 81	Si
PF_SLV	2.649	SLV 3	Si
V_SLV	4.094	SLV 3	Si
PFFP_SLV	4.403	SLV 1	Si
R_SLV	2.695	SLV 16	Si

Maschio 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.013	6.661	-5.018	6.661	L6	L7	1.995	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	8.85	-793.97	-13744	-0.0000452	0.0003743	0.0035	1.995	10396.52	12396.67	12396.67	15.61	No	Si
SLU 84	10.65	-793.22	-11331	-0.000038	0.0003743	0.0035	1.995	9050.74	10729.4	10729.4	13.53	No	Si
SLU 38	8.85	-638.3	-11470	-0.0000371	0.0003743	0.0035	1.995	9134.03	10828.96	10828.96	16.97	No	Si
SLU 38	10.65	-729.94	-9591	-0.0000324	0.0003743	0.0035	1.995	7953.73	9446.46	9446.46	12.94	No	Si
SLU 41	8.85	-658.69	-11871	-0.0000384	0.0003743	0.0035	1.995	9369.84	11117.92	11117.92	16.88	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	10.65	-735.66	-9992	-0.0000336	0.0003743	0.0035	1.995	8215.97	9748.25	9748.25	13.25	No	Si
SLU 37	8.85	-646.34	-11469	-0.0000371	0.0003743	0.0035	1.995	9133.26	10828.02	10828.02	16.75	No	Si
SLU 37	10.65	-723.13	-9590	-0.0000323	0.0003743	0.0035	1.995	7952.86	9445.48	9445.48	13.06	No	Si
SLU 78	8.85	-809.87	-13788	-0.0000454	0.0003743	0.0035	1.995	10419.31	12426.13	12426.13	15.34	No	Si
SLU 78	10.65	-794.84	-11375	-0.0000381	0.0003743	0.0035	1.995	9077.29	10761	10761	13.54	No	Si
SLU 79	8.85	-789.67	-13340	-0.0000439	0.0003743	0.0035	1.995	10185.66	12124.69	12124.69	15.35	No	Si
SLU 79	10.65	-773.87	-10927	-0.0000366	0.0003743	0.0035	1.995	8805.72	10443.34	10443.34	13.49	No	Si
SLU 36	8.85	-666.54	-11917	-0.0000386	0.0003743	0.0035	1.995	9396.31	11150.4	11150.4	16.73	No	Si
SLU 36	10.65	-744.1	-10038	-0.0000338	0.0003743	0.0035	1.995	8245.44	9782.91	9782.91	13.15	No	Si
SLU 80	8.85	-781.63	-13342	-0.0000438	0.0003743	0.0035	1.995	10186.36	12125.59	12125.59	15.51	No	Si
SLU 80	10.65	-780.68	-10929	-0.0000367	0.0003743	0.0035	1.995	8806.53	10444.26	10444.26	13.38	No	Si
SLU 35	8.85	-674.58	-11916	-0.0000387	0.0003743	0.0035	1.995	9395.55	11149.47	11149.47	16.53	No	Si
SLU 35	10.65	-737.29	-10036	-0.0000337	0.0003743	0.0035	1.995	8244.6	9781.92	9781.92	13.27	No	Si
SLU 42	8.85	-650.64	-11873	-0.0000383	0.0003743	0.0035	1.995	9370.6	11118.85	11118.85	17.09	No	Si
SLU 42	10.65	-742.47	-9993	-0.0000336	0.0003743	0.0035	1.995	8216.81	9749.24	9749.24	13.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	8.85	1517.81	-11651	-0.0000442	0.0005615	0.0035	1.995		10445.9	10445.9	6.88		Si
SLV 14	10.65	-3177.23	-10096	-0.0000535	0.0005615	0.0035	1.995		10211.17	10211.17	3.21		Si
SLV 4	8.85	-2179.46	-7549	-0.000038	0.0005615	0.0035	1.995		8058.7	8058.7	3.7		Si
SLV 4	10.65	1706.48	-5413	-0.0000282	0.0005615	0.0035	1.995		5333.14	5333.14	3.13		Si
SLV 15	8.85	579.28	-10659	-0.0000336	0.0005615	0.0035	1.995		9726.26	9726.26	16.79		Si
SLV 15	10.65	-2669.51	-8342	-0.0000443	0.0005615	0.0035	1.995		8737.45	8737.45	3.27		Si
SLD 3	8.85	-1917.27	-7645	-0.0000361	0.0005615	0.0035	1.995		8142.07	8142.07	4.25		Si
SLD 3	10.65	1328.59	-5624	-0.0000257	0.0005615	0.0035	1.995		5523.48	5523.48	4.16		Si
SLV 2	8.85	-1761.88	-7723	-0.0000351	0.0005615	0.0035	1.995		8210.34	8210.34	4.66		Si
SLV 2	10.65	1815.12	-6347	-0.0000317	0.0005615	0.0035	1.995		6169.48	6169.48	3.4		Si
SLV 13	8.85	996.86	-10832	-0.0000375	0.0005615	0.0035	1.995		9851.35	9851.35	9.88		Si
SLV 13	10.65	-2560.86	-9276	-0.000046	0.0005615	0.0035	1.995		9521.96	9521.96	3.72		Si
SLV 3	8.85	-2700.41	-6730	-0.0000404	0.0005615	0.0035	1.995		7339.6	7339.6	2.72		Si
SLV 3	10.65	2322.85	-4594	-0.0000333	0.0005615	0.0035	1.995		4589.58	4589.58	1.98		Si
SLV 1	8.85	-2282.83	-6903	-0.000037	0.0005615	0.0035	1.995		7491.08	7491.08	3.28		Si
SLV 1	10.65	2431.5	-5528	-0.0000354	0.0005615	0.0035	1.995		5436.73	5436.73	2.24		Si
SLD 16	8.85	489.84	-10637	-0.0000328	0.0005615	0.0035	1.995		9710.9	9710.9	19.82		Si
SLD 16	10.65	-2245.54	-8517	-0.0000413	0.0005615	0.0035	1.995		8884.04	8884.04	3.96		Si
SLV 16	8.85	1100.23	-11478	-0.0000402	0.0005615	0.0035	1.995		10319.74	10319.74	9.38		Si
SLV 16	10.65	-3285.88	-9161	-0.0000519	0.0005615	0.0035	1.995		9424.92	9424.92	2.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	8.85	-722.99	-10742	-8945	-178	1.995	1.995	-16013	9080	5072	40441	16727	5087	21814	No	122.66	Si
SLU 46	10.65	-461.64	-8375	-6974	-178	1.995	1.995	-12485	8609	4809	40441	16727	5087	21814	No	122.66	Si
SLU 65	8.85	-771.1	-12059	-10041	-149	1.995	1.995	-17976	9341	5218	40441	16727	5087	21814	No	146.58	Si
SLU 65	10.65	-560.71	-9645	-8032	-149	1.995	1.995	-14379	8862	4950	40441	16727	5087	21814	No	146.58	Si
SLU 48	8.85	-725.58	-10821	-9010	-158	1.995	1.995	-16130	9095	5081	40441	16727	5087	21814	No	138.04	Si
SLU 48	10.65	-499.89	-8454	-7040	-158	1.995	1.995	-12602	8625	4818	40441	16727	5087	21814	No	138.04	Si
SLU 43	8.85	-708.25	-10215	-8506	-206	1.995	1.995	-15227	8975	5013	40441	16727	5087	21814	No	105.72	Si
SLU 43	10.65	-395.61	-7848	-6535	-206	1.995	1.995	-11699	8504	4751	40441	16727	5087	21814	No	105.72	Si
SLU 49	8.85	-717.54	-10822	-9012	-150	1.995	1.995	-16132	9095	5081	40441	16727	5087	21814	No	145.65	Si
SLU 49	10.65	-506.7	-8455	-7041	-150	1.995	1.995	-12604	8625	4818	40441	16727	5087	21814	No	145.65	Si
SLU 45	8.85	-731.04	-10741	-8944	-186	1.995	1.995	-16012	9079	5072	40441	16727	5087	21814	No	117.22	Si
SLU 45	10.65	-454.83	-8374	-6973	-186	1.995	1.995	-12484	8609	4809	40441	16727	5087	21814	No	117.22	Si
SLU 64	8.85	-784.51	-12056	-10040	-163	1.995	1.995	-17973	9341	5218	40441	16727	5087	21814	No	134.18	Si
SLU 64	10.65	-549.36	-9643	-8030	-163	1.995	1.995	-14375	8861	4950	40441	16727	5087	21814	No	134.18	Si
SLU 44	8.85	-694.84	-10217	-8508	-193	1.995	1.995	-15230	8975	5014	40441	16727	5087	21814	No	113.28	Si
SLU 44	10.65	-406.96	-7850	-6537	-193	1.995	1.995	-11702	8505	4751	40441	16727	5087	21814	No	113.28	Si
SLU 50	8.85	-697.34	-10374	-8639	-150	1.995	1.995	-15465	9006	5031	40441	16727	5087	21814	No	145.23	Si
SLU 50	10.65	-485.73	-8007	-6668	-150	1.995	1.995	-11937	8536	4768	40441	16727	5087	21814	No	145.23	Si
SLU 47	8.85	-689.39	-10296	-8574	-165	1.995	1.995	-15349	8991	5022	40441	16727	5087	21814	No	132.6	Si
SLU 47	10.65	-452.02	-7930	-6603	-165	1.995	1.995	-11821	8521	4760	40441	16727	5087	21814	No	132.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	8.85	996.86	-10832	-9020	2198	1.995	1.995	-16147	13646	7623	40441	25090	5087	30178		13.73	Si
SLV 13	10.65	-2560.86	-9276	-7724	1810	1.995	1.995	-13828	13182	7364	40441	25090	5087	30178		16.67	Si
SLD 3	8.85	-1917.27	-7645	-6366	-1983	1.995	1.995	-11396	12696	7092	40441	25090	5087	30178		15.21	Si
SLD 3	10.65	1328.59	-5624	-4683	-1736	1.995	1.995	-8384	12094	6755	40441	25090	5087	30178		17.39	Si
SLV 4	8.85	-2179.46	-7549	-6286	-2430	1.995	1.995	-11254	12667	7076	40441	25090	5087	30178		12.42	Si
SLV 4	10.65	1706.48	-5413	-4508	-2042	1.995	1.995	-8069	12031	6720	40441	25090	5087	30178		14.78	Si
SLV 14	8.85	1517.81	-11651	-9702	2830	1.995	1.995	-17369	13890	7759	40441	25090	5087	30178		10.66	Si
SLV 14	10.65	-3177.23	-10096	-8407	2442	1.995	1.995	-15050	13427	7500	40441	25090	5087	30178		12.36	Si
SLD 1	8.85	-1672.44	-7744	-6448	-1795	1.995	1.995	-11544	12725	7108	40441	25090	5087	30178		16.81	Si
SLD 1	10.65	1391.16	-6172	-5139	-1556	1.995	1.995	-9200	12257	6847	40441	25090	5087	30178		19.39	Si
SLV 2	8.85	-1761.88	-7723	-6431	-2111	1.995	1.995	-11512	12719	7105	40441	25090	5087	30178		14.29	Si
SLV 2	10.65	1815.12	-6347	-5286	-1738	1.995	1.995	-9462	12309	6876	40441	25090	5087	30178		17.37	Si
SLV 3	8.85	-2700.41	-6730	-5604	-3062	1.995	1.7888	-11235	12664	6343	40441	25090	5087	30178		9.86	Si
SLV 3	10.65	2322.85	-4594	-3825	-2674	1.995	1.4755	-6848	11786	4869	40441	25090	5087	30178		11.29	Si
SLV 1	8.85	-2282.83	-6903	-5748	-2743	1.995	1.995	-10291	12475	6968	40441	25090	5087	30178		11	Si
SLV 1	10.65	2431.5	-5528	-4603	-2369	1.995	1.6729	-8241	12065	5651	40441	25090	5087	30178		12.74	Si
SLV 15	8.85	579.28	-10659	-8876	1879	1.995	1.995	-15889	13594	7594	40441	25090	5087	30178		16.06	Si
SLV 15	10.65	-2669.51	-8342	-6946	1506	1.995	1.995	-12436	12904	7208	40441	25090	5087	30178		20.04	Si
SLV 16	8.85	1100.23	-11478	-9558	2511	1.995	1.995	-17111	13839	7730	40441	25090	5087	30178		12.02	Si
SLV 16	10.65	-3285.88	-9161	-7629	2138	1.995	1.9165	-14312	13279	7126	40441	25090	5087	30178		14.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.45	10315	-5762	248.49	752.19	3.03	Si
SLV 1	179667	0.45	10845	-6058	248.49	787.89	3.17	Si
SLV 4	179667	0.45	11782	-6581	248.49	850.3	3.42	Si
SLV 2	179667	0.45	12312	-6877	248.49	885.21	3.56	Si
SLV 7	179667	0.45	12471	-6966	248.49	895.61	3.6	Si
SLV 8	179667	0.45	13458	-7518	248.49	959.73	3.86	Si
SLV 5	179667	0.45	14237	-7953	248.49	1009.62	4.06	Si
SLV 11	179667	0.45	14643	-8180	248.49	1035.33	4.17	Si
SLV 6	179667	0.45	15225	-8505	248.49	1071.94	4.31	Si
SLV 12	179667	0.45	15630	-8731	248.49	1097.25	4.42	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-6085	-5486	235	1.442	904.8	0.919	22.80046	6.07522	Si
SLV 14	-6033	-14261	254	1.449	899.6	0.919	22.92081	6.07522	Si
SLV 1	-5856	-4090	235	1.484	881.9	0.918	23.50446	6.07522	Si
SLV 13	-5804	-12865	253	1.492	876.6	0.917	23.63355	6.07522	Si
SLV 4	-5745	-4917	-256	1.503	870.7	0.917	23.81902	6.07522	Si
SLV 6	-6427	-8994	815	1.313	939.1	0.922	20.71222	5.24939	Si
SLV 10	-6411	-11626	821	1.315	937.5	0.922	20.74243	5.24939	Si
SLV 16	-5692	-13692	-238	1.516	865.5	0.917	24.03026	6.07522	Si
SLV 5	-6272	-8054	815	1.338	923.6	0.921	21.11923	5.24939	Si
SLV 9	-6257	-10686	821	1.34	922	0.921	21.15086	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.942	SLU 38	Si
V_SLU	105.724	SLU 43	Si
PF_SLV	1.976	SLV 3	Si
V_SLV	9.856	SLV 3	Si
PFFP_SLV	3.027	SLV 3	Si
R_SLV	3.753	SLV 2	Si

Maschio 183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.423	1.141	-24.614	1.141	L6	L7	5.192	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	7.95	-11699.38	-48516	-0.0000615	0.0004492	0.0035	5.1915	91536.9	121434.78	121434.78	10.38	No	Si
SLU 80	10.05	-11833.66	-43103	-0.000056	0.0004492	0.0035	5.1915	84733.09	111318.46	111318.46	9.41	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	7.95	-9472.4	-40191	-0.0000502	0.0004492	0.0035	5.1915	80719.13	105834.55	105834.55	11.17	No	Si
SLU 41	10.05	-10448.29	-37322	-0.0000483	0.0004492	0.0035	5.1915	76521.96	100142.9	100142.9	9.58	No	Si
SLU 35	7.95	-9775.35	-41413	-0.0000518	0.0004492	0.0035	5.1915	82434.8	108137.28	108137.28	11.06	No	Si
SLU 35	10.05	-10926.44	-38165	-0.0000498	0.0004492	0.0035	5.1915	77781.32	101833.71	101833.71	9.32	No	Si
SLU 37	7.95	-9599.62	-40581	-0.0000507	0.0004492	0.0035	5.1915	81271.12	106569.04	106569.04	11.1	No	Si
SLU 37	10.05	-10722.87	-37247	-0.0000486	0.0004492	0.0035	5.1915	76408.76	99992.27	99992.27	9.33	No	Si
SLU 77	7.95	-11847.58	-49402	-0.0000627	0.0004492	0.0035	5.1915	92568.78	122996.39	122996.39	10.38	No	Si
SLU 77	10.05	-12193.69	-44132	-0.0000575	0.0004492	0.0035	5.1915	86093.15	113257.63	113257.63	9.29	No	Si
SLU 38	7.95	-9627.15	-40527	-0.0000507	0.0004492	0.0035	5.1915	81196.06	106468.81	106468.81	11.06	No	Si
SLU 38	10.05	-10566.41	-37136	-0.0000483	0.0004492	0.0035	5.1915	76241.68	99770.35	99770.35	9.44	No	Si
SLU 79	7.95	-11671.85	-48569	-0.0000616	0.0004492	0.0035	5.1915	91599.53	121528.59	121528.59	10.41	No	Si
SLU 79	10.05	-11990.11	-43213	-0.0000563	0.0004492	0.0035	5.1915	84880.86	111527.03	111527.03	9.3	No	Si
SLU 83	7.95	-11544.63	-48179	-0.000061	0.0004492	0.0035	5.1915	91138.61	120841.14	120841.14	10.47	No	Si
SLU 83	10.05	-11715.54	-43288	-0.000056	0.0004492	0.0035	5.1915	84980.95	111668.59	111668.59	9.53	No	Si
SLU 78	7.95	-11875.1	-49349	-0.0000627	0.0004492	0.0035	5.1915	92507.43	122902.58	122902.58	10.35	No	Si
SLU 78	10.05	-12037.23	-44021	-0.0000572	0.0004492	0.0035	5.1915	85948.35	113049.06	113049.06	9.39	No	Si
SLU 36	7.95	-9802.87	-41360	-0.0000518	0.0004492	0.0035	5.1915	82361.03	108037.05	108037.05	11.02	No	Si
SLU 36	10.05	-10769.99	-38055	-0.0000495	0.0004492	0.0035	5.1915	77617.21	101611.78	101611.78	9.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	7.95	-6267.44	-38317	-0.0000438	0.0006738	0.0035	5.1915		105004.8	105004.8	16.75		Si
SLD 3	10.05	-15487.36	-34460	-0.0000504	0.0006738	0.0035	5.1915		96788.59	96788.59	6.25		Si
SLV 4	7.95	-5504.31	-41212	-0.0000458	0.0006738	0.0035	5.1915		111023.15	111023.15	20.17		Si
SLV 4	10.05	-20751.69	-38096	-0.0000601	0.0006738	0.0035	5.1915		104545.68	104545.68	5.04		Si
SLV 8	7.95	-4618.71	-36880	-0.0000405	0.0006738	0.0035	5.1915		102018.65	102018.65	22.09		Si
SLV 8	10.05	-21466.03	-37397	-0.0000602	0.0006738	0.0035	5.1915		103092.17	103092.17	4.8		Si
SLD 8	7.95	-6122.76	-35566	-0.0000409	0.0006738	0.0035	5.1915		99210.59	99210.59	16.2		Si
SLD 8	10.05	-15674.43	-33824	-0.00005	0.0006738	0.0035	5.1915		95396.45	95396.45	6.09		Si
SLV 7	7.95	-4249.73	-36829	-0.00004	0.0006738	0.0035	5.1915		101912.2	101912.2	23.98		Si
SLV 7	10.05	-21277.9	-37329	-0.00006	0.0006738	0.0035	5.1915		102950.98	102950.98	4.84		Si
SLV 11	7.95	-5496.5	-32397	-0.0000371	0.0006738	0.0035	5.1915		92273.17	92273.17	16.79		Si
SLV 11	10.05	-15169.33	-32769	-0.0000484	0.0006738	0.0035	5.1915		93088.1	93088.1	6.14		Si
SLD 4	7.95	-6615.14	-38365	-0.0000442	0.0006738	0.0035	5.1915		105105.11	105105.11	15.89		Si
SLD 4	10.05	-15664.64	-34524	-0.0000507	0.0006738	0.0035	5.1915		96928.68	96928.68	6.19		Si
SLD 7	7.95	-5898.86	-35535	-0.0000406	0.0006738	0.0035	5.1915		99142.57	99142.57	16.81		Si
SLD 7	10.05	-15560.27	-33782	-0.0000499	0.0006738	0.0035	5.1915		95306.24	95306.24	6.12		Si
SLV 12	7.95	-5865.47	-32448	-0.0000375	0.0006738	0.0035	5.1915		92385.25	92385.25	15.75		Si
SLV 12	10.05	-15357.46	-32837	-0.0000487	0.0006738	0.0035	5.1915		93236.76	93236.76	6.07		Si
SLV 3	7.95	-4956.25	-41136	-0.0000451	0.0006738	0.0035	5.1915		110865.03	110865.03	22.37		Si
SLV 3	10.05	-20472.25	-37995	-0.0000597	0.0006738	0.0035	5.1915		104335.96	104335.96	5.1		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	7.95	-9499.93	-40137	-28633	1872	5.1915	5.1915	-19698	10833	19850	115546	52240	26477	78717	No	42.05	Si
SLU 42	10.05	-10291.84	-37211	-26545	1882	5.1915	5.1915	-18261	10768	19015	115546	52240	26477	78717	No	41.82	Si
SLU 39	7.95	-9228.26	-38906	-27755	1515	5.1915	5.1915	-19093	10833	19499	115546	52240	26477	78717	No	51.96	Si
SLU 39	10.05	-9660.94	-36001	-25682	1525	5.1915	5.1915	-17667	10689	18670	115546	52240	26477	78717	No	51.62	Si
SLU 35	7.95	-9775.35	-41413	-29543	1851	5.1915	5.1915	-20324	10833	20214	115546	52240	26477	78717	No	42.52	Si
SLU 35	10.05	-10926.44	-38165	-27226	1861	5.1915	5.1915	-18730	10831	19287	115546	52240	26477	78717	No	42.29	Si
SLU 47	7.95	-10299.6	-40771	-29085	-1571	5.1915	5.1915	-20008	10833	20031	115546	52240	26477	78717	No	50.11	Si
SLU 47	10.05	-8006	-33103	-23615	-1562	5.1915	5.1915	-16245	10499	17843	115546	52240	26477	78717	No	50.4	Si
SLU 37	7.95	-9599.62	-40581	-28949	1789	5.1915	5.1915	-19915	10833	19977	115546	52240	26477	78717	No	44.01	Si
SLU 37	10.05	-10722.87	-37247	-26571	1799	5.1915	5.1915	-18279	10771	19025	115546	52240	26477	78717	No	43.76	Si
SLU 44	7.95	-10055.46	-39486	-28168	-1939	5.1915	5.1915	-19378	10833	19664	115546	52240	26477	78717	No	40.6	Si
SLU 44	10.05	-7218.65	-31782	-22673	-1930	5.1915	5.1915	-15597	10413	17466	115546	52240	26477	78717	No	40.79	Si
SLU 41	7.95	-9472.4	-40191	-28671	1883	5.1915	5.1915	-19724	10833	19865	115546	52240	26477	78717	No	41.81	Si
SLU 41	10.05	-10448.29	-37322	-26624	1893	5.1915	5.1915	-18316	10775	19047	115546	52240	26477	78717	No	41.58	Si
SLU 38	7.95	-9627.15	-40527	-28911	1778	5.1915	5.1915	-19889	10833	19961	115546	52240	26477	78717	No	44.28	Si
SLU 38	10.05	-10566.41	-37136	-26492	1788	5.1915	5.1915	-18225	10763	18994	115546	52240	26477	78717	No	44.03	Si
SLU 43	7.95	-10009.58	-39575	-28232	-1921	5.1915	5.1915	-19421	10833	19689	115546	52240	26477	78717	No	40.99	Si
SLU 43	10.05	-7479.41	-31967	-22804	-1912	5.1915	5.1915	-15688	10425	17519	115546	52240	26477	78717	No	41.18	Si
SLU 36	7.95	-9802.87	-41360	-29505	1840	5.1915	5.1915	-20298	10833	20199	115546	52240	26477	78717	No	42.78	Si
SLU 36	10.05	-10769.99	-38055	-27147	1850	5.1915	5.1915	-18675	10823	19256	115546	52240	26477	78717	No	42.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	7.95	-9930.41	-28478	-20316	-6827	5.1915	5.1915	-13976	15295	22234	115546	78360	26477	104837		15.36	Si
SLD 13	10.05	1562.6	-22393	-15975	-6115	5.1915	5.1915	-10989	14698	21365	115546	78360	26477	104837		17.14	Si
SLV 15	7.95	-9112.13	-26361	-18805	-9858	5.1915	5.1915	-12937	15087	21932	115546	78360	26477	104837		10.63	Si
SLV 15	10.05	-110.35	-22795	-16262	-8841	5.1915	5.1915	-11187	14737	21423	115546	78360	26477	104837		11.86	Si
SLV 13	7.95	-11041.24	-25631	-18285	-10489	5.1915	5.1915	-12579	15016	21827	115546	78360	26477	104837		10	Si
SLV 13	10.05	6649.64	-18821	-13426	-9412	5.1915	5.1915	-9236	14347	20856	115546	78360	26477	104837		11.14	Si
SLD 14	7.95	-10278.11	-28527	-20350	-7089	5.1915	5.1915	-14000	15300	22240	115546	78360	26477	104837		14.79	Si
SLD 14	10.05	1385.32	-22457	-16020	-6378	5.1915	5.1915	-11021	14704	21374	115546	78360	26477	104837		16.44	Si
SLV 1	7.95	-6885.35	-40406	-28825	9196	5.1915	5.1915	-19830	16250	24125	115546	78360	26477	104837		11.4	Si
SLV 1	10.05	-13712.25	-34020	-24269	8195	5.1915	5.1915	-16696	15839	23024	115546	78360	26477	104837		12.79	Si
SLV 3	7.95	-4956.25	-41136	-29346	9827	5.1915	5.1915	-20188	16250	24334	115546	78360	26477	104837		10.67	Si
SLV 3	10.05	-20472.25	-37995	-27105	8767	5.1915	5.1915	-18646	16229	23591	115546	78360	26477	104837		11.96	Si
SLV 16	7.95	-9660.2	-26437	-18860	-10272	5.1915	5.1915	-12974	15095	21942	115546	78360	26477	104837		10.21	Si
SLV 16	10.05	-389.79	-22896	-16334	-9255	5.1915	5.1915	-11236	14747	21437	115546	78360	26477	104837		11.33	Si
SLV 2	7.95	-7433.42	-40482	-28879	8782	5.1915	5.1915	-19867	16250	24147	115546	78360	26477	104837		11.94	Si
SLV 2	10.05	-13991.69	-34121	-24341	7781	5.1915	5.1915	-16745	15849	23039	115546	78360	26477	104837		13.47	Si
SLV 14	7.95	-11589.3	-25707	-18339	-10903	5.1915	5.1915	-12616	15023	21838	115546	78360	26477	104837		9.62	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	10.05	6370.21	-18922	-13498	-9827	5.1915	5.1915	-9286	14357	20870	115546	78360	26477	104837		10.67	Si
SLV 4	7.95	-5504.31	-41212	-29400	9413	5.1915	5.1915	-20225	16250	24355	115546	78360	26477	104837		11.14	Si
SLV 4	10.05	-20751.69	-38096	-27177	8352	5.1915	5.1915	-18696	16239	23606	115546	78360	26477	104837		12.55	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-19791	0.45	663.32	2564.89	3704.77	3134.83	4.73	Si
SLV 14	-19892	0.45	663.32	2576.91	3720.06	3148.48	4.75	Si
SLV 9	-20457	0.45	663.32	2644.06	3805.76	3224.91	4.86	Si
SLV 10	-20525	0.45	663.32	2652.11	3816.04	3234.07	4.88	Si
SLV 15	-23768	0.45	663.32	3030.62	4306.88	3668.75	5.53	Si
SLV 16	-23869	0.45	663.32	3042.22	4322.16	3682.19	5.55	Si
SLV 5	-24991	0.45	663.32	3170.51	4491.86	3831.18	5.78	Si
SLV 6	-25059	0.45	663.32	3178.23	4502.03	3840.13	5.79	Si
SLV 11	-33713	0.45	663.32	4122.6	5789.73	4956.16	7.47	Si
SLV 12	-33781	0.45	663.32	4129.7	5799.74	4964.72	7.48	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-28492	-41212	270	0.917	3632.4	0.943	14.12762	6.07522	Si
SLV 3	-28361	-41136	271	0.92	3619.1	0.943	14.18348	6.07522	Si
SLV 2	-26559	-40482	-485	0.964	3436.5	0.94	14.90221	6.07522	Si
SLV 1	-26428	-40406	-484	0.968	3423.3	0.94	14.96599	6.07522	Si
SLV 8	-28014	-36880	1223	0.901	3583.9	0.943	13.88557	5.24939	Si
SLV 7	-27926	-36829	1224	0.903	3575	0.942	13.92301	5.24939	Si
SLV 12	-25690	-32448	1284	0.964	3348.5	0.939	14.92551	5.24939	Si
SLV 11	-25602	-32397	1285	0.967	3339.6	0.939	14.96908	5.24939	Si
SLV 16	-20745	-26437	474	1.177	2848.7	0.93	18.37646	6.07522	Si
SLV 15	-20614	-26361	475	1.182	2835.5	0.93	18.47309	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.288	SLU 77	Si
V_SLU	40.601	SLU 44	Si
PF_SLV	4.803	SLV 8	Si
V_SLV	9.616	SLV 14	Si
PFFP_SLV	4.726	SLV 13	Si
R_SLV	2.325	SLV 4	Si

Maschio 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-18.623	1.141	L6	L7	6.36	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 18	7.95	5070.93	-51343	-0.0000447	0.0004492	0.0035	6.36	124745.96	142522.97	142522.97	28.11	No	Si
SLU 18	10.45	1384.59	-43172	-0.0000351	0.0004492	0.0035	6.36	110048.24	123635.45	123635.45	89.29	No	Si
SLU 20	7.95	5412.99	-53970	-0.0000472	0.0004492	0.0035	6.36	129056.23	148594.65	148594.65	27.45	No	Si
SLU 20	10.45	1458.26	-46005	-0.0000375	0.0004492	0.0035	6.36	115365	130183.81	130183.81	89.27	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	7.95	5837.45	-60922	-0.0000534	0.0004492	0.0035	6.36	139489.63	164662.38	164662.38	28.21	No	Si
SLU 41	10.45	1274.13	-53717	-0.0000437	0.0004492	0.0035	6.36	128649.37	148009.15	148009.15	116.16	No	Si
SLU 83	7.95	6706.48	-72560	-0.0000642	0.0004492	0.0035	6.36	153795.68	191563.44	191563.44	28.56	No	Si
SLU 83	10.45	1626.06	-62313	-0.0000513	0.0004492	0.0035	6.36	141408.81	167879.31	167879.31	103.24	No	Si
SLU 62	7.95	6282.02	-65608	-0.0000578	0.0004492	0.0035	6.36	145726.96	175495.7	175495.7	27.94	No	Si
SLU 62	10.45	1810.19	-54602	-0.0000449	0.0004492	0.0035	6.36	130062.15	150053.98	150053.98	82.89	No	Si
SLU 14	7.95	5295.88	-56365	-0.0000491	0.0004492	0.0035	6.36	132810.11	154130.13	154130.13	29.1	No	Si
SLU 14	10.45	1387.29	-48320	-0.0000394	0.0004492	0.0035	6.36	119535.7	135535.16	135535.16	97.7	No	Si
SLU 39	7.95	5495.39	-58295	-0.0000509	0.0004492	0.0035	6.36	135713.08	158590.71	158590.71	28.86	No	Si
SLU 39	10.45	1200.46	-50884	-0.0000413	0.0004492	0.0035	6.36	123971.19	141460.79	141460.79	117.84	No	Si
SLU 60	7.95	5939.96	-62982	-0.0000553	0.0004492	0.0035	6.36	142310.25	169424.03	169424.03	28.52	No	Si
SLU 60	10.45	1736.52	-51769	-0.0000425	0.0004492	0.0035	6.36	125457.22	143505.62	143505.62	82.64	No	Si
SLU 16	7.95	5248.33	-55215	-0.0000481	0.0004492	0.0035	6.36	131029.16	151473.09	151473.09	28.86	No	Si
SLU 16	10.45	1405.35	-47127	-0.0000384	0.0004492	0.0035	6.36	117405.57	132776.92	132776.92	94.48	No	Si
SLU 21	7.95	5159.31	-54055	-0.0000471	0.0004492	0.0035	6.36	129191.25	148789.54	148789.54	28.84	No	Si
SLU 21	10.45	1231.87	-46194	-0.0000375	0.0004492	0.0035	6.36	115711.55	130620.92	130620.92	106.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	7.95	18155.9	-43578	-0.0000477	0.0006738	0.0035	6.36		130169.81	130169.81	7.17		Si
SLV 12	10.45	25114.94	-25046	-0.0000379	0.0006738	0.0035	6.36		79167.2	79167.2	3.15		Si
SLV 11	7.95	18685.98	-43631	-0.0000481	0.0006738	0.0035	6.36		130311.86	130311.86	6.97		Si
SLV 11	10.45	25534.84	-25007	-0.0000382	0.0006738	0.0035	6.36		79055.8	79055.8	3.1		Si
SLV 14	7.95	-6191.57	-42795	-0.000038	0.0006738	0.0035	6.36		147145.69	147145.69	23.77		Si
SLV 14	10.45	19756.74	-35789	-0.0000426	0.0006738	0.0035	6.36		109197.67	109197.67	5.53		Si
SLD 15	7.95	3835.01	-43958	-0.0000372	0.0006738	0.0035	6.36		131177.73	131177.73	34.21		Si
SLD 15	10.45	19697.39	-32720	-0.0000401	0.0006738	0.0035	6.36		100754.83	100754.83	5.12		Si
SLD 11	7.95	12467.82	-45994	-0.0000454	0.0006738	0.0035	6.36		136419.69	136419.69	10.94		Si
SLD 11	10.45	15768.98	-31400	-0.0000361	0.0006738	0.0035	6.36		97080.61	97080.61	6.16		Si
SLD 16	7.95	3335.49	-43907	-0.0000368	0.0006738	0.0035	6.36		131043.87	131043.87	39.29		Si
SLD 16	10.45	19301.69	-32757	-0.0000398	0.0006738	0.0035	6.36		100856.55	100856.55	5.23		Si
SLV 13	7.95	-5404.19	-42875	-0.0000375	0.0006738	0.0035	6.36		147358.94	147358.94	27.27		Si
SLV 13	10.45	20380.45	-35731	-0.000043	0.0006738	0.0035	6.36		109039.91	109039.91	5.35		Si
SLV 2	7.95	3468.68	-58617	-0.0000488	0.0006738	0.0035	6.36		165898.99	165898.99	47.83		Si
SLV 2	10.45	-28634.64	-53749	-0.0000641	0.0006738	0.0035	6.36		175250.04	175250.04	6.12		Si
SLV 16	7.95	3425.84	-40594	-0.0000342	0.0006738	0.0035	6.36		122223.51	122223.51	35.68		Si
SLV 16	10.45	29999.79	-27934	-0.0000439	0.0006738	0.0035	6.36		87358.74	87358.74	2.91		Si
SLV 15	7.95	4213.22	-40674	-0.0000348	0.0006738	0.0035	6.36		122438.06	122438.06	29.06		Si
SLV 15	10.45	30623.5	-27876	-0.0000444	0.0006738	0.0035	6.36		87195.83	87195.83	2.85		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7.95	5993.63	-72412	-51657	-2759	6.36	6.36	-29008	10833	30949	115546	63998	32436	96434	No	34.95	Si
SLU 75	10.45	1255.02	-61985	-44218	-1154	6.36	6.36	-24831	10833	27974	115546	63998	32436	96434	No	83.6	Si
SLU 82	7.95	6110.74	-70017	-49949	-2752	6.36	6.36	-28048	10833	30266	115546	63998	32436	96434	No	35.04	Si
SLU 82	10.45	1325.99	-59669	-42567	-1181	6.36	6.36	-23903	10833	27313	115546	63998	32436	96434	No	81.68	Si
SLU 65	7.95	4252.55	-65469	-46704	-3072	6.36	6.36	-26226	10833	28968	115546	63998	32436	96434	No	31.39	Si
SLU 65	10.45	753.12	-54092	-38588	-1476	6.36	6.36	-21669	10833	25722	115546	63998	32436	96434	No	65.32	Si
SLU 64	7.95	4675.35	-65328	-46603	-2844	6.36	6.36	-26170	10833	28928	115546	63998	32436	96434	No	33.9	Si
SLU 64	10.45	1130.45	-53776	-38363	-1317	6.36	6.36	-21542	10833	25632	115546	63998	32436	96434	No	73.21	Si
SLU 70	7.95	5153.33	-71815	-51231	-2781	6.36	6.36	-28769	10833	30779	115546	63998	32436	96434	No	34.67	Si
SLU 70	10.45	1033.34	-60825	-43391	-1181	6.36	6.36	-24366	10833	27643	115546	63998	32436	96434	No	81.62	Si
SLU 76	7.95	5776.96	-71319	-50877	-2773	6.36	6.36	-28570	10833	30637	115546	63998	32436	96434	No	34.77	Si
SLU 76	10.45	1122.15	-60917	-43457	-1179	6.36	6.36	-24403	10833	27669	115546	63998	32436	96434	No	81.76	Si
SLU 67	7.95	4811.28	-69189	-49358	-2919	6.36	6.36	-27716	10833	30029	115546	63998	32436	96434	No	33.03	Si
SLU 67	10.45	959.66	-57992	-41370	-1316	6.36	6.36	-23231	10833	26835	115546	63998	32436	96434	No	73.28	Si
SLU 73	7.95	5434.9	-68692	-49003	-2912	6.36	6.36	-27518	10833	29888	115546	63998	32436	96434	No	33.12	Si
SLU 73	10.45	1048.48	-58084	-41436	-1314	6.36	6.36	-23268	10833	26861	115546	63998	32436	96434	No	73.39	Si
SLU 66	7.95	5064.96	-69104	-49297	-2783	6.36	6.36	-27683	10833	30005	115546	63998	32436	96434	No	34.65	Si
SLU 66	10.45	1186.06	-57803	-41235	-1221	6.36	6.36	-23155	10833	26781	115546	63998	32436	96434	No	79.01	Si
SLU 68	7.95	4594.61	-68095	-48578	-2934	6.36	6.36	-27279	10833	29718	115546	63998	32436	96434	No	32.87	Si
SLU 68	10.45	826.79	-56925	-40609	-1342	6.36	6.36	-22804	10833	26530	115546	63998	32436	96434	No	71.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	7.95	13086.09	-56416	-40246	20819	6.36	6.36	-22600	16250	31529	115546	95996	32436	128432		6.17	Si
SLV 4	10.45	-18391.59	-45893	-32739	17568	6.36	6.36	-18385	16177	28808	115546	95996	32436	128432		7.31	Si
SLV 14	7.95	-6191.57	-42795	-30529	-24917	6.36	6.36	-17143	15929	28366	115546	95996	32436	128432		5.15	Si
SLV 14	10.45	19756.74	-35789	-25531	-19353	6.36	6.36	-14337	15367	27366	115546	95996	32436	128432		6.64	Si
SLV 16	7.95	3425.84	-40594	-28959	-18728	6.36	6.36	-16262	15752	28052	115546	95996	32436	128432		6.86	Si
SLV 16	10.45	29999.79	-27934	-19927	-15000	6.36	6.3181	-11190	14738	26073	115546	95996	32436	128432		8.56	Si
SLD 14	7.95	-2297.08	-45196	-32242	-16468	6.36	6.36	-18105	16121	28708	115546	95996	32436	128432		7.8	Si
SLD 14	10.45	13304.59	-37358	-26650	-12534	6.36	6.36	-14965	15493	27590	115546	95996	32436	128432		10.25	Si
SLV 3	7.95	13873.47	-56496	-40303	20900	6.36	6.36	-22632	16250	31551	115546	95996	32436	128432		6.15	Si
SLV 3	10.45	-17767.87	-45836	-32698	17635	6.36	6.36	-18362	16172	28800	115546	95996	32436	128432		7.28	Si
SLV 9	7.95	-13372.07	-50967	-36359	-18230	6.36	6.36	-20417	16250	29974	115546	95996	32436	128432		7.05	Si
SLV 9	10.45	-8608.66	-51191	-36518	-12976	6.36	6.36	-20507	16250	30038	115546	95996	32436	128432		9.9	Si
SLV 10	7.95	-13902.15	-50913	-36320	-18284	6.36	6.36	-20396	16250	29958	115546	95996	32436	128432		7.02	Si
SLV 10	10.45	-9028.56	-51230	-36546	-13022	6.36	6.36	-20522	16250	30049	115546	95996	32436	128432		9.86	Si
SLV 15	7.95	4213.22	-40674	-29016	-18647	6.36	6.36	-16294	15759	28063	115546	95996	32436	128432		6.89	Si
SLV 15	10.45	30623.5	-27876	-19886	-14933	6.36	6.2443	-11167	14733	25760	115546	95996	32436	128432		8.6	Si
SLV 13	7.95	-5404.19	-42875	-30586	-24837	6.36	6.36	-17175	15935	28377	115546	95996	32436	128432		5.17	Si
SLV 13	10.45	20380.45	-35731	-25490	-19286	6.36	6.36	-14314	15363	27358	115546	95996	32436	128432		6.66	Si
SLD 13	7.95	-1797.56	-45247	-32278	-16417	6.36	6.36	-18125	16125	28716	115546	95996	32436	128432		7.82	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	10.45	13700.28	-37321	-26624	-12491	6.36	6.36	-14951	15490	27585	115546	95996	32436	128432		10.28	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-27885	0.45	812.61	3570.33	5089.66	4330	5.33	Si
SLV 12	-27903	0.45	812.61	3572.45	5092.43	4332.44	5.33	Si
SLV 7	-32232	0.45	812.61	4066.81	5742.88	4904.84	6.04	Si
SLV 8	-32250	0.45	812.61	4068.86	5745.58	4907.22	6.04	Si
SLV 15	-32375	0.45	812.61	4082.97	5764.2	4923.58	6.06	Si
SLV 16	-32403	0.45	812.61	4086.01	5768.22	4927.12	6.06	Si
SLV 13	-40576	0.45	812.61	4974.38	6980.55	5977.47	7.36	Si
SLV 14	-40603	0.45	812.61	4977.24	6984.55	5980.89	7.36	Si
SLV 3	-46865	0.45	812.61	5619.05	7908.69	6763.87	8.32	Si
SLV 4	-46893	0.45	812.61	5621.76	7912.7	6767.23	8.33	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-47343	-58617	-400	0.71	5712.4	0.954	10.80915	6.07522	Si
SLV 1	-47325	-58697	-399	0.71	5710.6	0.954	10.81278	6.07522	Si
SLV 4	-42183	-56416	227	0.786	5188.3	0.95	12.01534	6.07522	Si
SLV 3	-42166	-56496	227	0.786	5186.6	0.95	12.01951	6.07522	Si
SLV 6	-48337	-55660	-1073	0.685	5813.5	0.955	10.42367	5.24939	Si
SLV 5	-48326	-55714	-1073	0.685	5812.3	0.955	10.42598	5.24939	Si
SLV 10	-44034	-50913	-1023	0.742	5376.2	0.952	11.32753	5.24939	Si
SLV 9	-44022	-50967	-1023	0.742	5375	0.952	11.33027	5.24939	Si
SLV 14	-32996	-42795	-234	0.963	4256.5	0.941	14.8677	6.07522	Si
SLV 13	-32979	-42875	-234	0.963	4254.8	0.941	14.87463	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	27.451	SLU 20	Si
V_SLU	31.391	SLU 65	Si
PF_SLV	2.847	SLV 15	Si
V_SLV	5.154	SLV 14	Si
PFFP_SLV	5.328	SLV 11	Si
R_SLV	1.779	SLV 2	Si

Maschio 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L6	L7	0.676	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	7.95	-146.47	-8619	-0.0000769	0.0004492	0.0035	0.6764	1829.15	2478.83	2478.83	16.92	No	Si
SLU 60	10.45	-111.91	-7572	-0.0000656	0.0004492	0.0035	0.6764	1722.77	2255.42	2255.42	20.15	No	Si
SLU 84	7.95	-159.63	-10024	-0.0000899	0.0004492	0.0035	0.6764	1921.5	2733.93	2733.93	17.13	No	Si
SLU 84	10.45	-117.92	-8965	-0.0000777	0.0004492	0.0035	0.6764	1857.2	2547.85	2547.85	21.61	No	Si
SLU 39	7.95	-148.35	-8249	-0.0000739	0.0004492	0.0035	0.6764	1795.18	2400.87	2400.87	16.18	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	10.45	-111.31	-7431	-0.0000644	0.0004492	0.0035	0.6764	1706	2223.67	2223.67	19.98	No	Si
SLU 81	7.95	-165.77	-9717	-0.0000877	0.0004492	0.0035	0.6764	1906.26	2685.53	2685.53	16.2	No	Si
SLU 81	10.45	-124.78	-8655	-0.0000756	0.0004492	0.0035	0.6764	1832.25	2486.06	2486.06	19.92	No	Si
SLU 18	7.95	-129.06	-7150	-0.0000634	0.0004492	0.0035	0.6764	1670.91	2160.46	2160.46	16.74	No	Si
SLU 18	10.45	-98.43	-6347	-0.0000547	0.0004492	0.0035	0.6764	1557.73	1973.3	1973.3	20.05	No	Si
SLU 82	7.95	-156.34	-9723	-0.0000871	0.0004492	0.0035	0.6764	1906.55	2686.39	2686.39	17.18	No	Si
SLU 82	10.45	-115.73	-8660	-0.000075	0.0004492	0.0035	0.6764	1832.65	2486.99	2486.99	21.49	No	Si
SLU 41	7.95	-151.64	-8550	-0.0000767	0.0004492	0.0035	0.6764	1823.11	2464.95	2464.95	16.25	No	Si
SLU 41	10.45	-113.49	-7735	-0.0000671	0.0004492	0.0035	0.6764	1741.5	2291.78	2291.78	20.19	No	Si
SLU 83	7.95	-169.06	-10019	-0.0000906	0.0004492	0.0035	0.6764	1921.25	2733.07	2733.07	16.17	No	Si
SLU 83	10.45	-126.97	-8960	-0.0000783	0.0004492	0.0035	0.6764	1856.84	2546.92	2546.92	20.06	No	Si
SLU 62	7.95	-149.76	-8921	-0.0000797	0.0004492	0.0035	0.6764	1853.82	2539.06	2539.06	16.95	No	Si
SLU 62	10.45	-114.09	-7876	-0.0000683	0.0004492	0.0035	0.6764	1757	2321.73	2321.73	20.35	No	Si
SLU 20	7.95	-132.35	-7452	-0.0000661	0.0004492	0.0035	0.6764	1708.52	2228.37	2228.37	16.84	No	Si
SLU 20	10.45	-100.62	-6652	-0.0000573	0.0004492	0.0035	0.6764	1602.87	2045.8	2045.8	20.33	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	7.95	-169.06	-10019	-7147	-2	0.6764	0.6764	-37740	10833	2635	115546	6806	3449	10255	No	5745.63	Si
SLU 83	10.45	-126.97	-8960	-6392	0	0.6764	0.6764	-33750	10833	2434	115546	6806	3449	10255	No	22669.69	Si
SLU 78	7.95	-149.19	-10155	-7244	-2	0.6764	0.6764	-38253	10833	2661	115546	6806	3449	10255	No	5767.97	Si
SLU 78	10.45	-108.73	-9092	-6486	1	0.6764	0.6764	-34248	10833	2459	115546	6806	3449	10255	No	17340.78	Si
SLU 80	7.95	-148.23	-10026	-7153	-2	0.6764	0.6764	-37767	10833	2637	115546	6806	3449	10255	No	5842.5	Si
SLU 80	10.45	-108.46	-8961	-6393	1	0.6764	0.6764	-33755	10833	2434	115546	6806	3449	10255	No	17719.04	Si
SLU 81	7.95	-165.77	-9717	-6932	-2	0.6764	0.6764	-36604	10833	2578	115546	6806	3449	10255	No	5948.18	Si
SLU 81	10.45	-124.78	-8655	-6174	0	0.6764	0.6764	-32603	10833	2376	115546	6806	3449	10255	No	23575.5	Si
SLU 69	7.95	-124.35	-9451	-6742	-2	0.6764	0.6764	-35600	10833	2527	115546	6806	3449	10255	No	6001	Si
SLU 69	10.45	-90.62	-8369	-5970	1	0.6764	0.6764	-31523	10833	2321	115546	6806	3449	10255	No	14092.42	Si
SLU 79	7.95	-157.66	-10021	-7149	-2	0.6764	0.6764	-37747	10833	2636	115546	6806	3449	10255	No	5704.22	Si
SLU 79	10.45	-117.52	-8956	-6389	1	0.6764	0.6764	-33737	10833	2433	115546	6806	3449	10255	No	18873.85	Si
SLU 75	7.95	-145.9	-9854	-7029	-2	0.6764	0.6764	-37118	10833	2604	115546	6806	3449	10255	No	5972.13	Si
SLU 75	10.45	-106.54	-8787	-6269	1	0.6764	0.6764	-33101	10833	2401	115546	6806	3449	10255	No	17865.86	Si
SLU 84	7.95	-159.63	-10024	-7151	-2	0.6764	0.6764	-37760	10833	2636	115546	6806	3449	10255	No	5885.94	Si
SLU 84	10.45	-117.92	-8965	-6395	0	0.6764	0.6764	-33768	10833	2435	115546	6806	3449	10255	No	21023.92	Si
SLU 77	7.95	-158.62	-10150	-7241	-2	0.6764	0.6764	-38232	10833	2660	115546	6806	3449	10255	No	5633.16	Si
SLU 77	10.45	-117.78	-9087	-6483	1	0.6764	0.6764	-34231	10833	2458	115546	6806	3449	10255	No	18445.28	Si
SLU 74	7.95	-155.33	-9848	-7026	-2	0.6764	0.6764	-37097	10833	2603	115546	6806	3449	10255	No	5827.73	Si
SLU 74	10.45	-115.59	-8783	-6265	1	0.6764	0.6764	-33083	10833	2400	115546	6806	3449	10255	No	19040.53	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-4780	0.45	86.42	577.05	786.04	681.55	7.89	Si
SLV 4	-4799	0.45	86.42	578.97	788.86	683.91	7.91	Si
SLV 1	-4979	0.45	86.42	597.03	815.61	706.32	8.17	Si
SLV 2	-4998	0.45	86.42	598.92	818.43	708.67	8.2	Si
SLV 7	-5371	0.45	86.42	635.6	873.85	754.73	8.73	Si
SLV 8	-5384	0.45	86.42	636.83	875.73	756.28	8.75	Si
SLV 5	-6033	0.45	86.42	697.81	971.28	834.55	9.66	Si
SLV 6	-6046	0.45	86.42	698.97	973.16	836.07	9.67	Si
SLV 11	-6074	0.45	86.42	701.53	977.28	839.4	9.71	Si
SLV 12	-6086	0.45	86.42	702.68	979.15	840.92	9.73	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-5785	-6822	38	0.632	683.8	0.959	9.57552	6.07522	Si
SLV 15	-5785	-6802	37	0.632	683.8	0.959	9.57616	6.07522	Si
SLV 14	-5761	-7022	48	0.632	681.4	0.959	9.58676	6.07522	Si
SLV 13	-5762	-7001	47	0.632	681.4	0.959	9.58741	6.07522	Si
SLV 12	-5050	-6414	8	0.714	609	0.954	10.87353	5.24939	Si
SLV 11	-5050	-6400	8	0.714	609	0.954	10.87396	5.24939	Si
SLV 10	-4971	-7078	41	0.718	601	0.954	10.93535	5.24939	Si
SLV 9	-4972	-7064	40	0.718	601.1	0.954	10.93579	5.24939	Si
SLV 7	-4396	-6252	-8	0.802	542.6	0.95	12.27956	5.24939	Si
SLV 8	-4396	-6266	-8	0.802	542.6	0.95	12.28122	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.166	SLU 83	Si
V_SLU	5633.16	SLU 77	Si
PFFP_SLV	7.887	SLV 3	Si
R_SLV	1.576	SLV 16	Si

Maschio 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L6	L7	1.944	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	7.95	2380.61	-22370	-0.0000802	0.0004492	0.0035	1.9436	14426.03	17997.56	17997.56	7.56	No	Si
SLU 37	10.45	-667.31	-17144	-0.0000504	0.0004492	0.0035	1.9436	12365.35	16222.76	16222.76	24.31	No	Si
SLU 40	7.95	2265.33	-21087	-0.0000754	0.0004492	0.0035	1.9436	13994.03	17103.37	17103.37	7.55	No	Si
SLU 40	10.45	-639.69	-15989	-0.000047	0.0004492	0.0035	1.9436	11802.04	15402.24	15402.24	24.08	No	Si
SLU 83	7.95	2709.98	-26138	-0.0000945	0.0004492	0.0035	1.9436	15416.65	20177.81	20177.81	7.45	No	Si
SLU 83	10.45	-686.89	-19737	-0.0000578	0.0004492	0.0035	1.9436	13487.73	17969.96	17969.96	26.16	No	Si
SLU 41	7.95	2411.49	-22037	-0.0000795	0.0004492	0.0035	1.9436	14318.51	17765.45	17765.45	7.37	No	Si
SLU 41	10.45	-689.85	-16835	-0.0000497	0.0004492	0.0035	1.9436	12218.69	16003.58	16003.58	23.2	No	Si
SLU 81	7.95	2632.2	-25226	-0.0000911	0.0004492	0.0035	1.9436	15215.14	19687.77	19687.77	7.48	No	Si
SLU 81	10.45	-657.4	-18911	-0.0000552	0.0004492	0.0035	1.9436	13151.63	17420.01	17420.01	26.5	No	Si
SLU 42	7.95	2343.11	-21998	-0.0000788	0.0004492	0.0035	1.9436	14305.79	17738.44	17738.44	7.57	No	Si
SLU 42	10.45	-669.18	-16815	-0.0000495	0.0004492	0.0035	1.9436	12208.69	15988.77	15988.77	23.89	No	Si
SLU 79	7.95	2679.1	-26471	-0.0000953	0.0004492	0.0035	1.9436	15484.24	20356.91	20356.91	7.6	No	Si
SLU 79	10.45	-664.36	-20046	-0.0000585	0.0004492	0.0035	1.9436	13608.21	18175.48	18175.48	27.36	No	Si
SLU 84	7.95	2641.6	-26099	-0.0000938	0.0004492	0.0035	1.9436	15408.57	20156.97	20156.97	7.63	No	Si
SLU 84	10.45	-666.23	-19716	-0.0000576	0.0004492	0.0035	1.9436	13479.49	17956.09	17956.09	26.95	No	Si
SLU 32	7.95	2307.5	-21843	-0.000078	0.0004492	0.0035	1.9436	14254.65	17630.79	17630.79	7.64	No	Si
SLU 32	10.45	-633.74	-16677	-0.0000488	0.0004492	0.0035	1.9436	12142.18	15890.84	15890.84	25.07	No	Si
SLU 39	7.95	2333.71	-21125	-0.0000761	0.0004492	0.0035	1.9436	14007.78	17130.37	17130.37	7.34	No	Si
SLU 39	10.45	-660.36	-16010	-0.0000472	0.0004492	0.0035	1.9436	11812.55	15417.04	15417.04	23.35	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	7.95	8009.51	-15946	-0.0001175	0.0006738	0.0035	1.9436		14162.64	14162.64	1.77		Si
SLV 1	10.45	-5294	-8429	-0.0000829	0.0006738	0.0035	1.5549		9736.41	9736.41	1.84		Si
SLV 2	7.95	7847.69	-15876	-0.0001148	0.0006738	0.0035	1.9436		14113.87	14113.87	1.8		Si
SLV 2	10.45	-5248.61	-8390	-0.0000818	0.0006738	0.0035	1.5549		9702.81	9702.81	1.85		Si
SLD 3	7.95	7457.31	-17420	-0.0001103	0.0006738	0.0035	1.9436		15201.43	15201.43	2.04		Si
SLD 3	10.45	-4079.16	-10453	-0.00006	0.0006738	0.0035	1.9436		11456.48	11456.48	2.81		Si
SLV 3	7.95	10808.25	-17300	-0.000179	0.0006738	0.0035	1.9436		15116.57	15116.57	1.4		Si
SLV 3	10.45	-6213.83	-8991	-0.0001095	0.0006738	0.0035	1.5549		10220.97	10220.97	1.64		Si
SLV 4	7.95	10646.44	-17230	-0.0001743	0.0006738	0.0035	1.9436		15067.81	15067.81	1.42		Si
SLV 4	10.45	-6168.43	-8952	-0.0001081	0.0006738	0.0035	1.5549		10187.37	10187.37	1.65		Si
SLD 4	7.95	7354.66	-17376	-0.000109	0.0006738	0.0035	1.9436		15170.49	15170.49	2.06		Si
SLD 4	10.45	-4050.36	-10428	-0.0000597	0.0006738	0.0035	1.9436		11436.17	11436.17	2.82		Si
SLV 14	7.95	-7371.38	-18182	-0.0001103	0.0006738	0.0035	1.9436		17564.47	17564.47	2.38		Si
SLV 14	10.45	5501.77	-17195	-0.0000897	0.0006738	0.0035	1.9436		15042.71	15042.71	2.73		Si
SLV 7	7.95	8720.34	-19675	-0.0001297	0.0006738	0.0035	1.9436		16790.07	16790.07	1.93		Si
SLV 7	10.45	-3516.9	-12721	-0.0000609	0.0006738	0.0035	1.9436		13321.6	13321.6	3.79		Si
SLV 13	7.95	-7209.57	-18251	-0.0001087	0.0006738	0.0035	1.9436		17615.8	17615.8	2.44		Si
SLV 13	10.45	5456.38	-17234	-0.0000895	0.0006738	0.0035	1.9436		15070.14	15070.14	2.76		Si
SLV 8	7.95	8611.4	-19629	-0.0001282	0.0006738	0.0035	1.9436		16757.24	16757.24	1.95		Si
SLV 8	10.45	-3486.34	-12695	-0.0000606	0.0006738	0.0035	1.9436		13300.04	13300.04	3.81		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7.95	2537.61	-25906	-18480	2611	1.9436	1.9436	-33958	10833	7024	115546	19558	9913	29470	No	11.29	Si
SLU 75	10.45	-610.12	-19558	-13952	967	1.9436	1.9436	-25637	10833	5896	115546	19558	9913	29470	No	30.48	Si
SLU 80	7.95	2610.72	-26432	-18856	2681	1.9436	1.9436	-34648	10833	7124	115546	19558	9913	29470	No	10.99	Si
SLU 80	10.45	-643.69	-20025	-14285	1003	1.9436	1.9436	-26249	10833	5905	115546	19558	9913	29470	No	29.39	Si
SLU 82	7.95	2563.82	-25188	-17968	2606	1.9436	1.9436	-33017	10833	6887	115546	19558	9913	29470	No	11.31	Si
SLU 82	10.45	-636.74	-18891	-13476	1030	1.9436	1.9436	-24762	10833	5896	115546	19558	9913	29470	No	28.61	Si
SLU 78	7.95	2615.39	-26817	-19130	2692	1.9436	1.9436	-35152	10833	7197	115546	19558	9913	29470	No	10.95	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	10.45	-639.61	-20383	-14541	1003	1.9436	1.9436	-26719	10833	5973	115546	19558	9913	29470	No	29.39	Si
SLU 81	7.95	2632.2	-25226	-17996	2651	1.9436	1.9436	-33068	10833	6895	115546	19558	9913	29470	No	11.12	Si
SLU 81	10.45	-657.4	-18911	-13491	1056	1.9436	1.9436	-24790	10833	5896	115546	19558	9913	29470	No	27.91	Si
SLU 79	7.95	2679.1	-26471	-18884	2725	1.9436	1.9436	-34698	10833	7131	115546	19558	9913	29470	No	10.81	Si
SLU 79	10.45	-664.36	-20046	-14300	1029	1.9436	1.9436	-26277	10833	5909	115546	19558	9913	29470	No	28.64	Si
SLU 83	7.95	2709.98	-26138	-18646	2731	1.9436	1.9436	-34262	10833	7068	115546	19558	9913	29470	No	10.79	Si
SLU 83	10.45	-686.89	-19737	-14080	1092	1.9436	1.9436	-25872	10833	5896	115546	19558	9913	29470	No	26.99	Si
SLU 84	7.95	2641.6	-26099	-18618	2686	1.9436	1.9436	-34211	10833	7061	115546	19558	9913	29470	No	10.97	Si
SLU 84	10.45	-666.23	-19716	-14065	1066	1.9436	1.9436	-25845	10833	5896	115546	19558	9913	29470	No	27.65	Si
SLU 74	7.95	2605.99	-25944	-18508	2656	1.9436	1.9436	-34009	10833	7031	115546	19558	9913	29470	No	11.1	Si
SLU 74	10.45	-630.79	-19578	-13967	993	1.9436	1.9436	-25664	10833	5896	115546	19558	9913	29470	No	29.68	Si
SLU 77	7.95	2683.77	-26856	-19158	2737	1.9436	1.9436	-35203	10833	7204	115546	19558	9913	29470	No	10.77	Si
SLU 77	10.45	-660.28	-20404	-14556	1029	1.9436	1.9436	-26747	10833	5977	115546	19558	9913	29470	No	28.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	7.95	7354.66	-17376	-12396	6760	1.9436	1.6457	-22777	16250	7488	115546	29337	9913	39249		5.81	Si
SLD 4	10.45	-4050.36	-10428	-7439	3574	1.9436	1.7503	-15267	15553	7622	115546	29337	9913	39249		10.98	Si
SLD 3	7.95	7457.31	-17420	-12427	6824	1.9436	1.6312	-22835	16250	7422	115546	29337	9913	39249		5.75	Si
SLD 3	10.45	-4079.16	-10453	-7457	3603	1.9436	1.7448	-15350	15570	7606	115546	29337	9913	39249		10.89	Si
SLV 2	7.95	7847.69	-15876	-11326	7809	1.9436	1.4325	-20811	16250	6518	115546	29337	9913	39249		5.03	Si
SLV 2	10.45	-5248.61	-8390	-5985	4197	1.5549	1.0387	0	0	0	115546	23469	7930	31399		7.48	Si
SLV 1	7.95	8009.51	-15946	-11375	7909	1.9436	1.4085	-20902	16250	6409	115546	29337	9913	39249		4.96	Si
SLV 1	10.45	-5294	-8429	-6013	4243	1.5549	1.0312	0	0	0	115546	23469	7930	31399		7.4	Si
SLV 3	7.95	10808.25	-17300	-12341	9737	1.9436	1.0411	-22677	16250	6435	115546	29337	9913	39249		4.03	Si
SLV 3	10.45	-6213.83	-8991	-6414	5369	1.5549	0.842	0	0	0	115546	23469	7930	31399		5.85	Si
SLV 13	7.95	-7209.57	-18251	-13020	-6068	1.9436	1.7304	-27155	16250	7873	115546	29337	9913	39249		6.47	Si
SLV 13	10.45	5456.38	-17234	-12294	-4220	1.9436	1.9436	-22591	16250	8844	115546	29337	9913	39249		9.3	Si
SLV 7	7.95	8720.34	-19675	-14036	6961	1.9436	1.5858	-25791	16250	7215	115546	29337	9913	39249		5.64	Si
SLV 7	10.45	-3516.9	-12721	-9075	3713	1.9436	1.9436	-16675	15835	8618	115546	29337	9913	39249		10.57	Si
SLV 4	7.95	10646.44	-17230	-12292	9637	1.9436	1.0618	-22586	16250	6421	115546	29337	9913	39249		4.07	Si
SLV 4	10.45	-6168.43	-8952	-6386	5323	1.5549	0.8482	0	0	0	115546	23469	7930	31399		5.9	Si
SLV 8	7.95	8611.4	-19629	-14003	6894	1.9436	1.5993	-25730	16250	7277	115546	29337	9913	39249		5.69	Si
SLV 8	10.45	-3486.34	-12695	-9056	3682	1.9436	1.9436	-16641	15828	8614	115546	29337	9913	39249		10.66	Si
SLV 14	7.95	-7371.38	-18182	-12971	-6169	1.9436	1.6992	-27528	16250	7731	115546	29337	9913	39249		6.36	Si
SLV 14	10.45	5501.77	-17195	-12266	-4266	1.9436	1.9436	-22540	16250	8844	115546	29337	9913	39249		9.2	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-13645	0.45	248.34	1648.93	2323	1985.97	8	Si
SLV 5	-13691	0.45	248.34	1653.67	2329.92	1991.8	8.02	Si
SLV 2	-14243	0.45	248.34	1709.32	2411.95	2060.63	8.3	Si
SLV 1	-14313	0.45	248.34	1716.24	2422.23	2069.23	8.33	Si
SLV 10	-14324	0.45	248.34	1717.35	2423.89	2070.62	8.34	Si
SLV 9	-14370	0.45	248.34	1722	2430.81	2076.41	8.36	Si
SLV 4	-15445	0.45	248.34	1827.52	2589.41	2208.47	8.89	Si
SLV 3	-15515	0.45	248.34	1834.2	2599.57	2216.89	8.93	Si
SLV 14	-16507	0.45	248.34	1928.54	2745.2	2336.87	9.41	Si
SLV 13	-16576	0.45	248.34	1935.02	2755.36	2345.19	9.44	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-16377	-19605	136	0.638	1939.8	0.958	9.6794	6.07522	Si
SLV 16	-16214	-19536	137	0.644	1923.2	0.958	9.76501	6.07522	Si
SLV 11	-17556	-20367	528	0.581	2059.6	0.961	8.79676	5.24939	Si
SLV 12	-17446	-20320	529	0.585	2048.4	0.96	8.84536	5.24939	Si
SLV 7	-15929	-19675	546	0.63	1894.2	0.958	9.56793	5.24939	Si
SLV 8	-15819	-19629	546	0.634	1883	0.957	9.62618	5.24939	Si
SLV 13	-13718	-18251	-182	0.738	1669.5	0.952	11.26733	6.07522	Si
SLV 14	-13555	-18182	-182	0.746	1652.9	0.952	11.38659	6.07522	Si
SLV 3	-10954	-17300	194	0.89	1389	0.944	13.69403	6.07522	Si
SLV 4	-10791	-17230	194	0.901	1372.5	0.944	13.87264	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.34	SLU 39	Si
V_SLU	10.768	SLU 77	Si
PF_SLV	1.399	SLV 3	Si
V_SLV	4.031	SLV 3	Si
PFFP_SLV	7.997	SLV 6	Si
R_SLV	1.593	SLV 15	Si

Maschio 187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L6	L7	1.55	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 1	7.95	758.62	-12149	-0.0000495	0.0004492	0.0035	1.55	7258.31	8263.68	8263.68	10.89	No	Si
SLU 1	10.05	-646.18	-10254	-0.0000415	0.0004492	0.0035	1.55	6410.43	8302.35	8302.35	12.85	No	Si
SLU 43	7.95	986.32	-15249	-0.0000635	0.0004492	0.0035	1.55	8419.77	10028.19	10028.19	10.17	No	Si
SLU 43	10.05	-845.4	-12636	-0.0000524	0.0004492	0.0035	1.55	7459.41	9701.47	9701.47	11.48	No	Si
SLU 44	7.95	995.15	-15241	-0.0000636	0.0004492	0.0035	1.55	8417.04	10023.48	10023.48	10.07	No	Si
SLU 44	10.05	-837.18	-12661	-0.0000524	0.0004492	0.0035	1.55	7469.46	9715.58	9715.58	11.61	No	Si
SLU 65	7.95	994.84	-16828	-0.0000693	0.0004492	0.0035	1.55	8903.08	10926.43	10926.43	10.98	No	Si
SLU 65	10.05	-821.52	-14687	-0.0000593	0.0004492	0.0035	1.55	8230.07	10840.3	10840.3	13.2	No	Si
SLU 2	7.95	767.46	-12141	-0.0000496	0.0004492	0.0035	1.55	7254.83	8258.96	8258.96	10.76	No	Si
SLU 2	10.05	-637.96	-10279	-0.0000415	0.0004492	0.0035	1.55	6422.2	8317.32	8317.32	13.04	No	Si
SLU 47	7.95	998.48	-15927	-0.0000661	0.0004492	0.0035	1.55	8636.11	10413.69	10413.69	10.43	No	Si
SLU 47	10.05	-845.58	-13348	-0.0000549	0.0004492	0.0035	1.55	7741.01	10106.85	10106.85	11.95	No	Si
SLU 51	7.95	998.27	-16616	-0.0000686	0.0004492	0.0035	1.55	8842.4	10805.79	10805.79	10.82	No	Si
SLU 51	10.05	-857.25	-14026	-0.0000574	0.0004492	0.0035	1.55	7995.13	10487.22	10487.22	12.23	No	Si
SLU 45	7.95	985.35	-16203	-0.0000669	0.0004492	0.0035	1.55	8720.45	10570.83	10570.83	10.73	No	Si
SLU 45	10.05	-845.11	-13606	-0.0000558	0.0004492	0.0035	1.55	7839.01	10253.16	10253.16	12.13	No	Si
SLU 46	7.95	990.65	-16198	-0.000067	0.0004492	0.0035	1.55	8718.95	10568	10568	10.67	No	Si
SLU 46	10.05	-840.18	-13620	-0.0000558	0.0004492	0.0035	1.55	7844.62	10261.62	10261.62	12.21	No	Si
SLU 50	7.95	992.97	-16621	-0.0000685	0.0004492	0.0035	1.55	8843.84	10808.62	10808.62	10.89	No	Si
SLU 50	10.05	-862.18	-14011	-0.0000574	0.0004492	0.0035	1.55	7989.7	10479.28	10479.28	12.15	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	7.95	-4215.36	-16182	-0.0001082	0.0006738	0.0035	1.55		12136.87	12136.87	2.88		Si
SLV 16	10.05	3697.76	-14581	-0.0000954	0.0006738	0.0035	1.55		10017.8	10017.8	2.71		Si
SLD 3	7.95	3747.67	-10518	-0.0000852	0.0006738	0.0035	1.55		7680.96	7680.96	2.05		Si
SLD 3	10.05	-3428.6	-8606	-0.0000771	0.0006738	0.0035	1.55		7431.35	7431.35	2.17		Si
SLD 4	7.95	3728.56	-10490	-0.0000848	0.0006738	0.0035	1.55		7664.45	7664.45	2.06		Si
SLD 4	10.05	-3377.99	-8536	-0.0000759	0.0006738	0.0035	1.55		7385.74	7385.74	2.19		Si
SLV 2	7.95	5652.76	-9352	-0.0001994	0.0006738	0.0035	1.55		6940.54	6940.54	1.23		Si
SLV 2	10.05	-4846.28	-7672	-0.0001852	0.0006738	0.0035	1.24		6815.71	6815.71	1.41		Si
SLV 4	7.95	5409.06	-9205	-0.0001761	0.0006738	0.0035	1.55		6842.89	6842.89	1.27		Si
SLV 4	10.05	-4946.73	-7044	-0.0002876	0.0006738	0.0035	1.24		6383.29	6383.29	1.29		Si
SLV 1	7.95	5682.88	-9397	-0.0002009	0.0006738	0.0035	1.55		6970.14	6970.14	1.23		Si
SLV 1	10.05	-4926.04	-7781	-0.0001899	0.0006738	0.0035	1.24		6889.48	6889.48	1.4		Si
SLV 3	7.95	5439.19	-9250	-0.0001775	0.0006738	0.0035	1.55		6872.95	6872.95	1.26		Si
SLV 3	10.05	-5026.49	-7154	-0.0002939	0.0006738	0.0035	1.24		6458.67	6458.67	1.28		Si
SLV 14	7.95	-3971.66	-16329	-0.0001054	0.0006738	0.0035	1.55		12219.67	12219.67	3.08		Si
SLV 14	10.05	3798.21	-15209	-0.000099	0.0006738	0.0035	1.55		10378.71	10378.71	2.73		Si
SLD 1	7.95	3889.2	-10605	-0.0000883	0.0006738	0.0035	1.55		7731.02	7731.02	1.99		Si
SLD 1	10.05	-3368.95	-8973	-0.0000757	0.0006738	0.0035	1.55		7673.21	7673.21	2.28		Si
SLD 2	7.95	3870.08	-10577	-0.0000879	0.0006738	0.0035	1.55		7714.5	7714.5	1.99		Si
SLD 2	10.05	-3318.35	-8904	-0.0000746	0.0006738	0.0035	1.55		7627.6	7627.6	2.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 51	7.95	998.27	-16616	-11853	973	1.55	1.55	-27312	10833	4832	115546	15597	7905	23502	No	24.16	Si
SLU 51	10.05	-857.25	-14026	-10006	973	1.55	1.55	-23055	10833	4702	115546	15597	7905	23502	No	24.14	Si
SLU 44	7.95	995.15	-15241	-10873	909	1.55	1.55	-25052	10833	4702	115546	15597	7905	23502	No	25.84	Si
SLU 44	10.05	-837.18	-12661	-9032	910	1.55	1.55	-20811	10833	4702	115546	15597	7905	23502	No	25.83	Si
SLU 70	7.95	993.66	-18470	-13176	916	1.55	1.55	-30360	10833	5185	115546	15597	7905	23502	No	25.66	Si
SLU 70	10.05	-832.91	-16335	-11653	916	1.55	1.55	-26850	10833	4779	115546	15597	7905	23502	No	25.65	Si
SLU 46	7.95	990.65	-16198	-11555	908	1.55	1.55	-26625	10833	4753	115546	15597	7905	23502	No	25.87	Si
SLU 46	10.05	-840.18	-13620	-9717	909	1.55	1.55	-22388	10833	4702	115546	15597	7905	23502	No	25.86	Si
SLU 72	7.95	997.96	-18203	-12985	935	1.55	1.55	-29920	10833	5134	115546	15597	7905	23502	No	25.12	Si
SLU 72	10.05	-841.59	-16053	-11452	936	1.55	1.55	-26386	10833	4725	115546	15597	7905	23502	No	25.11	Si
SLU 68	7.95	998.17	-17514	-12494	917	1.55	1.55	-28787	10833	5003	115546	15597	7905	23502	No	25.63	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	10.05	-829.92	-15375	-10968	917	1.55	1.55	-25272	10833	4702	115546	15597	7905	23502	No	25.62	Si
SLU 48	7.95	988.67	-16889	-12048	914	1.55	1.55	-27760	10833	4884	115546	15597	7905	23502	No	25.72	Si
SLU 48	10.05	-853.5	-14293	-10196	914	1.55	1.55	-23494	10833	4702	115546	15597	7905	23502	No	25.7	Si
SLU 47	7.95	998.48	-15927	-11362	954	1.55	1.55	-26179	10833	4702	115546	15597	7905	23502	No	24.63	Si
SLU 47	10.05	-845.58	-13348	-9522	955	1.55	1.55	-21941	10833	4702	115546	15597	7905	23502	No	24.61	Si
SLU 49	7.95	993.98	-16884	-12044	953	1.55	1.55	-27752	10833	4883	115546	15597	7905	23502	No	24.65	Si
SLU 49	10.05	-848.57	-14308	-10207	954	1.55	1.55	-23519	10833	4702	115546	15597	7905	23502	No	24.64	Si
SLU 50	7.95	992.97	-16621	-11857	934	1.55	1.55	-27320	10833	4833	115546	15597	7905	23502	No	25.17	Si
SLU 50	10.05	-862.18	-14011	-9995	934	1.55	1.55	-23031	10833	4702	115546	15597	7905	23502	No	25.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	7.95	5652.76	-9352	-6672	6699	1.55	0.5117	-15372	15574	4286	115546	23395	7905	31300		4.67	Si
SLV 2	10.05	-4846.28	-7672	-5473	6288	1.24	0.4299	0	0	0	115546	18716	6324	25040		3.98	Si
SLD 1	7.95	3889.2	-10605	-7566	4484	1.55	1.2248	-17432	15986	5483	115546	23395	7905	31300		6.98	Si
SLD 1	10.05	-3368.95	-8973	-6401	4220	1.55	1.1987	-19228	16250	5454	115546	23395	7905	31300		7.42	Si
SLV 5	7.95	2593.73	-12004	-8563	5422	1.55	1.55	-19731	16250	7053	115546	23395	7905	31300		5.77	Si
SLV 5	10.05	-1770.24	-11133	-7942	5296	1.55	1.55	-18300	16160	7013	115546	23395	7905	31300		5.91	Si
SLV 3	7.95	5439.19	-9250	-6599	4809	1.55	0.5609	-15204	15541	4267	115546	23395	7905	31300		6.51	Si
SLV 3	10.05	-5026.49	-7154	-5103	4401	1.24	0.2171	0	0	0	115546	18716	6324	25040		5.69	Si
SLD 2	7.95	3870.08	-10577	-7545	4443	1.55	1.2273	-17385	15977	5490	115546	23395	7905	31300		7.05	Si
SLD 2	10.05	-3318.35	-8904	-6352	4179	1.55	1.207	-18948	16250	5492	115546	23395	7905	31300		7.49	Si
SLV 15	7.95	-4185.23	-16227	-11576	-5513	1.55	1.55	-26673	16250	7053	115546	23395	7905	31300		5.68	Si
SLV 15	10.05	3618	-14691	-10480	-5101	1.55	1.55	-24147	16250	7053	115546	23395	7905	31300		6.14	Si
SLV 16	7.95	-4215.36	-16182	-11544	-5578	1.55	1.5435	-26598	16250	7023	115546	23395	7905	31300		5.61	Si
SLV 16	10.05	3697.76	-14581	-10402	-5167	1.55	1.55	-23967	16250	7053	115546	23395	7905	31300		6.06	Si
SLV 1	7.95	5682.88	-9397	-6704	6764	1.55	0.5108	-15447	15589	4295	115546	23395	7905	31300		4.63	Si
SLV 1	10.05	-4926.04	-7781	-5551	6354	1.24	0.4258	0	0	0	115546	18716	6324	25040		3.94	Si
SLV 6	7.95	2573.44	-11973	-8542	5378	1.55	1.55	-19681	16250	7053	115546	23395	7905	31300		5.82	Si
SLV 6	10.05	-1716.54	-11060	-7890	5252	1.55	1.55	-18179	16136	7003	115546	23395	7905	31300		5.96	Si
SLV 4	7.95	5409.06	-9205	-6566	4743	1.55	0.5621	-15130	15526	4258	115546	23395	7905	31300		6.6	Si
SLV 4	10.05	-4946.73	-7044	-5025	4335	1.24	0.2183	0	0	0	115546	18716	6324	25040		5.78	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-7328	0.45	198.04	931.41	1317.01	1124.21	5.68	Si
SLV 3	-7437	0.45	198.04	943.89	1333.62	1138.75	5.75	Si
SLV 2	-7959	0.45	198.04	1002.82	1412.28	1207.55	6.1	Si
SLV 1	-8069	0.45	198.04	1015.05	1428.74	1221.9	6.17	Si
SLV 8	-9239	0.45	198.04	1143.27	1604.72	1374	6.94	Si
SLV 7	-9313	0.45	198.04	1151.18	1615.79	1383.48	6.99	Si
SLV 6	-11344	0.45	198.04	1361.68	1918.26	1639.97	8.28	Si
SLV 5	-11418	0.45	198.04	1369.04	1929.21	1649.12	8.33	Si
SLV 12	-11494	0.45	198.04	1376.62	1940.52	1658.57	8.37	Si
SLV 11	-11567	0.45	198.04	1383.94	1951.47	1667.7	8.42	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-10503	-16227	10	0.775	1287	0.951	11.85032	6.07522	Si
SLV 16	-10456	-16182	10	0.778	1282.3	0.951	11.89653	6.07522	Si
SLV 13	-10391	-16374	24	0.781	1275.7	0.951	11.94378	6.07522	Si
SLV 14	-10344	-16329	24	0.784	1270.9	0.95	11.99083	6.07522	Si
SLV 11	-9145	-13606	-20	0.869	1149.2	0.946	13.35848	5.24939	Si
SLV 12	-9113	-13575	-20	0.872	1146	0.946	13.39881	5.24939	Si
SLV 9	-8772	-14097	27	0.899	1111.4	0.944	13.83842	5.24939	Si
SLV 10	-8741	-14067	27	0.902	1108.2	0.944	13.88143	5.24939	Si
SLV 7	-7875	-11513	-31	0.982	1020.5	0.94	15.17957	5.24939	Si
SLV 8	-7844	-11482	-31	0.985	1017.3	0.94	15.23211	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.072	SLU 44	Si
V_SLU	24.143	SLU 51	Si
PF_SLV	1.227	SLV 1	Si
V_SLV	3.941	SLV 1	Si
PFFP_SLV	5.677	SLV 4	Si
R_SLV	1.951	SLV 15	Si

Maschio 188

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L6	L7	3.97	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	7.95	3387.34	-30950	-0.0000461	0.0004492	0.0035	3.97	47436.49	53955.6	53955.6	15.93	No	Si
SLU 37	10.05	4427.1	-29797	-0.0000467	0.0004492	0.0035	3.97	46171.37	52289.38	52289.38	11.81	No	Si
SLU 78	7.95	4369.55	-37636	-0.0000572	0.0004492	0.0035	3.97	54006.6	63617.61	63617.61	14.56	No	Si
SLU 78	10.05	5011.48	-35210	-0.0000552	0.0004492	0.0035	3.97	51773.26	60111.11	60111.11	11.99	No	Si
SLU 41	7.95	3116.14	-30163	-0.0000445	0.0004492	0.0035	3.97	46576.85	52817.88	52817.88	16.95	No	Si
SLU 41	10.05	4230.95	-29183	-0.0000454	0.0004492	0.0035	3.97	45481.65	51401.87	51401.87	12.15	No	Si
SLU 79	7.95	4312.48	-37115	-0.0000564	0.0004492	0.0035	3.97	53541.01	62863.8	62863.8	14.58	No	Si
SLU 79	10.05	4888.97	-34640	-0.0000542	0.0004492	0.0035	3.97	51224.26	59288.29	59288.29	12.13	No	Si
SLU 80	7.95	4315.01	-37098	-0.0000563	0.0004492	0.0035	3.97	53526.51	62840.53	62840.53	14.56	No	Si
SLU 80	10.05	4887.05	-34629	-0.0000541	0.0004492	0.0035	3.97	51213.36	59272.09	59272.09	12.13	No	Si
SLU 36	7.95	3444.41	-31472	-0.0000469	0.0004492	0.0035	3.97	47996.07	54709.4	54709.4	15.88	No	Si
SLU 36	10.05	4549.62	-30366	-0.0000477	0.0004492	0.0035	3.97	46800.98	53112.2	53112.2	11.67	No	Si
SLU 42	7.95	3118.66	-30147	-0.0000445	0.0004492	0.0035	3.97	46559.08	52794.61	52794.61	16.93	No	Si
SLU 42	10.05	4229.04	-29172	-0.0000454	0.0004492	0.0035	3.97	45468.96	51385.67	51385.67	12.15	No	Si
SLU 35	7.95	3441.89	-31488	-0.0000469	0.0004492	0.0035	3.97	48013.22	54732.67	54732.67	15.9	No	Si
SLU 35	10.05	4551.54	-30378	-0.0000477	0.0004492	0.0035	3.97	46813.28	53128.4	53128.4	11.67	No	Si
SLU 38	7.95	3389.87	-30934	-0.0000461	0.0004492	0.0035	3.97	47419.09	53932.33	53932.33	15.91	No	Si
SLU 38	10.05	4425.19	-29786	-0.0000466	0.0004492	0.0035	3.97	46158.88	52273.18	52273.18	11.81	No	Si
SLU 77	7.95	4367.02	-37652	-0.0000572	0.0004492	0.0035	3.97	54020.85	63640.88	63640.88	14.57	No	Si
SLU 77	10.05	5013.4	-35221	-0.0000552	0.0004492	0.0035	3.97	51783.98	60127.31	60127.31	11.99	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	7.95	4198.87	-17757	-0.00003	0.0006738	0.0035	3.97		34657.3	34657.3	8.25		Si
SLV 1	10.05	-6436.6	-13537	-0.0000289	0.0006738	0.0035	3.97		34511.52	34511.52	5.36		Si
SLV 4	7.95	3702.32	-17209	-0.0000284	0.0006738	0.0035	3.97		33688.33	33688.33	9.1		Si
SLV 4	10.05	-6546.85	-13186	-0.0000287	0.0006738	0.0035	3.97		33894.26	33894.26	5.18		Si
SLV 2	7.95	3770.81	-17595	-0.000029	0.0006738	0.0035	3.97		34371.66	34371.66	9.12		Si
SLV 2	10.05	-6422.97	-13526	-0.0000289	0.0006738	0.0035	3.97		34490.9	34490.9	5.37		Si
SLV 3	7.95	4130.39	-17370	-0.0000294	0.0006738	0.0035	3.97		33973.97	33973.97	8.23		Si
SLV 3	10.05	-6560.48	-13198	-0.0000287	0.0006738	0.0035	3.97		33914.88	33914.88	5.17		Si
SLV 14	7.95	2081.61	-33145	-0.0000457	0.0006738	0.0035	3.97		59610.86	59610.86	28.64		Si
SLV 14	10.05	12102.19	-31614	-0.0000634	0.0006738	0.0035	3.97		57375.32	57375.32	4.74		Si
SLD 14	7.95	2486.13	-30277	-0.0000428	0.0006738	0.0035	3.97		55423.66	55423.66	22.29		Si
SLD 14	10.05	8753.43	-28255	-0.0000524	0.0006738	0.0035	3.97		52471.09	52471.09	5.99		Si
SLV 16	7.95	2013.13	-32758	-0.0000451	0.0006738	0.0035	3.97		59046.44	59046.44	29.33		Si
SLV 16	10.05	11978.32	-31275	-0.0000627	0.0006738	0.0035	3.97		56879.92	56879.92	4.75		Si
SLV 13	7.95	2509.67	-33307	-0.0000467	0.0006738	0.0035	3.97		59846.79	59846.79	23.85		Si
SLV 13	10.05	12088.56	-31626	-0.0000634	0.0006738	0.0035	3.97		57392.44	57392.44	4.75		Si
SLD 13	7.95	2757.7	-30380	-0.0000434	0.0006738	0.0035	3.97		55573.34	55573.34	20.15		Si
SLD 13	10.05	8744.79	-28263	-0.0000523	0.0006738	0.0035	3.97		52481.95	52481.95	6		Si
SLV 15	7.95	2441.19	-32920	-0.0000461	0.0006738	0.0035	3.97		59282.37	59282.37	24.28		Si
SLV 15	10.05	11964.69	-31286	-0.0000627	0.0006738	0.0035	3.97		56897.04	56897.04	4.76		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	7.95	2929.11	-28830	-20567	-3634	3.97	3.97	-18502	10800	14648	115546	39948	20247	60195	No	16.57	Si
SLU 40	10.05	3838.4	-27648	-19723	-3645	3.97	3.97	-17743	10699	14310	115546	39948	20247	60195	No	16.51	Si
SLU 38	7.95	3389.87	-30934	-22068	-3726	3.97	3.97	-19852	10833	15248	115546	39948	20247	60195	No	16.16	Si
SLU 38	10.05	4425.19	-29786	-21248	-3737	3.97	3.97	-19115	10833	14920	115546	39948	20247	60195	No	16.11	Si
SLU 42	7.95	3118.66	-30147	-21506	-3925	3.97	3.97	-19347	10833	15023	115546	39948	20247	60195	No	15.34	Si
SLU 42	10.05	4229.04	-29172	-20810	-3937	3.97	3.97	-18721	10829	14745	115546	39948	20247	60195	No	15.29	Si
SLU 35	7.95	3441.89	-31488	-22463	-3797	3.97	3.97	-20207	10833	15406	115546	39948	20247	60195	No	15.85	Si
SLU 35	10.05	4551.54	-30378	-21671	-3809	3.97	3.97	-19495	10833	15089	115546	39948	20247	60195	No	15.8	Si
SLU 41	7.95	3116.14	-30163	-21517	-3922	3.97	3.97	-19357	10833	15028	115546	39948	20247	60195	No	15.35	Si
SLU 41	10.05	4230.95	-29183	-20818	-3934	3.97	3.97	-18728	10830	14748	115546	39948	20247	60195	No	15.3	Si
SLU 83	7.95	4041.28	-36327	-25915	-3653	3.97	3.97	-23313	10833	16787	115546	39948	20247	60195	No	16.48	Si
SLU 83	10.05	4692.82	-34026	-24273	-3667	3.97	3.97	-21836	10833	16130	115546	39948	20247	60195	No	16.42	Si
SLU 39	7.95	2926.59	-28847	-20578	-3631	3.97	3.97	-18512	10802	14652	115546	39948	20247	60195	No	16.58	Si
SLU 39	10.05	3840.32	-27659	-19731	-3642	3.97	3.97	-17750	10700	14314	115546	39948	20247	60195	No	16.53	Si
SLU 37	7.95	3387.34	-30950	-22079	-3723	3.97	3.97	-19862	10833	15253	115546	39948	20247	60195	No	16.17	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 37	10.05	4427.1	-29797	-21256	-3735	3.97	3.97	-19122	10833	14924	115546	39948	20247	60195	No	16.12	Si
SLU 36	7.95	3444.41	-31472	-22451	-3799	3.97	3.97	-20197	10833	15402	115546	39948	20247	60195	No	15.84	Si
SLU 36	10.05	4549.62	-30366	-21663	-3811	3.97	3.97	-19488	10833	15086	115546	39948	20247	60195	No	15.79	Si
SLU 84	7.95	4043.8	-36311	-25903	-3655	3.97	3.97	-23303	10833	16782	115546	39948	20247	60195	No	16.47	Si
SLU 84	10.05	4690.9	-34015	-24265	-3669	3.97	3.97	-21829	10833	16127	115546	39948	20247	60195	No	16.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	7.95	2486.13	-30277	-21599	-5677	3.97	3.97	-19431	16250	18271	115546	59922	20247	80169		14.12	Si
SLD 14	10.05	8753.43	-28255	-20157	-5226	3.97	3.97	-18133	16127	17926	115546	59922	20247	80169		15.34	Si
SLV 1	7.95	4198.87	-17757	-12667	5394	3.97	3.97	-11396	14779	16428	115546	59922	20247	80169		14.86	Si
SLV 1	10.05	-6436.6	-13537	-9657	4737	3.97	3.97	-8688	14238	15826	115546	59922	20247	80169		16.92	Si
SLV 14	7.95	2081.61	-33145	-23645	-8175	3.97	3.97	-21271	16250	19090	115546	59922	20247	80169		9.81	Si
SLV 14	10.05	12102.19	-31614	-22553	-7493	3.97	3.97	-20288	16250	18653	115546	59922	20247	80169		10.7	Si
SLD 15	7.95	2717.28	-30152	-21509	-5416	3.97	3.97	-19350	16250	18236	115546	59922	20247	80169		14.8	Si
SLD 15	10.05	8669.15	-28062	-20019	-4988	3.97	3.97	-18009	16102	17899	115546	59922	20247	80169		16.07	Si
SLD 13	7.95	2757.7	-30380	-21672	-5454	3.97	3.97	-19496	16250	18301	115546	59922	20247	80169		14.7	Si
SLD 13	10.05	8744.79	-28263	-20162	-5003	3.97	3.97	-18138	16128	17927	115546	59922	20247	80169		16.03	Si
SLV 16	7.95	2013.13	-32758	-23369	-8110	3.97	3.97	-21023	16250	18979	115546	59922	20247	80169		9.89	Si
SLV 16	10.05	11978.32	-31275	-22311	-7471	3.97	3.97	-20071	16250	18556	115546	59922	20247	80169		10.73	Si
SLV 3	7.95	4130.39	-17370	-12392	5459	3.97	3.97	-11148	14730	16373	115546	59922	20247	80169		14.69	Si
SLV 3	10.05	-6560.48	-13198	-9415	4759	3.97	3.97	-8470	14194	15778	115546	59922	20247	80169		16.85	Si
SLD 16	7.95	2445.72	-30049	-21436	-5639	3.97	3.97	-19284	16250	18206	115546	59922	20247	80169		14.22	Si
SLD 16	10.05	8677.8	-28054	-20013	-5211	3.97	3.97	-18004	16101	17898	115546	59922	20247	80169		15.38	Si
SLV 13	7.95	2509.67	-33307	-23760	-7823	3.97	3.97	-21375	16250	19136	115546	59922	20247	80169		10.25	Si
SLV 13	10.05	12088.56	-31626	-22561	-7141	3.97	3.97	-20296	16250	18656	115546	59922	20247	80169		11.23	Si
SLV 15	7.95	2441.19	-32920	-23484	-7758	3.97	3.97	-21127	16250	19026	115546	59922	20247	80169		10.33	Si
SLV 15	10.05	11964.69	-31286	-22319	-7119	3.97	3.97	-20078	16250	18559	115546	59922	20247	80169		11.26	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-13781	0.45	507.24	1798.78	2629.94	2214.36	4.37	Si
SLV 3	-13792	0.45	507.24	1800.2	2631.74	2215.97	4.37	Si
SLV 2	-14111	0.45	507.24	1838.76	2680.55	2259.66	4.45	Si
SLV 1	-14123	0.45	507.24	1840.17	2682.35	2261.26	4.46	Si
SLV 8	-19811	0.45	507.24	2503.89	3543.35	3023.62	5.96	Si
SLV 7	-19819	0.45	507.24	2504.78	3544.54	3024.66	5.96	Si
SLV 6	-20914	0.45	507.24	2627.41	3708.81	3168.11	6.25	Si
SLV 5	-20922	0.45	507.24	2628.28	3709.99	3169.14	6.25	Si
SLV 12	-25310	0.45	507.24	3103.18	4366.14	3734.66	7.36	Si
SLV 11	-25318	0.45	507.24	3104.01	4367.3	3735.66	7.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-23719	-33307	-159	0.856	2973.5	0.946	13.15201	6.07522	Si
SLV 14	-23693	-33145	-158	0.857	2970.9	0.946	13.16503	6.07522	Si
SLV 15	-23464	-32920	66	0.868	2947.7	0.946	13.32915	6.07522	Si
SLV 16	-23438	-32758	67	0.868	2945	0.946	13.34155	6.07522	Si
SLV 9	-21224	-28289	-389	0.929	2720.6	0.942	14.33695	5.24939	Si
SLV 10	-21207	-28180	-389	0.93	2718.8	0.942	14.34749	5.24939	Si
SLV 11	-20375	-27000	360	0.962	2634.6	0.941	14.86814	5.24939	Si
SLV 12	-20358	-26892	361	0.963	2632.8	0.941	14.87877	5.24939	Si
SLV 5	-18835	-23624	-362	1.026	2478.6	0.937	15.90072	5.24939	Si
SLV 6	-18818	-23515	-361	1.026	2476.9	0.937	15.91371	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.673	SLU 35	Si
V_SLU	15.291	SLU 42	Si
PF_SLV	4.741	SLV 14	Si
V_SLV	9.807	SLV 14	Si
PFFP_SLV	4.365	SLV 4	Si
R_SLV	2.165	SLV 13	Si

Maschio 189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	L6	Z medio 965 cm	1.281	0.28	1.7	1.71	1.69			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 18	7.95	-429.31	-9413	-0.0000501	0.0003743	0.0035	1.2809	4474.39	5295.58	5295.58	12.34	No	Si
SLU 18	9.64	362.01	-6459	-0.000035	0.0003743	0.0035	1.2809	3404.75	3600.93	3600.93	9.95	No	Si
SLU 21	7.95	-419.56	-9623	-0.0000509	0.0003743	0.0035	1.2809	4538.72	5380.36	5380.36	12.82	No	Si
SLU 21	9.64	347.66	-6643	-0.0000355	0.0003743	0.0035	1.2809	3480.69	3690.89	3690.89	10.62	No	Si
SLU 82	7.95	-574.35	-12739	-0.0000697	0.0003743	0.0035	1.2809	5312.34	6404.86	6404.86	11.15	No	Si
SLU 82	9.64	450.94	-8723	-0.0000473	0.0003743	0.0035	1.2809	4252.08	4672.13	4672.13	10.36	No	Si
SLU 42	7.95	-492.58	-10987	-0.0000591	0.0003743	0.0035	1.2809	4919.3	5870.93	5870.93	11.92	No	Si
SLU 42	9.64	407.98	-7578	-0.000041	0.0003743	0.0035	1.2809	3845.97	4154.68	4154.68	10.18	No	Si
SLU 39	7.95	-502.33	-10777	-0.0000583	0.0003743	0.0035	1.2809	4865.02	5810.37	5810.37	11.57	No	Si
SLU 39	9.64	422.33	-7393	-0.0000405	0.0003743	0.0035	1.2809	3776.09	4061.69	4061.69	9.62	No	Si
SLU 40	7.95	-493.03	-10818	-0.0000583	0.0003743	0.0035	1.2809	4875.7	5822.1	5822.1	11.81	No	Si
SLU 40	9.64	425.71	-7396	-0.0000406	0.0003743	0.0035	1.2809	3777.38	4063.38	4063.38	9.55	No	Si
SLU 20	7.95	-428.86	-9582	-0.0000509	0.0003743	0.0035	1.2809	4526.32	5364.37	5364.37	12.51	No	Si
SLU 20	9.64	344.29	-6640	-0.0000354	0.0003743	0.0035	1.2809	3479.31	3689.25	3689.25	10.72	No	Si
SLU 41	7.95	-501.88	-10946	-0.0000591	0.0003743	0.0035	1.2809	4908.86	5859.09	5859.09	11.67	No	Si
SLU 41	9.64	404.61	-7574	-0.000041	0.0003743	0.0035	1.2809	3844.71	4152.98	4152.98	10.26	No	Si
SLU 19	7.95	-420.01	-9454	-0.0000501	0.0003743	0.0035	1.2809	4487.03	5312.6	5312.6	12.65	No	Si
SLU 19	9.64	365.38	-6462	-0.000035	0.0003743	0.0035	1.2809	3406.14	3602.57	3602.57	9.86	No	Si
SLU 81	7.95	-583.65	-12698	-0.0000697	0.0003743	0.0035	1.2809	5304.41	6391.85	6391.85	10.95	No	Si
SLU 81	9.64	447.57	-8720	-0.0000472	0.0003743	0.0035	1.2809	4250.96	4670.91	4670.91	10.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	7.95	-583.33	-13094	-0.000069	0.0005615	0.0035	1.2809		7276.29	7276.29	12.47		Si
SLV 1	9.64	724.62	-8939	-0.0000528	0.0005615	0.0035	1.2809		5002	5002	6.9		Si
SLV 10	7.95	-482.84	-13589	-0.0000692	0.0005615	0.0035	1.2809		7481.21	7481.21	15.49		Si
SLV 10	9.64	627.98	-7555	-0.0000446	0.0005615	0.0035	1.2809		4345.43	4345.43	6.92		Si
SLV 6	7.95	-578.74	-15429	-0.00008	0.0005615	0.0035	1.2809		8210.15	8210.15	14.19		Si
SLV 6	9.64	862.92	-9115	-0.0000564	0.0005615	0.0035	1.2809		5086.47	5086.47	5.89		Si
SLV 9	7.95	-472.77	-13168	-0.000067	0.0005615	0.0035	1.2809		7307.06	7307.06	15.46		Si
SLV 9	9.64	584.25	-7188	-0.0000421	0.0005615	0.0035	1.2809		4173.82	4173.82	7.14		Si
SLV 11	7.95	-201.93	-1857	-0.0000115	0.0005615	0.0035	1.2809		1524.64	1524.64	7.55		Si
SLV 11	9.64	-438.76	-2788	-0.0000201	0.0005615	0.0035	1.2809		2076.72	2076.72	4.73		Si
SLV 5	7.95	-568.68	-15008	-0.0000778	0.0005615	0.0035	1.2809		8048.07	8048.07	14.15		Si
SLV 5	9.64	819.19	-8748	-0.0000538	0.0005615	0.0035	1.2809		4910.57	4910.57	5.99		Si
SLV 2	7.95	-598.28	-13719	-0.0000723	0.0005615	0.0035	1.2809		7535.12	7535.12	12.59		Si
SLV 2	9.64	789.58	-9484	-0.0000566	0.0005615	0.0035	1.2809		5264.38	5264.38	6.67		Si
SLV 16	7.95	-197.34	-4192	-0.0000213	0.0005615	0.0035	1.2809		2887.42	2887.42	14.63		Si
SLV 16	9.64	-300.46	-2964	-0.0000181	0.0005615	0.0035	1.2809		2179.99	2179.99	7.26		Si
SLV 15	7.95	-182.39	-3567	-0.0000184	0.0005615	0.0035	1.2809		2532.04	2532.04	13.88		Si
SLV 15	9.64	-365.42	-2419	-0.0000171	0.0005615	0.0035	1.2809		1860.66	1860.66	5.09		Si
SLV 12	7.95	-211.99	-2278	-0.0000135	0.0005615	0.0035	1.2809		1776.49	1776.49	8.38		Si
SLV 12	9.64	-395.03	-3155	-0.0000208	0.0005615	0.0035	1.2809		2292.49	2292.49	5.8		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	7.95	-573.9	-12908	-10749	-2314	1.2809	1.2809	-29970	10833	4540	16652	10740	3266	14006	No	6.05	Si
SLU 84	9.64	433.22	-8905	-7415	-667	1.2809	1.2809	-20675	9701	3536	16652	10740	3266	14006	No	21	Si
SLU 81	7.95	-583.65	-12698	-10574	-2381	1.2809	1.2809	-29483	10833	4488	16652	10740	3266	14006	No	5.88	Si
SLU 81	9.64	447.57	-8720	-7261	-775	1.2809	1.2809	-20246	9644	3489	16652	10740	3266	14006	No	18.08	Si
SLU 82	7.95	-574.35	-12739	-10608	-2386	1.2809	1.2809	-29578	10833	4498	16652	10740	3266	14006	No	5.87	Si
SLU 82	9.64	450.94	-8723	-7264	-771	1.2809	1.2809	-20253	9645	3490	16652	10740	3266	14006	No	18.16	Si
SLU 78	7.95	-557.43	-12750	-10617	-2196	1.2809	1.2809	-29604	10833	4501	16652	10740	3266	14006	No	6.38	Si
SLU 78	9.64	359.89	-8875	-7391	-535	1.2809	1.2809	-20606	9692	3528	16652	10740	3266	14006	No	26.19	Si
SLU 77	7.95	-566.73	-12710	-10583	-2191	1.2809	1.2809	-29509	10833	4490	16652	10740	3266	14006	No	6.39	Si
SLU 77	9.64	356.52	-8872	-7388	-538	1.2809	1.2809	-20599	9691	3527	16652	10740	3266	14006	No	26.01	Si
SLU 74	7.95	-567.18	-12541	-10443	-2263	1.2809	1.2809	-29117	10827	4448	16652	10740	3266	14006	No	6.19	Si
SLU 74	9.64	374.24	-8690	-7237	-643	1.2809	1.2809	-20177	9635	3482	16652	10740	3266	14006	No	21.8	Si
SLU 76	7.95	-545.26	-12500	-10409	-2233	1.2809	1.2809	-29023	10814	4438	16652	10740	3266	14006	No	6.27	Si
SLU 76	9.64	372.78	-8617	-7175	-609	1.2809	1.2809	-20006	9612	3463	16652	10740	3266	14006	No	22.98	Si
SLU 83	7.95	-583.2	-12867	-10715	-2309	1.2809	1.2809	-29875	10833	4530	16652	10740	3266	14006	No	6.07	Si
SLU 83	9.64	429.84	-8901	-7412	-671	1.2809	1.2809	-20667	9700	3535	16652	10740	3266	14006	No	20.88	Si
SLU 73	7.95	-545.71	-12331	-10269	-2305	1.2809	1.2809	-28631	10762	4396	16652	10740	3266	14006	No	6.08	Si
SLU 73	9.64	390.5	-8435	-7024	-713	1.2809	1.2809	-19585	9556	3427	16652	10740	3266	14006	No	19.63	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7.95	-557.88	-12581	-10477	-2267	1.2809	1.2809	-29212	10833	4458	16652	10740	3266	14006	No	6.18	Si
SLU 75	9.64	377.62	-8694	-7239	-639	1.2809	1.2809	-20185	9636	3483	16652	10740	3266	14006	No	21.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	7.95	-511.81	-11401	-9494	-5224	1.2809	1.2809	-26471	15711	5635	16652	16109	3266	19376		3.71	Si
SLD 1	9.64	532.14	-7829	-6520	-3768	1.2809	1.2809	-18178	14052	5040	16652	16109	3266	19376		5.14	Si
SLV 1	7.95	-583.33	-13094	-10903	-7318	1.2809	1.2809	-30400	16250	5828	16652	16109	3266	19376		2.65	Si
SLV 1	9.64	724.62	-8939	-7443	-5676	1.2809	1.2809	-20754	14567	5225	16652	16109	3266	19376		3.41	Si
SLV 3	7.95	-502.08	-9700	-8077	-5735	1.2809	1.2809	-22522	14921	5351	16652	16109	3266	19376		3.38	Si
SLV 3	9.64	417.72	-7619	-6344	-4364	1.2809	1.2809	-17690	13955	5005	16652	16109	3266	19376		4.44	Si
SLV 15	7.95	-182.39	-3567	-2971	4959	1.2809	1.2809	-8282	12073	4330	16652	16109	3266	19376		3.91	Si
SLV 15	9.64	-365.42	-2419	-2015	5541	1.2809	1.2809	-5617	11540	4139	16652	16109	3266	19376		3.5	Si
SLV 6	7.95	-578.74	-15429	-12848	-6139	1.2809	1.2809	-35823	16250	5828	16652	16109	3266	19376		3.16	Si
SLV 6	9.64	862.92	-9115	-7590	-4401	1.2809	1.2809	-21162	14649	5254	16652	16109	3266	19376		4.4	Si
SLV 4	7.95	-517.03	-10325	-8598	-6593	1.2809	1.2809	-23973	15211	5456	16652	16109	3266	19376		2.94	Si
SLV 4	9.64	482.68	-8164	-6798	-5155	1.2809	1.2809	-18954	14208	5096	16652	16109	3266	19376		3.76	Si
SLD 4	7.95	-473.64	-9812	-8170	-4842	1.2809	1.2809	-22781	14973	5370	16652	16109	3266	19376		4	Si
SLD 4	9.64	393.59	-7403	-6165	-3502	1.2809	1.2809	-17188	13854	4969	16652	16109	3266	19376		5.53	Si
SLV 2	7.95	-598.28	-13719	-11424	-8176	1.2809	1.2809	-31852	16250	5828	16652	16109	3266	19376		2.37	Si
SLV 2	9.64	789.58	-9484	-7897	-6467	1.2809	1.2809	-22019	14820	5315	16652	16109	3266	19376		3	Si
SLV 5	7.95	-568.68	-15008	-12497	-5561	1.2809	1.2809	-34846	16250	5828	16652	16109	3266	19376		3.48	Si
SLV 5	9.64	819.19	-8748	-7285	-3868	1.2809	1.2809	-20311	14479	5193	16652	16109	3266	19376		5.01	Si
SLD 2	7.95	-521.3	-11798	-9824	-5768	1.2809	1.2809	-27392	15895	5701	16652	16109	3266	19376		3.36	Si
SLD 2	9.64	573.35	-8175	-6807	-4270	1.2809	1.2809	-18981	14213	5097	16652	16109	3266	19376		4.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 8.795 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.43	5232	-1876	35.88	253.7	7.07	Si
SLV 11	179667	0.43	5604	-2010	35.88	271.06	7.56	Si
SLV 12	179667	0.43	7008	-2513	35.88	335.74	9.36	Si
SLV 16	179667	0.43	7318	-2624	35.88	349.82	9.75	Si
SLV 13	179667	0.43	11659	-4181	35.88	540.7	15.07	Si
SLV 7	179667	0.43	12057	-4324	35.88	557.62	15.54	Si
SLV 8	179667	0.43	13462	-4828	35.88	616.34	17.18	Si
SLV 14	179667	0.43	13744	-4929	35.88	628.01	17.51	Si
SLV 3	179667	0.43	26743	-9592	35.88	1107.67	30.88	Si
SLV 9	179667	0.43	27026	-9693	35.88	1116.86	31.13	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 8.795 Wa = 0.05 Ta = 0.0172

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-9484	-13719	-64	0.798	1051.4	0.975	11.89232	4.02792	Si
SLV 1	-8939	-13094	-65	0.839	995.9	0.973	12.52018	4.02792	Si
SLV 6	-9115	-15429	-49	0.826	1013.8	0.974	12.33296	3.90803	Si
SLV 5	-8748	-15008	-50	0.856	976.5	0.973	12.78232	3.90803	Si
SLV 4	-8164	-10325	-44	0.908	917	0.971	13.58975	4.02792	Si
SLV 3	-7619	-9700	-45	0.963	861.5	0.97	14.43784	4.02792	Si
SLV 10	-7555	-13589	-17	0.974	855	0.969	14.59727	3.90803	Si
SLV 9	-7188	-13168	-18	1.016	817.7	0.968	15.24989	3.90803	Si
SLV 8	-4715	-4118	16	1.455	566.1	0.955	22.13038	3.90803	Si
SLV 14	-4284	-7586	43	1.571	522.3	0.952	23.98844	4.02792	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.545	SLU 40	Si
V_SLU	5.871	SLU 82	Si
PF_SLV	4.733	SLV 11	Si
V_SLV	2.37	SLV 2	Si
PFFP_SLV	7.072	SLV 15	Si
R_SLV	2.952	SLV 2	Si

Maschio 190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	Z medio 965 cm	L7	1.281	0.28	1.85	1.84	1.86			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 59	9.66	-294.44	-7145	-0.0000367	0.0003743	0.0035	1.2809	3680.73	4302.11	4302.11	14.61	No	Si
SLU 59	11.5	-356.58	-5372	-0.00003	0.0003743	0.0035	1.2809	2934.36	3443.23	3443.23	9.66	No	Si
SLU 50	9.66	-165.62	-6879	-0.0000328	0.0003743	0.0035	1.2809	3575.59	4175.52	4175.52	25.21	No	Si
SLU 50	11.5	-356.62	-5191	-0.0000291	0.0003743	0.0035	1.2809	2851.74	3348.11	3348.11	9.39	No	Si
SLU 58	9.66	-288.32	-7149	-0.0000366	0.0003743	0.0035	1.2809	3682.1	4303.73	4303.73	14.93	No	Si
SLU 58	11.5	-374.41	-5404	-0.0000305	0.0003743	0.0035	1.2809	2948.96	3460	3460	9.24	No	Si
SLU 17	9.66	-265.39	-5864	-0.0000303	0.0003743	0.0035	1.2809	3152.57	3685.62	3685.62	13.89	No	Si
SLU 17	11.5	-305.77	-4465	-0.0000249	0.0003743	0.0035	1.2809	2509.94	2971.92	2971.92	9.72	No	Si
SLU 37	9.66	-315.38	-6682	-0.000035	0.0003743	0.0035	1.2809	3496.45	4082.93	4082.93	12.95	No	Si
SLU 37	11.5	-343.78	-5141	-0.0000287	0.0003743	0.0035	1.2809	2828.88	3322.15	3322.15	9.66	No	Si
SLU 79	9.66	-344.43	-7963	-0.0000415	0.0003743	0.0035	1.2809	3987.85	4672.39	4672.39	13.57	No	Si
SLU 79	11.5	-394.58	-6048	-0.0000338	0.0003743	0.0035	1.2809	3231.8	3776.78	3776.78	9.57	No	Si
SLU 8	9.66	-136.57	-5598	-0.0000265	0.0003743	0.0035	1.2809	3035.45	3554.55	3554.55	26.03	No	Si
SLU 8	11.5	-305.81	-4284	-0.0000241	0.0003743	0.0035	1.2809	2421.55	2874.53	2874.53	9.4	No	Si
SLU 16	9.66	-259.27	-5868	-0.0000302	0.0003743	0.0035	1.2809	3154.09	3687.35	3687.35	14.22	No	Si
SLU 16	11.5	-323.61	-4497	-0.0000254	0.0003743	0.0035	1.2809	2525.56	2989.16	2989.16	9.24	No	Si
SLU 56	9.66	-292.38	-7223	-0.000037	0.0003743	0.0035	1.2809	3711.05	4338.18	4338.18	14.84	No	Si
SLU 56	11.5	-360.06	-5453	-0.0000304	0.0003743	0.0035	1.2809	2970.97	3484.19	3484.19	9.68	No	Si
SLU 71	9.66	-221.73	-7693	-0.0000377	0.0003743	0.0035	1.2809	3889.06	4551.45	4551.45	20.53	No	Si
SLU 71	11.5	-376.79	-5834	-0.0000324	0.0003743	0.0035	1.2809	3139.41	3670.68	3670.68	9.74	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	9.66	672.68	-4118	-0.0000303	0.0005615	0.0035	1.2809		2578.72	2578.72	3.83		Si
SLV 13	11.5	-808.49	-3440	-0.0000302	0.0005615	0.0035	1.2809		2459.43	2459.43	3.04		Si
SLV 12	9.66	425.48	-3568	-0.0000231	0.0005615	0.0035	1.2809		2263.79	2263.79	5.32		Si
SLV 12	11.5	-1206.41	-4431	-0.0000432	0.0005615	0.0035	1.2809		3022.42	3022.42	2.51		Si
SLV 5	9.66	-849.57	-7454	-0.0000486	0.0005615	0.0035	1.2809		4647.8	4647.8	5.47		Si
SLV 5	11.5	799.88	-3577	-0.0000305	0.0005615	0.0035	1.2809		2268.72	2268.72	2.84		Si
SLV 6	9.66	-956.65	-7720	-0.000052	0.0005615	0.0035	1.2809		4782.91	4782.91	5		Si
SLV 6	11.5	891.03	-3692	-0.000033	0.0005615	0.0035	1.2809		2334.77	2334.77	2.62		Si
SLV 15	9.66	920.11	-3173	-0.0000323	0.0005615	0.0035	1.2809		2034	2034	2.21		Si
SLV 15	11.5	-1297	-3723	-0.0000459	0.0005615	0.0035	1.2809		2620.64	2620.64	2.02		Si
SLV 2	9.66	-1344.21	-7849	-0.0000605	0.0005615	0.0035	1.2809		4848.18	4848.18	3.61		Si
SLV 2	11.5	890.48	-4285	-0.0000354	0.0005615	0.0035	1.2809		2672.99	2672.99	3		Si
SLV 16	9.66	761.07	-3568	-0.0000297	0.0005615	0.0035	1.2809		2263.37	2263.37	2.97		Si
SLV 16	11.5	-1161.61	-3893	-0.0000408	0.0005615	0.0035	1.2809		2717.58	2717.58	2.34		Si
SLD 11	9.66	239.96	-4189	-0.0000221	0.0005615	0.0035	1.2809		2618.91	2618.91	10.91		Si
SLD 11	11.5	-857.09	-4179	-0.0000343	0.0005615	0.0035	1.2809		2879.89	2879.89	3.36		Si
SLD 15	9.66	505.55	-4041	-0.0000267	0.0005615	0.0035	1.2809		2535.38	2535.38	5.02		Si
SLD 15	11.5	-889.47	-3816	-0.0000334	0.0005615	0.0035	1.2809		2673.89	2673.89	3.01		Si
SLV 11	9.66	532.55	-3303	-0.0000241	0.0005615	0.0035	1.2809		2110.21	2110.21	3.96		Si
SLV 11	11.5	-1297.55	-4316	-0.0000457	0.0005615	0.0035	1.2809		2957.54	2957.54	2.28		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	9.66	-427.52	-7679	-6395	-913	1.2809	1.2809	-17829	9322	3343	19031	10740	3266	14006	No	15.33	Si
SLU 82	11.5	-270.98	-5583	-4649	504	1.2809	1.2809	-12961	8673	3110	19031	10740	3266	14006	No	27.81	Si
SLU 79	9.66	-344.43	-7963	-6631	-603	1.2809	1.2809	-18489	9410	3375	19031	10740	3266	14006	No	23.24	Si
SLU 79	11.5	-394.58	-6048	-5036	811	1.2809	1.2809	-14042	8817	3162	19031	10740	3266	14006	No	17.27	Si
SLU 39	9.66	-392.35	-6402	-5331	-789	1.2809	1.2809	-14863	8926	3201	19031	10740	3266	14006	No	17.76	Si
SLU 39	11.5	-238.01	-4708	-3920	432	1.2809	1.2809	-10930	8402	3013	19031	10740	3266	14006	No	32.39	Si
SLU 31	9.66	-349.96	-6280	-5229	-808	1.2809	1.2809	-14581	8889	3188	19031	10740	3266	14006	No	17.33	Si
SLU 31	11.5	-200.66	-4562	-3799	348	1.2809	1.2809	-10593	8357	2997	19031	10740	3266	14006	No	40.26	Si
SLU 81	9.66	-421.4	-7683	-6397	-865	1.2809	1.2809	-17838	9323	3344	19031	10740	3266	14006	No	16.18	Si
SLU 81	11.5	-288.82	-5615	-4676	543	1.2809	1.2809	-13036	8683	3114	19031	10740	3266	14006	No	25.8	Si
SLU 40	9.66	-398.47	-6398	-5328	-837	1.2809	1.2809	-14855	8925	3201	19031	10740	3266	14006	No	16.74	Si
SLU 40	11.5	-220.18	-4675	-3893	393	1.2809	1.2809	-10855	8392	3010	19031	10740	3266	14006	No	35.63	Si
SLU 84	9.66	-415.33	-7877	-6560	-812	1.2809	1.2809	-18290	9383	3365	19031	10740	3266	14006	No	17.24	Si
SLU 84	11.5	-327.68	-5845	-4867	647	1.2809	1.2809	-13570	8754	3140	19031	10740	3266	14006	No	21.64	Si
SLU 76	9.66	-366.82	-7759	-6461	-784	1.2809	1.2809	-18015	9347	3352	19031	10740	3266	14006	No	17.87	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	11.5	-308.17	-5732	-4773	602	1.2809	1.2809	-13308	8719	3127	19031	10740	3266	14006	No	23.26	Si
SLU 73	9.66	-379.01	-7561	-6296	-885	1.2809	1.2809	-17555	9285	3330	19031	10740	3266	14006	No	15.82	Si
SLU 73	11.5	-251.47	-5469	-4554	458	1.2809	1.2809	-12699	8638	3098	19031	10740	3266	14006	No	30.56	Si
SLU 58	9.66	-288.32	-7149	-5953	-448	1.2809	1.2809	-16598	9158	3284	19031	10740	3266	14006	No	31.25	Si
SLU 58	11.5	-374.41	-5404	-4500	811	1.2809	1.2809	-12548	8618	3091	19031	10740	3266	14006	No	17.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	9.66	-1344.21	-7849	-6536	-5716	1.2809	1.2809	-18225	14062	5043	19031	16109	3266	19376		3.39	Si
SLV 2	11.5	890.48	-4285	-3568	-4093	1.2809	1.2809	-9949	12406	4450	19031	16109	3266	19376		4.73	Si
SLV 16	9.66	761.07	-3568	-2971	3961	1.2809	1.2809	-8284	12073	4330	19031	16109	3266	19376		4.89	Si
SLV 16	11.5	-1161.61	-3893	-3242	4231	1.2809	1.0263	-11340	12685	3645	19031	16109	3266	19376		4.58	Si
SLV 5	9.66	-849.57	-7454	-6207	-4017	1.2809	1.2809	-17306	13878	4977	19031	16109	3266	19376		4.82	Si
SLV 5	11.5	799.88	-3577	-2979	-2383	1.2809	1.2505	-8305	12078	4229	19031	16109	3266	19376		8.13	Si
SLV 4	9.66	-1096.78	-6904	-5749	-4206	1.2809	1.2809	-16031	13623	4886	19031	16109	3266	19376		4.61	Si
SLV 4	11.5	401.97	-4567	-3803	-2955	1.2809	1.2809	-10604	12537	4497	19031	16109	3266	19376		6.56	Si
SLV 11	9.66	532.55	-3303	-2750	3468	1.2809	1.2809	-7668	11950	4286	19031	16109	3266	19376		5.59	Si
SLV 11	11.5	-1297.55	-4316	-3594	3566	1.2809	1.0194	-12664	12949	3696	19031	16109	3266	19376		5.43	Si
SLV 15	9.66	920.11	-3173	-2642	4682	1.2809	1.0513	-7367	11890	3500	19031	16109	3266	19376		4.14	Si
SLV 15	11.5	-1297	-3723	-3100	4856	1.2809	0.8761	-12710	12959	3179	19031	16109	3266	19376		3.99	Si
SLV 13	9.66	672.68	-4118	-3429	3171	1.2809	1.2809	-9561	12329	4422	19031	16109	3266	19376		6.11	Si
SLV 13	11.5	-808.49	-3440	-2865	3718	1.2809	1.2163	-7988	12014	4092	19031	16109	3266	19376		5.21	Si
SLV 1	9.66	-1185.16	-7455	-6207	-4995	1.2809	1.2809	-17308	13878	4977	19031	16109	3266	19376		3.88	Si
SLV 1	11.5	755.09	-4114	-3426	-3468	1.2809	1.2809	-9553	12327	4421	19031	16109	3266	19376		5.59	Si
SLV 6	9.66	-956.65	-7720	-6428	-4502	1.2809	1.2809	-17923	14001	5022	19031	16109	3266	19376		4.3	Si
SLV 6	11.5	891.03	-3692	-3074	-2803	1.2809	1.1973	-8572	12131	4067	19031	16109	3266	19376		6.91	Si
SLD 2	9.66	-929.65	-6981	-5813	-3802	1.2809	1.2809	-16208	13658	4899	19031	16109	3266	19376		5.1	Si
SLD 2	11.5	482.95	-4191	-3490	-2450	1.2809	1.2809	-9731	12363	4434	19031	16109	3266	19376		7.91	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.58 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.47	9155	-3283	46.25	432.11	9.34	Si
SLV 13	179667	0.47	9829	-3525	46.25	461.76	9.98	Si
SLV 16	179667	0.47	9990	-3583	46.25	468.8	10.14	Si
SLV 11	179667	0.47	10528	-3776	46.25	492.18	10.64	Si
SLV 14	179667	0.47	10664	-3825	46.25	498.08	10.77	Si
SLV 12	179667	0.47	11090	-3978	46.25	516.43	11.17	Si
SLV 7	179667	0.47	12262	-4398	46.25	566.27	12.24	Si
SLV 9	179667	0.47	12775	-4582	46.25	587.81	12.71	Si
SLV 8	179667	0.47	12825	-4600	46.25	589.88	12.75	Si
SLV 10	179667	0.47	13338	-4784	46.25	611.22	13.22	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.58 Wa = 0.05 Ta = 0.0204

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-4567	-6904	-64	1.465	558.7	0.951	22.3824	4.39063	Si
SLV 8	-4633	-4569	24	1.456	565.4	0.952	22.2232	4.23539	Si
SLV 3	-4397	-6509	-67	1.512	541.4	0.95	23.13082	4.39063	Si
SLV 7	-4518	-4304	21	1.487	553.7	0.951	22.72441	4.23539	Si
SLV 2	-4285	-7849	-97	1.539	530.1	0.949	23.56439	4.39063	Si
SLV 12	-4431	-3568	67	1.502	544.9	0.95	22.97824	4.23539	Si
SLV 11	-4316	-3303	64	1.536	533.2	0.949	23.51906	4.23539	Si
SLV 1	-4114	-7455	-100	1.591	512.8	0.948	24.40361	4.39063	Si
SLV 16	-3893	-3568	79	1.67	490.3	0.945	25.67517	4.39063	Si
SLV 15	-3723	-3173	76	1.734	473	0.944	26.70362	4.39063	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.237	SLU 16	Si
V_SLU	15.333	SLU 82	Si
PF_SLV	2.021	SLV 15	Si
V_SLV	3.39	SLV 2	Si
PFFP_SLV	9.343	SLV 15	Si
R_SLV	5.098	SLV 4	Si

Maschio 191

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.404	-11.003	-0.749	L6	L7	2.656	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	7.95	879.3	-24778	-0.0000575	0.0003743	0.0035	2.6557	22132.56	25324.19	25324.19	28.8	No	Si
SLU 35	11.5	-888.16	-9586	-0.0000236	0.0003743	0.0035	2.6557	11116.94	13416.11	13416.11	15.11	No	Si
SLU 37	7.95	881.27	-24540	-0.000057	0.0003743	0.0035	2.6557	22022.51	25129.61	25129.61	28.52	No	Si
SLU 37	11.5	-864.11	-9432	-0.0000232	0.0003743	0.0035	2.6557	10963.52	13243.85	13243.85	15.33	No	Si
SLU 41	7.95	861.19	-25161	-0.0000584	0.0003743	0.0035	2.6557	22305.58	25638.85	25638.85	29.77	No	Si
SLU 41	11.5	-852.97	-9437	-0.0000231	0.0003743	0.0035	2.6557	10968.26	13249.15	13249.15	15.53	No	Si
SLU 74	7.95	939.86	-28642	-0.0000671	0.0003743	0.0035	2.6557	23643.14	28081.98	28081.98	29.88	No	Si
SLU 74	11.5	-959.57	-11031	-0.000027	0.0003743	0.0035	2.6557	12513.19	14950.31	14950.31	15.58	No	Si
SLU 77	7.95	1002.16	-29076	-0.0000685	0.0003743	0.0035	2.6557	23780.05	28307.1	28307.1	28.25	No	Si
SLU 77	11.5	-1002.95	-11289	-0.0000278	0.0003743	0.0035	2.6557	12754.24	15222.73	15222.73	15.18	No	Si
SLU 32	7.95	817	-24344	-0.0000562	0.0003743	0.0035	2.6557	21930.21	24969.58	24969.58	30.56	No	Si
SLU 32	11.5	-844.78	-9329	-0.0000229	0.0003743	0.0035	2.6557	10860.51	13128.97	13128.97	15.54	No	Si
SLU 27	7.95	780.78	-22317	-0.0000513	0.0003743	0.0035	2.6557	20897.72	23342.88	23342.88	29.9	No	Si
SLU 27	11.5	-812.93	-8974	-0.000022	0.0003743	0.0035	2.6557	10503.75	12737.83	12737.83	15.67	No	Si
SLU 69	7.95	903.63	-26616	-0.000062	0.0003743	0.0035	2.6557	22916.26	26833.54	26833.54	29.7	No	Si
SLU 69	11.5	-927.72	-10677	-0.0000261	0.0003743	0.0035	2.6557	12177.59	14577.75	14577.75	15.71	No	Si
SLU 83	7.95	984.05	-29459	-0.0000694	0.0003743	0.0035	2.6557	23895.34	28506.99	28506.99	28.97	No	Si
SLU 83	11.5	-967.76	-11139	-0.0000273	0.0003743	0.0035	2.6557	12614.5	15064.3	15064.3	15.57	No	Si
SLU 79	7.95	1004.13	-28838	-0.000068	0.0003743	0.0035	2.6557	23705.85	28183.55	28183.55	28.07	No	Si
SLU 79	11.5	-978.9	-11134	-0.0000273	0.0003743	0.0035	2.6557	12610.04	15059.27	15059.27	15.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	7.95	2451.35	-14000	-0.0000398	0.0005615	0.0035	2.6557		17049.4	17049.4	6.96		Si
SLV 16	11.5	-1113.03	-5362	-0.0000157	0.0005615	0.0035	2.6557		8716.08	8716.08	7.83		Si
SLV 11	7.95	3591.16	-10649	-0.000038	0.0005615	0.0035	2.6557		13484.54	13484.54	3.75		Si
SLV 11	11.5	-2207.17	-1664	-0.0000773	0.0005615	0.0035	2.1245		4084.59	4084.59	1.85		Si
SLV 8	7.95	2682.9	-13397	-0.0000396	0.0005615	0.0035	2.6557		16471.83	16471.83	6.14		Si
SLV 8	11.5	-2200.41	-2286	-0.000022	0.0005615	0.0035	2.1245		4878.68	4878.68	2.22		Si
SLD 8	7.95	1803.3	-16048	-0.0000412	0.0005615	0.0035	2.6557		19029.25	19029.25	10.55		Si
SLD 8	11.5	-1543.64	-4504	-0.0000159	0.0005615	0.0035	2.6557		7665.16	7665.16	4.97		Si
SLV 15	7.95	2713.94	-13236	-0.0000394	0.0005615	0.0035	2.6557		16318.68	16318.68	6.01		Si
SLV 15	11.5	-1107.7	-5063	-0.0000151	0.0005615	0.0035	2.6557		8351.46	8351.46	7.54		Si
SLV 7	7.95	2859.67	-12883	-0.0000394	0.0005615	0.0035	2.6557		15974.63	15974.63	5.59		Si
SLV 7	11.5	-2196.82	-2085	-0.0000265	0.0005615	0.0035	2.1245		4622.75	4622.75	2.1		Si
SLV 12	7.95	3414.38	-11163	-0.0000383	0.0005615	0.0035	2.6557		14070.55	14070.55	4.12		Si
SLV 12	11.5	-2210.76	-1865	-0.0000418	0.0005615	0.0035	2.1245		4341.66	4341.66	1.96		Si
SLD 12	7.95	2271.46	-14619	-0.0000403	0.0005615	0.0035	2.6557		17643.92	17643.92	7.77		Si
SLD 12	11.5	-1550.27	-4235	-0.0000154	0.0005615	0.0035	2.6557		7329.69	7329.69	4.73		Si
SLD 7	7.95	1910.58	-15736	-0.000041	0.0005615	0.0035	2.6557		18725.55	18725.55	9.8		Si
SLD 7	11.5	-1541.47	-4382	-0.0000156	0.0005615	0.0035	2.6557		7513.23	7513.23	4.87		Si
SLD 11	7.95	2378.74	-14307	-0.0000402	0.0005615	0.0035	2.6557		17343.42	17343.42	7.29		Si
SLD 11	11.5	-1548.1	-4113	-0.0000151	0.0005615	0.0035	2.6557		7177.14	7177.14	4.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	7.95	969.83	-29554	-24610	5274	2.6557	2.6557	-33096	10833	10042	40441	22266	6772	29038	No	5.51	Si
SLU 84	11.5	-933.76	-11210	-9335	4846	2.6557	2.6557	-12554	8618	6408	40441	22266	6772	29038	No	5.99	Si
SLU 83	7.95	984.05	-29459	-24531	5266	2.6557	2.6557	-32990	10833	10018	40441	22266	6772	29038	No	5.51	Si
SLU 83	11.5	-967.76	-11139	-9276	4860	2.6557	2.6557	-12474	8608	6401	40441	22266	6772	29038	No	5.97	Si
SLU 78	7.95	987.93	-29171	-24291	5350	2.6557	2.6557	-32668	10833	9946	40441	22266	6772	29038	No	5.43	Si
SLU 78	11.5	-968.95	-11360	-9459	4775	2.6557	2.6557	-12721	8641	6425	40441	22266	6772	29038	No	6.08	Si
SLU 76	7.95	918.12	-28562	-23784	5158	2.6557	2.6557	-31986	10833	9795	40441	22266	6772	29038	No	5.63	Si
SLU 76	11.5	-878.85	-10995	-9156	4606	2.6557	2.6557	-12313	8586	6385	40441	22266	6772	29038	No	6.3	Si
SLU 82	7.95	907.52	-29120	-24249	5121	2.6557	2.6557	-32610	10833	9933	40441	22266	6772	29038	No	5.67	Si
SLU 82	11.5	-890.38	-10953	-9120	4731	2.6557	2.6557	-12265	8580	6380	40441	22266	6772	29038	No	6.14	Si
SLU 80	7.95	989.9	-28933	-24093	5306	2.6557	2.6557	-32401	10833	9887	40441	22266	6772	29038	No	5.47	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	11.5	-944.9	-11205	-9331	4731	2.6557	2.6557	-12548	8618	6408	40441	22266	6772	29038	No	6.14	Si
SLU 77	7.95	1002.16	-29076	-24212	5342	2.6557	2.6557	-32561	10833	9923	40441	22266	6772	29038	No	5.44	Si
SLU 77	11.5	-1002.95	-11289	-9400	4789	2.6557	2.6557	-12642	8630	6417	40441	22266	6772	29038	No	6.06	Si
SLU 74	7.95	939.86	-28642	-23851	5189	2.6557	2.6557	-32075	10833	9814	40441	22266	6772	29038	No	5.6	Si
SLU 74	11.5	-959.57	-11031	-9186	4674	2.6557	2.6557	-12353	8592	6389	40441	22266	6772	29038	No	6.21	Si
SLU 75	7.95	925.63	-28737	-23930	5197	2.6557	2.6557	-32182	10833	9838	40441	22266	6772	29038	No	5.59	Si
SLU 75	11.5	-925.57	-11102	-9245	4660	2.6557	2.6557	-12433	8602	6396	40441	22266	6772	29038	No	6.23	Si
SLU 79	7.95	1004.13	-28838	-24014	5298	2.6557	2.6557	-32295	10833	9863	40441	22266	6772	29038	No	5.48	Si
SLU 79	11.5	-978.9	-11134	-9272	4745	2.6557	2.6557	-12469	8607	6400	40441	22266	6772	29038	No	6.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	7.95	2271.46	-14619	-12173	4328	2.6557	2.6557	-16371	13691	10180	40441	33399	6772	40171		9.28	Si
SLD 12	11.5	-1550.27	-4235	-3527	3114	2.6557	2.6557	-4743	11365	8451	40441	33399	6772	40171		12.9	Si
SLV 11	7.95	3591.16	-10649	-8868	4873	2.6557	2.6557	-11925	12802	9519	40441	33399	6772	40171		8.24	Si
SLV 11	11.5	-2207.17	-1664	-1385	3194	2.1245	0.0031	0	0	0	40441	26720	5418	32137		10.06	Si
SLV 4	7.95	13.07	-21445	-17858	3951	2.6557	2.6557	-24016	15220	11317	40441	33399	6772	40171		10.17	Si
SLV 4	11.5	-1078.53	-6767	-5635	3319	2.6557	2.6557	-7578	11932	8873	40441	33399	6772	40171		12.1	Si
SLD 11	7.95	2378.74	-14307	-11913	4311	2.6557	2.6557	-16021	13621	10128	40441	33399	6772	40171		9.32	Si
SLD 11	11.5	-1548.1	-4113	-3425	3132	2.6557	2.6557	-4606	11338	8431	40441	33399	6772	40171		12.82	Si
SLD 7	7.95	1910.58	-15736	-13104	4311	2.6557	2.6557	-17622	13941	10366	40441	33399	6772	40171		9.32	Si
SLD 7	11.5	-1541.47	-4382	-3649	3220	2.6557	2.6557	-4907	11398	8475	40441	33399	6772	40171		12.48	Si
SLV 7	7.95	2859.67	-12883	-10728	4873	2.6557	2.6557	-14427	13302	9891	40441	33399	6772	40171		8.24	Si
SLV 7	11.5	-2196.82	-2085	-1736	3330	2.1245	0.8227	0	0	0	40441	26720	5418	32137		9.65	Si
SLD 8	7.95	1803.3	-16048	-13363	4328	2.6557	2.6557	-17972	14011	10418	40441	33399	6772	40171		9.28	Si
SLD 8	11.5	-1543.64	-4504	-3751	3202	2.6557	2.6557	-5044	11425	8496	40441	33399	6772	40171		12.55	Si
SLV 12	7.95	3414.38	-11163	-9296	4901	2.6557	2.6557	-12501	12917	9605	40441	33399	6772	40171		8.2	Si
SLV 12	11.5	-2210.76	-1865	-1553	3164	2.1245	0.4272	0	0	0	40441	26720	5418	32137		10.16	Si
SLV 16	7.95	2451.35	-14000	-11658	3951	2.6557	2.6557	-15679	13552	10077	40441	33399	6772	40171		10.17	Si
SLV 16	11.5	-1113.03	-5362	-4465	2864	2.6557	2.6557	-6004	11618	8639	40441	33399	6772	40171		14.02	Si
SLV 8	7.95	2682.9	-13397	-11156	4901	2.6557	2.6557	-15003	13417	9977	40441	33399	6772	40171		8.2	Si
SLV 8	11.5	-2200.41	-2286	-1904	3300	2.1245	1.0964	0	0	0	40441	26720	5418	32137		9.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.45	7478	-5561	339.31	740.39	2.18	Si
SLV 12	179667	0.45	7807	-5805	339.31	771.14	2.27	Si
SLV 7	179667	0.45	8427	-6267	339.31	828.9	2.44	Si
SLV 8	179667	0.45	8756	-6511	339.31	859.22	2.53	Si
SLV 15	179667	0.45	12286	-9135	339.31	1176.08	3.47	Si
SLV 16	179667	0.45	12773	-9498	339.31	1218.5	3.59	Si
SLV 3	179667	0.45	15449	-11488	339.31	1445.6	4.26	Si
SLV 4	179667	0.45	15937	-11850	339.31	1485.92	4.38	Si
SLV 13	179667	0.45	17424	-12956	339.31	1606.89	4.74	Si
SLV 14	179667	0.45	17911	-13318	339.31	1645.9	4.85	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-13543	-28591	-411	0.957	1753.5	0.94	14.7848	5.24939	Si
SLV 5	-13341	-28077	-411	0.968	1733.2	0.94	14.97589	5.24939	Si
SLV 10	-13121	-26358	329	0.987	1710.9	0.939	15.27246	5.24939	Si
SLV 2	-10144	-26004	-1251	1.138	1410	0.929	17.8182	6.07522	Si
SLV 9	-12920	-25843	329	0.999	1690.5	0.938	15.4756	5.24939	Si
SLV 1	-9845	-25240	-1251	1.165	1379.8	0.927	18.26358	6.07522	Si
SLV 14	-8739	-18559	1216	1.281	1268.5	0.922	20.175	6.07522	Si
SLV 13	-8440	-17795	1216	1.315	1238.5	0.921	20.74775	6.07522	Si
SLV 4	-6767	-21445	-1231	1.547	1071.1	0.912	24.63975	6.07522	Si
SLV 3	-6468	-20682	-1230	1.598	1041.4	0.911	25.50021	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.105	SLU 35	Si
V_SLU	5.427	SLU 78	Si
PF_SLV	1.851	SLV 11	Si
V_SLV	8.196	SLV 12	Si
PFFP_SLV	2.182	SLV 11	Si
R_SLV	2.816	SLV 6	Si

Maschio 192

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-0.354	-11.003	0.907	L6	L7	1.261	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 30	7.95	-353.97	-7377	-0.0000398	0.0003743	0.0035	1.2609	3696.18	4330.11	4330.11	12.23	No	Si
SLU 30	11.5	968.44	-6930	-0.0000509	0.0003743	0.0035	1.2609	3526.67	3765.39	3765.39	3.89	No	Si
SLU 72	7.95	-344.72	-9011	-0.0000473	0.0003743	0.0035	1.2609	4256.84	5031.99	5031.99	14.6	No	Si
SLU 72	11.5	1085.66	-8115	-0.0000592	0.0003743	0.0035	1.2609	3961	4350.51	4350.51	4.01	No	Si
SLU 26	7.95	-349.98	-7244	-0.0000391	0.0003743	0.0035	1.2609	3646.6	4270.6	4270.6	12.2	No	Si
SLU 26	11.5	925.93	-6712	-0.0000489	0.0003743	0.0035	1.2609	3441.31	3659.3	3659.3	3.95	No	Si
SLU 70	7.95	-363.23	-9065	-0.000048	0.0003743	0.0035	1.2609	4273.76	5054.61	5054.61	13.92	No	Si
SLU 70	11.5	1110	-8219	-0.0000603	0.0003743	0.0035	1.2609	3996.83	4391.83	4391.83	3.96	No	Si
SLU 29	7.95	-316.46	-7375	-0.000039	0.0003743	0.0035	1.2609	3695.46	4329.24	4329.24	13.68	No	Si
SLU 29	11.5	945.91	-6902	-0.0000503	0.0003743	0.0035	1.2609	3515.83	3751.76	3751.76	3.97	No	Si
SLU 28	7.95	-372.47	-7431	-0.0000404	0.0003743	0.0035	1.2609	3716.19	4354.19	4354.19	11.69	No	Si
SLU 28	11.5	992.79	-7034	-0.0000519	0.0003743	0.0035	1.2609	3566.83	3816.31	3816.31	3.84	No	Si
SLU 69	7.95	-325.72	-9063	-0.0000472	0.0003743	0.0035	1.2609	4273.15	5053.79	5053.79	15.52	No	Si
SLU 69	11.5	1087.47	-8191	-0.0000596	0.0003743	0.0035	1.2609	3987.25	4380.92	4380.92	4.03	No	Si
SLU 24	7.95	-305.97	-7295	-0.0000384	0.0003743	0.0035	1.2609	3665.65	4293.44	4293.44	14.03	No	Si
SLU 24	11.5	912.72	-6769	-0.0000489	0.0003743	0.0035	1.2609	3464	3687.23	3687.23	4.04	No	Si
SLU 27	7.95	-334.97	-7429	-0.0000396	0.0003743	0.0035	1.2609	3715.48	4353.32	4353.32	13	No	Si
SLU 27	11.5	970.26	-7006	-0.0000513	0.0003743	0.0035	1.2609	3556.09	3802.63	3802.63	3.92	No	Si
SLU 25	7.95	-343.48	-7297	-0.0000392	0.0003743	0.0035	1.2609	3666.38	4294.31	4294.31	12.5	No	Si
SLU 25	11.5	935.25	-6797	-0.0000495	0.0003743	0.0035	1.2609	3474.97	3700.8	3700.8	3.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	7.95	2714.4	-8215	-0.0001031	0.0005615	0.0035	1.2609		4570.83	4570.83	1.68		Si
SLV 4	11.5	-50.87	-4494	-0.0000201	0.0005615	0.0035	1.2609		3008.85	3008.85	59.14		Si
SLV 8	7.95	3403.62	-7276	-0.0001791	0.0005615	0.0035	1.2609		4134.13	4134.13	1.21		Si
SLV 8	11.5	-786.4	-3954	-0.0000326	0.0005615	0.0035	1.2609		2707.9	2707.9	3.44		Si
SLV 12	7.95	2286.61	-6487	-0.0000867	0.0005615	0.0035	1.2609		3771.67	3771.67	1.65		Si
SLV 12	11.5	-611.51	-4456	-0.0000313	0.0005615	0.0035	1.2609		2987.85	2987.85	4.89		Si
SLV 3	7.95	2696.74	-8167	-0.0001023	0.0005615	0.0035	1.2609		4548.2	4548.2	1.69		Si
SLV 3	11.5	-79.43	-4437	-0.0000204	0.0005615	0.0035	1.2609		2977.44	2977.44	37.49		Si
SLV 7	7.95	3391.73	-7244	-0.0001788	0.0005615	0.0035	1.2609		4119.11	4119.11	1.21		Si
SLV 7	11.5	-805.62	-3915	-0.0000329	0.0005615	0.0035	1.2609		2686.62	2686.62	3.33		Si
SLV 10	7.95	-3414.21	-6514	-0.000253	0.0005615	0.0035	1.0087		4088.4	4088.4	1.2		Si
SLV 10	11.5	2059.63	-7646	-0.0000782	0.0005615	0.0035	1.2609		4305.11	4305.11	2.09		Si
SLV 14	7.95	-2719.21	-5591	-0.0001502	0.0005615	0.0035	1.0087		3604.35	3604.35	1.33		Si
SLV 14	11.5	1333.44	-7124	-0.0000583	0.0005615	0.0035	1.2609		4063.89	4063.89	3.05		Si
SLV 9	7.95	-3426.1	-6481	-0.0002639	0.0005615	0.0035	1.0087		4071.59	4071.59	1.19		Si
SLV 9	11.5	2040.41	-7607	-0.0000775	0.0005615	0.0035	1.2609		4287.38	4287.38	2.1		Si
SLV 11	7.95	2274.72	-6454	-0.0000862	0.0005615	0.0035	1.2609		3756.85	3756.85	1.65		Si
SLV 11	11.5	-630.73	-4417	-0.0000315	0.0005615	0.0035	1.2609		2966.69	2966.69	4.7		Si
SLV 13	7.95	-2736.88	-5542	-0.0001576	0.0005615	0.0035	1.0087		3578.25	3578.25	1.31		Si
SLV 13	11.5	1304.88	-7067	-0.0000575	0.0005615	0.0035	1.2609		4037.77	4037.77	3.09		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 60	7.95	639.79	-9591	-7986	2044	1.2609	1.2609	-22621	9961	3517	40441	10572	3215	13787	No	6.75	Si
SLU 60	11.5	457.01	-7349	-6119	-311	1.2609	1.2609	-17332	9255	3268	40441	10572	3215	13787	No	44.36	Si
SLU 84	7.95	438.28	-10501	-8744	2109	1.2609	1.2609	-24767	10247	3618	40441	10572	3215	13787	No	6.54	Si
SLU 84	11.5	742.46	-8770	-7303	-450	1.2609	1.2609	-20685	9703	3425	40441	10572	3215	13787	No	30.62	Si
SLU 61	7.95	602.29	-9593	-7988	2011	1.2609	1.2609	-22625	9961	3517	40441	10572	3215	13787	No	6.86	Si
SLU 61	11.5	479.54	-7377	-6143	-325	1.2609	1.2609	-17398	9264	3271	40441	10572	3215	13787	No	42.45	Si
SLU 81	7.95	504.79	-10365	-8631	2143	1.2609	1.2609	-24446	10204	3603	40441	10572	3215	13787	No	6.43	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	11.5	662.4	-8505	-7083	-398	1.2609	1.2609	-20061	9619	3396	40441	10572	3215	13787	No	34.61	Si
SLU 83	7.95	475.79	-10499	-8742	2141	1.2609	1.2609	-24762	10246	3617	40441	10572	3215	13787	No	6.44	Si
SLU 83	11.5	719.93	-8742	-7280	-436	1.2609	1.2609	-20620	9694	3422	40441	10572	3215	13787	No	31.6	Si
SLU 39	7.95	495.54	-8730	-7270	1958	1.2609	1.2609	-20591	9690	3421	40441	10572	3215	13787	No	7.04	Si
SLU 39	11.5	545.18	-7321	-6096	-262	1.2609	1.2609	-17266	9247	3265	40441	10572	3215	13787	No	52.53	Si
SLU 41	7.95	466.54	-8864	-7381	1956	1.2609	1.2609	-20907	9732	3436	40441	10572	3215	13787	No	7.05	Si
SLU 41	11.5	602.71	-7557	-6293	-300	1.2609	1.2609	-17825	9321	3291	40441	10572	3215	13787	No	45.88	Si
SLU 62	7.95	610.8	-9725	-8098	2042	1.2609	1.2609	-22936	10003	3531	40441	10572	3215	13787	No	6.75	Si
SLU 62	11.5	514.55	-7585	-6316	-349	1.2609	1.2609	-17891	9330	3294	40441	10572	3215	13787	No	39.53	Si
SLU 82	7.95	467.28	-10367	-8632	2110	1.2609	1.2609	-24451	10205	3603	40441	10572	3215	13787	No	6.53	Si
SLU 82	11.5	684.93	-8533	-7106	-412	1.2609	1.2609	-20127	9628	3399	40441	10572	3215	13787	No	33.44	Si
SLU 63	7.95	573.29	-9726	-8099	2009	1.2609	1.2609	-22941	10003	3532	40441	10572	3215	13787	No	6.86	Si
SLU 63	11.5	537.08	-7613	-6340	-363	1.2609	1.2609	-17957	9339	3297	40441	10572	3215	13787	No	38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	7.95	2696.74	-8167	-6801	2773	1.2609	0.9007	-19262	14269	3599	40441	15858	3215	19073		6.88	Si
SLV 3	11.5	-79.43	-4437	-3695	-393	1.2609	1.2609	-10465	12510	4417	40441	15858	3215	19073		48.56	Si
SLV 9	7.95	-3426.1	-6481	-5397	-1921	1.0087	0.3055	0	0	0	40441	12686	2572	15259		7.94	Si
SLV 9	11.5	2040.41	-7607	-6335	-913	1.2609	1.0867	-17943	14005	4261	40441	15858	3215	19073		20.88	Si
SLV 12	7.95	2286.61	-6487	-5401	3275	1.2609	0.8338	-15299	13477	3146	40441	15858	3215	19073		5.82	Si
SLV 12	11.5	-611.51	-4456	-3710	-66	1.2609	1.2609	-10509	12518	4420	40441	15858	3215	19073		289.37	Si
SLV 7	7.95	3391.73	-7244	-6032	3871	1.2609	0.4867	-17085	13834	3308	40441	15858	3215	19073		4.93	Si
SLV 7	11.5	-805.62	-3915	-3260	-63	1.2609	1.2609	-9235	12264	4330	40441	15858	3215	19073		300.61	Si
SLV 4	7.95	2714.4	-8215	-6841	2800	1.2609	0.9001	-19376	14292	3602	40441	15858	3215	19073		6.81	Si
SLV 4	11.5	-50.87	-4494	-3742	-434	1.2609	1.2609	-10598	12536	4426	40441	15858	3215	19073		43.93	Si
SLD 7	7.95	2013.17	-7114	-5924	2693	1.2609	1.0424	-16780	13773	4020	40441	15858	3215	19073		7.08	Si
SLD 7	11.5	-216.93	-4674	-3892	-247	1.2609	1.2609	-11023	12621	4456	40441	15858	3215	19073		77.27	Si
SLV 10	7.95	-3414.21	-6514	-5424	-1903	1.0087	0.3189	0	0	0	40441	12686	2572	15259		8.02	Si
SLV 10	11.5	2059.63	-7646	-6367	-941	1.2609	1.0832	-18033	14023	4253	40441	15858	3215	19073		20.26	Si
SLD 8	7.95	2020.38	-7134	-5941	2704	1.2609	1.0417	-16826	13782	4020	40441	15858	3215	19073		7.05	Si
SLD 8	11.5	-205.27	-4697	-3911	-264	1.2609	1.2609	-11078	12632	4460	40441	15858	3215	19073		72.31	Si
SLV 8	7.95	3403.62	-7276	-6059	3890	1.2609	0.4881	-17162	13849	3315	40441	15858	3215	19073		4.9	Si
SLV 8	11.5	-786.4	-3954	-3292	-91	1.2609	1.2609	-9325	12282	4336	40441	15858	3215	19073		208.8	Si
SLV 11	7.95	2274.72	-6454	-5374	3256	1.2609	0.834	-15223	13461	3143	40441	15858	3215	19073		5.86	Si
SLV 11	11.5	-630.73	-4417	-3678	-38	1.2609	1.2609	-10419	12500	4413	40441	15858	3215	19073		501.71	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.45	13220	-4667	161.1	596.87	3.7	Si
SLV 12	179667	0.45	13322	-4703	161.1	601.05	3.73	Si
SLV 7	179667	0.45	14084	-4972	161.1	631.94	3.92	Si
SLV 15	179667	0.45	14167	-5002	161.1	635.26	3.94	Si
SLV 8	179667	0.45	14186	-5009	161.1	636.06	3.95	Si
SLV 16	179667	0.45	14318	-5055	161.1	641.36	3.98	Si
SLV 13	179667	0.45	15863	-5600	161.1	702.62	4.36	Si
SLV 14	179667	0.45	16015	-5654	161.1	708.56	4.4	Si
SLV 3	179667	0.45	17046	-6018	161.1	748.51	4.65	Si
SLV 4	179667	0.45	17198	-6072	161.1	754.33	4.68	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-7124	-5591	302	0.867	902.9	0.944	13.33654	6.07522	Si
SLV 13	-7067	-5542	302	0.872	897.2	0.944	13.42945	6.07522	Si
SLV 10	-7646	-6514	103	0.84	955.8	0.947	12.89151	5.24939	Si
SLV 9	-7607	-6481	103	0.843	951.9	0.947	12.94806	5.24939	Si
SLV 16	-6167	-5583	289	0.977	805.9	0.939	15.12441	6.07522	Si
SLV 15	-6110	-5534	288	0.984	800.2	0.938	15.24463	6.07522	Si
SLV 6	-7143	-7303	-80	0.891	904.9	0.944	13.71825	5.24939	Si
SLV 5	-7105	-7271	-80	0.895	901	0.944	13.78174	5.24939	Si
SLV 2	-5451	-8223	-309	1.076	733.5	0.934	16.74661	6.07522	Si
SLV 1	-5394	-8175	-309	1.085	727.7	0.933	16.89404	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.844	SLU 28	Si
V_SLU	6.434	SLU 81	Si
PF_SLV	1.188	SLV 9	Si
V_SLV	4.903	SLV 8	Si
PFFP_SLV	3.705	SLV 11	Si
R_SLV	2.195	SLV 14	Si

Maschio 194

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.521	L6	L7	5.38	0.2	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	7.95	-15334.75	-31910	-0.0000621	0.0004492	0.0035	5.38	65003.88	91434.5	91434.5	5.96	No	Si
SLU 84	11.5	-3423.3	-16766	-0.0000253	0.0004492	0.0035	5.38	39348.47	58466.85	58466.85	17.08	No	Si
SLU 82	7.95	-15409.17	-30836	-0.0000607	0.0004492	0.0035	5.38	63493.72	89207.67	89207.67	5.79	No	Si
SLU 82	11.5	-3316.11	-16019	-0.0000242	0.0004492	0.0035	5.38	37841.46	56732.36	56732.36	17.11	No	Si
SLU 73	7.95	-14907.98	-29905	-0.0000587	0.0004492	0.0035	5.38	62146.5	87277.42	87277.42	5.85	No	Si
SLU 73	11.5	-3122.43	-15536	-0.0000233	0.0004492	0.0035	5.38	36852.58	55608.21	55608.21	17.81	No	Si
SLU 52	7.95	-13415.33	-26622	-0.0000522	0.0004492	0.0035	5.38	57111.5	80469.09	80469.09	6	No	Si
SLU 52	11.5	-2774.2	-13722	-0.0000205	0.0004492	0.0035	5.38	33060.13	51393.91	51393.91	18.53	No	Si
SLU 40	7.95	-13109.59	-25863	-0.0000507	0.0004492	0.0035	5.38	55885.43	78813.04	78813.04	6.01	No	Si
SLU 40	11.5	-2789.73	-13490	-0.0000203	0.0004492	0.0035	5.38	32564.9	50854.39	50854.39	18.23	No	Si
SLU 81	7.95	-15230.67	-31100	-0.0000608	0.0004492	0.0035	5.38	63870.25	89756.42	89756.42	5.89	No	Si
SLU 81	11.5	-3426.79	-16156	-0.0000245	0.0004492	0.0035	5.38	38118.18	57048.89	57048.89	16.65	No	Si
SLU 60	7.95	-13738.02	-27817	-0.0000542	0.0004492	0.0035	5.38	58995.88	82948.09	82948.09	6.04	No	Si
SLU 60	11.5	-3078.56	-14342	-0.0000217	0.0004492	0.0035	5.38	34371.73	52834.58	52834.58	17.16	No	Si
SLU 76	7.95	-14833.56	-30979	-0.0000601	0.0004492	0.0035	5.38	63697.57	89504.24	89504.24	6.03	No	Si
SLU 76	11.5	-3229.63	-16282	-0.0000244	0.0004492	0.0035	5.38	38374.36	57342.7	57342.7	17.76	No	Si
SLU 75	7.95	-14990.29	-31459	-0.000061	0.0004492	0.0035	5.38	64375.49	90499.42	90499.42	6.04	No	Si
SLU 75	11.5	-3423.5	-16591	-0.000025	0.0004492	0.0035	5.38	38997.69	58060.77	58060.77	16.96	No	Si
SLU 61	7.95	-13916.52	-27552	-0.0000541	0.0004492	0.0035	5.38	58583.8	82399.34	82399.34	5.92	No	Si
SLU 61	11.5	-2967.88	-14206	-0.0000214	0.0004492	0.0035	5.38	34084.91	52518.05	52518.05	17.7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	7.95	-25750.28	-14760	-0.0000694	0.0006738	0.0035	4.304		54317.79	54317.79	2.11		Si
SLV 13	11.5	-4850.42	-9006	-0.0000174	0.0006738	0.0035	5.38		40238.62	40238.62	8.3		Si
SLD 10	7.95	-24841.09	-9103	-0.0002011	0.0006738	0.0035	4.304		40480.78	40480.78	1.63		Si
SLD 10	11.5	-304.68	-4975	-0.0000064	0.0006738	0.0035	5.38		30103.85	30103.85	98.8		Si
SLD 9	7.95	-24560.87	-9356	-0.0001771	0.0006738	0.0035	4.304		41108.96	41108.96	1.67		Si
SLD 9	11.5	-377.04	-5108	-0.0000067	0.0006738	0.0035	5.38		30441.85	30441.85	80.74		Si
SLD 6	7.95	-21240.21	-9484	-0.0000882	0.0006738	0.0035	4.304		41427.95	41427.95	1.95		Si
SLD 6	11.5	1163.28	-4653	-0.0000072	0.0006738	0.0035	5.38		15071.09	15071.09	12.96		Si
SLV 10	7.95	-34939.5	-176	-0.0007377	0.0006738	0.0035	4.304		17805.1	17805.1	0.51		No
SLV 10	11.5	1229.98	-495	-0.0000101	0.0006738	0.0035	5.38		4241.57	4241.57	3.45		Si
SLV 6	7.95	-29313.42	-772	-0.0005839	0.0006738	0.0035	4.304		19346.2	19346.2	0.66		No
SLV 6	11.5	3524.86	9	-0.0005691	0.0006738	0.0035	4.304		2917.21	2917.21	0.83		No
SLV 5	7.95	-28851.66	-1188	-0.0005677	0.0006738	0.0035	4.304		20422.64	20422.64	0.71		No
SLV 5	11.5	3405.62	-211	-0.0004619	0.0006738	0.0035	4.304		3493.98	3493.98	1.03		Si
SLV 14	7.95	-26436.17	-14142	-0.0000766	0.0006738	0.0035	4.304		52846.77	52846.77	2		Si
SLV 14	11.5	-4673.3	-8680	-0.0000168	0.0006738	0.0035	5.38		39429.06	39429.06	8.44		Si
SLD 5	7.95	-20959.99	-9736	-0.0000779	0.0006738	0.0035	4.304		42056.13	42056.13	2.01		Si
SLD 5	11.5	1090.92	-4786	-0.0000072	0.0006738	0.0035	5.38		15413.76	15413.76	14.13		Si
SLV 9	7.95	-34477.74	-593	-0.0007205	0.0006738	0.0035	4.304		18881.54	18881.54	0.55		No
SLV 9	11.5	1110.73	-714	-0.0000027	0.0006738	0.0035	5.38		4817.94	4817.94	4.34		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 36	7.95	-12616.29	-27560	-17638	1108	5.38	5.38	-16392	10519	13271	115546	38669	27438	66107	No	59.66	Si
SLU 36	11.5	-3004.32	-14808	-9477	1136	5.38	5.38	-8808	9508	10230	115546	38669	27438	66107	No	58.2	Si
SLU 29	7.95	-10714.95	-25760	-16487	956	5.38	5.38	-15322	10376	12810	115546	38669	27438	66107	No	69.12	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 29	11.5	-2715.18	-13809	-8838	980	5.38	5.38	-8214	9428	10145	115546	38669	27438	66107	No	67.48	Si
SLU 37	7.95	-12162.06	-27521	-17613	1266	5.38	5.38	-16369	10516	13261	115546	38669	27438	66107	No	52.21	Si
SLU 37	11.5	-2994.92	-14726	-9425	1293	5.38	5.38	-8759	9501	10223	115546	38669	27438	66107	No	51.14	Si
SLU 38	7.95	-12340.56	-27256	-17444	1087	5.38	5.38	-16212	10495	13193	115546	38669	27438	66107	No	60.8	Si
SLU 38	11.5	-2884.24	-14590	-9338	1115	5.38	5.38	-8678	9490	10212	115546	38669	27438	66107	No	59.3	Si
SLU 35	7.95	-12437.79	-27824	-17808	1287	5.38	5.38	-16550	10540	13339	115546	38669	27438	66107	No	51.37	Si
SLU 35	11.5	-3115	-14944	-9564	1314	5.38	5.38	-8889	9519	10242	115546	38669	27438	66107	No	50.32	Si
SLU 79	7.95	-14461.64	-32494	-20796	1055	5.38	5.38	-19327	10833	14534	115546	38669	27438	66107	No	62.66	Si
SLU 79	11.5	-3521.29	-17255	-11043	1084	5.38	5.38	-10263	9702	10633	115546	38669	27438	66107	No	61	Si
SLU 32	7.95	-12512.21	-26750	-17120	988	5.38	5.38	-15911	10455	13064	115546	38669	27438	66107	No	66.92	Si
SLU 32	11.5	-3007.81	-14198	-9087	1014	5.38	5.38	-8445	9459	10178	115546	38669	27438	66107	No	65.22	Si
SLU 77	7.95	-14737.37	-32797	-20990	1076	5.38	5.38	-19508	10833	14612	115546	38669	27438	66107	No	61.45	Si
SLU 77	11.5	-3641.38	-17473	-11183	1105	5.38	5.38	-10393	9719	10689	115546	38669	27438	66107	No	59.83	Si
SLU 41	7.95	-12856.67	-27201	-17409	1100	5.38	5.38	-16179	10491	13179	115546	38669	27438	66107	No	60.11	Si
SLU 41	11.5	-3007.61	-14373	-9198	1127	5.38	5.38	-8549	9473	10193	115546	38669	27438	66107	No	58.67	Si
SLU 27	7.95	-10990.68	-26064	-16681	977	5.38	5.38	-15503	10400	12888	115546	38669	27438	66107	No	67.65	Si
SLU 27	11.5	-2835.27	-14027	-8978	1001	5.38	5.38	-8343	9446	10164	115546	38669	27438	66107	No	66.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	7.95	14517.35	-43364	-27753	16898	5.38	5.38	-25793	16250	20424	115546	58003	27438	85441		5.06	Si
SLV 7	11.5	-5893.94	-22072	-14126	14836	5.38	5.38	-13128	15126	16275	115546	58003	27438	85441		5.76	Si
SLV 9	7.95	-34477.74	-593	-379	-16400	4.304	0	0	0	0	115546	46403	21950	68353		4.17	Si
SLV 9	11.5	1110.73	-714	-457	-14304	5.38	3.4022	-425	12585	9506	115546	58003	27438	85441		5.97	Si
SLV 12	7.95	8429.51	-42352	-27105	14827	5.38	5.38	-25191	16250	20165	115546	58003	27438	85441		5.76	Si
SLV 12	11.5	-8069.58	-22356	-14308	12730	5.38	5.38	-13297	15159	16312	115546	58003	27438	85441		6.71	Si
SLD 10	7.95	-24841.09	-9103	-5826	-9800	4.304	0	0	0	0	115546	46403	21950	68353		6.97	Si
SLD 10	11.5	-304.68	-4975	-3184	-8562	5.38	5.38	-2959	13092	14087	115546	58003	27438	85441		9.98	Si
SLV 6	7.95	-29313.42	-772	-494	-14954	4.304	0	0	0	0	115546	46403	21950	68353		4.57	Si
SLV 6	11.5	3524.86	9	5	-12822	4.304	0	0	0	0	115546	46403	21950	68353		5.33	Si
SLV 10	7.95	-34939.5	-176	-113	-16713	4.304	0	0	0	0	115546	46403	21950	68353		4.09	Si
SLV 10	11.5	1229.98	-495	-317	-14616	5.38	0.612	-2488	13001	9450	115546	58003	27438	85441		5.85	Si
SLV 5	7.95	-28851.66	-1188	-761	-14641	4.304	0	0	0	0	115546	46403	21950	68353		4.67	Si
SLV 5	11.5	3405.62	-211	-135	-12510	4.304	0	0	0	0	115546	46403	21950	68353		5.46	Si
SLD 9	7.95	-24560.87	-9356	-5988	-9610	4.304	0.1942	0	0	0	115546	46403	21950	68353		7.11	Si
SLD 9	11.5	-377.04	-5108	-3269	-8373	5.38	5.38	-3038	13108	14104	115546	58003	27438	85441		10.2	Si
SLV 11	7.95	8891.27	-42768	-27372	15140	5.38	5.38	-25438	16250	20272	115546	58003	27438	85441		5.64	Si
SLV 11	11.5	-8188.82	-22575	-14448	13042	5.38	5.38	-13428	15186	16340	115546	58003	27438	85441		6.55	Si
SLV 8	7.95	14055.59	-42948	-27487	16585	5.38	5.38	-25545	16250	20318	115546	58003	27438	85441		5.15	Si
SLV 8	11.5	-5774.69	-21853	-13986	14524	5.38	5.38	-12998	15100	16247	115546	58003	27438	85441		5.88	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.11 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	2079	0.45	502.97	0	0	0	0	No
SLV 10	3119	0.45	502.97	0	0	0	0	No
SLV 9	2702	0.45	502.97	0	0	0	0	No
SLV 6	2495	0.45	502.97	0	0	0	0	No
SLV 14	-10717	0.45	502.97	1013.46	1729.47	1371.46	2.73	Si
SLV 13	-11335	0.45	502.97	1068.36	1800.58	1434.47	2.85	Si
SLV 2	-12796	0.45	502.97	1196.59	1968.44	1582.52	3.15	Si
SLV 1	-13414	0.45	502.97	1250.19	2039.25	1644.72	3.27	Si
SLD 10	-5754	0.19	208.12	558.61	1152.89	855.75	4.11	Si
SLD 9	-6007	0.19	208.12	582.36	1182.49	882.42	4.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.04 Ta = 0.1052

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-22575	-42768	325	1.181	2839.3	0.946	18.14964	6.06053	Si
SLV 12	-22356	-42352	325	1.191	2817.1	0.945	18.30728	6.06053	Si
SLV 7	-22072	-43364	-382	1.202	2788.2	0.945	18.48164	6.06053	Si
SLV 8	-21853	-42948	-382	1.212	2766	0.945	18.6455	6.06053	Si
SLV 15	-15564	-27413	1172	1.562	2129.6	0.931	24.38175	7.50598	Si
SLV 16	-15239	-26795	1172	1.589	2096.8	0.93	24.82208	7.50598	Si
SLV 3	-13886	-29399	-1186	1.71	1960.5	0.926	26.82308	7.50598	Si
SLV 4	-13561	-28781	-1186	1.742	1927.7	0.925	27.357	7.50598	Si
SLV 13	-9006	-14760	1191	2.369	1471.8	0.909	37.86816	7.50598	Si
SLV 14	-8680	-14142	1191	2.432	1439.5	0.908	38.93082	7.50598	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.789	SLU 82	Si
V_SLU	50.315	SLU 35	Si
PF_SLV	0.51	SLV 10	No
V_SLV	4.09	SLV 10	Si
PFFP_SLV	0	SLV 5	No
R_SLV	2.995	SLV 11	Si

Maschio 198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-11.003	-3.169	L6	L7	1.56	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	7.95	4063.3	-1295	-0.0005207	0.0003743	0.0035	1.5599	0	10940.95	10940.95	2.69	No	Si
SLU 84	10.05	-1628.26	-9282	-0.0000558	0.0003743	0.0035	1.5599	5728.59	14721.57	14721.57	9.04	No	Si
SLU 81	7.95	4036.59	-1132	-0.0005409	0.0003743	0.0035	1.5599	0	10798.03	10798.03	2.68	No	Si
SLU 81	10.05	-1610.24	-9078	-0.0000547	0.0003743	0.0035	1.5599	5635.02	14652.97	14652.97	9.1	No	Si
SLU 73	7.95	3987.17	-1211	-0.0005171	0.0003743	0.0035	1.5599	0	10867.36	10867.36	2.73	No	Si
SLU 73	10.05	-1559.69	-8927	-0.0000534	0.0003743	0.0035	1.5599	5564.64	14601.68	14601.68	9.36	No	Si
SLU 40	7.95	3703.58	-573	-0.0005735	0.0003743	0.0035	1.5599	0	10243.98	10243.98	2.77	No	Si
SLU 40	10.05	-1514.4	-7855	-0.0000485	0.0003743	0.0035	1.5599	5044.11	14229.83	14229.83	9.4	No	Si
SLU 82	7.95	4101.4	-1122	-0.0005572	0.0003743	0.0035	1.5599	0	10789.32	10789.32	2.63	No	Si
SLU 82	10.05	-1645.22	-9149	-0.0000555	0.0003743	0.0035	1.5599	5667.6	14676.8	14676.8	8.92	No	Si
SLU 75	7.95	3953.59	-1448	-0.0004753	0.0003743	0.0035	1.5599	0	11073.24	11073.24	2.8	No	Si
SLU 75	10.05	-1563.31	-9201	-0.0000545	0.0003743	0.0035	1.5599	5691.47	14694.3	14694.3	9.4	No	Si
SLU 74	7.95	3888.78	-1458	-0.0004606	0.0003743	0.0035	1.5599	0	11081.76	11081.76	2.85	No	Si
SLU 74	10.05	-1528.33	-9130	-0.0000537	0.0003743	0.0035	1.5599	5659.02	14670.51	14670.51	9.6	No	Si
SLU 83	7.95	3998.48	-1305	-0.0005051	0.0003743	0.0035	1.5599	0	10949.55	10949.55	2.74	No	Si
SLU 83	10.05	-1593.29	-9212	-0.000055	0.0003743	0.0035	1.5599	5696.34	14697.87	14697.87	9.22	No	Si
SLU 76	7.95	3949.06	-1384	-0.0004832	0.0003743	0.0035	1.5599	0	11018.1	11018.1	2.79	No	Si
SLU 76	10.05	-1542.74	-9060	-0.0000537	0.0003743	0.0035	1.5599	5626.67	14646.86	14646.86	9.49	No	Si
SLU 39	7.95	3638.77	-583	-0.0005562	0.0003743	0.0035	1.5599	0	10256.78	10256.78	2.82	No	Si
SLU 39	10.05	-1479.43	-7784	-0.0000478	0.0003743	0.0035	1.5599	5008.32	14204.69	14204.69	9.6	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	7.95	11282.64	2414	0.0000154	0.0005615	0.0035	1.2479		0	0	0		No
SLV 6	10.05	-4949.52	-14101	-0.0001257	0.0005615	0.0035	1.5599		18000.4	18000.4	3.64		Si
SLV 4	7.95	10759.23	7474	0.0099199	0.0005615	0.0035	1.2479		0	0	0		No
SLV 4	10.05	-3694.86	-8473	-0.0000905	0.0005615	0.0035	1.5599		15871.18	15871.18	4.3		Si
SLV 11	7.95	-6036.75	-4709	-0.000483	0.0005615	0.0035	1.5599		14079.46	14079.46	2.33		Si
SLV 11	10.05	3024.87	1685	0.0020598	0.0005615	0.0035	1.2479		0	0	0		No
SLD 1	7.95	8919.84	3900	0.0037924	0.0005615	0.0035	1.2479		0	0	0		No
SLD 1	10.05	-3394.48	-9536	-0.0000831	0.0005615	0.0035	1.5599		16310.63	16310.63	4.81		Si
SLV 2	7.95	14033.7	7892	0.0093519	0.0005615	0.0035	1.2479		0	0	0		No
SLV 2	10.05	-5381.96	-12363	-0.0001366	0.0005615	0.0035	1.5599		17390.17	17390.17	3.23		Si
SLD 2	7.95	9838.39	4631	0.0048039	0.0005615	0.0035	1.2479		0	0	0		No
SLD 2	10.05	-3743.07	-10036	-0.0000916	0.0005615	0.0035	1.5599		16511.47	16511.47	4.41		Si
SLV 5	7.95	10307.9	1638	-0.0012247	0.0005615	0.0035	1.5599		0	0	0		No
SLV 5	10.05	-4579.61	-13571	-0.000116	0.0005615	0.0035	1.5599		17820.26	17820.26	3.89		Si
SLD 4	7.95	7920.44	4384	0.0051282	0.0005615	0.0035	1.2479		0	0	0		No
SLD 4	10.05	-2755.03	-7758	-0.0000666	0.0005615	0.0035	1.5599		15566.04	15566.04	5.65		Si
SLD 3	7.95	7001.9	3653	0.004121	0.0005615	0.0035	1.2479		0	0	0		No
SLD 3	10.05	-2406.45	-7259	-0.0000588	0.0005615	0.0035	1.5599		15347.84	15347.84	6.38		Si
SLV 3	7.95	9311.36	6321	0.0082965	0.0005615	0.0035	1.2479		0	0	0		No
SLV 3	10.05	-3145.4	-7686	-0.0000757	0.0005615	0.0035	1.5599		15534.8	15534.8	4.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	7.95	4036.59	-1132	-942	5815	1.5599	0	0	10833	1653	12369	13079	3978	14022	No	2.41	Si
SLU 81	10.05	-1610.24	-9078	-7559	6960	1.5599	1.5599	-17308	9252	4041	12369	13079	3978	16410	No	2.36	Si
SLU 77	7.95	3850.67	-1631	-1358	5645	1.5599	0	0	10833	1764	12369	13079	3978	14133	No	2.5	Si
SLU 77	10.05	-1511.38	-9264	-7714	6802	1.5599	1.5599	-17662	9299	4062	12369	13079	3978	16431	No	2.42	Si
SLU 78	7.95	3915.49	-1621	-1350	5718	1.5599	0	0	10833	1762	12369	13079	3978	14131	No	2.47	Si
SLU 78	10.05	-1546.35	-9335	-7773	6900	1.5599	1.5599	-17797	9317	4070	12369	13079	3978	16439	No	2.38	Si
SLU 76	7.95	3949.06	-1384	-1153	5724	1.5599	0	0	10833	1709	12369	13079	3978	14078	No	2.46	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	10.05	-1542.74	-9060	-7544	6880	1.5599	1.5599	-17273	9248	4039	12369	13079	3978	16408	No	2.38	Si
SLU 75	7.95	3953.59	-1448	-1206	5758	1.5599	0	0	10833	1723	12369	13079	3978	14093	No	2.45	Si
SLU 75	10.05	-1563.31	-9201	-7662	6948	1.5599	1.5599	-17542	9283	4055	12369	13079	3978	16424	No	2.36	Si
SLU 84	7.95	4063.3	-1295	-1079	5848	1.5599	0	0	10833	1689	12369	13079	3978	14059	No	2.4	Si
SLU 84	10.05	-1628.26	-9282	-7730	7010	1.5599	1.5599	-17697	9304	4064	12369	13079	3978	16433	No	2.34	Si
SLU 82	7.95	4101.4	-1122	-934	5887	1.5599	0	0	10833	1651	12369	13079	3978	14020	No	2.38	Si
SLU 82	10.05	-1645.22	-9149	-7618	7058	1.5599	1.5599	-17443	9270	4049	12369	13079	3978	16418	No	2.33	Si
SLU 83	7.95	3998.48	-1305	-1087	5775	1.5599	0	0	10833	1692	12369	13079	3978	14061	No	2.43	Si
SLU 83	10.05	-1593.29	-9212	-7671	6912	1.5599	1.5599	-17562	9286	4056	12369	13079	3978	16425	No	2.38	Si
SLU 74	7.95	3888.78	-1458	-1214	5685	1.5599	0	0	10833	1725	12369	13079	3978	14095	No	2.48	Si
SLU 74	10.05	-1528.33	-9130	-7603	6850	1.5599	1.5599	-17407	9265	4047	12369	13079	3978	16416	No	2.4	Si
SLU 73	7.95	3987.17	-1211	-1008	5764	1.5599	0	0	10833	1671	12369	13079	3978	14040	No	2.44	Si
SLU 73	10.05	-1559.69	-8927	-7433	6928	1.5599	1.5599	-17019	9214	4024	12369	13079	3978	16394	No	2.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	7.95	11282.64	2414	2011	13920	1.2479	0	0	0	0	12369	15695	3182	12369		0.89	No
SLV 6	10.05	-4949.52	-14101	-11742	15917	1.5599	1.2868	-33094	16250	5855	12369	19618	3978	18224		1.14	Si
SLD 2	7.95	9838.39	4631	3856	12522	1.2479	0	0	0	0	12369	15695	3182	12369		0.99	No
SLD 2	10.05	-3743.07	-10036	-8357	12257	1.5599	1.2209	-24658	15356	5250	12369	19618	3978	17619		1.44	Si
SLV 2	7.95	14033.7	7892	6572	17524	1.2479	0	0	0	0	12369	15695	3182	12369		0.71	No
SLV 2	10.05	-5381.96	-12363	-10295	16720	1.5599	1.0338	-35762	16250	4848	12369	19618	3978	17217		1.03	Si
SLV 1	7.95	12585.83	6740	5612	15819	1.2479	0	0	0	0	12369	15695	3182	12369		0.78	No
SLV 1	10.05	-4832.5	-11576	-9639	15181	1.5599	1.0875	-31889	16250	4948	12369	19618	3978	17317		1.14	Si
SLV 5	7.95	10307.9	1638	1364	12772	1.5599	0	0	9540	2103	12369	19618	3978	14472		1.13	Si
SLV 5	10.05	-4579.61	-13571	-11301	14881	1.5599	1.3275	-30688	16250	6040	12369	19618	3978	18409		1.24	Si
SLD 3	7.95	7001.9	3653	3042	9276	1.2479	0	0	0	0	12369	15695	3182	12369		1.33	Si
SLD 3	10.05	-2406.45	-7259	-6045	8453	1.5599	1.3453	-16155	13649	5142	12369	19618	3978	17511		2.07	Si
SLD 1	7.95	8919.84	3900	3247	11441	1.2479	0	0	0	0	12369	15695	3182	12369		1.08	Si
SLD 1	10.05	-3394.48	-9536	-7941	11281	1.5599	1.272	-22496	14921	5314	12369	19618	3978	17684		1.57	Si
SLV 3	7.95	9311.36	6321	5264	12121	1.2479	0	0	0	0	12369	15695	3182	12369		1.02	Si
SLV 3	10.05	-3145.4	-7686	-6400	10351	1.5599	1.1122	-20606	14550	4531	12369	19618	3978	16900		1.63	Si
SLD 4	7.95	7920.44	4384	3651	10358	1.2479	0	0	0	0	12369	15695	3182	12369		1.19	Si
SLD 4	10.05	-2755.03	-7758	-6460	9429	1.5599	1.2745	-18224	14065	5019	12369	19618	3978	17389		1.84	Si
SLV 4	7.95	10759.23	7474	6223	13826	1.2479	0	0	0	0	12369	15695	3182	12369		0.89	No
SLV 4	10.05	-3694.86	-8473	-7056	11890	1.5599	1.0316	-24408	15321	4425	12369	19618	3978	16795		1.41	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.45	0	-683	194.29	0	0	No, e>t/2
SLV 8	179667	0.45	0	-1024	194.29	0	0	No, e>t/2
SLV 12	179667	0.45	0	248	194.29	0	0	No, Trazione
SLV 11	179667	0.45	0	588	194.29	0	0	No, Trazione
SLV 15	179667	0.45	3692	-1612	194.29	220.28	1.13	Si
SLV 16	179667	0.45	4851	-2119	194.29	287.19	1.48	Si
SLV 13	179667	0.45	11083	-4841	194.29	628.54	3.23	Si
SLV 14	179667	0.45	12242	-5347	194.29	688.59	3.54	Si
SLV 3	179667	0.45	13393	-5850	194.29	747.12	3.85	Si
SLV 4	179667	0.45	14552	-6356	194.29	805.02	4.14	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-5287	-9768	-66	1.349	760.6	0.924	21.22531	6.07522	Si
SLV 15	-5200	-10187	78	1.364	751.9	0.923	21.48258	6.07522	Si
SLV 14	-4989	-8615	-65	1.41	730.7	0.921	22.24555	6.07522	Si
SLV 16	-4902	-9034	80	1.427	722	0.921	22.52422	6.07522	Si
SLV 9	-3784	-3314	-237	1.696	610.2	0.91	27.07135	5.24939	Si
SLV 10	-3584	-2538	-236	1.763	590.3	0.908	28.20015	5.24939	Si
SLV 11	-3494	-4709	243	1.793	581.4	0.907	28.71268	5.24939	Si
SLV 12	-3294	-3933	244	1.868	561.6	0.905	29.97873	5.24939	Si
SLV 5	-2451	1638	-240	2.269	479	0.896	36.7912	5.24939	Si, Trazione
SLV 6	-2251	2414	-239	2.392	459.6	0.894	38.86914	5.24939	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.631	SLU 82	Si
V_SLU	2.326	SLU 82	Si
PF_SLV	0	SLD 1	No
V_SLV	0.706	SLV 2	No
PFFP_SLV	0	SLV 12	No
R_SLV	3.494	SLV 13	Si

Maschio 200

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L6	L7	4.31	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 30	7.95	3608.8	-16103	-0.0000436	0.0004492	0.0035	4.31	27122.46	33038.72	33038.72	9.16	No	Si
SLU 30	11.5	2321.63	-9201	-0.0000253	0.0004492	0.0035	4.31	17354.44	20311.78	20311.78	8.75	No	Si
SLU 50	7.95	3998.75	-16855	-0.0000464	0.0004492	0.0035	4.31	28018.46	34371.18	34371.18	8.6	No	Si
SLU 50	11.5	2355.62	-9609	-0.0000262	0.0004492	0.0035	4.31	18008.53	21089.48	21089.48	8.95	No	Si
SLU 49	7.95	3990.44	-17193	-0.0000471	0.0004492	0.0035	4.31	28411.04	34933.46	34933.46	8.75	No	Si
SLU 49	11.5	2417.69	-9896	-0.000027	0.0004492	0.0035	4.31	18462.84	21636.56	21636.56	8.95	No	Si
SLU 9	7.95	3227.66	-13833	-0.0000376	0.0004492	0.0035	4.31	24216.52	28963.62	28963.62	8.97	No	Si
SLU 9	11.5	2072.27	-7932	-0.0000219	0.0004492	0.0035	4.31	15253.91	17863.47	17863.47	8.62	No	Si
SLU 71	7.95	4379.89	-19125	-0.0000525	0.0004492	0.0035	4.31	30523.32	37922.78	37922.78	8.66	No	Si
SLU 71	11.5	2604.98	-10879	-0.0000296	0.0004492	0.0035	4.31	19984.55	23494.43	23494.43	9.02	No	Si
SLU 48	7.95	4028.42	-17148	-0.0000471	0.0004492	0.0035	4.31	28358.47	34862.81	34862.81	8.65	No	Si
SLU 48	11.5	2373.58	-9895	-0.0000269	0.0004492	0.0035	4.31	18462.65	21636.33	21636.33	9.12	No	Si
SLU 69	7.95	4409.56	-19418	-0.0000532	0.0004492	0.0035	4.31	30824.47	38375.91	38375.91	8.7	No	Si
SLU 69	11.5	2622.94	-11165	-0.0000302	0.0004492	0.0035	4.31	20417.4	24031.49	24031.49	9.16	No	Si
SLU 72	7.95	4341.91	-19171	-0.0000525	0.0004492	0.0035	4.31	30570.61	37993.43	37993.43	8.75	No	Si
SLU 72	11.5	2649.09	-10879	-0.0000297	0.0004492	0.0035	4.31	19984.74	23494.66	23494.66	8.87	No	Si
SLU 70	7.95	4371.58	-19463	-0.0000532	0.0004492	0.0035	4.31	30870.98	38446.56	38446.56	8.79	No	Si
SLU 70	11.5	2667.05	-11165	-0.0000304	0.0004492	0.0035	4.31	20417.58	24031.72	24031.72	9.01	No	Si
SLU 51	7.95	3960.78	-16900	-0.0000464	0.0004492	0.0035	4.31	28071.8	34452.1	34452.1	8.7	No	Si
SLU 51	11.5	2399.73	-9609	-0.0000263	0.0004492	0.0035	4.31	18008.73	21089.72	21089.72	8.79	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	7.95	6582.58	-8055	-0.000035	0.0006738	0.0035	4.31		18285.84	18285.84	2.78		Si
SLV 8	11.5	-1306.32	-5253	-0.0000142	0.0006738	0.0035	4.31		21889.98	21889.98	16.76		Si
SLV 5	7.95	113.7	-17789	-0.0000365	0.0006738	0.0035	4.31		36709.37	36709.37	322.86		Si
SLV 5	11.5	4428.14	-8244	-0.0000291	0.0006738	0.0035	4.31		18658.33	18658.33	4.21		Si
SLV 7	7.95	6524.41	-8090	-0.0000349	0.0006738	0.0035	4.31		18355.16	18355.16	2.81		Si
SLV 7	11.5	-1368.04	-5335	-0.0000145	0.0006738	0.0035	4.31		22053.19	22053.19	16.12		Si
SLV 11	7.95	5884.4	-10052	-0.000037	0.0006738	0.0035	4.31		22194.47	22194.47	3.77		Si
SLV 11	11.5	-1599.81	-6999	-0.0000185	0.0006738	0.0035	4.31		25351.99	25351.99	15.85		Si
SLD 7	7.95	5090.67	-10442	-0.0000355	0.0006738	0.0035	4.31		22951.22	22951.22	4.51		Si
SLD 7	11.5	-196.46	-6219	-0.000013	0.0006738	0.0035	4.31		23813.88	23813.88	121.22		Si
SLV 4	7.95	5099.64	-9153	-0.0000329	0.0006738	0.0035	4.31		20446.33	20446.33	4.01		Si
SLV 4	11.5	1007.72	-4309	-0.0000114	0.0006738	0.0035	4.31		10769.12	10769.12	10.69		Si
SLV 12	7.95	5942.57	-10016	-0.0000371	0.0006738	0.0035	4.31		22126.24	22126.24	3.72		Si
SLV 12	11.5	-1538.08	-6917	-0.0000182	0.0006738	0.0035	4.31		25190.93	25190.93	16.38		Si
SLV 6	7.95	171.87	-17754	-0.0000366	0.0006738	0.0035	4.31		36645.53	36645.53	213.21		Si
SLV 6	11.5	4489.87	-8162	-0.0000291	0.0006738	0.0035	4.31		18496.96	18496.96	4.12		Si
SLD 8	7.95	5125.97	-10421	-0.0000356	0.0006738	0.0035	4.31		22909.82	22909.82	4.47		Si
SLD 8	11.5	-159	-6170	-0.0000128	0.0006738	0.0035	4.31		23714.84	23714.84	149.15		Si
SLV 3	7.95	5013.23	-9205	-0.0000327	0.0006738	0.0035	4.31		20549.3	20549.3	4.1		Si
SLV 3	11.5	916.03	-4431	-0.0000114	0.0006738	0.0035	4.31		11016.41	11016.41	12.03		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 60	7.95	3812.09	-18056	-10011	1640	4.31	4.31	-16591	10545	7490	115546	21685	21981	43666	No	26.63	Si
SLU 60	11.5	1690.36	-9597	-5321	1636	4.31	4.31	-8819	9509	5738	115546	21685	21981	43666	No	26.69	Si
SLU 45	7.95	3835.26	-16664	-9240	1512	4.31	4.31	-15313	10375	7181	115546	21685	21981	43666	No	28.89	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	11.5	2047.75	-9451	-5240	1508	4.31	4.31	-8684	9491	5727	115546	21685	21981	43666	No	28.95	Si
SLU 81	7.95	4193.23	-20326	-11270	1486	4.31	4.31	-18677	10824	7993	115546	21685	21981	43666	No	29.39	Si
SLU 81	11.5	1939.72	-10867	-6025	1482	4.31	4.31	-9985	9665	5896	115546	21685	21981	43666	No	29.47	Si
SLU 64	7.95	3993.56	-18158	-10068	1554	4.31	4.31	-16686	10558	7513	115546	21685	21981	43666	No	28.1	Si
SLU 64	11.5	1953.33	-9990	-5539	1550	4.31	4.31	-9179	9557	5767	115546	21685	21981	43666	No	28.16	Si
SLU 43	7.95	3612.42	-15888	-8809	1708	4.31	4.31	-14599	10280	7009	115546	21685	21981	43666	No	25.57	Si
SLU 43	11.5	1703.97	-8720	-4835	1705	4.31	4.31	-8013	9402	5673	115546	21685	21981	43666	No	25.61	Si
SLU 53	7.95	3975.02	-18181	-10081	1464	4.31	4.31	-16707	10561	7518	115546	21685	21981	43666	No	29.83	Si
SLU 53	11.5	2038.22	-10065	-5581	1460	4.31	4.31	-9249	9566	5772	115546	21685	21981	43666	No	29.91	Si
SLU 52	7.95	3688.9	-17482	-9693	1268	4.31	4.31	-16064	10475	7363	115546	21685	21981	43666	No	34.44	Si
SLU 52	11.5	1767.96	-9334	-5175	1442	4.31	4.31	-8577	9477	5718	115546	21685	21981	43666	No	30.29	Si
SLU 62	7.95	4005.25	-18539	-10279	1418	4.31	4.31	-17035	10605	7597	115546	21685	21981	43666	No	30.78	Si
SLU 62	11.5	2016.18	-10042	-5568	1415	4.31	4.31	-9227	9564	5771	115546	21685	21981	43666	No	30.87	Si
SLU 61	7.95	3774.11	-18101	-10036	1404	4.31	4.31	-16633	10551	7500	115546	21685	21981	43666	No	31.1	Si
SLU 61	11.5	1734.47	-9597	-5321	1507	4.31	4.31	-8819	9509	5738	115546	21685	21981	43666	No	28.98	Si
SLU 44	7.95	3549.13	-15964	-8852	1316	4.31	4.31	-14669	10289	7026	115546	21685	21981	43666	No	33.19	Si
SLU 44	11.5	1777.49	-8720	-4835	1490	4.31	4.31	-8013	9402	5673	115546	21685	21981	43666	No	29.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	7.95	6582.58	-8055	-4466	16199	4.31	4.0134	-7402	13980	7855	115546	32527	21981	54508		3.36	Si
SLV 8	11.5	-1306.32	-5253	-2912	14205	4.31	4.31	-4827	13465	8125	115546	32527	21981	54508		3.84	Si
SLV 11	7.95	5884.4	-10052	-5573	16007	4.31	4.31	-9236	14347	8657	115546	32527	21981	54508		3.41	Si
SLV 11	11.5	-1599.81	-6999	-3881	13970	4.31	4.31	-6431	13786	8319	115546	32527	21981	54508		3.9	Si
SLV 9	7.95	-526.31	-19750	-10951	-13768	4.31	4.31	-18148	16130	9733	115546	32527	21981	54508		3.96	Si
SLV 9	11.5	4196.38	-9909	-5494	-11779	4.31	4.31	-9105	14321	8641	115546	32527	21981	54508		4.63	Si
SLV 7	7.95	6524.41	-8090	-4486	16085	4.31	4.0457	-7434	13987	7922	115546	32527	21981	54508		3.39	Si
SLV 7	11.5	-1368.04	-5335	-2958	14090	4.31	4.31	-4902	13480	8134	115546	32527	21981	54508		3.87	Si
SLV 5	7.95	113.7	-17789	-9863	-13689	4.31	4.31	-16346	15769	9515	115546	32527	21981	54508		3.98	Si
SLV 5	11.5	4428.14	-8244	-4571	-11658	4.31	4.31	-7576	14015	8457	115546	32527	21981	54508		4.68	Si
SLD 12	7.95	4720.97	-11678	-6475	9944	4.31	4.31	-10731	14646	8837	115546	32527	21981	54508		5.48	Si
SLD 12	11.5	-307.47	-7235	-4012	8747	4.31	4.31	-6648	13830	8345	115546	32527	21981	54508		6.23	Si
SLV 10	7.95	-468.14	-19715	-10931	-13654	4.31	4.31	-18116	16123	9729	115546	32527	21981	54508		3.99	Si
SLV 10	11.5	4258.11	-9827	-5449	-11665	4.31	4.31	-9030	14306	8632	115546	32527	21981	54508		4.67	Si
SLD 8	7.95	5125.97	-10421	-5778	9998	4.31	4.31	-9576	14415	8698	115546	32527	21981	54508		5.45	Si
SLD 8	11.5	-159	-6170	-3421	8826	4.31	4.31	-5669	13634	8227	115546	32527	21981	54508		6.18	Si
SLV 12	7.95	5942.57	-10016	-5554	16120	4.31	4.31	-9204	14341	8653	115546	32527	21981	54508		3.38	Si
SLV 12	11.5	-1538.08	-6917	-3835	14084	4.31	4.31	-6356	13771	8310	115546	32527	21981	54508		3.87	Si
SLV 6	7.95	171.87	-17754	-9844	-13576	4.31	4.31	-16314	15763	9511	115546	32527	21981	54508		4.02	Si
SLV 6	11.5	4489.87	-8162	-4526	-11544	4.31	4.31	-7500	14000	8448	115546	32527	21981	54508		4.72	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-5805	0.45	292.12	384.99	785.11	585.05	2	Si
SLV 3	-5939	0.45	292.12	393.38	796.79	595.09	2.04	Si
SLV 8	-6963	0.45	292.12	456.74	885.58	671.16	2.3	Si
SLV 7	-7054	0.45	292.12	462.26	893.41	677.83	2.32	Si
SLV 2	-7581	0.45	292.12	494.29	938.8	716.55	2.45	Si
SLV 1	-7715	0.45	292.12	502.39	950.3	726.34	2.49	Si
SLV 12	-9714	0.45	292.12	620.27	1121.32	870.79	2.98	Si
SLV 11	-9805	0.45	292.12	625.47	1129.03	877.25	3	Si
SLV 6	-12885	0.45	292.12	796.86	1389.61	1093.24	3.74	Si
SLV 5	-12975	0.45	292.12	801.71	1397.1	1099.4	3.76	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-10852	-18652	307	1.893	1409	0.94	29.27315	10.43136	Si
SLV 14	-10731	-18600	307	1.911	1396.7	0.939	29.56601	10.43136	Si
SLV 15	-9979	-15743	276	2.033	1320.7	0.936	31.54886	10.43136	Si
SLV 16	-9858	-15690	276	2.054	1308.4	0.936	31.88867	10.43136	Si
SLV 9	-9909	-19750	138	2.057	1313.6	0.936	31.92532	7.59525	Si
SLV 10	-9827	-19715	138	2.071	1305.3	0.936	32.15745	7.59525	Si
SLV 5	-8244	-17789	-37	2.4	1145.5	0.929	37.55518	7.59525	Si
SLV 6	-8162	-17754	-37	2.419	1137.2	0.928	37.87459	7.59525	Si
SLV 1	-5304	-12115	-277	3.334	850.6	0.911	53.19566	10.43136	Si
SLV 2	-5182	-12063	-277	3.391	838.4	0.91	54.15348	10.43136	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.595	SLU 50	Si
V_SLU	25.565	SLU 43	Si
PF_SLV	2.778	SLV 8	Si
V_SLV	3.365	SLV 8	Si
PFFP_SLV	2.003	SLV 4	Si
R_SLV	2.806	SLV 13	Si

Maschio 201

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.403	-3.169	-8.543	-3.169	L6	L7	1.14	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 67	8.85	123.69	-4130	-0.0000227	0.0003743	0.0035	1.1401	2055.03	2159	2159	17.45	No	Si
SLU 67	10.65	-508.56	-4004	-0.0000318	0.0003743	0.0035	1.1401	2001.48	2413.21	2413.21	4.75	No	Si
SLU 23	8.85	155.35	-3001	-0.000018	0.0003743	0.0035	1.1401	1552.73	1663.69	1663.69	10.71	No	Si
SLU 23	10.65	-427.94	-3149	-0.0000255	0.0003743	0.0035	1.1401	1620.95	2002.66	2002.66	4.68	No	Si
SLU 26	8.85	143.92	-3121	-0.0000183	0.0003743	0.0035	1.1401	1608.5	1723.28	1723.28	11.97	No	Si
SLU 26	10.65	-431.92	-3222	-0.000026	0.0003743	0.0035	1.1401	1654.6	2039.03	2039.03	4.72	No	Si
SLU 72	8.85	102.85	-4125	-0.0000221	0.0003743	0.0035	1.1401	2052.92	2156.95	2156.95	20.97	No	Si
SLU 72	10.65	-492.7	-3920	-0.000031	0.0003743	0.0035	1.1401	1965.02	2372.82	2372.82	4.82	No	Si
SLU 25	8.85	132.85	-3268	-0.0000187	0.0003743	0.0035	1.1401	1675.55	1794.38	1794.38	13.51	No	Si
SLU 25	10.65	-437.83	-3359	-0.0000268	0.0003743	0.0035	1.1401	1717	2106.46	2106.46	4.81	No	Si
SLU 68	8.85	134.76	-3983	-0.0000222	0.0003743	0.0035	1.1401	1992.4	2098.63	2098.63	15.57	No	Si
SLU 68	10.65	-502.65	-3867	-0.000031	0.0003743	0.0035	1.1401	1942.19	2347.76	2347.76	4.67	No	Si
SLU 65	8.85	146.19	-3863	-0.0000219	0.0003743	0.0035	1.1401	1940.28	2049.19	2049.19	14.02	No	Si
SLU 65	10.65	-498.68	-3794	-0.0000305	0.0003743	0.0035	1.1401	1910.21	2312.94	2312.94	4.64	No	Si
SLU 28	8.85	121.42	-3388	-0.000019	0.0003743	0.0035	1.1401	1730.19	1849.08	1849.08	15.23	No	Si
SLU 28	10.65	-441.8	-3433	-0.0000273	0.0003743	0.0035	1.1401	1750.1	2142.31	2142.31	4.85	No	Si
SLU 70	8.85	112.26	-4250	-0.000023	0.0003743	0.0035	1.1401	2106.02	2208.96	2208.96	19.68	No	Si
SLU 70	10.65	-512.54	-4078	-0.0000323	0.0003743	0.0035	1.1401	2032.92	2448.4	2448.4	4.78	No	Si
SLU 30	8.85	112.01	-3263	-0.0000182	0.0003743	0.0035	1.1401	1673.29	1792.1	1792.1	16	No	Si
SLU 30	10.65	-421.96	-3275	-0.000026	0.0003743	0.0035	1.1401	1678.62	2064.96	2064.96	4.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	8.85	1486.34	2037	0.242669	0.0005615	0.0035	0.9121		0	0	0		No
SLD 4	10.65	-966.61	-1154	-0.0005285	0.0005615	0.0035	0.9121		984.82	984.82	1.02		Si
SLD 3	8.85	1176.68	1221	0.1226542	0.0005615	0.0035	0.9121		0	0	0		No
SLD 3	10.65	-790.12	-1262	-0.0002303	0.0005615	0.0035	0.9121		1043.59	1043.59	1.32		Si
SLD 1	8.85	2142.71	2314	0.2405599	0.0005615	0.0035	0.9121		0	0	0		No
SLD 1	10.65	-1462.99	-2029	-0.0006957	0.0005615	0.0035	0.9121		1455.32	1455.32	0.99		No
SLV 2	8.85	3889.12	6663	0.8482147	0.0005615	0.0035	0.9121		0	0	0		No
SLV 2	10.65	-2427.14	-1464	-0.0041564	0.0005615	0.0035	0.9121		1153.09	1153.09	0.48		No
SLV 5	8.85	3461.09	2073	0.0310959	0.0005615	0.0035	0.9121		0	0	0		No
SLV 5	10.65	-2569.47	-4501	-0.0006907	0.0005615	0.0035	0.9121		2717.1	2717.1	1.06		Si
SLD 5	8.85	2084.02	78	-0.0462435	0.0005615	0.0035	0.9121		0	0	0		No
SLD 5	10.65	-1663.17	-3785	-0.0001082	0.0005615	0.0035	0.9121		2359.46	2359.46	1.42		Si
SLV 4	8.85	2239.09	4796	0.6342676	0.0005615	0.0035	0.9121		0	0	0		No
SLV 4	10.65	-1278.17	-156	-0.0023113	0.0005615	0.0035	0.9121		435.67	435.67	0.34		No
SLD 6	8.85	2283.43	603	-0.0547582	0.0005615	0.0035	0.9121		0	0	0		No
SLD 6	10.65	-1776.83	-3715	-0.000152	0.0005615	0.0035	0.9121		2324.48	2324.48	1.31		Si
SLV 3	8.85	1750.99	3511	0.4599766	0.0005615	0.0035	0.9121		0	0	0		No
SLV 3	10.65	-999.97	-326	-0.0012711	0.0005615	0.0035	0.9121		530.76	530.76	0.53		No
SLD 2	8.85	2452.37	3129	0.361451	0.0005615	0.0035	0.9121		0	0	0		No
SLD 2	10.65	-1639.49	-1921	-0.0011277	0.0005615	0.0035	0.9121		1398.15	1398.15	0.85		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	8.85	146.19	-3863	-3217	988	1.1401	1.1401	-10076	8288	2646	40441	9559	2907	12467	No	12.62	Si
SLU 65	10.65	-498.68	-3794	-3159	736	1.1401	1.1401	-9896	8264	2638	40441	9559	2907	12467	No	16.94	Si
SLU 68	8.85	134.76	-3983	-3317	960	1.1401	1.1401	-10390	8330	2659	40441	9559	2907	12467	No	12.98	Si
SLU 68	10.65	-502.65	-3867	-3220	740	1.1401	1.1401	-10087	8289	2646	40441	9559	2907	12467	No	16.85	Si
SLU 84	8.85	27.43	-4273	-3558	913	1.1401	1.1401	-11145	8431	2691	40441	9559	2907	12467	No	13.66	Si
SLU 84	10.65	-457.44	-4182	-3483	594	1.1401	1.1401	-10910	8399	2681	40441	9559	2907	12467	No	20.97	Si
SLU 75	8.85	62.9	-4318	-3595	948	1.1401	1.1401	-11263	8446	2696	40441	9559	2907	12467	No	13.14	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	10.65	-486.66	-4240	-3530	654	1.1401	1.1401	-11059	8419	2688	40441	9559	2907	12467	No	19.05	Si
SLU 70	8.85	112.26	-4250	-3539	927	1.1401	1.1401	-11087	8423	2689	40441	9559	2907	12467	No	13.44	Si
SLU 70	10.65	-512.54	-4078	-3396	742	1.1401	1.1401	-10637	8363	2670	40441	9559	2907	12467	No	16.8	Si
SLU 78	8.85	51.47	-4438	-3696	921	1.1401	1.1401	-11577	8488	2710	40441	9559	2907	12467	No	13.54	Si
SLU 78	10.65	-490.64	-4313	-3591	658	1.1401	1.1401	-11250	8444	2696	40441	9559	2907	12467	No	18.95	Si
SLU 73	8.85	85.4	-4051	-3373	981	1.1401	1.1401	-10566	8353	2667	40441	9559	2907	12467	No	12.7	Si
SLU 73	10.65	-476.78	-4029	-3355	652	1.1401	1.1401	-10509	8346	2664	40441	9559	2907	12467	No	19.12	Si
SLU 76	8.85	73.97	-4171	-3473	954	1.1401	1.1401	-10881	8395	2680	40441	9559	2907	12467	No	13.07	Si
SLU 76	10.65	-480.75	-4102	-3416	656	1.1401	1.1401	-10701	8371	2672	40441	9559	2907	12467	No	19.02	Si
SLU 67	8.85	123.69	-4130	-3439	955	1.1401	1.1401	-10772	8381	2675	40441	9559	2907	12467	No	13.06	Si
SLU 67	10.65	-508.56	-4004	-3335	739	1.1401	1.1401	-10445	8337	2661	40441	9559	2907	12467	No	16.88	Si
SLU 82	8.85	38.87	-4152	-3458	940	1.1401	1.1401	-10831	8389	2678	40441	9559	2907	12467	No	13.26	Si
SLU 82	10.65	-453.47	-4109	-3422	591	1.1401	1.1401	-10718	8374	2673	40441	9559	2907	12467	No	21.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	8.85	3401.02	5378	4478	7072	0.9121	0	0	0	0	40441	11471	2326	13797		1.95	Si
SLV 1	10.65	-2148.94	-1635	-1361	3632	0.9121	0	0	0	0	40441	11471	2326	13797		3.8	Si
SLV 4	8.85	2239.09	4796	3994	5018	0.9121	0.3097	0	0	0	40441	11471	2326	13797		2.75	Si
SLV 4	10.65	-1278.17	-156	-130	2059	0.9121	0	0	0	0	40441	11471	2326	13797		6.7	Si
SLV 11	8.85	-3705.91	-9031	-7521	-6325	0.9121	0.4792	0	0	0	40441	11471	2326	13797		2.18	Si
SLV 11	10.65	2087.92	-1311	-1092	-3883	0.9121	0	0	0	0	40441	11471	2326	13797		3.55	Si
SLD 6	8.85	2283.43	603	502	4791	0.9121	0	0	0	0	40441	11471	2326	13797		2.88	Si
SLD 6	10.65	-1776.83	-3715	-3094	3059	0.9121	0.2754	0	0	0	40441	11471	2326	13797		4.51	Si
SLV 5	8.85	3461.09	2073	1726	6938	0.9121	0	0	0	0	40441	11471	2326	13797		1.99	Si
SLV 5	10.65	-2569.47	-4501	-3748	4480	0.9121	0	0	0	0	40441	11471	2326	13797		3.08	Si
SLV 12	8.85	-3377.31	-8166	-6800	-5686	0.9121	0.4694	0	0	0	40441	11471	2326	13797		2.43	Si
SLV 12	10.65	1900.62	-1196	-996	-3541	0.9121	0	0	0	0	40441	11471	2326	13797		3.9	Si
SLD 2	8.85	2452.37	3129	2606	5274	0.9121	0	0	0	0	40441	11471	2326	13797		2.62	Si
SLD 2	10.65	-1639.49	-1921	-1599	2756	0.9121	0	0	0	0	40441	11471	2326	13797		5.01	Si
SLV 15	8.85	-3805.35	-12757	-10623	-6770	1.1401	0.8153	-47844	16250	4369	40441	14339	2907	17246		2.55	Si
SLV 15	10.65	1758.3	-4233	-3525	-3202	1.1401	0.464	-11041	12625	2477	40441	14339	2907	17246		5.39	Si
SLV 2	8.85	3889.12	6663	5549	8022	0.9121	0	0	0	0	40441	11471	2326	13797		1.72	Si
SLV 2	10.65	-2427.14	-1464	-1219	4140	0.9121	0	0	0	0	40441	11471	2326	13797		3.33	Si
SLV 6	8.85	3789.68	2938	2446	7577	0.9121	0	0	0	0	40441	11471	2326	13797		1.82	Si
SLV 6	10.65	-2756.76	-4386	-3652	4822	0.9121	0	0	0	0	40441	11471	2326	13797		2.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.45	0	4102	142.01	0	0	No, Trazione
SLV 6	179667	0.45	0	3403	142.01	0	0	No, Trazione
SLV 5	179667	0.45	0	2538	142.01	0	0	No, Trazione
SLV 4	179667	0.45	0	5388	142.01	0	0	No, Trazione
SLV 2	179667	0.45	0	7241	142.01	0	0	No, Trazione
SLV 1	179667	0.45	0	5956	142.01	0	0	No, Trazione
SLV 10	179667	0.45	4885	-1559	142.01	211.32	1.49	Si
SLV 9	179667	0.45	7595	-2425	142.01	322.56	2.27	Si
SLV 8	179667	0.45	8689	-2774	142.01	366.25	2.58	Si
SLV 7	179667	0.45	11400	-3639	142.01	471.45	3.32	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-4384	-6327	-196	1.196	608.3	0.929	18.70755	5.24939	Si
SLV 9	-4384	-6515	-194	1.196	608.3	0.929	18.71273	5.24939	Si
SLV 14	-3580	-6669	-65	1.426	527.4	0.921	22.51689	6.07522	Si
SLV 13	-3580	-6947	-62	1.427	527.4	0.921	22.52629	6.07522	Si
SLV 6	-4152	-4708	-194	1.248	584.9	0.927	19.57391	5.24939	Si
SLV 5	-4151	-4896	-192	1.248	584.8	0.927	19.57938	5.24939	Si
SLV 2	-2805	-1272	-58	1.709	449.9	0.911	27.26509	6.07522	Si
SLV 1	-2805	-1551	-56	1.71	449.9	0.911	27.27693	6.07522	Si
SLV 15	-2658	-5660	52	1.777	435.3	0.909	28.41822	6.07522	Si
SLV 16	-2658	-5381	50	1.778	435.3	0.909	28.42532	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.638	SLU 65	Si
V_SLU	12.622	SLU 65	Si
PF_SLV	0	SLD 1	No
V_SLV	1.72	SLV 2	Si
PFFP_SLV	0	SLV 6	No
R_SLV	3.564	SLV 10	Si

Maschio 202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L6	L7	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	7.95	-3953.73	-20679	-0.0000494	0.0004492	0.0035	4.67	35786.7	54666.24	54666.24	13.83	No	Si
SLU 52	11.5	-183.33	-12411	-0.0000237	0.0004492	0.0035	4.67	24476.94	38925.2	38925.2	212.33	No	Si
SLU 39	7.95	-3813.99	-20591	-0.0000489	0.0004492	0.0035	4.67	35687.62	54507.79	54507.79	14.29	No	Si
SLU 39	11.5	-399.59	-12252	-0.0000239	0.0004492	0.0035	4.67	24220.06	38603.77	38603.77	96.61	No	Si
SLU 19	7.95	-3461.45	-17683	-0.0000421	0.0004492	0.0035	4.67	32150.66	49143.38	49143.38	14.2	No	Si
SLU 19	11.5	-246.93	-10494	-0.0000202	0.0004492	0.0035	4.67	21284.92	35054.32	35054.32	141.96	No	Si
SLU 60	7.95	-4053.81	-21519	-0.0000513	0.0004492	0.0035	4.67	36712.23	56182.73	56182.73	13.86	No	Si
SLU 60	11.5	-274.19	-12768	-0.0000246	0.0004492	0.0035	4.67	25048.74	39647.42	39647.42	144.6	No	Si
SLU 73	7.95	-4374.3	-23476	-0.0000561	0.0004492	0.0035	4.67	38707.62	59714.23	59714.23	13.65	No	Si
SLU 73	11.5	-306.86	-14142	-0.0000273	0.0004492	0.0035	4.67	27176.02	42371.34	42371.34	138.08	No	Si
SLU 81	7.95	-4474.38	-24316	-0.0000581	0.0004492	0.0035	4.67	39495.78	61180.8	61180.8	13.67	No	Si
SLU 81	11.5	-397.73	-14500	-0.0000282	0.0004492	0.0035	4.67	27711.62	43055.17	43055.17	108.25	No	Si
SLU 31	7.95	-3713.92	-19751	-0.0000469	0.0004492	0.0035	4.67	34716.51	52991.31	52991.31	14.27	No	Si
SLU 31	11.5	-308.72	-11894	-0.000023	0.0004492	0.0035	4.67	23637.47	37881.55	37881.55	122.71	No	Si
SLU 61	7.95	-4121.83	-21408	-0.0000513	0.0004492	0.0035	4.67	36592.03	55981.89	55981.89	13.58	No	Si
SLU 61	11.5	-245.07	-12742	-0.0000245	0.0004492	0.0035	4.67	25007.43	39594.93	39594.93	161.57	No	Si
SLU 40	7.95	-3882.02	-20480	-0.0000488	0.0004492	0.0035	4.67	35561.38	54306.95	54306.95	13.99	No	Si
SLU 40	11.5	-370.46	-12226	-0.0000238	0.0004492	0.0035	4.67	24177.97	38551.28	38551.28	104.06	No	Si
SLU 82	7.95	-4542.4	-24205	-0.0000581	0.0004492	0.0035	4.67	39393.77	60991.91	60991.91	13.43	No	Si
SLU 82	11.5	-368.6	-14474	-0.0000281	0.0004492	0.0035	4.67	27672.95	43005.47	43005.47	116.67	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	7.95	-7539.86	-12197	-0.000041	0.0006738	0.0035	4.67		38841.34	38841.34	5.15		Si
SLD 10	11.5	-294.9	-8840	-0.0000171	0.0006738	0.0035	4.67		31902.08	31902.08	108.18		Si
SLD 9	7.95	-7671.19	-12240	-0.0000414	0.0006738	0.0035	4.67		38929.57	38929.57	5.07		Si
SLD 9	11.5	-433.3	-8758	-0.0000173	0.0006738	0.0035	4.67		31729.9	31729.9	73.23		Si
SLV 5	7.95	-9579.82	-6688	-0.0000431	0.0006738	0.0035	3.736		27309.57	27309.57	2.85		Si
SLV 5	11.5	-318.35	-6004	-0.0000118	0.0006738	0.0035	4.67		25832.58	25832.58	81.14		Si
SLV 13	7.95	-7547.68	-17817	-0.000052	0.0006738	0.0035	4.67		50126.54	50126.54	6.64		Si
SLV 13	11.5	-855.46	-11884	-0.0000242	0.0006738	0.0035	4.67		38195.34	38195.34	44.65		Si
SLV 10	7.95	-10730.96	-8806	-0.0000461	0.0006738	0.0035	4.67		31830.14	31830.14	2.97		Si
SLV 10	11.5	-357.73	-7813	-0.0000153	0.0006738	0.0035	4.67		29714.88	29714.88	83.07		Si
SLV 14	7.95	-7226.22	-17712	-0.000051	0.0006738	0.0035	4.67		49920.81	49920.81	6.91		Si
SLV 14	11.5	-516.7	-12086	-0.0000237	0.0006738	0.0035	4.67		38611.84	38611.84	74.73		Si
SLD 6	7.95	-6658.37	-10799	-0.0000362	0.0006738	0.0035	4.67		35951.87	35951.87	5.4		Si
SLD 6	11.5	-123.74	-7770	-0.0000147	0.0006738	0.0035	4.67		29623.94	29623.94	239.4		Si
SLV 9	7.95	-10947.37	-8876	-0.0000471	0.0006738	0.0035	4.67		31975.53	31975.53	2.92		Si
SLV 9	11.5	-585.79	-7677	-0.0000156	0.0006738	0.0035	4.67		29425.75	29425.75	50.23		Si
SLV 6	7.95	-9363.4	-6617	-0.0000419	0.0006738	0.0035	3.736		27157.69	27157.69	2.9		Si
SLV 6	11.5	-90.29	-6139	-0.0000116	0.0006738	0.0035	4.67		26125.5	26125.5	289.35		Si
SLD 5	7.95	-6789.7	-10842	-0.0000366	0.0006738	0.0035	4.67		36040.1	36040.1	5.31		Si
SLD 5	11.5	-262.14	-7688	-0.0000149	0.0006738	0.0035	4.67		29448.48	29448.48	112.34		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	7.95	-3455.68	-19151	-10619	-1735	4.67	4.67	-16241	10499	8024	115546	23496	23817	47313	No	27.27	Si
SLU 44	11.5	-84.57	-11677	-6475	-236	4.67	4.67	-9903	9654	6367	115546	23496	23817	47313	No	200.6	Si
SLU 48	7.95	-3092.03	-21888	-12136	-1727	4.67	4.67	-18562	10808	8631	115546	23496	23817	47313	No	27.39	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	11.5	381.37	-14316	-7937	74	4.67	4.67	-12140	9952	6952	115546	23496	23817	47313	No	639.91	Si
SLU 51	7.95	-3046.13	-21566	-11958	-1922	4.67	4.67	-18289	10772	8560	115546	23496	23817	47313	No	24.61	Si
SLU 51	11.5	593.51	-14135	-7837	-123	4.67	4.67	-11987	9932	6912	115546	23496	23817	47313	No	385.69	Si
SLU 50	7.95	-2978.1	-21678	-12019	-1794	4.67	4.67	-18384	10785	8584	115546	23496	23817	47313	No	26.38	Si
SLU 50	11.5	564.39	-14161	-7852	0	4.67	4.67	-12009	9935	6917	115546	23496	23817	47313	No	1414390.91	Si
SLU 72	7.95	-3466.7	-24363	-13508	-1600	4.67	4.67	-20661	10833	9180	115546	23496	23817	47313	No	29.57	Si
SLU 72	11.5	469.98	-15867	-8797	424	4.67	4.67	-13456	10127	7296	115546	23496	23817	47313	No	111.56	Si
SLU 46	7.95	-3342.16	-20607	-11426	-1719	4.67	4.67	-17476	10663	8347	115546	23496	23817	47313	No	27.52	Si
SLU 46	11.5	61.75	-13069	-7246	-64	4.67	4.67	-11083	9811	6675	115546	23496	23817	47313	No	734.51	Si
SLU 59	7.95	-3544.18	-23094	-12805	-1647	4.67	4.67	-19585	10833	8899	115546	23496	23817	47313	No	28.73	Si
SLU 59	11.5	494.76	-14869	-8244	263	4.67	4.67	-12609	10015	7074	115546	23496	23817	47313	No	179.97	Si
SLU 47	7.95	-3273.58	-20322	-11268	-1872	4.67	4.67	-17234	10631	8284	115546	23496	23817	47313	No	25.28	Si
SLU 47	11.5	264.18	-12898	-7151	-220	4.67	4.67	-10938	9792	6637	115546	23496	23817	47313	No	214.92	Si
SLU 49	7.95	-3160.06	-21777	-12074	-1856	4.67	4.67	-18468	10796	8606	115546	23496	23817	47313	No	25.49	Si
SLU 49	11.5	410.5	-14290	-7923	-49	4.67	4.67	-12118	9949	6946	115546	23496	23817	47313	No	971.48	Si
SLU 55	7.95	-3771.63	-21850	-12115	-1596	4.67	4.67	-18530	10804	8623	115546	23496	23817	47313	No	29.65	Si
SLU 55	11.5	165.42	-13631	-7558	165	4.67	4.67	-11560	9875	6800	115546	23496	23817	47313	No	286.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	7.95	-6789.7	-10842	-6011	-8088	4.67	4.67	-9194	14339	9375	115546	35244	23817	59061		7.3	Si
SLD 5	11.5	-262.14	-7688	-4263	-5840	4.67	4.67	-6520	13804	9025	115546	35244	23817	59061		10.11	Si
SLV 9	7.95	-10947.37	-8876	-4921	-12781	4.67	3.3049	-10679	14637	7634	115546	35244	23817	59061		4.62	Si
SLV 9	11.5	-585.79	-7677	-4257	-9722	4.67	4.67	-6511	13802	9024	115546	35244	23817	59061		6.07	Si
SLV 11	7.95	3474.63	-27078	-15014	11197	4.67	4.67	-22964	16250	11670	115546	35244	23817	59061		5.27	Si
SLV 11	11.5	-306.68	-14214	-7881	10830	4.67	4.67	-12054	14911	9749	115546	35244	23817	59061		5.45	Si
SLV 5	7.95	-9579.82	-6688	-3708	-13149	3.736	2.7077	0	0	0	115546	28195	19054	47249		3.59	Si
SLV 5	11.5	-318.35	-6004	-3329	-10225	4.67	4.67	-5092	13518	8838	115546	35244	23817	59061		5.78	Si
SLV 7	7.95	4842.19	-24890	-13800	10829	4.67	4.67	-21108	16250	11185	115546	35244	23817	59061		5.45	Si
SLV 7	11.5	-39.25	-12541	-6953	10327	4.67	4.67	-10635	14627	9563	115546	35244	23817	59061		5.72	Si
SLV 10	7.95	-10730.96	-8806	-4882	-12656	4.67	3.349	-10455	14592	7618	115546	35244	23817	59061		4.67	Si
SLV 10	11.5	-357.73	-7813	-4332	-9554	4.67	4.67	-6626	13825	9039	115546	35244	23817	59061		6.18	Si
SLV 12	7.95	3691.05	-27008	-14975	11322	4.67	4.67	-22904	16250	11655	115546	35244	23817	59061		5.22	Si
SLV 12	11.5	-78.62	-14350	-7956	10998	4.67	4.67	-12169	14934	9764	115546	35244	23817	59061		5.37	Si
SLD 6	7.95	-6658.37	-10799	-5988	-8012	4.67	4.67	-9158	14332	9370	115546	35244	23817	59061		7.37	Si
SLD 6	11.5	-123.74	-7770	-4308	-5739	4.67	4.67	-6589	13818	9034	115546	35244	23817	59061		10.29	Si
SLV 6	7.95	-9363.4	-6617	-3669	-13023	3.736	2.7601	0	0	0	115546	28195	19054	47249		3.63	Si
SLV 6	11.5	-90.29	-6139	-3404	-10057	4.67	4.67	-5207	13541	8853	115546	35244	23817	59061		5.87	Si
SLV 8	7.95	5058.6	-24820	-13761	10954	4.67	4.67	-21048	16250	11170	115546	35244	23817	59061		5.39	Si
SLV 8	11.5	188.82	-12676	-7028	10495	4.67	4.67	-10750	14650	9578	115546	35244	23817	59061		5.63	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.725 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-7995	0.45	316.52	522.29	989.86	756.07	2.39	Si
SLV 6	-8075	0.45	316.52	527.14	996.71	761.93	2.41	Si
SLV 9	-9516	0.45	316.52	613.2	1120.02	866.61	2.74	Si
SLV 10	-9596	0.45	316.52	617.91	1126.85	872.38	2.76	Si
SLV 1	-10175	0.45	316.52	651.75	1176.22	913.98	2.89	Si
SLV 2	-10294	0.45	316.52	658.66	1186.37	922.52	2.91	Si
SLV 3	-13581	0.45	316.52	842.92	1464.08	1153.5	3.64	Si
SLV 4	-13700	0.45	316.52	849.36	1473.93	1161.64	3.67	Si
SLV 13	-15245	0.45	316.52	931.37	1601.32	1266.34	4	Si
SLV 14	-15364	0.45	316.52	937.57	1611.12	1274.34	4.03	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-14047	-23173	397	1.623	1758.7	0.947	24.92158	10.43136	Si
SLV 15	-13845	-23277	397	1.644	1738.2	0.946	25.2473	10.43136	Si
SLV 14	-12086	-17712	403	1.845	1559.9	0.941	28.49451	10.43136	Si
SLV 13	-11884	-17817	403	1.871	1539.5	0.94	28.92125	10.43136	Si
SLV 12	-14350	-27008	110	1.611	1789.4	0.947	24.71579	7.59525	Si
SLV 11	-14214	-27078	110	1.625	1775.6	0.947	24.92818	7.59525	Si
SLV 8	-12676	-24820	-130	1.79	1619.7	0.943	27.59837	7.59525	Si
SLV 7	-12541	-24890	-130	1.807	1605.9	0.942	27.86374	7.59525	Si
SLV 4	-8469	-15879	-403	2.47	1194.4	0.926	38.74463	10.43136	Si
SLV 3	-8268	-15983	-403	2.518	1174.1	0.925	39.53458	10.43136	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.427	SLU 82	Si
V_SLU	24.611	SLU 51	Si
PF_SLV	2.851	SLV 5	Si
V_SLV	3.593	SLV 5	Si
PFFP_SLV	2.389	SLV 5	Si
R_SLV	2.389	SLV 16	Si

Maschio 204

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.503	-3.169	L6	L7	0.565	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 23	9.95	-37.56	-2730	-0.0000303	0.0003743	0.0035	0.565	640.54	745.63	745.63	19.85	No	Si
SLU 23	10.75	-156.93	-2584	-0.0000414	0.0003743	0.0035	0.565	612.88	713.54	713.54	4.55	No	Si
SLU 66	9.95	-58.14	-3462	-0.00004	0.0003743	0.0035	0.565	767.82	896.83	896.83	15.43	No	Si
SLU 66	10.75	-182.81	-3242	-0.0000511	0.0003743	0.0035	0.565	731.51	851.94	851.94	4.66	No	Si
SLU 68	9.95	-52.34	-3342	-0.0000382	0.0003743	0.0035	0.565	748.21	872.44	872.44	16.67	No	Si
SLU 68	10.75	-182.38	-3122	-0.0000498	0.0003743	0.0035	0.565	710.93	827.18	827.18	4.54	No	Si
SLU 65	9.95	-44.58	-3285	-0.0000367	0.0003743	0.0035	0.565	738.74	860.77	860.77	19.31	No	Si
SLU 65	10.75	-186.28	-3101	-0.00005	0.0003743	0.0035	0.565	707.37	822.96	822.96	4.42	No	Si
SLU 26	9.95	-45.33	-2787	-0.0000317	0.0003743	0.0035	0.565	651.12	757.83	757.83	16.72	No	Si
SLU 26	10.75	-153.03	-2605	-0.0000412	0.0003743	0.0035	0.565	616.8	718.05	718.05	4.69	No	Si
SLU 70	9.95	-63.69	-3507	-0.0000411	0.0003743	0.0035	0.565	775.07	905.98	905.98	14.23	No	Si
SLU 70	10.75	-182.27	-3249	-0.0000511	0.0003743	0.0035	0.565	732.63	853.3	853.3	4.68	No	Si
SLU 44	9.95	-36.23	-2865	-0.0000315	0.0003743	0.0035	0.565	665.38	774.19	774.19	21.37	No	Si
SLU 44	10.75	-161.32	-2688	-0.0000429	0.0003743	0.0035	0.565	632.72	736.48	736.48	4.57	No	Si
SLU 47	9.95	-44	-2922	-0.0000329	0.0003743	0.0035	0.565	675.69	785.99	785.99	17.86	No	Si
SLU 47	10.75	-157.42	-2709	-0.0000427	0.0003743	0.0035	0.565	636.57	740.98	740.98	4.71	No	Si
SLU 64	9.95	-48.27	-3305	-0.0000373	0.0003743	0.0035	0.565	742	864.77	864.77	17.92	No	Si
SLU 64	10.75	-180.68	-3124	-0.0000496	0.0003743	0.0035	0.565	711.38	827.73	827.73	4.58	No	Si
SLU 67	9.95	-55.92	-3450	-0.0000397	0.0003743	0.0035	0.565	765.93	894.45	894.45	15.99	No	Si
SLU 67	10.75	-186.17	-3228	-0.0000513	0.0003743	0.0035	0.565	729.17	849.09	849.09	4.56	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	9.95	491.92	607	0.0779157	0.0005615	0.0035	0.452		0	0	0		No
SLV 1	10.75	-604.1	-503	-0.006199	0.0005615	0.0035	0.452		208.03	208.03	0.34		No
SLV 4	9.95	448.12	457	0.0138359	0.0005615	0.0035	0.452		0	0	0		No
SLV 4	10.75	-510.66	-1165	-0.0022112	0.0005615	0.0035	0.452		383.85	383.85	0.75		No
SLV 3	9.95	331.95	-57	-0.0255074	0.0005615	0.0035	0.452		35.09	35.09	0.11		No
SLV 3	10.75	-410.38	-1338	-0.000631	0.0005615	0.0035	0.452		428.19	428.19	1.04		Si
SLD 1	9.95	296.17	-550	-0.0114709	0.0005615	0.0035	0.452		171.04	171.04	0.58		No
SLD 1	10.75	-428.65	-1207	-0.0010957	0.0005615	0.0035	0.452		394.69	394.69	0.92		No
SLV 6	9.95	418.31	-346	-0.0255632	0.0005615	0.0035	0.452		115.16	115.16	0.28		No
SLV 6	10.75	-617.83	-487	-0.0064806	0.0005615	0.0035	0.452		203.83	203.83	0.33		No
SLD 6	9.95	237.14	-1207	-0.0000507	0.0005615	0.0035	0.565		345.74	345.74	1.46		Si
SLD 6	10.75	-424.64	-1256	-0.0009426	0.0005615	0.0035	0.452		407.24	407.24	0.96		No
SLV 2	9.95	608.09	1121	0.3124497	0.0005615	0.0035	0.452		0	0	0		No
SLV 2	10.75	-704.38	-330	-0.0084818	0.0005615	0.0035	0.452		161.11	161.11	0.23		No
SLV 5	9.95	340.11	-692	-0.0120712	0.0005615	0.0035	0.452		209.38	209.38	0.62		No
SLV 5	10.75	-550.33	-603	-0.0049286	0.0005615	0.0035	0.452		235.18	235.18	0.43		No
SLD 2	9.95	369.87	-224	-0.0244905	0.0005615	0.0035	0.452		81.51	81.51	0.22		No
SLD 2	10.75	-492.27	-1098	-0.0021479	0.0005615	0.0035	0.452		366.57	366.57	0.74		No
SLD 4	9.95	276.3	-612	-0.0086416	0.0005615	0.0035	0.452		187.87	187.87	0.68		No
SLD 4	10.75	-378.85	-1587	-0.0001354	0.0005615	0.0035	0.452		492.3	492.3	1.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	9.95	-82.48	-3859	-3213	-112	0.565	0.565	-20311	9653	1527	40441	4737	1441	6178	No	55.17	Si
SLU 83	10.75	-180.72	-3628	-3021	44	0.565	0.565	-19095	9490	1501	40441	4737	1441	6178	No	141.77	Si
SLU 77	9.95	-84.42	-3867	-3220	-105	0.565	0.565	-20355	9658	1528	40441	4737	1441	6178	No	58.74	Si
SLU 77	10.75	-181.67	-3601	-2998	33	0.565	0.565	-18952	9471	1498	40441	4737	1441	6178	No	184.73	Si
SLU 58	9.95	-73.97	-3346	-2787	-112	0.565	0.565	-17614	9293	1470	40441	4737	1441	6178	No	55.23	Si
SLU 58	10.75	-150.68	-3091	-2574	56	0.565	0.565	-16269	9114	1442	40441	4737	1441	6178	No	109.72	Si
SLU 16	9.95	-66.96	-2792	-2325	-108	0.565	0.565	-14694	8904	1409	40441	4737	1441	6178	No	57.08	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 16	10.75	-121.33	-2574	-2143	31	0.565	0.565	-13547	8751	1384	40441	4737	1441	6178	No	197.53	Si
SLU 14	9.95	-69.06	-2892	-2408	-108	0.565	0.565	-15224	8974	1420	40441	4737	1441	6178	No	57.22	Si
SLU 14	10.75	-127.36	-2671	-2224	33	0.565	0.565	-14060	8819	1395	40441	4737	1441	6178	No	187.9	Si
SLU 79	9.95	-82.32	-3766	-3136	-105	0.565	0.565	-19825	9588	1517	40441	4737	1441	6178	No	58.6	Si
SLU 79	10.75	-175.64	-3503	-2917	32	0.565	0.565	-18440	9403	1488	40441	4737	1441	6178	No	194.03	Si
SLU 62	9.95	-74.14	-3439	-2863	-118	0.565	0.565	-18100	9358	1480	40441	4737	1441	6178	No	52.18	Si
SLU 62	10.75	-155.76	-3215	-2677	68	0.565	0.565	-16923	9201	1456	40441	4737	1441	6178	No	90.79	Si
SLU 56	9.95	-76.07	-3447	-2870	-112	0.565	0.565	-18144	9364	1481	40441	4737	1441	6178	No	55.36	Si
SLU 56	10.75	-156.71	-3188	-2655	58	0.565	0.565	-16781	9182	1453	40441	4737	1441	6178	No	106.68	Si
SLU 20	9.95	-67.12	-2884	-2401	-115	0.565	0.565	-15179	8968	1419	40441	4737	1441	6178	No	53.83	Si
SLU 20	10.75	-126.41	-2698	-2247	43	0.565	0.565	-14202	8838	1398	40441	4737	1441	6178	No	143.62	Si
SLU 41	9.95	-75.47	-3304	-2751	-108	0.565	0.565	-17390	9263	1465	40441	4737	1441	6178	No	57.02	Si
SLU 41	10.75	-151.37	-3111	-2590	19	0.565	0.565	-16374	9128	1444	40441	4737	1441	6178	No	333.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	9.95	491.92	607	505	2295	0.452	0	0	0	0	40441	5685	1153	6837		2.98	Si
SLV 1	10.75	-604.1	-503	-419	-325	0.452	0	0	0	0	40441	5685	1153	6837		21.04	Si
SLV 4	9.95	448.12	457	381	1793	0.452	0	0	0	0	40441	5685	1153	6837		3.81	Si
SLV 4	10.75	-510.66	-1165	-970	113	0.452	0	0	0	0	40441	5685	1153	6837		60.73	Si
SLV 15	9.95	-689.26	-6219	-5178	-2777	0.565	0.515	-32733	16250	2343	40441	7106	1441	8547		3.08	Si
SLV 15	10.75	435.81	-4488	-3737	378	0.565	0.5562	-23622	15141	2358	40441	7106	1441	8547		22.62	Si
SLV 6	9.95	418.31	-346	-288	2318	0.452	0	0	0	0	40441	5685	1153	6837		2.95	Si
SLV 6	10.75	-617.83	-487	-406	-639	0.452	0	0	0	0	40441	5685	1153	6837		10.69	Si
SLV 5	9.95	340.11	-692	-576	2021	0.452	0	0	0	0	40441	5685	1153	6837		3.38	Si
SLV 5	10.75	-550.33	-603	-502	-669	0.452	0	0	0	0	40441	5685	1153	6837		10.22	Si
SLV 2	9.95	608.09	1121	933	2735	0.452	0	0	0	0	40441	5685	1153	6837		2.5	Si
SLV 2	10.75	-704.38	-330	-275	-281	0.452	0	0	0	0	40441	5685	1153	6837		24.32	Si
SLV 16	9.95	-573.09	-5705	-4750	-2336	0.565	0.5461	-30028	16250	2485	40441	7106	1441	8547		3.66	Si
SLV 16	10.75	335.54	-4315	-3594	422	0.565	0.565	-22715	14960	2367	40441	7106	1441	8547		20.27	Si
SLD 2	9.95	369.87	-224	-187	1714	0.452	0	0	0	0	40441	5685	1153	6837		3.99	Si
SLD 2	10.75	-492.27	-1098	-914	-152	0.452	0	0	0	0	40441	5685	1153	6837		44.99	Si
SLV 12	9.95	-421.28	-4406	-3669	-2063	0.565	0.5607	-23193	15055	2363	40441	7106	1441	8547		4.14	Si
SLV 12	10.75	281.76	-4215	-3510	766	0.565	0.565	-22186	14854	2350	40441	7106	1441	8547		11.16	Si
SLV 11	9.95	-499.49	-4752	-3957	-2360	0.565	0.5322	-25014	15419	2298	40441	7106	1441	8547		3.62	Si
SLV 11	10.75	349.27	-4331	-3606	736	0.565	0.565	-22797	14976	2369	40441	7106	1441	8547		11.61	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.45	0	-115	70.37	0	0	No, e>t/2
SLV 1	179667	0.45	0	-487	70.37	0	0	No, e>t/2
SLV 3	179667	0.45	0	-360	70.37	0	0	No, e>t/2
SLV 2	179667	0.45	0	-243	70.37	0	0	No, e>t/2
SLV 8	179667	0.45	7426	-1175	70.37	156.48	2.22	Si
SLV 7	179667	0.45	8468	-1340	70.37	177.14	2.52	Si
SLV 6	179667	0.45	10107	-1599	70.37	209.04	2.97	Si
SLV 5	179667	0.45	11149	-1764	70.37	228.9	3.25	Si
SLV 12	179667	0.45	13754	-2176	70.37	277.19	3.94	Si
SLV 11	179667	0.45	14795	-2341	70.37	295.94	4.21	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-2719	-2369	-10	1.027	356.6	0.938	15.90961	6.07522	Si
SLV 16	-2575	-2335	-10	1.073	342.1	0.936	16.66256	6.07522	Si
SLV 13	-2359	-3069	2	1.154	320.2	0.932	17.98739	6.07522	Si
SLV 14	-2215	-3035	2	1.213	305.7	0.93	18.95505	6.07522	Si
SLV 11	-2356	-1090	-24	1.147	319.9	0.932	17.88427	5.24939	Si
SLV 12	-2259	-1067	-24	1.186	310.2	0.93	18.52304	5.24939	Si
SLV 7	-1705	-699	-24	1.473	254.4	0.919	23.29928	5.24939	Si
SLV 8	-1609	-676	-24	1.539	244.8	0.917	24.39946	5.24939	Si
SLV 9	-1156	-3424	16	1.952	199.8	0.904	31.36591	5.24939	Si
SLV 10	-1060	-3401	16	2.07	190.3	0.901	33.36749	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.418	SLU 65	Si
V_SLU	52.183	SLU 62	Si
PF_SLV	0	SLV 1	No
V_SLV	2.5	SLV 2	Si
PFFP_SLV	0	SLV 1	No
R_SLV	2.619	SLV 15	Si

Maschio 205

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.113	-3.169	-5.438	-3.169	L6	L7	2.325	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 32	9.95	783.38	-11583	-0.0000321	0.0003743	0.0035	2.325	11111.99	11711.76	11711.76	14.95	No	Si
SLU 32	10.75	962.54	-10142	-0.0000296	0.0003743	0.0035	2.325	9986.23	10440.51	10440.51	10.85	No	Si
SLU 35	9.95	781.14	-11697	-0.0000323	0.0003743	0.0035	2.325	11198.28	11814.16	11814.16	15.12	No	Si
SLU 35	10.75	1007.38	-10257	-0.0000302	0.0003743	0.0035	2.325	10078.39	10540.35	10540.35	10.46	No	Si
SLU 83	9.95	913.54	-13583	-0.0000379	0.0003743	0.0035	2.325	12554.29	13535.86	13535.86	14.82	No	Si
SLU 83	10.75	1097.91	-11772	-0.0000345	0.0003743	0.0035	2.325	11254.19	11880.92	11880.92	10.82	No	Si
SLU 41	9.95	771.56	-11607	-0.0000321	0.0003743	0.0035	2.325	11130.47	11733.63	11733.63	15.21	No	Si
SLU 41	10.75	1007.94	-10183	-0.00003	0.0003743	0.0035	2.325	10018.71	10475.62	10475.62	10.39	No	Si
SLU 37	9.95	753.16	-11300	-0.0000312	0.0003743	0.0035	2.325	10896.29	11459.04	11459.04	15.21	No	Si
SLU 37	10.75	976.25	-9875	-0.000029	0.0003743	0.0035	2.325	9769.72	10208.71	10208.71	10.46	No	Si
SLU 36	9.95	781.83	-11792	-0.0000326	0.0003743	0.0035	2.325	11269.34	11899.08	11899.08	15.22	No	Si
SLU 36	10.75	978.18	-10334	-0.0000302	0.0003743	0.0035	2.325	10139.91	10607.41	10607.41	10.84	No	Si
SLU 39	9.95	773.79	-11493	-0.0000318	0.0003743	0.0035	2.325	11043.83	11631.4	11631.4	15.03	No	Si
SLU 39	10.75	963.1	-10068	-0.0000294	0.0003743	0.0035	2.325	9926.26	10375.92	10375.92	10.77	No	Si
SLU 38	9.95	753.85	-11394	-0.0000314	0.0003743	0.0035	2.325	10968.68	11543.34	11543.34	15.31	No	Si
SLU 38	10.75	947.05	-9952	-0.0000291	0.0003743	0.0035	2.325	9832.27	10275.28	10275.28	10.85	No	Si
SLU 42	9.95	772.25	-11702	-0.0000323	0.0003743	0.0035	2.325	11201.84	11818.41	11818.41	15.3	No	Si
SLU 42	10.75	978.74	-10259	-0.00003	0.0003743	0.0035	2.325	10080.44	10542.58	10542.58	10.77	No	Si
SLU 79	9.95	895.14	-13275	-0.000037	0.0003743	0.0035	2.325	12341.45	13251.17	13251.17	14.8	No	Si
SLU 79	10.75	1066.22	-11465	-0.0000335	0.0003743	0.0035	2.325	11022.32	11606.13	11606.13	10.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	9.95	207.42	-8136	-0.0000199	0.0005615	0.0035	2.325		9130.89	9130.89	44.02		Si
SLD 16	10.75	2651.54	-7317	-0.0000326	0.0005615	0.0035	2.325		8289.88	8289.88	3.13		Si
SLD 11	9.95	69.33	-5857	-0.0000138	0.0005615	0.0035	2.325		6761.74	6761.74	97.52		Si
SLD 11	10.75	2277.86	-5089	-0.0000252	0.0005615	0.0035	2.325		5944.95	5944.95	2.61		Si
SLD 12	9.95	148.07	-6007	-0.0000146	0.0005615	0.0035	2.325		6919.56	6919.56	46.73		Si
SLD 12	10.75	1955.86	-5126	-0.0000232	0.0005615	0.0035	2.325		5984.86	5984.86	3.06		Si
SLD 15	9.95	85.16	-7904	-0.0000187	0.0005615	0.0035	2.325		8893.61	8893.61	104.43		Si
SLD 15	10.75	3151.56	-7260	-0.0000356	0.0005615	0.0035	2.325		8230.07	8230.07	2.61		Si
SLV 13	9.95	169.3	-10301	-0.0000248	0.0005615	0.0035	2.325		11303.99	11303.99	66.77		Si
SLV 13	10.75	3708.64	-9689	-0.0000447	0.0005615	0.0035	2.325		10697.27	10697.27	2.88		Si
SLV 11	9.95	-328.2	-3507	-0.0000099	0.0005615	0.0035	2.325		5491.38	5491.38	16.73		Si
SLV 11	10.75	3348.69	-3137	-0.0001245	0.0005615	0.0035	2.325		3821.26	3821.26	1.14		Si
SLV 12	9.95	-198.46	-3753	-0.0000097	0.0005615	0.0035	2.325		5760.06	5760.06	29.02		Si
SLV 12	10.75	2818.08	-3198	-0.0000408	0.0005615	0.0035	2.325		3888.67	3888.67	1.38		Si
SLV 15	9.95	-269.39	-7023	-0.0000177	0.0005615	0.0035	2.325		9226.49	9226.49	34.25		Si
SLV 15	10.75	4618.5	-6811	-0.0000508	0.0005615	0.0035	2.325		7765.25	7765.25	1.68		Si
SLV 16	9.95	-76.68	-7388	-0.0000174	0.0005615	0.0035	2.325		9602.27	9602.27	125.23		Si
SLV 16	10.75	3830.34	-6902	-0.0000407	0.0005615	0.0035	2.325		7859.15	7859.15	2.05		Si
SLV 7	9.95	33.1	-3721	-0.0000087	0.0005615	0.0035	2.325		4463.15	4463.15	134.85		Si
SLV 7	10.75	1460.79	-2853	-0.0000154	0.0005615	0.0035	2.325		3507.88	3507.88	2.4		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	9.95	773.23	-11035	-9189	1035	2.325	2.325	-14115	8826	5746	40441	19494	5929	25423	No	24.57	Si
SLU 46	10.75	654.29	-9254	-7706	814	2.325	2.325	-11837	8523	5548	40441	19494	5929	25423	No	31.23	Si
SLU 67	9.95	888.32	-12668	-10549	995	2.325	2.325	-16204	9105	5927	40441	19494	5929	25423	No	25.55	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	10.75	844.74	-10824	-9014	800	2.325	2.325	-13846	8791	5723	40441	19494	5929	25423	No	31.78	Si
SLU 44	9.95	747.93	-10586	-8815	1118	2.325	2.325	-13540	8750	5696	40441	19494	5929	25423	No	22.75	Si
SLU 44	10.75	558.85	-8809	-7336	887	2.325	2.325	-11268	8447	5499	40441	19494	5929	25423	No	28.65	Si
SLU 45	9.95	772.54	-10940	-9110	970	2.325	2.325	-13994	8810	5735	40441	19494	5929	25423	No	26.22	Si
SLU 45	10.75	683.5	-9177	-7642	765	2.325	2.325	-11739	8510	5540	40441	19494	5929	25423	No	33.23	Si
SLU 64	9.95	861.87	-12061	-10044	970	2.325	2.325	-15428	9001	5860	40441	19494	5929	25423	No	26.22	Si
SLU 64	10.75	797.97	-10252	-8537	792	2.325	2.325	-13113	8693	5659	40441	19494	5929	25423	No	32.12	Si
SLU 49	9.95	770.99	-11149	-9284	975	2.325	2.325	-14261	8846	5759	40441	19494	5929	25423	No	26.07	Si
SLU 49	10.75	699.13	-9368	-7801	757	2.325	2.325	-11983	8542	5561	40441	19494	5929	25423	No	33.57	Si
SLU 65	9.95	863.02	-12219	-10175	1078	2.325	2.325	-15630	9028	5877	40441	19494	5929	25423	No	23.58	Si
SLU 65	10.75	749.3	-10380	-8643	873	2.325	2.325	-13277	8715	5673	40441	19494	5929	25423	No	29.11	Si
SLU 43	9.95	746.78	-10428	-8683	1009	2.325	2.325	-13339	8723	5679	40441	19494	5929	25423	No	25.19	Si
SLU 43	10.75	607.53	-8681	-7229	806	2.325	2.325	-11104	8425	5485	40441	19494	5929	25423	No	31.55	Si
SLU 47	9.95	745.7	-10700	-8910	1058	2.325	2.325	-13687	8769	5709	40441	19494	5929	25423	No	24.02	Si
SLU 47	10.75	603.69	-8924	-7431	831	2.325	2.325	-11415	8466	5512	40441	19494	5929	25423	No	30.61	Si
SLU 68	9.95	860.79	-12333	-10270	1019	2.325	2.325	-15776	9048	5890	40441	19494	5929	25423	No	24.96	Si
SLU 68	10.75	794.14	-10494	-8739	817	2.325	2.325	-13423	8734	5686	40441	19494	5929	25423	No	31.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	9.95	1373.61	-11012	-9170	7436	2.325	2.325	-14086	13234	8615	40441	29241	5929	35169		4.73	Si
SLV 1	10.75	-2584.36	-8742	-7280	6050	2.325	2.325	-11182	12653	8237	40441	29241	5929	35169		5.81	Si
SLV 12	9.95	-198.46	-3753	-3126	-5494	2.325	2.325	-4801	11377	7406	40441	29241	5929	35169		6.4	Si
SLV 12	10.75	2818.08	-3198	-2663	-4275	2.325	0.844	-4091	11235	3844	40441	29241	5929	35169		8.23	Si
SLV 11	9.95	-328.2	-3507	-2920	-6611	2.325	2.325	-4486	11314	7365	40441	29241	5929	35169		5.32	Si
SLV 11	10.75	3348.69	-3137	-2612	-5188	2.325	0.2851	-32824	16250	3830	40441	29241	5929	35169		6.78	Si
SLD 2	9.95	1211.76	-10497	-8741	5971	2.325	2.325	-13427	13102	8529	40441	29241	5929	35169		5.89	Si
SLD 2	10.75	-1905.58	-8384	-6982	4864	2.325	2.325	-10724	12562	8178	40441	29241	5929	35169		7.23	Si
SLV 15	9.95	-269.39	-7023	-5848	-7690	2.325	2.325	-8983	12213	7951	40441	29241	5929	35169		4.57	Si
SLV 15	10.75	4618.5	-6811	-5672	-6259	2.325	1.4532	-8712	12159	4947	40441	29241	5929	35169		5.62	Si
SLV 2	9.95	1566.32	-11378	-9475	9096	2.325	2.325	-14554	13327	8676	40441	29241	5929	35169		3.87	Si
SLV 2	10.75	-3372.53	-8833	-7355	7407	2.325	2.325	-11298	12676	8252	40441	29241	5929	35169		4.75	Si
SLV 4	9.95	1127.63	-8100	-6745	6138	2.325	2.325	-10361	12489	8130	40441	29241	5929	35169		5.73	Si
SLV 4	10.75	-2462.66	-5955	-4959	5126	2.325	2.2469	-7910	11999	7549	40441	29241	5929	35169		6.86	Si
SLV 5	9.95	1495.39	-14647	-12197	6900	2.325	2.325	-18736	14164	9221	40441	29241	5929	35169		5.1	Si
SLV 5	10.75	-1572.1	-12446	-10364	5422	2.325	2.325	-15920	13601	8854	40441	29241	5929	35169		6.49	Si
SLV 16	9.95	-76.68	-7388	-6152	-6031	2.325	2.325	-9451	12307	8012	40441	29241	5929	35169		5.83	Si
SLV 16	10.75	3830.34	-6902	-5747	-4903	2.325	1.8225	-8828	12182	6217	40441	29241	5929	35169		7.17	Si
SLV 6	9.95	1625.12	-14894	-12402	8017	2.325	2.325	-19051	14227	9262	40441	29241	5929	35169		4.39	Si
SLV 6	10.75	-2102.71	-12507	-10415	6335	2.325	2.325	-15998	13616	8864	40441	29241	5929	35169		5.55	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.45	6273	-4084	289.59	548.25	1.89	Si
SLV 8	179667	0.45	6413	-4175	289.59	559.96	1.93	Si
SLV 11	179667	0.45	6718	-4373	289.59	585.35	2.02	Si
SLV 12	179667	0.45	6858	-4465	289.59	596.99	2.06	Si
SLV 3	179667	0.45	10593	-6896	289.59	898.46	3.1	Si
SLV 4	179667	0.45	10801	-7031	289.59	914.79	3.16	Si
SLV 15	179667	0.45	12076	-7861	289.59	1013.56	3.5	Si
SLV 16	179667	0.45	12284	-7997	289.59	1029.52	3.56	Si
SLV 1	179667	0.45	14769	-9615	289.59	1215.91	4.2	Si
SLV 2	179667	0.45	14978	-9751	289.59	1231.19	4.25	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-8850	-13886	-874	1.162	1231.4	0.928	18.18554	5.24939	Si
SLV 10	-8816	-13823	-874	1.165	1227.9	0.928	18.24426	5.24939	Si
SLV 13	-7508	-12015	-490	1.359	1096.2	0.922	21.42771	6.07522	Si
SLV 14	-7457	-11921	-490	1.366	1091.1	0.921	21.54587	6.07522	Si
SLV 5	-8499	-12704	-723	1.213	1196	0.927	19.02609	5.24939	Si
SLV 6	-8465	-12641	-723	1.217	1192.5	0.927	19.08969	5.24939	Si
SLV 1	-6338	-8075	13	1.599	979	0.915	25.40082	6.07522	Si
SLV 2	-6287	-7980	13	1.609	973.9	0.915	25.5605	6.07522	Si
SLV 15	-5999	-9216	-11	1.665	945.2	0.913	26.50788	6.07522	Si
SLV 16	-5948	-9122	-10	1.675	940.1	0.912	26.68241	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.393	SLU 41	Si
V_SLU	22.747	SLU 44	Si
PF_SLV	1.141	SLV 11	Si
V_SLV	3.866	SLV 2	Si
PFFP_SLV	1.893	SLV 7	Si
R_SLV	3.464	SLV 9	Si

Maschio 206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-2.213	-3.169	L6	L7	2.09	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	8.85	-377.49	-9693	-0.0000281	0.0003743	0.0035	2.09	8481.18	10021.73	10021.73	26.55	No	Si
SLU 35	10.65	1374.98	-9470	-0.0000352	0.0003743	0.0035	2.09	8322.86	8746.19	8746.19	6.36	No	Si
SLU 36	8.85	-328.06	-9737	-0.0000279	0.0003743	0.0035	2.09	8512.25	10056.46	10056.46	30.65	No	Si
SLU 36	10.65	1354.26	-9442	-0.0000349	0.0003743	0.0035	2.09	8303.35	8725.23	8725.23	6.44	No	Si
SLU 39	8.85	-463.43	-9539	-0.0000284	0.0003743	0.0035	2.09	8372.5	9901.19	9901.19	21.36	No	Si
SLU 39	10.65	1416.59	-9489	-0.0000355	0.0003743	0.0035	2.09	8336.86	8761.27	8761.27	6.18	No	Si
SLU 41	8.85	-468.06	-9637	-0.0000287	0.0003743	0.0035	2.09	8441.48	9977.53	9977.53	21.32	No	Si
SLU 41	10.65	1434.85	-9566	-0.0000359	0.0003743	0.0035	2.09	8391.59	8820.4	8820.4	6.15	No	Si
SLU 83	8.85	-415.19	-11487	-0.0000334	0.0003743	0.0035	2.09	9689.25	11422.92	11422.92	27.51	No	Si
SLU 83	10.65	1552.83	-10999	-0.0000408	0.0003743	0.0035	2.09	9372.18	9938.19	9938.19	6.4	No	Si
SLU 37	8.85	-385.13	-9438	-0.0000275	0.0003743	0.0035	2.09	8300.56	9820.43	9820.43	25.5	No	Si
SLU 37	10.65	1336.23	-9180	-0.0000341	0.0003743	0.0035	2.09	8115.14	8524.97	8524.97	6.38	No	Si
SLU 42	8.85	-418.63	-9681	-0.0000284	0.0003743	0.0035	2.09	8472.64	10012.21	10012.21	23.92	No	Si
SLU 42	10.65	1414.13	-9539	-0.0000356	0.0003743	0.0035	2.09	8372.19	8799.39	8799.39	6.22	No	Si
SLU 32	8.85	-372.86	-9596	-0.0000278	0.0003743	0.0035	2.09	8412.39	9945.26	9945.26	26.67	No	Si
SLU 32	10.65	1356.72	-9393	-0.0000348	0.0003743	0.0035	2.09	8267.86	8687.18	8687.18	6.4	No	Si
SLU 40	8.85	-414	-9583	-0.0000281	0.0003743	0.0035	2.09	8403.81	9935.77	9935.77	24	No	Si
SLU 40	10.65	1395.87	-9462	-0.0000353	0.0003743	0.0035	2.09	8317.37	8740.3	8740.3	6.26	No	Si
SLU 81	8.85	-410.56	-11389	-0.0000331	0.0003743	0.0035	2.09	9626.58	11349.96	11349.96	27.64	No	Si
SLU 81	10.65	1534.57	-10922	-0.0000405	0.0003743	0.0035	2.09	9321.32	9877.27	9877.27	6.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	8.85	-2712.08	-3573	-0.0000447	0.0005615	0.0035	1.672		4705.36	4705.36	1.73		Si
SLV 7	10.65	2301.51	-7898	-0.0000373	0.0005615	0.0035	2.09		7924.21	7924.21	3.44		Si
SLV 16	8.85	-2447.38	-7028	-0.000036	0.0005615	0.0035	2.09		7969.34	7969.34	3.26		Si
SLV 16	10.65	3631.83	-9952	-0.000053	0.0005615	0.0035	2.09		9755.94	9755.94	2.69		Si
SLV 2	8.85	2869.3	-9104	-0.0000448	0.0005615	0.0035	2.09		9007.75	9007.75	3.14		Si
SLV 2	10.65	-2499.62	-3627	-0.0000364	0.0005615	0.0035	1.672		4758.07	4758.07	1.9		Si
SLV 8	8.85	-2274.54	-3722	-0.0000305	0.0005615	0.0035	1.672		4850.04	4850.04	2.13		Si
SLV 8	10.65	1860.46	-7348	-0.0000325	0.0005615	0.0035	2.09		7422.24	7422.24	3.99		Si
SLV 11	8.85	-3782.48	-3713	-0.0002063	0.0005615	0.0035	1.672		4841.06	4841.06	1.28		Si
SLV 11	10.65	3792.99	-9568	-0.0000534	0.0005615	0.0035	2.09		9419.19	9419.19	2.48		Si
SLD 11	8.85	-2296.48	-5475	-0.0000311	0.0005615	0.0035	2.09		6523.42	6523.42	2.84		Si
SLD 11	10.65	2634.92	-8634	-0.0000418	0.0005615	0.0035	2.09		8588.65	8588.65	3.26		Si
SLV 12	8.85	-3344.94	-3862	-0.0000772	0.0005615	0.0035	1.672		4985.42	4985.42	1.49		Si
SLV 12	10.65	3351.95	-9018	-0.0000483	0.0005615	0.0035	2.09		8931.98	8931.98	2.66		Si
SLV 15	8.85	-3097.3	-6806	-0.0000414	0.0005615	0.0035	2.09		7765.6	7765.6	2.51		Si
SLV 15	10.65	4286.96	-10769	-0.0000606	0.0005615	0.0035	2.09		10403.5	10403.5	2.43		Si
SLV 1	8.85	2219.38	-8882	-0.0000393	0.0005615	0.0035	2.09		8810.09	8810.09	3.97		Si
SLV 1	10.65	-1844.49	-4444	-0.000025	0.0005615	0.0035	2.09		5541.14	5541.14	3		Si
SLV 6	8.85	3554.48	-12197	-0.0000586	0.0005615	0.0035	2.09		11479.09	11479.09	3.23		Si
SLV 6	10.65	-2005.66	-4828	-0.0000272	0.0005615	0.0035	2.09		5905.3	5905.3	2.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	8.85	-418.63	-9681	-8061	-2040	2.09	2.09	-13775	8781	5139	40441	17523	5329	22853	No	11.2	Si
SLU 42	10.65	1414.13	-9539	-7943	-2029	2.09	2.09	-13573	8754	5123	40441	17523	5329	22853	No	11.26	Si
SLU 83	8.85	-415.19	-11487	-9565	-2220	2.09	2.09	-16345	9124	5339	40441	17523	5329	22853	No	10.29	Si
SLU 83	10.65	1552.83	-10999	-9159	-2221	2.09	2.09	-15651	9031	5285	40441	17523	5329	22853	No	10.29	Si
SLU 41	8.85	-468.06	-9637	-8025	-2115	2.09	2.09	-13713	8773	5134	40441	17523	5329	22853	No	10.81	Si
SLU 41	10.65	1434.85	-9566	-7966	-2115	2.09	2.09	-13612	8759	5126	40441	17523	5329	22853	No	10.8	Si
SLU 74	8.85	-319.99	-11445	-9531	-2047	2.09	2.09	-16286	9116	5335	40441	17523	5329	22853	No	11.16	Si
SLU 74	10.65	1474.7	-10826	-9015	-2047	2.09	2.09	-15404	8998	5266	40441	17523	5329	22853	No	11.16	Si
SLU 82	8.85	-361.13	-11433	-9521	-2145	2.09	2.09	-16269	9114	5333	40441	17523	5329	22853	No	10.66	Si
SLU 82	10.65	1513.85	-10895	-9072	-2134	2.09	2.09	-15503	9011	5274	40441	17523	5329	22853	No	10.71	Si
SLU 84	8.85	-365.76	-11531	-9602	-2145	2.09	2.09	-16408	9132	5344	40441	17523	5329	22853	No	10.65	Si
SLU 84	10.65	1532.11	-10972	-9136	-2135	2.09	2.09	-15612	9026	5282	40441	17523	5329	22853	No	10.7	Si
SLU 39	8.85	-463.43	-9539	-7943	-2114	2.09	2.09	-13574	8754	5123	40441	17523	5329	22853	No	10.81	Si
SLU 39	10.65	1416.59	-9489	-7902	-2114	2.09	2.09	-13503	8745	5117	40441	17523	5329	22853	No	10.81	Si
SLU 81	8.85	-410.56	-11389	-9484	-2219	2.09	2.09	-16206	9105	5328	40441	17523	5329	22853	No	10.3	Si
SLU 81	10.65	1534.57	-10922	-9095	-2220	2.09	2.09	-15542	9017	5277	40441	17523	5329	22853	No	10.3	Si
SLU 77	8.85	-324.62	-11543	-9612	-2048	2.09	2.09	-16425	9134	5345	40441	17523	5329	22853	No	11.16	Si
SLU 77	10.65	1492.96	-10903	-9079	-2048	2.09	2.09	-15514	9013	5274	40441	17523	5329	22853	No	11.16	Si
SLU 40	8.85	-414	-9583	-7980	-2039	2.09	2.09	-13637	8763	5128	40441	17523	5329	22853	No	11.21	Si
SLU 40	10.65	1395.87	-9462	-7879	-2028	2.09	2.09	-13464	8740	5114	40441	17523	5329	22853	No	11.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	8.85	2869.3	-9104	-7581	5323	2.09	2.09	-12954	13007	7612	40441	26285	5329	31615		5.94	Si
SLV 2	10.65	-2499.62	-3627	-3020	4715	1.672	1.0676	0	0	0	40441	21028	4264	25292		5.36	Si
SLV 11	8.85	-3782.48	-3713	-3092	-8613	1.672	0.0788	0	0	0	40441	21028	4264	25292		2.94	Si
SLV 11	10.65	3792.99	-9568	-7968	-8485	2.09	1.9458	-13615	13140	7159	40441	26285	5329	31615		3.73	Si
SLV 7	8.85	-2712.08	-3573	-2975	-6128	1.672	0.8577	0	0	0	40441	21028	4264	25292		4.13	Si
SLV 7	10.65	2301.51	-7898	-6577	-6376	2.09	2.09	-11238	12664	7411	40441	26285	5329	31615		4.96	Si
SLV 5	8.85	3116.94	-12048	-10032	5321	2.09	2.09	-17143	13845	8102	40441	26285	5329	31615		5.94	Si
SLV 5	10.65	-1564.61	-5378	-4478	5193	2.09	2.09	-7652	11947	6991	40441	26285	5329	31615		6.09	Si
SLV 15	8.85	-3097.3	-6806	-5668	-7721	2.09	1.7698	-11499	12716	6302	40441	26285	5329	31615		4.09	Si
SLV 15	10.65	4286.96	-10769	-8967	-7113	2.09	1.9407	-15324	13481	7326	40441	26285	5329	31615		4.44	Si
SLD 11	8.85	-2296.48	-5475	-4559	-5617	2.09	1.8765	-8701	12157	6388	40441	26285	5329	31615		5.63	Si
SLD 11	10.65	2634.92	-8634	-7189	-5530	2.09	2.09	-12285	12874	7534	40441	26285	5329	31615		5.72	Si
SLV 8	8.85	-2274.54	-3722	-3100	-5234	1.672	1.3018	0	0	0	40441	21028	4264	25292		4.83	Si
SLV 8	10.65	1860.46	-7348	-6119	-5482	2.09	2.09	-10455	12508	7320	40441	26285	5329	31615		5.77	Si
SLV 6	8.85	3554.48	-12197	-10157	6215	2.09	2.09	-17356	13888	8127	40441	26285	5329	31615		5.09	Si
SLV 6	10.65	-2005.66	-4828	-4020	6087	2.09	1.8887	-7622	11941	6315	40441	26285	5329	31615		5.19	Si
SLV 16	8.85	-2447.38	-7028	-5853	-6393	2.09	2.09	-10001	12417	7266	40441	26285	5329	31615		4.94	Si
SLV 16	10.65	3631.83	-9952	-8287	-5785	2.09	2.0402	-14161	13249	7568	40441	26285	5329	31615		5.46	Si
SLV 12	8.85	-3344.94	-3862	-3216	-7719	1.672	0.5369	0	0	0	40441	21028	4264	25292		3.28	Si
SLV 12	10.65	3351.95	-9018	-7510	-7591	2.09	2.02	-12833	12983	7343	40441	26285	5329	31615		4.16	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.45	9449	-5529	260.32	726.22	2.79	Si
SLV 3	179667	0.45	10134	-5930	260.32	775.17	2.98	Si
SLV 2	179667	0.45	10324	-6042	260.32	788.65	3.03	Si
SLV 8	179667	0.45	10692	-6257	260.32	814.66	3.13	Si
SLV 1	179667	0.45	11010	-6443	260.32	836.96	3.22	Si
SLV 7	179667	0.45	11154	-6527	260.32	847.05	3.25	Si
SLV 12	179667	0.45	12537	-7337	260.32	942.83	3.62	Si
SLV 11	179667	0.45	12999	-7607	260.32	974.31	3.74	Si
SLV 6	179667	0.45	13610	-7965	260.32	1015.68	3.9	Si
SLV 5	179667	0.45	14072	-8235	260.32	1046.63	4.02	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-7222	-9858	371	1.298	1033	0.924	20.40409	6.07522	Si
SLV 16	-6824	-9608	372	1.356	992.9	0.922	21.36416	6.07522	Si
SLV 13	-6982	-11739	101	1.363	1008.9	0.923	21.4524	6.07522	Si
SLV 14	-6583	-11489	102	1.425	968.8	0.921	22.49235	6.07522	Si
SLV 11	-6603	-5967	519	1.372	970.8	0.921	21.66194	5.24939	Si
SLV 12	-6334	-5798	520	1.416	943.8	0.919	22.39048	5.24939	Si
SLV 7	-5887	-4548	376	1.514	899.1	0.916	24.01375	5.24939	Si
SLV 9	-5802	-12238	-380	1.53	890.6	0.916	24.28021	5.24939	Si
SLV 3	-4837	-5129	-105	1.785	794.4	0.909	28.55047	6.07522	Si
SLV 8	-5619	-4380	377	1.567	872.2	0.914	24.90129	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.147	SLU 41	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	10.292	SLU 83	Si
PF_SLV	1.28	SLV 11	Si
V_SLV	2.937	SLV 11	Si
PFFP_SLV	2.79	SLV 4	Si
R_SLV	3.359	SLV 15	Si

Maschio 207

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.853	5.951	-5.158	5.951	L6	L7	2.305	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	8.85	-24.91	-13781	-0.0000331	0.0003743	0.0035	2.305	12551.83	14992.29	14992.29	601.77	No	Si
SLU 47	10.65	-1021.99	-11110	-0.0000327	0.0003743	0.0035	2.305	10639.38	12744.52	12744.52	12.47	No	Si
SLU 44	8.85	66.04	-13105	-0.0000317	0.0003743	0.0035	2.305	12091.42	12974.73	12974.73	196.48	No	Si
SLU 44	10.65	-969.68	-10434	-0.0000307	0.0003743	0.0035	2.305	10115.6	12150.53	12150.53	12.53	No	Si
SLU 49	8.85	-121.56	-14783	-0.0000363	0.0003743	0.0035	2.305	13204.57	15800.91	15800.91	129.98	No	Si
SLU 49	10.65	-1092.17	-12112	-0.0000357	0.0003743	0.0035	2.305	11386	13607.98	13607.98	12.46	No	Si
SLU 43	8.85	94.31	-13196	-0.0000321	0.0003743	0.0035	2.305	12154.16	13057.89	13057.89	138.46	No	Si
SLU 43	10.65	-1009.75	-10525	-0.0000312	0.0003743	0.0035	2.305	10186.85	12233.01	12233.01	12.11	No	Si
SLU 8	8.85	-132.46	-12023	-0.0000294	0.0003743	0.0035	2.305	11321.07	13530.26	13530.26	102.15	No	Si
SLU 8	10.65	-886.14	-9954	-0.000029	0.0003743	0.0035	2.305	9733.76	11710.63	11710.63	13.22	No	Si
SLU 51	8.85	-104.55	-14494	-0.0000354	0.0003743	0.0035	2.305	13019.61	15572.38	15572.38	148.94	No	Si
SLU 51	10.65	-1090.33	-11823	-0.000035	0.0003743	0.0035	2.305	11173.92	13355.92	13355.92	12.25	No	Si
SLU 48	8.85	-104.6	-14838	-0.0000363	0.0003743	0.0035	2.305	13239.04	15843.5	15843.5	151.47	No	Si
SLU 48	10.65	-1116.22	-12166	-0.000036	0.0003743	0.0035	2.305	11425.58	13655.19	13655.19	12.23	No	Si
SLU 50	8.85	-87.59	-14548	-0.0000355	0.0003743	0.0035	2.305	13054.64	15615.67	15615.67	178.28	No	Si
SLU 50	10.65	-1114.37	-11877	-0.0000352	0.0003743	0.0035	2.305	11214.06	13403.1	13403.1	12.03	No	Si
SLU 45	8.85	-13.65	-14162	-0.000034	0.0003743	0.0035	2.305	12803.68	15305.46	15305.46	1121.67	No	Si
SLU 45	10.65	-1063.91	-11490	-0.0000339	0.0003743	0.0035	2.305	10926.86	13069.46	13069.46	12.28	No	Si
SLU 46	8.85	-30.61	-14107	-0.000034	0.0003743	0.0035	2.305	12767.92	15261.24	15261.24	498.58	No	Si
SLU 46	10.65	-1039.86	-11436	-0.0000337	0.0003743	0.0035	2.305	10885.99	13022.73	13022.73	12.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	8.85	1751.23	-11172	-0.0000369	0.0005615	0.0035	2.305		11934.07	11934.07	6.81		Si
SLV 1	10.65	-2253.73	-8573	-0.0000336	0.0005615	0.0035	2.305		10708.21	10708.21	4.75		Si
SLV 8	8.85	799.81	-16089	-0.000043	0.0005615	0.0035	2.305		16162.07	16162.07	20.21		Si
SLV 8	10.65	-3025.53	-13931	-0.0000516	0.0005615	0.0035	2.305		15838.09	15838.09	5.23		Si
SLV 4	8.85	1131.84	-13021	-0.0000375	0.0005615	0.0035	2.305		13502.74	13502.74	11.93		Si
SLV 4	10.65	-2753.87	-10466	-0.0000413	0.0005615	0.0035	2.305		12569.59	12569.59	4.56		Si
SLV 10	8.85	-1451.83	-6302	-0.0000233	0.0005615	0.0035	2.305		8396.41	8396.41	5.78		Si
SLV 10	10.65	1945.11	-4291	-0.0000217	0.0005615	0.0035	2.305		5034.07	5034.07	2.59		Si
SLV 7	8.85	1499.77	-16753	-0.0000491	0.0005615	0.0035	2.305		16746.04	16746.04	11.17		Si
SLV 7	10.65	-3482.47	-14594	-0.0000562	0.0005615	0.0035	2.305		16442.95	16442.95	4.72		Si
SLV 3	8.85	2171.56	-14006	-0.0000464	0.0005615	0.0035	2.305		14348.96	14348.96	6.61		Si
SLV 3	10.65	-3432.6	-11451	-0.000048	0.0005615	0.0035	2.305		13526.85	13526.85	3.94		Si
SLV 9	8.85	-751.86	-6966	-0.0000206	0.0005615	0.0035	2.305		9088.53	9088.53	12.09		Si
SLV 9	10.65	1488.18	-4954	-0.0000203	0.0005615	0.0035	2.305		5743.83	5743.83	3.86		Si
SLV 6	8.85	-601.29	-6644	-0.000019	0.0005615	0.0035	2.305		8755.26	8755.26	14.56		Si
SLV 6	10.65	904.04	-4337	-0.0000154	0.0005615	0.0035	2.305		5083.55	5083.55	5.62		Si
SLD 3	8.85	1345.62	-12998	-0.0000388	0.0005615	0.0035	2.305		13482.79	13482.79	10.02		Si
SLD 3	10.65	-2428.33	-10631	-0.0000397	0.0005615	0.0035	2.305		12729.16	12729.16	5.24		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	8.85	-2123.61	-9049	-0.000034	0.0005615	0.0035	2.305		11191.82	11191.82	5.27		Si
SLV 14	10.65	1895.24	-7434	-0.0000287	0.0005615	0.0035	2.305		8329.48	8329.48	4.39		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	8.85	-87.59	-14548	-12115	540	2.305	2.305	-18771	9447	6097	40441	19326	5878	25204	No	46.67	Si
SLU 50	10.65	-1114.37	-11877	-9890	540	2.305	2.305	-15324	8988	5801	40441	19326	5878	25204	No	46.67	Si
SLU 51	8.85	-104.55	-14494	-12069	517	2.305	2.305	-18700	9438	6091	40441	19326	5878	25204	No	48.72	Si
SLU 51	10.65	-1090.33	-11823	-9845	517	2.305	2.305	-15254	8978	5795	40441	19326	5878	25204	No	48.72	Si
SLU 43	8.85	94.31	-13196	-10988	583	2.305	2.305	-17026	9215	5947	40441	19326	5878	25204	No	43.23	Si
SLU 43	10.65	-1009.75	-10525	-8764	583	2.305	2.305	-13579	8755	5650	40441	19326	5878	25204	No	43.23	Si
SLU 47	8.85	-24.91	-13781	-11476	524	2.305	2.305	-17781	9315	6012	40441	19326	5878	25204	No	48.14	Si
SLU 47	10.65	-1021.99	-11110	-9251	524	2.305	2.305	-14335	8856	5715	40441	19326	5878	25204	No	48.14	Si
SLU 64	8.85	6.7	-15167	-12630	544	2.305	2.305	-19569	9554	6166	40441	19326	5878	25204	No	46.32	Si
SLU 64	10.65	-1027.92	-12441	-10360	544	2.305	2.305	-16051	9085	5863	40441	19326	5878	25204	No	46.32	Si
SLU 44	8.85	66.04	-13105	-10913	545	2.305	2.305	-16909	9199	5937	40441	19326	5878	25204	No	46.24	Si
SLU 44	10.65	-969.68	-10434	-8688	545	2.305	2.305	-13462	8739	5640	40441	19326	5878	25204	No	46.24	Si
SLU 46	8.85	-30.61	-14107	-11747	530	2.305	2.305	-18201	9371	6048	40441	19326	5878	25204	No	47.52	Si
SLU 46	10.65	-1039.86	-11436	-9523	530	2.305	2.305	-14755	8912	5752	40441	19326	5878	25204	No	47.52	Si
SLU 45	8.85	-13.65	-14162	-11793	553	2.305	2.305	-18272	9381	6054	40441	19326	5878	25204	No	45.57	Si
SLU 45	10.65	-1063.91	-11490	-9568	553	2.305	2.305	-14825	8921	5758	40441	19326	5878	25204	No	45.57	Si
SLU 48	8.85	-104.6	-14838	-12356	532	2.305	2.305	-19144	9497	6129	40441	19326	5878	25204	No	47.41	Si
SLU 48	10.65	-1116.22	-12166	-10131	532	2.305	2.305	-15697	9037	5833	40441	19326	5878	25204	No	47.41	Si
SLU 60	8.85	92.13	-14665	-12211	532	2.305	2.305	-18921	9467	6110	40441	19326	5878	25204	No	47.4	Si
SLU 60	10.65	-919.58	-11993	-9987	532	2.305	2.305	-15474	9008	5814	40441	19326	5878	25204	No	47.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	8.85	908.44	-14594	-12152	1801	2.305	2.305	-18829	14182	9153	40441	28989	5878	34867		19.35	Si
SLD 7	10.65	-2388.3	-12463	-10378	1735	2.305	2.305	-16080	13633	8799	40441	28989	5878	34867		20.1	Si
SLV 4	8.85	1131.84	-13021	-10843	2132	2.305	2.305	-16800	13777	8891	40441	28989	5878	34867		16.35	Si
SLV 4	10.65	-2753.87	-10466	-8715	1732	2.305	2.305	-13503	13117	8466	40441	28989	5878	34867		20.14	Si
SLV 14	8.85	-2123.61	-9049	-7535	-2253	2.305	2.305	-11675	12752	8230	40441	28989	5878	34867		15.47	Si
SLV 14	10.65	1895.24	-7434	-6190	-1853	2.305	2.305	-9591	12335	7961	40441	28989	5878	34867		18.82	Si
SLV 7	8.85	1499.77	-16753	-13950	2728	2.305	2.305	-21615	14740	9513	40441	28989	5878	34867		12.78	Si
SLV 7	10.65	-3482.47	-14594	-12153	2629	2.305	2.305	-18829	14183	9153	40441	28989	5878	34867		13.26	Si
SLV 8	8.85	799.81	-16089	-13398	2085	2.305	2.305	-20759	14568	9402	40441	28989	5878	34867		16.72	Si
SLV 8	10.65	-3025.53	-13931	-11600	1986	2.305	2.305	-17974	14011	9043	40441	28989	5878	34867		17.55	Si
SLV 3	8.85	2171.56	-14006	-11663	3087	2.305	2.305	-18071	14031	9056	40441	28989	5878	34867		11.3	Si
SLV 3	10.65	-3432.6	-11451	-9535	2686	2.305	2.305	-14774	13372	8630	40441	28989	5878	34867		12.98	Si
SLD 3	8.85	1345.62	-12998	-10823	2082	2.305	2.305	-16770	13771	8888	40441	28989	5878	34867		16.75	Si
SLD 3	10.65	-2428.33	-10631	-8852	1819	2.305	2.305	-13716	13160	8493	40441	28989	5878	34867		19.17	Si
SLV 10	8.85	-1451.83	-6302	-5248	-1894	2.305	2.305	-8131	12043	7773	40441	28989	5878	34867		18.41	Si
SLV 10	10.65	1945.11	-4291	-3573	-1795	2.305	2.0975	-5536	11524	6768	40441	28989	5878	34867		19.42	Si
SLV 1	8.85	1751.23	-11172	-9303	2209	2.305	2.305	-14415	13300	8584	40441	28989	5878	34867		15.78	Si
SLV 1	10.65	-2253.73	-8573	-7139	1794	2.305	2.305	-11061	12629	8151	40441	28989	5878	34867		19.43	Si
SLV 11	8.85	649.24	-16411	-13666	1675	2.305	2.305	-21174	14651	9456	40441	28989	5878	34867		20.81	Si
SLV 11	10.65	-2441.4	-14548	-12114	1821	2.305	2.305	-18770	14171	9146	40441	28989	5878	34867		19.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	8470	-5466	287.1	722.86	2.52	Si
SLV 6	179667	0.45	8565	-5528	287.1	730.51	2.54	Si
SLV 9	179667	0.45	9497	-6130	287.1	804.79	2.8	Si
SLV 5	179667	0.45	9593	-6191	287.1	812.32	2.83	Si
SLV 14	179667	0.45	13303	-8586	287.1	1097.31	3.82	Si
SLV 2	179667	0.45	13621	-8791	287.1	1120.96	3.9	Si
SLV 13	179667	0.45	14830	-9571	287.1	1209.83	4.21	Si
SLV 1	179667	0.45	15147	-9776	287.1	1232.91	4.29	Si
SLV 16	179667	0.45	17755	-11459	287.1	1417.76	4.94	Si
SLV 4	179667	0.45	18073	-11664	287.1	1439.74	5.01	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-10842	-17847	900	0.979	1429.6	0.937	15.18776	5.24939	Si
SLV 12	-10666	-16713	900	0.992	1411.8	0.936	15.40103	5.24939	Si
SLV 15	-9413	-12588	243	1.154	1285.2	0.931	18.0014	6.07522	Si
SLV 7	-10331	-19003	918	1.017	1378	0.935	15.79882	5.24939	Si
SLV 16	-9151	-10904	243	1.18	1258.7	0.93	18.43139	6.07522	Si
SLV 8	-10155	-17869	918	1.031	1360.1	0.934	16.03051	5.24939	Si
SLV 3	-7710	-16440	303	1.342	1113.7	0.923	21.12097	6.07522	Si
SLV 13	-7641	-9000	-302	1.351	1106.7	0.923	21.27822	6.07522	Si
SLV 4	-7448	-14756	303	1.378	1087.3	0.922	21.72018	6.07522	Si
SLV 14	-7378	-7316	-302	1.387	1080.3	0.921	21.88611	6.07522	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.027	SLU 50	Si
V_SLU	43.23	SLU 43	Si
PF_SLV	2.588	SLV 10	Si
V_SLV	11.295	SLV 3	Si
PFFP_SLV	2.518	SLV 10	Si
R_SLV	2.893	SLV 11	Si

Maschio 208

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.953	5.951	L6	L7	1.83	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	8.85	139.18	-10256	-0.0000322	0.0003743	0.0035	1.83	7539.12	8068.4	8068.4	57.97	No	Si
SLU 84	10.65	1406.3	-10310	-0.0000452	0.0003743	0.0035	1.83	7569.53	8107.91	8107.91	5.77	No	Si
SLU 33	8.85	76.96	-8644	-0.0000265	0.0003743	0.0035	1.83	6598.47	6934.75	6934.75	90.11	No	Si
SLU 33	10.65	1238.08	-8884	-0.0000389	0.0003743	0.0035	1.83	6744.55	7101.06	7101.06	5.74	No	Si
SLU 41	8.85	42.74	-8658	-0.0000262	0.0003743	0.0035	1.83	6607.07	6944.46	6944.46	162.47	No	Si
SLU 41	10.65	1293.67	-9019	-0.0000399	0.0003743	0.0035	1.83	6825.43	7194.57	7194.57	5.56	No	Si
SLU 40	8.85	-16.62	-8145	-0.0000244	0.0003743	0.0035	1.83	6289.21	7465.85	7465.85	449.15	No	Si
SLU 40	10.65	1255.14	-8560	-0.000038	0.0003743	0.0035	1.83	6547.18	6877.12	6877.12	5.48	No	Si
SLU 36	8.85	108.92	-9131	-0.0000284	0.0003743	0.0035	1.83	6892.76	7273.2	7273.2	66.77	No	Si
SLU 36	10.65	1290.19	-9371	-0.000041	0.0003743	0.0035	1.83	7034.07	7440.66	7440.66	5.77	No	Si
SLU 39	8.85	10.78	-8170	-0.0000244	0.0003743	0.0035	1.83	6304.68	6609.79	6609.79	613.24	No	Si
SLU 39	10.65	1241.56	-8532	-0.0000378	0.0003743	0.0035	1.83	6529.89	6857.78	6857.78	5.52	No	Si
SLU 82	8.85	107.22	-9768	-0.0000303	0.0003743	0.0035	1.83	7264.07	7720.51	7720.51	72.01	No	Si
SLU 82	10.65	1354.19	-9824	-0.0000431	0.0003743	0.0035	1.83	7296.06	7760.18	7760.18	5.73	No	Si
SLU 42	8.85	15.34	-8633	-0.0000259	0.0003743	0.0035	1.83	6592.02	6927.48	6927.48	451.49	No	Si
SLU 42	10.65	1307.25	-9047	-0.0000401	0.0003743	0.0035	1.83	6842.24	7214.13	7214.13	5.52	No	Si
SLU 31	8.85	25.41	-7978	-0.0000239	0.0003743	0.0035	1.83	6183.31	6479.06	6479.06	255.03	No	Si
SLU 31	10.65	1167.4	-8222	-0.0000361	0.0003743	0.0035	1.83	6337.35	6645.32	6645.32	5.69	No	Si
SLU 34	8.85	57.37	-8466	-0.0000258	0.0003743	0.0035	1.83	6488.99	6812.2	6812.2	118.74	No	Si
SLU 34	10.65	1219.51	-8709	-0.0000381	0.0003743	0.0035	1.83	6638.17	6979.63	6979.63	5.72	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	8.85	-1215.61	-4157	-0.0000236	0.0005615	0.0035	1.83		4490.06	4490.06	3.69		Si
SLD 10	10.65	1734.62	-6988	-0.0000372	0.0005615	0.0035	1.83		6135.75	6135.75	3.54		Si
SLV 6	8.85	-1762.8	-2835	-0.0000344	0.0005615	0.0035	1.464		3376.7	3376.7	1.92		Si
SLV 6	10.65	1652.96	-7050	-0.0000366	0.0005615	0.0035	1.83		6184.87	6184.87	3.74		Si
SLV 16	8.85	-244.44	-7072	-0.000023	0.0005615	0.0035	1.83		6873.27	6873.27	28.12		Si
SLV 16	10.65	1942.53	-7219	-0.00004	0.0005615	0.0035	1.83		6318.92	6318.92	3.25		Si
SLV 9	8.85	-1781.03	-2383	-0.0000501	0.0005615	0.0035	1.464		2987.27	2987.27	1.68		Si
SLV 9	10.65	2003.59	-6768	-0.0000392	0.0005615	0.0035	1.83		5960.32	5960.32	2.97		Si
SLD 14	8.85	-799.09	-5424	-0.0000234	0.0005615	0.0035	1.83		5546.73	5546.73	6.94		Si
SLD 14	10.65	1897.92	-7092	-0.0000391	0.0005615	0.0035	1.83		6218.45	6218.45	3.28		Si
SLV 7	8.85	2696.38	-11858	-0.0000621	0.0005615	0.0035	1.83		9568.82	9568.82	3.55		Si
SLV 7	10.65	-795.81	-5781	-0.0000245	0.0005615	0.0035	1.83		5831.7	5831.7	7.33		Si
SLV 5	8.85	-1324.6	-3047	-0.0000224	0.0005615	0.0035	1.83		3559.17	3559.17	2.69		Si
SLV 5	10.65	1286.36	-6526	-0.0000315	0.0005615	0.0035	1.83		5766.66	5766.66	4.48		Si
SLV 10	8.85	-2219.23	-2171	-0.0002692	0.0005615	0.0035	1.464		2802.84	2802.84	1.26		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	10.65	2370.19	-7293	-0.0000445	0.0005615	0.0035	1.83		6376.78	6376.78	2.69		Si
SLV 14	8.85	-1450.74	-4428	-0.0000267	0.0005615	0.0035	1.83		4715.95	4715.95	3.25		Si
SLV 14	10.65	2567.18	-7443	-0.000047	0.0005615	0.0035	1.83		6495.19	6495.19	2.53		Si
SLV 13	8.85	-799.84	-4743	-0.0000214	0.0005615	0.0035	1.83		4979.59	4979.59	6.23		Si
SLV 13	10.65	2022.62	-6663	-0.000039	0.0005615	0.0035	1.83		5876.8	5876.8	2.91		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	8.85	232.76	-10754	-8955	-1656	1.83	1.83	-17477	9275	4752	40441	15344	4666	20010	No	12.08	Si
SLU 78	10.65	1389.24	-10635	-8856	-1656	1.83	1.83	-17282	9249	4739	40441	15344	4666	20010	No	12.08	Si
SLU 42	8.85	15.34	-8633	-7189	-1765	1.83	1.83	-14030	8815	4517	40441	15344	4666	20010	No	11.34	Si
SLU 42	10.65	1307.25	-9047	-7533	-1765	1.83	1.83	-14702	8905	4563	40441	15344	4666	20010	No	11.34	Si
SLU 84	8.85	139.18	-10256	-8540	-1806	1.83	1.83	-16667	9167	4697	40441	15344	4666	20010	No	11.08	Si
SLU 84	10.65	1406.3	-10310	-8586	-1806	1.83	1.83	-16756	9179	4703	40441	15344	4666	20010	No	11.08	Si
SLU 40	8.85	-16.62	-8145	-6783	-1754	1.83	1.83	-13237	8709	4463	40441	15344	4666	20010	No	11.41	Si
SLU 40	10.65	1255.14	-8560	-7128	-1754	1.83	1.83	-13911	8799	4509	40441	15344	4666	20010	No	11.41	Si
SLU 76	8.85	181.21	-10088	-8400	-1647	1.83	1.83	-16394	9130	4678	40441	15344	4666	20010	No	12.15	Si
SLU 76	10.65	1318.56	-9972	-8304	-1647	1.83	1.83	-16206	9105	4666	40441	15344	4666	20010	No	12.15	Si
SLU 41	8.85	42.74	-8658	-7209	-1715	1.83	1.83	-14070	8820	4520	40441	15344	4666	20010	No	11.67	Si
SLU 41	10.65	1293.67	-9019	-7510	-1715	1.83	1.83	-14656	8899	4560	40441	15344	4666	20010	No	11.66	Si
SLU 81	8.85	134.62	-9792	-8154	-1746	1.83	1.83	-15914	9066	4646	40441	15344	4666	20010	No	11.46	Si
SLU 81	10.65	1340.61	-9796	-8157	-1746	1.83	1.83	-15919	9067	4646	40441	15344	4666	20010	No	11.46	Si
SLU 82	8.85	107.22	-9768	-8134	-1795	1.83	1.83	-15874	9061	4643	40441	15344	4666	20010	No	11.15	Si
SLU 82	10.65	1354.19	-9824	-8180	-1795	1.83	1.83	-15965	9073	4649	40441	15344	4666	20010	No	11.14	Si
SLU 39	8.85	10.78	-8170	-6803	-1705	1.83	1.83	-13277	8715	4465	40441	15344	4666	20010	No	11.74	Si
SLU 39	10.65	1241.56	-8532	-7105	-1705	1.83	1.83	-13865	8793	4506	40441	15344	4666	20010	No	11.74	Si
SLU 83	8.85	166.58	-10280	-8560	-1756	1.83	1.83	-16707	9172	4700	40441	15344	4666	20010	No	11.39	Si
SLU 83	10.65	1392.72	-10282	-8562	-1757	1.83	1.83	-16710	9172	4700	40441	15344	4666	20010	No	11.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	8.85	2696.38	-11858	-9874	4087	1.83	1.83	-19270	14271	7312	40441	23015	4666	27682		6.77	Si
SLV 7	10.65	-795.81	-5781	-4814	4014	1.83	1.83	-9396	12296	6300	40441	23015	4666	27682		6.9	Si
SLV 14	8.85	-1450.74	-4428	-3688	-4798	1.83	1.7622	-7197	11856	5850	40441	23015	4666	27682		5.77	Si
SLV 14	10.65	2567.18	-7443	-6198	-4316	1.83	1.7102	-12095	12836	6146	40441	23015	4666	27682		6.41	Si
SLD 14	8.85	-799.09	-5424	-4517	-3310	1.83	1.83	-8815	12180	6241	40441	23015	4666	27682		8.36	Si
SLD 14	10.65	1897.92	-7092	-5906	-2993	1.83	1.83	-11526	12722	6519	40441	23015	4666	27682		9.25	Si
SLD 9	8.85	-949.69	-4286	-3569	-3338	1.83	1.83	-6965	11810	6051	40441	23015	4666	27682		8.29	Si
SLD 9	10.65	1512.15	-6670	-5554	-3284	1.83	1.83	-10840	12585	6448	40441	23015	4666	27682		8.43	Si
SLV 13	8.85	-799.84	-4743	-3950	-3578	1.83	1.83	-7709	11958	6127	40441	23015	4666	27682		7.74	Si
SLV 13	10.65	2022.62	-6663	-5549	-3096	1.83	1.83	-10829	12582	6447	40441	23015	4666	27682		8.94	Si
SLV 5	8.85	-1324.6	-3047	-2537	-3756	1.83	1.4408	-6304	11678	4711	40441	23015	4666	27682		7.37	Si
SLV 5	10.65	1286.36	-6526	-5434	-3988	1.83	1.83	-10605	12538	6424	40441	23015	4666	27682		6.94	Si
SLV 6	8.85	-1762.8	-2835	-2361	-4578	1.464	0.8795	0	0	0	40441	18412	3733	22145		4.84	Si
SLV 6	10.65	1652.96	-7050	-5871	-4809	1.83	1.83	-11457	12708	6512	40441	23015	4666	27682		5.76	Si
SLV 10	8.85	-2219.23	-2171	-1808	-5854	1.464	0	0	0	0	40441	18412	3733	22145		3.78	Si
SLV 10	10.65	2370.19	-7293	-6073	-5782	1.83	1.77	-11851	12787	6337	40441	23015	4666	27682		4.79	Si
SLD 10	8.85	-1215.61	-4157	-3462	-3836	1.83	1.83	-6756	11768	6030	40441	23015	4666	27682		7.22	Si
SLD 10	10.65	1734.62	-6988	-5819	-3782	1.83	1.83	-11357	12688	6501	40441	23015	4666	27682		7.32	Si
SLV 9	8.85	-1781.03	-2383	-1984	-5033	1.464	0.5028	0	0	0	40441	18412	3733	22145		4.4	Si
SLV 9	10.65	2003.59	-6768	-5636	-4961	1.83	1.83	-10999	12616	6465	40441	23015	4666	27682		5.58	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.45	10307	-5281	227.94	689.47	3.02	Si
SLV 5	179667	0.45	10332	-5294	227.94	691.04	3.03	Si
SLV 10	179667	0.45	10751	-5509	227.94	716.95	3.15	Si
SLV 6	179667	0.45	10777	-5522	227.94	718.51	3.15	Si
SLV 13	179667	0.45	12338	-6322	227.94	813.57	3.57	Si
SLV 1	179667	0.45	12423	-6365	227.94	818.65	3.59	Si
SLV 14	179667	0.45	12998	-6660	227.94	853.06	3.74	Si
SLV 2	179667	0.45	13083	-6703	227.94	858.09	3.76	Si
SLV 15	179667	0.45	14197	-7274	227.94	923.74	4.05	Si
SLV 3	179667	0.45	14281	-7318	227.94	928.68	4.07	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-5388	-8045	290	1.471	810.5	0.918	23.28312	6.07522	Si
SLV 2	-5501	-5755	99	1.475	821.9	0.919	23.32685	6.07522	Si
SLV 14	-5312	-5905	-284	1.487	802.9	0.917	23.55783	6.07522	Si
SLV 16	-5199	-8195	-93	1.539	791.6	0.917	24.40439	6.07522	Si
SLV 3	-4994	-7868	289	1.556	771.1	0.915	24.71113	6.07522	Si
SLV 1	-5107	-5578	98	1.559	782.5	0.916	24.73354	6.07522	Si
SLV 13	-4918	-5727	-285	1.574	763.6	0.914	25.01658	6.07522	Si
SLV 15	-4805	-8018	-93	1.631	752.3	0.913	25.94355	6.07522	Si
SLV 10	-5446	-3151	-374	1.447	816.4	0.918	22.89884	5.24939	Si
SLV 6	-5503	-3107	-259	1.452	822	0.919	22.96594	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.479	SLU 40	Si
V_SLU	11.079	SLU 84	Si
PF_SLV	1.263	SLV 10	Si
V_SLV	3.783	SLV 10	Si
PFFP_SLV	3.025	SLV 9	Si
R_SLV	3.832	SLV 4	Si

Maschio 209

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-0.123	5.951	L6	L7	9.12	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	7.95	-6417.99	-71019	-0.0000463	0.0003743	0.0035	9.12	235381.96	285160.75	285160.75	44.43	No	Si
SLU 73	11.5	-1015.08	-37685	-0.0000228	0.0003743	0.0035	9.12	146934.04	178217.15	178217.15	175.57	No	Si
SLU 18	7.95	-5677.29	-54109	-0.000035	0.0003743	0.0035	9.12	195384.64	234273.83	234273.83	41.27	No	Si
SLU 18	11.5	-1500.04	-28314	-0.0000173	0.0003743	0.0035	9.12	115049.93	143482.76	143482.76	95.65	No	Si
SLU 60	7.95	-6732.05	-65020	-0.0000425	0.0003743	0.0035	9.12	222340.59	268052.81	268052.81	39.82	No	Si
SLU 60	11.5	-1784.97	-34078	-0.0000209	0.0003743	0.0035	9.12	135025.46	165058.12	165058.12	92.47	No	Si
SLU 40	7.95	-5911.77	-62550	-0.0000405	0.0003743	0.0035	9.12	216605.49	260582.67	260582.67	44.08	No	Si
SLU 40	11.5	-1118.71	-33039	-0.00002	0.0003743	0.0035	9.12	131510.49	161132.62	161132.62	144.03	No	Si
SLU 10	7.95	-5188.89	-51619	-0.0000332	0.0003743	0.0035	9.12	188649.23	226343.81	226343.81	43.62	No	Si
SLU 10	11.5	-825.05	-27174	-0.0000163	0.0003743	0.0035	9.12	110962.97	138984.07	138984.07	168.45	No	Si
SLU 52	7.95	-6243.66	-62530	-0.0000407	0.0003743	0.0035	9.12	216557.99	260522.11	260522.11	41.73	No	Si
SLU 52	11.5	-1109.99	-32938	-0.0000199	0.0003743	0.0035	9.12	131168.89	160754.69	160754.69	144.83	No	Si
SLU 82	7.95	-6966.54	-73461	-0.0000482	0.0003743	0.0035	9.12	240330.49	291876.47	291876.47	41.9	No	Si
SLU 82	11.5	-1403.65	-38802	-0.0000237	0.0003743	0.0035	9.12	150530.74	182175.97	182175.97	129.79	No	Si
SLU 19	7.95	-5737.44	-54062	-0.000035	0.0003743	0.0035	9.12	195259.98	234123.55	234123.55	40.81	No	Si
SLU 19	11.5	-1213.62	-28292	-0.0000172	0.0003743	0.0035	9.12	114971.7	143397.35	143397.35	118.16	No	Si
SLU 61	7.95	-6792.21	-64973	-0.0000425	0.0003743	0.0035	9.12	222233.85	267912.3	267912.3	39.44	No	Si
SLU 61	11.5	-1498.55	-34056	-0.0000208	0.0003743	0.0035	9.12	134951.67	164975.01	164975.01	110.09	No	Si
SLU 81	7.95	-6906.38	-73508	-0.0000482	0.0003743	0.0035	9.12	240423.29	292005.15	292005.15	42.28	No	Si
SLU 81	11.5	-1690.07	-38824	-0.0000238	0.0003743	0.0035	9.12	150600.88	182253.93	182253.93	107.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	7.95	-21976.81	-50494	-0.0000386	0.0005615	0.0035	9.12		231902.81	231902.81	10.55		Si
SLD 10	11.5	3268.74	-26323	-0.0000166	0.0005615	0.0035	9.12		117562.43	117562.43	35.97		Si
SLV 8	7.95	26952.47	-49886	-0.0000402	0.0005615	0.0035	9.12		206060.82	206060.82	7.65		Si
SLV 8	11.5	-6204.36	-27493	-0.0000185	0.0005615	0.0035	9.12		143026.1	143026.1	23.05		Si
SLV 12	7.95	21298.91	-53988	-0.0000405	0.0005615	0.0035	9.12		219872.68	219872.68	10.32		Si
SLV 12	11.5	-8817.25	-26484	-0.0000189	0.0005615	0.0035	9.12		138808.32	138808.32	15.74		Si
SLV 5	7.95	-29613.64	-46219	-0.000039	0.0005615	0.0035	9.12		216116.06	216116.06	7.3		Si
SLV 5	11.5	6925.36	-26974	-0.0000184	0.0005615	0.0035	9.12		120237.35	120237.35	17.36		Si
SLV 9	7.95	-35267.2	-50321	-0.0000438	0.0005615	0.0035	9.12		231276.54	231276.54	6.56		Si
SLV 9	11.5	4312.47	-25965	-0.0000168	0.0005615	0.0035	9.12		116084.07	116084.07	26.92		Si
SLV 7	7.95	26112.9	-49562	-0.0000397	0.0005615	0.0035	9.12		204974.48	204974.48	7.85		Si
SLV 7	11.5	-8193.43	-27374	-0.0000191	0.0005615	0.0035	9.12		142532.35	142532.35	17.4		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	7.95	-22486.3	-50298	-0.0000387	0.0005615	0.0035	9.12		231191.04	231191.04	10.28		Si
SLD 9	11.5	2061.68	-26251	-0.0000161	0.0005615	0.0035	9.12		117265.65	117265.65	56.88		Si
SLV 10	7.95	-34427.63	-50645	-0.0000436	0.0005615	0.0035	9.12		232449.75	232449.75	6.75		Si
SLV 10	11.5	6301.54	-26083	-0.0000177	0.0005615	0.0035	9.12		116572.81	116572.81	18.5		Si
SLV 11	7.95	20459.33	-53664	-0.00004	0.0005615	0.0035	9.12		218776.65	218776.65	10.69		Si
SLV 11	11.5	-10806.31	-26365	-0.0000196	0.0005615	0.0035	9.12		138314.11	138314.11	12.8		Si
SLV 6	7.95	-28774.06	-46543	-0.0000388	0.0005615	0.0035	9.12		217366.1	217366.1	7.55		Si
SLV 6	11.5	8914.43	-27093	-0.0000193	0.0005615	0.0035	9.12		120719.42	120719.42	13.54		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	7.95	-6966.54	-73461	-61172	-1884	9.12	9.12	-23955	10138	36761	40441	76466	23256	77202	No	40.98	Si
SLU 82	11.5	-1403.65	-38802	-32311	-1822	9.12	9.12	-12653	8632	25217	40441	76466	23256	65658	No	36.04	Si
SLU 52	7.95	-6243.66	-62530	-52070	-1980	9.12	9.12	-20391	9663	33120	40441	76466	23256	73561	No	37.15	Si
SLU 52	11.5	-1109.99	-32938	-27428	-1873	9.12	9.12	-10741	8377	23264	40441	76466	23256	63705	No	34.01	Si
SLU 84	7.95	-5764.78	-75214	-62632	-1850	9.12	9.12	-24527	10215	37345	40441	76466	23256	77786	No	42.05	Si
SLU 84	11.5	-388.06	-40245	-33512	-1788	9.12	9.12	-13124	8694	25697	40441	76466	23256	66138	No	36.99	Si
SLU 73	7.95	-6417.99	-71019	-59138	-2000	9.12	9.12	-23159	10032	35947	40441	76466	23256	76388	No	38.19	Si
SLU 73	11.5	-1015.08	-37685	-31381	-1894	9.12	9.12	-12289	8583	24845	40441	76466	23256	65286	No	34.47	Si
SLU 31	7.95	-5363.22	-60108	-50052	-1783	9.12	9.12	-19601	9558	32313	40441	76466	23256	72754	No	40.8	Si
SLU 31	11.5	-730.15	-31921	-26581	-1676	9.12	9.12	-10409	8332	22925	40441	76466	23256	63366	No	37.8	Si
SLU 61	7.95	-6792.21	-64973	-54104	-1864	9.12	9.12	-21187	9769	33934	40441	76466	23256	74375	No	39.9	Si
SLU 61	11.5	-1498.55	-34056	-28359	-1801	9.12	9.12	-11105	8425	23636	40441	76466	23256	64077	No	35.57	Si
SLU 63	7.95	-5590.45	-66726	-55564	-1830	9.12	9.12	-21759	9846	34517	40441	76466	23256	74958	No	40.96	Si
SLU 63	11.5	-482.97	-35498	-29560	-1767	9.12	9.12	-11576	8488	24116	40441	76466	23256	64557	No	36.53	Si
SLU 76	7.95	-5216.23	-72772	-60598	-1966	9.12	9.12	-23730	10108	36531	40441	76466	23256	76972	No	39.15	Si
SLU 76	11.5	0.5	-39127	-32582	-1860	9.12	9.12	-12759	8646	25325	40441	76466	23256	65766	No	35.37	Si
SLU 55	7.95	-5041.9	-64283	-53530	-1946	9.12	9.12	-20962	9739	33704	40441	76466	23256	74145	No	38.1	Si
SLU 55	11.5	-94.4	-34380	-28629	-1839	9.12	9.12	-11211	8439	23744	40441	76466	23256	64185	No	34.9	Si
SLU 10	7.95	-5188.89	-51619	-42984	-1763	9.12	9.12	-16833	9189	29486	40441	76466	23256	69927	No	39.67	Si
SLU 10	11.5	-825.05	-27174	-22628	-1656	9.12	9.12	-8861	8126	21344	40441	76466	23256	61785	No	37.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	7.95	26112.9	-49562	-41271	34649	9.12	9.12	-16162	13649	34947	40441	114699	23256	75388		2.18	Si
SLV 7	11.5	-8193.43	-27374	-22795	30360	9.12	9.12	-8927	12202	31159	40441	114699	23256	71600		2.36	Si
SLD 10	7.95	-21976.81	-50494	-42047	-21667	9.12	9.12	-16466	13710	35258	40441	114699	23256	75699		3.49	Si
SLD 10	11.5	3268.74	-26323	-21919	-19154	9.12	9.12	-8584	12133	30984	40441	114699	23256	71425		3.73	Si
SLV 8	7.95	26952.47	-49886	-41541	31302	9.12	9.12	-16267	13670	35055	40441	114699	23256	75496		2.41	Si
SLV 8	11.5	-6204.36	-27493	-22894	27014	9.12	9.12	-8965	12210	31179	40441	114699	23256	71620		2.65	Si
SLV 12	7.95	21298.91	-53988	-44957	31582	9.12	9.12	-17605	13938	36421	40441	114699	23256	76862		2.43	Si
SLV 12	11.5	-8817.25	-26484	-22053	27267	9.12	9.12	-8636	12144	31011	40441	114699	23256	71452		2.62	Si
SLV 11	7.95	20459.33	-53664	-44687	34928	9.12	9.12	-17499	13917	36313	40441	114699	23256	76754		2.2	Si
SLV 11	11.5	-10806.31	-26365	-21955	30613	9.12	9.12	-8598	12136	30991	40441	114699	23256	71432		2.33	Si
SLV 10	7.95	-34427.63	-50645	-42173	-36353	9.12	9.12	-16515	13720	35308	40441	114699	23256	75749		2.08	Si
SLV 10	11.5	6301.54	-26083	-21720	-32069	9.12	9.12	-8506	12118	30944	40441	114699	23256	71385		2.23	Si
SLD 6	7.95	-18409.31	-47948	-39927	-21846	9.12	9.12	-15635	13544	34585	40441	114699	23256	75026		3.43	Si
SLD 6	11.5	4933.46	-26970	-22458	-19317	9.12	9.12	-8795	12176	31092	40441	114699	23256	71533		3.7	Si
SLV 5	7.95	-29613.64	-46219	-38487	-33286	9.12	9.12	-15072	13431	34297	40441	114699	23256	74738		2.25	Si
SLV 5	11.5	6925.36	-26974	-22462	-28976	9.12	9.12	-8796	12176	31092	40441	114699	23256	71533		2.47	Si
SLV 6	7.95	-28774.06	-46543	-38757	-36633	9.12	9.12	-15177	13452	34351	40441	114699	23256	74792		2.04	Si
SLV 6	11.5	8914.43	-27093	-22560	-32322	9.12	9.12	-8835	12184	31112	40441	114699	23256	71553		2.21	Si
SLV 9	7.95	-35267.2	-50321	-41903	-33007	9.12	9.12	-16409	13699	35200	40441	114699	23256	75641		2.29	Si
SLV 9	11.5	4312.47	-25965	-21621	-28724	9.12	9.12	-8467	12110	30924	40441	114699	23256	71365		2.48	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.725 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	13873	-35425	1135.95	4509.01	3.97	Si
SLV 2	179667	0.45	13998	-35745	1135.95	4545.59	4	Si
SLV 3	179667	0.45	14067	-35921	1135.95	4565.71	4.02	Si
SLV 4	179667	0.45	14192	-36241	1135.95	4602.18	4.05	Si
SLV 5	179667	0.45	14207	-36278	1135.95	4606.5	4.06	Si
SLV 6	179667	0.45	14291	-36494	1135.95	4631	4.08	Si
SLV 9	179667	0.45	14670	-37461	1135.95	4740.72	4.17	Si
SLV 10	179667	0.45	14754	-37676	1135.95	4765.04	4.19	Si
SLV 7	179667	0.45	14854	-37931	1135.95	4793.81	4.22	Si
SLV 8	179667	0.45	14938	-38146	1135.95	4818.05	4.24	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.725 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-28559	-44009	-2452	1.377	4210.7	0.92	21.73506	6.07522	Si
SLV 2	-28439	-43006	-2462	1.381	4198.6	0.92	21.80399	6.07522	Si
SLV 3	-28383	-43527	-2452	1.383	4193.1	0.92	21.84267	6.07522	Si
SLV 1	-28263	-42524	-2462	1.387	4181	0.92	21.91231	6.07522	Si
SLV 16	-25195	-57683	2470	1.511	3873.7	0.915	23.9871	6.07522	Si
SLV 14	-25075	-56680	2460	1.517	3861.7	0.915	24.08136	6.07522	Si
SLV 15	-25019	-57201	2471	1.519	3856.2	0.915	24.11815	6.07522	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-24899	-56199	2460	1.524	3844.2	0.915	24.21341	6.07522	Si
SLV 8	-27493	-49886	-717	1.465	4103.8	0.919	23.17353	5.24939	Si
SLV 7	-27374	-49562	-717	1.47	4091.9	0.919	23.25311	5.24939	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	39.444	SLU 61	Si
V_SLU	34.011	SLU 52	Si
PF_SLV	6.558	SLV 9	Si
V_SLV	2.042	SLV 6	Si
PFFP_SLV	3.969	SLV 1	Si
R_SLV	3.578	SLV 4	Si

Maschio 210

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	-3.169	-24.614	5.951	L7	L8	9.121	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 59	11.5	-2745.55	-32112	-0.0000184	0.0004492	0.0035	9.1207	131372.1	185922.4	185922.4	67.72	No	Si
SLU 59	14.6	2046	-5692	-0.0000038	0.0004492	0.0035	9.1207	25482.36	33410.11	33410.11	16.33	No	Si
SLU 30	11.5	-1828.63	-28751	-0.0000162	0.0004492	0.0035	9.1207	119033.9	172691.24	172691.24	94.44	No	Si
SLU 30	14.6	1974.61	-5519	-0.0000036	0.0004492	0.0035	9.1207	24724.63	32650.4	32650.4	16.54	No	Si
SLU 50	11.5	-2497.63	-30061	-0.0000171	0.0004492	0.0035	9.1207	123882.2	177848.32	177848.32	71.21	No	Si
SLU 50	14.6	1964.8	-5562	-0.0000037	0.0004492	0.0035	9.1207	24913.45	32839.63	32839.63	16.71	No	Si
SLU 17	11.5	-2178.63	-26911	-0.0000153	0.0004492	0.0035	9.1207	112137.98	165403.93	165403.93	75.92	No	Si
SLU 17	14.6	1839.82	-5026	-0.0000033	0.0004492	0.0035	9.1207	22551.07	30475.96	30475.96	16.56	No	Si
SLU 72	11.5	-2395.56	-33953	-0.0000192	0.0004492	0.0035	9.1207	137988.21	193167.36	193167.36	80.64	No	Si
SLU 72	14.6	2180.79	-6185	-0.0000041	0.0004492	0.0035	9.1207	27646.33	35584.55	35584.55	16.32	No	Si
SLU 51	11.5	-2272.13	-30023	-0.000017	0.0004492	0.0035	9.1207	123742.82	177699.31	177699.31	78.21	No	Si
SLU 51	14.6	2023.58	-5553	-0.0000037	0.0004492	0.0035	9.1207	24873.6	32799.69	32799.69	16.21	No	Si
SLU 9	11.5	-1705.21	-24822	-0.000014	0.0004492	0.0035	9.1207	104191.11	156732.91	156732.91	91.91	No	Si
SLU 9	14.6	1817.4	-4888	-0.0000032	0.0004492	0.0035	9.1207	21939.61	29865.54	29865.54	16.43	No	Si
SLU 49	11.5	-2245.32	-30678	-0.0000174	0.0004492	0.0035	9.1207	126147.07	180275.9	180275.9	80.29	No	Si
SLU 49	14.6	1960.1	-5534	-0.0000036	0.0004492	0.0035	9.1207	24787.2	32713.1	32713.1	16.69	No	Si
SLU 38	11.5	-2302.05	-30840	-0.0000175	0.0004492	0.0035	9.1207	126740.86	180914.32	180914.32	78.59	No	Si
SLU 38	14.6	1997.02	-5658	-0.0000037	0.0004492	0.0035	9.1207	25333.53	33260.82	33260.82	16.66	No	Si
SLU 80	11.5	-2868.98	-36041	-0.0000206	0.0004492	0.0035	9.1207	145377.57	201390.45	201390.45	70.2	No	Si
SLU 80	14.6	2203.2	-6323	-0.0000041	0.0004492	0.0035	9.1207	28252.53	36194.97	36194.97	16.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	11.5	-47.5	-25231	-0.0000135	0.0006738	0.0035	9.1207		159724.1	159724.1	3362.41		Si
SLV 12	14.6	5124.97	-3537	-0.0000037	0.0006738	0.0035	9.1207		23975.93	23975.93	4.68		Si
SLD 7	11.5	-1356.74	-23912	-0.0000133	0.0006738	0.0035	9.1207		154207.98	154207.98	113.66		Si
SLD 7	14.6	3500.41	-3448	-0.0000031	0.0006738	0.0035	9.1207		23578.51	23578.51	6.74		Si
SLV 15	11.5	2839.71	-25871	-0.0000149	0.0006738	0.0035	9.1207		120776.17	120776.17	42.53		Si
SLV 15	14.6	2594.5	-3150	-0.0000026	0.0006738	0.0035	9.1207		22253.49	22253.49	8.58		Si
SLD 11	11.5	-64.03	-24636	-0.0000132	0.0006738	0.0035	9.1207		157250.84	157250.84	2455.86		Si
SLD 11	14.6	3577.45	-3388	-0.0000031	0.0006738	0.0035	9.1207		23310.76	23310.76	6.52		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	11.5	1402.72	-25347	-0.0000141	0.0006738	0.0035	9.1207		118553.49	118553.49	84.52		Si
SLV 11	14.6	5384.67	-3557	-0.0000038	0.0006738	0.0035	9.1207		24064.58	24064.58	4.47		Si
SLD 8	11.5	-2236.8	-23842	-0.0000136	0.0006738	0.0035	9.1207		153910.78	153910.78	68.81		Si
SLD 8	14.6	3342.81	-3436	-0.000003	0.0006738	0.0035	9.1207		23524.72	23524.72	7.04		Si
SLV 16	11.5	685.56	-25698	-0.000014	0.0006738	0.0035	9.1207		120044.66	120044.66	175.11		Si
SLV 16	14.6	2208.74	-3120	-0.0000024	0.0006738	0.0035	9.1207		22121.82	22121.82	10.02		Si
SLV 8	11.5	-2091.65	-24100	-0.0000137	0.0006738	0.0035	9.1207		155001.06	155001.06	74.1		Si
SLV 8	14.6	5004.7	-3631	-0.0000037	0.0006738	0.0035	9.1207		24391.16	24391.16	4.87		Si
SLD 12	11.5	-944.09	-24566	-0.0000135	0.0006738	0.0035	9.1207		156957.6	156957.6	166.25		Si
SLD 12	14.6	3419.85	-3376	-0.000003	0.0006738	0.0035	9.1207		23256.96	23256.96	6.8		Si
SLV 7	11.5	-641.42	-24217	-0.0000132	0.0006738	0.0035	9.1207		155490.8	155490.8	242.42		Si
SLV 7	14.6	5264.4	-3650	-0.0000038	0.0006738	0.0035	9.1207		24479.8	24479.8	4.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	11.5	-2470.82	-30716	-21912	-476	9.1207	9.1207	-8580	9477	24203	101952	91777	46516	126155	No	264.95	Si
SLU 48	14.6	1901.32	-5543	-3954	-648	9.1207	9.1207	-1548	8540	21809	101952	91777	46516	123761	No	190.93	Si
SLU 51	11.5	-2272.13	-30023	-21418	-637	9.1207	9.1207	-8387	9452	24137	101952	91777	46516	126089	No	197.96	Si
SLU 51	14.6	2023.58	-5553	-3961	-745	9.1207	9.1207	-1551	8540	21810	101952	91777	46516	123762	No	166.2	Si
SLU 55	11.5	-2645.27	-30572	-21809	-614	9.1207	9.1207	-8540	9472	24190	101952	91777	46516	126142	No	205.46	Si
SLU 55	14.6	1639.34	-4708	-3358	-631	9.1207	9.1207	-1315	8509	21729	101952	91777	46516	123681	No	196.01	Si
SLU 63	11.5	-2998.5	-31492	-22466	-565	9.1207	9.1207	-8797	9506	24277	101952	91777	46516	126229	No	223.44	Si
SLU 63	14.6	1609.76	-4773	-3405	-630	9.1207	9.1207	-1333	8511	21736	101952	91777	46516	123688	No	196.43	Si
SLU 58	11.5	-2971.05	-32150	-22935	-566	9.1207	9.1207	-8981	9531	24340	101952	91777	46516	126292	No	223.25	Si
SLU 58	14.6	1987.22	-5701	-4067	-745	9.1207	9.1207	-1592	8546	21824	101952	91777	46516	123776	No	166.16	Si
SLU 57	11.5	-2718.74	-32767	-23375	-560	9.1207	9.1207	-9153	9554	24398	101952	91777	46516	126350	No	225.58	Si
SLU 57	14.6	1982.51	-5672	-4046	-661	9.1207	9.1207	-1584	8545	21821	101952	91777	46516	123773	No	187.39	Si
SLU 50	11.5	-2497.63	-30061	-21445	-559	9.1207	9.1207	-8397	9453	24141	101952	91777	46516	126093	No	225.43	Si
SLU 50	14.6	1964.8	-5562	-3968	-739	9.1207	9.1207	-1554	8540	21811	101952	91777	46516	123763	No	167.55	Si
SLU 59	11.5	-2745.55	-32112	-22908	-643	9.1207	9.1207	-8970	9529	24336	101952	91777	46516	126288	No	196.31	Si
SLU 59	14.6	2046	-5692	-4060	-751	9.1207	9.1207	-1590	8545	21823	101952	91777	46516	123775	No	164.83	Si
SLU 49	11.5	-2245.32	-30678	-21885	-554	9.1207	9.1207	-8570	9476	24200	101952	91777	46516	126152	No	227.81	Si
SLU 49	14.6	1960.1	-5534	-3947	-654	9.1207	9.1207	-1546	8539	21808	101952	91777	46516	123760	No	189.17	Si
SLU 56	11.5	-2944.24	-32805	-23402	-483	9.1207	9.1207	-9164	9555	24402	101952	91777	46516	126354	No	261.87	Si
SLU 56	14.6	1923.74	-5681	-4053	-654	9.1207	9.1207	-1587	8545	21822	101952	91777	46516	123774	No	189.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	11.5	-3458.58	-22532	-16074	-9152	9.1207	9.1207	-6294	13759	35137	101952	137665	46516	137089		14.98	Si
SLD 5	14.6	-1583.36	-2946	-2102	-5976	9.1207	9.1207	-823	12665	32343	101952	137665	46516	134295		22.47	Si
SLV 5	11.5	-4355.17	-21867	-15599	-15473	9.1207	9.1207	-6108	13722	35042	101952	137665	46516	136994		8.85	Si
SLV 5	14.6	-3288.48	-2785	-1986	-9986	9.1207	9.1207	-778	12656	32320	101952	137665	46516	134272		13.45	Si
SLV 12	11.5	-47.5	-25231	-17999	15124	9.1207	9.1207	-7048	13910	35522	101952	137665	46516	137474		9.09	Si
SLV 12	14.6	5124.97	-3537	-2523	9479	9.1207	9.1207	-988	12698	32427	101952	137665	46516	134379		14.18	Si
SLV 8	11.5	-2091.65	-24100	-17193	13992	9.1207	9.1207	-6732	13846	35361	101952	137665	46516	137313		9.81	Si
SLV 8	14.6	5004.7	-3631	-2590	8371	9.1207	9.1207	-1014	12703	32440	101952	137665	46516	134392		16.05	Si
SLV 7	11.5	-641.42	-24217	-17276	13134	9.1207	9.1207	-6765	13853	35378	101952	137665	46516	137330		10.46	Si
SLV 7	14.6	5264.4	-3650	-2604	7514	9.1207	9.1207	-1020	12704	32443	101952	137665	46516	134395		17.89	Si
SLV 10	11.5	-3761.25	-22881	-16323	-13482	9.1207	9.1207	-6392	13778	35187	101952	137665	46516	137139		10.17	Si
SLV 10	14.6	-3427.91	-2671	-1906	-8021	9.1207	9.1207	-746	12649	32304	101952	137665	46516	134256		16.74	Si
SLV 9	11.5	-2311.02	-22997	-16406	-14340	9.1207	9.1207	-6424	13785	35204	101952	137665	46516	137156		9.56	Si
SLV 9	14.6	-3168.21	-2691	-1920	-8878	9.1207	9.1207	-752	12650	32306	101952	137665	46516	134258		15.12	Si
SLV 6	11.5	-5805.39	-21751	-15517	-14615	9.1207	9.1207	-6076	13715	35026	101952	137665	46516	136978		9.37	Si
SLV 6	14.6	-3548.18	-2765	-1972	-9129	9.1207	9.1207	-772	12654	32317	101952	137665	46516	134269		14.71	Si
SLD 12	11.5	-944.09	-24566	-17524	8803	9.1207	9.1207	-6862	13872	35427	101952	137665	46516	137379		15.61	Si
SLD 12	14.6	3419.85	-3376	-2408	5469	9.1207	9.1207	-943	12689	32404	101952	137665	46516	134356		24.57	Si
SLV 11	11.5	1402.72	-25347	-18082	14266	9.1207	9.1207	-7080	13916	35539	101952	137665	46516	137491		9.64	Si
SLV 11	14.6	5384.67	-3557	-2538	8622	9.1207	9.1207	-994	12699	32430	101952	137665	46516	134382		15.59	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-11186	0.52	1002.85	1528.57	2871.93	2200.25	2.19	Si
SLV 1	-11274	0.52	1002.85	1540.41	2885.88	2213.14	2.21	Si
SLV 4	-11467	0.52	1002.85	1566.05	2916.1	2241.08	2.23	Si
SLV 3	-11556	0.52	1002.85	1577.87	2930.05	2253.96	2.25	Si
SLV 6	-12026	0.52	1002.85	1640.34	3003.81	2322.07	2.32	Si
SLV 5	-12085	0.52	1002.85	1648.28	3013.19	2330.73	2.32	Si
SLV 8	-12963	0.52	1002.85	1764.61	3150.94	2457.78	2.45	Si
SLV 10	-13015	0.52	1002.85	1771.38	3158.97	2465.17	2.46	Si
SLV 7	-13023	0.52	1002.85	1772.52	3160.32	2466.42	2.46	Si
SLV 9	-13074	0.52	1002.85	1779.28	3168.34	2473.81	2.47	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-3461	-22104	-1709	4.753	1626.5	0.901	76.68528	6.05458	Si
SLV 4	-3432	-21931	-1709	4.767	1624.2	0.901	76.87556	6.05458	Si
SLV 1	-3201	-21399	-1725	4.87	1607.1	0.903	78.35289	6.05458	Si
SLV 2	-3172	-21227	-1725	4.884	1604.9	0.904	78.54921	6.05458	Si
SLV 15	-3150	-25871	1492	4.917	1603.3	0.904	79.05907	6.05458	Si
SLV 16	-3120	-25698	1492	4.931	1601.1	0.904	79.25735	6.05458	Si
SLV 13	-2890	-25166	1476	5.045	1584.6	0.907	80.84987	6.05458	Si
SLV 14	-2861	-24994	1476	5.06	1582.5	0.907	81.05432	6.05458	Si
SLV 7	-3650	-24217	-570	4.777	1640.9	0.899	77.19397	5.43428	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-3631	-24100	-570	4.785	1639.4	0.899	77.32189	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.209	SLU 51	Si
V_SLU	164.829	SLU 59	Si
PF_SLV	4.469	SLV 11	Si
V_SLV	8.854	SLV 5	Si
PFFP_SLV	2.194	SLV 2	Si
R_SLV	12.666	SLV 3	Si

Maschio 211

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.778	5.951	-24.614	5.951	L7	L8	1.837	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 33	12.4	289.77	-4212	-0.000015	0.0003743	0.0035	1.8365	3556.92	3815.34	3815.34	13.17	No	Si
SLU 33	14.2	-626.99	-4059	-0.0000178	0.0003743	0.0035	1.8365	3438.67	4374.02	4374.02	6.98	No	Si
SLU 31	12.4	329.1	-3449	-0.0000131	0.0003743	0.0035	1.8365	2958.68	3189.81	3189.81	9.69	No	Si
SLU 31	14.2	-549.11	-3128	-0.0000143	0.0003743	0.0035	1.8365	2700.87	3605.6	3605.6	6.57	No	Si
SLU 75	12.4	243.42	-5076	-0.0000172	0.0003743	0.0035	1.8365	4209.16	4507.37	4507.37	18.52	No	Si
SLU 75	14.2	-657.45	-4540	-0.0000195	0.0003743	0.0035	1.8365	3807.25	4757.31	4757.31	7.24	No	Si
SLU 39	12.4	366.79	-3351	-0.0000132	0.0003743	0.0035	1.8365	2880.4	3108.33	3108.33	8.47	No	Si
SLU 39	14.2	-554.4	-3113	-0.0000143	0.0003743	0.0035	1.8365	2688.35	3592.98	3592.98	6.48	No	Si
SLU 81	12.4	320.44	-4215	-0.0000153	0.0003743	0.0035	1.8365	3558.73	3817.25	3817.25	11.91	No	Si
SLU 81	14.2	-584.86	-3593	-0.000016	0.0003743	0.0035	1.8365	3072.89	3987.54	3987.54	6.82	No	Si
SLU 32	12.4	267.24	-4217	-0.0000148	0.0003743	0.0035	1.8365	3560.13	3818.72	3818.72	14.29	No	Si
SLU 32	14.2	-613.66	-4050	-0.0000176	0.0003743	0.0035	1.8365	3431.55	4366.51	4366.51	7.12	No	Si
SLU 40	12.4	389.32	-3347	-0.0000134	0.0003743	0.0035	1.8365	2877.07	3104.86	3104.86	7.98	No	Si
SLU 40	14.2	-567.72	-3122	-0.0000144	0.0003743	0.0035	1.8365	2695.77	3600.45	3600.45	6.34	No	Si
SLU 73	12.4	282.75	-4313	-0.0000152	0.0003743	0.0035	1.8365	3634.04	3896.63	3896.63	13.78	No	Si
SLU 73	14.2	-579.57	-3608	-0.000016	0.0003743	0.0035	1.8365	3085.14	4000.35	4000.35	6.9	No	Si
SLU 74	12.4	220.89	-5080	-0.000017	0.0003743	0.0035	1.8365	4212.25	4510.65	4510.65	20.42	No	Si
SLU 74	14.2	-644.13	-4531	-0.0000194	0.0003743	0.0035	1.8365	3800.29	4750.09	4750.09	7.37	No	Si
SLU 82	12.4	342.97	-4211	-0.0000155	0.0003743	0.0035	1.8365	3555.52	3813.87	3813.87	11.12	No	Si
SLU 82	14.2	-598.18	-3602	-0.0000161	0.0003743	0.0035	1.8365	3080.15	3995.13	3995.13	6.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	12.4	2109.61	-1699	-0.004253	0.0005615	0.0035	1.4692		1713.33	1713.33	0.81		No
SLV 10	14.2	-1853.16	-3076	-0.0000347	0.0005615	0.0035	1.4692		3595.96	3595.96	1.94		Si
SLD 10	12.4	1272.79	-2394	-0.0000219	0.0005615	0.0035	1.8365		2324.59	2324.59	1.83		Si
SLD 10	14.2	-1233.1	-2888	-0.0000208	0.0005615	0.0035	1.8365		3434.47	3434.47	2.79		Si
SLV 8	12.4	-2287.12	-5173	-0.0000389	0.0005615	0.0035	1.8365		5358.83	5358.83	2.34		Si
SLV 8	14.2	1335.77	-2028	-0.0000277	0.0005615	0.0035	1.8365		2005.11	2005.11	1.5		Si
SLV 5	12.4	2043.73	-1362	-0.0062371	0.0005615	0.0035	1.4692		1415.46	1415.46	0.69		No
SLV 5	14.2	-2001.95	-2900	-0.0000454	0.0005615	0.0035	1.4692		3444.91	3444.91	1.72		Si
SLV 6	12.4	1714.23	-1520	-0.0018778	0.0005615	0.0035	1.4692		1555.47	1555.47	0.91		No
SLV 6	14.2	-1797.98	-2786	-0.0000363	0.0005615	0.0035	1.4692		3345.91	3345.91	1.86		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	12.4	1472.74	-2299	-0.0000294	0.0005615	0.0035	1.8365		2241.02	2241.02	1.52		Si
SLD 9	14.2	-1356.88	-2958	-0.0000228	0.0005615	0.0035	1.8365		3494.55	3494.55	2.58		Si
SLV 12	12.4	-1891.75	-5351	-0.0000338	0.0005615	0.0035	1.8365		5507.49	5507.49	2.91		Si
SLV 12	14.2	1280.59	-2318	-0.0000224	0.0005615	0.0035	1.8365		2257.7	2257.7	1.76		Si
SLD 5	12.4	1223.13	-2183	-0.0000216	0.0005615	0.0035	1.8365		2140.77	2140.77	1.75		Si
SLD 5	14.2	-1322.3	-2774	-0.0000222	0.0005615	0.0035	1.8365		3335.75	3335.75	2.52		Si
SLV 13	12.4	1579.86	-2989	-0.0000272	0.0005615	0.0035	1.8365		2840.81	2840.81	1.8		Si
SLV 13	14.2	-1074.19	-3291	-0.0000196	0.0005615	0.0035	1.8365		3778.97	3778.97	3.52		Si
SLV 9	12.4	2439.1	-1540	-0.0083636	0.0005615	0.0035	1.4692		1573.28	1573.28	0.65		No
SLV 9	14.2	-2057.12	-3190	-0.0000417	0.0005615	0.0035	1.4692		3693.45	3693.45	1.8		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	12.4	241.24	-5621	-4681	1451	1.8365	1.8365	-9103	8158	4195	35683	15398	4683	20082	No	13.84	Si
SLU 78	14.2	-641.59	-5182	-4315	1484	1.8365	1.8365	-8392	8063	4146	35683	15398	4683	20082	No	13.53	Si
SLU 42	12.4	387.15	-3892	-3241	1377	1.8365	1.8365	-6303	7785	4003	35683	15398	4683	20082	No	14.58	Si
SLU 42	14.2	-551.86	-3764	-3135	1401	1.8365	1.8365	-6096	7757	3989	35683	15398	4683	20082	No	14.33	Si
SLU 75	12.4	243.42	-5076	-4227	1413	1.8365	1.8365	-8220	8040	4135	35683	15398	4683	20082	No	14.21	Si
SLU 75	14.2	-657.45	-4540	-3780	1440	1.8365	1.8365	-7351	7925	4075	35683	15398	4683	20082	No	13.94	Si
SLU 77	12.4	218.71	-5625	-4684	1424	1.8365	1.8365	-9109	8159	4196	35683	15398	4683	20082	No	14.1	Si
SLU 77	14.2	-628.27	-5173	-4308	1458	1.8365	1.8365	-8377	8061	4145	35683	15398	4683	20082	No	13.78	Si
SLU 36	12.4	287.59	-4758	-3962	1390	1.8365	1.8365	-7704	7972	4099	35683	15398	4683	20082	No	14.45	Si
SLU 36	14.2	-611.13	-4702	-3915	1420	1.8365	1.8365	-7614	7960	4093	35683	15398	4683	20082	No	14.15	Si
SLU 80	12.4	263.38	-5406	-4502	1365	1.8365	1.8365	-8754	8112	4171	35683	15398	4683	20082	No	14.71	Si
SLU 80	14.2	-538.97	-4887	-4070	1400	1.8365	1.8365	-7914	8000	4114	35683	15398	4683	20082	No	14.35	Si
SLU 82	12.4	342.97	-4211	-3506	1401	1.8365	1.8365	-6818	7854	4039	35683	15398	4683	20082	No	14.34	Si
SLU 82	14.2	-598.18	-3602	-3000	1422	1.8365	1.8365	-5833	7722	3971	35683	15398	4683	20082	No	14.12	Si
SLU 84	12.4	340.79	-4756	-3960	1438	1.8365	1.8365	-7701	7971	4099	35683	15398	4683	20082	No	13.96	Si
SLU 84	14.2	-582.32	-4245	-3534	1466	1.8365	1.8365	-6873	7861	4042	35683	15398	4683	20082	No	13.7	Si
SLU 83	12.4	318.27	-4760	-3964	1411	1.8365	1.8365	-7708	7972	4100	35683	15398	4683	20082	No	14.23	Si
SLU 83	14.2	-569	-4235	-3527	1439	1.8365	1.8365	-6858	7859	4041	35683	15398	4683	20082	No	13.95	Si
SLU 74	12.4	220.89	-5080	-4230	1387	1.8365	1.8365	-8226	8041	4135	35683	15398	4683	20082	No	14.48	Si
SLU 74	14.2	-644.13	-4531	-3773	1414	1.8365	1.8365	-7337	7923	4074	35683	15398	4683	20082	No	14.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	12.4	1272.79	-2394	-1994	2376	1.8365	1.1602	-3877	11192	3636	35683	23098	4683	27781		11.69	Si
SLD 10	14.2	-1233.1	-2888	-2405	2654	1.8365	1.4741	-5841	11585	4782	35683	23098	4683	27781		10.47	Si
SLD 9	12.4	1472.74	-2299	-1914	2640	1.8365	0.8326	-3722	11161	2986	35683	23098	4683	27781		10.52	Si
SLD 9	14.2	-1356.88	-2958	-2463	2918	1.8365	1.3786	-6398	11696	4515	35683	23098	4683	27781		9.52	Si
SLV 10	12.4	2109.61	-1699	-1414	3521	1.4692	0	0	0	0	35683	18478	3747	22225		6.31	Si
SLV 10	14.2	-1853.16	-3076	-2561	3960	1.4692	0.9473	0	0	0	35683	18478	3747	22225		5.61	Si
SLV 12	12.4	-1891.75	-5351	-4456	-2629	1.8365	1.6943	-9429	12303	5836	35683	23098	4683	27781		10.57	Si
SLV 12	14.2	1280.59	-2318	-1930	-2317	1.8365	1.0972	-3753	11167	3431	35683	23098	4683	27781		11.99	Si
SLV 6	12.4	1714.23	-1520	-1266	3736	1.4692	0	0	0	0	35683	18478	3747	22225		5.95	Si
SLV 6	14.2	-1797.98	-2786	-2320	3456	1.4692	0.8187	0	0	0	35683	18478	3747	22225		6.43	Si
SLD 5	12.4	1223.13	-2183	-1818	2766	1.8365	1.0742	-3536	11124	3346	35683	23098	4683	27781		10.04	Si
SLD 5	14.2	-1322.3	-2774	-2310	2597	1.8365	1.3249	-6243	11665	4328	35683	23098	4683	27781		10.7	Si
SLV 13	12.4	1579.86	-2989	-2489	1659	1.8365	1.1689	-4839	11385	3726	35683	23098	4683	27781		16.75	Si
SLV 13	14.2	-1074.19	-3291	-2740	2892	1.8365	1.7756	-5329	11482	5709	35683	23098	4683	27781		9.6	Si
SLV 8	12.4	-2287.12	-5173	-4308	-2414	1.8365	1.4285	-10820	12581	5032	35683	23098	4683	27781		11.51	Si
SLV 8	14.2	1335.77	-2028	-1689	-2822	1.8365	0.7787	-3284	11073	2926	35683	23098	4683	27781		9.85	Si
SLV 5	12.4	2043.73	-1362	-1134	4171	1.4692	0	0	0	0	35683	18478	3747	22225		5.33	Si
SLV 5	14.2	-2001.95	-2900	-2415	3892	1.4692	0.6842	0	0	0	35683	18478	3747	22225		5.71	Si
SLV 9	12.4	2439.1	-1540	-1283	3956	1.4692	0	0	0	0	35683	18478	3747	22225		5.62	Si
SLV 9	14.2	-2057.12	-3190	-2657	4396	1.4692	0.8204	0	0	0	35683	18478	3747	22225		5.06	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.52	4434	-2280	201.93	309.96	1.53	Si
SLV 6	179667	0.52	4490	-2309	201.93	313.77	1.55	Si
SLV 1	179667	0.52	4666	-2399	201.93	325.65	1.61	Si
SLV 2	179667	0.52	4749	-2442	201.93	331.29	1.64	Si
SLV 9	179667	0.52	5055	-2599	201.93	351.87	1.74	Si
SLV 10	179667	0.52	5111	-2628	201.93	355.65	1.76	Si
SLV 3	179667	0.52	5497	-2827	201.93	381.5	1.89	Si
SLV 4	179667	0.52	5581	-2870	201.93	387.07	1.92	Si
SLV 13	179667	0.52	6735	-3463	201.93	463.5	2.3	Si
SLV 14	179667	0.52	6819	-3506	201.93	468.97	2.32	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-2517	-3931	140	2.637	492.2	0.896	42.74884	6.05458	Si
SLV 16	-2483	-3718	140	2.659	488.9	0.896	43.12797	6.05458	Si
SLV 13	-2519	-3640	17	2.666	492.4	0.896	43.23191	6.05458	Si
SLV 14	-2485	-3426	17	2.689	489.1	0.896	43.6152	6.05458	Si
SLV 1	-2082	-2950	-147	2.955	450.4	0.892	48.12853	6.05458	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-2049	-2737	-147	2.983	447.2	0.892	48.60193	6.05458	Si
SLV 3	-2080	-3242	-24	2.992	450.2	0.892	48.72781	6.05458	Si
SLV 4	-2047	-3028	-24	3.02	447	0.892	49.20746	6.05458	Si
SLV 11	-2356	-3996	226	2.724	476.6	0.895	44.23898	5.43428	Si
SLV 9	-2363	-3023	-184	2.73	477.3	0.895	44.33849	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.342	SLU 40	Si
V_SLU	13.528	SLU 78	Si
PF_SLV	0.645	SLV 9	No
V_SLV	5.056	SLV 9	Si
PFFP_SLV	1.535	SLV 5	Si
R_SLV	7.061	SLV 15	Si

Maschio 212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	5.951	-21.878	5.951	L7	L8	2.12	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 63	12.4	157.54	-4464	-0.0000124	0.0003743	0.0035	2.12	4382.68	4705.26	4705.26	29.87	No	Si
SLU 63	14.2	1281.8	-1780	-0.0000186	0.0003743	0.0035	2.12	1830.92	2082.11	2082.11	1.62	No	Si
SLU 10	12.4	125.08	-3353	-0.0000093	0.0003743	0.0035	2.12	3356.69	3639.38	3639.38	29.1	No	Si
SLU 10	14.2	950.69	-1276	-0.0000143	0.0003743	0.0035	2.12	1324.14	1570.71	1570.71	1.65	No	Si
SLU 52	12.4	107.72	-4201	-0.0000113	0.0003743	0.0035	2.12	4143.36	4456	4456	41.37	No	Si
SLU 52	14.2	1203.63	-1516	-0.0000203	0.0003743	0.0035	2.12	1566.78	1814.83	1814.83	1.51	No	Si
SLU 44	12.4	70.32	-4344	-0.0000114	0.0003743	0.0035	2.12	4273.36	4591.2	4591.2	65.29	No	Si
SLU 44	14.2	1221.78	-1659	-0.0000182	0.0003743	0.0035	2.12	1710.24	1959.74	1959.74	1.6	No	Si
SLU 60	12.4	88.3	-4142	-0.000011	0.0003743	0.0035	2.12	4089.82	4399.9	4399.9	49.83	No	Si
SLU 60	14.2	1237.54	-1458	-0.0000247	0.0003743	0.0035	2.12	1507.73	1755.33	1755.33	1.42	No	Si
SLU 62	12.4	136.27	-4466	-0.0000122	0.0003743	0.0035	2.12	4384.1	4706.74	4706.74	34.54	No	Si
SLU 62	14.2	1306.81	-1781	-0.0000194	0.0003743	0.0035	2.12	1832.49	2083.7	2083.7	1.59	No	Si
SLU 43	12.4	34.88	-4346	-0.0000112	0.0003743	0.0035	2.12	4275.74	4593.68	4593.68	131.71	No	Si
SLU 43	14.2	1263.47	-1662	-0.0000197	0.0003743	0.0035	2.12	1712.86	1962.4	1962.4	1.55	No	Si
SLU 19	12.4	126.93	-3293	-0.0000091	0.0003743	0.0035	2.12	3299.93	3580.94	3580.94	28.21	No	Si
SLU 19	14.2	959.59	-1216	-0.0000159	0.0003743	0.0035	2.12	1262.99	1509.35	1509.35	1.57	No	Si
SLU 18	12.4	105.66	-3294	-0.000009	0.0003743	0.0035	2.12	3301.41	3582.46	3582.46	33.9	No	Si
SLU 18	14.2	984.6	-1218	-0.0000172	0.0003743	0.0035	2.12	1264.59	1510.95	1510.95	1.53	No	Si
SLU 61	12.4	109.57	-4141	-0.0000112	0.0003743	0.0035	2.12	4088.38	4398.4	4398.4	40.14	No	Si
SLU 61	14.2	1212.53	-1456	-0.0000229	0.0003743	0.0035	2.12	1506.14	1753.73	1753.73	1.45	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	12.4	828.54	-3495	-0.0000146	0.0005615	0.0035	2.12		3825.26	3825.26	4.62		Si
SLV 15	14.2	1453.75	-830	-0.0024795	0.0005615	0.0035	2.12		1115.91	1115.91	0.77		No
SLD 12	12.4	-898.7	-3968	-0.0000163	0.0005615	0.0035	2.12		5323.69	5323.69	5.92		Si
SLD 12	14.2	2344.74	-1719	-0.0027379	0.0005615	0.0035	2.12		2032.63	2032.63	0.87		No
SLV 16	12.4	463.34	-2941	-0.0000106	0.0005615	0.0035	2.12		3272.82	3272.82	7.06		Si
SLV 16	14.2	2590.13	-277	-0.0149276	0.0005615	0.0035	2.12		540.23	540.23	0.21		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	12.4	-1376.97	-4609	-0.0000213	0.0005615	0.0035	2.12		5943.67	5943.67	4.32		Si
SLV 11	14.2	2479.83	-2251	-0.0007003	0.0005615	0.0035	2.12		2575.2	2575.2	1.04		Si
SLD 14	12.4	1034.09	-2815	-0.0000143	0.0005615	0.0035	2.12		3145.39	3145.39	3.04		Si
SLD 14	14.2	1399.35	-422	-0.0054125	0.0005615	0.0035	2.12		691.96	691.96	0.49		No
SLD 15	12.4	587.4	-3522	-0.0000129	0.0005615	0.0035	2.12		3852.5	3852.5	6.56		Si
SLD 15	14.2	1266.26	-1091	-0.0004515	0.0005615	0.0035	1.696		1386.32	1386.32	1.09		Si
SLV 8	12.4	-2303.67	-4663	-0.0000293	0.0005615	0.0035	2.12		5995.13	5995.13	2.6		Si
SLV 8	14.2	2961.21	-2631	-0.0011896	0.0005615	0.0035	2.12		2959.2	2959.2	1		No
SLV 14	12.4	1621.8	-2335	-0.0000226	0.0005615	0.0035	2.12		2660.42	2660.42	1.64		Si
SLV 14	14.2	1586.14	266	-0.0111791	0.0005615	0.0035	2.12		0	0	0		No
SLV 12	12.4	-1622.84	-4237	-0.0000221	0.0005615	0.0035	2.12		5585.66	5585.66	3.44		Si
SLV 12	14.2	3244.86	-1878	-0.0083599	0.0005615	0.0035	2.12		2195.19	2195.19	0.68		No
SLD 16	12.4	355.71	-3171	-0.0000104	0.0005615	0.0035	2.12		3503.2	3503.2	9.85		Si
SLD 16	14.2	1987.19	-740	-0.007342	0.0005615	0.0035	2.12		1022.79	1022.79	0.51		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	12.4	263.22	-5501	-4581	-706	2.12	2.12	-7717	7973	4733	35683	17775	5406	23181	No	32.81	Si
SLU 74	14.2	1565.47	-2773	-2309	-706	2.12	1.4864	-3890	7463	3106	35683	17775	5406	23181	No	32.81	Si
SLU 69	12.4	273.79	-5967	-4969	-749	2.12	2.12	-8371	8061	4785	35683	17775	5406	23181	No	30.94	Si
SLU 69	14.2	1652.88	-3240	-2698	-749	2.12	1.6493	-4545	7550	3487	35683	17775	5406	23181	No	30.94	Si
SLU 48	12.4	177.45	-5380	-4480	-721	2.12	2.12	-7548	7951	4720	35683	17775	5406	23181	No	32.13	Si
SLU 48	14.2	1506.41	-2696	-2245	-721	2.12	1.5035	-3782	7449	3136	35683	17775	5406	23181	No	32.13	Si
SLU 77	12.4	311.19	-5825	-4850	-718	2.12	2.12	-8171	8034	4769	35683	17775	5406	23181	No	32.27	Si
SLU 77	14.2	1634.74	-3097	-2579	-718	2.12	1.5963	-4344	7524	3363	35683	17775	5406	23181	No	32.27	Si
SLU 45	12.4	129.49	-5057	-4211	-710	2.12	2.12	-7094	7890	4684	35683	17775	5406	23181	No	32.67	Si
SLU 45	14.2	1437.15	-2372	-1975	-710	2.12	1.3623	-3327	7388	2818	35683	17775	5406	23181	No	32.67	Si
SLU 66	12.4	225.82	-5644	-4700	-737	2.12	2.12	-7917	8000	4749	35683	17775	5406	23181	No	31.44	Si
SLU 66	14.2	1583.62	-2916	-2428	-737	2.12	1.5507	-4090	7490	3252	35683	17775	5406	23181	No	31.44	Si
SLU 49	12.4	198.72	-5379	-4479	-696	2.12	2.12	-7545	7951	4719	35683	17775	5406	23181	No	33.32	Si
SLU 49	14.2	1481.4	-2694	-2243	-696	2.12	1.5304	-3779	7448	3192	35683	17775	5406	23181	No	33.32	Si
SLU 71	12.4	227.14	-5581	-4647	-717	2.12	2.12	-7829	7988	4742	35683	17775	5406	23181	No	32.33	Si
SLU 71	14.2	1548.48	-2853	-2376	-717	2.12	1.5517	-4002	7478	3249	35683	17775	5406	23181	No	32.33	Si
SLU 67	12.4	247.09	-5642	-4698	-712	2.12	2.12	-7915	8000	4749	35683	17775	5406	23181	No	32.58	Si
SLU 67	14.2	1558.61	-2914	-2427	-712	2.12	1.5755	-4088	7490	3304	35683	17775	5406	23181	No	32.58	Si
SLU 70	12.4	295.05	-5966	-4968	-723	2.12	2.12	-8369	8060	4785	35683	17775	5406	23181	No	32.04	Si
SLU 70	14.2	1627.87	-3238	-2696	-723	2.12	1.6718	-4542	7550	3534	35683	17775	5406	23181	No	32.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	12.4	-2303.67	-4663	-3883	-2636	2.12	1.698	-8196	12056	5732	35683	26663	5406	32069		12.17	Si
SLV 8	14.2	2961.21	-2631	-2190	-2836	2.12	0	-121588	16250	3530	35683	26663	5406	32069		11.31	Si
SLV 4	12.4	-1806.11	-4362	-3633	-1026	2.12	1.9379	-6710	11759	6381	35683	26663	5406	32069		31.27	Si
SLV 4	14.2	1644.63	-2785	-2319	-1857	2.12	1.4083	-3907	11198	4416	35683	26663	5406	32069		17.27	Si
SLD 12	12.4	-898.7	-3968	-3305	-1945	2.12	2.12	-5567	11530	6844	35683	26663	5406	32069		16.49	Si
SLD 12	14.2	2344.74	-1719	-1432	-1752	2.12	0	-108978	16250	3323	35683	26663	5406	32069		18.3	Si
SLV 12	12.4	-1622.84	-4237	-3528	-2940	2.12	2.0309	-6220	11661	6631	35683	26663	5406	32069		10.91	Si
SLV 12	14.2	3244.86	-1878	-1564	-2631	2.12	0	-110445	16250	3359	35683	26663	5406	32069		12.19	Si
SLD 8	12.4	-1330.88	-4242	-3533	-1761	2.12	2.12	-5951	11607	6890	35683	26663	5406	32069		18.21	Si
SLD 8	14.2	2173.38	-2187	-1821	-1891	2.12	0.199	-31979	16250	3430	35683	26663	5406	32069		16.96	Si
SLV 11	12.4	-1376.97	-4609	-3838	-2378	2.12	2.12	-6466	11710	6951	35683	26663	5406	32069		13.49	Si
SLV 11	14.2	2479.83	-2251	-1874	-2069	2.12	0	-104392	16250	3444	35683	26663	5406	32069		15.5	Si
SLV 5	12.4	1803.73	-3013	-2509	1903	2.12	1.3842	-4227	11262	4365	35683	26663	5406	32069		16.85	Si
SLV 5	14.2	-1150.47	-1194	-994	1594	1.696	0.2898	0	0	0	35683	21330	4325	25655		16.1	Si
SLV 9	12.4	2484.56	-2587	-2154	1599	2.12	0.2988	-25888	15603	3521	35683	26663	5406	32069		20.06	Si
SLV 9	14.2	-866.82	-442	-368	1799	1.696	0	0	0	0	35683	21330	4325	25655		14.26	Si
SLV 16	12.4	463.34	-2941	-2449	-2039	2.12	2.12	-4126	11242	6673	35683	26663	5406	32069		15.73	Si
SLV 16	14.2	2590.13	-277	-231	-1174	2.12	0	0	0	2994	35683	26663	5406	32069		27.31	Si
SLV 7	12.4	-2057.81	-5036	-4193	-2074	2.12	1.954	-7687	11954	6540	35683	26663	5406	32069		15.46	Si
SLV 7	14.2	2196.18	-3003	-2501	-2274	2.12	0.9859	-4212	11259	3615	35683	26663	5406	32069		14.1	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.52	0	-1253	233.1	0	0	No, e>t/2
SLV 9	179667	0.52	0	-1625	233.1	0	0	No, e>t/2
SLV 14	179667	0.52	0	-1208	233.1	0	0	No, e>t/2
SLV 13	179667	0.52	2968	-1762	233.1	241.83	1.04	Si
SLV 16	179667	0.52	3101	-1841	233.1	252.47	1.08	Si
SLV 6	179667	0.52	3110	-1846	233.1	253.2	1.09	Si
SLV 5	179667	0.52	3737	-2219	233.1	302.99	1.3	Si
SLV 15	179667	0.52	4033	-2394	233.1	326.29	1.4	Si
SLV 2	179667	0.52	5366	-3185	233.1	430.27	1.85	Si
SLV 12	179667	0.52	5661	-3361	233.1	453.04	1.94	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-2089	-5912	219	3.186	490.2	0.89	52.00977	6.05458	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-2068	-4262	-248	3.196	488.2	0.89	52.1867	6.05458	Si
SLV 4	-1307	-5940	219	4.015	419.2	0.89	65.54485	6.05458	Si
SLV 2	-1286	-4290	-248	4.034	417.4	0.89	65.84304	6.05458	Si
SLV 7	-1376	-7386	774	3.742	425.2	0.89	61.11831	5.43428	Si
SLV 5	-1305	-1886	-782	3.828	419	0.89	62.4858	5.43428	Si
SLV 11	-853	-6995	783	4.509	381.8	0.899	72.8851	5.43428	Si
SLV 8	-849	-7405	774	4.519	381.5	0.899	73.03153	5.43428	Si
SLV 9	-782	-1496	-774	4.643	376.3	0.902	74.82992	5.43428	Si
SLV 6	-778	-1905	-783	4.646	376.1	0.902	74.86736	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.418	SLU 60	Si
V_SLU	30.944	SLU 69	Si
PF_SLV	0	SLV 14	No
V_SLV	10.909	SLV 12	Si
PFFP_SLV	0	SLV 9	No
R_SLV	8.59	SLV 3	Si

Maschio 213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.478	-3.169	-24.614	-3.169	L7	L8	2.137	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 19	12.4	487.78	-3269	-0.0000115	0.0003743	0.0035	2.1365	3304.93	3590.57	3590.57	7.36	No	Si
SLU 19	14.2	-258.17	-2922	-0.000009	0.0003743	0.0035	2.1365	2971.6	4284.17	4284.17	16.59	No	Si
SLU 40	12.4	676.6	-3617	-0.0000137	0.0003743	0.0035	2.1365	3634.03	3929.92	3929.92	5.81	No	Si
SLU 40	14.2	-381	-3732	-0.000012	0.0003743	0.0035	2.1365	3742.92	5080.72	5080.72	13.34	No	Si
SLU 42	12.4	639.21	-4236	-0.0000151	0.0003743	0.0035	2.1365	4210.15	4529.11	4529.11	7.09	No	Si
SLU 42	14.2	-133.94	-4468	-0.0000121	0.0003743	0.0035	2.1365	4422.62	5781.17	5781.17	43.16	No	Si
SLU 39	12.4	729.43	-3590	-0.000014	0.0003743	0.0035	2.1365	3609.41	3904.45	3904.45	5.35	No	Si
SLU 39	14.2	-382.82	-3748	-0.000012	0.0003743	0.0035	2.1365	3757.13	5095.01	5095.01	13.31	No	Si
SLU 81	12.4	715.51	-4551	-0.0000164	0.0003743	0.0035	2.1365	4498.16	4829.45	4829.45	6.75	No	Si
SLU 81	14.2	-377.17	-4320	-0.0000134	0.0003743	0.0035	2.1365	4287.94	5639.15	5639.15	14.95	No	Si
SLU 41	12.4	692.04	-4210	-0.0000154	0.0003743	0.0035	2.1365	4186.1	4503.87	4503.87	6.51	No	Si
SLU 41	14.2	-135.75	-4483	-0.0000121	0.0003743	0.0035	2.1365	4436.44	5795.82	5795.82	42.69	No	Si
SLU 31	12.4	530.01	-3740	-0.000013	0.0003743	0.0035	2.1365	3750.41	4050.53	4050.53	7.64	No	Si
SLU 31	14.2	-338.26	-3692	-0.0000116	0.0003743	0.0035	2.1365	3704.88	5042.54	5042.54	14.91	No	Si
SLU 83	12.4	678.13	-5170	-0.0000177	0.0003743	0.0035	2.1365	5054	5414.26	5414.26	7.98	No	Si
SLU 83	14.2	-130.1	-5056	-0.0000136	0.0003743	0.0035	2.1365	4952.48	6341.83	6341.83	48.74	No	Si
SLU 18	12.4	540.61	-3243	-0.0000118	0.0003743	0.0035	2.1365	3280	3564.98	3564.98	6.59	No	Si
SLU 18	14.2	-259.99	-2937	-0.0000091	0.0003743	0.0035	2.1365	2986.25	4299.3	4299.3	16.54	No	Si
SLU 82	12.4	662.68	-4577	-0.0000161	0.0003743	0.0035	2.1365	4521.9	4854.26	4854.26	7.33	No	Si
SLU 82	14.2	-375.36	-4305	-0.0000134	0.0003743	0.0035	2.1365	4274.03	5624.56	5624.56	14.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	12.4	2035.23	-2027	-0.0001146	0.0005615	0.0035	2.1365		2369.29	2369.29	1.16		Si
SLD 12	14.2	-1269.28	-3552	-0.0000176	0.0005615	0.0035	2.1365		4950.29	4950.29	3.9		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	12.4	2075.75	-1981	-0.0002377	0.0005615	0.0035	2.1365		2321.55	2321.55	1.12		Si
SLD 8	14.2	-1743.52	-3402	-0.0000216	0.0005615	0.0035	2.1365		4799.89	4799.89	2.75		Si
SLD 11	12.4	1815.94	-2107	-0.0000365	0.0005615	0.0035	2.1365		2452.66	2452.66	1.35		Si
SLD 11	14.2	-1107.67	-3442	-0.0000162	0.0005615	0.0035	2.1365		4839.86	4839.86	4.37		Si
SLV 9	12.4	-2733.76	-6437	-0.0000357	0.0005615	0.0035	2.1365		7759.64	7759.64	2.84		Si
SLV 9	14.2	2452.91	-2534	-0.0000935	0.0005615	0.0035	2.1365		2888.14	2888.14	1.18		Si
SLD 7	12.4	1856.46	-2061	-0.0000442	0.0005615	0.0035	2.1365		2404.9	2404.9	1.3		Si
SLD 7	14.2	-1581.91	-3292	-0.0000198	0.0005615	0.0035	2.1365		4689.49	4689.49	2.96		Si
SLV 12	12.4	3253.52	-897	-0.0144664	0.0005615	0.0035	2.1365		1197.6	1197.6	0.37		No
SLV 12	14.2	-2075.11	-3868	-0.0000258	0.0005615	0.0035	2.1365		5264.36	5264.36	2.54		Si
SLV 10	12.4	-2372.39	-6304	-0.0000325	0.0005615	0.0035	2.1365		7632.08	7632.08	3.22		Si
SLV 10	14.2	2186.6	-2716	-0.0000369	0.0005615	0.0035	2.1365		3072.55	3072.55	1.41		Si
SLV 7	12.4	2967.58	-949	-0.0122423	0.0005615	0.0035	2.1365		1251.8	1251.8	0.42		No
SLV 7	14.2	-2555.28	-3459	-0.0000374	0.0005615	0.0035	1.7092		4857.33	4857.33	1.9		Si
SLV 8	12.4	3328.94	-816	-0.0155211	0.0005615	0.0035	2.1365		1113.03	1113.03	0.33		No
SLV 8	14.2	-2821.59	-3641	-0.0000444	0.0005615	0.0035	1.7092		5039.24	5039.24	1.79		Si
SLV 11	12.4	2892.15	-1030	-0.011202	0.0005615	0.0035	2.1365		1336.35	1336.35	0.46		No
SLV 11	14.2	-1808.8	-3687	-0.0000226	0.0005615	0.0035	2.1365		5084.88	5084.88	2.81		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	12.4	490.94	-5497	-4578	1944	2.1365	2.1365	-7652	7965	4765	35683	17914	5448	23362	No	12.02	Si
SLU 75	14.2	-226.29	-5309	-4421	1973	2.1365	2.1365	-7390	7930	4744	35683	17914	5448	23362	No	11.84	Si
SLU 84	12.4	625.29	-5196	-4327	1983	2.1365	2.1365	-7233	7909	4731	35683	17914	5448	23362	No	11.78	Si
SLU 84	14.2	-128.29	-5040	-4197	2014	2.1365	2.1365	-7016	7880	4714	35683	17914	5448	23362	No	11.6	Si
SLU 82	12.4	662.68	-4577	-3811	2075	2.1365	2.1365	-6371	7794	4663	35683	17914	5448	23362	No	11.26	Si
SLU 82	14.2	-375.36	-4305	-3585	2095	2.1365	2.1365	-5993	7743	4632	35683	17914	5448	23362	No	11.15	Si
SLU 77	12.4	506.39	-6090	-5072	1900	2.1365	2.1365	-8478	8075	4831	35683	17914	5448	23362	No	12.29	Si
SLU 77	14.2	18.96	-6060	-5046	1954	2.1365	2.1365	-8435	8069	4827	35683	17914	5448	23362	No	11.96	Si
SLU 40	12.4	676.6	-3617	-3012	1947	2.1365	2.1365	-5034	7616	4556	35683	17914	5448	23362	No	12	Si
SLU 40	14.2	-381	-3732	-3108	1961	2.1365	2.1365	-5195	7637	4569	35683	17914	5448	23362	No	11.91	Si
SLU 83	12.4	678.13	-5170	-4305	2031	2.1365	2.1365	-7196	7904	4728	35683	17914	5448	23362	No	11.5	Si
SLU 83	14.2	-130.1	-5056	-4210	2075	2.1365	2.1365	-7037	7883	4716	35683	17914	5448	23362	No	11.26	Si
SLU 81	12.4	715.51	-4551	-3789	2123	2.1365	2.1365	-6334	7789	4660	35683	17914	5448	23362	No	11	Si
SLU 81	14.2	-377.17	-4320	-3598	2155	2.1365	2.1365	-6014	7746	4634	35683	17914	5448	23362	No	10.84	Si
SLU 41	12.4	692.04	-4210	-3505	1904	2.1365	2.1365	-5859	7726	4622	35683	17914	5448	23362	No	12.27	Si
SLU 41	14.2	-135.75	-4483	-3733	1942	2.1365	2.1365	-6240	7776	4652	35683	17914	5448	23362	No	12.03	Si
SLU 39	12.4	729.43	-3590	-2990	1996	2.1365	2.1365	-4998	7611	4553	35683	17914	5448	23362	No	11.71	Si
SLU 39	14.2	-382.82	-3748	-3121	2022	2.1365	2.1365	-5216	7640	4570	35683	17914	5448	23362	No	11.55	Si
SLU 74	12.4	543.78	-5471	-4556	1992	2.1365	2.1365	-7616	7960	4762	35683	17914	5448	23362	No	11.73	Si
SLU 74	14.2	-228.1	-5324	-4434	2034	2.1365	2.1365	-7411	7933	4746	35683	17914	5448	23362	No	11.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	12.4	-2658.33	-6356	-5293	-3454	2.1365	1.9501	-9730	12363	6750	35683	26871	5448	32319		9.36	Si
SLV 5	14.2	1706.44	-2307	-1921	-4022	2.1365	0.9857	-3211	11059	3507	35683	26871	5448	32319		8.04	Si
SLV 4	12.4	1535.57	-2581	-2150	3983	2.1365	1.4203	-3593	11135	4428	35683	26871	5448	32319		8.11	Si
SLV 4	14.2	-2265.51	-3016	-2512	2522	1.7092	0.9515	0	0	0	35683	21497	4359	25855		10.25	Si
SLD 11	12.4	1815.94	-2107	-1755	3618	2.1365	0.6197	-10160	12449	3461	35683	26871	5448	32319		8.93	Si
SLD 11	14.2	-1107.67	-3442	-2866	4010	2.1365	2.1365	-4791	11375	6805	35683	26871	5448	32319		8.06	Si
SLV 9	12.4	-2733.76	-6437	-5360	-4033	2.1365	1.9307	-9951	12407	6707	35683	26871	5448	32319		8.01	Si
SLV 9	14.2	2452.91	-2534	-2110	-3685	2.1365	0.3011	-25152	15456	3559	35683	26871	5448	32319		8.77	Si
SLV 8	12.4	3328.94	-816	-679	6461	2.1365	0	0	16250	3164	35683	26871	5448	32319		5	Si
SLV 8	14.2	-2821.59	-3641	-3032	6161	1.7092	0.8798	0	0	0	35683	21497	4359	25855		4.2	Si
SLV 7	12.4	2967.58	-949	-790	5925	2.1365	0	0	16250	3195	35683	26871	5448	32319		5.45	Si
SLV 7	14.2	-2555.28	-3459	-2881	5626	1.7092	0.9888	0	0	0	35683	21497	4359	25855		4.6	Si
SLD 12	12.4	2035.23	-2027	-1688	3943	2.1365	0.1922	-30459	16250	3443	35683	26871	5448	32319		8.2	Si
SLD 12	14.2	-1269.28	-3552	-2958	4335	2.1365	2.1328	-4944	11406	6811	35683	26871	5448	32319		7.46	Si
SLV 11	12.4	2892.15	-1030	-857	5346	2.1365	0	0	16250	3214	35683	26871	5448	32319		6.05	Si
SLV 11	14.2	-1808.8	-3687	-3070	5962	2.1365	1.7329	-6343	11685	5670	35683	26871	5448	32319		5.42	Si
SLD 8	12.4	2075.75	-1981	-1649	4302	2.1365	0.0605	-56197	16250	3432	35683	26871	5448	32319		7.51	Si
SLD 8	14.2	-1743.52	-3402	-2833	4119	2.1365	1.6674	-6082	11633	5431	35683	26871	5448	32319		7.85	Si
SLV 12	12.4	3253.52	-897	-747	5881	2.1365	0	0	16250	3183	35683	26871	5448	32319		5.5	Si
SLV 12	14.2	-2075.11	-3868	-3221	6497	2.1365	1.5954	-7232	11863	5299	35683	26871	5448	32319		4.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	4028	-2410	234.92	328.46	1.4	Si
SLV 12	179667	0.52	4053	-2425	234.92	330.47	1.41	Si
SLV 7	179667	0.52	4393	-2628	234.92	357.35	1.52	Si
SLV 8	179667	0.52	4419	-2643	234.92	359.36	1.53	Si
SLV 15	179667	0.52	4817	-2882	234.92	390.74	1.66	Si
SLV 16	179667	0.52	4855	-2904	234.92	393.7	1.68	Si
SLV 13	179667	0.52	5864	-3508	234.92	472.29	2.01	Si
SLV 14	179667	0.52	5902	-3531	234.92	475.21	2.02	Si
SLV 3	179667	0.52	6034	-3610	234.92	485.42	2.07	Si
SLV 4	179667	0.52	6072	-3633	234.92	488.34	2.08	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-3442	-3817	-349	2.339	622.7	0.901	37.73862	6.05458	Si
SLV 13	-3397	-3500	-348	2.36	618.2	0.901	38.09363	6.05458	Si
SLV 16	-3192	-3635	-232	2.481	598.3	0.899	40.1288	6.05458	Si
SLV 15	-3147	-3319	-232	2.505	593.8	0.898	40.52511	6.05458	Si
SLV 10	-3289	-4460	-339	2.412	607.7	0.9	38.97214	5.43428	Si
SLV 9	-3258	-4248	-339	2.427	604.7	0.899	39.22558	5.43428	Si
SLV 6	-2915	-4876	-215	2.633	571.2	0.896	42.69659	5.43428	Si
SLV 5	-2884	-4663	-214	2.651	568.2	0.896	42.99589	5.43428	Si
SLV 2	-2193	-5200	67	3.155	502.2	0.891	51.4743	6.05458	Si
SLV 1	-2147	-4884	67	3.192	497.9	0.89	52.09731	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.353	SLU 39	Si
V_SLU	10.839	SLU 81	Si
PF_SLV	0.334	SLV 8	No
V_SLV	4.197	SLV 8	Si
PFFP_SLV	1.398	SLV 11	Si
R_SLV	6.233	SLV 14	Si

Maschio 214

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.578	-3.169	L7	L8	2.285	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 1	13.5	-237.26	-2653	-0.0000076	0.0003743	0.0035	2.285	2907.79	4277.59	4277.59	18.03	No	Si
SLU 1	14.3	-56.45	-1645	-0.0000041	0.0003743	0.0035	2.285	1831.85	3201.64	3201.64	56.72	No	Si
SLU 2	13.5	-255.35	-2705	-0.0000078	0.0003743	0.0035	2.285	2962.64	4333.07	4333.07	16.97	No	Si
SLU 2	14.3	-47.76	-1671	-0.0000041	0.0003743	0.0035	2.285	1860.38	3230.08	3230.08	67.63	No	Si
SLU 43	13.5	-302.22	-3259	-0.0000094	0.0003743	0.0035	2.285	3537.44	4924.77	4924.77	16.3	No	Si
SLU 43	14.3	-51.16	-1953	-0.0000048	0.0003743	0.0035	2.285	2164.9	3536.45	3536.45	69.12	No	Si
SLU 64	13.5	-320.36	-3813	-0.0000108	0.0003743	0.0035	2.285	4101.32	5506.23	5506.23	17.19	No	Si
SLU 64	14.3	-115.97	-2493	-0.0000065	0.0003743	0.0035	2.285	2739.05	4107.95	4107.95	35.42	No	Si
SLU 47	13.5	-299.97	-3360	-0.0000096	0.0003743	0.0035	2.285	3640.8	5032.45	5032.45	16.78	No	Si
SLU 47	14.3	-25.21	-1995	-0.0000048	0.0003743	0.0035	2.285	2209.06	3580.47	3580.47	142.02	No	Si
SLU 68	13.5	-318.11	-3914	-0.0000111	0.0003743	0.0035	2.285	4202.73	5608.13	5608.13	17.63	No	Si
SLU 68	14.3	-90.01	-2534	-0.0000064	0.0003743	0.0035	2.285	2782.44	4151.42	4151.42	46.12	No	Si
SLU 52	13.5	-281.24	-3192	-0.0000091	0.0003743	0.0035	2.285	3468.59	4852.93	4852.93	17.26	No	Si
SLU 52	14.3	-73.65	-1952	-0.000005	0.0003743	0.0035	2.285	2163.13	3534.69	3534.69	48	No	Si
SLU 65	13.5	-338.45	-3865	-0.0000111	0.0003743	0.0035	2.285	4154.04	5559.13	5559.13	16.43	No	Si
SLU 65	14.3	-107.28	-2519	-0.0000065	0.0003743	0.0035	2.285	2766.79	4135.73	4135.73	38.55	No	Si
SLU 44	13.5	-320.3	-3312	-0.0000096	0.0003743	0.0035	2.285	3591.17	4980.79	4980.79	15.55	No	Si
SLU 44	14.3	-42.47	-1980	-0.0000048	0.0003743	0.0035	2.285	2193.14	3564.6	3564.6	83.92	No	Si
SLU 23	13.5	-273.49	-3259	-0.0000092	0.0003743	0.0035	2.285	3537.28	4924.6	4924.6	18.01	No	Si
SLU 23	14.3	-112.56	-2211	-0.0000058	0.0003743	0.0035	2.285	2439.87	3811	3811	33.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	13.5	927.54	-1430	-0.0000101	0.0005615	0.0035	2.285		1907.86	1907.86	2.06		Si
SLV 12	14.3	-812.44	-1495	-0.0000087	0.0005615	0.0035	2.285		3041.37	3041.37	3.74		Si
SLV 10	13.5	-1456.84	-4187	-0.0000186	0.0005615	0.0035	2.285		5952.87	5952.87	4.09		Si
SLV 10	14.3	517.76	-2015	-0.0000078	0.0005615	0.0035	2.285		2554.6	2554.6	4.93		Si
SLV 8	13.5	1294.64	-1218	-0.0000536	0.0005615	0.0035	2.285		1672.83	1672.83	1.29		Si
SLV 8	14.3	-796.3	-1603	-0.0000087	0.0005615	0.0035	2.285		3161.01	3161.01	3.97		Si
SLV 9	13.5	-1757.2	-4336	-0.0000208	0.0005615	0.0035	2.285		6110.05	6110.05	3.48		Si
SLV 9	14.3	628.56	-1979	-0.0000083	0.0005615	0.0035	2.285		2514.65	2514.65	4		Si
SLV 4	13.5	961.27	-1901	-0.0000105	0.0005615	0.0035	2.285		2429.18	2429.18	2.53		Si
SLV 4	14.3	-338.78	-1921	-0.0000065	0.0005615	0.0035	2.285		3508.94	3508.94	10.36		Si
SLD 8	13.5	673.62	-1859	-0.0000083	0.0005615	0.0035	2.285		2382.83	2382.83	3.54		Si
SLD 8	14.3	-503.4	-1678	-0.0000069	0.0005615	0.0035	2.285		3242.71	3242.71	6.44		Si
SLV 11	13.5	627.18	-1579	-0.0000074	0.0005615	0.0035	2.285		2073.35	2073.35	3.31		Si
SLV 11	14.3	-701.64	-1459	-0.0000077	0.0005615	0.0035	2.285		3001.42	3001.42	4.28		Si
SLV 7	13.5	994.28	-1368	-0.0000115	0.0005615	0.0035	2.285		1838.85	1838.85	1.85		Si
SLV 7	14.3	-685.49	-1567	-0.0000078	0.0005615	0.0035	2.285		3121.05	3121.05	4.55		Si
SLV 13	13.5	-1423.84	-3654	-0.0000171	0.0005615	0.0035	2.285		5385.85	5385.85	3.78		Si
SLV 13	14.3	171.05	-1661	-0.0000049	0.0005615	0.0035	2.285		2164.6	2164.6	12.66		Si
SLV 5	13.5	-1390.11	-4125	-0.000018	0.0005615	0.0035	2.285		5887.27	5887.27	4.24		Si
SLV 5	14.3	644.7	-2087	-0.0000087	0.0005615	0.0035	2.285		2634.31	2634.31	4.09		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	13.5	-284.4	-3793	-3159	-567	2.285	2.285	-4937	7603	4864	35683	19158	5827	24985	No	44.09	Si
SLU 45	14.3	-63.21	-2415	-2011	-517	2.285	2.285	-3144	7364	4711	35683	19158	5827	24985	No	48.3	Si
SLU 50	13.5	-261.55	-3356	-2795	-598	2.285	2.285	-4368	7527	4816	35683	19158	5827	24985	No	41.81	Si
SLU 50	14.3	-16.64	-1983	-1651	-486	2.285	2.285	-2581	7289	4663	35683	19158	5827	24985	No	51.37	Si
SLU 72	13.5	-290.55	-3941	-3282	-565	2.285	2.285	-5129	7628	4881	35683	19158	5827	24985	No	44.25	Si
SLU 72	14.3	-76.23	-2538	-2114	-494	2.285	2.285	-3304	7385	4725	35683	19158	5827	24985	No	50.62	Si
SLU 51	13.5	-272.4	-3387	-2821	-645	2.285	2.285	-4409	7532	4819	35683	19158	5827	24985	No	38.71	Si
SLU 51	14.3	-11.42	-1999	-1665	-495	2.285	2.285	-2602	7291	4665	35683	19158	5827	24985	No	50.48	Si
SLU 48	13.5	-264.07	-3842	-3199	-619	2.285	2.285	-5000	7611	4870	35683	19158	5827	24985	No	40.37	Si
SLU 48	14.3	-45.95	-2430	-2024	-512	2.285	2.285	-3163	7366	4713	35683	19158	5827	24985	No	48.77	Si
SLU 47	13.5	-299.97	-3360	-2798	-625	2.285	2.285	-4373	7528	4816	35683	19158	5827	24985	No	39.97	Si
SLU 47	14.3	-25.21	-1995	-1661	-506	2.285	2.285	-2596	7291	4665	35683	19158	5827	24985	No	49.41	Si
SLU 70	13.5	-293.07	-4427	-3686	-586	2.285	2.285	-5762	7713	4935	35683	19158	5827	24985	No	42.64	Si
SLU 70	14.3	-105.54	-2985	-2486	-520	2.285	2.285	-3885	7462	4775	35683	19158	5827	24985	No	48.09	Si
SLU 49	13.5	-274.92	-3873	-3225	-667	2.285	2.285	-5041	7617	4873	35683	19158	5827	24985	No	37.48	Si
SLU 49	14.3	-40.73	-2446	-2037	-521	2.285	2.285	-3183	7369	4715	35683	19158	5827	24985	No	47.96	Si
SLU 44	13.5	-320.3	-3312	-2758	-573	2.285	2.285	-4310	7519	4811	35683	19158	5827	24985	No	43.62	Si
SLU 44	14.3	-42.47	-1980	-1649	-511	2.285	2.285	-2577	7288	4663	35683	19158	5827	24985	No	48.92	Si
SLU 46	13.5	-295.25	-3825	-3185	-615	2.285	2.285	-4978	7608	4868	35683	19158	5827	24985	No	40.66	Si
SLU 46	14.3	-58	-2431	-2024	-526	2.285	2.285	-3164	7366	4713	35683	19158	5827	24985	No	47.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	13.5	-1390.11	-4125	-3435	-4663	2.285	2.285	-5369	11490	7352	35683	28738	5827	34564		7.41	Si
SLV 5	14.3	644.7	-2087	-1738	-2891	2.285	2.285	-2716	10960	7012	35683	28738	5827	34564		11.95	Si
SLV 12	13.5	927.54	-1430	-1191	4128	2.285	1.4812	-1861	10789	4475	35683	28738	5827	34564		8.37	Si
SLV 12	14.3	-812.44	-1495	-1245	2192	2.285	1.7971	-2475	10912	5491	35683	28738	5827	34564		15.77	Si
SLV 13	13.5	-1423.84	-3654	-3042	-3830	2.285	2.2584	-4755	11368	7188	35683	28738	5827	34564		9.03	Si
SLV 13	14.3	171.05	-1661	-1383	-2448	2.285	2.285	-2162	10849	6941	35683	28738	5827	34564		14.12	Si
SLV 10	13.5	-1456.84	-4187	-3487	-4814	2.285	2.285	-5450	11507	7362	35683	28738	5827	34564		7.18	Si
SLV 10	14.3	517.76	-2015	-1678	-2902	2.285	2.285	-2622	10941	7000	35683	28738	5827	34564		11.91	Si
SLV 6	13.5	-1089.75	-3976	-3311	-3846	2.285	2.285	-5175	11452	7327	35683	28738	5827	34564		8.99	Si
SLV 6	14.3	533.9	-2123	-1768	-2345	2.285	2.285	-2764	10969	7018	35683	28738	5827	34564		14.74	Si
SLV 8	13.5	1294.64	-1218	-1015	5097	2.285	0.24	-14787	13387	3705	35683	28738	5827	34564		6.78	Si
SLV 8	14.3	-796.3	-1603	-1335	2749	2.285	1.9377	-2463	10909	5919	35683	28738	5827	34564		12.57	Si
SLV 11	13.5	627.18	-1579	-1315	3311	2.285	2.2357	-2055	10828	6778	35683	28738	5827	34564		10.44	Si
SLV 11	14.3	-701.64	-1459	-1215	1645	2.285	1.9844	-2187	10854	6031	35683	28738	5827	34564		21.01	Si
SLD 9	13.5	-1136.19	-3696	-3078	-3436	2.285	2.285	-4810	11379	7280	35683	28738	5827	34564		10.06	Si
SLD 9	14.3	335.66	-1904	-1586	-2186	2.285	2.285	-2479	10912	6982	35683	28738	5827	34564		15.82	Si
SLV 7	13.5	994.28	-1368	-1139	4279	2.285	1.2464	-1780	10773	3760	35683	28738	5827	34564		8.08	Si
SLV 7	14.3	-685.49	-1567	-1305	2202	2.285	2.1153	-2204	10858	6431	35683	28738	5827	34564		15.69	Si
SLV 9	13.5	-1757.2	-4336	-3611	-5632	2.285	2.2118	-5644	11545	7150	35683	28738	5827	34564		6.14	Si
SLV 9	14.3	628.56	-1979	-1648	-3448	2.285	2.285	-2575	10932	6994	35683	28738	5827	34564		10.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 13	179667	0.52	3336	-2135	251.24	292.31	1.16	Si
SLV 15	179667	0.52	3500	-2239	251.24	306.29	1.22	Si
SLV 14	179667	0.52	3794	-2428	251.24	331.43	1.32	Si
SLV 9	179667	0.52	3929	-2514	251.24	342.84	1.36	Si
SLV 16	179667	0.52	3958	-2532	251.24	345.32	1.37	Si
SLV 10	179667	0.52	4237	-2711	251.24	368.99	1.47	Si
SLV 11	179667	0.52	4473	-2862	251.24	388.95	1.55	Si
SLV 5	179667	0.52	4536	-2902	251.24	394.2	1.57	Si
SLV 12	179667	0.52	4782	-3059	251.24	414.9	1.65	Si
SLV 6	179667	0.52	4844	-3099	251.24	420.12	1.67	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-2124	-5174	-441	3.236	516.4	0.89	52.86475	5.43428	Si
SLV 6	-2089	-5317	-441	3.265	513.1	0.889	53.34593	5.43428	Si
SLV 9	-2035	-4793	-489	3.298	508.2	0.889	53.89182	5.43428	Si
SLV 10	-2000	-4935	-489	3.328	504.9	0.889	54.39193	5.43428	Si
SLV 1	-1714	-4741	-62	3.719	478.8	0.889	60.79586	6.05458	Si
SLV 2	-1662	-4953	-62	3.774	474.1	0.889	61.69963	6.05458	Si
SLV 13	-1418	-3469	-222	4.008	452.6	0.89	65.44306	6.05458	Si
SLV 14	-1365	-3680	-222	4.074	448.1	0.891	66.48138	6.05458	Si
SLV 3	-1266	-4018	215	4.208	439.6	0.892	68.5793	6.05458	Si
SLV 4	-1214	-4230	215	4.28	435.2	0.892	69.69869	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.55	SLU 44	Si
V_SLU	37.475	SLU 49	Si
PF_SLV	1.292	SLV 8	Si
V_SLV	6.138	SLV 9	Si
PFFP_SLV	1.163	SLV 13	Si
R_SLV	9.728	SLV 5	Si

Maschio 215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.213	-3.169	-18.793	-3.169	L7	L8	0.58	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	13.5	-7.98	-871	-0.0000087	0.0003743	0.0035	0.58	239.28	311.82	311.82	39.07	No	Si
SLU 47	14.3	73.95	-732	-0.0000137	0.0003743	0.0035	0.58	202.99	224.55	224.55	3.04	No	Si
SLU 23	13.5	-1.18	-867	-0.000008	0.0003743	0.0035	0.58	238.34	310.84	310.84	264.14	No	Si
SLU 23	14.3	68.85	-788	-0.0000137	0.0003743	0.0035	0.58	217.67	239.57	239.57	3.48	No	Si
SLU 51	13.5	-4.46	-891	-0.0000086	0.0003743	0.0035	0.58	244.36	317.11	317.11	71.13	No	Si
SLU 51	14.3	67.92	-732	-0.0000131	0.0003743	0.0035	0.58	202.89	224.45	224.45	3.3	No	Si
SLU 26	13.5	0.42	-867	-0.000008	0.0003743	0.0035	0.58	238.12	260.55	260.55	625.94	No	Si
SLU 26	14.3	67.36	-785	-0.0000135	0.0003743	0.0035	0.58	216.75	238.63	238.63	3.54	No	Si
SLU 9	13.5	-1.84	-721	-0.0000068	0.0003743	0.0035	0.58	200.01	271.38	271.38	147.62	No	Si
SLU 9	14.3	54.84	-607	-0.0000107	0.0003743	0.0035	0.58	169.6	190.52	190.52	3.47	No	Si
SLU 65	13.5	-3.8	-1037	-0.0000099	0.0003743	0.0035	0.58	281.82	356.08	356.08	93.79	No	Si
SLU 65	14.3	81.93	-913	-0.0000161	0.0003743	0.0035	0.58	250.17	273.03	273.03	3.33	No	Si
SLU 44	13.5	-9.57	-872	-0.0000089	0.0003743	0.0035	0.58	239.5	312.05	312.05	32.59	No	Si
SLU 44	14.3	75.44	-736	-0.0000139	0.0003743	0.0035	0.58	203.92	225.5	225.5	2.99	No	Si
SLU 2	13.5	-6.96	-702	-0.0000071	0.0003743	0.0035	0.58	195.04	266.33	266.33	38.29	No	Si
SLU 2	14.3	62.36	-611	-0.0000115	0.0003743	0.0035	0.58	170.64	191.57	191.57	3.07	No	Si
SLU 68	13.5	-2.2	-1036	-0.0000097	0.0003743	0.0035	0.58	281.61	355.86	355.86	161.5	No	Si
SLU 68	14.3	80.44	-910	-0.000016	0.0003743	0.0035	0.58	249.27	272.09	272.09	3.38	No	Si
SLU 5	13.5	-5.36	-702	-0.0000069	0.0003743	0.0035	0.58	194.81	266.1	266.1	49.63	No	Si
SLU 5	14.3	60.87	-607	-0.0000113	0.0003743	0.0035	0.58	169.7	190.62	190.62	3.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	13.5	-255.75	116	0.0374542	0.0005615	0.0035	0.464		0	0	0		No
SLV 10	14.3	443.21	-716	-0.0179065	0.0005615	0.0035	0.464		222.44	222.44	0.5		No
SLD 13	13.5	-154.16	-134	-0.0007376	0.0005615	0.0035	0.464		109.66	109.66	0.71		No
SLD 13	14.3	287.31	-561	-0.0095113	0.0005615	0.0035	0.464		179.26	179.26	0.62		No
SLV 13	13.5	-248.89	266	0.1024041	0.0005615	0.0035	0.464		0	0	0		No
SLV 13	14.3	433.01	-507	-0.0213074	0.0005615	0.0035	0.464		164.15	164.15	0.38		No
SLV 12	13.5	239.07	-1452	-0.0000416	0.0005615	0.0035	0.58		421.01	421.01	1.76		Si
SLV 12	14.3	-301.34	-488	-0.0013019	0.0005615	0.0035	0.464		209	209	0.69		No
SLV 14	13.5	-160.53	25	-0.0012669	0.0005615	0.0035	0.464		0	0	0		No
SLV 14	14.3	310.36	-490	-0.0125944	0.0005615	0.0035	0.464		159.37	159.37	0.51		No
SLV 8	13.5	318.28	-1878	-0.0000566	0.0005615	0.0035	0.58		532.09	532.09	1.67		Si
SLV 8	14.3	-428.01	-611	-0.0025261	0.0005615	0.0035	0.464		243.2	243.2	0.57		No
SLV 5	13.5	-236.04	-148	-0.0014696	0.0005615	0.0035	0.464		113.62	113.62	0.48		No
SLV 5	14.3	399.11	-851	-0.0121521	0.0005615	0.0035	0.464		259.46	259.46	0.65		No
SLD 9	13.5	-186.78	-157	-0.0009588	0.0005615	0.0035	0.464		116.11	116.11	0.62		No
SLD 9	14.3	333	-700	-0.0102144	0.0005615	0.0035	0.464		217.86	217.86	0.65		No
SLV 9	13.5	-315.24	278	0.1081082	0.0005615	0.0035	0.464		0	0	0		No
SLV 9	14.3	525.78	-728	-0.0236792	0.0005615	0.0035	0.464		225.6	225.6	0.43		No
SLV 15	13.5	-100.44	-205	-0.0002696	0.0005615	0.0035	0.464		129.52	129.52	1.29		Si
SLV 15	14.3	209.64	-439	-0.0059318	0.0005615	0.0035	0.464		144.9	144.9	0.69		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	13.5	-2.59	-870	-725	-7	0.58	0.58	-4463	7539	1224	35683	4863	1479	6342	No	933.63	Si
SLU 52	14.3	61.49	-736	-613	-79	0.58	0.58	-3775	7448	1210	35683	4863	1479	6342	No	80.53	Si
SLU 73	13.5	3.19	-1035	-862	10	0.58	0.58	-5309	7652	1243	35683	4863	1479	6342	No	636.74	Si
SLU 73	14.3	67.98	-913	-761	-77	0.58	0.58	-4683	7569	1229	35683	4863	1479	6342	No	82.48	Si
SLU 76	13.5	4.79	-1035	-861	15	0.58	0.58	-5305	7652	1243	35683	4863	1479	6342	No	416.85	Si
SLU 76	14.3	66.49	-910	-758	-76	0.58	0.58	-4665	7566	1229	35683	4863	1479	6342	No	83	Si
SLU 46	13.5	-0.28	-1045	-870	-13	0.58	0.58	-5357	7659	1244	35683	4863	1479	6342	No	470.91	Si
SLU 46	14.3	72.88	-889	-740	-78	0.58	0.58	-4557	7552	1226	35683	4863	1479	6342	No	81.81	Si
SLU 55	13.5	-0.99	-870	-724	-2	0.58	0.58	-4459	7539	1224	35683	4863	1479	6342	No	4121.03	Si
SLU 55	14.3	60	-733	-610	-78	0.58	0.58	-3757	7445	1209	35683	4863	1479	6342	No	81.04	Si
SLU 49	13.5	1.31	-1044	-869	-8	0.58	0.58	-5353	7658	1244	35683	4863	1479	6342	No	772.12	Si
SLU 49	14.3	71.39	-885	-737	-77	0.58	0.58	-4539	7550	1226	35683	4863	1479	6342	No	82.33	Si
SLU 68	13.5	-2.2	-1036	-863	-26	0.58	0.58	-5312	7653	1243	35683	4863	1479	6342	No	247.87	Si
SLU 68	14.3	80.44	-910	-757	-81	0.58	0.58	-4664	7566	1229	35683	4863	1479	6342	No	78.71	Si
SLU 44	13.5	-9.57	-872	-726	-48	0.58	0.58	-4470	7540	1225	35683	4863	1479	6342	No	133.26	Si
SLU 44	14.3	75.44	-736	-613	-83	0.58	0.5625	-3773	7448	1173	35683	4863	1479	6342	No	76.48	Si
SLU 47	13.5	-7.98	-871	-725	-42	0.58	0.58	-4466	7540	1224	35683	4863	1479	6342	No	149.79	Si
SLU 47	14.3	73.95	-732	-610	-82	0.58	0.5671	-3755	7445	1182	35683	4863	1479	6342	No	76.94	Si
SLU 65	13.5	-3.8	-1037	-863	-31	0.58	0.58	-5316	7653	1243	35683	4863	1479	6342	No	205.64	Si
SLU 65	14.3	81.93	-913	-760	-81	0.58	0.58	-4682	7569	1229	35683	4863	1479	6342	No	78.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	13.5	-248.89	266	221	-1220	0.464	0	0	0	0	35683	5836	1183	7019		5.75	Si
SLV 13	14.3	433.01	-507	-422	-172	0.464	0	0	0	0	35683	5836	1183	7019		40.77	Si
SLV 4	13.5	251.93	-1866	-1554	1218	0.58	0.4649	-9567	12330	1605	35683	7294	1479	8773		7.2	Si
SLV 4	14.3	-335.24	-832	-693	85	0.464	0	0	0	0	35683	5836	1183	7019		82.37	Si
SLV 8	13.5	318.28	-1878	-1564	1350	0.58	0.3616	-9629	12343	1250	35683	7294	1479	8773		6.5	Si
SLV 8	14.3	-428.01	-611	-509	397	0.464	0	0	0	0	35683	5836	1183	7019		17.67	Si
SLV 5	13.5	-236.04	-148	-124	-914	0.464	0	0	0	0	35683	5836	1183	7019		7.68	Si
SLV 5	14.3	399.11	-851	-709	-512	0.464	0	0	0	0	35683	5836	1183	7019		13.7	Si
SLV 7	13.5	258.79	-1716	-1429	1099	0.58	0.4176	-8799	12176	1424	35683	7294	1479	8773		7.99	Si
SLV 7	14.3	-345.44	-623	-519	331	0.464	0	0	0	0	35683	5836	1183	7019		21.18	Si
SLD 13	13.5	-154.16	-134	-112	-760	0.464	0	0	0	0	35683	5836	1183	7019		9.23	Si
SLD 13	14.3	287.31	-561	-467	-119	0.464	0	0	0	0	35683	5836	1183	7019		59.19	Si
SLV 14	13.5	-160.53	25	21	-847	0.464	0	0	0	0	35683	5836	1183	7019		8.29	Si
SLV 14	14.3	310.36	-490	-408	-74	0.464	0	0	0	0	35683	5836	1183	7019		94.44	Si
SLV 9	13.5	-315.24	278	231	-1352	0.464	0	0	0	0	35683	5836	1183	7019		5.19	Si
SLV 9	14.3	525.78	-728	-606	-484	0.464	0	0	0	0	35683	5836	1183	7019		14.49	Si
SLD 9	13.5	-186.78	-157	-131	-806	0.464	0	0	0	0	35683	5836	1183	7019		8.71	Si
SLD 9	14.3	333	-700	-583	-302	0.464	0	0	0	0	35683	5836	1183	7019		23.27	Si
SLV 10	13.5	-255.75	116	96	-1100	0.464	0	0	0	0	35683	5836	1183	7019		6.38	Si
SLV 10	14.3	443.21	-716	-597	-418	0.464	0	0	0	0	35683	5836	1183	7019		16.78	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	0	-416	63.77	0	0	No, e>t/2
SLV 8	179667	0.52	0	-207	63.77	0	0	No, e>t/2
SLV 4	179667	0.52	0	-305	63.77	0	0	No, e>t/2
SLV 12	179667	0.52	0	-315	63.77	0	0	No, e>t/2
SLV 7	179667	0.52	0	-307	63.77	0	0	No, e>t/2
SLV 3	179667	0.52	0	-454	63.77	0	0	No, e>t/2
SLV 2	179667	0.52	3188	-518	63.77	70.96	1.11	Si
SLV 16	179667	0.52	4100	-666	63.77	90.72	1.42	Si
SLV 1	179667	0.52	4106	-667	63.77	90.84	1.42	Si
SLV 15	179667	0.52	5018	-815	63.77	110.35	1.73	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-1159	-585	-44	2.051	191.2	0.908	32.82576	5.43428	Si
SLV 7	-1139	-577	-43	2.077	189.2	0.908	33.25476	5.43428	Si
SLV 12	-1032	-331	-49	2.22	178.6	0.904	35.6796	5.43428	Si
SLV 11	-1012	-323	-48	2.25	176.7	0.904	36.18558	5.43428	Si
SLV 4	-836	-1178	-11	2.579	159.4	0.898	41.75764	6.05458	Si
SLV 3	-807	-1165	-10	2.639	156.6	0.897	42.7746	6.05458	Si
SLV 2	-428	-1430	12	3.752	120.9	0.889	61.33446	6.05458	Si
SLV 16	-412	-331	-28	3.8	119.5	0.889	62.12157	6.05458	Si
SLV 1	-399	-1418	13	3.879	118.3	0.889	63.39369	6.05458	Si
SLV 15	-383	-318	-27	3.934	116.9	0.89	64.26916	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.989	SLU 44	Si
V_SLU	76.485	SLU 44	Si
PF_SLV	0	SLV 9	No
V_SLV	5.191	SLV 9	Si
PFFP_SLV	0	SLV 3	No
R_SLV	6.041	SLV 8	Si

Maschio 216

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L7	L8	4.67	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	11.5	-399.79	-13157	-0.0000257	0.0004492	0.0035	4.6702	25662.42	40433.27	40433.27	101.14	No	Si
SLU 72	14.6	4294.59	-3770	-0.0000182	0.0004492	0.0035	4.6702	8387.4	10745.77	10745.77	2.5	No	Si
SLU 58	11.5	-294.94	-12384	-0.0000239	0.0004492	0.0035	4.6702	24435.6	38873.38	38873.38	131.8	No	Si
SLU 58	14.6	4126.77	-3530	-0.0000175	0.0004492	0.0035	4.6702	7879.08	10218.02	10218.02	2.48	No	Si
SLU 51	11.5	-532.61	-11685	-0.0000232	0.0004492	0.0035	4.6702	23294.92	37461.26	37461.26	70.33	No	Si
SLU 51	14.6	4255.49	-3460	-0.0000181	0.0004492	0.0035	4.6702	7729.28	10062.04	10062.04	2.36	No	Si
SLU 71	11.5	-409.4	-13180	-0.0000257	0.0004492	0.0035	4.6702	25698.45	40479.75	40479.75	98.87	No	Si
SLU 71	14.6	4284.51	-3787	-0.0000182	0.0004492	0.0035	4.6702	8424.5	10784.08	10784.08	2.52	No	Si
SLU 47	11.5	-563.26	-10918	-0.0000218	0.0004492	0.0035	4.6702	22009.5	35910.7	35910.7	63.76	No	Si
SLU 47	14.6	3539.67	-2874	-0.000015	0.0004492	0.0035	4.6702	6470.59	8763.03	8763.03	2.48	No	Si
SLU 48	11.5	-630.23	-11935	-0.0000239	0.0004492	0.0035	4.6702	23706.03	37966.13	37966.13	60.24	No	Si
SLU 48	14.6	4044.8	-3449	-0.0000172	0.0004492	0.0035	4.6702	7705.9	10037.72	10037.72	2.48	No	Si
SLU 59	11.5	-285.33	-12361	-0.0000239	0.0004492	0.0035	4.6702	24398.5	38826.89	38826.89	136.08	No	Si
SLU 59	14.6	4136.85	-3513	-0.0000176	0.0004492	0.0035	4.6702	7841.71	10179.08	10179.08	2.46	No	Si
SLU 9	11.5	-355.35	-9719	-0.000019	0.0004492	0.0035	4.6702	19933.09	33489.13	33489.13	94.24	No	Si
SLU 9	14.6	3619.58	-3004	-0.0000154	0.0004492	0.0035	4.6702	6750.74	9050.37	9050.37	2.5	No	Si
SLU 49	11.5	-620.62	-11912	-0.0000238	0.0004492	0.0035	4.6702	23668.33	37919.65	37919.65	61.1	No	Si
SLU 49	14.6	4054.88	-3431	-0.0000172	0.0004492	0.0035	4.6702	7668.45	9998.78	9998.78	2.47	No	Si
SLU 50	11.5	-542.23	-11708	-0.0000232	0.0004492	0.0035	4.6702	23332.93	37507.75	37507.75	69.17	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	14.6	4245.42	-3477	-0.0000181	0.0004492	0.0035	4.6702	7766.71	10100.98	10100.98	2.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	11.5	-500.26	-8237	-0.0000164	0.0006738	0.0035	4.6702		30619.39	30619.39	61.21		Si
SLD 6	14.6	2411.12	-926	-0.0001396	0.0006738	0.0035	4.6702		4417.41	4417.41	1.83		Si
SLD 9	11.5	-480.86	-7283	-0.0000146	0.0006738	0.0035	4.6702		28586.35	28586.35	59.45		Si
SLD 9	14.6	2544.31	-893	-0.000191	0.0006738	0.0035	3.7361		4342.77	4342.77	1.71		Si
SLD 10	11.5	-680.86	-7174	-0.0000149	0.0006738	0.0035	4.6702		28354.53	28354.53	41.65		Si
SLD 10	14.6	2831.94	-1001	-0.0002101	0.0006738	0.0035	3.7361		4588.31	4588.31	1.62		Si
SLV 5	11.5	-299.53	-7911	-0.0000154	0.0006738	0.0035	4.6702		29924.33	29924.33	99.9		Si
SLV 5	14.6	2137.72	-4	-0.0004997	0.0006738	0.0035	3.7361		2320.67	2320.67	1.09		Si
SLV 9	11.5	-581.75	-6247	-0.0000129	0.0006738	0.0035	4.6702		26359.02	26359.02	45.31		Si
SLV 9	14.6	2810.87	-124	-0.0006342	0.0006738	0.0035	3.7361		2595.71	2595.71	0.92		No
SLV 10	11.5	-911.32	-6068	-0.0000134	0.0006738	0.0035	4.6702		25971.99	25971.99	28.5		Si
SLV 10	14.6	3284.85	-303	-0.0006841	0.0006738	0.0035	3.7361		3001.74	3001.74	0.91		No
SLV 13	11.5	-638.54	-5653	-0.000012	0.0006738	0.0035	4.6702		25075.5	25075.5	39.27		Si
SLV 13	14.6	3082.45	-1499	-0.000031	0.0006738	0.0035	4.6702		5714.84	5714.84	1.85		Si
SLD 5	11.5	-300.26	-8345	-0.0000162	0.0006738	0.0035	4.6702		30851.21	30851.21	102.75		Si
SLD 5	14.6	2123.49	-817	-0.0001213	0.0006738	0.0035	4.6702		4171.86	4171.86	1.96		Si
SLV 6	11.5	-629.11	-7731	-0.0000158	0.0006738	0.0035	4.6702		29542.32	29542.32	46.96		Si
SLV 6	14.6	2611.7	-182	-0.0005447	0.0006738	0.0035	3.7361		2727.4	2727.4	1.04		Si
SLV 14	11.5	-1128.09	-5387	-0.0000126	0.0006738	0.0035	4.6702		24500.61	24500.61	21.72		Si
SLV 14	14.6	3786.49	-1764	-0.000053	0.0006738	0.0035	4.6702		6313.41	6313.41	1.67		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	11.5	-542.23	-11708	-6492	-459	4.6702	4.6702	-9929	9657	6374	101952	23497	23818	47314	No	102.97	Si
SLU 50	14.6	4245.42	-3477	-1928	-1776	4.6702	3.3427	-2949	8727	4548	101952	23497	23818	47314	No	26.64	Si
SLU 51	11.5	-532.61	-11685	-6479	-567	4.6702	4.6702	-9909	9655	6368	101952	23497	23818	47314	No	83.42	Si
SLU 51	14.6	4255.49	-3460	-1918	-1834	4.6702	3.3154	-2934	8725	4544	101952	23497	23818	47314	No	25.8	Si
SLU 48	11.5	-630.23	-11935	-6618	-353	4.6702	4.6702	-10121	9683	6424	101952	23497	23818	47314	No	134.15	Si
SLU 48	14.6	4044.8	-3449	-1912	-1559	4.6702	3.487	-2925	8723	4542	101952	23497	23818	47314	No	30.35	Si
SLU 59	11.5	-285.33	-12361	-6854	-273	4.6702	4.6702	-10483	9731	6518	101952	23497	23818	47314	No	173.16	Si
SLU 59	14.6	4136.85	-3513	-1948	-1351	4.6702	3.4722	-2979	8731	4556	101952	23497	23818	47314	No	35.03	Si
SLU 46	11.5	-657.67	-11160	-6188	-545	4.6702	4.6702	-9464	9595	6274	101952	23497	23818	47314	No	86.79	Si
SLU 46	14.6	3332.33	-2858	-1584	-1337	4.6702	3.5069	-2423	8656	4411	101952	23497	23818	47314	No	35.39	Si
SLU 44	11.5	-600.3	-10165	-5636	-809	4.6702	4.6702	-8620	9483	6200	101952	23497	23818	47314	No	58.52	Si
SLU 44	14.6	2817.12	-2301	-1276	-1313	4.6702	3.3319	-1951	8593	4287	101952	23497	23818	47314	No	36.04	Si
SLU 49	11.5	-620.62	-11912	-6605	-460	4.6702	4.6702	-10102	9680	6419	101952	23497	23818	47314	No	102.77	Si
SLU 49	14.6	4054.88	-3431	-1903	-1617	4.6702	3.4601	-2910	8721	4538	101952	23497	23818	47314	No	29.26	Si
SLU 8	11.5	-364.97	-9742	-5401	-198	4.6702	4.6702	-8261	9435	6169	101952	23497	23818	47314	No	238.64	Si
SLU 8	14.6	3609.5	-3022	-1675	-1348	4.6702	3.4214	-2562	8675	4447	101952	23497	23818	47314	No	35.09	Si
SLU 47	11.5	-563.26	-10918	-6053	-724	4.6702	4.6702	-9258	9568	6256	101952	23497	23818	47314	No	65.37	Si
SLU 47	14.6	3539.67	-2874	-1594	-1593	4.6702	3.311	-2438	8658	4414	101952	23497	23818	47314	No	29.71	Si
SLU 9	11.5	-355.35	-9719	-5389	-306	4.6702	4.6702	-8242	9432	6167	101952	23497	23818	47314	No	154.63	Si
SLU 9	14.6	3619.58	-3004	-1666	-1406	4.6702	3.3904	-2547	8673	4443	101952	23497	23818	47314	No	33.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	11.5	-299.53	-7911	-4386	-12635	4.6702	4.6702	-6708	13842	9050	101952	35245	23818	59063		4.67	Si
SLV 5	14.6	2137.72	-4	-2	-5381	3.7361	0	0	0	0	101952	28196	19054	47250		8.78	Si
SLV 10	11.5	-911.32	-6068	-3364	-11228	4.6702	4.6702	-5146	13529	8846	101952	35245	23818	59063		5.26	Si
SLV 10	14.6	3284.85	-303	-168	-5950	3.7361	0	0	0	0	101952	28196	19054	47250		7.94	Si
SLV 11	11.5	-31.82	-9970	-5528	12247	4.6702	4.6702	-8455	14191	9278	101952	35245	23818	59063		4.82	Si
SLV 11	14.6	1671.65	-3773	-2092	4916	4.6702	4.6702	-3200	13140	8591	101952	35245	23818	59063		12.01	Si
SLV 12	11.5	-361.4	-9791	-5428	12319	4.6702	4.6702	-8303	14161	9258	101952	35245	23818	59063		4.79	Si
SLV 12	14.6	2145.62	-3952	-2191	4398	4.6702	4.6702	-3351	13170	8611	101952	35245	23818	59063		13.43	Si
SLV 7	11.5	250.39	-11633	-6450	10912	4.6702	4.6702	-9865	14473	9463	101952	35245	23818	59063		5.41	Si
SLV 7	14.6	998.5	-3653	-2025	4967	4.6702	4.6702	-3097	13119	8578	101952	35245	23818	59063		11.89	Si
SLD 5	11.5	-300.26	-8345	-4627	-7498	4.6702	4.6702	-7077	13915	9098	101952	35245	23818	59063		7.88	Si
SLD 5	14.6	2123.49	-817	-453	-3354	4.6702	0	-20540	16250	5847	101952	35245	23818	59063		17.61	Si
SLV 9	11.5	-581.75	-6247	-3464	-11300	4.6702	4.6702	-5298	13560	8866	101952	35245	23818	59063		5.23	Si
SLV 9	14.6	2810.87	-124	-69	-5431	3.7361	0	0	0	0	101952	28196	19054	47250		8.7	Si
SLV 8	11.5	-79.18	-11454	-6351	10983	4.6702	4.6702	-9713	14443	9443	101952	35245	23818	59063		5.38	Si
SLV 8	14.6	1472.48	-3831	-2124	4449	4.6702	4.6702	-3249	13150	8598	101952	35245	23818	59063		13.28	Si
SLD 6	11.5	-500.26	-8237	-4567	-7455	4.6702	4.6702	-6985	13897	9086	101952	35245	23818	59063		7.92	Si
SLD 6	14.6	2411.12	-926	-513	-3669	4.6702	0	-23347	16250	5871	101952	35245	23818	59063		16.1	Si
SLV 6	11.5	-629.11	-7731	-4287	-12563	4.6702	4.6702	-6556	13811	9030	101952	35245	23818	59063		4.7	Si
SLV 6	14.6	2611.7	-182	-101	-5899	3.7361	0	0	0	0	101952	28196	19054	47250		8.01	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-2934	0.52	279.42	0	547.72	273.86	0.98	No
SLV 9	-2946	0.52	279.42	0	548.82	274.41	0.98	No
SLV 14	-3507	0.52	279.42	0	598.69	299.34	1.07	Si
SLV 13	-3525	0.52	279.42	0	600.3	300.15	1.07	Si
SLV 6	-3897	0.52	279.42	0	633.18	316.59	1.13	Si
SLV 5	-3909	0.52	279.42	0	634.26	317.13	1.13	Si
SLV 16	-4963	0.52	279.42	333.02	727.11	530.06	1.9	Si
SLV 15	-4981	0.52	279.42	334.18	728.7	531.44	1.9	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-6715	0.52	279.42	443.72	879.35	661.54	2.37	Si
SLV 1	-6733	0.52	279.42	444.86	880.92	662.89	2.37	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-2858	-6504	206	5.589	592.8	0.894	90.89251	9.03132	Si
SLV 12	-3952	-9791	72	4.559	699.2	0.902	73.41737	7.13476	Si
SLV 8	-3831	-11454	-50	4.66	687.3	0.902	75.12096	7.13476	Si
SLV 11	-3773	-9970	72	4.704	681.6	0.901	75.87036	7.13476	Si
SLV 15	-2593	-6770	206	5.924	567.5	0.892	96.52433	9.03132	Si
SLV 7	-3653	-11633	-50	4.811	669.8	0.9	77.68329	7.13476	Si
SLV 4	-2457	-12048	-199	6.114	554.5	0.891	99.71802	9.03132	Si
SLV 3	-2191	-12314	-199	6.516	529.6	0.89	106.43544	9.03132	Si
SLV 14	-1764	-5387	199	7.29	490.4	0.889	119.18343	9.03132	Si
SLV 13	-1499	-5653	199	7.87	466.9	0.89	128.53013	9.03132	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.364	SLU 51	Si
V_SLU	25.8	SLU 51	Si
PF_SLV	0.914	SLV 10	No
V_SLV	4.675	SLV 5	Si
PFFP_SLV	0.98	SLV 10	No
R_SLV	10.064	SLV 16	Si

Maschio 218

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.193	-3.169	-17.313	-3.169	L7	L8	1.12	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	12.4	-261.23	-1344	-0.000013	0.0003743	0.0035	1.12	721.18	1063.51	1063.51	4.07	No	Si
SLU 39	14.2	350.34	-695	-0.000045	0.0003743	0.0035	1.12	380.94	451.05	451.05	1.29	No	Si
SLU 61	12.4	-257.08	-1778	-0.000015	0.0003743	0.0035	1.12	940.37	1287.94	1287.94	5.01	No	Si
SLU 61	14.2	347.5	-700	-0.0000397	0.0003743	0.0035	1.12	383.66	453.78	453.78	1.31	No	Si
SLU 81	12.4	-312.53	-1811	-0.0000165	0.0003743	0.0035	1.12	956.5	1304.45	1304.45	4.17	No	Si
SLU 81	14.2	415.79	-851	-0.0000435	0.0003743	0.0035	1.12	463.83	534.5	534.5	1.29	No	Si
SLU 18	12.4	-201.61	-1292	-0.0000112	0.0003743	0.0035	1.12	694.41	1036.38	1036.38	5.14	No	Si
SLU 18	14.2	274.14	-527	-0.000047	0.0003743	0.0035	1.12	290.4	360.04	360.04	1.31	No	Si
SLU 60	12.4	-252.9	-1759	-0.0000148	0.0003743	0.0035	1.12	930.58	1277.92	1277.92	5.05	No	Si
SLU 60	14.2	339.59	-683	-0.0000395	0.0003743	0.0035	1.12	374.21	444.3	444.3	1.31	No	Si
SLU 19	12.4	-205.78	-1312	-0.0000114	0.0003743	0.0035	1.12	704.53	1046.61	1046.61	5.09	No	Si
SLU 19	14.2	282.04	-545	-0.0000461	0.0003743	0.0035	1.12	299.95	369.67	369.67	1.31	No	Si
SLU 73	12.4	-330.73	-1940	-0.0000176	0.0003743	0.0035	1.12	1020.36	1369.97	1369.97	4.14	No	Si
SLU 73	14.2	438.3	-935	-0.0000371	0.0003743	0.0035	1.12	508.46	579.62	579.62	1.32	No	Si
SLU 82	12.4	-316.7	-1830	-0.0000167	0.0003743	0.0035	1.12	966.25	1314.45	1314.45	4.15	No	Si
SLU 82	14.2	423.7	-869	-0.0000439	0.0003743	0.0035	1.12	473.18	543.93	543.93	1.28	No	Si
SLU 40	12.4	-265.41	-1364	-0.0000132	0.0003743	0.0035	1.12	731.26	1073.76	1073.76	4.05	No	Si
SLU 40	14.2	358.25	-713	-0.0000451	0.0003743	0.0035	1.12	390.38	460.54	460.54	1.29	No	Si
SLU 31	12.4	-279.44	-1474	-0.0000141	0.0003743	0.0035	1.12	787.16	1131.05	1131.05	4.05	No	Si
SLU 31	14.2	372.85	-780	-0.0000344	0.0003743	0.0035	1.12	426.03	496.4	496.4	1.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	12.4	-1754.1	-829	-0.0027384	0.0005615	0.0035	0.896		795.11	795.11	0.45		No
SLV 9	14.2	1357.98	-1213	-0.0154908	0.0005615	0.0035	0.896		732.86	732.86	0.54		No
SLV 10	12.4	-1446.39	-1200	-0.0014263	0.0005615	0.0035	0.896		993.67	993.67	0.69		No
SLV 10	14.2	1145.19	-1212	-0.0108373	0.0005615	0.0035	0.896		732.53	732.53	0.64		No
SLD 16	12.4	-745.2	-748	-0.000491	0.0005615	0.0035	0.896		751.58	751.58	1.01		Si
SLD 16	14.2	628.34	-519	-0.0071045	0.0005615	0.0035	0.896		356.78	356.78	0.57		No
SLV 14	12.4	-1582.79	-246	-0.0032934	0.0005615	0.0035	0.896		479.42	479.42	0.3		No
SLV 14	14.2	1193.26	-716	-0.0176356	0.0005615	0.0035	0.896		464.04	464.04	0.39		No
SLV 16	12.4	-1000.73	-294	-0.001353	0.0005615	0.0035	0.896		505.27	505.27	0.5		No
SLV 16	14.2	783.4	-392	-0.0123575	0.0005615	0.0035	0.896		286.75	286.75	0.37		No
SLV 15	12.4	-1457.8	258	0.0237374	0.0005615	0.0035	0.896		0	0	0		No
SLV 15	14.2	1099.48	-392	-0.0196094	0.0005615	0.0035	0.896		287.25	287.25	0.26		No
SLV 13	12.4	-2039.86	305	0.0105178	0.0005615	0.0035	0.896		0	0	0		No
SLV 13	14.2	1509.35	-717	-0.0247483	0.0005615	0.0035	0.896		464.53	464.53	0.31		No
SLD 13	12.4	-1375.96	-371	-0.0022395	0.0005615	0.0035	0.896		547.41	547.41	0.4		No
SLD 13	14.2	1067.21	-710	-0.014882	0.0005615	0.0035	0.896		460.52	460.52	0.43		No
SLD 15	12.4	-1035.17	-399	-0.0012988	0.0005615	0.0035	0.896		562.49	562.49	0.54		No
SLD 15	14.2	828.86	-520	-0.0117903	0.0005615	0.0035	0.896		357.1	357.1	0.43		No
SLD 14	12.4	-1085.99	-720	-0.0010893	0.0005615	0.0035	0.896		736.65	736.65	0.68		No
SLD 14	14.2	866.68	-709	-0.0103652	0.0005615	0.0035	0.896		460.2	460.2	0.53		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	12.4	-350.03	-2132	-1776	-933	1.12	1.12	-5662	7699	2415	35683	9391	2856	12247	No	13.13	Si
SLU 64	14.2	446.91	-1034	-861	-244	1.12	0.3838	-2746	7311	1236	35683	9391	2856	12247	No	50.27	Si
SLU 65	12.4	-356.98	-2165	-1803	-956	1.12	1.12	-5749	7711	2418	35683	9391	2856	12247	No	12.81	Si
SLU 65	14.2	460.09	-1064	-886	-258	1.12	0.3824	-2825	7321	1243	35683	9391	2856	12247	No	47.54	Si
SLU 68	12.4	-343.25	-2223	-1851	-922	1.12	1.12	-5903	7732	2425	35683	9391	2856	12247	No	13.29	Si
SLU 68	14.2	448.11	-1083	-902	-251	1.12	0.4384	-2875	7328	1247	35683	9391	2856	12247	No	48.73	Si
SLU 84	12.4	-302.97	-1888	-1573	-924	1.12	1.12	-5014	7613	2387	35683	9391	2856	12247	No	13.25	Si
SLU 84	14.2	411.72	-888	-739	-184	1.12	0.2885	-9208	8172	1204	35683	9391	2856	12247	No	66.72	Si
SLU 67	12.4	-338.27	-2468	-2055	-926	1.12	1.12	-6554	7818	2452	35683	9391	2856	12247	No	13.23	Si
SLU 67	14.2	469.57	-1296	-1079	-254	1.12	0.593	-3441	7403	1294	35683	9391	2856	12247	No	48.15	Si
SLU 75	12.4	-312.02	-2243	-1868	-934	1.12	1.12	-5957	7739	2427	35683	9391	2856	12247	No	13.11	Si
SLU 75	14.2	447.78	-1168	-972	-211	1.12	0.5295	-3100	7358	1266	35683	9391	2856	12247	No	58.08	Si
SLU 73	12.4	-330.73	-1940	-1615	-965	1.12	1.12	-5151	7631	2393	35683	9391	2856	12247	No	12.7	Si
SLU 73	14.2	438.3	-935	-779	-214	1.12	0.2742	-10215	8307	1214	35683	9391	2856	12247	No	57.2	Si
SLU 76	12.4	-317	-1998	-1664	-930	1.12	1.12	-5305	7652	2400	35683	9391	2856	12247	No	13.17	Si
SLU 76	14.2	426.33	-954	-795	-208	1.12	0.3399	-8399	8064	1218	35683	9391	2856	12247	No	58.94	Si
SLU 81	12.4	-312.53	-1811	-1508	-945	1.12	1.12	-4808	7586	2379	35683	9391	2856	12247	No	12.96	Si
SLU 81	14.2	415.79	-851	-709	-181	1.12	0.2141	-11898	8532	1195	35683	9391	2856	12247	No	67.49	Si
SLU 82	12.4	-316.7	-1830	-1524	-959	1.12	1.12	-4860	7592	2381	35683	9391	2856	12247	No	12.77	Si
SLU 82	14.2	423.7	-869	-723	-190	1.12	0.2166	-12009	8547	1199	35683	9391	2856	12247	No	64.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	12.4	-1457.8	258	214	-2833	0.896	0	0	0	0	35683	11269	2285	13553		4.78	Si
SLV 15	14.2	1099.48	-392	-327	-681	0.896	0	0	0	0	35683	11269	2285	13553		19.9	Si
SLV 16	12.4	-1000.73	-294	-244	-2095	0.896	0	0	0	0	35683	11269	2285	13553		6.47	Si
SLV 16	14.2	783.4	-392	-326	-359	0.896	0	0	0	0	35683	11269	2285	13553		37.71	Si
SLV 10	12.4	-1446.39	-1200	-999	-2510	0.896	0	0	0	0	35683	11269	2285	13553		5.4	Si
SLV 10	14.2	1145.19	-1212	-1009	-1143	0.896	0	0	0	0	35683	11269	2285	13553		11.86	Si
SLV 14	12.4	-1582.79	-246	-205	-2943	0.896	0	0	0	0	35683	11269	2285	13553		4.61	Si
SLV 14	14.2	1193.26	-716	-596	-898	0.896	0	0	0	0	35683	11269	2285	13553		15.09	Si
SLD 13	12.4	-1375.96	-371	-309	-2574	0.896	0	0	0	0	35683	11269	2285	13553		5.27	Si
SLD 13	14.2	1067.21	-710	-591	-824	0.896	0	0	0	0	35683	11269	2285	13553		16.44	Si
SLD 9	12.4	-1153.58	-1104	-920	-2085	0.896	0	0	0	0	35683	11269	2285	13553		6.5	Si
SLD 9	14.2	940.7	-1006	-838	-879	0.896	0	0	0	0	35683	11269	2285	13553		15.42	Si
SLD 14	12.4	-1085.99	-720	-600	-2105	0.896	0	0	0	0	35683	11269	2285	13553		6.44	Si
SLD 14	14.2	866.68	-709	-590	-620	0.896	0	0	0	0	35683	11269	2285	13553		21.85	Si
SLD 15	12.4	-1035.17	-399	-332	-2077	0.896	0	0	0	0	35683	11269	2285	13553		6.53	Si
SLD 15	14.2	828.86	-520	-433	-508	0.896	0	0	0	0	35683	11269	2285	13553		26.7	Si
SLV 9	12.4	-1754.1	-829	-690	-3007	0.896	0	0	0	0	35683	11269	2285	13553		4.51	Si
SLV 9	14.2	1357.98	-1213	-1010	-1360	0.896	0	0	0	0	35683	11269	2285	13553		9.97	Si
SLV 13	12.4	-2039.86	305	254	-3681	0.896	0	0	0	0	35683	11269	2285	13553		3.68	Si
SLV 13	14.2	1509.35	-717	-597	-1220	0.896	0	0	0	0	35683	11269	2285	13553		11.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	0	-611	123.15	0	0	No, e>t/2
SLV 16	179667	0.52	0	96	123.15	0	0	No, Trazione
SLV 15	179667	0.52	0	647	123.15	0	0	No, Trazione
SLV 9	179667	0.52	0	-476	123.15	0	0	No, e>t/2
SLV 13	179667	0.52	0	688	123.15	0	0	No, Trazione
SLV 10	179667	0.52	0	-847	123.15	0	0	No, e>t/2
SLV 14	179667	0.52	0	137	123.15	0	0	No, Trazione
SLV 12	179667	0.52	3131	-982	123.15	134.66	1.09	Si
SLV 5	179667	0.52	4581	-1437	123.15	195.09	1.58	Si
SLV 7	179667	0.52	5012	-1572	123.15	212.83	1.73	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-834	-1781	-8	3.745	234.1	0.889	61.22067	6.05458	Si
SLV 4	-817	-868	2	3.786	232.6	0.889	61.90085	6.05458	Si
SLV 1	-772	-2073	-9	3.885	228.6	0.889	63.48785	6.05458	Si
SLV 3	-754	-1159	2	3.93	227	0.889	64.21675	6.05458	Si
SLV 6	-671	-3545	-20	4.127	219.8	0.891	67.34635	5.43428	Si
SLV 5	-629	-3741	-21	4.241	216.2	0.892	69.13421	5.43428	Si
SLV 8	-613	-499	13	4.291	214.8	0.892	69.91478	5.43428	Si
SLV 7	-571	-695	13	4.414	211.3	0.893	71.82197	5.43428	Si
SLV 10	-522	-4102	-21	4.56	207.4	0.895	74.03701	5.43428	Si
SLV 14	-339	-3638	-9	5.252	193.5	0.909	84.00887	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.284	SLU 82	Si
V_SLU	12.697	SLU 73	Si
PF_SLV	0	SLV 13	No
V_SLV	3.682	SLV 13	Si
PFFP_SLV	0	SLV 16	No
R_SLV	10.111	SLV 2	Si

Maschio 219

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L7	L8	3.211	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	11.5	737.19	-6095	-0.0000203	0.0004492	0.0035	3.2107	8698.64	10222.06	10222.06	13.87	No	Si
SLU 80	13.6	1228.06	-2852	-0.0000139	0.0004492	0.0035	3.2107	4340.27	5444.72	5444.72	4.43	No	Si
SLU 35	11.5	523.59	-5278	-0.0000169	0.0004492	0.0035	3.2107	7658.36	9041.31	9041.31	17.27	No	Si
SLU 35	13.6	1144.09	-2595	-0.0000128	0.0004492	0.0035	3.2107	3969.7	5056.92	5056.92	4.42	No	Si
SLU 42	11.5	578.5	-5135	-0.0000168	0.0004492	0.0035	3.2107	7473.25	8832.17	8832.17	15.27	No	Si
SLU 42	13.6	1035.96	-2386	-0.0000116	0.0004492	0.0035	3.2107	3664.35	4738.61	4738.61	4.57	No	Si
SLU 38	11.5	524.27	-5120	-0.0000165	0.0004492	0.0035	3.2107	7452.62	8808.94	8808.94	16.8	No	Si
SLU 38	13.6	1209.88	-2497	-0.0000128	0.0004492	0.0035	3.2107	3825.89	4906.68	4906.68	4.06	No	Si
SLU 30	11.5	545.64	-4823	-0.0000158	0.0004492	0.0035	3.2107	7062.67	8372.99	8372.99	15.35	No	Si
SLU 30	13.6	1044.12	-2351	-0.0000116	0.0004492	0.0035	3.2107	3613.17	4685.52	4685.52	4.49	No	Si
SLU 17	11.5	538.67	-4494	-0.0000149	0.0004492	0.0035	3.2107	6623.63	7888.88	7888.88	14.65	No	Si
SLU 17	13.6	1001.56	-2123	-0.0000107	0.0004492	0.0035	3.2107	3275.74	4337.31	4337.31	4.33	No	Si
SLU 79	11.5	743.63	-6087	-0.0000203	0.0004492	0.0035	3.2107	8688.64	10210.5	10210.5	13.73	No	Si
SLU 79	13.6	1180.89	-2831	-0.0000136	0.0004492	0.0035	3.2107	4310.28	5413.55	5413.55	4.58	No	Si
SLU 36	11.5	517.14	-5286	-0.0000169	0.0004492	0.0035	3.2107	7668.74	9053.07	9053.07	17.51	No	Si
SLU 36	13.6	1191.26	-2616	-0.000013	0.0004492	0.0035	3.2107	3999.98	5088.64	5088.64	4.27	No	Si
SLU 16	11.5	545.11	-4486	-0.0000149	0.0004492	0.0035	3.2107	6612.89	7877.12	7877.12	14.45	No	Si
SLU 16	13.6	954.38	-2102	-0.0000104	0.0004492	0.0035	3.2107	3244.86	4305.6	4305.6	4.51	No	Si
SLU 37	11.5	530.71	-5112	-0.0000165	0.0004492	0.0035	3.2107	7442.16	8797.18	8797.18	16.58	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	13.6	1162.71	-2476	-0.0000125	0.0004492	0.0035	3.2107	3795.47	4874.97	4874.97	4.19	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	11.5	346.02	-5035	-0.0000153	0.0006738	0.0035	3.2107		8758.8	8758.8	25.31		Si
SLD 9	13.6	1642.94	-2646	-0.0000155	0.0006738	0.0035	3.2107		5159.1	5159.1	3.14		Si
SLD 5	11.5	51.82	-5276	-0.0000145	0.0006738	0.0035	3.2107		9117.91	9117.91	175.96		Si
SLD 5	13.6	1771.62	-2896	-0.0000168	0.0006738	0.0035	3.2107		5542.59	5542.59	3.13		Si
SLD 6	11.5	-48.49	-5224	-0.0000143	0.0006738	0.0035	3.2107		13766.17	13766.17	283.9		Si
SLD 6	13.6	1820.26	-2925	-0.0000171	0.0006738	0.0035	3.2107		5587.71	5587.71	3.07		Si
SLV 5	11.5	-377.51	-5998	-0.0000181	0.0006738	0.0035	3.2107		14900.09	14900.09	39.47		Si
SLV 5	13.6	2730.27	-3681	-0.0000246	0.0006738	0.0035	3.2107		6730.92	6730.92	2.47		Si
SLV 9	11.5	83.17	-5620	-0.0000156	0.0006738	0.0035	3.2107		9629.05	9629.05	115.77		Si
SLV 9	13.6	2530.86	-3290	-0.0000227	0.0006738	0.0035	3.2107		6138.82	6138.82	2.43		Si
SLD 10	11.5	245.71	-4983	-0.0000146	0.0006738	0.0035	3.2107		8681.65	8681.65	35.33		Si
SLD 10	13.6	1691.58	-2675	-0.0000158	0.0006738	0.0035	3.2107		5204.22	5204.22	3.08		Si
SLV 11	11.5	1908.89	-2548	-0.0000171	0.0006738	0.0035	3.2107		5008.85	5008.85	2.62		Si
SLV 11	13.6	-1999.28	211	-0.0001208	0.0006738	0.0035	2.5686		5574.51	5574.51	2.79		Si
SLV 6	11.5	-542.8	-5912	-0.0000187	0.0006738	0.0035	3.2107		14774.75	14774.75	27.22		Si
SLV 6	13.6	2810.41	-3730	-0.0000253	0.0006738	0.0035	3.2107		6804.13	6804.13	2.42		Si
SLV 10	11.5	-82.12	-5534	-0.0000153	0.0006738	0.0035	3.2107		14220.89	14220.89	173.17		Si
SLV 10	13.6	2611.01	-3338	-0.0000234	0.0006738	0.0035	3.2107		6212.03	6212.03	2.38		Si
SLV 12	11.5	1743.59	-2462	-0.0000158	0.0006738	0.0035	3.2107		4877.68	4877.68	2.8		Si
SLV 12	13.6	-1919.13	163	-0.0001156	0.0006738	0.0035	2.5686		5649.3	5649.3	2.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	11.5	874.07	-5252	-2912	642	3.2107	3.2107	-6478	9197	4134	101952	16154	16375	32528	No	50.69	Si
SLU 52	13.6	561.25	-2146	-1190	757	3.2107	3.2107	-2647	8686	3904	101952	16154	16375	32528	No	42.97	Si
SLU 64	11.5	891.78	-5568	-3087	704	3.2107	3.2107	-6868	9249	4157	101952	16154	16375	32528	No	46.22	Si
SLU 64	13.6	525.19	-2340	-1297	696	3.2107	3.2107	-2886	8718	3919	101952	16154	16375	32528	No	46.74	Si
SLU 44	11.5	895.45	-4955	-2747	615	3.2107	3.2107	-6112	9148	4112	101952	16154	16375	32528	No	52.89	Si
SLU 44	13.6	395.49	-2001	-1109	731	3.2107	3.2107	-2468	8662	3894	101952	16154	16375	32528	No	44.52	Si
SLU 65	11.5	881.04	-5581	-3094	595	3.2107	3.2107	-6884	9251	4158	101952	16154	16375	32528	No	54.68	Si
SLU 65	13.6	603.82	-2375	-1317	710	3.2107	3.2107	-2929	8724	3921	101952	16154	16375	32528	No	45.84	Si
SLU 81	11.5	861.24	-5991	-3322	742	3.2107	3.2107	-7390	9319	4189	101952	16154	16375	32528	No	43.85	Si
SLU 81	13.6	761.99	-2548	-1413	734	3.2107	3.2107	-3143	8752	3934	101952	16154	16375	32528	No	44.33	Si
SLU 60	11.5	875.65	-5365	-2975	762	3.2107	3.2107	-6618	9216	4142	101952	16154	16375	32528	No	42.7	Si
SLU 60	13.6	553.67	-2174	-1205	755	3.2107	3.2107	-2681	8691	3906	101952	16154	16375	32528	No	43.1	Si
SLU 61	11.5	869.21	-5373	-2979	697	3.2107	3.2107	-6628	9217	4143	101952	16154	16375	32528	No	46.7	Si
SLU 61	13.6	600.84	-2194	-1217	763	3.2107	3.2107	-2707	8694	3908	101952	16154	16375	32528	No	42.64	Si
SLU 43	11.5	906.18	-4942	-2740	724	3.2107	3.2107	-6096	9146	4111	101952	16154	16375	32528	No	44.94	Si
SLU 43	13.6	316.86	-1966	-1090	717	3.2107	3.2107	-2425	8657	3891	101952	16154	16375	32528	No	45.37	Si
SLU 73	11.5	859.67	-5878	-3259	622	3.2107	3.2107	-7250	9300	4180	101952	16154	16375	32528	No	52.33	Si
SLU 73	13.6	769.58	-2520	-1397	736	3.2107	3.2107	-3109	8748	3932	101952	16154	16375	32528	No	44.19	Si
SLU 82	11.5	854.8	-5999	-3326	677	3.2107	3.2107	-7400	9320	4189	101952	16154	16375	32528	No	48.08	Si
SLU 82	13.6	809.17	-2569	-1424	742	3.2107	3.2107	-3168	8756	3936	101952	16154	16375	32528	No	43.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	11.5	1448.2	-2926	-1622	2585	3.2107	3.2107	-3609	13222	5943	101952	24231	16375	40605		15.71	Si
SLV 7	13.6	-1799.87	-181	-100	1590	2.5686	0	0	0	0	101952	19385	13100	32484		20.43	Si
SLV 11	11.5	1908.89	-2548	-1413	2911	3.2107	2.5684	-3143	13129	4721	101952	24231	16375	40605		13.95	Si
SLV 11	13.6	-1999.28	211	117	1958	2.5686	0	0	0	0	101952	19385	13100	32484		16.59	Si
SLD 11	11.5	1414.57	-3236	-1794	1943	3.2107	3.2107	-3991	13298	5978	101952	24231	16375	40605		20.9	Si
SLD 11	13.6	-1009.12	-594	-329	1385	2.5686	0	0	0	0	101952	19385	13100	32484		23.46	Si
SLD 8	11.5	1020.07	-3425	-1899	1603	3.2107	3.2107	-4225	13345	5999	101952	24231	16375	40605		25.33	Si
SLD 8	13.6	-831.81	-873	-484	1016	2.5686	1.9573	0	0	0	101952	19385	13100	32484		31.98	Si
SLV 12	11.5	1743.59	-2462	-1365	2692	3.2107	2.6917	-3037	13107	4939	101952	24231	16375	40605		15.08	Si
SLV 12	13.6	-1919.13	163	90	1739	2.5686	0	0	0	0	101952	19385	13100	32484		18.68	Si
SLD 7	11.5	1120.37	-3477	-1928	1736	3.2107	3.2107	-4289	13358	6004	101952	24231	16375	40605		23.39	Si
SLD 7	13.6	-880.44	-843	-468	1149	2.5686	1.6846	0	0	0	101952	19385	13100	32484		28.28	Si
SLV 15	11.5	1847.47	-3203	-1776	1885	3.2107	3.0857	-3951	13290	5741	101952	24231	16375	40605		21.54	Si
SLV 15	13.6	-665.83	-545	-302	1659	2.5686	1.1508	0	0	0	101952	19385	13100	32484		19.58	Si
SLV 6	11.5	-542.8	-5912	-3278	-1804	3.2107	3.2107	-7293	13959	6274	101952	24231	16375	40605		22.51	Si
SLV 6	13.6	2810.41	-3730	-2068	-863	3.2107	2.5556	-4601	13420	4802	101952	24231	16375	40605		47.04	Si
SLV 8	11.5	1282.91	-2840	-1575	2366	3.2107	3.2107	-3503	13201	5934	101952	24231	16375	40605		17.16	Si
SLV 8	13.6	-1719.72	-229	-127	1371	2.5686	0	0	0	0	101952	19385	13100	32484		23.69	Si
SLD 12	11.5	1314.27	-3184	-1765	1810	3.2107	3.2107	-3927	13285	5972	101952	24231	16375	40605		22.43	Si
SLD 12	13.6	-960.49	-623	-345	1252	2.5686	0.1907	0	0	0	101952	19385	13100	32484		25.95	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-521	0.52	192.1	0	241.46	120.73	0.63	No
SLV 11	-542	0.52	192.1	0	243.46	121.73	0.63	No
SLV 8	-830	0.52	192.1	0	270.44	135.22	0.7	No
SLV 7	-852	0.52	192.1	0	272.39	136.19	0.71	No
SLV 16	-1417	0.52	192.1	0	324.14	162.07	0.84	No
SLV 15	-1449	0.52	192.1	0	326.99	163.49	0.85	No
SLV 4	-2448	0.52	192.1	0	416.34	208.17	1.08	Si
SLV 3	-2480	0.52	192.1	0	419.13	209.56	1.09	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-2499	0.52	192.1	0	420.86	210.43	1.1	Si
SLV 13	-2531	0.52	192.1	0	423.64	211.82	1.1	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-290	-5257	-124	11.64	265	0.929	182.07499	9.03132	Si
SLV 1	-281	-5384	-124	11.705	264.6	0.93	182.8444	9.03132	Si
SLV 4	-243	-4335	-110	12.013	262.6	0.936	186.46652	9.03132	Si
SLV 3	-235	-4462	-110	12.082	262.2	0.938	187.24772	9.03132	Si
SLV 14	-105	-3998	110	13.232	257.2	0.966	199.15769	9.03132	Si
SLV 13	-96	-4125	110	13.315	257	0.968	199.93085	9.03132	Si
SLV 16	-58	-3076	124	13.693	256.2	0.979	203.2169	9.03132	Si
SLV 15	-50	-3203	124	13.782	256	0.982	203.96715	9.03132	Si
SLV 6	-279	-5912	-58	11.77	264.4	0.931	183.77587	7.13476	Si
SLV 5	-273	-5998	-58	11.814	264.1	0.932	184.29761	7.13476	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.055	SLU 38	Si
V_SLU	42.639	SLU 61	Si
PF_SLV	2.379	SLV 10	Si
V_SLV	13.949	SLV 11	Si
PFFP_SLV	0.628	SLV 12	No
R_SLV	20.16	SLV 2	Si

Maschio 221

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.293	-3.169	L7	L8	1.54	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	11.5	-1552.06	-2841	-0.0000464	0.0003743	0.0035	1.2318	2045.41	2719.78	2719.78	1.75	No	Si
SLU 83	13.6	1422.62	-3797	-0.0000348	0.0003743	0.0035	1.5398	2670.51	2867.64	2867.64	2.02	No	Si
SLU 42	11.5	-1395.85	-2104	-0.0000697	0.0003743	0.0035	1.2318	1542.06	2202.81	2202.81	1.58	No	Si
SLU 42	13.6	1232.18	-3198	-0.0000299	0.0003743	0.0035	1.5398	2282.56	2459.5	2459.5	2	No	Si
SLU 31	11.5	-1363.44	-2082	-0.0000643	0.0003743	0.0035	1.2318	1526.74	2186.96	2186.96	1.6	No	Si
SLU 31	13.6	1257.91	-3185	-0.0000306	0.0003743	0.0035	1.5398	2274.35	2450.96	2450.96	1.95	No	Si
SLU 40	11.5	-1435.99	-1919	-0.0001379	0.0003743	0.0035	1.2318	1413.12	2070.29	2070.29	1.44	No	Si
SLU 40	13.6	1278.01	-3163	-0.0000311	0.0003743	0.0035	1.5398	2259.46	2435.49	2435.49	1.91	No	Si
SLU 81	11.5	-1592.2	-2656	-0.000057	0.0003743	0.0035	1.2318	1921.24	2593.49	2593.49	1.63	No	Si
SLU 81	13.6	1468.45	-3762	-0.0000359	0.0003743	0.0035	1.5398	2648.15	2843.96	2843.96	1.94	No	Si
SLU 39	11.5	-1429.12	-1919	-0.0001338	0.0003743	0.0035	1.2318	1412.68	2069.84	2069.84	1.45	No	Si
SLU 39	13.6	1266.63	-3155	-0.0000308	0.0003743	0.0035	1.5398	2254.64	2430.49	2430.49	1.92	No	Si
SLU 84	11.5	-1558.92	-2841	-0.0000469	0.0003743	0.0035	1.2318	2045.83	2720.21	2720.21	1.74	No	Si
SLU 84	13.6	1434	-3804	-0.000035	0.0003743	0.0035	1.5398	2675.17	2872.53	2872.53	2	No	Si
SLU 41	11.5	-1388.98	-2103	-0.0000679	0.0003743	0.0035	1.2318	1541.63	2202.37	2202.37	1.59	No	Si
SLU 41	13.6	1220.8	-3190	-0.0000296	0.0003743	0.0035	1.5398	2277.75	2454.5	2454.5	2.01	No	Si
SLU 34	11.5	-1323.29	-2266	-0.0000441	0.0003743	0.0035	1.2318	1654.63	2320.22	2320.22	1.75	No	Si
SLU 34	13.6	1212.08	-3220	-0.0000294	0.0003743	0.0035	1.5398	2297.43	2474.97	2474.97	2.04	No	Si
SLU 82	11.5	-1599.07	-2657	-0.0000579	0.0003743	0.0035	1.2318	1921.66	2593.91	2593.91	1.62	No	Si
SLU 82	13.6	1479.83	-3769	-0.0000362	0.0003743	0.0035	1.5398	2652.81	2848.92	2848.92	1.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	11.5	-2306.61	-1623	-0.0009545	0.0005615	0.0035	1.2318		1868.11	1868.11	0.81		No
SLD 13	13.6	2437.02	-4150	-0.0000843	0.0005615	0.0035	1.5398		3169.89	3169.89	1.3		Si
SLV 16	11.5	-2216.91	-984	-0.0012495	0.0005615	0.0035	1.2318		1397.7	1397.7	0.63		No
SLV 16	13.6	2203.8	-3455	-0.000098	0.0005615	0.0035	1.5398		2682.59	2682.59	1.22		Si
SLV 9	11.5	-2249.45	-2835	-0.0002913	0.0005615	0.0035	1.2318		2745.73	2745.73	1.22		Si
SLV 9	13.6	2614.43	-5034	-0.0000739	0.0005615	0.0035	1.5398		3779.33	3779.33	1.45		Si
SLD 16	11.5	-1792.81	-1491	-0.0005647	0.0005615	0.0035	1.2318		1771.53	1771.53	0.99		No
SLD 16	13.6	1794.04	-3246	-0.0000541	0.0005615	0.0035	1.5398		2533.55	2533.55	1.41		Si
SLD 14	11.5	-1998.43	-1830	-0.0005658	0.0005615	0.0035	1.2318		2019.61	2019.61	1.01		Si
SLD 14	13.6	2111.68	-3822	-0.0000642	0.0005615	0.0035	1.5398		2940.98	2940.98	1.39		Si
SLV 4	11.5	1026.07	-3464	-0.0000259	0.0005615	0.0035	1.5398		2688.84	2688.84	2.62		Si
SLV 4	13.6	-1208.1	-658	-0.0005027	0.0005615	0.0035	1.2318		1155.23	1155.23	0.96		No
SLV 15	11.5	-2702.69	-657	-0.0021768	0.0005615	0.0035	1.2318		1154.52	1154.52	0.43		No
SLV 15	13.6	2716.62	-3971	-0.0001854	0.0005615	0.0035	1.5398		3045.14	3045.14	1.12		Si
SLD 15	11.5	-2100.99	-1284	-0.0009461	0.0005615	0.0035	1.2318		1618.89	1618.89	0.77		No
SLD 15	13.6	2119.38	-3573	-0.0000744	0.0005615	0.0035	1.5398		2766.37	2766.37	1.31		Si
SLV 13	11.5	-3054	-1237	-0.0021422	0.0005615	0.0035	1.2318		1584.39	1584.39	0.52		No
SLV 13	13.6	3259.28	-4952	-0.0001769	0.0005615	0.0035	1.5398		3723.62	3723.62	1.14		Si
SLV 14	11.5	-2568.22	-1563	-0.0012663	0.0005615	0.0035	1.2318		1824.7	1824.7	0.71		No
SLV 14	13.6	2746.46	-4437	-0.0001114	0.0005615	0.0035	1.5398		3368.96	3368.96	1.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	11.5	-1471.44	-3365	-2802	-2483	1.2318	0.9977	0	0	0	35683	10328	3141	13469	No	5.43	Si
SLU 78	13.6	1426.02	-4182	-3482	-2489	1.5398	1.2866	-8076	8021	2890	35683	12910	3926	16837	No	6.77	Si
SLU 76	11.5	-1486.37	-3004	-2501	-2486	1.2318	0.8251	0	0	0	35683	10328	3141	13469	No	5.42	Si
SLU 76	13.6	1413.9	-3827	-3187	-2494	1.5398	1.2013	-7392	7930	2667	35683	12910	3926	16837	No	6.75	Si
SLU 73	11.5	-1526.51	-2819	-2348	-2582	1.2318	0.6853	0	0	0	35683	10328	3141	13469	No	5.22	Si
SLU 73	13.6	1459.73	-3792	-3158	-2589	1.5398	1.1548	-7324	7921	2561	35683	12910	3926	16837	No	6.5	Si
SLU 84	11.5	-1558.92	-2841	-2366	-2583	1.2318	0.6636	0	0	0	35683	10328	3141	13469	No	5.22	Si
SLU 84	13.6	1434	-3804	-3168	-2587	1.5398	1.1789	-7348	7924	2616	35683	12910	3926	16837	No	6.51	Si
SLU 81	11.5	-1592.2	-2656	-2212	-2668	1.2318	0.5114	0	0	0	35683	10328	3141	13469	No	5.05	Si
SLU 81	13.6	1468.45	-3762	-3133	-2669	1.5398	1.1387	-7266	7913	2523	35683	12910	3926	16837	No	6.31	Si
SLU 83	11.5	-1552.06	-2841	-2365	-2573	1.2318	0.6705	0	0	0	35683	10328	3141	13469	No	5.24	Si
SLU 83	13.6	1422.62	-3797	-3162	-2573	1.5398	1.1857	-7334	7922	2630	35683	12910	3926	16837	No	6.54	Si
SLU 77	11.5	-1464.57	-3364	-2801	-2473	1.2318	1.0036	0	0	0	35683	10328	3141	13469	No	5.45	Si
SLU 77	13.6	1414.63	-4174	-3476	-2475	1.5398	1.293	-8062	8019	2903	35683	12910	3926	16837	No	6.8	Si
SLU 75	11.5	-1511.58	-3180	-2648	-2578	1.2318	0.8838	0	0	0	35683	10328	3141	13469	No	5.22	Si
SLU 75	13.6	1471.84	-4146	-3453	-2584	1.5398	1.2448	-8009	8012	2793	35683	12910	3926	16837	No	6.52	Si
SLU 82	11.5	-1599.07	-2657	-2212	-2678	1.2318	0.5041	0	0	0	35683	10328	3141	13469	No	5.03	Si
SLU 82	13.6	1479.83	-3769	-3139	-2683	1.5398	1.1319	-7280	7915	2509	35683	12910	3926	16837	No	6.28	Si
SLU 74	11.5	-1504.71	-3180	-2648	-2568	1.2318	0.89	0	0	0	35683	10328	3141	13469	No	5.24	Si
SLU 74	13.6	1460.46	-4139	-3447	-2570	1.5398	1.2512	-7994	8010	2806	35683	12910	3926	16837	No	6.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	11.5	-2216.91	-984	-819	-3978	1.2318	0	0	0	0	35683	15492	3141	18634		4.68	Si
SLV 16	13.6	2203.8	-3455	-2877	-3215	1.5398	0.3963	-26277	15673	2843	35683	19366	3926	23292		7.25	Si
SLD 16	11.5	-1792.81	-1491	-1241	-3190	1.2318	0	0	0	0	35683	15492	3141	18634		5.84	Si
SLD 16	13.6	1794.04	-3246	-2703	-2707	1.5398	0.6517	-6270	11671	2796	35683	19366	3926	23292		8.61	Si
SLV 10	11.5	-1922.41	-3054	-2543	-3281	1.2318	0.4215	0	0	0	35683	15492	3141	18634		5.68	Si
SLV 10	13.6	2269.18	-4687	-3903	-3167	1.5398	0.8572	-9052	12227	3116	35683	19366	3926	23292		7.35	Si
SLV 15	11.5	-2702.69	-657	-547	-4761	1.2318	0	0	0	0	35683	15492	3141	18634		3.91	Si
SLV 15	13.6	2716.62	-3971	-3307	-3999	1.5398	0.2575	-46938	16250	2957	35683	19366	3926	23292		5.82	Si
SLD 14	11.5	-1998.43	-1830	-1524	-3515	1.2318	0	0	0	0	35683	15492	3141	18634		5.3	Si
SLD 14	13.6	2111.68	-3822	-3183	-3068	1.5398	0.6523	-7383	11893	2924	35683	19366	3926	23292		7.59	Si
SLV 9	11.5	-2249.45	-2835	-2360	-3809	1.2318	0	0	0	0	35683	15492	3141	18634		4.89	Si
SLV 9	13.6	2614.43	-5034	-4192	-3695	1.5398	0.7516	-9723	12361	3193	35683	19366	3926	23292		6.3	Si
SLD 13	11.5	-2306.61	-1623	-1351	-4012	1.2318	0	0	0	0	35683	15492	3141	18634		4.64	Si
SLD 13	13.6	2437.02	-4150	-3455	-3566	1.5398	0.5478	-8015	12020	2997	35683	19366	3926	23292		6.53	Si
SLD 15	11.5	-2100.99	-1284	-1069	-3687	1.2318	0	0	0	0	35683	15492	3141	18634		5.05	Si
SLD 15	13.6	2119.38	-3573	-2976	-3204	1.5398	0.5304	-6902	11797	2869	35683	19366	3926	23292		7.27	Si
SLV 14	11.5	-2568.22	-1563	-1302	-4532	1.2318	0	0	0	0	35683	15492	3141	18634		4.11	Si
SLV 14	13.6	2746.46	-4437	-3694	-3831	1.5398	0.4526	-29614	16250	3061	35683	19366	3926	23292		6.08	Si
SLV 13	11.5	-3054	-1237	-1030	-5315	1.2318	0	0	0	0	35683	15492	3141	18634		3.51	Si
SLV 13	13.6	3259.28	-4952	-4124	-4616	1.5398	0.3354	-45026	16250	3175	35683	19366	3926	23292		5.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.52	0	-1022	169.31	0	0	No, e>t/2
SLV 7	179667	0.52	2950	-1272	169.31	174.63	1.03	Si
SLV 4	179667	0.52	2991	-1289	169.31	176.98	1.05	Si
SLV 12	179667	0.52	3845	-1658	169.31	226.22	1.34	Si
SLV 3	179667	0.52	3851	-1660	169.31	226.6	1.34	Si
SLV 11	179667	0.52	4424	-1907	169.31	259.29	1.53	Si
SLV 2	179667	0.52	5116	-2206	169.31	298.48	1.76	Si
SLV 1	179667	0.52	5977	-2577	169.31	346.65	2.05	Si
SLV 16	179667	0.52	7903	-3408	169.31	452.36	2.67	Si
SLV 15	179667	0.52	8764	-3779	169.31	498.64	2.95	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-1338	-3717	-79	3.439	339.3	0.889	56.21746	6.05458	Si
SLV 2	-1299	-4044	-85	3.489	335.8	0.889	57.03944	6.05458	Si
SLV 5	-1495	-3579	-100	3.234	353.9	0.89	52.81492	5.43428	Si
SLV 6	-1469	-3798	-104	3.264	351.5	0.89	53.30561	5.43428	Si
SLV 9	-1432	-2835	-71	3.321	348.1	0.89	54.25685	5.43428	Si
SLV 10	-1406	-3054	-75	3.352	345.6	0.889	54.77179	5.43428	Si
SLV 3	-1135	-3138	-34	3.753	320.9	0.889	61.35414	6.05458	Si
SLV 13	-1129	-1237	17	3.77	320.3	0.889	61.62973	6.05458	Si
SLV 4	-1097	-3464	-39	3.812	317.5	0.889	62.31614	6.05458	Si
SLV 14	-1091	-1563	11	3.835	316.9	0.889	62.68096	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.442	SLU 40	Si
V_SLU	5.029	SLU 82	Si
PF_SLV	0.427	SLV 15	No
V_SLV	3.506	SLV 13	Si
PFFP_SLV	0	SLV 8	No
R_SLV	9.285	SLV 1	Si

Maschio 223

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.522	L7	L8	4.315	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	11.5	-1074.5	-5441	-0.0000139	0.0004492	0.0035	4.3155	10874.03	22184.13	22184.13	20.65	No	Si
SLU 84	13.6	-1177.75	-2235	-0.0000077	0.0004492	0.0035	4.3155	4676.29	15833.08	15833.08	13.44	No	Si
SLU 82	11.5	-1086.95	-5430	-0.0000139	0.0004492	0.0035	4.3155	10855.03	22163.87	22163.87	20.39	No	Si
SLU 82	13.6	-1154.39	-2225	-0.0000076	0.0004492	0.0035	4.3155	4655.37	15812.01	15812.01	13.7	No	Si
SLU 74	11.5	-1093.92	-5432	-0.000014	0.0004492	0.0035	4.3155	10858.41	22167.48	22167.48	20.26	No	Si
SLU 74	13.6	-1167.15	-2226	-0.0000077	0.0004492	0.0035	4.3155	4659.09	15815.76	15815.76	13.55	No	Si
SLU 77	11.5	-1081.47	-5442	-0.000014	0.0004492	0.0035	4.3155	10877.4	22187.73	22187.73	20.52	No	Si
SLU 77	13.6	-1190.52	-2237	-0.0000078	0.0004492	0.0035	4.3155	4680.01	15836.82	15836.82	13.3	No	Si
SLU 75	11.5	-1015.35	-5427	-0.0000137	0.0004492	0.0035	4.3155	10848.4	22156.8	22156.8	21.82	No	Si
SLU 75	13.6	-1129.12	-2221	-0.0000076	0.0004492	0.0035	4.3155	4648.06	15804.66	15804.66	14	No	Si
SLU 83	11.5	-1153.06	-5446	-0.0000142	0.0004492	0.0035	4.3155	10884.03	22194.81	22194.81	19.25	No	Si
SLU 83	13.6	-1215.78	-2240	-0.0000078	0.0004492	0.0035	4.3155	4687.32	15844.17	15844.17	13.03	No	Si
SLU 78	11.5	-1002.91	-5437	-0.0000137	0.0004492	0.0035	4.3155	10867.39	22177.06	22177.06	22.11	No	Si
SLU 78	13.6	-1152.48	-2231	-0.0000077	0.0004492	0.0035	4.3155	4668.99	15825.72	15825.72	13.73	No	Si
SLU 80	11.5	-992.19	-5434	-0.0000137	0.0004492	0.0035	4.3155	10862.62	22171.96	22171.96	22.35	No	Si
SLU 80	13.6	-1142.34	-2229	-0.0000076	0.0004492	0.0035	4.3155	4663.72	15820.43	15820.43	13.85	No	Si
SLU 81	11.5	-1165.51	-5436	-0.0000142	0.0004492	0.0035	4.3155	10865.04	22174.55	22174.55	19.03	No	Si
SLU 81	13.6	-1192.42	-2230	-0.0000078	0.0004492	0.0035	4.3155	4666.39	15823.11	15823.11	13.27	No	Si
SLU 79	11.5	-1070.76	-5440	-0.0000139	0.0004492	0.0035	4.3155	10872.63	22182.64	22182.64	20.72	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	13.6	-1180.38	-2234	-0.0000077	0.0004492	0.0035	4.3155	4674.75	15831.52	15831.52	13.41	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	11.5	3434.23	-3677	-0.0000173	0.0006738	0.0035	4.3155		9495.94	9495.94	2.77		Si
SLV 9	13.6	2080.98	-1284	-0.0000138	0.0006738	0.0035	4.3155		4539.66	4539.66	2.18		Si
SLD 6	11.5	1485.54	-3804	-0.0000117	0.0006738	0.0035	4.3155		9758.39	9758.39	6.57		Si
SLD 6	13.6	901.9	-1391	-0.0000053	0.0006738	0.0035	4.3155		4764.82	4764.82	5.28		Si
SLD 5	11.5	1572.72	-3806	-0.000012	0.0006738	0.0035	4.3155		9761.99	9761.99	6.21		Si
SLD 5	13.6	926.78	-1393	-0.0000053	0.0006738	0.0035	4.3155		4768.47	4768.47	5.15		Si
SLV 6	11.5	3066.17	-3615	-0.0000159	0.0006738	0.0035	4.3155		9368.74	9368.74	3.06		Si
SLV 6	13.6	2081.33	-1210	-0.0000159	0.0006738	0.0035	4.3155		4384.93	4384.93	2.11		Si
SLV 8	11.5	-4894.75	-4474	-0.0000243	0.0006738	0.0035	4.3155		20355.51	20355.51	4.16		Si
SLV 8	13.6	-3621.9	-2020	-0.0000294	0.0006738	0.0035	3.4524		15385.06	15385.06	4.25		Si
SLV 12	11.5	-4670.35	-4533	-0.0000232	0.0006738	0.0035	4.3155		20473.97	20473.97	4.38		Si
SLV 12	13.6	-3663.24	-2091	-0.000028	0.0006738	0.0035	3.4524		15529.77	15529.77	4.24		Si
SLV 11	11.5	-4526.69	-4536	-0.0000226	0.0006738	0.0035	4.3155		20479.76	20479.76	4.52		Si
SLV 11	13.6	-3622.25	-2094	-0.0000268	0.0006738	0.0035	3.4524		15535.62	15535.62	4.29		Si
SLV 7	11.5	-4751.09	-4477	-0.0000236	0.0006738	0.0035	4.3155		20361.3	20361.3	4.29		Si
SLV 7	13.6	-3580.92	-2023	-0.0000281	0.0006738	0.0035	3.4524		15390.91	15390.91	4.3		Si
SLV 10	11.5	3290.57	-3674	-0.0000168	0.0006738	0.0035	4.3155		9490.01	9490.01	2.88		Si
SLV 10	13.6	2039.99	-1281	-0.000013	0.0006738	0.0035	4.3155		4533.65	4533.65	2.22		Si
SLV 5	11.5	3209.83	-3618	-0.0000164	0.0006738	0.0035	4.3155		9374.67	9374.67	2.92		Si
SLV 5	13.6	2122.31	-1213	-0.0000171	0.0006738	0.0035	4.3155		4390.94	4390.94	2.07		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	11.5	-686.39	-5060	-2806	108	4.3155	4.3155	-4644	8952	5409	101952	21712	22009	43721	No	403.86	Si
SLU 49	13.6	-854.84	-2047	-1135	108	4.3155	4.3155	-1878	8584	5186	101952	21712	22009	43721	No	403.86	Si
SLU 30	11.5	-689.88	-4321	-2396	100	4.3155	4.3155	-3966	8862	5354	101952	21712	22009	43721	No	439.08	Si
SLU 30	13.6	-854.63	-1760	-976	100	4.3155	4.3155	-1616	8549	5165	101952	21712	22009	43721	No	439.08	Si
SLU 51	11.5	-675.68	-5057	-2804	109	4.3155	4.3155	-4641	8952	5409	101952	21712	22009	43721	No	402.84	Si
SLU 51	13.6	-844.7	-2044	-1133	109	4.3155	4.3155	-1876	8583	5186	101952	21712	22009	43721	No	402.84	Si
SLU 80	11.5	-992.19	-5434	-3013	99	4.3155	4.3155	-4987	8998	5436	101952	21712	22009	43721	No	440.78	Si
SLU 80	13.6	-1142.34	-2229	-1236	99	4.3155	4.3155	-2045	8606	5199	101952	21712	22009	43721	No	440.78	Si
SLU 70	11.5	-839.91	-5398	-2993	111	4.3155	4.3155	-4954	8994	5434	101952	21712	22009	43721	No	393.05	Si
SLU 70	13.6	-1015.35	-2193	-1216	111	4.3155	4.3155	-2012	8602	5197	101952	21712	22009	43721	No	393.05	Si
SLU 72	11.5	-829.19	-5396	-2992	112	4.3155	4.3155	-4952	8994	5434	101952	21712	22009	43721	No	392.08	Si
SLU 72	13.6	-1005.22	-2190	-1214	112	4.3155	4.3155	-2010	8601	5197	101952	21712	22009	43721	No	392.08	Si
SLU 28	11.5	-700.59	-4324	-2397	99	4.3155	4.3155	-3968	8862	5354	101952	21712	22009	43721	No	440.29	Si
SLU 28	13.6	-864.76	-1763	-978	99	4.3155	4.3155	-1618	8549	5165	101952	21712	22009	43721	No	440.29	Si
SLU 78	11.5	-1002.91	-5437	-3015	99	4.3155	4.3155	-4990	8999	5437	101952	21712	22009	43721	No	442	Si
SLU 78	13.6	-1152.48	-2231	-1237	99	4.3155	4.3155	-2048	8606	5200	101952	21712	22009	43721	No	442	Si
SLU 47	11.5	-635.75	-5043	-2796	104	4.3155	4.3155	-4628	8950	5408	101952	21712	22009	43721	No	419	Si
SLU 47	13.6	-795.98	-2030	-1126	104	4.3155	4.3155	-1863	8582	5185	101952	21712	22009	43721	No	419	Si
SLU 68	11.5	-789.26	-5382	-2984	107	4.3155	4.3155	-4939	8992	5433	101952	21712	22009	43721	No	407.37	Si
SLU 68	13.6	-956.5	-2176	-1207	107	4.3155	4.3155	-1997	8600	5196	101952	21712	22009	43721	No	407.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	11.5	-3089.7	-4309	-2389	-105	4.3155	4.3155	-3955	13291	8030	101952	32568	22009	54577		519.43	Si
SLD 7	13.6	-2416.45	-1867	-1035	-476	3.4524	2.5908	0	0	0	101952	26055	17607	43662		91.74	Si
SLV 11	11.5	-4526.69	-4536	-2515	-91	4.3155	3.4791	-5173	13535	6592	101952	32568	22009	54577		601.91	Si
SLV 11	13.6	-3622.25	-2094	-1161	-702	3.4524	1.2839	0	0	0	101952	26055	17607	43662		62.19	Si
SLV 7	11.5	-4751.09	-4477	-2482	-205	4.3155	3.2894	-5398	13580	6254	101952	32568	22009	54577		265.93	Si
SLV 7	13.6	-3580.92	-2023	-1122	-841	3.4524	1.1629	0	0	0	101952	26055	17607	43662		51.92	Si
SLV 10	11.5	3290.57	-3674	-2037	286	4.3155	3.7864	-3372	13174	6984	101952	32568	22009	54577		190.65	Si
SLV 10	13.6	2039.99	-1281	-710	922	4.3155	1.6953	-1176	12735	5519	101952	32568	22009	54577		59.2	Si
SLV 5	11.5	3209.83	-3618	-2006	221	4.3155	3.8119	-3321	13164	7025	101952	32568	22009	54577		247.39	Si
SLV 5	13.6	2122.31	-1213	-672	832	4.3155	1.2231	-3933	13287	5504	101952	32568	22009	54577		65.59	Si
SLV 12	11.5	-4670.35	-4533	-2513	-140	4.3155	3.3821	-5317	13564	6422	101952	32568	22009	54577		391.05	Si
SLV 12	13.6	-3663.24	-2091	-1159	-751	3.4524	1.2179	0	0	0	101952	26055	17607	43662		58.14	Si
SLD 8	11.5	-3176.88	-4308	-2388	-135	4.3155	4.2607	-4011	13302	7935	101952	32568	22009	54577		405.06	Si
SLD 8	13.6	-2441.32	-1865	-1034	-506	3.4524	2.5472	0	0	0	101952	26055	17607	43662		86.36	Si
SLV 6	11.5	3066.17	-3615	-2005	172	4.3155	3.929	-3318	13164	7241	101952	32568	22009	54577		317.83	Si
SLV 6	13.6	2081.33	-1210	-671	783	4.3155	1.3123	-3657	13231	5503	101952	32568	22009	54577		69.69	Si
SLV 9	11.5	3434.23	-3677	-2039	335	4.3155	3.6713	-3375	13175	6772	101952	32568	22009	54577		162.84	Si
SLV 9	13.6	2080.98	-1284	-712	971	4.3155	1.6102	-1178	12736	5520	101952	32568	22009	54577		56.22	Si
SLV 8	11.5	-4894.75	-4474	-2481	-254	4.3155	3.1911	-5562	13613	6227	101952	32568	22009	54577		214.76	Si
SLV 8	13.6	-3621.9	-2020	-1120	-890	3.4524	1.0945	0	0	0	101952	26055	17607	43662		49.07	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-1702	0.52	258.2	0	420.54	210.27	0.81	No
SLV 5	-1704	0.52	258.2	0	420.81	210.4	0.81	No
SLV 10	-1770	0.52	258.2	0	426.87	213.43	0.83	No
SLV 9	-1773	0.52	258.2	0	427.13	213.57	0.83	No
SLV 2	-1923	0.52	258.2	0	441.02	220.51	0.85	No
SLV 1	-1928	0.52	258.2	0	441.41	220.71	0.85	No
SLV 14	-2151	0.52	258.2	0	461.82	230.91	0.89	No
SLV 13	-2156	0.52	258.2	0	462.21	231.1	0.9	No

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-2183	0.52	258.2	0	464.66	232.33	0.9	No
SLV 3	-2187	0.52	258.2	0	465.05	232.52	0.9	No

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-209	-4304	346	12.656	347.9	0.953	192.94908	9.03132	Si
SLV 16	-208	-4300	346	12.66	347.9	0.953	192.99227	9.03132	Si
SLV 3	-138	-4109	-348	13.145	345.6	0.966	197.71784	9.03132	Si
SLV 4	-137	-4104	-348	13.149	345.6	0.966	197.7605	9.03132	Si
SLV 13	-76	-4047	348	13.603	344.3	0.98	201.79885	9.03132	Si
SLV 14	-76	-4043	348	13.608	344.3	0.98	201.84033	9.03132	Si
SLV 1	-6	-3851	-346	14.172	343.7	0.998	206.31322	9.03132	Si
SLV 2	-5	-3847	-346	14.177	343.7	0.998	206.3523	9.03132	Si
SLV 11	-338	-4536	101	11.969	353.5	0.935	186.05845	7.13476	Si
SLV 12	-338	-4533	101	11.972	353.5	0.935	186.08749	7.13476	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.032	SLU 83	Si
V_SLU	392.079	SLU 72	Si
PF_SLV	2.069	SLV 5	Si
V_SLV	49.071	SLV 8	Si
PFFP_SLV	0.814	SLV 6	No
R_SLV	21.364	SLV 15	Si

Maschio 224

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	1.141	L7	L8	4.546	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	11.5	2189.12	-18239	-0.0000252	0.0003743	0.0035	4.5457	35619.86	37184.28	37184.28	16.99	No	Si
SLU 37	14.6	2725.08	-1978	-0.0000078	0.0003743	0.0035	4.5457	4427.9	5482.11	5482.11	2.01	No	Si
SLU 41	11.5	1664.08	-17417	-0.0000234	0.0003743	0.0035	4.5457	34265.56	35805.59	35805.59	21.52	No	Si
SLU 41	14.6	2471.42	-1768	-0.0000071	0.0003743	0.0035	4.5457	3962.52	5013.69	5013.69	2.03	No	Si
SLU 84	11.5	2260.38	-20837	-0.0000286	0.0003743	0.0035	4.5457	39744.45	41613.58	41613.58	18.41	No	Si
SLU 84	14.6	2771.37	-2032	-0.0000078	0.0003743	0.0035	4.5457	4545.08	5600.01	5600.01	2.02	No	Si
SLU 17	11.5	2197.1	-16022	-0.0000225	0.0003743	0.0035	4.5457	31913.17	33490.8	33490.8	15.24	No	Si
SLU 17	14.6	2285.85	-1629	-0.0000066	0.0003743	0.0035	4.5457	3656.29	4707.33	4707.33	2.06	No	Si
SLU 80	11.5	2785.41	-21659	-0.0000305	0.0003743	0.0035	4.5457	41000.11	43037.72	43037.72	15.45	No	Si
SLU 80	14.6	3025.03	-2242	-0.0000085	0.0003743	0.0035	4.5457	5008.5	6062.59	6062.59	2	No	Si
SLU 38	11.5	2257.35	-18309	-0.0000254	0.0003743	0.0035	4.5457	35733.52	37301.6	37301.6	16.52	No	Si
SLU 38	14.6	2768.91	-1987	-0.0000079	0.0003743	0.0035	4.5457	4447.7	5502.03	5502.03	1.99	No	Si
SLU 83	11.5	2192.15	-20768	-0.0000284	0.0003743	0.0035	4.5457	39636.96	41493.41	41493.41	18.93	No	Si
SLU 83	14.6	2727.53	-2023	-0.0000077	0.0003743	0.0035	4.5457	4525.29	5580.1	5580.1	2.05	No	Si
SLU 79	11.5	2717.18	-21590	-0.0000303	0.0003743	0.0035	4.5457	40894.64	42916.63	42916.63	15.79	No	Si
SLU 79	14.6	2981.19	-2233	-0.0000084	0.0003743	0.0035	4.5457	4988.78	6042.9	6042.9	2.03	No	Si
SLU 42	11.5	1732.31	-17487	-0.0000236	0.0003743	0.0035	4.5457	34381.24	35922	35922	20.74	No	Si
SLU 42	14.6	2515.25	-1777	-0.0000073	0.0003743	0.0035	4.5457	3982.39	5033.61	5033.61	2	No	Si
SLU 34	11.5	1950.94	-17412	-0.0000238	0.0003743	0.0035	4.5457	34256.68	35796.66	35796.66	18.35	No	Si
SLU 34	14.6	2468.57	-1797	-0.000007	0.0003743	0.0035	4.5457	4026.8	5078.17	5078.17	2.06	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	11.5	4975.92	-21579	-0.0000334	0.0005615	0.0035	4.5457		45616.93	45616.93	9.17		Si
SLV 5	14.6	5999.35	-2499	-0.0003633	0.0005615	0.0035	4.5457		6648.26	6648.26	1.11		Si
SLD 10	11.5	2373.85	-17417	-0.0000242	0.0005615	0.0035	4.5457		37885.94	37885.94	15.96		Si
SLD 10	14.6	4282.19	-1735	-0.000306	0.0005615	0.0035	4.5457		4953.6	4953.6	1.16		Si
SLD 9	11.5	2343.58	-17432	-0.0000242	0.0005615	0.0035	4.5457		37914.65	37914.65	16.18		Si
SLD 9	14.6	4263.82	-1711	-0.0003243	0.0005615	0.0035	4.5457		4900.28	4900.28	1.15		Si
SLV 14	11.5	-1087.67	-12989	-0.0000169	0.0005615	0.0035	4.5457		33906.46	33906.46	31.17		Si
SLV 14	14.6	3208.28	-803	-0.0009358	0.0005615	0.0035	4.5457		2875.99	2875.99	0.9		No
SLD 13	11.5	-151.25	-13463	-0.000016	0.0005615	0.0035	4.5457		34895.51	34895.51	230.71		Si
SLD 13	14.6	2525.5	-949	-0.0002558	0.0005615	0.0035	4.5457		3201.68	3201.68	1.27		Si
SLV 9	11.5	2864.04	-19584	-0.0000276	0.0005615	0.0035	4.5457		42120.57	42120.57	14.71		Si
SLV 9	14.6	6145.42	-1988	-0.001338	0.0005615	0.0035	4.5457		5516.74	5516.74	0.9		No
SLD 14	11.5	-104.24	-13441	-0.0000159	0.0005615	0.0035	4.5457		34848.3	34848.3	334.31		Si
SLD 14	14.6	2554.03	-986	-0.0002288	0.0005615	0.0035	4.5457		3284.89	3284.89	1.29		Si
SLV 10	11.5	2913.93	-19560	-0.0000277	0.0005615	0.0035	4.5457		42073.94	42073.94	14.44		Si
SLV 10	14.6	6175.7	-2028	-0.001285	0.0005615	0.0035	4.5457		5604.65	5604.65	0.91		No
SLV 6	11.5	5025.81	-21555	-0.0000334	0.0005615	0.0035	4.5457		45577.08	45577.08	9.07		Si
SLV 6	14.6	6029.63	-2539	-0.000332	0.0005615	0.0035	4.5457		6735.72	6735.72	1.12		Si
SLV 13	11.5	-1161.78	-13025	-0.0000171	0.0005615	0.0035	4.5457		33980.7	33980.7	29.25		Si
SLV 13	14.6	3163.31	-745	-0.0010113	0.0005615	0.0035	4.5457		2744.27	2744.27	0.87		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 36	11.5	2333.78	-18794	-15650	-5878	4.5457	4.5457	-12296	8584	12387	35683	38113	11592	48070	No	8.18	Si
SLU 36	14.6	2749.6	-2153	-1793	-6629	4.5457	2.9877	-1409	7132	6844	35683	38113	11592	42528	No	6.41	Si
SLU 35	11.5	2265.55	-18724	-15592	-5788	4.5457	4.5457	-12250	8578	12364	35683	38113	11592	48047	No	8.3	Si
SLU 35	14.6	2705.77	-2144	-1786	-6526	4.5457	3.033	-1403	7131	6841	35683	38113	11592	42525	No	6.52	Si
SLU 79	11.5	2717.18	-21590	-17978	-5621	4.5457	4.5457	-14125	8828	13318	35683	38113	11592	49001	No	8.72	Si
SLU 79	14.6	2981.19	-2233	-1860	-6564	4.5457	2.8142	-1461	7139	6871	35683	38113	11592	42554	No	6.48	Si
SLU 37	11.5	2189.12	-18239	-15188	-5512	4.5457	4.5457	-11933	8535	12202	35683	38113	11592	47885	No	8.69	Si
SLU 37	14.6	2725.08	-1978	-1647	-6327	4.5457	2.6862	-1294	7117	6786	35683	38113	11592	42469	No	6.71	Si
SLU 84	11.5	2260.38	-20837	-17352	-5591	4.5457	4.5457	-13633	8762	13068	35683	38113	11592	48751	No	8.72	Si
SLU 84	14.6	2771.37	-2032	-1692	-6504	4.5457	2.7261	-1329	7122	6804	35683	38113	11592	42487	No	6.53	Si
SLU 38	11.5	2257.35	-18309	-15246	-5602	4.5457	4.5457	-11978	8542	12225	35683	38113	11592	47909	No	8.55	Si
SLU 38	14.6	2768.91	-1987	-1655	-6431	4.5457	2.6388	-1300	7118	6789	35683	38113	11592	42472	No	6.6	Si
SLU 77	11.5	2793.61	-22075	-18382	-5896	4.5457	4.5457	-14442	8870	13480	35683	38113	11592	49163	No	8.34	Si
SLU 77	14.6	2961.88	-2399	-1998	-6763	4.5457	3.1152	-1570	7154	6926	35683	38113	11592	42610	No	6.3	Si
SLU 83	11.5	2192.15	-20768	-17293	-5501	4.5457	4.5457	-13587	8756	13044	35683	38113	11592	48728	No	8.86	Si
SLU 83	14.6	2727.53	-2023	-1684	-6401	4.5457	2.7729	-1323	7121	6801	35683	38113	11592	42484	No	6.64	Si
SLU 80	11.5	2785.41	-21659	-18036	-5711	4.5457	4.5457	-14170	8834	13341	35683	38113	11592	49025	No	8.58	Si
SLU 80	14.6	3025.03	-2242	-1867	-6668	4.5457	2.7716	-1467	7140	6874	35683	38113	11592	42557	No	6.38	Si
SLU 78	11.5	2861.84	-22145	-18440	-5986	4.5457	4.5457	-14488	8876	13503	35683	38113	11592	49186	No	8.22	Si
SLU 78	14.6	3005.72	-2408	-2005	-6866	4.5457	3.0744	-1576	7155	6929	35683	38113	11592	42613	No	6.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	11.5	5025.81	-21555	-17949	-15653	4.5457	4.5457	-14102	13237	16848	35683	57170	11592	52531		3.36	Si
SLV 6	14.6	6029.63	-2539	-2114	-13826	4.5457	0	-62807	16250	10036	35683	57170	11592	45720		3.31	Si
SLV 10	11.5	2913.93	-19560	-16288	-17073	4.5457	4.5457	-12797	12976	16516	35683	57170	11592	52199		3.06	Si
SLV 10	14.6	6175.7	-2028	-1689	-15342	4.5457	0	-83538	16250	9866	35683	57170	11592	45549		2.97	Si
SLV 8	11.5	597.66	-9449	-7868	10925	4.5457	4.5457	-6182	11653	14832	35683	57170	11592	50515		4.62	Si
SLV 8	14.6	-2956.6	-717	-597	8141	3.6366	0	0	0	0	35683	45736	9273	35683		4.38	Si
SLV 7	11.5	547.77	-9473	-7888	11264	4.5457	4.5457	-6198	11656	14836	35683	57170	11592	50519		4.49	Si
SLV 7	14.6	-2986.88	-677	-564	8437	3.6366	0	0	0	0	35683	45736	9273	35683		4.23	Si
SLD 6	11.5	3723.5	-18695	-15567	-10335	4.5457	4.5457	-12231	12863	16372	35683	57170	11592	52055		5.04	Si
SLD 6	14.6	4188.71	-2062	-1717	-9489	4.5457	0.7245	-8461	12111	9878	35683	57170	11592	45561		4.8	Si
SLV 9	11.5	2864.04	-19584	-16308	-16734	4.5457	4.5457	-12813	12979	16520	35683	57170	11592	52203		3.12	Si
SLV 9	14.6	6145.42	-1988	-1656	-15046	4.5457	0	-82939	16250	9853	35683	57170	11592	45536		3.03	Si
SLD 9	11.5	2343.58	-17432	-14516	-11035	4.5457	4.5457	-11405	12698	16161	35683	57170	11592	51845		4.7	Si
SLD 9	14.6	4263.82	-1711	-1425	-10279	4.5457	0	-54024	16250	9761	35683	57170	11592	45444		4.42	Si
SLD 10	11.5	2373.85	-17417	-14504	-11240	4.5457	4.5457	-11395	12696	16159	35683	57170	11592	51842		4.61	Si
SLD 10	14.6	4282.19	-1735	-1445	-10459	4.5457	0	-52843	16250	9769	35683	57170	11592	45452		4.35	Si
SLV 14	11.5	-1087.67	-12989	-10816	-9509	4.5457	4.5457	-8498	12116	15421	35683	57170	11592	51105		5.37	Si
SLV 14	14.6	3208.28	-803	-669	-9496	4.5457	0	0	16250	9458	35683	57170	11592	45142		4.75	Si
SLV 5	11.5	4975.92	-21579	-17969	-15314	4.5457	4.5457	-14118	13240	16852	35683	57170	11592	52535		3.43	Si
SLV 5	14.6	5999.35	-2499	-2081	-13530	4.5457	0	-65462	16250	10023	35683	57170	11592	45706		3.38	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	3052	-3885	512.71	533	1.04	Si
SLV 12	179667	0.52	3104	-3951	512.71	541.87	1.06	Si
SLV 15	179667	0.52	3792	-4827	512.71	658.97	1.29	Si
SLV 16	179667	0.52	3869	-4925	512.71	672.01	1.31	Si
SLV 7	179667	0.52	4331	-5513	512.71	749.9	1.46	Si
SLV 8	179667	0.52	4383	-5579	512.71	758.62	1.48	Si
SLV 13	179667	0.52	5717	-7276	512.71	980.51	1.91	Si
SLV 14	179667	0.52	5794	-7374	512.71	993.21	1.94	Si
SLV 3	179667	0.52	8056	-10254	512.71	1359.78	2.65	Si
SLV 4	179667	0.52	8133	-10352	512.71	1372.06	2.68	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-2507	-19640	-638	4.181	873.6	0.892	68.1341	6.05458	Si
SLV 1	-2448	-19676	-639	4.221	868.6	0.892	68.76103	6.05458	Si
SLV 4	-1960	-16008	-588	4.6	828.8	0.897	74.51856	6.05458	Si
SLV 3	-1902	-16044	-589	4.649	824.2	0.898	75.24238	6.05458	Si
SLV 6	-2539	-21555	-267	4.22	876.3	0.892	68.78924	5.43428	Si
SLV 5	-2499	-21579	-268	4.247	872.9	0.892	69.21295	5.43428	Si
SLV 10	-2028	-19560	101	4.633	834.2	0.896	75.11414	5.43428	Si
SLV 9	-1988	-19584	100	4.665	831	0.897	75.60396	5.43428	Si
SLV 14	-803	-12989	588	5.81	749.5	0.93	90.79805	6.05458	Si
SLV 13	-745	-13025	588	5.889	746.4	0.933	91.72645	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.987	SLU 38	Si
V_SLU	6.206	SLU 78	Si
PF_SLV	0.868	SLV 13	No
V_SLV	2.969	SLV 10	Si
PFFP_SLV	1.04	SLV 11	Si
R_SLV	11.253	SLV 2	Si

Maschio 225

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.743	6.661	L7	L8	2.015	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	12.4	190.82	-5490	-0.0000161	0.0003743	0.0035	2.015	5002.68	21255.31	21255.31	111.39	No	Si
SLU 80	14.2	3174.91	-2907	-0.0000916	0.0003743	0.0035	2.015	0	19411.1	19411.1	6.11	No	Si
SLU 83	12.4	162.58	-4900	-0.0000143	0.0003743	0.0035	2.015	4515.85	20899.21	20899.21	128.55	No	Si
SLU 83	14.2	2958.25	-2317	-0.0001014	0.0003743	0.0035	2.015	0	18913.08	18913.08	6.39	No	Si
SLU 74	12.4	237.9	-5361	-0.0000161	0.0003743	0.0035	2.015	4897.25	21178.12	21178.12	89.02	No	Si
SLU 74	14.2	2988.53	-2778	-0.0000843	0.0003743	0.0035	2.015	0	19303.36	19303.36	6.46	No	Si
SLU 78	12.4	236.14	-5817	-0.0000174	0.0003743	0.0035	2.015	5266.96	21449.03	21449.03	90.83	No	Si
SLU 78	14.2	3308.18	-3233	-0.0000879	0.0003743	0.0035	2.015	0	19681.02	19681.02	5.95	No	Si
SLU 79	12.4	200.93	-5564	-0.0000164	0.0003743	0.0035	2.015	5063.11	21299.57	21299.57	106	No	Si
SLU 79	14.2	3103.08	-2981	-0.000084	0.0003743	0.0035	2.015	0	19472.83	19472.83	6.28	No	Si
SLU 77	12.4	246.24	-5891	-0.0000177	0.0003743	0.0035	2.015	5326.54	21492.76	21492.76	87.28	No	Si
SLU 77	14.2	3236.35	-3307	-0.0000808	0.0003743	0.0035	2.015	3140.4	19741.85	19741.85	6.1	No	Si
SLU 84	12.4	152.48	-4826	-0.000014	0.0003743	0.0035	2.015	4453.69	20853.78	20853.78	136.77	No	Si
SLU 84	14.2	3030.08	-2242	-0.00011	0.0003743	0.0035	2.015	0	18849.37	18849.37	6.22	No	Si
SLU 36	12.4	172.69	-4937	-0.0000145	0.0003743	0.0035	2.015	4546.79	20921.82	20921.82	121.15	No	Si
SLU 36	14.2	3007.59	-2929	-0.0000799	0.0003743	0.0035	2.015	0	19429.71	19429.71	6.46	No	Si
SLU 76	12.4	175.74	-4911	-0.0000144	0.0003743	0.0035	2.015	4524.62	20905.62	20905.62	118.96	No	Si
SLU 76	14.2	2974.98	-2327	-0.0001022	0.0003743	0.0035	2.015	0	18922.06	18922.06	6.36	No	Si
SLU 75	12.4	227.79	-5287	-0.0000159	0.0003743	0.0035	2.015	4836.29	21133.51	21133.51	92.78	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	14.2	3060.36	-2703	-0.000092	0.0003743	0.0035	2.015	0	19241.03	19241.03	6.29	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	12.4	-485.98	1600	0.0023327	0.0005615	0.0035	1.612		0	0	0		No
SLD 5	14.2	6735.21	3552	0.0036625	0.0005615	0.0035	1.612		0	0	0		No
SLD 6	12.4	-338.93	1194	0.0016459	0.0005615	0.0035	1.612		4025.38	4025.38	11.88		Si
SLD 6	14.2	6196.96	3146	0.0032035	0.0005615	0.0035	1.612		0	0	0		No
SLD 9	12.4	-345	293	0.0003485	0.0005615	0.0035	1.612		15305.43	15305.43	44.36		Si
SLD 9	14.2	5259.33	2259	0.0021318	0.0005615	0.0035	1.612		0	0	0		No
SLV 6	12.4	-700.49	4450	0.0065175	0.0005615	0.0035	1.612		0	0	0		No
SLV 6	14.2	9237.54	6384	0.0072053	0.0005615	0.0035	1.612		0	0	0		No
SLD 1	12.4	-327.34	258	0.0003031	0.0005615	0.0035	1.612		15391.58	15391.58	47.02		Si
SLD 1	14.2	5842.42	2206	0.0019037	0.0005615	0.0035	1.612		0	0	0		No
SLV 5	12.4	-942.81	5119	0.0074384	0.0005615	0.0035	1.612		0	0	0		No
SLV 5	14.2	10124.51	7052	0.0079951	0.0005615	0.0035	1.612		0	0	0		No
SLD 2	12.4	-98.99	-372	-0.0000017	0.0005615	0.0035	2.015		16908.76	16908.76	170.82		Si
SLD 2	14.2	5006.58	1576	0.0011217	0.0005615	0.0035	1.612		0	0	0		No
SLV 9	12.4	-718.26	3067	0.004486	0.0005615	0.0035	1.612		0	0	0		No
SLV 9	14.2	7806.25	5027	0.005549	0.0005615	0.0035	1.612		0	0	0		No
SLV 10	12.4	-475.95	2399	0.0035676	0.0005615	0.0035	1.612		0	0	0		No
SLV 10	14.2	6919.28	4358	0.0047973	0.0005615	0.0035	1.612		0	0	0		No
SLD 10	12.4	-197.95	-113	-0.0000083	0.0005615	0.0035	2.015		16292.15	16292.15	82.3		Si
SLD 10	14.2	4721.07	1854	0.0016471	0.0005615	0.0035	1.612		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	12.4	175.74	-4911	-4089	-1514	2.015	2.015	-7248	7911	4463	15978	16895	5138	20441	No	13.5	Si
SLU 76	14.2	2974.98	-2327	-1938	-1514	2.015	0	-17455	9981	2327	15978	16895	5138	18306	No	12.09	Si
SLU 77	12.4	246.24	-5891	-4906	-1620	2.015	2.015	-8695	8104	4572	15978	16895	5138	20550	No	12.69	Si
SLU 77	14.2	3236.35	-3307	-2754	-1620	2.015	0.087	-17740	9593	2545	15978	16895	5138	18523	No	11.44	Si
SLU 84	12.4	152.48	-4826	-4019	-1557	2.015	2.015	-7123	7894	4454	15978	16895	5138	20432	No	13.12	Si
SLU 84	14.2	3030.08	-2242	-1867	-1557	2.015	0	-17752	10149	2309	15978	16895	5138	18287	No	11.74	Si
SLU 78	12.4	236.14	-5817	-4844	-1665	2.015	2.015	-8585	8089	4564	15978	16895	5138	20542	No	12.33	Si
SLU 78	14.2	3308.18	-3233	-2692	-1665	2.015	0	-18512	9769	2529	15978	16895	5138	18507	No	11.11	Si
SLU 83	12.4	162.58	-4900	-4081	-1512	2.015	2.015	-7232	7909	4462	15978	16895	5138	20440	No	13.52	Si
SLU 83	14.2	2958.25	-2317	-1929	-1512	2.015	0	-17358	9962	2325	15978	16895	5138	18303	No	12.11	Si
SLU 38	12.4	127.38	-4611	-3839	-1494	2.015	2.015	-6805	7852	4430	15978	16895	5138	20408	No	13.66	Si
SLU 38	14.2	2874.33	-2602	-2167	-1494	2.015	0	-16545	9574	2389	15978	16895	5138	18367	No	12.29	Si
SLU 80	12.4	190.82	-5490	-4572	-1617	2.015	2.015	-8103	8025	4528	15978	16895	5138	20506	No	12.69	Si
SLU 80	14.2	3174.91	-2907	-2420	-1617	2.015	0	-18190	9819	2456	15978	16895	5138	18434	No	11.4	Si
SLU 79	12.4	200.93	-5564	-4634	-1571	2.015	2.015	-8213	8039	4536	15978	16895	5138	20514	No	13.06	Si
SLU 79	14.2	3103.08	-2981	-2482	-1571	2.015	0	-17501	9638	2473	15978	16895	5138	18451	No	11.74	Si
SLU 75	12.4	227.79	-5287	-4402	-1532	2.015	2.015	-7803	7985	4505	15978	16895	5138	20483	No	13.37	Si
SLU 75	14.2	3060.36	-2703	-2251	-1532	2.015	0	-17702	9799	2411	15978	16895	5138	18389	No	12	Si
SLU 36	12.4	172.69	-4937	-4111	-1543	2.015	2.015	-7287	7916	4466	15978	16895	5138	20444	No	13.25	Si
SLU 36	14.2	3007.59	-2929	-2439	-1543	2.015	0	-16877	9524	2461	15978	16895	5138	18439	No	11.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	12.4	-642.64	2584	2151	-5176	1.612	2.015	0	0	0	15978	20274	4111	15978		3.09	Si
SLV 1	14.2	8325.33	4510	3755	-4874	1.612	0	0	0	0	15978	20274	4111	15978		3.28	Si
SLV 10	12.4	-475.95	2399	1997	-4003	1.612	2.015	0	0	0	15978	20274	4111	15978		3.99	Si
SLV 10	14.2	6919.28	4358	3629	-4177	1.612	0	0	0	0	15978	20274	4111	15978		3.82	Si
SLD 5	12.4	-485.98	1600	1332	-4020	1.612	2.015	0	0	0	15978	20274	4111	15978		3.98	Si
SLD 5	14.2	6735.21	3552	2958	-4006	1.612	0	0	0	0	15978	20274	4111	15978		3.99	Si
SLD 1	12.4	-327.34	258	215	-3539	1.612	0	0	0	0	15978	20274	4111	15978		4.52	Si
SLD 1	14.2	5842.42	2206	1837	-3347	1.612	0	0	0	0	15978	20274	4111	15978		4.77	Si
SLV 2	12.4	-282.7	1591	1324	-4244	1.612	2.015	0	0	0	15978	20274	4111	15978		3.76	Si
SLV 2	14.2	7007.83	3516	2928	-3943	1.612	0	0	0	0	15978	20274	4111	15978		4.05	Si
SLV 5	12.4	-942.81	5119	4262	-6180	1.612	2.015	0	0	0	15978	20274	4111	15978		2.59	Si
SLV 5	14.2	10124.51	7052	5873	-6159	1.612	0	0	0	0	15978	20274	4111	15978		2.59	Si
SLV 9	12.4	-718.26	3067	2554	-4631	1.612	2.015	0	0	0	15978	20274	4111	15978		3.45	Si
SLV 9	14.2	7806.25	5027	4186	-4805	1.612	0	0	0	0	15978	20274	4111	15978		3.33	Si
SLD 6	12.4	-338.93	1194	994	-3639	1.612	2.015	0	0	0	15978	20274	4111	15978		4.39	Si
SLD 6	14.2	6196.96	3146	2620	-3625	1.612	0	0	0	0	15978	20274	4111	15978		4.41	Si
SLV 6	12.4	-700.49	4450	3705	-5552	1.612	2.015	0	0	0	15978	20274	4111	15978		2.88	Si
SLV 6	14.2	9237.54	6384	5316	-5532	1.612	0	0	0	0	15978	20274	4111	15978		2.89	Si
SLV 12	12.4	1298.19	-12145	-10113	4462	2.015	2.015	-17925	14002	7900	15978	25342	5138	23878		5.35	Si
SLV 12	14.2	-6563.8	-10123	-8430	4442	2.015	1.0773	-27196	15919	4964	15978	25342	5138	20942		4.71	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.52	0	5811	221.56	0	0	No, Trazione
SLV 9	179667	0.52	0	3772	221.56	0	0	No, Trazione
SLV 10	179667	0.52	0	3104	221.56	0	0	No, Trazione
SLV 1	179667	0.52	0	3265	221.56	0	0	No, Trazione
SLV 2	179667	0.52	0	2272	221.56	0	0	No, Trazione
SLV 3	179667	0.52	0	-1096	221.56	0	0	No, e>t/2
SLV 6	179667	0.52	0	5143	221.56	0	0	No, Trazione
SLV 4	179667	0.52	3703	-2089	221.56	285.39	1.29	Si
SLV 13	179667	0.52	6260	-3532	221.56	474.22	2.14	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.52	8021	-4525	221.56	600.26	2.71	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-5846	-9110	110	1.565	846.2	0.923	24.64935	5.43428	Si
SLV 16	-5032	-7133	90	1.755	764.5	0.917	27.82837	6.05458	Si
SLV 11	-5532	-8920	100	1.634	814.6	0.921	25.7922	5.43428	Si
SLV 15	-4566	-6852	76	1.888	717.9	0.913	30.0519	6.05458	Si
SLV 8	-4882	-8210	87	1.796	749.5	0.916	28.50678	5.43428	Si
SLV 7	-4567	-8021	77	1.887	718.1	0.913	30.03893	5.43428	Si
SLV 14	-3305	-4501	49	2.37	593	0.901	38.20204	6.05458	Si
SLV 13	-2838	-4220	34	2.619	547.4	0.897	42.42684	6.05458	Si
SLV 4	-1817	-4136	14	3.4	450.2	0.889	55.55055	6.05458	Si
SLV 3	-1350	-3854	0	3.94	407.9	0.889	64.37049	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.949	SLU 78	Si
V_SLU	11.113	SLU 78	Si
PF_SLV	0	SLD 1	No
V_SLV	2.586	SLV 5	Si
PFFP_SLV	0	SLV 10	No
R_SLV	4.536	SLV 12	Si

Maschio 226

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.843	6.661	-12.818	6.661	L7	L8	4.025	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	12.4	-1320.31	-16041	-0.0000243	0.0003743	0.0035	4.025	27769.02	33520.24	33520.24	25.39	No	Si
SLU 35	14.2	-673.43	-12186	-0.0000176	0.0003743	0.0035	4.025	21919.54	27165.65	27165.65	40.34	No	Si
SLU 79	12.4	-1426.3	-17550	-0.0000266	0.0003743	0.0035	4.025	29917.84	35906.38	35906.38	25.17	No	Si
SLU 79	14.2	-776.51	-12607	-0.0000184	0.0003743	0.0035	4.025	22583.52	27875.92	27875.92	35.9	No	Si
SLU 80	12.4	-1452.03	-17536	-0.0000266	0.0003743	0.0035	4.025	29896.94	35882.4	35882.4	24.71	No	Si
SLU 80	14.2	-765.42	-12592	-0.0000184	0.0003743	0.0035	4.025	22560.02	27851.6	27851.6	36.39	No	Si
SLU 30	12.4	-1315.47	-15227	-0.0000231	0.0003743	0.0035	4.025	26577	32225.62	32225.62	24.5	No	Si
SLU 30	14.2	-748.94	-11372	-0.0000167	0.0003743	0.0035	4.025	20617.42	25736.06	25736.06	34.36	No	Si
SLU 29	12.4	-1289.75	-15242	-0.0000231	0.0003743	0.0035	4.025	26599.11	32250.96	32250.96	25.01	No	Si
SLU 29	14.2	-760.03	-11387	-0.0000167	0.0003743	0.0035	4.025	20641.56	25762.18	25762.18	33.9	No	Si
SLU 37	12.4	-1342.59	-15239	-0.0000232	0.0003743	0.0035	4.025	26595.58	32246.9	32246.9	24.02	No	Si
SLU 37	14.2	-711.17	-11384	-0.0000166	0.0003743	0.0035	4.025	20637.7	25758.01	25758.01	36.22	No	Si
SLU 36	12.4	-1346.04	-16026	-0.0000243	0.0003743	0.0035	4.025	27747.32	33496.87	33496.87	24.89	No	Si
SLU 36	14.2	-662.34	-12171	-0.0000176	0.0003743	0.0035	4.025	21895.82	27139.23	27139.23	40.97	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 16	12.4	-1142.48	-13271	-0.0000201	0.0003743	0.0035	4.025	23619.45	28961.94	28961.94	25.35	No	Si
SLU 16	14.2	-694.57	-9522	-0.000014	0.0003743	0.0035	4.025	17572.21	22552.95	22552.95	32.47	No	Si
SLU 17	12.4	-1168.21	-13256	-0.0000201	0.0003743	0.0035	4.025	23596.3	28937.38	28937.38	24.77	No	Si
SLU 17	14.2	-683.48	-9507	-0.000014	0.0003743	0.0035	4.025	17547.09	22527	22527	32.96	No	Si
SLU 38	12.4	-1368.31	-15224	-0.0000232	0.0003743	0.0035	4.025	26573.46	32221.57	32221.57	23.55	No	Si
SLU 38	14.2	-700.08	-11369	-0.0000166	0.0003743	0.0035	4.025	20613.56	25731.88	25731.88	36.76	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	12.4	-4829.34	-10641	-0.0000236	0.0005615	0.0035	4.025		24859.83	24859.83	5.15		Si
SLD 1	14.2	2380.23	-6829	-0.0000136	0.0005615	0.0035	4.025		14119.15	14119.15	5.93		Si
SLD 16	12.4	3669.31	-10388	-0.000021	0.0005615	0.0035	4.025		20731.09	20731.09	5.65		Si
SLD 16	14.2	-2835.37	-6641	-0.0000143	0.0005615	0.0035	4.025		17509.22	17509.22	6.18		Si
SLV 14	12.4	4747.56	-9742	-0.0000222	0.0005615	0.0035	4.025		19546.9	19546.9	4.12		Si
SLV 14	14.2	-3562.95	-5875	-0.0000147	0.0005615	0.0035	4.025		16061.39	16061.39	4.51		Si
SLV 15	12.4	3875.45	-10441	-0.0000214	0.0005615	0.0035	4.025		20826.81	20826.81	5.37		Si
SLV 15	14.2	-3128.87	-6717	-0.0000149	0.0005615	0.0035	4.025		17652.89	17652.89	5.64		Si
SLV 1	12.4	-7355.88	-10688	-0.0000287	0.0005615	0.0035	4.025		24945.93	24945.93	3.39		Si
SLV 1	14.2	3910.78	-6852	-0.0000167	0.0005615	0.0035	4.025		14163.36	14163.36	3.62		Si
SLV 3	12.4	-5907.58	-11288	-0.0000266	0.0005615	0.0035	4.025		26049.54	26049.54	4.41		Si
SLV 3	14.2	3107.82	-7595	-0.0000161	0.0005615	0.0035	4.025		15560.04	15560.04	5.01		Si
SLV 5	12.4	-5242.37	-9676	-0.0000231	0.0005615	0.0035	4.025		23093.49	23093.49	4.41		Si
SLV 5	14.2	2462.61	-5662	-0.0000122	0.0005615	0.0035	4.025		11906.73	11906.73	4.84		Si
SLV 16	12.4	6195.86	-10342	-0.0000259	0.0005615	0.0035	4.025		20645.69	20645.69	3.33		Si
SLV 16	14.2	-4365.92	-6618	-0.0000172	0.0005615	0.0035	4.025		17465.09	17465.09	4		Si
SLV 12	12.4	4082.35	-11353	-0.0000231	0.0005615	0.0035	4.025		22488.55	22488.55	5.51		Si
SLV 12	14.2	-2917.74	-7808	-0.000016	0.0005615	0.0035	4.025		19692	19692	6.75		Si
SLV 2	12.4	-5035.47	-10589	-0.0000239	0.0005615	0.0035	4.025		24763.31	24763.31	4.92		Si
SLV 2	14.2	2673.74	-6753	-0.0000141	0.0005615	0.0035	4.025		13975.23	13975.23	5.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	12.4	-1138.8	-16677	-13887	-389	4.025	4.025	-12322	8587	10980	35683	33747	10264	44011	No	113.28	Si
SLU 75	14.2	-474.36	-11733	-9770	-389	4.025	4.025	-8669	8100	9333	35683	33747	10264	44011	No	113.28	Si
SLU 77	12.4	-1404.03	-18352	-15282	-389	4.025	4.025	-13560	8752	11538	35683	33747	10264	44011	No	113.15	Si
SLU 77	14.2	-738.77	-13408	-11165	-389	4.025	4.025	-9907	8265	9891	35683	33747	10264	44011	No	113.15	Si
SLU 36	12.4	-1346.04	-16026	-13345	-395	4.025	4.025	-11841	8523	10763	35683	33747	10264	44011	No	111.48	Si
SLU 36	14.2	-662.34	-12171	-10135	-395	4.025	4.025	-8993	8143	9479	35683	33747	10264	44011	No	111.48	Si
SLU 83	12.4	-1158	-15889	-13231	-384	4.025	4.025	-11740	8510	10718	35683	33747	10264	44011	No	114.71	Si
SLU 83	14.2	-502.26	-10945	-9114	-384	4.025	4.025	-8087	8023	9071	35683	33747	10264	44011	No	114.71	Si
SLU 78	12.4	-1429.75	-18337	-15270	-409	4.025	4.025	-13549	8751	11533	35683	33747	10264	44011	No	107.5	Si
SLU 78	14.2	-727.68	-13393	-11153	-409	4.025	4.025	-9896	8264	9886	35683	33747	10264	44011	No	107.5	Si
SLU 80	12.4	-1452.03	-17536	-14602	-401	4.025	4.025	-12957	8672	11266	35683	33747	10264	44011	No	109.8	Si
SLU 80	14.2	-765.42	-12592	-10485	-401	4.025	4.025	-9304	8185	9619	35683	33747	10264	44011	No	109.8	Si
SLU 76	12.4	-1178.23	-15865	-13211	-394	4.025	4.025	-11722	8507	10710	35683	33747	10264	44011	No	111.83	Si
SLU 76	14.2	-504.71	-10922	-9095	-394	4.025	4.025	-8070	8020	9063	35683	33747	10264	44011	No	111.83	Si
SLU 84	12.4	-1183.72	-15874	-13219	-404	4.025	4.025	-11729	8508	10713	35683	33747	10264	44011	No	108.9	Si
SLU 84	14.2	-491.17	-10931	-9102	-404	4.025	4.025	-8076	8021	9066	35683	33747	10264	44011	No	108.9	Si
SLU 38	12.4	-1368.31	-15224	-12677	-386	4.025	4.025	-11249	8444	10496	35683	33747	10264	44011	No	113.96	Si
SLU 38	14.2	-700.08	-11369	-9467	-386	4.025	4.025	-8401	8065	9212	35683	33747	10264	44011	No	113.96	Si
SLU 42	12.4	-1100.01	-13563	-11294	-390	4.025	4.025	-10021	8281	9943	35683	33747	10264	44011	No	112.99	Si
SLU 42	14.2	-425.82	-9708	-8084	-390	4.025	4.025	-7173	7901	8904	35683	33747	10264	44011	No	112.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	12.4	-4829.34	-10641	-8861	-4332	4.025	4.025	-7863	11989	13512	35683	50621	10264	49195		11.36	Si
SLD 1	14.2	2380.23	-6829	-5687	-3687	4.025	4.025	-5046	11426	12877	35683	50621	10264	48560		13.17	Si
SLV 12	12.4	4082.35	-11353	-9454	4060	4.025	4.025	-8389	12094	13630	35683	50621	10264	49314		12.15	Si
SLV 12	14.2	-2917.74	-7808	-6502	3945	4.025	4.025	-5769	11571	13040	35683	50621	10264	48723		12.35	Si
SLV 15	12.4	3875.45	-10441	-8694	4367	4.025	4.025	-7715	11960	13478	35683	50621	10264	49162		11.26	Si
SLV 15	14.2	-3128.87	-6717	-5594	3357	4.025	4.025	-4963	11409	12858	35683	50621	10264	48541		14.46	Si
SLV 3	12.4	-5907.58	-11288	-9399	-5489	4.025	4.025	-8340	12085	13619	35683	50621	10264	49303		8.98	Si
SLV 3	14.2	3107.82	-7595	-6325	-4355	4.025	4.025	-5612	11539	13005	35683	50621	10264	48688		11.18	Si
SLV 14	12.4	4747.56	-9742	-8112	5067	4.025	4.025	-7198	11856	13362	35683	50621	10264	49045		9.68	Si
SLV 14	14.2	-3562.95	-5875	-4892	3933	4.025	4.025	-4341	11285	12718	35683	50621	10264	48401		12.31	Si
SLV 16	12.4	6195.86	-10342	-8612	6344	4.025	4.025	-7641	11945	13462	35683	50621	10264	49145		7.75	Si
SLV 16	14.2	-4365.92	-6618	-5511	5334	4.025	4.025	-4890	11395	12842	35683	50621	10264	48525		9.1	Si
SLV 2	12.4	-5035.47	-10589	-8817	-4789	4.025	4.025	-7824	11981	13503	35683	50621	10264	49186		10.27	Si
SLV 2	14.2	2673.74	-6753	-5623	-3779	4.025	4.025	-4990	11415	12864	35683	50621	10264	48547		12.85	Si
SLD 16	12.4	3669.31	-10388	-8651	3911	4.025	4.025	-7676	11952	13470	35683	50621	10264	49153		12.57	Si
SLD 16	14.2	-2835.37	-6641	-5530	3266	4.025	4.025	-4907	11398	12846	35683	50621	10264	48529		14.86	Si
SLV 5	12.4	-5242.37	-9676	-8057	-4482	4.025	4.025	-7149	11847	13351	35683	50621	10264	49034		10.94	Si
SLV 5	14.2	2462.61	-5662	-4715	-4367	4.025	4.025	-4183	11253	12683	35683	50621	10264	48366		11.08	Si
SLV 1	12.4	-7355.88	-10688	-8900	-6765	4.025	3.9728	-7897	11996	13344	35683	50621	10264	49027		7.25	Si
SLV 1	14.2	3910.78	-6852	-5706	-5755	4.025	4.025	-5063	11429	12881	35683	50621	10264	48564		8.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.52	7145	-8052	442.56	1074.59	2.43	Si
SLV 9	179667	0.52	7204	-8119	442.56	1083.08	2.45	Si
SLV 6	179667	0.52	7385	-8323	442.56	1108.84	2.51	Si
SLV 5	179667	0.52	7444	-8390	442.56	1117.31	2.52	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.52	7556	-8515	442.56	1133.17	2.56	Si
SLV 13	179667	0.52	7644	-8615	442.56	1145.71	2.59	Si
SLV 16	179667	0.52	8160	-9197	442.56	1218.74	2.75	Si
SLV 15	179667	0.52	8249	-9296	442.56	1231.17	2.78	Si
SLV 2	179667	0.52	8356	-9417	442.56	1246.23	2.82	Si
SLV 1	179667	0.52	8444	-9516	442.56	1258.62	2.84	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-5236	-13531	-343	2.719	1051.5	0.895	44.1496	6.05458	Si
SLV 4	-5202	-13375	-343	2.73	1048.3	0.895	44.32878	6.05458	Si
SLV 1	-5074	-11512	411	2.764	1035.9	0.894	44.90708	6.05458	Si
SLV 2	-5040	-11356	411	2.775	1032.7	0.894	45.09314	6.05458	Si
SLV 15	-4959	-11703	-409	2.802	1024.9	0.894	45.56124	6.05458	Si
SLV 16	-4926	-11547	-409	2.814	1021.7	0.894	45.75201	6.05458	Si
SLV 13	-4797	-9685	345	2.867	1009.3	0.893	46.64215	6.05458	Si
SLV 7	-5322	-15220	-1247	2.585	1059.9	0.895	41.95395	5.43428	Si
SLV 14	-4764	-9529	345	2.878	1006.2	0.893	46.8416	6.05458	Si
SLV 8	-5300	-15115	-1247	2.592	1057.7	0.895	42.06725	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	23.548	SLU 38	Si
V_SLU	107.498	SLU 78	Si
PF_SLV	3.332	SLV 16	Si
V_SLV	7.247	SLV 1	Si
PFFP_SLV	2.428	SLV 10	Si
R_SLV	7.292	SLV 3	Si

Maschio 227

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.918	6.661	-7.913	6.661	L7	L8	4.005	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	12.4	-1161.32	-10765	-0.0000167	0.0003743	0.0035	4.005	19524.02	24557.42	24557.42	21.15	No	Si
SLU 39	14.2	117.36	-7078	-0.0000096	0.0003743	0.0035	4.005	13294.42	14309.7	14309.7	121.93	No	Si
SLU 60	12.4	-1244.65	-11079	-0.0000173	0.0003743	0.0035	4.005	20033.23	25099.91	25099.91	20.17	No	Si
SLU 60	14.2	191.16	-6458	-0.0000089	0.0003743	0.0035	4.005	12200.54	13178.62	13178.62	68.94	No	Si
SLU 18	12.4	-1016.01	-8986	-0.000014	0.0003743	0.0035	4.005	16578.37	21484.5	21484.5	21.15	No	Si
SLU 18	14.2	142.07	-5404	-0.0000074	0.0003743	0.0035	4.005	10308.66	11232.71	11232.71	79.06	No	Si
SLU 82	12.4	-1349.45	-12855	-0.00002	0.0003743	0.0035	4.005	22844.09	28134.36	28134.36	20.85	No	Si
SLU 82	14.2	152.95	-8129	-0.0000111	0.0003743	0.0035	4.005	15119.74	16208.53	16208.53	105.98	No	Si
SLU 63	12.4	-1260.69	-12245	-0.000019	0.0003743	0.0035	4.005	21890.38	27130.8	27130.8	21.52	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 63	14.2	-103.35	-7623	-0.0000103	0.0003743	0.0035	4.005	14246.64	19028.8	19028.8	184.12	No	Si
SLU 83	12.4	-1446.52	-14026	-0.0000218	0.0003743	0.0035	4.005	24636.8	30053.76	30053.76	20.78	No	Si
SLU 83	14.2	-114.56	-9300	-0.0000126	0.0003743	0.0035	4.005	17106.58	22055.23	22055.23	192.53	No	Si
SLU 61	12.4	-1204.13	-11077	-0.0000173	0.0003743	0.0035	4.005	20028.86	25095.23	25095.23	20.84	No	Si
SLU 61	14.2	177.66	-6455	-0.0000089	0.0003743	0.0035	4.005	12195.73	13173.67	13173.67	74.15	No	Si
SLU 84	12.4	-1406	-14023	-0.0000218	0.0003743	0.0035	4.005	24632.72	30049.28	30049.28	21.37	No	Si
SLU 84	14.2	-128.06	-9297	-0.0000127	0.0003743	0.0035	4.005	17102.04	22050.48	22050.48	172.19	No	Si
SLU 81	12.4	-1389.97	-12858	-0.0000201	0.0003743	0.0035	4.005	22848.28	28138.75	28138.75	20.24	No	Si
SLU 81	14.2	166.45	-8132	-0.0000112	0.0003743	0.0035	4.005	15124.39	16213.41	16213.41	97.41	No	Si
SLU 62	12.4	-1301.21	-12247	-0.0000191	0.0003743	0.0035	4.005	21894.64	27135.44	27135.44	20.85	No	Si
SLU 62	14.2	-89.85	-7626	-0.0000103	0.0003743	0.0035	4.005	14251.33	19033.62	19033.62	211.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	12.4	4875.76	-10105	-0.0000231	0.0005615	0.0035	4.005		20101.56	20101.56	4.12		Si
SLV 14	14.2	-3427.45	-6598	-0.0000155	0.0005615	0.0035	4.005		17346.55	17346.55	5.06		Si
SLV 4	12.4	-4836.61	-9111	-0.0000217	0.0005615	0.0035	4.005		21957.23	21957.23	4.54		Si
SLV 4	14.2	2586.11	-5393	-0.0000122	0.0005615	0.0035	4.005		11329.58	11329.58	4.38		Si
SLV 3	12.4	-6850.35	-8922	-0.0000256	0.0005615	0.0035	4.005		21614.84	21614.84	3.16		Si
SLV 3	14.2	3686.78	-5204	-0.0000141	0.0005615	0.0035	4.005		10967.17	10967.17	2.97		Si
SLV 8	12.4	-4182.96	-9638	-0.0000211	0.0005615	0.0035	4.005		22910.67	22910.67	5.48		Si
SLV 8	14.2	1427.01	-6040	-0.0000108	0.0005615	0.0035	4.005		12553.22	12553.22	8.8		Si
SLV 10	12.4	3564.07	-9517	-0.0000197	0.0005615	0.0035	4.005		19024.6	19024.6	5.34		Si
SLV 10	14.2	-1908.67	-5890	-0.0000115	0.0005615	0.0035	4.005		16015.11	16015.11	8.39		Si
SLD 1	12.4	-3717.77	-9051	-0.0000194	0.0005615	0.0035	4.005		21848.5	21848.5	5.88		Si
SLD 1	14.2	2079.14	-5353	-0.0000111	0.0005615	0.0035	4.005		11253.69	11253.69	5.41		Si
SLV 7	12.4	-5538.66	-9510	-0.0000236	0.0005615	0.0035	4.005		22678.95	22678.95	4.09		Si
SLV 7	14.2	2168	-5912	-0.0000121	0.0005615	0.0035	4.005		12312.11	12312.11	5.68		Si
SLD 3	12.4	-4653.43	-9132	-0.0000213	0.0005615	0.0035	4.005		21994.52	21994.52	4.73		Si
SLD 3	14.2	2376.68	-5452	-0.0000119	0.0005615	0.0035	4.005		11440.92	11440.92	4.81		Si
SLV 2	12.4	-3243.21	-8973	-0.0000183	0.0005615	0.0035	4.005		21707.99	21707.99	6.69		Si
SLV 2	14.2	2081.18	-5225	-0.000011	0.0005615	0.0035	4.005		11007.41	11007.41	5.29		Si
SLV 1	12.4	-5256.95	-8784	-0.0000221	0.0005615	0.0035	4.005		21366.06	21366.06	4.06		Si
SLV 1	14.2	3181.85	-5035	-0.0000129	0.0005615	0.0035	4.005		10645.12	10645.12	3.35		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 60	12.4	-1244.65	-11079	-9226	-800	4.005	4.005	-8227	8041	9089	35683	33580	10213	43792	No	54.75	Si
SLU 60	14.2	191.16	-6458	-5378	-800	4.005	4.005	-4795	7584	8505	35683	33580	10213	43792	No	54.75	Si
SLU 64	12.4	-1302.18	-12882	-10727	-814	4.005	4.005	-9566	8220	9689	35683	33580	10213	43792	No	53.77	Si
SLU 64	14.2	159.77	-8156	-6791	-814	4.005	4.005	-6056	7752	8693	35683	33580	10213	43792	No	53.77	Si
SLU 81	12.4	-1389.97	-12858	-10707	-867	4.005	4.005	-9548	8217	9681	35683	33580	10213	43792	No	50.52	Si
SLU 81	14.2	166.45	-8132	-6772	-867	4.005	4.005	-6039	7750	8690	35683	33580	10213	43792	No	50.52	Si
SLU 74	12.4	-1405.86	-14909	-12415	-754	4.005	4.005	-11071	8421	10364	35683	33580	10213	43792	No	58.06	Si
SLU 74	14.2	-52.27	-10183	-8479	-754	4.005	4.005	-7561	7953	8918	35683	33580	10213	43792	No	58.06	Si
SLU 73	12.4	-1296.1	-12861	-10709	-801	4.005	4.005	-9550	8218	9682	35683	33580	10213	43792	No	54.66	Si
SLU 73	14.2	141.94	-8135	-6774	-801	4.005	4.005	-6040	7750	8691	35683	33580	10213	43792	No	54.66	Si
SLU 83	12.4	-1446.52	-14026	-11680	-742	4.005	4.005	-10415	8333	10070	35683	33580	10213	43792	No	59	Si
SLU 83	14.2	-114.56	-9300	-7744	-742	4.005	4.005	-6906	7865	8820	35683	33580	10213	43792	No	59	Si
SLU 43	12.4	-1156.86	-11103	-9246	-747	4.005	4.005	-8245	8044	9097	35683	33580	10213	43792	No	58.59	Si
SLU 43	14.2	184.48	-6482	-5397	-747	4.005	4.005	-4813	7586	8507	35683	33580	10213	43792	No	58.59	Si
SLU 65	12.4	-1234.65	-12877	-10723	-764	4.005	4.005	-9562	8219	9687	35683	33580	10213	43792	No	57.29	Si
SLU 65	14.2	137.26	-8151	-6788	-764	4.005	4.005	-6053	7751	8693	35683	33580	10213	43792	No	57.29	Si
SLU 61	12.4	-1204.13	-11077	-9224	-770	4.005	4.005	-8225	8041	9088	35683	33580	10213	43792	No	56.88	Si
SLU 61	14.2	177.66	-6455	-5375	-770	4.005	4.005	-4793	7584	8504	35683	33580	10213	43792	No	56.88	Si
SLU 82	12.4	-1349.45	-12855	-10705	-837	4.005	4.005	-9546	8217	9680	35683	33580	10213	43792	No	52.33	Si
SLU 82	14.2	152.95	-8129	-6769	-837	4.005	4.005	-6037	7749	8690	35683	33580	10213	43792	No	52.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	12.4	4875.76	-10105	-8415	5049	4.005	4.005	-7504	11917	13364	35683	50370	10213	49047		9.71	Si
SLV 14	14.2	-3427.45	-6598	-5495	3985	4.005	4.005	-4900	11397	12780	35683	50370	10213	48463		12.16	Si
SLV 1	12.4	-5256.95	-8784	-7314	-5167	4.005	4.005	-6522	11721	13144	35683	50370	10213	48827		9.45	Si
SLV 1	14.2	3181.85	-5035	-4193	-4099	4.005	4.005	-3739	11164	12520	35683	50370	10213	48203		11.76	Si
SLV 7	12.4	-5538.66	-9510	-7919	-4354	4.005	4.005	-7062	11829	13265	35683	50370	10213	48948		11.24	Si
SLV 7	14.2	2168	-5912	-4923	-4042	4.005	4.005	-4390	11295	12666	35683	50370	10213	48349		11.96	Si
SLV 13	12.4	2862.02	-9915	-8257	3319	4.005	4.005	-7363	11889	13333	35683	50370	10213	49016		14.77	Si
SLV 13	14.2	-2326.77	-6409	-5337	2255	4.005	4.005	-4759	11368	12749	35683	50370	10213	48432		21.48	Si
SLV 3	12.4	-6850.35	-8922	-7429	-6293	4.005	3.704	-7183	11853	12293	35683	50370	10213	47976		7.62	Si
SLV 3	14.2	3686.78	-5204	-4333	-5230	4.005	3.882	-3864	11189	12162	35683	50370	10213	47846		9.15	Si
SLV 4	12.4	-4836.61	-9111	-7587	-4563	4.005	4.005	-6766	11770	13199	35683	50370	10213	48882		10.71	Si
SLV 4	14.2	2586.11	-5393	-4491	-3499	4.005	4.005	-4005	11218	12579	35683	50370	10213	48263		13.79	Si
SLV 2	12.4	-3243.21	-8973	-7472	-3437	4.005	4.005	-6663	11749	13176	35683	50370	10213	48859		14.22	Si
SLV 2	14.2	2081.18	-5225	-4351	-2369	4.005	4.005	-3880	11193	12551	35683	50370	10213	48235		20.36	Si
SLD 1	12.4	-3717.77	-9051	-7537	-3525	4.005	4.005	-6721	11761	13189	35683	50370	10213	48872		13.86	Si
SLD 1	14.2	2079.14	-5353	-4458	-2846	4.005	4.005	-3975	11212	12573	35683	50370	10213	48256		16.96	Si
SLD 3	12.4	-4653.43	-9132	-7604	-4187	4.005	4.005	-6781	11773	13202	35683	50370	10213	48885		11.68	Si
SLD 3	14.2	2376.68	-5452	-4540	-3510	4.005	4.005	-4048	11226	12589	35683	50370	10213	48272		13.75	Si
SLV 16	12.4	3282.36	-10243	-8530	3923	4.005	4.005	-7606	11938	13387	35683	50370	10213	49070		12.51	Si
SLV 16	14.2	-2922.52	-6767	-5635	2855	4.005	4.005	-5025	11422	12808	35683	50370	10213	48491		16.99	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.52	6813	-7640	440.36	1021.94	2.32	Si
SLV 3	179667	0.52	6964	-7810	440.36	1043.51	2.37	Si
SLV 2	179667	0.52	6982	-7830	440.36	1046.1	2.38	Si
SLV 5	179667	0.52	7095	-7957	440.36	1062.17	2.41	Si
SLV 4	179667	0.52	7134	-8000	440.36	1067.62	2.42	Si
SLV 6	179667	0.52	7209	-8084	440.36	1078.38	2.45	Si
SLV 9	179667	0.52	7464	-8370	440.36	1114.58	2.53	Si
SLV 10	179667	0.52	7578	-8498	440.36	1130.7	2.57	Si
SLV 7	179667	0.52	7599	-8521	440.36	1133.6	2.57	Si
SLV 8	179667	0.52	7713	-8649	440.36	1149.69	2.61	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-4603	-12450	-322	2.931	988	0.892	47.73461	6.05458	Si
SLV 14	-4561	-12079	358	2.942	984.1	0.892	47.922	6.05458	Si
SLV 15	-4560	-12054	-323	2.948	983.9	0.892	48.00771	6.05458	Si
SLV 13	-4518	-11684	357	2.959	980	0.892	48.19827	6.05458	Si
SLV 4	-4248	-9123	-357	3.065	954.4	0.891	49.99173	6.05458	Si
SLV 3	-4205	-8728	-357	3.083	950.3	0.891	50.29007	6.05458	Si
SLV 2	-4207	-8752	323	3.087	950.5	0.891	50.35154	6.05458	Si
SLV 1	-4164	-8357	323	3.105	946.4	0.891	50.65434	6.05458	Si
SLV 12	-4520	-11653	-1128	2.857	980.1	0.892	46.54614	5.43428	Si
SLV 11	-4491	-11387	-1128	2.868	977.4	0.892	46.72675	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.166	SLU 60	Si
V_SLU	50.516	SLU 81	Si
PF_SLV	2.975	SLV 3	Si
V_SLV	7.623	SLV 3	Si
PFFP_SLV	2.321	SLV 1	Si
R_SLV	7.884	SLV 16	Si

Maschio 228

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.013	6.661	-5.018	6.661	L7	L8	1.995	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	12.4	-387.96	-2512	-0.0000098	0.0003743	0.0035	1.995	2395.21	18741.35	18741.35	48.31	No	Si
SLU 37	14.2	-4107.78	-558	-0.000347	0.0003743	0.0035	1.995	0	16516.74	16516.74	4.02	No	Si
SLU 59	12.4	-453.52	-2808	-0.0000111	0.0003743	0.0035	1.995	2662.61	18989.77	18989.77	41.87	No	Si
SLU 59	14.2	-4034.38	-339	-0.0003756	0.0003743	0.0035	1.995	0	16123.7	16123.7	4	No	Si
SLU 79	12.4	-482.11	-3192	-0.0000124	0.0003743	0.0035	1.995	3005.69	19307.69	19307.69	40.05	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	14.2	-4525.54	-680	-0.0003786	0.0003743	0.0035	1.995	0	16676.09	16676.09	3.68	No	Si
SLU 78	12.4	-510.36	-3635	-0.0000138	0.0003743	0.0035	1.995	3394.41	19667.11	19667.11	38.54	No	Si
SLU 78	14.2	-4580.74	-1123	-0.0003296	0.0003743	0.0035	1.995	0	17244.39	17244.39	3.76	No	Si
SLU 77	12.4	-518.51	-3661	-0.0000139	0.0003743	0.0035	1.995	3416.68	19687.69	19687.69	37.97	No	Si
SLU 77	14.2	-4551.98	-1148	-0.0003238	0.0003743	0.0035	1.995	0	17276.83	17276.83	3.8	No	Si
SLU 70	12.4	-573.11	-3905	-0.000015	0.0003743	0.0035	1.995	3627.65	19882.54	19882.54	34.69	No	Si
SLU 70	14.2	-4393.72	-1392	-0.0002844	0.0003743	0.0035	1.995	0	17583.54	17583.54	4	No	Si
SLU 80	12.4	-473.96	-3167	-0.0000122	0.0003743	0.0035	1.995	2983	19286.69	19286.69	40.69	No	Si
SLU 80	14.2	-4554.3	-654	-0.000386	0.0003743	0.0035	1.995	0	16642.78	16642.78	3.65	No	Si
SLU 71	12.4	-544.86	-3462	-0.0000136	0.0003743	0.0035	1.995	3243.12	19527.31	19527.31	35.84	No	Si
SLU 71	14.2	-4338.52	-949	-0.0003219	0.0003743	0.0035	1.995	0	17023.7	17023.7	3.92	No	Si
SLU 72	12.4	-536.71	-3436	-0.0000135	0.0003743	0.0035	1.995	3220.67	19506.55	19506.55	36.34	No	Si
SLU 72	14.2	-4367.28	-924	-0.000328	0.0003743	0.0035	1.995	0	16990.9	16990.9	3.89	No	Si
SLU 38	12.4	-379.81	-2487	-0.0000096	0.0003743	0.0035	1.995	2371.91	18719.67	18719.67	49.29	No	Si
SLU 38	14.2	-4136.54	-532	-0.0003545	0.0003743	0.0035	1.995	0	16483.19	16483.19	3.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	12.4	481.86	-868	-0.0000068	0.0005615	0.0035	1.995		17731.62	17731.62	36.8		Si
SLD 10	14.2	-4685.86	1630	0.001293	0.0005615	0.0035	1.596		0	0	0		No
SLV 5	12.4	735.17	-1270	-0.0000105	0.0005615	0.0035	1.995		18289.44	18289.44	24.88		Si
SLV 5	14.2	-4328.13	1643	0.0014079	0.0005615	0.0035	1.596		0	0	0		No
SLV 6	12.4	930.69	-908	-0.0000244	0.0005615	0.0035	1.995		17792.43	17792.43	19.12		Si
SLV 6	14.2	-4890.98	2005	0.0018492	0.0005615	0.0035	1.596		0	0	0		No
SLD 9	12.4	363.2	-1088	-0.0000057	0.0005615	0.0035	1.995		18040.43	18040.43	49.67		Si
SLD 9	14.2	-4344.3	1410	0.0010489	0.0005615	0.0035	1.596		960.47	960.47	0.22		No
SLD 14	12.4	98.26	-783	-0.0000028	0.0005615	0.0035	1.995		17537.59	17537.59	178.48		Si
SLD 14	14.2	-4584.1	1306	0.0008723	0.0005615	0.0035	1.596		2336.22	2336.22	0.51		No
SLV 10	12.4	1044.14	362	0.0003335	0.0005615	0.0035	1.596		14535.44	14535.44	13.92		Si
SLV 10	14.2	-6372.31	3266	0.0033549	0.0005615	0.0035	1.596		0	0	0		No
SLV 9	12.4	848.62	0	-0.0000856	0.0005615	0.0035	1.995		15694.46	15694.46	18.49		Si
SLV 9	14.2	-5809.45	2904	0.0029631	0.0005615	0.0035	1.596		0	0	0		No
SLV 14	12.4	373.61	356	0.0004348	0.0005615	0.0035	1.596		14603.17	14603.17	39.09		Si
SLV 14	14.2	-6024.07	2561	0.0023971	0.0005615	0.0035	1.596		0	0	0		No
SLV 13	12.4	83.18	-181	-0.0000012	0.0005615	0.0035	1.995		16129.24	16129.24	193.9		Si
SLV 13	14.2	-5188.01	2023	0.0018	0.0005615	0.0035	1.596		0	0	0		No
SLD 13	12.4	-85.99	-1124	-0.0000036	0.0005615	0.0035	1.995		18104.85	18104.85	210.54		Si
SLD 13	14.2	-4053.7	965	0.0006019	0.0005615	0.0035	1.596		6804.41	6804.41	1.68		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	12.4	-510.36	-3635	-3027	2222	1.995	1.995	-5419	7667	4283	15820	16727	5087	20102	No	9.05	Si
SLU 78	14.2	-4580.74	-1123	-935	2222	1.995	0	0	10833	2042	15820	16727	5087	17862	No	8.04	Si
SLU 36	12.4	-416.21	-2955	-2461	2051	1.995	1.995	-4405	7532	4207	15820	16727	5087	20027	No	9.76	Si
SLU 36	14.2	-4162.98	-1000	-833	2051	1.995	0	0	10833	2015	15820	16727	5087	17834	No	8.69	Si
SLU 80	12.4	-473.96	-3167	-2637	2227	1.995	1.995	-4721	7574	4231	15820	16727	5087	20050	No	9	Si
SLU 80	14.2	-4554.3	-654	-545	2227	1.995	0	0	10833	1938	15820	16727	5087	17758	No	7.97	Si
SLU 70	12.4	-573.11	-3905	-3252	2083	1.995	1.995	-5821	7721	4313	15820	16727	5087	20132	No	9.67	Si
SLU 70	14.2	-4393.72	-1392	-1159	2083	1.995	0	0	10833	2102	15820	16727	5087	17921	No	8.6	Si
SLU 38	12.4	-379.81	-2487	-2071	2057	1.995	1.995	-3707	7439	4155	15820	16727	5087	19975	No	9.71	Si
SLU 38	14.2	-4136.54	-532	-443	2057	1.995	0	0	10833	1911	15820	16727	5087	17730	No	8.62	Si
SLU 72	12.4	-536.71	-3436	-2862	2088	1.995	1.995	-5123	7627	4261	15820	16727	5087	20080	No	9.62	Si
SLU 72	14.2	-4367.28	-924	-769	2088	1.995	0	0	10833	1998	15820	16727	5087	17817	No	8.53	Si
SLU 69	12.4	-581.26	-3930	-3273	2062	1.995	1.995	-5859	7726	4316	15820	16727	5087	20135	No	9.76	Si
SLU 69	14.2	-4364.95	-1418	-1181	2062	1.995	0	0	10833	2108	15820	16727	5087	17927	No	8.69	Si
SLU 79	12.4	-482.11	-3192	-2658	2207	1.995	1.995	-4759	7579	4234	15820	16727	5087	20053	No	9.09	Si
SLU 79	14.2	-4525.54	-680	-566	2207	1.995	0	0	10833	1944	15820	16727	5087	17763	No	8.05	Si
SLU 77	12.4	-518.51	-3661	-3048	2201	1.995	1.995	-5457	7672	4286	15820	16727	5087	20105	No	9.13	Si
SLU 77	14.2	-4551.98	-1148	-956	2201	1.995	0	0	10833	2048	15820	16727	5087	17867	No	8.12	Si
SLU 71	12.4	-544.86	-3462	-2883	2068	1.995	1.995	-5161	7633	4264	15820	16727	5087	20083	No	9.71	Si
SLU 71	14.2	-4338.52	-949	-790	2068	1.995	0	0	10833	2004	15820	16727	5087	17823	No	8.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	12.4	735.17	-1270	-1057	2308	1.995	1.2558	-2962	11012	3872	15820	25090	5087	19692		8.53	Si
SLV 5	14.2	-4328.13	1643	1368	2453	1.596	0	0	0	0	15820	20072	4070	15820		6.45	Si
SLD 6	12.4	411.34	-1680	-1399	1995	1.995	1.995	-2505	10918	6099	15820	25090	5087	21918		10.98	Si
SLD 6	14.2	-3741.5	822	684	2087	1.596	0	0	0	0	15820	20072	4070	15820		7.58	Si
SLD 10	12.4	481.86	-868	-723	2646	1.995	1.3271	-1924	10803	4014	15820	25090	5087	19834		7.5	Si
SLD 10	14.2	-4685.86	1630	1357	2590	1.596	0	0	0	0	15820	20072	4070	15820		6.11	Si
SLV 6	12.4	930.69	-908	-756	2729	1.995	0	-5399	11656	2891	15820	25090	5087	18710		6.86	Si
SLV 6	14.2	-4890.98	2005	1670	2874	1.596	0	0	0	0	15820	20072	4070	15820		5.5	Si
SLV 9	12.4	848.62	0	0	3330	1.995	0	0	9787	2689	15820	25090	5087	18509		5.56	Si
SLV 9	14.2	-5809.45	2904	2418	3246	1.596	0	0	0	0	15820	20072	4070	15820		4.87	Si
SLV 13	12.4	83.18	-181	-151	3003	1.995	1.6169	-333	10483	4746	15820	25090	5087	20566		6.85	Si
SLV 13	14.2	-5188.01	2023	1685	2630	1.596	0	0	0	0	15820	20072	4070	15820		6.01	Si
SLV 14	12.4	373.61	356	297	3629	1.596	0	0	0	0	15820	20072	4070	15820		4.36	Si
SLV 14	14.2	-6024.07	2561	2132	3256	1.596	0	0	0	0	15820	20072	4070	15820		4.86	Si
SLD 9	12.4	363.2	-1088	-906	2390	1.995	1.9907	0	10742	5987	15820	25090	5087	21807		9.12	Si
SLD 9	14.2	-4344.3	1410	1174	2334	1.596	0	0	0	0	15820	20072	4070	15820		6.78	Si
SLD 14	12.4	98.26	-783	-652	2643	1.995	1.995	-1168	10650	5949	15820	25090	5087	21769		8.24	Si
SLD 14	14.2	-4584.1	1306	1088	2404	1.596	0	0	0	0	15820	20072	4070	15820		6.58	Si
SLV 10	12.4	1044.14	362	301	3751	1.596	0	0	0	0	15820	20072	4070	15820		4.22	Si
SLV 10	14.2	-6372.31	3266	2720	3667	1.596	0	0	0	0	15820	20072	4070	15820		4.31	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.52	0	443	219.36	0	0	No, Trazione
SLV 10	179667	0.52	0	2065	219.36	0	0	No, Trazione
SLV 6	179667	0.52	0	805	219.36	0	0	No, Trazione
SLV 13	179667	0.52	0	775	219.36	0	0	No, Trazione
SLV 9	179667	0.52	0	1703	219.36	0	0	No, Trazione
SLV 16	179667	0.52	0	-668	219.36	0	0	No, e>t/2
SLV 14	179667	0.52	0	1313	219.36	0	0	No, Trazione
SLV 15	179667	0.52	0	-1205	219.36	0	0	No, e>t/2
SLV 2	179667	0.52	5171	-2889	219.36	390.73	1.78	Si
SLV 1	179667	0.52	6134	-3426	219.36	460.42	2.1	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-4806	-4056	-594	1.724	739.3	0.915	27.36796	5.43428	Si
SLV 3	-4079	-4405	-137	2.021	666.9	0.909	32.30836	6.05458	Si
SLV 8	-4315	-4044	-594	1.864	690.3	0.911	29.72879	5.43428	Si
SLV 4	-3351	-4386	-138	2.314	594.8	0.902	37.27587	6.05458	Si
SLV 11	-3349	-3553	-619	2.217	594.7	0.902	35.70895	5.43428	Si
SLV 12	-2858	-3540	-620	2.458	546.7	0.898	39.80114	5.43428	Si
SLV 1	-1898	-4197	228	3.242	454.9	0.89	52.94295	6.05458	Si
SLV 2	-1169	-4178	228	4.096	389.2	0.891	66.81649	6.05458	Si
SLV 15	777	-2725	-223	9.476	317.7	1	137.72488	6.05458	Si, Trazione
SLV 16	1506	-2706	-224	13.721	317.7	1	199.40926	6.05458	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.654	SLU 80	Si
V_SLU	7.973	SLU 80	Si
PF_SLV	0	SLD 10	No
V_SLV	4.217	SLV 10	Si
PFFP_SLV	0	SLV 14	No
R_SLV	5.036	SLV 7	Si

Maschio 229

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.423	1.141	-24.614	1.141	L7	L8	5.192	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	11.5	-4564.84	-16320	-0.0000206	0.0004492	0.0035	5.1915	38470.46	55361.24	55361.24	12.13	No	Si
SLU 37	13.6	-12816.96	-13978	-0.0000275	0.0004492	0.0035	5.1915	33427.89	49945.67	49945.67	3.9	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 16	11.5	-4448.43	-15382	-0.0000195	0.0004492	0.0035	5.1915	36470.08	53255.17	53255.17	11.97	No	Si
SLU 16	13.6	-11353.5	-11818	-0.0000238	0.0004492	0.0035	5.1915	28636.18	44836.61	44836.61	3.95	No	Si
SLU 38	11.5	-4578.99	-16272	-0.0000205	0.0004492	0.0035	5.1915	38368.98	55253.74	55253.74	12.07	No	Si
SLU 38	13.6	-12653.17	-13897	-0.0000273	0.0004492	0.0035	5.1915	33251.46	49754.95	49754.95	3.93	No	Si
SLU 72	11.5	-6309.8	-21443	-0.0000275	0.0004492	0.0035	5.1915	48942.23	66864.1	66864.1	10.6	No	Si
SLU 72	13.6	-13690.04	-16153	-0.0000306	0.0004492	0.0035	5.1915	38115.42	54985.46	54985.46	4.02	No	Si
SLU 71	11.5	-6295.65	-21491	-0.0000276	0.0004492	0.0035	5.1915	49036.48	66971.6	66971.6	10.64	No	Si
SLU 71	13.6	-13853.83	-16233	-0.0000309	0.0004492	0.0035	5.1915	38286.53	55166.46	55166.46	3.98	No	Si
SLU 58	11.5	-5628.28	-19363	-0.0000247	0.0004492	0.0035	5.1915	44782.82	62193.51	62193.51	11.05	No	Si
SLU 58	13.6	-12822.86	-13929	-0.0000275	0.0004492	0.0035	5.1915	33321.76	49830.92	49830.92	3.89	No	Si
SLU 59	11.5	-5642.43	-19315	-0.0000247	0.0004492	0.0035	5.1915	44685.6	62086.01	62086.01	11	No	Si
SLU 59	13.6	-12659.07	-13849	-0.0000272	0.0004492	0.0035	5.1915	33145.22	49640.2	49640.2	3.92	No	Si
SLU 79	11.5	-5744.69	-20301	-0.0000258	0.0004492	0.0035	5.1915	46674.05	64299.58	64299.58	11.19	No	Si
SLU 79	13.6	-14286.32	-16089	-0.0000312	0.0004492	0.0035	5.1915	37980.21	54842.57	54842.57	3.84	No	Si
SLU 80	11.5	-5758.84	-20253	-0.0000257	0.0004492	0.0035	5.1915	46578.14	64192.08	64192.08	11.15	No	Si
SLU 80	13.6	-14122.52	-16008	-0.000031	0.0004492	0.0035	5.1915	37808.75	54661.57	54661.57	3.87	No	Si
SLU 17	11.5	-4462.58	-15334	-0.0000195	0.0004492	0.0035	5.1915	36367.28	53147.67	53147.67	11.91	No	Si
SLU 17	13.6	-11189.71	-11738	-0.0000235	0.0004492	0.0035	5.1915	28454.67	44645.88	44645.88	3.99	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	11.5	-5326.82	-10809	-0.000016	0.0006738	0.0035	5.1915		42746.71	42746.71	8.02		Si
SLV 9	13.6	7599.9	-3091	-0.0000693	0.0006738	0.0035	5.1915		10658.43	10658.43	1.4		Si
SLD 7	11.5	-3008.01	-16284	-0.0000187	0.0006738	0.0035	5.1915		55820.07	55820.07	18.56		Si
SLD 7	13.6	-15828.25	-14208	-0.0000315	0.0006738	0.0035	5.1915		50898.34	50898.34	3.22		Si
SLV 7	11.5	-2301.26	-17638	-0.0000192	0.0006738	0.0035	5.1915		58985.29	58985.29	25.63		Si
SLV 7	13.6	-21889.14	-17085	-0.000043	0.0006738	0.0035	5.1915		57713.37	57713.37	2.64		Si
SLV 8	11.5	-2556.61	-17732	-0.0000196	0.0006738	0.0035	5.1915		59200.8	59200.8	23.16		Si
SLV 8	13.6	-21824.07	-17071	-0.0000429	0.0006738	0.0035	5.1915		57681.43	57681.43	2.64		Si
SLV 12	11.5	-1922.71	-15810	-0.000017	0.0006738	0.0035	5.1915		54696.32	54696.32	28.45		Si
SLV 12	13.6	-18690.25	-15584	-0.0000368	0.0006738	0.0035	5.1915		54161.91	54161.91	2.9		Si
SLV 4	11.5	-4638.95	-18281	-0.0000224	0.0006738	0.0035	5.1915		60461.69	60461.69	13.03		Si
SLV 4	13.6	-16240.08	-14425	-0.0000323	0.0006738	0.0035	5.1915		51414.05	51414.05	3.17		Si
SLV 10	11.5	-5582.17	-10903	-0.0000164	0.0006738	0.0035	5.1915		42971.96	42971.96	7.7		Si
SLV 10	13.6	7664.97	-3077	-0.0000828	0.0006738	0.0035	5.1915		10623.34	10623.34	1.39		Si
SLV 11	11.5	-1667.36	-15716	-0.0000167	0.0006738	0.0035	5.1915		54474.04	54474.04	32.67		Si
SLV 11	13.6	-18755.32	-15598	-0.0000369	0.0006738	0.0035	5.1915		54194.86	54194.86	2.89		Si
SLV 3	11.5	-4259.65	-18142	-0.0000218	0.0006738	0.0035	5.1915		60141.57	60141.57	14.12		Si
SLV 3	13.6	-16336.73	-14446	-0.0000324	0.0006738	0.0035	5.1915		51462.99	51462.99	3.15		Si
SLV 6	11.5	-6216.07	-12826	-0.0000189	0.0006738	0.0035	5.1915		47590.9	47590.9	7.66		Si
SLV 6	13.6	4531.15	-4564	-0.0000092	0.0006738	0.0035	5.1915		14367.36	14367.36	3.17		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 37	11.5	-4564.84	-16320	-11642	5443	5.1915	5.1915	-8009	9401	13666	101952	52240	26477	78717	No	14.46	Si
SLU 37	13.6	-12816.96	-13978	-9971	5458	5.1915	5.0365	-7103	9280	13087	101952	52240	26477	78717	No	14.42	Si
SLU 36	11.5	-4751.76	-17300	-12342	5539	5.1915	5.1915	-8490	9465	13759	101952	52240	26477	78717	No	14.21	Si
SLU 36	13.6	-12770.55	-15261	-10887	5554	5.1915	5.1915	-7490	9332	13565	101952	52240	26477	78717	No	14.17	Si
SLU 78	11.5	-5931.61	-21281	-15182	5353	5.1915	5.1915	-10444	9726	14470	101952	52240	26477	78717	No	14.71	Si
SLU 78	13.6	-14239.91	-17372	-12393	5370	5.1915	5.1915	-8526	9470	13766	101952	52240	26477	78717	No	14.66	Si
SLU 79	11.5	-5744.69	-20301	-14482	5257	5.1915	5.1915	-9963	9662	14190	101952	52240	26477	78717	No	14.97	Si
SLU 79	13.6	-14286.32	-16089	-11477	5274	5.1915	5.1234	-7896	9386	13465	101952	52240	26477	78717	No	14.93	Si
SLU 80	11.5	-5758.84	-20253	-14448	5209	5.1915	5.1915	-9939	9659	14176	101952	52240	26477	78717	No	15.11	Si
SLU 80	13.6	-14122.52	-16008	-11420	5226	5.1915	5.1407	-7856	9381	13503	101952	52240	26477	78717	No	15.06	Si
SLU 35	11.5	-4737.61	-17348	-12376	5587	5.1915	5.1915	-8514	9468	13764	101952	52240	26477	78717	No	14.09	Si
SLU 35	13.6	-12934.34	-15342	-10945	5602	5.1915	5.1915	-7529	9337	13573	101952	52240	26477	78717	No	14.05	Si
SLU 38	11.5	-4578.99	-16272	-11608	5395	5.1915	5.1915	-7986	9398	13661	101952	52240	26477	78717	No	14.59	Si
SLU 38	13.6	-12653.17	-13897	-9914	5409	5.1915	5.0559	-7035	9271	13125	101952	52240	26477	78717	No	14.55	Si
SLU 41	11.5	-3861.95	-14695	-10483	4997	5.1915	5.1915	-7212	9295	13511	101952	52240	26477	78717	No	15.75	Si
SLU 41	13.6	-10826.99	-12687	-9051	5010	5.1915	5.1915	-6226	9164	13320	101952	52240	26477	78717	No	15.71	Si
SLU 42	11.5	-3876.1	-14647	-10449	4949	5.1915	5.1915	-7188	9292	13507	101952	52240	26477	78717	No	15.91	Si
SLU 42	13.6	-10663.2	-12607	-8993	4962	5.1915	5.1915	-6187	9158	13313	101952	52240	26477	78717	No	15.86	Si
SLU 77	11.5	-5917.46	-21329	-15216	5401	5.1915	5.1915	-10467	9729	14483	101952	52240	26477	78717	No	14.57	Si
SLU 77	13.6	-14403.7	-17453	-12451	5419	5.1915	5.1915	-8565	9475	13774	101952	52240	26477	78717	No	14.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	11.5	-2301.26	-17638	-12583	6606	5.1915	5.1915	-8656	14231	20687	101952	78360	26477	104837		15.87	Si
SLV 7	13.6	-21889.14	-17085	-12188	5496	5.1915	3.9438	-11082	14717	17471	101952	78360	26477	104837		19.07	Si
SLD 4	11.5	-4460.53	-16762	-11957	4303	5.1915	5.1915	-8226	14145	20562	101952	78360	26477	104837		24.36	Si
SLD 4	13.6	-12657.07	-12709	-9066	1926	5.1915	4.7995	-6764	13853	18616	101952	78360	26477	104837		54.44	Si
SLV 8	11.5	-2556.61	-17732	-12650	6400	5.1915	5.1915	-8702	14240	20700	101952	78360	26477	104837		16.38	Si
SLV 8	13.6	-21824.07	-17071	-12178	5290	5.1915	3.9521	-11050	14710	17467	101952	78360	26477	104837		19.82	Si
SLV 4	11.5	-4638.95	-18281	-13041	6004	5.1915	5.1915	-8971	14294	20779	101952	78360	26477	104837		17.46	Si
SLV 4	13.6	-16240.08	-14425	-10291	2074	5.1915	4.4099	-8364	14173	17500	101952	78360	26477	104837		50.55	Si
SLD 3	11.5	-4219.9	-16673	-11894	4497	5.1915	5.1915	-8182	14136	20549	101952	78360	26477	104837		23.31	Si
SLD 3	13.6	-12718.39	-12722	-9076	2120	5.1915	4.7882	-6787	13857	18578	101952	78360	26477	104837		49.45	Si
SLV 11	11.5	-1667.36	-15716	-11211	4671	5.1915	5.1915	-7713	14043	20413	101952	78360	26477	104837		22.44	Si
SLV 11	13.6	-18755.32	-15598	-11127	5937	5.1915	4.1801	-9544	14409	17047	101952	78360	26477	104837		17.66	Si
SLD 8	11.5	-3162.97	-16340	-11657	4512	5.1915	5.1915	-8019	14104	20502	101952	78360	26477	104837		23.24	Si
SLD 8	13.6	-15788.76	-14199	-10129	3842	5.1915	4.4515	-8155	14131	17613	101952	78360	26477	104837		27.29	Si
SLV 3	11.5	-4259.65	-18142	-12942	6310	5.1915	5.1915	-8903	14281	20759	101952	78360	26477	104837		16.61	Si
SLV 3	13.6	-16336.73	-14446	-10305	2381	5.1915	4.3946	-8405	14181	17450	101952	78360	26477	104837		44.04	Si
SLD 7	11.5	-3008.01	-16284	-11616	4637	5.1915	5.1915	-7991	14098	20494	101952	78360	26477	104837		22.61	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	13.6	-15828.25	-14208	-10135	3967	5.1915	4.4451	-8172	14134	17592	101952	78360	26477	104837		26.43	Si
SLV 12	11.5	-1922.71	-15810	-11278	4465	5.1915	5.1915	-7759	14052	20426	101952	78360	26477	104837		23.48	Si
SLV 12	13.6	-18690.25	-15584	-11117	5731	5.1915	4.1894	-9515	14403	17043	101952	78360	26477	104837		18.29	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-5122	0.52	585.56	703.23	1443.3	1073.27	1.83	Si
SLV 10	-5130	0.52	585.56	704.38	1444.64	1074.51	1.84	Si
SLV 5	-6681	0.52	585.56	911.87	1688.39	1300.13	2.22	Si
SLV 6	-6689	0.52	585.56	912.99	1689.72	1301.36	2.22	Si
SLV 13	-7163	0.52	585.56	975.82	1763.93	1369.87	2.34	Si
SLV 14	-7175	0.52	585.56	977.49	1765.9	1371.69	2.34	Si
SLV 15	-10473	0.52	585.56	1408.63	2277.88	1843.26	3.15	Si
SLV 16	-10486	0.52	585.56	1410.26	2279.83	1845.04	3.15	Si
SLV 1	-12360	0.52	585.56	1650.18	2569.47	2109.82	3.6	Si
SLV 2	-12373	0.52	585.56	1651.78	2571.41	2111.59	3.61	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-11682	-17638	1104	1.84	1841.5	0.913	29.29258	5.43428	Si
SLV 8	-11638	-17732	1104	1.845	1837.1	0.913	29.37706	5.43428	Si
SLV 11	-11361	-15716	1115	1.876	1809.5	0.912	29.91099	5.43428	Si
SLV 12	-11317	-15810	1116	1.881	1805.2	0.911	29.99909	5.43428	Si
SLV 3	-9060	-18142	312	2.259	1581.5	0.904	36.33084	6.05458	Si
SLV 4	-8995	-18281	312	2.27	1575.1	0.903	36.51824	6.05458	Si
SLV 15	-7991	-11733	349	2.452	1476.5	0.9	39.61649	6.05458	Si
SLV 16	-7926	-11872	349	2.465	1470.1	0.899	39.83862	6.05458	Si
SLV 1	-6484	-16670	-356	2.796	1330.3	0.894	45.4399	6.05458	Si
SLV 2	-6418	-16809	-355	2.813	1324	0.894	45.73008	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.839	SLU 79	Si
V_SLU	14.051	SLU 35	Si
PF_SLV	1.386	SLV 10	Si
V_SLV	15.869	SLV 7	Si
PFFP_SLV	1.833	SLV 9	Si
R_SLV	5.39	SLV 7	Si

Maschio 230

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-18.623	1.141	L7	L8	6.36	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	11.5	734.81	-35944	-0.0000287	0.0004492	0.0035	6.36	95420.39	106928.16	106928.16	145.52	No	Si
SLU 65	14	-4568.18	-29918	-0.0000268	0.0004492	0.0035	6.36	82057.36	110561.22	110561.22	24.2	No	Si
SLU 68	11.5	1431.55	-39158	-0.0000319	0.0004492	0.0035	6.36	102113.07	114356.9	114356.9	79.88	No	Si
SLU 68	14	-5048.57	-33775	-0.0000303	0.0004492	0.0035	6.36	90733.47	120587.27	120587.27	23.89	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	11.5	2289.75	-43589	-0.0000362	0.0004492	0.0035	6.36	110845.8	124599.62	124599.62	54.42	No	Si
SLU 70	14	-5690.81	-39071	-0.0000351	0.0004492	0.0035	6.36	101936.17	134323.87	134323.87	23.6	No	Si
SLU 30	11.5	1888.75	-35214	-0.000029	0.0004492	0.0035	6.36	93859.04	105187.19	105187.19	55.69	No	Si
SLU 30	14	-4925.48	-32510	-0.0000291	0.0004492	0.0035	6.36	87936.68	117299.94	117299.94	23.81	No	Si
SLU 23	11.5	334.35	-28877	-0.0000228	0.0004492	0.0035	6.36	79642.86	88323.86	88323.86	264.16	No	Si
SLU 23	14	-4135.43	-24926	-0.0000225	0.0004492	0.0035	6.36	70185.43	97005.35	97005.35	23.46	No	Si
SLU 25	11.5	1192.55	-33309	-0.000027	0.0004492	0.0035	6.36	89707.16	100161.69	100161.69	83.99	No	Si
SLU 25	14	-4777.67	-30222	-0.0000272	0.0004492	0.0035	6.36	82757.86	111352.45	111352.45	23.31	No	Si
SLU 67	11.5	1593.01	-40375	-0.000033	0.0004492	0.0035	6.36	104569.39	117170.88	117170.88	73.55	No	Si
SLU 67	14	-5210.42	-35214	-0.0000316	0.0004492	0.0035	6.36	93857.16	124325.62	124325.62	23.86	No	Si
SLU 27	11.5	2130.67	-36386	-0.0000302	0.0004492	0.0035	6.36	96359.73	107950.91	107950.91	50.67	No	Si
SLU 27	14	-5001.96	-33883	-0.0000303	0.0004492	0.0035	6.36	90970.3	120868.19	120868.19	24.16	No	Si
SLU 28	11.5	1889.29	-36523	-0.0000301	0.0004492	0.0035	6.36	96647.4	108265.39	108265.39	57.3	No	Si
SLU 28	14	-5258.06	-34080	-0.0000307	0.0004492	0.0035	6.36	91399.65	121378.5	121378.5	23.08	No	Si
SLU 26	11.5	1031.09	-32091	-0.0000259	0.0004492	0.0035	6.36	86999.38	96951.41	96951.41	94.03	No	Si
SLU 26	14	-4615.82	-28784	-0.0000259	0.0004492	0.0035	6.36	79424.33	107604.76	107604.76	23.31	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	11.5	12340.42	-16403	-0.0000216	0.0006738	0.0035	6.36		54053.51	54053.51	4.38		Si
SLV 16	14	34222.76	-7342	-0.0029375	0.0006738	0.0035	6.36		26829.8	26829.8	0.78		No
SLV 12	11.5	20690.28	-15037	-0.0000273	0.0006738	0.0035	6.36		50006.86	50006.86	2.42		Si
SLV 12	14	28152.04	-2390	-0.0050729	0.0006738	0.0035	6.36		11594.36	11594.36	0.41		No
SLD 15	11.5	8259.85	-20128	-0.0000216	0.0006738	0.0035	6.36		64975.3	64975.3	7.87		Si
SLD 15	14	20970.27	-12514	-0.0000273	0.0006738	0.0035	6.36		42483.42	42483.42	2.03		Si
SLV 14	11.5	1602.56	-21929	-0.0000181	0.0006738	0.0035	6.36		70214.64	70214.64	43.81		Si
SLV 14	14	21072.43	-17253	-0.0000289	0.0006738	0.0035	6.36		56570.81	56570.81	2.68		Si
SLV 13	11.5	1930.11	-21919	-0.0000183	0.0006738	0.0035	6.36		70185.89	70185.89	36.36		Si
SLV 13	14	21775.78	-16889	-0.0000293	0.0006738	0.0035	6.36		55491.53	55491.53	2.55		Si
SLV 15	11.5	12667.97	-16393	-0.0000219	0.0006738	0.0035	6.36		54023.87	54023.87	4.26		Si
SLV 15	14	34926.12	-6977	-0.0035714	0.0006738	0.0035	6.36		25718	25718	0.74		No
SLD 12	11.5	12681.91	-19629	-0.0000244	0.0006738	0.0035	6.36		63518.04	63518.04	5.01		Si
SLD 12	14	15825.69	-10213	-0.0000205	0.0006738	0.0035	6.36		35564.41	35564.41	2.25		Si
SLD 16	11.5	8052.05	-20135	-0.0000214	0.0006738	0.0035	6.36		64993.82	64993.82	8.07		Si
SLD 16	14	20524.06	-12745	-0.0000266	0.0006738	0.0035	6.36		43178.44	43178.44	2.1		Si
SLD 11	11.5	12815.73	-19625	-0.0000245	0.0006738	0.0035	6.36		63506.11	63506.11	4.96		Si
SLD 11	14	16113.04	-10064	-0.0000208	0.0006738	0.0035	6.36		35116.84	35116.84	2.18		Si
SLV 11	11.5	20910.79	-15030	-0.0000276	0.0006738	0.0035	6.36		49986.91	49986.91	2.39		Si
SLV 11	14	28625.55	-2145	-0.0054041	0.0006738	0.0035	6.36		10832.9	10832.9	0.38		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	11.5	2365.95	-36417	-25979	-2787	6.36	6.36	-14589	10278	20679	101952	63998	32436	96434	No	34.6	Si
SLU 84	14	-3884.61	-32147	-22933	-2535	6.36	6.36	-12878	10050	19460	101952	63998	32436	96434	No	38.04	Si
SLU 76	11.5	1972.98	-37303	-26611	-2820	6.36	6.36	-14943	10326	20931	101952	63998	32436	96434	No	34.2	Si
SLU 76	14	-4353.31	-32727	-23347	-2508	6.36	6.36	-13110	10081	19626	101952	63998	32436	96434	No	38.46	Si
SLU 81	11.5	1910.59	-33067	-23590	-2862	6.36	6.36	-13247	10100	19723	101952	63998	32436	96434	No	33.69	Si
SLU 81	14	-3148.13	-28093	-20041	-2600	6.36	6.36	-11254	9834	18303	101952	63998	32436	96434	No	37.09	Si
SLU 73	11.5	1276.25	-34089	-24318	-2978	6.36	6.36	-13656	10154	20014	101952	63998	32436	96434	No	32.38	Si
SLU 73	14	-3872.92	-28870	-20595	-2631	6.36	6.36	-11565	9875	18525	101952	63998	32436	96434	No	36.65	Si
SLU 67	11.5	1593.01	-40375	-28803	-2782	6.36	6.36	-16174	10490	21808	101952	63998	32436	96434	No	34.66	Si
SLU 67	14	-5210.42	-35214	-25121	-2342	6.36	6.36	-14106	10214	20335	101952	63998	32436	96434	No	41.18	Si
SLU 64	11.5	1137.11	-35717	-25480	-2783	6.36	6.36	-14308	10241	20479	101952	63998	32436	96434	No	34.64	Si
SLU 64	14	-4141.35	-29591	-21109	-2380	6.36	6.36	-11854	9914	18731	101952	63998	32436	96434	No	40.52	Si
SLU 65	11.5	734.81	-35944	-25642	-2923	6.36	6.36	-14399	10253	20543	101952	63998	32436	96434	No	32.99	Si
SLU 65	14	-4568.18	-29918	-21343	-2477	6.36	6.36	-11985	9931	18824	101952	63998	32436	96434	No	38.93	Si
SLU 82	11.5	1669.21	-33203	-23687	-2946	6.36	6.36	-13301	10107	19762	101952	63998	32436	96434	No	32.73	Si
SLU 82	14	-3404.22	-28290	-20181	-2659	6.36	6.36	-11333	9844	18359	101952	63998	32436	96434	No	36.27	Si
SLU 75	11.5	2134.45	-38520	-27480	-2837	6.36	6.36	-15431	10391	21279	101952	63998	32436	96434	No	33.99	Si
SLU 75	14	-4515.16	-34166	-24373	-2496	6.36	6.36	-13687	10158	20036	101952	63998	32436	96434	No	38.63	Si
SLU 68	11.5	1431.55	-39158	-27934	-2765	6.36	6.36	-15686	10425	21461	101952	63998	32436	96434	No	34.88	Si
SLU 68	14	-5048.57	-33775	-24094	-2353	6.36	6.36	-13530	10137	19925	101952	63998	32436	96434	No	40.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	11.5	-14882.07	-33451	-23863	-12601	6.36	6.36	-13400	15180	27033	101952	95996	32436	128432		10.19	Si
SLV 9	14	-15208.9	-35183	-25099	-9370	6.36	6.36	-14094	15319	27280	101952	95996	32436	128432		13.71	Si
SLV 4	11.5	251.39	-30925	-22061	13032	6.36	6.36	-12388	14978	26672	101952	95996	32436	128432		9.86	Si
SLV 4	14	-27284.96	-26403	-18835	9531	6.36	6.36	-10577	14615	26027	101952	95996	32436	127979		13.43	Si
SLV 16	11.5	12340.42	-16403	-11702	-13046	6.36	6.36	-6571	13814	24600	101952	95996	32436	126552		9.7	Si
SLV 16	14	34222.76	-7342	-5237	-10141	6.36	0	-92370	16250	17526	101952	95996	32436	119478		11.78	Si
SLV 13	11.5	1930.11	-21919	-15637	-17082	6.36	6.36	-8781	14256	25387	101952	95996	32436	127339		7.45	Si
SLV 13	14	21775.78	-16889	-12048	-13013	6.36	5.6719	-6766	13853	22001	101952	95996	32436	123953		9.53	Si
SLV 10	11.5	-15102.58	-33458	-23868	-12570	6.36	6.36	-13403	15181	27034	101952	95996	32436	128432		10.22	Si
SLV 10	14	-15682.42	-35429	-25274	-9315	6.36	6.36	-14192	15338	27315	101952	95996	32436	128432		13.79	Si
SLD 13	11.5	1970.72	-23365	-16668	-11506	6.36	6.36	-9360	14372	25594	101952	95996	32436	127546		11.09	Si
SLD 13	14	13273.5	-18318	-13068	-8842	6.36	6.36	-7338	13968	24874	101952	95996	32436	126826		14.34	Si
SLV 3	11.5	578.94	-30915	-22054	12985	6.36	6.36	-12384	14977	26671	101952	95996	32436	128432		9.89	Si
SLV 3	14	-26581.61	-26039	-18575	9448	6.36	6.36	-10431	14586	25975	101952	95996	32436	127927		13.54	Si
SLD 14	11.5	1762.92	-23371	-16672	-11476	6.36	6.36	-9362	14372	25594	101952	95996	32436	127546		11.11	Si
SLD 14	14	12827.29	-18549	-13232	-8790	6.36	6.36	-7431	13986	24906	101952	95996	32436	126858		14.43	Si
SLV 14	11.5	1602.56	-21929	-15644	-17035	6.36	6.36	-8785	14257	25389	101952	95996	32436	127341		7.48	Si
SLV 14	14	21072.43	-17253	-12308	-12931	6.36	5.8759	-6911	13882	22840	101952	95996	32436	124792		9.65	Si
SLV 15	11.5	12667.97	-16393	-11695	-13093	6.36	6.36	-6567	13813	24599	101952	95996	32436	126551		9.67	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	14	34926.12	-6977	-4977	-10223	6.36	0	-84672	16250	17422	101952	95996	32436	119374		11.68	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-6396	0.52	717.35	877.9	1788.73	1333.32	1.86	Si
SLV 12	-6557	0.52	717.35	899.52	1814.07	1356.79	1.89	Si
SLV 7	-11146	0.52	717.35	1507.17	2531.51	2019.34	2.82	Si
SLV 15	-11207	0.52	717.35	1515.15	2541.01	2028.08	2.83	Si
SLV 8	-11307	0.52	717.35	1528.13	2556.47	2042.3	2.85	Si
SLV 16	-11446	0.52	717.35	1546.27	2578.08	2062.18	2.87	Si
SLV 13	-20115	0.52	717.35	2642.53	3910.5	3276.52	4.57	Si
SLV 14	-20354	0.52	717.35	2671.83	3946.98	3309.41	4.61	Si
SLV 3	-27041	0.52	717.35	3472.09	4962.2	4217.15	5.88	Si
SLV 4	-27280	0.52	717.35	3499.97	4998.28	4249.12	5.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-35643	-37814	-2415	0.871	4409.5	0.949	13.33614	5.43428	Si
SLV 5	-35418	-37807	-2416	0.875	4386.7	0.949	13.40951	5.43428	Si
SLV 2	-30832	-36451	-933	1.023	3921.5	0.944	15.75959	6.05458	Si
SLV 1	-30499	-36441	-934	1.032	3887.7	0.943	15.90797	6.05458	Si
SLV 10	-31474	-33458	-2302	0.968	3986.6	0.944	14.9029	5.43428	Si
SLV 9	-31250	-33451	-2303	0.974	3963.9	0.944	14.9951	5.43428	Si
SLV 4	-22494	-30925	450	1.338	3077.8	0.931	20.883	6.05458	Si
SLV 3	-22160	-30915	450	1.354	3044.2	0.93	21.14546	6.05458	Si
SLV 14	-16937	-21929	-557	1.661	2518.6	0.919	26.25331	6.05458	Si
SLV 13	-16604	-21919	-558	1.686	2485.2	0.919	26.67092	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	23.084	SLU 28	Si
V_SLU	32.377	SLU 73	Si
PF_SLV	0.378	SLV 11	No
V_SLV	7.454	SLV 13	Si
PFFP_SLV	1.859	SLV 11	Si
R_SLV	2.454	SLV 6	Si

Maschio 231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L7	L8	0.676	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	11.5	-666.2	-5080	-0.0000853	0.0004492	0.0035	0.6764	1340.89	1659.88	1659.88	2.49	No	Si
SLU 41	14	346.7	-3954	-0.0000528	0.0004492	0.0035	0.6764	1108.71	1259.1	1259.1	3.63	No	Si
SLU 19	11.5	-507.37	-4081	-0.0000651	0.0004492	0.0035	0.6764	1136.64	1394.19	1394.19	2.75	No	Si
SLU 19	14	268	-3003	-0.0000399	0.0004492	0.0035	0.6764	883.66	990.67	990.67	3.7	No	Si
SLU 20	11.5	-572.4	-4581	-0.0000739	0.0004492	0.0035	0.6764	1242.45	1528.22	1528.22	2.67	No	Si
SLU 20	14	303.29	-3464	-0.0000459	0.0004492	0.0035	0.6764	996.15	1122.49	1122.49	3.7	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	11.5	-694.87	-5650	-0.0000918	0.0004492	0.0035	0.6764	1444.16	1803.15	1803.15	2.59	No	Si
SLU 81	14	362.42	-4253	-0.0000563	0.0004492	0.0035	0.6764	1174.02	1334.41	1334.41	3.68	No	Si
SLU 83	11.5	-721.87	-6119	-0.0000977	0.0004492	0.0035	0.6764	1522.08	1918.9	1918.9	2.66	No	Si
SLU 83	14	375.72	-4723	-0.000061	0.0004492	0.0035	0.6764	1271.14	1447.05	1447.05	3.85	No	Si
SLU 40	11.5	-601.17	-4580	-0.0000763	0.0004492	0.0035	0.6764	1242.38	1528.12	1528.12	2.54	No	Si
SLU 40	14	311.4	-3492	-0.0000467	0.0004492	0.0035	0.6764	1002.83	1130.47	1130.47	3.63	No	Si
SLU 82	11.5	-656.84	-5619	-0.0000885	0.0004492	0.0035	0.6764	1438.75	1795.31	1795.31	2.73	No	Si
SLU 82	14	340.43	-4261	-0.0000548	0.0004492	0.0035	0.6764	1175.64	1336.22	1336.22	3.93	No	Si
SLU 39	11.5	-639.2	-4612	-0.0000798	0.0004492	0.0035	0.6764	1248.75	1536.35	1536.35	2.4	No	Si
SLU 39	14	333.39	-3485	-0.0000481	0.0004492	0.0035	0.6764	1001.05	1128.34	1128.34	3.38	No	Si
SLU 42	11.5	-628.18	-5049	-0.0000819	0.0004492	0.0035	0.6764	1334.95	1651.65	1651.65	2.63	No	Si
SLU 42	14	324.71	-3962	-0.0000513	0.0004492	0.0035	0.6764	1110.39	1261.18	1261.18	3.88	No	Si
SLU 18	11.5	-545.4	-4112	-0.0000685	0.0004492	0.0035	0.6764	1143.46	1402.82	1402.82	2.57	No	Si
SLU 18	14	289.99	-2995	-0.0000413	0.0004492	0.0035	0.6764	881.77	988.5	988.5	3.41	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	11.5	1837.58	-1961	-0.0245255	0.0006738	0.0035	0.5411		690.16	690.16	0.38		No
SLV 10	14	-1099.11	-3379	-0.0005691	0.0006738	0.0035	0.5411		1220.35	1220.35	1.11		Si
SLV 15	11.5	-3957.25	-5556	-0.0143662	0.0006738	0.0035	0.5411		1837.06	1837.06	0.46		No
SLV 15	14	2312.72	-1625	-0.0344709	0.0006738	0.0035	0.5411		584.46	584.46	0.25		No
SLV 12	11.5	-4106.84	-6748	-0.014208	0.0006738	0.0035	0.5411		2152.25	2152.25	0.52		No
SLV 12	14	2385.2	-2250	-0.033175	0.0006738	0.0035	0.5411		779.51	779.51	0.33		No
SLV 16	11.5	-3866.6	-5494	-0.0139765	0.0006738	0.0035	0.5411		1820.25	1820.25	0.47		No
SLV 16	14	2260.9	-1647	-0.0334496	0.0006738	0.0035	0.5411		591.51	591.51	0.26		No
SLV 1	11.5	3126.4	-2887	-0.0438226	0.0006738	0.0035	0.5411		974.23	974.23	0.31		No
SLV 1	14	-1885.93	-4825	-0.0038514	0.0006738	0.0035	0.5411		1636.93	1636.93	0.87		No
SLV 9	11.5	1776.54	-2003	-0.0232446	0.0006738	0.0035	0.5411		703.2	703.2	0.4		No
SLV 9	14	-1064.22	-3364	-0.0004562	0.0006738	0.0035	0.5411		1215.88	1215.88	1.14		Si
SLV 6	11.5	3427.67	-1592	-0.0545351	0.0006738	0.0035	0.5411		574.07	574.07	0.17		No
SLV 6	14	-2045.12	-4238	-0.0057148	0.0006738	0.0035	0.5411		1470.14	1470.14	0.72		No
SLV 2	11.5	3217.05	-2825	-0.0457029	0.0006738	0.0035	0.5411		955.5	955.5	0.3		No
SLV 2	14	-1937.75	-4847	-0.0042358	0.0006738	0.0035	0.5411		1643.31	1643.31	0.85		No
SLV 11	11.5	-4167.87	-6790	-0.0144742	0.0006738	0.0035	0.5411		2163.09	2163.09	0.52		No
SLV 11	14	2420.09	-2234	-0.033865	0.0006738	0.0035	0.5411		774.84	774.84	0.32		No
SLV 5	11.5	3366.64	-1633	-0.053277	0.0006738	0.0035	0.5411		587.11	587.11	0.17		No
SLV 5	14	-2010.23	-4223	-0.0055232	0.0006738	0.0035	0.5411		1465.85	1465.85	0.73		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	11.5	-673.09	-6563	-4682	-421	0.6764	0.6764	-24723	10833	2052	101952	6806	3449	10255	No	24.37	Si
SLU 79	14	345.94	-5230	-3731	-416	0.6764	0.6764	-19699	10833	2052	101952	6806	3449	10255	No	24.63	Si
SLU 77	11.5	-683.13	-6731	-4802	-428	0.6764	0.6764	-25354	10833	2052	101952	6806	3449	10255	No	23.95	Si
SLU 77	14	354.31	-5399	-3852	-423	0.6764	0.6764	-20338	10833	2052	101952	6806	3449	10255	No	24.23	Si
SLU 82	11.5	-656.84	-5619	-4008	-411	0.6764	0.6638	-21164	10833	2014	101952	6806	3449	10255	No	24.93	Si
SLU 82	14	340.43	-4261	-3040	-411	0.6764	0.6764	-16050	10473	1983	101952	6806	3449	10255	No	24.93	Si
SLU 81	11.5	-694.87	-5650	-4030	-439	0.6764	0.6456	-21282	10833	1958	101952	6806	3449	10255	No	23.39	Si
SLU 81	14	362.42	-4253	-3034	-438	0.6764	0.6764	-16022	10470	1983	101952	6806	3449	10255	No	23.39	Si
SLU 39	11.5	-639.2	-4612	-3290	-403	0.6764	0.5987	-17371	10649	1785	101952	6806	3449	10255	No	25.46	Si
SLU 39	14	333.39	-3485	-2486	-405	0.6764	0.6764	-13127	10084	1910	101952	6806	3449	10255	No	25.34	Si
SLU 84	11.5	-683.85	-6087	-4343	-428	0.6764	0.6764	-22930	10833	2052	101952	6806	3449	10255	No	23.97	Si
SLU 84	14	353.74	-4730	-3374	-427	0.6764	0.6764	-17817	10709	2028	101952	6806	3449	10255	No	24	Si
SLU 83	11.5	-721.87	-6119	-4365	-455	0.6764	0.6606	-23048	10833	2004	101952	6806	3449	10255	No	22.54	Si
SLU 83	14	375.72	-4723	-3369	-454	0.6764	0.6764	-17789	10705	2027	101952	6806	3449	10255	No	22.57	Si
SLU 74	11.5	-656.13	-6262	-4467	-412	0.6764	0.6764	-23588	10833	2052	101952	6806	3449	10255	No	24.91	Si
SLU 74	14	341	-4930	-3517	-407	0.6764	0.6764	-18571	10809	2047	101952	6806	3449	10255	No	25.18	Si
SLU 62	11.5	-628.07	-5619	-4008	-401	0.6764	0.6764	-21165	10833	2052	101952	6806	3449	10255	No	25.55	Si
SLU 62	14	332.32	-4233	-3019	-402	0.6764	0.6764	-15944	10459	1981	101952	6806	3449	10255	No	25.5	Si
SLU 41	11.5	-666.2	-5080	-3624	-419	0.6764	0.6212	-19137	10833	1884	101952	6806	3449	10255	No	24.46	Si
SLU 41	14	346.7	-3954	-2821	-421	0.6764	0.6764	-14894	10319	1954	101952	6806	3449	10255	No	24.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	11.5	-2616.93	-5025	-3585	-1935	0.5411	0	0	0	0	101952	8167	2760	10927		5.65	Si
SLD 15	14	1518.8	-2214	-1579	-1657	0.5411	0	0	0	0	101952	8167	2760	10927		6.59	Si
SLD 16	11.5	-2559.41	-4986	-3557	-1894	0.5411	0	0	0	0	101952	8167	2760	10927		5.77	Si
SLD 16	14	1485.93	-2228	-1590	-1617	0.5411	0	0	0	0	101952	8167	2760	10927		6.76	Si
SLV 6	11.5	3427.67	-1592	-1135	2534	0.5411	0	0	0	0	101952	8167	2760	10927		4.31	Si
SLV 6	14	-2045.12	-4238	-3023	2402	0.5411	0	0	0	0	101952	8167	2760	10927		4.55	Si
SLV 15	11.5	-3957.25	-5556	-3964	-2949	0.5411	0	0	0	0	101952	8167	2760	10927		3.71	Si
SLV 15	14	2312.72	-1625	-1159	-2518	0.5411	0	0	0	0	101952	8167	2760	10927		4.34	Si
SLV 1	11.5	3126.4	-2887	-2059	2426	0.5411	0	0	0	0	101952	8167	2760	10927		4.5	Si
SLV 1	14	-1885.93	-4825	-3442	2008	0.5411	0	0	0	0	101952	8167	2760	10927		5.44	Si
SLV 16	11.5	-3866.6	-5494	-3920	-2885	0.5411	0	0	0	0	101952	8167	2760	10927		3.79	Si
SLV 16	14	2260.9	-1647	-1175	-2454	0.5411	0	0	0	0	101952	8167	2760	10927		4.45	Si
SLV 5	11.5	3366.64	-1633	-1165	2491	0.5411	0	0	0	0	101952	8167	2760	10927		4.39	Si
SLV 5	14	-2010.23	-4223	-3012	2359	0.5411	0	0	0	0	101952	8167	2760	10927		4.63	Si
SLV 11	11.5	-4167.87	-6790	-4844	-2993	0.5411	0	0	0	0	101952	8167	2760	10927		3.65	Si
SLV 11	14	2420.09	-2234	-1594	-2849	0.5411	0	0	0	0	101952	8167	2760	10927		3.84	Si
SLV 2	11.5	3217.05	-2825	-2015	2490	0.5411	0	0	0	0	101952	8167	2760	10927		4.39	Si
SLV 2	14	-1937.75	-4847	-3458	2072	0.5411	0	0	0	0	101952	8167	2760	10927		5.27	Si
SLV 12	11.5	-4106.84	-6748	-4814	-2950	0.5411	0	0	0	0	101952	8167	2760	10927		3.7	Si
SLV 12	14	2385.2	-2250	-1605	-2806	0.5411	0	0	0	0	101952	8167	2760	10927		3.89	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 15	-2817	0.52	76.29	362.42	490.39	426.4	5.59	Si
SLV 16	-2819	0.52	76.29	362.6	490.62	426.61	5.59	Si
SLV 13	-2827	0.52	76.29	363.54	491.85	427.69	5.61	Si
SLV 14	-2828	0.52	76.29	363.72	492.08	427.9	5.61	Si
SLV 11	-3382	0.52	76.29	427.4	576.34	501.87	6.58	Si
SLV 12	-3383	0.52	76.29	427.52	576.49	502	6.58	Si
SLV 9	-3414	0.52	76.29	430.99	581.15	506.07	6.63	Si
SLV 10	-3415	0.52	76.29	431.11	581.3	506.21	6.64	Si
SLV 7	-3876	0.52	76.29	482.07	650.7	566.39	7.42	Si
SLV 8	-3877	0.52	76.29	482.18	650.86	566.52	7.43	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-2246	-4261	32	1.411	312.6	0.928	22.09212	6.05458	Si
SLV 3	-2245	-4323	32	1.412	312.5	0.928	22.10443	6.05458	Si
SLV 2	-2023	-2825	-84	1.511	290.1	0.924	23.75912	6.05458	Si
SLV 1	-2022	-2887	-85	1.511	290	0.924	23.76557	6.05458	Si
SLV 8	-2089	-6378	178	1.438	296.7	0.925	22.58093	5.43428	Si
SLV 7	-2088	-6420	178	1.438	296.6	0.925	22.58987	5.43428	Si
SLV 12	-1730	-6748	188	1.655	260.7	0.918	26.20874	5.43428	Si
SLV 11	-1729	-6790	187	1.656	260.6	0.918	26.22037	5.43428	Si
SLV 6	-1343	-1592	-208	1.976	222.1	0.908	31.63345	5.43428	Si
SLV 5	-1343	-1633	-209	1.977	222.1	0.908	31.64252	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.404	SLU 39	Si
V_SLU	22.541	SLU 83	Si
PF_SLV	0.167	SLV 6	No
V_SLV	3.651	SLV 11	Si
PFFP_SLV	5.589	SLV 15	Si
R_SLV	3.649	SLV 4	Si

Maschio 232

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L7	L8	1.944	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	11.5	2343.42	-11703	-0.0000494	0.0004492	0.0035	1.9436	9371.83	10563.48	10563.48	4.51	No	Si
SLU 42	14	-455.94	-7626	-0.000023	0.0004492	0.0035	1.9436	6560.87	8931.83	8931.83	19.59	No	Si
SLU 84	11.5	2651.53	-14347	-0.0000594	0.0004492	0.0035	1.9436	10934.67	12406.26	12406.26	4.68	No	Si
SLU 84	14	-507.38	-9206	-0.0000276	0.0004492	0.0035	1.9436	7707.74	10238.38	10238.38	20.18	No	Si
SLU 34	11.5	2233.8	-11765	-0.0000487	0.0004492	0.0035	1.9436	9410.75	10606.61	10606.61	4.75	No	Si
SLU 34	14	-475.29	-7656	-0.0000233	0.0004492	0.0035	1.9436	6583.98	8957.86	8957.86	18.85	No	Si
SLU 41	11.5	2371.41	-11785	-0.0000499	0.0004492	0.0035	1.9436	9423.08	10620.31	10620.31	4.48	No	Si
SLU 41	14	-437.16	-7699	-0.0000231	0.0004492	0.0035	1.9436	6615.68	8993.61	8993.61	20.57	No	Si
SLU 39	11.5	2272.74	-10593	-0.0000458	0.0004492	0.0035	1.9436	8654.26	9701.3	9701.3	4.27	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	14	-454.64	-6659	-0.0000205	0.0004492	0.0035	1.9436	5823.63	8117.19	8117.19	17.85	No	Si
SLU 40	11.5	2244.74	-10511	-0.0000453	0.0004492	0.0035	1.9436	8600.17	9636.35	9636.35	4.29	No	Si
SLU 40	14	-473.42	-6586	-0.0000205	0.0004492	0.0035	1.9436	5766.61	8055.41	8055.41	17.02	No	Si
SLU 31	11.5	2135.12	-10573	-0.0000446	0.0004492	0.0035	1.9436	8641.25	9685.65	9685.65	4.54	No	Si
SLU 31	14	-492.77	-6617	-0.0000207	0.0004492	0.0035	1.9436	5790.65	8081.44	8081.44	16.4	No	Si
SLU 82	11.5	2552.86	-13155	-0.0000552	0.0004492	0.0035	1.9436	10255.16	11575.21	11575.21	4.53	No	Si
SLU 82	14	-524.86	-8166	-0.000025	0.0004492	0.0035	1.9436	6961.47	9387.63	9387.63	17.89	No	Si
SLU 81	11.5	2580.85	-13237	-0.0000556	0.0004492	0.0035	1.9436	10302.95	11632.04	11632.04	4.51	No	Si
SLU 81	14	-506.08	-8239	-0.000025	0.0004492	0.0035	1.9436	7015.12	9449.41	9449.41	18.67	No	Si
SLU 83	11.5	2679.53	-14429	-0.0000598	0.0004492	0.0035	1.9436	10979.62	12463.1	12463.1	4.65	No	Si
SLU 83	14	-488.6	-9279	-0.0000276	0.0004492	0.0035	1.9436	7759.15	10296.92	10296.92	21.07	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	11.5	4487.06	-6917	-0.0000721	0.0006738	0.0035	1.9436		6761.83	6761.83	1.51		Si
SLD 2	14	-3838.68	-1847	-0.000439	0.0006738	0.0035	1.5549		3872.2	3872.2	1.01		Si
SLD 1	11.5	4524.53	-7051	-0.0000719	0.0006738	0.0035	1.9436		6880.33	6880.33	1.52		Si
SLD 1	14	-3816.02	-1963	-0.0004265	0.0006738	0.0035	1.5549		3978.61	3978.61	1.04		Si
SLV 6	11.5	697.64	-3509	-0.0000142	0.0006738	0.0035	1.9436		3692.33	3692.33	5.29		Si
SLV 6	14	-3431.34	902	-0.0004724	0.0006738	0.0035	1.5549		1295.44	1295.44	0.38		No
SLV 3	11.5	7557.18	-8492	-0.0004281	0.0006738	0.0035	1.9436		8135.68	8135.68	1.08		Si
SLV 3	14	-4864.08	-2699	-0.0005523	0.0006738	0.0035	1.5549		4656.15	4656.15	0.96		No
SLD 3	11.5	5408.86	-9006	-0.0000822	0.0006738	0.0035	1.9436		8576.18	8576.18	1.59		Si
SLD 3	14	-3270.02	-3912	-0.0000891	0.0006738	0.0035	1.5549		5762.63	5762.63	1.76		Si
SLV 5	11.5	737.4	-3651	-0.0000149	0.0006738	0.0035	1.9436		3822.58	3822.58	5.18		Si
SLV 5	14	-3407.3	779	-0.0004685	0.0006738	0.0035	1.5549		1411.78	1411.78	0.41		No
SLV 2	11.5	5988.77	-4944	-0.0053715	0.0006738	0.0035	1.9436		5000.13	5000.13	0.83		No
SLV 2	14	-5832.89	811	-0.0009306	0.0006738	0.0035	1.5549		1381.22	1381.22	0.24		No
SLV 1	11.5	6047.83	-5155	-0.0050166	0.0006738	0.0035	1.9436		5190.57	5190.57	0.86		No
SLV 1	14	-5797.18	629	-0.0009199	0.0006738	0.0035	1.5549		1554.04	1554.04	0.27		No
SLV 4	11.5	7498.12	-8281	-0.0005411	0.0006738	0.0035	1.9436		7953.98	7953.98	1.06		Si
SLV 4	14	-4899.79	-2517	-0.0005761	0.0006738	0.0035	1.5549		4488.55	4488.55	0.92		No
SLD 4	11.5	5371.39	-8872	-0.000082	0.0006738	0.0035	1.9436		8461.17	8461.17	1.58		Si
SLD 4	14	-3292.67	-3796	-0.0001037	0.0006738	0.0035	1.5549		5657.36	5657.36	1.72		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	11.5	2669.36	-16143	-11516	2261	1.9436	1.9436	-21161	10833	5896	101952	19558	9913	29470	No	13.03	Si
SLU 78	14	-493.3	-10761	-7677	1307	1.9436	1.9436	-14106	10214	5559	101952	19558	9913	29470	No	22.55	Si
SLU 77	11.5	2697.35	-16225	-11574	2270	1.9436	1.9436	-21268	10833	5896	101952	19558	9913	29470	No	12.98	Si
SLU 77	14	-474.52	-10834	-7729	1303	1.9436	1.9436	-14202	10227	5566	101952	19558	9913	29470	No	22.62	Si
SLU 71	11.5	2475	-16009	-11420	2202	1.9436	1.9436	-20985	10833	5896	101952	19558	9913	29470	No	13.38	Si
SLU 71	14	-493.9	-10584	-7550	1200	1.9436	1.9436	-13874	10183	5542	101952	19558	9913	29470	No	24.57	Si
SLU 69	11.5	2485.12	-16496	-11768	2228	1.9436	1.9436	-21624	10833	5896	101952	19558	9913	29470	No	13.23	Si
SLU 69	14	-490.46	-11020	-7862	1220	1.9436	1.9436	-14446	10259	5583	101952	19558	9913	29470	No	24.15	Si
SLU 74	11.5	2598.68	-15033	-10724	2163	1.9436	1.9436	-19705	10833	5896	101952	19558	9913	29470	No	13.63	Si
SLU 74	14	-492	-9795	-6988	1257	1.9436	1.9436	-12840	10045	5467	101952	19558	9913	29470	No	23.45	Si
SLU 80	11.5	2659.25	-15656	-11169	2235	1.9436	1.9436	-20522	10833	5896	101952	19558	9913	29470	No	13.19	Si
SLU 80	14	-496.74	-10325	-7365	1286	1.9436	1.9436	-13534	10138	5517	101952	19558	9913	29470	No	22.91	Si
SLU 70	11.5	2457.12	-16415	-11710	2219	1.9436	1.9436	-21517	10833	5896	101952	19558	9913	29470	No	13.28	Si
SLU 70	14	-509.24	-10947	-7809	1225	1.9436	1.9436	-14350	10247	5576	101952	19558	9913	29470	No	24.06	Si
SLU 72	11.5	2447.01	-15927	-11362	2193	1.9436	1.9436	-20878	10833	5896	101952	19558	9913	29470	No	13.44	Si
SLU 72	14	-512.68	-10511	-7498	1204	1.9436	1.9436	-13778	10170	5535	101952	19558	9913	29470	No	24.48	Si
SLU 83	11.5	2679.53	-14429	-10293	2154	1.9436	1.9436	-18914	10833	5896	101952	19558	9913	29470	No	13.68	Si
SLU 83	14	-488.6	-9279	-6619	1271	1.9436	1.9436	-12163	9955	5418	101952	19558	9913	29470	No	23.18	Si
SLU 79	11.5	2687.24	-15737	-11227	2244	1.9436	1.9436	-20629	10833	5896	101952	19558	9913	29470	No	13.13	Si
SLU 79	14	-477.96	-10398	-7418	1282	1.9436	1.9436	-13630	10151	5524	101952	19558	9913	29470	No	22.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	11.5	5408.86	-9006	-6424	4951	1.9436	1.1137	-11805	14861	4857	101952	29337	9913	39249		7.93	Si
SLD 3	14	-3270.02	-3912	-2791	2971	1.5549	0.4076	0	0	0	101952	23469	7930	31400		10.57	Si
SLV 4	11.5	7498.12	-8281	-5908	6906	1.9436	0.1992	-106308	16250	4719	101952	29337	9913	39249		5.68	Si
SLV 4	14	-4899.79	-2517	-1795	4183	1.5549	0	0	0	0	101952	23469	7930	31400		7.51	Si
SLD 1	11.5	4524.53	-7051	-5030	4673	1.9436	0.9904	-9243	14349	4485	101952	29337	9913	39249		8.4	Si
SLD 1	14	-3816.02	-1963	-1400	3110	1.5549	0	0	0	0	101952	23469	7930	31400		10.1	Si
SLV 13	11.5	-4066.08	-12079	-8617	-3961	1.9436	1.9056	-15834	15667	8359	101952	29337	9913	39249		9.91	Si
SLV 13	14	4158.03	-10122	-7220	-2548	1.9436	1.683	-13268	15154	7141	101952	29337	9913	39249		15.4	Si
SLV 14	11.5	-4125.14	-11868	-8466	-3988	1.9436	1.8727	-16262	15752	8260	101952	29337	9913	39249		9.84	Si
SLV 14	14	4122.32	-9939	-7091	-2539	1.9436	1.6712	-13029	15106	7069	101952	29337	9913	39249		15.46	Si
SLV 2	11.5	5988.77	-4944	-3527	6433	1.9436	0	-141134	16250	4084	101952	29337	9913	39249		6.1	Si
SLV 2	14	-5832.89	811	579	4420	1.5549	0	0	0	0	101952	23469	7930	31400		7.1	Si
SLD 4	11.5	5371.39	-8872	-6329	4934	1.9436	1.0991	-11629	14826	4831	101952	29337	9913	39249		7.95	Si
SLD 4	14	-3292.67	-3796	-2708	2977	1.5549	0.3134	0	0	0	101952	23469	7930	31400		10.55	Si
SLV 1	11.5	6047.83	-5155	-3678	6460	1.9436	0	-143849	16250	4125	101952	29337	9913	39249		6.08	Si
SLV 1	14	-5797.18	629	449	4410	1.5549	0	0	0	0	101952	23469	7930	31400		7.12	Si
SLV 3	11.5	7557.18	-8492	-6058	6933	1.9436	0.2459	-90264	16250	4759	101952	29337	9913	39249		5.66	Si
SLV 3	14	-4864.08	-2699	-1925	4173	1.5549	0	0	0	0	101952	23469	7930	31400		7.52	Si
SLD 2	11.5	4487.06	-6917	-4934	4656	1.9436	0.9694	-9067	14313	4460	101952	29337	9913	39249		8.43	Si
SLD 2	14	-3838.68	-1847	-1318	3116	1.5549	0	0	0	0	101952	23469	7930	31400		10.08	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-1475	0.52	219.22	0	468.35	234.17	1.07	Si
SLV 5	-1621	0.52	219.22	223.24	491.32	357.28	1.63	Si
SLV 2	-3470	0.52	219.22	468.85	779.9	624.37	2.85	Si
SLV 10	-3494	0.52	219.22	472	783.66	627.83	2.86	Si
SLV 9	-3640	0.52	219.22	490.96	806.25	648.6	2.96	Si
SLV 1	-3686	0.52	219.22	496.99	813.45	655.22	2.99	Si
SLV 4	-7228	0.52	219.22	938.61	1357.9	1148.26	5.24	Si
SLV 3	-7445	0.52	219.22	964.48	1390.81	1177.64	5.37	Si
SLV 14	-10199	0.52	219.22	1281.82	1807.84	1544.83	7.05	Si
SLV 13	-10415	0.52	219.22	1305.88	1840.42	1573.15	7.18	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-12664	-16852	119	0.811	1527.5	0.954	12.35581	5.43428	Si
SLV 15	-11262	-15416	-21	0.903	1385.1	0.95	13.81222	6.05458	Si
SLV 12	-12544	-16709	119	0.818	1515.2	0.954	12.4603	5.43428	Si
SLV 16	-11083	-15205	-21	0.915	1366.9	0.95	14.00723	6.05458	Si
SLV 7	-10621	-14774	148	0.938	1320	0.948	14.37826	5.43428	Si
SLV 8	-10500	-14632	148	0.947	1307.7	0.948	14.52221	5.43428	Si
SLV 13	-7992	-12079	-112	1.189	1053.6	0.937	18.43227	6.05458	Si
SLV 14	-7813	-11868	-112	1.21	1035.5	0.936	18.79089	6.05458	Si
SLV 3	-4451	-8492	75	1.873	697.2	0.913	29.80253	6.05458	Si
SLV 4	-4272	-8281	75	1.93	679.3	0.912	30.75641	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.269	SLU 39	Si
V_SLU	12.98	SLU 77	Si
PF_SLV	0.237	SLV 2	No
V_SLV	5.661	SLV 3	Si
PFFP_SLV	1.068	SLV 6	Si
R_SLV	2.274	SLV 11	Si

Maschio 233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L7	L8	1.55	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	11.5	650.07	-8001	-0.000034	0.0004492	0.0035	1.55	5264.91	5902.92	5902.92	9.08	No	Si
SLU 43	13.6	-559.47	-7348	-0.0000306	0.0004492	0.0035	1.55	4905.58	6483.86	6483.86	11.59	No	Si
SLU 47	11.5	662.52	-8768	-0.0000367	0.0004492	0.0035	1.55	5671.4	6339.42	6339.42	9.57	No	Si
SLU 47	13.6	-565.97	-8438	-0.0000344	0.0004492	0.0035	1.55	5498.97	7180.28	7180.28	12.69	No	Si
SLU 64	11.5	612.8	-8325	-0.0000346	0.0004492	0.0035	1.55	5439.15	6087.77	6087.77	9.93	No	Si
SLU 64	13.6	-532.38	-8322	-0.0000335	0.0004492	0.0035	1.55	5437.2	7105.84	7105.84	13.35	No	Si
SLU 2	11.5	493.42	-6225	-0.0000261	0.0004492	0.0035	1.55	4257.9	4740.85	4740.85	9.61	No	Si
SLU 2	13.6	-418.93	-5929	-0.0000242	0.0004492	0.0035	1.55	4081.38	5547.09	5547.09	13.24	No	Si
SLU 52	11.5	554.24	-7394	-0.0000307	0.0004492	0.0035	1.55	4931.46	5514.48	5514.48	9.95	No	Si
SLU 52	13.6	-466.87	-7233	-0.0000291	0.0004492	0.0035	1.55	4841.11	6410.57	6410.57	13.73	No	Si
SLU 44	11.5	653.26	-7985	-0.000034	0.0004492	0.0035	1.55	5256.73	5894.31	5894.31	9.02	No	Si
SLU 44	13.6	-555.18	-7368	-0.0000307	0.0004492	0.0035	1.55	4916.89	6496.77	6496.77	11.7	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	11.5	615.99	-8310	-0.0000346	0.0004492	0.0035	1.55	5431.11	6079.16	6079.16	9.87	No	Si
SLU 65	13.6	-528.1	-8342	-0.0000336	0.0004492	0.0035	1.55	5447.94	7118.75	7118.75	13.48	No	Si
SLU 45	11.5	645.3	-9088	-0.0000376	0.0004492	0.0035	1.55	5836.18	6521.85	6521.85	10.11	No	Si
SLU 45	13.6	-546.67	-8864	-0.0000356	0.0004492	0.0035	1.55	5721.5	7452.53	7452.53	13.63	No	Si
SLU 1	11.5	490.22	-6240	-0.0000261	0.0004492	0.0035	1.55	4266.87	4751.03	4751.03	9.69	No	Si
SLU 1	13.6	-423.22	-5909	-0.0000242	0.0004492	0.0035	1.55	4069.22	5533.48	5533.48	13.07	No	Si
SLU 46	11.5	647.21	-9079	-0.0000376	0.0004492	0.0035	1.55	5831.56	6516.69	6516.69	10.07	No	Si
SLU 46	13.6	-544.1	-8877	-0.0000356	0.0004492	0.0035	1.55	5727.75	7460.27	7460.27	13.71	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	11.5	2200.91	-4735	-0.0000508	0.0006738	0.0035	1.55		3778.1	3778.1	1.72		Si
SLD 2	13.6	-2014.64	-4153	-0.0000475	0.0006738	0.0035	1.24		4374.57	4374.57	2.17		Si
SLV 1	11.5	3233.67	-3974	-0.0016075	0.0006738	0.0035	1.24		3234.06	3234.06	1		Si
SLV 1	13.6	-2976.56	-3157	-0.0003806	0.0006738	0.0035	1.24		3659.59	3659.59	1.23		Si
SLD 1	11.5	2224.47	-4763	-0.0000514	0.0006738	0.0035	1.55		3798.04	3798.04	1.71		Si
SLD 1	13.6	-2042.19	-4209	-0.0000481	0.0006738	0.0035	1.24		4414.28	4414.28	2.16		Si
SLV 6	11.5	1376.67	-5155	-0.0000334	0.0006738	0.0035	1.55		4074.76	4074.76	2.96		Si
SLV 6	13.6	-894.81	-6088	-0.0000304	0.0006738	0.0035	1.55		5724.29	5724.29	6.4		Si
SLV 4	11.5	3124.83	-4148	-0.000564	0.0006738	0.0035	1.55		3358.69	3358.69	1.07		Si
SLV 4	13.6	-3098.1	-2489	-0.0005233	0.0006738	0.0035	1.24		3174.01	3174.01	1.02		Si
SLV 2	11.5	3196.53	-3930	-0.001565	0.0006738	0.0035	1.24		3202.63	3202.63	1		Si
SLV 2	13.6	-2933.13	-3069	-0.0003817	0.0006738	0.0035	1.24		3595.75	3595.75	1.23		Si
SLD 3	11.5	2182.8	-4890	-0.0000494	0.0006738	0.0035	1.55		3888.42	3888.42	1.78		Si
SLD 3	13.6	-2139.03	-3869	-0.0000577	0.0006738	0.0035	1.24		4171.53	4171.53	1.95		Si
SLV 3	11.5	3161.97	-4192	-0.000586	0.0006738	0.0035	1.55		3390.13	3390.13	1.07		Si
SLV 3	13.6	-3141.53	-2578	-0.0005249	0.0006738	0.0035	1.24		3238.13	3238.13	1.03		Si
SLD 4	11.5	2159.24	-4862	-0.0000488	0.0006738	0.0035	1.55		3868.76	3868.76	1.79		Si
SLD 4	13.6	-2111.48	-3813	-0.0000571	0.0006738	0.0035	1.24		4131.31	4131.31	1.96		Si
SLV 5	11.5	1401.67	-5184	-0.0000338	0.0006738	0.0035	1.55		4095.62	4095.62	2.92		Si
SLV 5	13.6	-924.04	-6147	-0.000031	0.0006738	0.0035	1.55		5765.2	5765.2	6.24		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	11.5	647.21	-9079	-6477	705	1.55	1.55	-14924	10323	4480	101952	15597	7905	23502	No	33.33	Si
SLU 46	13.6	-544.1	-8877	-6332	705	1.55	1.55	-14591	10279	4461	101952	15597	7905	23502	No	33.32	Si
SLU 71	11.5	631.31	-9890	-7055	740	1.55	1.55	-16256	10501	4557	101952	15597	7905	23502	No	31.77	Si
SLU 71	13.6	-553.96	-10462	-7463	740	1.55	1.55	-17196	10626	4612	101952	15597	7905	23502	No	31.77	Si
SLU 49	11.5	656.47	-9861	-7035	769	1.55	1.55	-16209	10495	4555	101952	15597	7905	23502	No	30.57	Si
SLU 49	13.6	-554.89	-9947	-7096	769	1.55	1.55	-16349	10513	4563	101952	15597	7905	23502	No	30.57	Si
SLU 72	11.5	633.23	-9881	-7049	756	1.55	1.55	-16241	10499	4556	101952	15597	7905	23502	No	31.11	Si
SLU 72	13.6	-551.39	-10474	-7472	756	1.55	1.55	-17216	10629	4613	101952	15597	7905	23502	No	31.1	Si
SLU 69	11.5	617.28	-10195	-7273	706	1.55	1.55	-16758	10568	4586	101952	15597	7905	23502	No	33.31	Si
SLU 69	13.6	-530.38	-10908	-7782	706	1.55	1.55	-17930	10724	4654	101952	15597	7905	23502	No	33.3	Si
SLU 50	11.5	668.58	-9565	-6823	787	1.55	1.55	-15722	10430	4526	101952	15597	7905	23502	No	29.86	Si
SLU 50	13.6	-581.05	-9488	-6769	787	1.55	1.55	-15596	10413	4519	101952	15597	7905	23502	No	29.86	Si
SLU 70	11.5	619.2	-10186	-7266	721	1.55	1.55	-16743	10566	4586	101952	15597	7905	23502	No	32.58	Si
SLU 70	13.6	-527.8	-10920	-7790	722	1.55	1.55	-17950	10727	4655	101952	15597	7905	23502	No	32.57	Si
SLU 51	11.5	670.5	-9556	-6817	803	1.55	1.55	-15707	10428	4526	101952	15597	7905	23502	No	29.27	Si
SLU 51	13.6	-578.48	-9500	-6777	803	1.55	1.55	-15616	10415	4520	101952	15597	7905	23502	No	29.27	Si
SLU 48	11.5	654.55	-9870	-7041	753	1.55	1.55	-16224	10497	4555	101952	15597	7905	23502	No	31.22	Si
SLU 48	13.6	-557.46	-9934	-7087	753	1.55	1.55	-16330	10511	4562	101952	15597	7905	23502	No	31.21	Si
SLU 47	11.5	662.52	-8768	-6255	750	1.55	1.55	-14412	10255	4451	101952	15597	7905	23502	No	31.34	Si
SLU 47	13.6	-565.97	-8438	-6020	750	1.55	1.55	-13870	10183	4419	101952	15597	7905	23502	No	31.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	11.5	3124.83	-4148	-2959	2911	1.55	0.0652	-106276	16250	3296	101952	23395	7905	31300		10.75	Si
SLV 4	13.6	-3098.1	-2489	-1776	2405	1.24	0	0	0	0	101952	18716	6324	25040		10.41	Si
SLV 6	11.5	1376.67	-5155	-3677	3034	1.55	1.5238	-8473	14195	6056	101952	23395	7905	31300		10.32	Si
SLV 6	13.6	-894.81	-6088	-4343	2841	1.55	1.55	-10007	14501	6294	101952	23395	7905	31300		11.02	Si
SLD 2	11.5	2200.91	-4735	-3378	2650	1.55	0.9305	-7783	14057	3662	101952	23395	7905	31300		11.81	Si
SLD 2	13.6	-2014.64	-4153	-2963	2309	1.24	0.8698	0	0	0	101952	18716	6324	25040		10.84	Si
SLV 16	11.5	-2331.1	-8354	-5959	-3209	1.55	1.4878	-13731	15246	6351	101952	23395	7905	31300		9.75	Si
SLV 16	13.6	2196.06	-9140	-6520	-2680	1.55	1.55	-15024	15505	6729	101952	23395	7905	31300		11.68	Si
SLV 15	11.5	-2293.96	-8397	-5991	-3051	1.55	1.5055	-13803	15261	6433	101952	23395	7905	31300		10.26	Si
SLV 15	13.6	2152.64	-9228	-6583	-2522	1.55	1.55	-15169	15534	6742	101952	23395	7905	31300		12.41	Si
SLV 5	11.5	1401.67	-5184	-3698	3141	1.55	1.5139	-8521	14204	6021	101952	23395	7905	31300		9.97	Si
SLV 5	13.6	-924.04	-6147	-4385	2947	1.55	1.55	-10105	14521	6302	101952	23395	7905	31300		10.62	Si
SLV 2	11.5	3196.53	-3930	-2804	3945	1.24	0	0	0	0	101952	18716	6324	25040		6.35	Si
SLV 2	13.6	-2933.13	-3069	-2190	3416	1.24	0	0	0	0	101952	18716	6324	25040		7.33	Si
SLV 1	11.5	3233.67	-3974	-2835	4103	1.24	0	0	0	0	101952	18716	6324	25040		6.1	Si
SLV 1	13.6	-2976.56	-3157	-2252	3574	1.24	0	0	0	0	101952	18716	6324	25040		7.01	Si
SLV 3	11.5	3161.97	-4192	-2991	3070	1.55	0.0623	-108758	16250	3305	101952	23395	7905	31300		10.2	Si
SLV 3	13.6	-3141.53	-2578	-1839	2563	1.24	0	0	0	0	101952	18716	6324	25040		9.77	Si
SLD 1	11.5	2224.47	-4763	-3398	2751	1.55	0.9238	-7828	14066	3638	101952	23395	7905	31300		11.38	Si
SLD 1	13.6	-2042.19	-4209	-3003	2410	1.24	0.8695	0	0	0	101952	18716	6324	25040		10.39	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-2873	0.52	174.82	387.63	634.89	511.26	2.92	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-2954	0.52	174.82	398.14	647.45	522.79	2.99	Si
SLV 2	-3362	0.52	174.82	450.76	710.61	580.69	3.32	Si
SLV 1	-3443	0.52	174.82	461.13	723.14	592.14	3.39	Si
SLV 8	-4395	0.52	174.82	581.26	869.68	725.47	4.15	Si
SLV 7	-4449	0.52	174.82	588.05	878.05	733.05	4.19	Si
SLV 6	-6026	0.52	174.82	779.69	1119.16	949.43	5.43	Si
SLV 5	-6080	0.52	174.82	786.16	1127.46	956.81	5.47	Si
SLV 12	-6177	0.52	174.82	797.66	1142.22	969.94	5.55	Si
SLV 11	-6232	0.52	174.82	804.1	1150.52	977.31	5.59	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-7421	-8179	-349	1.02	946.2	0.943	15.71479	6.05458	Si
SLV 14	-7378	-8135	-351	1.024	941.9	0.943	15.78952	6.05458	Si
SLV 15	-6804	-8397	427	1.085	883.8	0.94	16.77889	6.05458	Si
SLV 16	-6762	-8354	425	1.091	879.5	0.939	16.87392	6.05458	Si
SLV 9	-6432	-6446	-1280	1.024	846.1	0.938	15.874	5.43428	Si
SLV 10	-6403	-6416	-1281	1.027	843.2	0.937	15.93153	5.43428	Si
SLV 5	-4975	-5184	-1302	1.251	699	0.927	19.61172	5.43428	Si
SLV 6	-4946	-5155	-1303	1.256	696.1	0.927	19.7016	5.43428	Si
SLV 11	-4378	-7173	1305	1.379	639	0.922	21.74385	5.43428	Si
SLV 12	-4350	-7143	1304	1.386	636.1	0.922	21.86339	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.023	SLU 44	Si
V_SLU	29.27	SLU 51	Si
PF_SLV	1	SLV 1	Si
V_SLV	6.103	SLV 1	Si
PFFP_SLV	2.924	SLV 4	Si
R_SLV	2.596	SLV 13	Si

Maschio 234

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L7	L8	3.97	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	11.5	3222.06	-21164	-0.0000328	0.0004492	0.0035	3.97	35464.18	39686.72	39686.72	12.32	No	Si
SLU 48	13.6	1169.32	-20094	-0.0000274	0.0004492	0.0035	3.97	33985.97	37922.37	37922.37	32.43	No	Si
SLU 7	11.5	2575.96	-17446	-0.0000267	0.0004492	0.0035	3.97	30182.41	33481.3	33481.3	13	No	Si
SLU 7	13.6	1020.03	-17294	-0.0000235	0.0004492	0.0035	3.97	29957.54	33221.01	33221.01	32.57	No	Si
SLU 8	11.5	2480.14	-16829	-0.0000258	0.0004492	0.0035	3.97	29267.2	32426.79	32426.79	13.07	No	Si
SLU 8	13.6	829.36	-16493	-0.0000221	0.0004492	0.0035	3.97	28763.7	31852.04	31852.04	38.41	No	Si
SLU 45	11.5	2906.09	-19415	-0.0000299	0.0004492	0.0035	3.97	33029.46	36792.91	36792.91	12.66	No	Si
SLU 45	13.6	935.46	-17717	-0.0000239	0.0004492	0.0035	3.97	30580.22	33940.51	33940.51	36.28	No	Si
SLU 51	11.5	3118.55	-20545	-0.0000318	0.0004492	0.0035	3.97	34612.77	38665.63	38665.63	12.4	No	Si
SLU 51	13.6	960.34	-19310	-0.000026	0.0004492	0.0035	3.97	32881.15	36617.36	36617.36	38.13	No	Si
SLU 49	11.5	3218.22	-21163	-0.0000328	0.0004492	0.0035	3.97	35462.6	39684.8	39684.8	12.33	No	Si
SLU 49	13.6	1160.17	-20102	-0.0000274	0.0004492	0.0035	3.97	33997.53	37936	37936	32.7	No	Si
SLU 6	11.5	2579.8	-17447	-0.0000267	0.0004492	0.0035	3.97	30184.12	33483.28	33483.28	12.98	No	Si
SLU 6	13.6	1029.18	-17286	-0.0000235	0.0004492	0.0035	3.97	29945.31	33206.88	33206.88	32.27	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 46	11.5	2902.24	-19413	-0.0000299	0.0004492	0.0035	3.97	33027.81	36790.96	36790.96	12.68	No	Si
SLU 46	13.6	926.31	-17725	-0.0000239	0.0004492	0.0035	3.97	30592.35	33954.4	33954.4	36.66	No	Si
SLU 47	11.5	2800.02	-18795	-0.0000289	0.0004492	0.0035	3.97	32145.29	35751.82	35751.82	12.77	No	Si
SLU 47	13.6	720.38	-16938	-0.0000225	0.0004492	0.0035	3.97	29429.12	32612.42	32612.42	45.27	No	Si
SLU 50	11.5	3122.39	-20546	-0.0000318	0.0004492	0.0035	3.97	34614.38	38667.55	38667.55	12.38	No	Si
SLU 50	13.6	969.49	-19302	-0.000026	0.0004492	0.0035	3.97	32869.4	36603.47	36603.47	37.76	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	11.5	-231.05	-9801	-0.0000125	0.0006738	0.0035	3.97		27750.38	27750.38	120.11		Si
SLV 2	13.6	-7291.32	-10494	-0.0000267	0.0006738	0.0035	3.97		29022.32	29022.32	3.98		Si
SLV 3	11.5	69.07	-9581	-0.0000119	0.0006738	0.0035	3.97		19900.52	19900.52	288.14		Si
SLV 3	13.6	-7241.63	-9758	-0.0000257	0.0006738	0.0035	3.97		27670.78	27670.78	3.82		Si
SLD 16	11.5	2683.15	-15406	-0.0000241	0.0006738	0.0035	3.97		30492.24	30492.24	11.36		Si
SLD 16	13.6	5092.62	-13430	-0.0000262	0.0006738	0.0035	3.97		26944.47	26944.47	5.29		Si
SLV 16	11.5	3257.07	-16626	-0.0000268	0.0006738	0.0035	3.97		32657.78	32657.78	10.03		Si
SLV 16	13.6	7857.6	-14095	-0.0000323	0.0006738	0.0035	3.97		28138.53	28138.53	3.58		Si
SLV 4	11.5	-119.97	-9545	-0.000012	0.0006738	0.0035	3.97		27278.92	27278.92	227.39		Si
SLV 4	13.6	-7153.62	-9886	-0.0000257	0.0006738	0.0035	3.97		27905.93	27905.93	3.9		Si
SLD 15	11.5	2803.08	-15429	-0.0000244	0.0006738	0.0035	3.97		30533.85	30533.85	10.89		Si
SLD 15	13.6	5036.79	-13348	-0.000026	0.0006738	0.0035	3.97		26798.72	26798.72	5.32		Si
SLV 14	11.5	3145.99	-16882	-0.0000269	0.0006738	0.0035	3.97		33111.32	33111.32	10.52		Si
SLV 14	13.6	7719.91	-14702	-0.0000328	0.0006738	0.0035	3.97		29229.2	29229.2	3.79		Si
SLV 13	11.5	3335.02	-16919	-0.0000273	0.0006738	0.0035	3.97		33175.91	33175.91	9.95		Si
SLV 13	13.6	7631.9	-14574	-0.0000325	0.0006738	0.0035	3.97		28999.46	28999.46	3.8		Si
SLV 15	11.5	3446.1	-16662	-0.0000272	0.0006738	0.0035	3.97		32722.37	32722.37	9.5		Si
SLV 15	13.6	7769.59	-13967	-0.000032	0.0006738	0.0035	3.97		27908.79	27908.79	3.59		Si
SLV 1	11.5	-42.02	-9838	-0.0000122	0.0006738	0.0035	3.97		27817.52	27817.52	662.05		Si
SLV 1	13.6	-7379.32	-10366	-0.0000267	0.0006738	0.0035	3.97		28787.17	28787.17	3.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	11.5	1737.47	-17100	-12198	-5560	3.97	3.97	-10974	9797	11301	101952	39948	20247	60195	No	10.83	Si
SLU 35	13.6	600.43	-19008	-13560	-5574	3.97	3.97	-12198	9960	11845	101952	39948	20247	60195	No	10.8	Si
SLU 38	11.5	1633.97	-16481	-11757	-5354	3.97	3.97	-10577	9744	11124	101952	39948	20247	60195	No	11.24	Si
SLU 38	13.6	391.45	-18224	-13000	-5368	3.97	3.97	-11695	9893	11621	101952	39948	20247	60195	No	11.21	Si
SLU 36	11.5	1733.63	-17098	-12198	-5566	3.97	3.97	-10973	9796	11300	101952	39948	20247	60195	No	10.81	Si
SLU 36	13.6	591.28	-19016	-13566	-5580	3.97	3.97	-12204	9960	11848	101952	39948	20247	60195	No	10.79	Si
SLU 80	11.5	2276.23	-20197	-14408	-5435	3.97	3.97	-12962	10062	12184	101952	39948	20247	60195	No	11.08	Si
SLU 80	13.6	531.59	-21032	-15004	-5452	3.97	3.97	-13498	10133	12423	101952	39948	20247	60195	No	11.04	Si
SLU 84	11.5	1709	-17945	-12802	-5262	3.97	3.97	-11517	9869	11542	101952	39948	20247	60195	No	11.44	Si
SLU 84	13.6	153.53	-18502	-13199	-5278	3.97	3.97	-11874	9916	11701	101952	39948	20247	60195	No	11.4	Si
SLU 37	11.5	1637.81	-16482	-11758	-5347	3.97	3.97	-10577	9744	11124	101952	39948	20247	60195	No	11.26	Si
SLU 37	13.6	400.6	-18216	-12995	-5361	3.97	3.97	-11690	9892	11619	101952	39948	20247	60195	No	11.23	Si
SLU 77	11.5	2379.73	-20816	-14850	-5641	3.97	3.97	-13359	10115	12361	101952	39948	20247	60195	No	10.67	Si
SLU 77	13.6	740.57	-21816	-15563	-5657	3.97	3.97	-14001	10200	12647	101952	39948	20247	60195	No	10.64	Si
SLU 83	11.5	1712.85	-17946	-12803	-5256	3.97	3.97	-11517	9869	11542	101952	39948	20247	60195	No	11.45	Si
SLU 83	13.6	162.68	-18493	-13193	-5271	3.97	3.97	-11868	9916	11698	101952	39948	20247	60195	No	11.42	Si
SLU 79	11.5	2280.07	-20198	-14409	-5429	3.97	3.97	-12962	10062	12185	101952	39948	20247	60195	No	11.09	Si
SLU 79	13.6	540.74	-21024	-14998	-5445	3.97	3.97	-13492	10132	12420	101952	39948	20247	60195	No	11.06	Si
SLU 78	11.5	2375.89	-20815	-14849	-5647	3.97	3.97	-13358	10114	12361	101952	39948	20247	60195	No	10.66	Si
SLU 78	13.6	731.41	-21825	-15569	-5664	3.97	3.97	-14006	10201	12649	101952	39948	20247	60195	No	10.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	11.5	2803.08	-15429	-11007	-4075	3.97	3.97	-9902	14480	16096	101952	59922	20247	80169		19.68	Si
SLD 15	13.6	5036.79	-13348	-9522	-2540	3.97	3.97	-8566	14213	15799	101952	59922	20247	80169		31.57	Si
SLD 13	11.5	2739.2	-15580	-11114	-4215	3.97	3.97	-9998	14500	16118	101952	59922	20247	80169		19.02	Si
SLD 13	13.6	4955.99	-13705	-9777	-2688	3.97	3.97	-8795	14259	15850	101952	59922	20247	80169		29.83	Si
SLV 10	11.5	1865.31	-14709	-10493	-3883	3.97	3.97	-9440	14388	15994	101952	59922	20247	80169		20.65	Si
SLV 10	13.6	2290.96	-13917	-9928	-3167	3.97	3.97	-8931	14286	15881	101952	59922	20247	80169		25.32	Si
SLV 16	11.5	3257.07	-16626	-11860	-5297	3.97	3.97	-10670	14634	16267	101952	59922	20247	80169		15.13	Si
SLV 16	13.6	7857.6	-14095	-10055	-2806	3.97	3.97	-9045	14309	15906	101952	59922	20247	80169		28.57	Si
SLD 14	11.5	2619.27	-15557	-11098	-4397	3.97	3.97	-9984	14497	16115	101952	59922	20247	80169		18.23	Si
SLD 14	13.6	5011.82	-13786	-9834	-2870	3.97	3.97	-8847	14269	15862	101952	59922	20247	80169		27.93	Si
SLV 13	11.5	3335.02	-16919	-12070	-5250	3.97	3.97	-10858	14672	16309	101952	59922	20247	80169		15.27	Si
SLV 13	13.6	7631.9	-14574	-10397	-2772	3.97	3.97	-9353	14371	15974	101952	59922	20247	80169		28.92	Si
SLV 14	11.5	3145.99	-16882	-12043	-5537	3.97	3.97	-10834	14667	16304	101952	59922	20247	80169		14.48	Si
SLV 14	13.6	7719.91	-14702	-10488	-3059	3.97	3.97	-9435	14387	15993	101952	59922	20247	80169		26.21	Si
SLV 9	11.5	1992.58	-14734	-10511	-3689	3.97	3.97	-9456	14391	15997	101952	59922	20247	80169		21.73	Si
SLV 9	13.6	2231.71	-13831	-9867	-2973	3.97	3.97	-8876	14275	15868	101952	59922	20247	80169		26.96	Si
SLV 15	11.5	3446.1	-16662	-11887	-5010	3.97	3.97	-10693	14639	16272	101952	59922	20247	80169		16	Si
SLV 15	13.6	7769.59	-13967	-9964	-2519	3.97	3.97	-8963	14293	15888	101952	59922	20247	80169		31.83	Si
SLD 16	11.5	2683.15	-15406	-10990	-4257	3.97	3.97	-9887	14477	16093	101952	59922	20247	80169		18.83	Si
SLD 16	13.6	5092.62	-13430	-9580	-2722	3.97	3.97	-8619	14224	15811	101952	59922	20247	80169		29.45	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-9341	0.52	447.78	1247.8	1949.69	1598.74	3.57	Si
SLV 4	-9415	0.52	447.78	1257.18	1961.1	1609.14	3.59	Si
SLV 1	-9829	0.52	447.78	1309.68	2024.94	1667.31	3.72	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-9903	0.52	447.78	1319.01	2036.25	1677.63	3.75	Si
SLV 7	-10828	0.52	447.78	1435.3	2177.87	1806.58	4.03	Si
SLV 8	-10877	0.52	447.78	1441.51	2185.48	1813.5	4.05	Si
SLV 5	-12454	0.52	447.78	1636.97	2427.07	2032.02	4.54	Si
SLV 6	-12504	0.52	447.78	1643.07	2434.66	2038.87	4.55	Si
SLV 11	-12579	0.52	447.78	1652.35	2446.22	2049.29	4.58	Si
SLV 12	-12629	0.52	447.78	1658.45	2453.82	2056.13	4.59	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-12057	-9801	-450	1.496	1721.3	0.925	23.50805	6.05458	Si
SLV 1	-11951	-9838	-449	1.506	1710.6	0.924	23.67946	6.05458	Si
SLV 6	-12463	-12585	-1446	1.394	1762.2	0.926	21.87521	5.43428	Si
SLV 5	-12392	-12610	-1445	1.4	1754.9	0.926	21.97931	5.43428	Si
SLV 4	-11344	-9545	415	1.57	1649.6	0.922	24.73766	6.05458	Si
SLV 3	-11238	-9581	416	1.581	1638.9	0.922	24.92513	6.05458	Si
SLV 10	-12113	-14709	-1434	1.426	1727	0.925	22.40218	5.43428	Si
SLV 9	-12042	-14734	-1434	1.432	1719.8	0.925	22.51135	5.43428	Si
SLV 14	-10891	-16882	-411	1.619	1604.1	0.921	25.56646	6.05458	Si
SLV 13	-10785	-16919	-410	1.632	1593.5	0.92	25.76906	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.317	SLU 48	Si
V_SLU	10.627	SLU 78	Si
PF_SLV	3.581	SLV 16	Si
V_SLV	14.479	SLV 14	Si
PFFP_SLV	3.57	SLV 3	Si
R_SLV	3.883	SLV 2	Si

Maschio 235

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.414	-11.003	-0.749	L7	L8	2.666	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	11.5	1010.8	-10401	-0.0000258	0.0003743	0.0035	2.6656	11965.29	12577.21	12577.21	12.44	No	Si
SLU 69	14.6	-2272.01	-649	-0.0003326	0.0003743	0.0035	2.1325	0	2789.73	2789.73	1.23	No	Si
SLU 72	11.5	1064.65	-10317	-0.0000259	0.0003743	0.0035	2.6656	11883.5	12496.41	12496.41	11.74	No	Si
SLU 72	14.6	-2173.38	-561	-0.0003319	0.0003743	0.0035	2.1325	0	2676.45	2676.45	1.23	No	Si
SLU 80	11.5	1273.41	-10913	-0.0000281	0.0003743	0.0035	2.6656	12455.82	13069.47	13069.47	10.26	No	Si
SLU 80	14.6	-2193.83	-650	-0.0003132	0.0003743	0.0035	2.1325	0	2791.5	2791.5	1.27	No	Si
SLU 71	11.5	1027.79	-10250	-0.0000256	0.0003743	0.0035	2.6656	11818.75	12432.72	12432.72	12.1	No	Si
SLU 71	14.6	-2166	-552	-0.0003326	0.0003743	0.0035	2.1325	0	2664.63	2664.63	1.23	No	Si
SLU 77	11.5	1219.56	-10997	-0.0000281	0.0003743	0.0035	2.6656	12535.85	13151.07	13151.07	10.78	No	Si
SLU 77	14.6	-2292.46	-737	-0.0003144	0.0003743	0.0035	2.1325	0	2904.5	2904.5	1.27	No	Si
SLU 66	11.5	992.92	-10158	-0.0000252	0.0003743	0.0035	2.6656	11729.02	12344.8	12344.8	12.43	No	Si
SLU 66	14.6	-2163.25	-614	-0.0003152	0.0003743	0.0035	2.1325	0	2745.01	2745.01	1.27	No	Si
SLU 79	11.5	1236.54	-10846	-0.0000278	0.0003743	0.0035	2.6656	12392.47	13005.15	13005.15	10.52	No	Si
SLU 79	14.6	-2186.45	-641	-0.0003138	0.0003743	0.0035	2.1325	0	2779.73	2779.73	1.27	No	Si
SLU 70	11.5	1047.66	-10468	-0.0000261	0.0003743	0.0035	2.6656	12029.68	12641.07	12641.07	12.07	No	Si
SLU 70	14.6	-2279.4	-658	-0.000332	0.0003743	0.0035	2.1325	0	2801.5	2801.5	1.23	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 67	11.5	1029.79	-10225	-0.0000255	0.0003743	0.0035	2.6656	11793.98	12408.4	12408.4	12.05	No	Si
SLU 67	14.6	-2170.63	-623	-0.0003146	0.0003743	0.0035	2.1325	0	2756.79	2756.79	1.27	No	Si
SLU 78	11.5	1256.42	-11064	-0.0000284	0.0003743	0.0035	2.6656	12598.85	13215.56	13215.56	10.52	No	Si
SLU 78	14.6	-2299.85	-746	-0.0003139	0.0003743	0.0035	2.1325	0	2916.26	2916.26	1.27	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	11.5	-695.61	-2260	-0.0000075	0.0005615	0.0035	2.6656		4861.84	4861.84	6.99		Si
SLV 7	14.6	-1375.1	759	0.0474185	0.0005615	0.0035	2.1325		0	0	0		No
SLD 8	11.5	-69.62	-4528	-0.0000093	0.0005615	0.0035	2.6656		7721.73	7721.73	110.91		Si
SLD 8	14.6	-1401.77	337	0.0214258	0.0005615	0.0035	2.1325		0	0	0		No
SLV 8	11.5	-686.79	-2452	-0.0000079	0.0005615	0.0035	2.6656		5105.43	5105.43	7.43		Si
SLV 8	14.6	-1372.38	797	0.0496951	0.0005615	0.0035	2.1325		0	0	0		No
SLD 3	11.5	698.43	-6692	-0.0000165	0.0005615	0.0035	2.6656		8865.01	8865.01	12.69		Si
SLD 3	14.6	-1766.2	517	0.03279	0.0005615	0.0035	2.1325		0	0	0		No
SLV 1	11.5	1547.46	-9261	-0.0000256	0.0005615	0.0035	2.6656		11930.89	11930.89	7.71		Si
SLV 1	14.6	-2088.21	559	0.0355777	0.0005615	0.0035	2.1325		0	0	0		No
SLD 4	11.5	706.74	-6872	-0.0000169	0.0005615	0.0035	2.6656		9084.33	9084.33	12.85		Si
SLD 4	14.6	-1763.63	552	0.0349656	0.0005615	0.0035	2.1325		0	0	0		No
SLD 1	11.5	1249.96	-8520	-0.0000227	0.0005615	0.0035	2.6656		11056.88	11056.88	8.85		Si
SLD 1	14.6	-1848.78	239	0.0147519	0.0005615	0.0035	2.1325		0	0	0		No
SLV 2	11.5	1560.55	-9545	-0.0000262	0.0005615	0.0035	2.6656		12262.97	12262.97	7.86		Si
SLV 2	14.6	-2084.16	615	0.0390032	0.0005615	0.0035	2.1325		0	0	0		No
SLV 4	11.5	618.82	-6423	-0.0000156	0.0005615	0.0035	2.6656		8537.37	8537.37	13.8		Si
SLV 4	14.6	-1946.29	1087	0.0678415	0.0005615	0.0035	2.1325		0	0	0		No
SLV 3	11.5	605.73	-6138	-0.0000149	0.0005615	0.0035	2.6656		8190.73	8190.73	13.52		Si
SLV 3	14.6	-1950.34	1031	0.064454	0.0005615	0.0035	2.1325		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	11.5	1219.56	-10997	-9157	3935	2.6656	2.6656	-12269	8580	6404	35683	22350	6797	29147	No	7.41	Si
SLU 77	14.6	-2292.46	-737	-614	2901	2.1325	0	0	0	0	35683	17880	5438	23318	No	8.04	Si
SLU 78	11.5	1256.42	-11064	-9213	3974	2.6656	2.6656	-12343	8590	6412	35683	22350	6797	29147	No	7.34	Si
SLU 78	14.6	-2299.85	-746	-621	2927	2.1325	0	0	0	0	35683	17880	5438	23318	No	7.97	Si
SLU 83	11.5	1308.14	-10858	-9042	3799	2.6656	2.6656	-12114	8560	6389	35683	22350	6797	29147	No	7.67	Si
SLU 83	14.6	-2086.45	-644	-537	2764	2.1325	0	0	0	0	35683	17880	5438	23318	No	8.44	Si
SLU 75	11.5	1238.55	-10821	-9010	3779	2.6656	2.6656	-12072	8554	6385	35683	22350	6797	29147	No	7.71	Si
SLU 75	14.6	-2191.08	-712	-593	2785	2.1325	0	0	0	0	35683	17880	5438	23318	No	8.37	Si
SLU 76	11.5	1280.11	-10714	-8922	3796	2.6656	2.6656	-11953	8538	6373	35683	22350	6797	29147	No	7.68	Si
SLU 76	14.6	-2090	-622	-518	2739	2.1325	0	0	0	0	35683	17880	5438	23318	No	8.51	Si
SLU 72	11.5	1064.65	-10317	-8591	3805	2.6656	2.6656	-11510	8479	6329	35683	22350	6797	29147	No	7.66	Si
SLU 72	14.6	-2173.38	-561	-467	2703	2.1325	0	0	0	0	35683	17880	5438	23318	No	8.63	Si
SLU 84	11.5	1345	-10925	-9097	3838	2.6656	2.6656	-12189	8570	6396	35683	22350	6797	29147	No	7.59	Si
SLU 84	14.6	-2093.84	-654	-544	2791	2.1325	0	0	0	0	35683	17880	5438	23318	No	8.36	Si
SLU 80	11.5	1273.41	-10913	-9087	3965	2.6656	2.6656	-12175	8568	6395	35683	22350	6797	29147	No	7.35	Si
SLU 80	14.6	-2193.83	-650	-541	2864	2.1325	0	0	0	0	35683	17880	5438	23318	No	8.14	Si
SLU 70	11.5	1047.66	-10468	-8717	3814	2.6656	2.6656	-11679	8502	6345	35683	22350	6797	29147	No	7.64	Si
SLU 70	14.6	-2279.4	-658	-548	2766	2.1325	0	0	0	0	35683	17880	5438	23318	No	8.43	Si
SLU 79	11.5	1236.54	-10846	-9032	3926	2.6656	2.6656	-12101	8558	6387	35683	22350	6797	29147	No	7.42	Si
SLU 79	14.6	-2186.45	-641	-534	2838	2.1325	0	0	0	0	35683	17880	5438	23318	No	8.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	11.5	1768.81	-10621	-8844	3173	2.6656	2.6656	-11849	12786	9544	35683	33525	6797	40322		12.71	Si
SLD 6	14.6	-1677.01	-588	-490	3116	2.1325	0	0	0	0	35683	26820	5438	32258		10.35	Si
SLD 5	11.5	1763.46	-10504	-8747	3103	2.6656	2.6656	-11720	12761	9524	35683	33525	6797	40322		12.99	Si
SLD 5	14.6	-1678.67	-611	-509	3107	2.1325	0	0	0	0	35683	26820	5438	32258		10.38	Si
SLV 9	11.5	2267.98	-12426	-10347	2777	2.6656	2.6656	-13864	13189	9844	35683	33525	6797	40322		14.52	Si
SLV 9	14.6	-1480.07	-1528	-1272	3888	2.1325	1.0923	0	0	0	35683	26820	5438	32258		8.3	Si
SLD 10	11.5	1656.16	-10466	-8715	2719	2.6656	2.6656	-11677	12752	9518	35683	33525	6797	40322		14.83	Si
SLD 10	14.6	-1449.02	-1045	-870	3023	2.1325	0	0	0	0	35683	26820	5438	32258		10.67	Si
SLD 9	11.5	1650.81	-10350	-8619	2649	2.6656	2.6656	-11547	12726	9499	35683	33525	6797	40322		15.22	Si
SLD 9	14.6	-1450.68	-1068	-889	3014	2.1325	0	0	0	0	35683	26820	5438	32258		10.7	Si
SLV 2	11.5	1560.55	-9545	-7948	3989	2.6656	2.6656	-10649	12546	9364	35683	33525	6797	40322		10.11	Si
SLV 2	14.6	-2084.16	615	512	2693	2.1325	0	0	0	0	35683	26820	5438	32258		11.98	Si
SLV 10	11.5	2276.8	-12617	-10507	2893	2.6656	2.6656	-14077	13232	9876	35683	33525	6797	40322		13.94	Si
SLV 10	14.6	-1477.35	-1490	-1241	3902	2.1325	1.0248	0	0	0	35683	26820	5438	32258		8.27	Si
SLV 6	11.5	2452.33	-12859	-10708	3601	2.6656	2.6656	-14347	13286	9916	35683	33525	6797	40322		11.2	Si
SLV 6	14.6	-1831.96	-777	-647	4047	2.1325	0	0	0	0	35683	26820	5438	32258		7.97	Si
SLV 5	11.5	2443.51	-12668	-10549	3485	2.6656	2.6656	-14133	13243	9885	35683	33525	6797	40322		11.57	Si
SLV 5	14.6	-1834.69	-815	-678	4032	2.1325	0	0	0	0	35683	26820	5438	32258		8	Si
SLV 1	11.5	1547.46	-9261	-7712	3816	2.6656	2.6656	-10332	12483	9317	35683	33525	6797	40322		10.57	Si
SLV 1	14.6	-2088.21	559	466	2672	2.1325	0	0	0	0	35683	26820	5438	32258		12.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.52	0	-727	300.66	0	0	No, e>t/2
SLV 12	179667	0.52	0	-1516	300.66	0	0	No, e>t/2
SLV 7	179667	0.52	0	-699	300.66	0	0	No, e>t/2
SLV 11	179667	0.52	0	-1488	300.66	0	0	No, e>t/2
SLV 3	179667	0.52	0	-1766	300.66	0	0	No, e>t/2
SLV 4	179667	0.52	0	-1808	300.66	0	0	No, e>t/2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.52	4655	-3475	300.66	471.62	1.57	Si
SLV 2	179667	0.52	4711	-3517	300.66	477.13	1.59	Si
SLV 15	179667	0.52	5889	-4396	300.66	591.64	1.97	Si
SLV 16	179667	0.52	5945	-4437	300.66	597.06	1.99	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-1818	-8455	344	3.82	542.4	0.889	62.42587	6.05458	Si
SLV 14	-1762	-8739	345	3.874	537.5	0.89	63.29648	6.05458	Si
SLV 15	-1346	-5333	374	4.331	501.9	0.893	70.45049	6.05458	Si
SLV 16	-1290	-5617	376	4.401	497.3	0.894	71.52207	6.05458	Si
SLV 9	-1528	-12426	60	4.202	517.2	0.891	68.52293	5.43428	Si
SLV 10	-1490	-12617	60	4.245	514	0.892	69.19968	5.43428	Si
SLV 5	-815	-12668	-153	5.193	461	0.908	83.09524	5.43428	Si
SLV 6	-777	-12859	-153	5.26	458.4	0.91	84.01708	5.43428	Si
SLV 11	46	-2019	162	7.283	424.5	1	105.84299	5.43428	Si, Trazione
SLV 12	84	-2210	163	7.348	424.5	1	106.79603	5.43428	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.228	SLU 69	Si
V_SLU	7.335	SLU 78	Si
PF_SLV	0	SLD 1	No
V_SLV	7.971	SLV 6	Si
PFFP_SLV	0	SLV 3	No
R_SLV	10.311	SLV 13	Si

Maschio 236

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-0.354	-11.003	0.906	L7	L8	1.26	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	11.5	-123.73	-3869	-0.000019	0.0003743	0.0035	1.2599	2174.8	2606.19	2606.19	21.06	No	Si
SLU 38	14.6	1126.86	-1836	-0.0004327	0.0003743	0.0035	1.008	1097.53	1202.52	1202.52	1.07	No	Si
SLU 34	11.5	-104.46	-3755	-0.0000181	0.0003743	0.0035	1.2599	2118.04	2546.2	2546.2	24.37	No	Si
SLU 34	14.6	1050.58	-1726	-0.0003155	0.0003743	0.0035	1.008	1035.08	1138.65	1138.65	1.08	No	Si
SLU 41	11.5	-54.83	-3715	-0.000017	0.0003743	0.0035	1.2599	2098.2	2524.86	2524.86	46.05	No	Si
SLU 41	14.6	1035.39	-1680	-0.0003977	0.0003743	0.0035	1.008	1008.72	1111.74	1111.74	1.07	No	Si
SLU 33	11.5	-120.42	-3800	-0.0000187	0.0003743	0.0035	1.2599	2140.49	2569.91	2569.91	21.34	No	Si
SLU 33	14.6	1075.67	-1762	-0.0003481	0.0003743	0.0035	1.008	1055.69	1159.68	1159.68	1.08	No	Si
SLU 37	11.5	-127.81	-3875	-0.0000192	0.0003743	0.0035	1.2599	2177.79	2609.36	2609.36	20.42	No	Si
SLU 37	14.6	1105.41	-1818	-0.0003384	0.0003743	0.0035	1.008	1087.11	1191.83	1191.83	1.08	No	Si
SLU 40	11.5	-34.21	-3598	-0.000016	0.0003743	0.0035	1.2599	2039.82	2462.13	2462.13	71.98	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	14.6	966.26	-1576	-0.000318	0.0003743	0.0035	1.008	949.19	1050.36	1050.36	1.09	No	Si
SLU 42	11.5	-50.75	-3709	-0.0000168	0.0003743	0.0035	1.2599	2095.18	2521.61	2521.61	49.69	No	Si
SLU 42	14.6	1056.85	-1698	-0.000509	0.0003743	0.0035	1.008	1019.23	1122.47	1122.47	1.06	No	Si
SLU 35	11.5	-141.04	-3916	-0.0000196	0.0003743	0.0035	1.2599	2198.06	2630.95	2630.95	18.65	No	Si
SLU 35	14.6	1144.81	-1866	-0.0004438	0.0003743	0.0035	1.008	1114.54	1219.99	1219.99	1.07	No	Si
SLU 36	11.5	-136.96	-3910	-0.0000195	0.0003743	0.0035	1.2599	2195.08	2627.77	2627.77	19.19	No	Si
SLU 36	14.6	1166.26	-1885	-0.0005729	0.0003743	0.0035	1.008	1124.93	1230.65	1230.65	1.06	No	Si
SLU 78	11.5	-131.39	-4809	-0.0000234	0.0003743	0.0035	1.2599	2624.02	3095.59	3095.59	23.56	No	Si
SLU 78	14.6	1269.11	-2138	-0.0002641	0.0003743	0.0035	1.008	1266.6	1376.98	1376.98	1.09	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	11.5	-261.72	-4076	-0.0000226	0.0005615	0.0035	1.2599		2773.98	2773.98	10.6		Si
SLV 12	14.6	-870.91	29	-0.0014022	0.0005615	0.0035	1.008		355.35	355.35	0.41		No
SLV 11	11.5	-279.32	-4041	-0.0000228	0.0005615	0.0035	1.2599		2754.61	2754.61	9.86		Si
SLV 11	14.6	-869.19	49	-0.0014021	0.0005615	0.0035	1.008		292.69	292.69	0.34		No
SLV 8	11.5	142.95	-4748	-0.0000231	0.0005615	0.0035	1.2599		2880.38	2880.38	20.15		Si
SLV 8	14.6	-1389.3	128	-0.0021489	0.0005615	0.0035	1.008		0	0	0		No
SLV 9	11.5	-357.22	-2211	-0.0000164	0.0005615	0.0035	1.2599		1709.04	1709.04	4.78		Si
SLV 9	14.6	2813.6	-2816	-0.0181911	0.0005615	0.0035	1.008		1791.21	1791.21	0.64		No
SLV 10	11.5	-339.61	-2245	-0.0000162	0.0005615	0.0035	1.2599		1729.31	1729.31	5.09		Si
SLV 10	14.6	2811.88	-2836	-0.0179893	0.0005615	0.0035	1.008		1802.9	1802.9	0.64		No
SLV 13	11.5	-806.34	-2058	-0.0000307	0.0005615	0.0035	1.008		1619.59	1619.59	2.01		Si
SLV 13	14.6	2129.83	-1924	-0.0154921	0.0005615	0.0035	1.008		1268.44	1268.44	0.6		No
SLD 13	11.5	-554.39	-2584	-0.000022	0.0005615	0.0035	1.2599		1925.59	1925.59	3.47		Si
SLD 13	14.6	1590.41	-1692	-0.0091254	0.0005615	0.0035	1.008		1129.79	1129.79	0.71		No
SLV 7	11.5	125.35	-4714	-0.0000226	0.0005615	0.0035	1.2599		2861.49	2861.49	22.83		Si
SLV 7	14.6	-1387.58	149	-0.0009501	0.0005615	0.0035	1.008		0	0	0		No
SLD 14	11.5	-537.81	-2617	-0.0000218	0.0005615	0.0035	1.2599		1944.34	1944.34	3.62		Si
SLD 14	14.6	1588.79	-1711	-0.0089283	0.0005615	0.0035	1.008		1141.17	1141.17	0.72		No
SLV 14	11.5	-780.19	-2109	-0.0000288	0.0005615	0.0035	1.008		1649.73	1649.73	2.11		Si
SLV 14	14.6	2127.28	-1955	-0.0151858	0.0005615	0.0035	1.008		1286.33	1286.33	0.6		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 37	11.5	-127.81	-3875	-3227	132	1.2599	1.2599	-9147	8164	2880	35683	10564	3213	13777	No	104.24	Si
SLU 37	14.6	1105.41	-1818	-1514	-661	1.008	0.0654	0	0	0	35683	8451	2570	11021	No	16.68	Si
SLU 38	11.5	-123.73	-3869	-3222	132	1.2599	1.2599	-9132	8162	2879	35683	10564	3213	13777	No	104.27	Si
SLU 38	14.6	1126.86	-1836	-1529	-678	1.008	0.0487	0	0	0	35683	8451	2570	11021	No	16.26	Si
SLU 77	11.5	-135.47	-4815	-4010	152	1.2599	1.2599	-11366	8460	2985	35683	10564	3213	13777	No	90.37	Si
SLU 77	14.6	1247.66	-2119	-1765	-719	1.008	0.1239	0	0	0	35683	8451	2570	11021	No	15.32	Si
SLU 36	11.5	-136.96	-3910	-3256	120	1.2599	1.2599	-9229	8175	2884	35683	10564	3213	13777	No	115.24	Si
SLU 36	14.6	1166.26	-1885	-1569	-698	1.008	0.0334	0	0	0	35683	8451	2570	11021	No	15.8	Si
SLU 78	11.5	-131.39	-4809	-4005	152	1.2599	1.2599	-11352	8458	2984	35683	10564	3213	13777	No	90.38	Si
SLU 78	14.6	1269.11	-2138	-1780	-737	1.008	0.109	0	0	0	35683	8451	2570	11021	No	14.96	Si
SLU 35	11.5	-141.04	-3916	-3261	120	1.2599	1.2599	-9244	8177	2885	35683	10564	3213	13777	No	115.22	Si
SLU 35	14.6	1144.81	-1866	-1554	-680	1.008	0.0495	0	0	0	35683	8451	2570	11021	No	16.2	Si
SLU 83	11.5	-49.26	-4614	-3842	248	1.2599	1.2599	-10891	8397	2962	35683	10564	3213	13777	No	55.6	Si
SLU 83	14.6	1138.24	-1933	-1610	-635	1.008	0.1234	0	0	0	35683	8451	2570	11021	No	17.36	Si
SLU 33	11.5	-120.42	-3800	-3164	136	1.2599	1.2599	-8969	8140	2872	35683	10564	3213	13777	No	101.32	Si
SLU 33	14.6	1075.67	-1762	-1467	-625	1.008	0.0587	0	0	0	35683	8451	2570	11021	No	17.64	Si
SLU 80	11.5	-118.15	-4768	-3971	165	1.2599	1.2599	-11255	8445	2979	35683	10564	3213	13777	No	83.49	Si
SLU 80	14.6	1229.71	-2089	-1740	-717	1.008	0.1242	0	0	0	35683	8451	2570	11021	No	15.37	Si
SLU 84	11.5	-45.17	-4608	-3837	248	1.2599	1.2599	-10877	8395	2962	35683	10564	3213	13777	No	55.61	Si
SLU 84	14.6	1159.69	-1951	-1625	-652	1.008	0.1071	0	0	0	35683	8451	2570	11021	No	16.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	11.5	142.95	-4748	-3954	866	1.2599	1.2599	-11208	12658	4466	35683	15846	3213	19059		22.01	Si
SLV 8	14.6	-1389.3	128	107	1302	1.008	0	0	0	0	35683	12677	2570	15247		11.71	Si
SLV 9	11.5	-357.22	-2211	-1841	-691	1.2599	1.2599	-5218	11460	4043	35683	15846	3213	19059		27.6	Si
SLV 9	14.6	2813.6	-2816	-2345	-2062	1.008	0	0	0	0	35683	12677	2570	15247		7.4	Si
SLD 10	11.5	-255.04	-2738	-2280	-367	1.2599	1.2599	-6463	11709	4131	35683	15846	3213	19059		51.89	Si
SLD 10	14.6	1956.5	-2221	-1849	-1368	1.008	0	0	0	0	35683	12677	2570	15247		11.14	Si
SLV 14	11.5	-780.19	-2109	-1757	-562	1.008	0.7804	0	0	0	35683	12677	2570	15247		27.14	Si
SLV 14	14.6	2127.28	-1955	-1628	-1550	1.008	0	0	0	0	35683	12677	2570	15247		9.84	Si
SLV 5	11.5	47.45	-2884	-2401	-407	1.2599	1.2599	-6807	11778	4155	35683	15846	3213	19059		46.82	Si
SLV 5	14.6	2295.21	-2717	-2262	-1615	1.008	0	0	0	0	35683	12677	2570	15247		9.44	Si
SLV 6	11.5	65.06	-2918	-2430	-391	1.2599	1.2599	-6888	11794	4161	35683	15846	3213	19059		48.71	Si
SLV 6	14.6	2293.49	-2737	-2279	-1602	1.008	0	0	0	0	35683	12677	2570	15247		9.52	Si
SLD 9	11.5	-265.72	-2717	-2263	-377	1.2599	1.2599	-6414	11699	4127	35683	15846	3213	19059		50.57	Si
SLD 9	14.6	1957.54	-2209	-1839	-1376	1.008	0	0	0	0	35683	12677	2570	15247		11.08	Si
SLV 7	11.5	125.35	-4714	-3925	850	1.2599	1.2599	-11127	12642	4460	35683	15846	3213	19059		22.42	Si
SLV 7	14.6	-1387.58	149	124	1289	1.008	0	0	0	0	35683	12677	2570	15247		11.83	Si
SLV 10	11.5	-339.61	-2245	-1870	-675	1.2599	1.2599	-5300	11477	4049	35683	15846	3213	19059		28.24	Si
SLV 10	14.6	2811.88	-2836	-2362	-2048	1.008	0	0	0	0	35683	12677	2570	15247		7.44	Si
SLV 13	11.5	-806.34	-2058	-1714	-585	1.008	0.7145	0	0	0	35683	12677	2570	15247		26.05	Si
SLV 13	14.6	2129.83	-1924	-1603	-1570	1.008	0	0	0	0	35683	12677	2570	15247		9.71	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	3111	-1098	142.11	150.53	1.06	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.52	3206	-1131	142.11	155.02	1.09	Si
SLV 15	179667	0.52	4186	-1477	142.11	201.06	1.41	Si
SLV 16	179667	0.52	4327	-1526	142.11	207.63	1.46	Si
SLV 7	179667	0.52	4397	-1551	142.11	210.93	1.48	Si
SLV 8	179667	0.52	4492	-1585	142.11	215.34	1.52	Si
SLV 13	179667	0.52	6413	-2262	142.11	303.43	2.14	Si
SLV 14	179667	0.52	6554	-2312	142.11	309.79	2.18	Si
SLV 3	179667	0.52	8473	-2989	142.11	395.27	2.78	Si
SLV 4	179667	0.52	8614	-3039	142.11	401.45	2.82	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-2737	-2918	-261	1.889	437.1	0.911	30.12037	5.43428	Si
SLV 10	-2836	-2245	-54	1.895	447	0.913	30.17283	5.43428	Si
SLV 5	-2717	-2884	-260	1.899	435.1	0.911	30.29576	5.43428	Si
SLV 9	-2816	-2211	-53	1.905	445	0.912	30.34395	5.43428	Si
SLV 14	-1955	-2109	245	2.385	359.8	0.9	38.52228	6.05458	Si
SLV 13	-1924	-2058	247	2.409	356.9	0.899	38.92218	6.05458	Si
SLV 2	-1623	-4352	-444	2.606	327.6	0.895	42.3297	6.05458	Si
SLV 1	-1593	-4301	-443	2.637	324.7	0.894	42.84653	6.05458	Si
SLV 16	-1095	-2659	295	3.328	277.7	0.889	54.3989	6.05458	Si
SLV 15	-1065	-2607	297	3.375	274.9	0.889	55.17883	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.055	SLU 36	Si
V_SLU	14.963	SLU 78	Si
PF_SLV	0	SLV 7	No
V_SLV	7.395	SLV 9	Si
PFFP_SLV	1.059	SLV 11	Si
R_SLV	5.543	SLV 6	Si

Maschio 238

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.521	L7	L8	5.38	0.2	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	11.5	-1042.24	-15778	-0.0000207	0.0004492	0.0035	5.38	37349.52	56171.76	56171.76	53.9	No	Si
SLU 84	14.6	-4647.96	-1776	-0.0000316	0.0004492	0.0035	4.304	4712.85	21944.49	21944.49	4.72	No	Si
SLU 80	11.5	-1177.99	-16187	-0.0000214	0.0004492	0.0035	5.38	38181.4	57121.33	57121.33	48.49	No	Si
SLU 80	14.6	-4911.94	-1873	-0.0000336	0.0004492	0.0035	4.304	4967.46	22194.27	22194.27	4.52	No	Si
SLU 78	11.5	-1268.58	-16394	-0.0000218	0.0004492	0.0035	5.38	38600.68	57602.9	57602.9	45.41	No	Si
SLU 78	14.6	-5051.18	-1925	-0.0000346	0.0004492	0.0035	4.304	5103.21	22327.6	22327.6	4.42	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	11.5	-1218.4	-16297	-0.0000216	0.0004492	0.0035	5.38	38404.31	57377.1	57377.1	47.09	No	Si
SLU 79	14.6	-4983.01	-1900	-0.0000341	0.0004492	0.0035	4.304	5036.54	22262.1	22262.1	4.47	No	Si
SLU 70	11.5	-1763.15	-15765	-0.0000217	0.0004492	0.0035	5.38	37322.61	56141.18	56141.18	31.84	No	Si
SLU 70	14.6	-4648.35	-1775	-0.0000316	0.0004492	0.0035	4.304	4711	21942.68	21942.68	4.72	No	Si
SLU 77	11.5	-1308.98	-16504	-0.000022	0.0004492	0.0035	5.38	38822.65	57858.67	57858.67	44.2	No	Si
SLU 77	14.6	-5122.25	-1952	-0.0000351	0.0004492	0.0035	4.304	5172.23	22395.42	22395.42	4.37	No	Si
SLU 35	11.5	-642.71	-13923	-0.0000178	0.0004492	0.0035	5.38	33485.87	51859.66	51859.66	80.69	No	Si
SLU 35	14.6	-4614.84	-1763	-0.0000313	0.0004492	0.0035	4.304	4679.57	21911.87	21911.87	4.75	No	Si
SLU 74	11.5	-1385.19	-15826	-0.0000212	0.0004492	0.0035	5.38	37447.02	56282.65	56282.65	40.63	No	Si
SLU 74	14.6	-4685.64	-1790	-0.0000318	0.0004492	0.0035	4.304	4749.76	21980.68	21980.68	4.69	No	Si
SLU 69	11.5	-1803.56	-15875	-0.0000219	0.0004492	0.0035	5.38	37547.42	56396.96	56396.96	31.27	No	Si
SLU 69	14.6	-4719.42	-1802	-0.0000321	0.0004492	0.0035	4.304	4780.18	22010.51	22010.51	4.66	No	Si
SLU 83	11.5	-1082.64	-15888	-0.0000209	0.0004492	0.0035	5.38	37574.26	56427.54	56427.54	52.12	No	Si
SLU 83	14.6	-4719.04	-1802	-0.0000321	0.0004492	0.0035	4.304	4782.03	22012.32	22012.32	4.66	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	11.5	-1330.14	-5526	-0.0000084	0.0006738	0.0035	5.38		31502.78	31502.78	23.68		Si
SLD 6	14.6	922.12	317	-0.0002261	0.0006738	0.0035	4.304		2103.29	2103.29	2.28		Si
SLV 7	11.5	1978.29	-19060	-0.0000259	0.0006738	0.0035	5.38		50803.75	50803.75	25.68		Si
SLV 7	14.6	-8354.93	-3149	-0.0000594	0.0006738	0.0035	4.304		25454.45	25454.45	3.05		Si
SLV 12	11.5	-1349.18	-19766	-0.0000259	0.0006738	0.0035	5.38		66229.81	66229.81	49.09		Si
SLV 12	14.6	-9034.51	-3402	-0.0000645	0.0006738	0.0035	4.304		26104.43	26104.43	2.89		Si
SLD 5	11.5	-1333.35	-5633	-0.0000086	0.0006738	0.0035	5.38		31775.4	31775.4	23.83		Si
SLD 5	14.6	853.23	292	-0.0002077	0.0006738	0.0035	4.304		2170.85	2170.85	2.54		Si
SLV 5	11.5	-1447.63	-1970	-0.0000043	0.0006738	0.0035	5.38		22431.35	22431.35	15.5		Si
SLV 5	14.6	3410.68	1247	-0.0011344	0.0006738	0.0035	5.38		0	0	0		No
SLV 11	11.5	-1354.48	-19942	-0.0000261	0.0006738	0.0035	5.38		66650.34	66650.34	49.21		Si
SLV 11	14.6	-9148.03	-3444	-0.0000654	0.0006738	0.0035	4.304		26211.74	26211.74	2.87		Si
SLV 10	11.5	-4775.11	-2676	-0.0000127	0.0006738	0.0035	4.304		24242.32	24242.32	5.08		Si
SLV 10	14.6	2731.1	993	-0.0008229	0.0006738	0.0035	4.304		317.9	317.9	0.12		No
SLV 8	11.5	1983.58	-18883	-0.0000257	0.0006738	0.0035	5.38		50382.2	50382.2	25.4		Si
SLV 8	14.6	-8241.41	-3106	-0.0000586	0.0006738	0.0035	4.304		25346.15	25346.15	3.08		Si
SLV 9	11.5	-4780.4	-2853	-0.0000121	0.0006738	0.0035	4.304		24695.69	24695.69	5.17		Si
SLV 9	14.6	2617.58	951	-0.0007763	0.0006738	0.0035	4.304		429.47	429.47	0.16		No
SLV 6	11.5	-1442.34	-1793	-0.0000041	0.0006738	0.0035	5.38		21977.98	21977.98	15.24		Si
SLV 6	14.6	3524.2	1289	-0.0011916	0.0006738	0.0035	5.38		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	11.5	-1082.64	-15888	-10168	6006	5.38	5.38	-9450	9593	10322	101952	38669	27438	66107	No	11.01	Si
SLU 83	14.6	-4719.04	-1802	-1154	5977	4.304	0.2155	0	0	0	101952	30935	21950	52885	No	8.85	Si
SLU 37	11.5	-552.12	-13715	-8778	5856	5.38	5.38	-8158	9421	10137	101952	38669	27438	66107	No	11.29	Si
SLU 37	14.6	-4475.6	-1711	-1095	5817	4.304	0.224	0	0	0	101952	30935	21950	52885	No	9.09	Si
SLU 74	11.5	-1385.19	-15826	-10129	5855	5.38	5.38	-9413	9588	10317	101952	38669	27438	66107	No	11.29	Si
SLU 74	14.6	-4685.64	-1790	-1146	5824	4.304	0.2173	0	0	0	101952	30935	21950	52885	No	9.08	Si
SLU 84	11.5	-1042.24	-15778	-10098	5924	5.38	5.38	-9385	9585	10313	101952	38669	27438	66107	No	11.16	Si
SLU 84	14.6	-4647.96	-1776	-1137	5895	4.304	0.2186	0	0	0	101952	30935	21950	52885	No	8.97	Si
SLU 35	11.5	-642.71	-13923	-8910	6006	5.38	5.38	-8281	9437	10155	101952	38669	27438	66107	No	11.01	Si
SLU 35	14.6	-4614.84	-1763	-1128	5969	4.304	0.2184	0	0	0	101952	30935	21950	52885	No	8.86	Si
SLU 36	11.5	-602.3	-13813	-8840	5924	5.38	5.38	-8216	9429	10145	101952	38669	27438	66107	No	11.16	Si
SLU 36	14.6	-4543.76	-1737	-1112	5888	4.304	0.2216	0	0	0	101952	30935	21950	52885	No	8.98	Si
SLU 80	11.5	-1177.99	-16187	-10359	6237	5.38	5.38	-9628	9617	10359	101952	38669	27438	66107	No	10.6	Si
SLU 80	14.6	-4911.94	-1873	-1199	6192	4.304	0.2039	0	0	0	101952	30935	21950	52885	No	8.54	Si
SLU 79	11.5	-1218.4	-16297	-10430	6320	5.38	5.38	-9693	9626	10388	101952	38669	27438	66107	No	10.46	Si
SLU 79	14.6	-4983.01	-1900	-1216	6273	4.304	0.2011	0	0	0	101952	30935	21950	52885	No	8.43	Si
SLU 78	11.5	-1268.58	-16394	-10492	6387	5.38	5.38	-9751	9633	10412	101952	38669	27438	66107	No	10.35	Si
SLU 78	14.6	-5051.18	-1925	-1232	6344	4.304	0.1993	0	0	0	101952	30935	21950	52885	No	8.34	Si
SLU 77	11.5	-1308.98	-16504	-10563	6470	5.38	5.38	-9816	9642	10441	101952	38669	27438	66107	No	10.22	Si
SLU 77	14.6	-5122.25	-1952	-1249	6426	4.304	0.1966	0	0	0	101952	30935	21950	52885	No	8.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	11.5	4666.16	-12092	-7739	6630	5.38	5.38	-7192	13938	14998	101952	58003	27438	85441		12.89	Si
SLV 3	14.6	-3339.23	-1275	-816	6009	4.304	0.2159	0	0	0	101952	46403	21950	68353		11.38	Si
SLD 8	11.5	668.64	-15538	-9944	8639	5.38	5.38	-9242	14348	15439	101952	58003	27438	85441		9.89	Si
SLD 8	14.6	-5969.19	-2258	-1445	7443	4.304	0.1378	0	0	0	101952	46403	21950	68353		9.18	Si
SLV 12	11.5	-1349.18	-19766	-12650	12087	5.38	5.38	-11757	14851	15980	101952	58003	27438	85441		7.07	Si
SLV 12	14.6	-9034.51	-3402	-2177	10057	4.304	0.1032	0	0	0	101952	46403	21950	68353		6.8	Si
SLD 11	11.5	-1466.68	-16210	-10375	8543	5.38	5.38	-9642	14428	15525	101952	58003	27438	85441		10	Si
SLD 11	14.6	-6545.95	-2472	-1582	7344	4.304	0.127	0	0	0	101952	46403	21950	68353		9.31	Si
SLV 8	11.5	1983.58	-18883	-12085	12382	5.38	5.38	-11232	14746	15867	101952	58003	27438	85441		6.9	Si
SLV 8	14.6	-8241.41	-3106	-1988	10354	4.304	0.1108	0	0	0	101952	46403	21950	68353		6.6	Si
SLV 10	11.5	-4775.11	-2676	-1713	-5873	4.304	2.717	0	0	0	101952	46403	21950	68353		11.64	Si
SLV 10	14.6	2731.1	993	636	-3880	4.304	0	0	0	0	101952	46403	21950	68353		17.61	Si
SLD 7	11.5	665.42	-15645	-10013	8732	5.38	5.38	-9306	14361	15453	101952	58003	27438	85441		9.79	Si
SLD 7	14.6	-6038.07	-2283	-1461	7534	4.304	0.1363	0	0	0	101952	46403	21950	68353		9.07	Si
SLV 7	11.5	1978.29	-19060	-12198	12534	5.38	5.38	-11337	14767	15890	101952	58003	27438	85441		6.82	Si
SLV 7	14.6	-8354.93	-3149	-2015	10504	4.304	0.1094	0	0	0	101952	46403	21950	68353		6.51	Si
SLD 12	11.5	-1463.47	-16103	-10306	8451	5.38	5.38	-9578	14416	15511	101952	58003	27438	85441		10.11	Si
SLD 12	14.6	-6477.06	-2447	-1566	7253	4.304	0.1283	0	0	0	101952	46403	21950	68353		9.42	Si
SLV 11	11.5	-1354.48	-19942	-12763	12238	5.38	5.38	-11862	14872	16003	101952	58003	27438	85441		6.98	Si
SLV 11	14.6	-9148.03	-3444	-2204	10208	4.304	0.102	0	0	0	101952	46403	21950	68353		6.7	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.08 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	1712	0.52	444	0	0	0	0	No
SLV 6	1889	0.52	444	0	0	0	0	No
SLV 10	1008	0.52	444	0	208.08	104.04	0.23	No
SLV 9	832	0.52	444	0	319.53	159.77	0.36	No
SLV 2	-3274	0.52	444	0	857.98	428.99	0.97	No
SLV 1	-3537	0.52	444	0	889.65	444.83	1	Si
SLV 14	-6210	0.52	444	601.47	1206.34	903.9	2.04	Si
SLV 13	-6473	0.52	444	626.03	1237.08	931.55	2.1	Si
SLD 6	-1993	0.22	183.72	197.33	701.99	449.66	2.45	Si
SLD 5	-2101	0.22	183.72	207.84	715.17	461.5	2.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.04 Ta = 0.0802

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-3444	-19942	192	4.705	856.6	0.889	76.89134	6.04378	Si
SLV 12	-3402	-19766	193	4.736	852.7	0.889	77.40152	6.04378	Si
SLV 15	-2261	-15034	989	5.605	750.6	0.891	91.43271	7.07305	Si
SLV 16	-2198	-14771	989	5.672	745.2	0.891	92.48676	7.07305	Si
SLV 7	-3149	-19060	-421	4.893	829.4	0.889	79.99185	6.04378	Si
SLV 8	-3106	-18883	-421	4.926	825.5	0.889	80.54364	6.04378	Si
SLV 3	-1275	-12092	-1056	6.873	671.8	0.905	110.33449	7.07305	Si
SLV 4	-1213	-11829	-1056	6.974	667.3	0.907	111.74948	7.07305	Si
SLV 13	-942	-9907	1058	7.45	649.1	0.917	118.11565	7.07305	Si
SLV 14	-880	-9644	1058	7.57	645.2	0.919	119.6537	7.07305	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.372	SLU 77	Si
V_SLU	8.23	SLU 77	Si
PF_SLV	0	SLV 5	No
V_SLV	6.507	SLV 7	Si
PFFP_SLV	0	SLV 5	No
R_SLV	12.722	SLV 11	Si

Maschio 240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-11.003	-3.169	L7	L8	1.56	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	11.5	2243.17	-1731	-0.000165	0.0003743	0.0035	1.5599	0	11314.15	11314.15	5.04	No	Si
SLU 81	13.6	-1956.28	-4259	-0.0000477	0.0003743	0.0035	1.5599	3003.56	12762.61	12762.61	6.52	No	Si
SLU 76	11.5	2177.63	-2009	-0.0001381	0.0003743	0.0035	1.5599	0	11497.33	11497.33	5.28	No	Si
SLU 76	13.6	-1934.94	-4350	-0.0000468	0.0003743	0.0035	1.5599	3060.92	12805.47	12805.47	6.62	No	Si
SLU 83	11.5	2214.71	-1884	-0.0001509	0.0003743	0.0035	1.5599	0	11415.97	11415.97	5.15	No	Si
SLU 83	13.6	-1916.74	-4307	-0.0000464	0.0003743	0.0035	1.5599	3034.02	12785.36	12785.36	6.67	No	Si
SLU 39	11.5	2033.65	-1119	-0.0001817	0.0003743	0.0035	1.5599	0	10786.92	10786.92	5.3	No	Si
SLU 39	13.6	-1731.84	-3639	-0.0000426	0.0003743	0.0035	1.5599	2605.81	12466.02	12466.02	7.2	No	Si
SLU 42	11.5	2044.97	-1254	-0.0001727	0.0003743	0.0035	1.5599	0	10904.6	10904.6	5.33	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	13.6	-1734.92	-3733	-0.0000422	0.0003743	0.0035	1.5599	2666.88	12511.51	12511.51	7.21	No	Si
SLU 82	11.5	2282.94	-1712	-0.0001717	0.0003743	0.0035	1.5599	0	11298.38	11298.38	4.95	No	Si
SLU 82	13.6	-1998.91	-4304	-0.000049	0.0003743	0.0035	1.5599	3032.21	12784.01	12784.01	6.4	No	Si
SLU 73	11.5	2206.09	-1856	-0.0001516	0.0003743	0.0035	1.5599	0	11398.05	11398.05	5.17	No	Si
SLU 73	13.6	-1974.49	-4302	-0.0000482	0.0003743	0.0035	1.5599	3030.53	12782.76	12782.76	6.47	No	Si
SLU 84	11.5	2254.48	-1865	-0.0001574	0.0003743	0.0035	1.5599	0	11403.83	11403.83	5.06	No	Si
SLU 84	13.6	-1959.37	-4353	-0.0000476	0.0003743	0.0035	1.5599	3062.59	12806.72	12806.72	6.54	No	Si
SLU 75	11.5	2196.53	-2145	-0.0001321	0.0003743	0.0035	1.5599	0	11584.77	11584.77	5.27	No	Si
SLU 75	13.6	-1981.27	-4604	-0.0000477	0.0003743	0.0035	1.5599	3218.98	12923.74	12923.74	6.52	No	Si
SLU 40	11.5	2073.43	-1101	-0.0001889	0.0003743	0.0035	1.5599	0	10770.51	10770.51	5.19	No	Si
SLU 40	13.6	-1774.47	-3684	-0.0000439	0.0003743	0.0035	1.5599	2635.45	12488.1	12488.1	7.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	11.5	3599.48	1078	0.0006473	0.0005615	0.0035	1.2479		934.76	934.76	0.26		No
SLV 3	13.6	-3293.09	-4170	-0.0001466	0.0005615	0.0035	1.5599		13773.95	13773.95	4.18		Si
SLV 5	11.5	5336.76	-46	-0.0010904	0.0005615	0.0035	1.5599		9732.45	9732.45	1.82		Si
SLV 5	13.6	-5332.35	-8025	-0.000195	0.0005615	0.0035	1.5599		15680.77	15680.77	2.94		Si
SLV 2	11.5	6077.06	2052	0.0014847	0.0005615	0.0035	1.2479		0	0	0		No
SLV 2	13.6	-5836.71	-7347	-0.0002794	0.0005615	0.0035	1.5599		15386.5	15386.5	2.64		Si
SLV 6	11.5	5754.63	280	-0.0013198	0.0005615	0.0035	1.5599		8931.23	8931.23	1.55		Si
SLV 6	13.6	-5736.19	-8409	-0.0002201	0.0005615	0.0035	1.5599		15844.07	15844.07	2.76		Si
SLV 11	11.5	-2899.09	-3617	-0.0001305	0.0005615	0.0035	1.5599		13415.5	13415.5	4.63		Si
SLV 11	13.6	3092.71	2282	0.0031722	0.0005615	0.0035	1.2479		0	0	0		No
SLV 1	11.5	5456.35	1568	0.0008006	0.0005615	0.0035	1.2479		0	0	0		No
SLV 1	13.6	-5236.84	-6777	-0.0002373	0.0005615	0.0035	1.5599		15122.94	15122.94	2.89		Si
SLV 15	11.5	-3221.51	-5390	-0.0000974	0.0005615	0.0035	1.5599		14433.83	14433.83	4.48		Si
SLV 15	13.6	3193.22	1220	0.001043	0.0005615	0.0035	1.2479		0	0	0		No
SLV 12	11.5	-2481.21	-3291	-0.0001018	0.0005615	0.0035	1.5599		13198.67	13198.67	5.32		Si
SLV 12	13.6	2688.86	1898	0.002613	0.0005615	0.0035	1.2479		0	0	0		No
SLV 4	11.5	4220.19	1563	0.0013133	0.0005615	0.0035	1.2479		0	0	0		No
SLV 4	13.6	-3892.96	-4740	-0.0001851	0.0005615	0.0035	1.5599		14095.78	14095.78	3.62		Si
SLD 2	11.5	4350.98	700	-0.0001003	0.0005615	0.0035	1.5599		5324.53	5324.53	1.22		Si
SLD 2	13.6	-4156.51	-5731	-0.0001676	0.0005615	0.0035	1.5599		14607.41	14607.41	3.51		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	11.5	2282.94	-1712	-1426	3825	1.5599	0	-21230	10833	1782	12369	13079	3978	14151	No	3.7	Si
SLU 82	13.6	-1998.91	-4304	-3584	3831	1.5599	0.9467	-13365	8739	2358	12369	13079	3978	14727	No	3.84	Si
SLU 74	11.5	2156.75	-2163	-1802	3664	1.5599	0	-21011	10620	1882	12369	13079	3978	14251	No	3.89	Si
SLU 74	13.6	-1938.65	-4558	-3796	3666	1.5599	1.0639	-12727	8648	2576	12369	13079	3978	14945	No	4.08	Si
SLU 73	11.5	2206.09	-1856	-1546	3722	1.5599	0	-21096	10833	1814	12369	13079	3978	14183	No	3.81	Si
SLU 73	13.6	-1974.49	-4302	-3582	3730	1.5599	0.9628	-13157	8710	2357	12369	13079	3978	14726	No	3.95	Si
SLU 83	11.5	2214.71	-1884	-1568	3692	1.5599	0	-21218	10833	1820	12369	13079	3978	14189	No	3.84	Si
SLU 83	13.6	-1916.74	-4307	-3587	3694	1.5599	1.0048	-12674	8643	2432	12369	13079	3978	14801	No	4.01	Si
SLU 84	11.5	2254.48	-1865	-1553	3754	1.5599	0	-21471	10833	1816	12369	13079	3978	14185	No	3.78	Si
SLU 84	13.6	-1959.37	-4353	-3625	3759	1.5599	0.9894	-12991	8686	2406	12369	13079	3978	14776	No	3.93	Si
SLU 75	11.5	2196.53	-2145	-1786	3726	1.5599	0	-21377	10752	1878	12369	13079	3978	14247	No	3.82	Si
SLU 75	13.6	-1981.27	-4604	-3834	3732	1.5599	1.0488	-13029	8689	2552	12369	13079	3978	14921	No	4	Si
SLU 76	11.5	2177.63	-2009	-1673	3650	1.5599	0	-21117	10833	1848	12369	13079	3978	14217	No	3.89	Si
SLU 76	13.6	-1934.94	-4350	-3622	3659	1.5599	1.0054	-12794	8659	2438	12369	13079	3978	14807	No	4.05	Si
SLU 78	11.5	2168.07	-2298	-1913	3655	1.5599	0	-21071	10502	1912	12369	13079	3978	14281	No	3.91	Si
SLU 78	13.6	-1941.73	-4652	-3874	3661	1.5599	1.0877	-12724	8647	2633	12369	13079	3978	15003	No	4.1	Si
SLU 77	11.5	2128.29	-2316	-1929	3593	1.5599	0	-20637	10371	1916	12369	13079	3978	14285	No	3.98	Si
SLU 77	13.6	-1899.1	-4607	-3836	3595	1.5599	1.1031	-12432	8607	2658	12369	13079	3978	15028	No	4.18	Si
SLU 81	11.5	2243.17	-1731	-1441	3763	1.5599	0	-21030	10833	1786	12369	13079	3978	14155	No	3.76	Si
SLU 81	13.6	-1956.28	-4259	-3546	3765	1.5599	0.9618	-13037	8694	2347	12369	13079	3978	14717	No	3.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	11.5	5336.76	-46	-39	8731	1.5599	0	0	2562	2113	12369	19618	3978	14482		1.66	Si
SLV 5	13.6	-5332.35	-8025	-6683	8579	1.5599	0.3465	-44676	16250	3885	12369	19618	3978	16254		1.89	Si
SLD 5	11.5	3767.94	-669	-557	6217	1.5599	0	0	16250	2251	12369	19618	3978	14620		2.35	Si
SLD 5	13.6	-3718.9	-6008	-5003	6118	1.5599	0.4828	-29562	16250	3437	12369	19618	3978	15806		2.58	Si
SLV 6	11.5	5754.63	280	233	9386	1.5599	0	0	7404	2103	12369	19618	3978	14472		1.54	Si
SLV 6	13.6	-5736.19	-8409	-7003	9234	1.5599	0.2934	-48890	16250	3970	12369	19618	3978	16339		1.77	Si
SLV 1	11.5	5456.35	1568	1305	9116	1.2479	0	0	0	0	12369	15694	3182	12369		1.36	Si
SLV 1	13.6	-5236.84	-6777	-5643	8429	1.5599	0.0215	-47831	16250	3607	12369	19618	3978	15977		1.9	Si
SLV 2	11.5	6077.06	2052	1709	10088	1.2479	0	0	0	0	12369	15694	3182	12369		1.23	Si
SLV 2	13.6	-5836.71	-7347	-6118	9402	1.5599	0	-53703	16250	3734	12369	19618	3978	16103		1.71	Si
SLD 1	11.5	3957.19	393	327	6641	1.5599	0	0	9763	2103	12369	19618	3978	14472		2.18	Si
SLD 1	13.6	-3775.94	-5369	-4471	6203	1.5599	0.23	-32961	16250	3295	12369	19618	3978	15664		2.53	Si
SLD 2	11.5	4350.98	700	583	7258	1.5599	0	0	10031	2103	12369	19618	3978	14472		1.99	Si
SLD 2	13.6	-4156.51	-5731	-4772	6821	1.5599	0.1641	-36938	16250	3375	12369	19618	3978	15744		2.31	Si
SLD 6	11.5	4021.53	-471	-392	6614	1.5599	0	0	0	2207	12369	19618	3978	14576		2.2	Si
SLD 6	13.6	-3963.98	-6241	-5197	6515	1.5599	0.4343	-32149	16250	3488	12369	19618	3978	15858		2.43	Si
SLV 3	11.5	3599.48	1078	898	6177	1.2479	0	0	0	0	12369	15694	3182	12369		2	Si
SLV 3	13.6	-3293.09	-4170	-3472	5456	1.5599	0	-30644	16250	3028	12369	19618	3978	15398		2.82	Si
SLV 4	11.5	4220.19	1563	1301	7149	1.2479	0	0	0	0	12369	15694	3182	12369		1.73	Si
SLV 4	13.6	-3892.96	-4740	-3947	6429	1.5599	0	-36636	16250	3155	12369	19618	3978	15524		2.41	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.52	0	745	171.51	0	0	No, Trazione
SLV 11	179667	0.52	0	1007	171.51	0	0	No, Trazione
SLV 7	179667	0.52	0	-14	171.51	0	0	No, e>t/2
SLV 16	179667	0.52	0	-543	171.51	0	0	No, e>t/2
SLV 15	179667	0.52	0	-154	171.51	0	0	No, e>t/2
SLV 8	179667	0.52	0	-276	171.51	0	0	No, e>t/2
SLV 13	179667	0.52	5096	-2226	171.51	301.21	1.76	Si
SLV 14	179667	0.52	5987	-2615	171.51	351.74	2.05	Si
SLV 3	179667	0.52	8149	-3559	171.51	471.72	2.75	Si
SLV 4	179667	0.52	9040	-3948	171.51	520.06	3.03	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-2185	280	-105	2.605	422.6	0.897	42.20536	5.43428	Si, Trazione
SLV 5	-2156	-46	-110	2.625	419.8	0.897	42.55775	5.43428	Si
SLV 10	-2113	-1661	-124	2.654	415.7	0.896	43.04694	5.43428	Si
SLV 9	-2084	-1987	-129	2.676	412.8	0.896	43.41412	5.43428	Si
SLV 2	-1559	2052	-18	3.213	362.7	0.89	52.44338	6.05458	Si, Trazione
SLV 1	-1516	1568	-25	3.261	358.6	0.89	53.24013	6.05458	Si, Trazione
SLV 14	-1320	-4416	-80	3.486	340.5	0.889	56.99021	6.05458	Si
SLV 13	-1277	-4900	-88	3.543	336.6	0.889	57.92815	6.05458	Si
SLV 4	-945	1563	38	4.103	307	0.89	66.96346	6.05458	Si, Trazione
SLV 3	-902	1078	30	4.189	303.3	0.891	68.32714	6.05458	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.949	SLU 82	Si
V_SLU	3.699	SLU 82	Si
PF_SLV	0	SLV 1	No
V_SLV	1.226	SLV 2	Si
PFFP_SLV	0	SLV 12	No
R_SLV	7.767	SLV 6	Si

Maschio 241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L7	L8	4.31	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	11.5	2786.28	-10485	-0.0000293	0.0004492	0.0035	4.31	19382.45	22757.05	22757.05	8.17	No	Si
SLU 70	14.6	1190.75	-964	-0.000006	0.0004492	0.0035	4.31	2049.72	3849.44	3849.44	3.23	No	Si
SLU 78	11.5	2692.01	-10886	-0.0000298	0.0004492	0.0035	4.31	19996.01	23508.56	23508.56	8.73	No	Si
SLU 78	14.6	1208.62	-985	-0.0000061	0.0004492	0.0035	4.31	2094	3893.31	3893.31	3.22	No	Si
SLU 71	11.5	2758.74	-10207	-0.0000286	0.0004492	0.0035	4.31	18950.96	22230.91	22230.91	8.06	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 71	14.6	1139.86	-905	-0.0000058	0.0004492	0.0035	4.31	1927.19	3728.18	3728.18	3.27	No	Si
SLU 72	11.5	2753.55	-10206	-0.0000286	0.0004492	0.0035	4.31	18949.38	22228.98	22228.98	8.07	No	Si
SLU 72	14.6	1173.52	-901	-0.0000061	0.0004492	0.0035	4.31	1918.37	3719.45	3719.45	3.17	No	Si
SLU 38	11.5	2187.41	-8974	-0.0000244	0.0004492	0.0035	4.31	16985.5	19878.13	19878.13	9.09	No	Si
SLU 38	14.6	1097.03	-822	-0.0000057	0.0004492	0.0035	4.31	1752.14	3555.26	3555.26	3.24	No	Si
SLU 79	11.5	2664.47	-10608	-0.0000292	0.0004492	0.0035	4.31	19571.04	22986.81	22986.81	8.63	No	Si
SLU 79	14.6	1157.73	-927	-0.0000059	0.0004492	0.0035	4.31	1971.55	3772.05	3772.05	3.26	No	Si
SLU 30	11.5	2281.69	-8573	-0.0000238	0.0004492	0.0035	4.31	16327.13	19109.9	19109.9	8.38	No	Si
SLU 30	14.6	1079.15	-801	-0.0000057	0.0004492	0.0035	4.31	1707.66	3511.39	3511.39	3.25	No	Si
SLU 59	11.5	2551.81	-9553	-0.0000266	0.0004492	0.0035	4.31	17919.02	20982.37	20982.37	8.22	No	Si
SLU 59	14.6	1047.46	-784	-0.0000055	0.0004492	0.0035	4.31	1671.12	3475.36	3475.36	3.32	No	Si
SLU 36	11.5	2220.14	-9254	-0.0000251	0.0004492	0.0035	4.31	17438.68	20411.3	20411.3	9.19	No	Si
SLU 36	14.6	1114.25	-885	-0.0000057	0.0004492	0.0035	4.31	1883.77	3685.25	3685.25	3.31	No	Si
SLU 80	11.5	2659.28	-10607	-0.0000292	0.0004492	0.0035	4.31	19569.49	22984.92	22984.92	8.64	No	Si
SLU 80	14.6	1191.4	-922	-0.0000061	0.0004492	0.0035	4.31	1962.73	3763.32	3763.32	3.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	11.5	1020.59	-7467	-0.0000179	0.0006738	0.0035	4.31		17126.01	17126.01	16.78		Si
SLD 6	14.6	1380.7	-609	-0.0000732	0.0006738	0.0035	4.31		3118.02	3118.02	2.26		Si
SLD 10	11.5	857.34	-8342	-0.0000192	0.0006738	0.0035	4.31		18850.9	18850.9	21.99		Si
SLD 10	14.6	1696.9	-803	-0.000054	0.0006738	0.0035	4.31		3523.72	3523.72	2.08		Si
SLV 10	11.5	272.57	-9183	-0.0000192	0.0006738	0.0035	4.31		20504.45	20504.45	75.23		Si
SLV 10	14.6	2504.54	-977	-0.0002135	0.0006738	0.0035	4.31		3888.97	3888.97	1.55		Si
SLD 5	11.5	967.36	-7502	-0.0000178	0.0006738	0.0035	4.31		17195.61	17195.61	17.78		Si
SLD 5	14.6	1415.95	-618	-0.0000794	0.0006738	0.0035	4.31		3136.55	3136.55	2.22		Si
SLV 5	11.5	439.98	-7874	-0.000017	0.0006738	0.0035	4.31		17928.47	17928.47	40.75		Si
SLV 5	14.6	2069.3	-690	-0.0002379	0.0006738	0.0035	4.31		3287.24	3287.24	1.59		Si
SLV 6	11.5	527.71	-7816	-0.0000172	0.0006738	0.0035	4.31		17815.57	17815.57	33.76		Si
SLV 6	14.6	2011.22	-676	-0.0002283	0.0006738	0.0035	4.31		3256.72	3256.72	1.62		Si
SLV 14	11.5	936.46	-9737	-0.0000222	0.0006738	0.0035	4.31		21585.01	21585.01	23.05		Si
SLV 14	14.6	1832.86	-1119	-0.0000124	0.0006738	0.0035	4.31		4184.36	4184.36	2.28		Si
SLD 9	11.5	804.11	-8377	-0.0000191	0.0006738	0.0035	4.31		18919.41	18919.41	23.53		Si
SLD 9	14.6	1732.15	-812	-0.0000605	0.0006738	0.0035	4.31		3542.24	3542.24	2.04		Si
SLV 13	11.5	806.15	-9822	-0.000022	0.0006738	0.0035	4.31		21750.07	21750.07	26.98		Si
SLV 13	14.6	1919.14	-1140	-0.0000139	0.0006738	0.0035	4.31		4229.53	4229.53	2.2		Si
SLV 9	11.5	184.85	-9240	-0.0000191	0.0006738	0.0035	4.31		20617.35	20617.35	111.54		Si
SLV 9	14.6	2562.62	-992	-0.0002234	0.0006738	0.0035	4.31		3919.39	3919.39	1.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 28	11.5	2314.41	-8853	-4908	-1603	4.31	4.31	-8135	9418	5683	101952	21685	21981	43666	No	27.24	Si
SLU 28	14.6	1096.38	-864	-479	-1504	4.31	2.6566	-794	8439	3677	101952	21685	21981	43666	No	29.03	Si
SLU 38	11.5	2187.41	-8974	-4976	-1658	4.31	4.31	-8246	9433	5692	101952	21685	21981	43666	No	26.33	Si
SLU 38	14.6	1097.03	-822	-456	-1561	4.31	2.4624	-756	8434	3668	101952	21685	21981	43666	No	27.98	Si
SLU 37	11.5	2192.6	-8975	-4976	-1512	4.31	4.31	-8247	9433	5692	101952	21685	21981	43666	No	28.88	Si
SLU 37	14.6	1063.36	-826	-458	-1526	4.31	2.6049	-759	8435	3669	101952	21685	21981	43666	No	28.62	Si
SLU 70	11.5	2786.28	-10485	-5814	-1549	4.31	4.31	-9635	9618	5811	101952	21685	21981	43666	No	28.2	Si
SLU 70	14.6	1190.75	-964	-534	-1455	4.31	2.7584	-886	8451	3699	101952	21685	21981	43666	No	30.02	Si
SLU 72	11.5	2753.55	-10206	-5659	-1540	4.31	4.31	-9378	9584	5783	101952	21685	21981	43666	No	28.35	Si
SLU 72	14.6	1173.52	-901	-500	-1447	4.31	2.5585	-828	8444	3686	101952	21685	21981	43666	No	30.18	Si
SLU 35	11.5	2225.33	-9255	-5131	-1521	4.31	4.31	-8504	9467	5713	101952	21685	21981	43666	No	28.72	Si
SLU 35	14.6	1080.59	-889	-493	-1533	4.31	2.8183	-817	8442	3683	101952	21685	21981	43666	No	28.48	Si
SLU 78	11.5	2692.01	-10886	-6036	-1613	4.31	4.31	-10003	9667	5900	101952	21685	21981	43666	No	27.08	Si
SLU 78	14.6	1208.62	-985	-546	-1518	4.31	2.7833	-905	8454	3704	101952	21685	21981	43666	No	28.76	Si
SLU 30	11.5	2281.69	-8573	-4754	-1594	4.31	4.31	-7878	9384	5662	101952	21685	21981	43666	No	27.39	Si
SLU 30	14.6	1079.15	-801	-444	-1497	4.31	2.4239	-736	8431	3663	101952	21685	21981	43666	No	29.17	Si
SLU 36	11.5	2220.14	-9254	-5131	-1667	4.31	4.31	-8503	9467	5712	101952	21685	21981	43666	No	26.2	Si
SLU 36	14.6	1114.25	-885	-491	-1568	4.31	2.6868	-813	8442	3682	101952	21685	21981	43666	No	27.85	Si
SLU 80	11.5	2659.28	-10607	-5881	-1604	4.31	4.31	-9747	9633	5838	101952	21685	21981	43666	No	27.22	Si
SLU 80	14.6	1191.4	-922	-511	-1511	4.31	2.5898	-848	8446	3690	101952	21685	21981	43666	No	28.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	11.5	2871.27	-6309	-3498	8295	4.31	4.31	-5797	13659	8242	101952	32527	21981	54508		6.57	Si
SLV 11	14.6	-960.59	-400	-222	5380	3.448	0	0	0	0	101952	26022	17585	43606		8.1	Si
SLV 5	11.5	439.98	-7874	-4366	-9365	4.31	4.31	-7235	13947	8416	101952	32527	21981	54508		5.82	Si
SLV 5	14.6	2069.3	-690	-383	-6478	4.31	0	-26008	16250	5382	101952	32527	21981	54508		8.41	Si
SLD 10	11.5	857.34	-8342	-4625	-5760	4.31	4.31	-7666	14033	8468	101952	32527	21981	54508		9.46	Si
SLD 10	14.6	1696.9	-803	-445	-3996	4.31	0.124	-11609	14942	5407	101952	32527	21981	54508		13.64	Si
SLV 8	11.5	3214.13	-4886	-2709	9276	4.31	4.31	-4489	13398	8084	101952	32527	21981	54508		5.88	Si
SLV 8	14.6	-1512	-83	-46	6237	3.448	0	0	0	0	101952	26022	17585	43606		6.99	Si
SLV 6	11.5	527.71	-7816	-4334	-8977	4.31	4.31	-7182	13936	8409	101952	32527	21981	54508		6.07	Si
SLV 6	14.6	2011.22	-676	-375	-6088	4.31	0	-25360	16250	5378	101952	32527	21981	54508		8.95	Si
SLV 12	11.5	2958.99	-6252	-3466	8684	4.31	4.31	-5745	13649	8236	101952	32527	21981	54508		6.28	Si
SLV 12	14.6	-1018.68	-385	-213	5770	3.448	0	0	0	0	101952	26022	17585	43606		7.56	Si
SLV 10	11.5	272.57	-9183	-5091	-9570	4.31	4.31	-8438	14188	8561	101952	32527	21981	54508		5.7	Si
SLV 10	14.6	2504.54	-977	-542	-6555	4.31	0	-30718	16250	5445	101952	32527	21981	54508		8.32	Si
SLD 9	11.5	804.11	-8377	-4645	-5995	4.31	4.31	-7698	14040	8471	101952	32527	21981	54508		9.09	Si
SLD 9	14.6	1732.15	-812	-450	-4233	4.31	0.0627	-12802	15227	5409	101952	32527	21981	54508		12.88	Si
SLV 7	11.5	3126.4	-4943	-2741	8888	4.31	4.31	-4542	13408	8091	101952	32527	21981	54508		6.13	Si
SLV 7	14.6	-1453.91	-98	-54	5847	3.448	0	0	0	0	101952	26022	17585	43606		7.46	Si
SLV 9	11.5	184.85	-9240	-5123	-9958	4.31	4.31	-8490	14198	8567	101952	32527	21981	54508		5.47	Si
SLV 9	14.6	2562.62	-992	-550	-6945	4.31	0	-31544	16250	5449	101952	32527	21981	54508		7.85	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-1908	0.52	257.87	0	439.54	219.77	0.85	No
SLV 4	-1915	0.52	257.87	0	440.17	220.08	0.85	No
SLV 1	-2496	0.52	257.87	0	492.98	246.49	0.96	No
SLV 2	-2503	0.52	257.87	0	493.6	246.8	0.96	No
SLV 7	-2651	0.52	257.87	0	506.9	253.45	0.98	No
SLV 8	-2655	0.52	257.87	0	507.32	253.66	0.98	No
SLV 11	-3875	0.52	257.87	261.74	616.05	438.89	1.7	Si
SLV 12	-3880	0.52	257.87	262.04	616.46	439.25	1.7	Si
SLV 5	-4612	0.52	257.87	309.37	681.15	495.26	1.92	Si
SLV 6	-4616	0.52	257.87	309.66	681.55	495.61	1.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-1140	-9822	108	8.571	410.1	0.893	139.5623	9.03132	Si
SLV 14	-1119	-9737	107	8.637	408.3	0.893	140.57995	9.03132	Si
SLV 15	-963	-8943	107	9.145	395.6	0.896	148.29541	9.03132	Si
SLV 16	-941	-8858	107	9.221	393.8	0.897	149.4171	9.03132	Si
SLV 9	-992	-9240	33	9.073	397.9	0.896	147.24585	7.13476	Si
SLV 10	-977	-9183	33	9.123	396.8	0.896	147.9899	7.13476	Si
SLV 1	-134	-5268	-108	13.304	345.1	0.967	199.95327	9.03132	Si
SLV 2	-112	-5182	-108	13.463	344.6	0.971	201.41188	9.03132	Si
SLV 5	-690	-7874	-32	10.225	374.9	0.907	163.91822	7.13476	Si
SLV 6	-676	-7816	-32	10.287	373.9	0.907	164.7877	7.13476	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.159	SLU 80	Si
V_SLU	26.198	SLU 36	Si
PF_SLV	1.529	SLV 9	Si
V_SLV	5.474	SLV 9	Si
PFFP_SLV	0.852	SLV 3	No
R_SLV	15.453	SLV 13	Si

Maschio 242

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.403	-3.169	-8.543	-3.169	L7	L8	1.14	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	12.4	658.51	-1039	-0.00006	0.0003743	0.0035	1.14	0	5904.77	5904.77	8.97	No	Si
SLU 82	14.2	-755.06	-682	-0.0001115	0.0003743	0.0035	1.14	0	5673.61	5673.61	7.51	No	Si
SLU 74	12.4	622.7	-1461	-0.0000333	0.0003743	0.0035	1.14	795.09	6126.27	6126.27	9.84	No	Si
SLU 74	14.2	-751.97	-967	-0.0000855	0.0003743	0.0035	1.14	0	5864.25	5864.25	7.8	No	Si
SLU 65	12.4	650.34	-1458	-0.0000368	0.0003743	0.0035	1.14	793.57	6124.77	6124.77	9.42	No	Si
SLU 65	14.2	-745.91	-893	-0.0000903	0.0003743	0.0035	1.14	0	5815.39	5815.39	7.8	No	Si
SLU 84	12.4	651.34	-1087	-0.0000553	0.0003743	0.0035	1.14	0	5931.3	5931.3	9.11	No	Si
SLU 84	14.2	-750.53	-701	-0.0001086	0.0003743	0.0035	1.14	0	5686.33	5686.33	7.58	No	Si
SLU 80	12.4	635.75	-1263	-0.0000424	0.0003743	0.0035	1.14	691.74	6023.78	6023.78	9.48	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	14.2	-737.57	-780	-0.0000982	0.0003743	0.0035	1.14	0	5739.43	5739.43	7.78	No	Si
SLU 73	12.4	669.99	-1158	-0.0000544	0.0003743	0.0035	1.14	0	5969.09	5969.09	8.91	No	Si
SLU 73	14.2	-765.58	-754	-0.0001073	0.0003743	0.0035	1.14	0	5721.79	5721.79	7.47	No	Si
SLU 81	12.4	628.66	-1053	-0.000053	0.0003743	0.0035	1.14	0	5913.46	5913.46	9.41	No	Si
SLU 81	14.2	-726.63	-665	-0.0001063	0.0003743	0.0035	1.14	0	5662.06	5662.06	7.79	No	Si
SLU 78	12.4	645.38	-1494	-0.0000351	0.0003743	0.0035	1.14	812.49	6143.5	6143.5	9.52	No	Si
SLU 78	14.2	-775.86	-1002	-0.000088	0.0003743	0.0035	1.14	0	5887.86	5887.86	7.59	No	Si
SLU 76	12.4	662.82	-1206	-0.0000501	0.0003743	0.0035	1.14	661.85	5994.06	5994.06	9.04	No	Si
SLU 76	14.2	-761.05	-772	-0.0001045	0.0003743	0.0035	1.14	0	5734.43	5734.43	7.53	No	Si
SLU 75	12.4	652.55	-1447	-0.0000374	0.0003743	0.0035	1.14	787.88	6119.13	6119.13	9.38	No	Si
SLU 75	14.2	-780.39	-984	-0.0000905	0.0003743	0.0035	1.14	0	5875.48	5875.48	7.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	12.4	1986.78	2174	0.0042218	0.0005615	0.0035	0.912		0	0	0		No
SLV 4	14.2	-1547.78	217	-0.0003921	0.0005615	0.0035	1.14		4737.42	4737.42	3.06		Si
SLD 6	12.4	2623.93	1462	0.0018704	0.0005615	0.0035	0.912		0	0	0		No
SLD 6	14.2	-2158.34	-636	-0.0005413	0.0005615	0.0035	1.14		5904.43	5904.43	2.74		Si
SLD 1	12.4	2180.16	1591	0.002557	0.0005615	0.0035	0.912		0	0	0		No
SLD 1	14.2	-1771.86	-248	-0.0005097	0.0005615	0.0035	1.14		5516.97	5516.97	3.11		Si
SLV 3	12.4	1517.21	1443	0.0026967	0.0005615	0.0035	0.912		0	0	0		No
SLV 3	14.2	-1217.78	129	-0.0003946	0.0005615	0.0035	1.14		4963.5	4963.5	4.08		Si
SLD 4	12.4	1471.25	1047	0.0016747	0.0005615	0.0035	0.912		0	0	0		No
SLD 4	14.2	-1207.36	-81	-0.0003644	0.0005615	0.0035	1.14		5283.76	5283.76	4.38		Si
SLV 5	12.4	3793.29	2660	0.0040558	0.0005615	0.0035	0.912		0	0	0		No
SLV 5	14.2	-3061.14	-745	-0.0008931	0.0005615	0.0035	1.14		6006.67	6006.67	1.96		Si
SLV 1	12.4	3236.55	3164	0.0058022	0.0005615	0.0035	0.912		0	0	0		No
SLV 1	14.2	-2540.59	-63	-0.000921	0.0005615	0.0035	1.14		5259.35	5259.35	2.07		Si
SLD 5	12.4	2432.09	1163	0.0012276	0.0005615	0.0035	0.912		0	0	0		No
SLD 5	14.2	-2023.51	-672	-0.0004836	0.0005615	0.0035	1.14		5938.32	5938.32	2.93		Si
SLV 6	12.4	4109.42	3152	0.0050884	0.0005615	0.0035	0.912		0	0	0		No
SLV 6	14.2	-3283.31	-685	-0.0010235	0.0005615	0.0035	1.14		5951.17	5951.17	1.81		Si
SLV 10	12.4	2801.51	897	0.0002411	0.0005615	0.0035	0.912		0	0	0		No
SLV 10	14.2	-2360.45	-1090	-0.0005172	0.0005615	0.0035	1.14		6269.59	6269.59	2.66		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	12.4	635.75	-1263	-1051	1610	1.14	0.1995	-10296	8420	1305	9040	9558	2907	10345	No	6.42	Si
SLU 80	14.2	-737.57	-780	-649	522	1.14	0	-13140	9708	1198	9040	9558	2907	10237	No	19.6	Si
SLU 78	12.4	645.38	-1494	-1244	1649	1.14	0.4142	-9251	8216	1356	9040	9558	2907	10396	No	6.3	Si
SLU 78	14.2	-775.86	-1002	-835	542	1.14	0	-14260	9539	1247	9040	9558	2907	10287	No	18.99	Si
SLU 83	12.4	621.49	-1101	-917	1614	1.14	0.0163	-10808	8571	1269	9040	9558	2907	10309	No	6.39	Si
SLU 83	14.2	-722.1	-684	-570	492	1.14	0	-12495	9803	1176	9040	9558	2907	10216	No	20.78	Si
SLU 73	12.4	669.99	-1158	-965	1692	1.14	0	-11778	8738	1282	9040	9558	2907	10321	No	6.1	Si
SLU 73	14.2	-765.58	-754	-627	537	1.14	0	-13376	9915	1192	9040	9558	2907	10231	No	19.04	Si
SLU 84	12.4	651.34	-1087	-905	1673	1.14	0	-11618	8747	1266	9040	9558	2907	10306	No	6.16	Si
SLU 84	14.2	-750.53	-701	-584	521	1.14	0	-12920	9933	1180	9040	9558	2907	10220	No	19.6	Si
SLU 82	12.4	658.51	-1039	-866	1694	1.14	0	-11948	8857	1255	9040	9558	2907	10295	No	6.08	Si
SLU 82	14.2	-755.06	-682	-568	519	1.14	0	-12862	9999	1176	9040	9558	2907	10216	No	19.69	Si
SLU 81	12.4	628.66	-1053	-877	1635	1.14	0	-11201	8678	1258	9040	9558	2907	10298	No	6.3	Si
SLU 81	14.2	-726.63	-665	-554	489	1.14	0	-12441	9868	1172	9040	9558	2907	10212	No	20.87	Si
SLU 76	12.4	662.82	-1206	-1004	1671	1.14	0.061	-11360	8632	1292	9040	9558	2907	10332	No	6.18	Si
SLU 76	14.2	-761.05	-772	-643	540	1.14	0	-13409	9854	1196	9040	9558	2907	10236	No	18.96	Si
SLU 75	12.4	652.55	-1447	-1205	1670	1.14	0.3568	-9687	8288	1346	9040	9558	2907	10385	No	6.22	Si
SLU 75	14.2	-780.39	-984	-819	539	1.14	0	-14314	9594	1243	9040	9558	2907	10283	No	19.06	Si
SLU 74	12.4	622.7	-1461	-1216	1612	1.14	0.4309	-8834	8156	1349	9040	9558	2907	10388	No	6.44	Si
SLU 74	14.2	-751.97	-967	-805	510	1.14	0	-13824	9468	1239	9040	9558	2907	10279	No	20.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	12.4	3236.55	3164	2634	6079	0.912	0	0	0	0	9040	11470	2326	9040		1.49	Si
SLV 1	14.2	-2540.59	-63	-53	2135	1.14	0	0	2344	1551	9040	14337	2907	10590		4.96	Si
SLD 5	12.4	2432.09	1163	968	4451	0.912	0	0	0	0	9040	11470	2326	9040		2.03	Si
SLD 5	14.2	-2023.51	-672	-559	1898	1.14	0	0	16250	1686	9040	14337	2907	10726		5.65	Si
SLD 6	12.4	2623.93	1462	1217	4777	0.912	0	0	0	0	9040	11470	2326	9040		1.89	Si
SLD 6	14.2	-2158.34	-636	-529	2030	1.14	0	0	16250	1678	9040	14337	2907	10718		5.28	Si
SLV 4	12.4	1986.78	2174	1810	4056	0.912	0	0	0	0	9040	11470	2326	9040		2.23	Si
SLV 4	14.2	-1547.78	217	180	1044	1.14	0	0	9955	1537	9040	14337	2907	10576		10.13	Si
SLD 1	12.4	2180.16	1591	1325	4210	0.912	0	0	0	0	9040	11470	2326	9040		2.15	Si
SLD 1	14.2	-1771.86	-248	-207	1452	1.14	0	0	0	1592	9040	14337	2907	10632		7.32	Si
SLD 2	12.4	2478.06	2054	1711	4716	0.912	0	0	0	0	9040	11470	2326	9040		1.92	Si
SLD 2	14.2	-1981.22	-193	-160	1657	1.14	0	0	0	1579	9040	14337	2907	10619		6.41	Si
SLV 6	12.4	4109.42	3152	2625	7260	0.912	0	0	0	0	9040	11470	2326	9040		1.25	Si
SLV 6	14.2	-3283.31	-685	-571	3184	1.14	0	0	16250	1689	9040	14337	2907	10729		3.37	Si
SLV 10	12.4	2801.51	897	747	4879	0.912	0	0	0	0	9040	11470	2326	9040		1.85	Si
SLV 10	14.2	-2360.45	-1090	-907	2438	1.14	0	0	16250	1779	9040	14337	2907	10818		4.44	Si
SLV 5	12.4	3793.29	2660	2215	6723	0.912	0	0	0	0	9040	11470	2326	9040		1.34	Si
SLV 5	14.2	-3061.14	-745	-620	2967	1.14	0	0	16250	1702	9040	14337	2907	10742		3.62	Si
SLV 2	12.4	3706.13	3894	3243	6877	0.912	0	0	0	0	9040	11470	2326	9040		1.31	Si
SLV 2	14.2	-2870.6	25	20	2458	1.14	0	0	4232	1537	9040	14337	2907	10576		4.3	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.52	0	3023	125.35	0	0	No, Trazione
SLV 10	179667	0.52	0	1252	125.35	0	0	No, Trazione
SLV 1	179667	0.52	0	3537	125.35	0	0	No, Trazione
SLV 3	179667	0.52	0	1816	125.35	0	0	No, Trazione
SLV 2	179667	0.52	0	4268	125.35	0	0	No, Trazione
SLV 9	179667	0.52	0	760	125.35	0	0	No, Trazione
SLV 6	179667	0.52	0	3515	125.35	0	0	No, Trazione
SLV 4	179667	0.52	0	2547	125.35	0	0	No, Trazione
SLV 8	179667	0.52	6955	-2220	125.35	296.67	2.37	Si
SLV 7	179667	0.52	8497	-2712	125.35	358.58	2.86	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-1113	-1040	-40	3.241	262.6	0.89	52.92187	6.05458	Si
SLV 16	-1035	-1180	-40	3.371	255.3	0.889	55.08394	6.05458	Si
SLV 13	-871	-2444	-52	3.673	240.3	0.889	60.05457	6.05458	Si
SLV 11	-1038	257	5	3.385	255.6	0.889	55.30124	5.43428	Si, Trazione
SLV 14	-793	-2585	-52	3.842	233.3	0.889	62.78917	6.05458	Si
SLV 12	-985	163	5	3.478	250.7	0.889	56.85581	5.43428	Si, Trazione
SLV 7	-742	-16	31	3.973	228.8	0.89	64.90308	5.43428	Si
SLV 8	-689	-110	31	4.104	224.3	0.89	66.98493	5.43428	Si
SLV 3	-128	-1950	47	6.327	184.5	0.948	96.9947	6.05458	Si
SLV 9	-231	-4425	-36	5.756	189.6	0.924	90.50812	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.474	SLU 73	Si
V_SLU	6.079	SLU 82	Si
PF_SLV	0	SLD 1	No
V_SLV	1.245	SLV 6	Si
PFFP_SLV	0	SLV 10	No
R_SLV	8.741	SLV 15	Si

Maschio 243

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L7	L8	4.67	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 59	11.5	658.8	-14181	-0.0000283	0.0004492	0.0035	4.67	27235.07	32531.71	32531.71	49.38	No	Si
SLU 59	14.6	5838.19	-3947	-0.0000269	0.0004492	0.0035	4.67	8761.65	11132.83	11132.83	1.91	No	Si
SLU 9	11.5	525.23	-11409	-0.0000226	0.0004492	0.0035	4.67	22836.08	26940.65	26940.65	51.29	No	Si
SLU 9	14.6	5325.4	-3498	-0.000025	0.0004492	0.0035	4.67	7809.8	10145.66	10145.66	1.91	No	Si
SLU 49	11.5	304.36	-13742	-0.0000266	0.0004492	0.0035	4.67	26568.09	31652.07	31652.07	104	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	14.6	5724.73	-3934	-0.000026	0.0004492	0.0035	4.67	8732.78	11102.89	11102.89	1.94	No	Si
SLU 48	11.5	298.82	-13762	-0.0000266	0.0004492	0.0035	4.67	26598.32	31691.62	31691.62	106.05	No	Si
SLU 48	14.6	5754.26	-3949	-0.0000262	0.0004492	0.0035	4.67	8765.27	11136.59	11136.59	1.94	No	Si
SLU 71	11.5	627.96	-15150	-0.0000301	0.0004492	0.0035	4.67	28666.99	34440.48	34440.48	54.84	No	Si
SLU 71	14.6	6190.98	-4295	-0.000028	0.0004492	0.0035	4.67	9489.05	11891.02	11891.02	1.92	No	Si
SLU 8	11.5	519.7	-11429	-0.0000226	0.0004492	0.0035	4.67	22869	26980.91	26980.91	51.92	No	Si
SLU 8	14.6	5354.93	-3513	-0.0000252	0.0004492	0.0035	4.67	7842.68	10179.91	10179.91	1.9	No	Si
SLU 51	11.5	455.48	-13595	-0.0000266	0.0004492	0.0035	4.67	26341.56	31356.64	31356.64	68.84	No	Si
SLU 51	14.6	6067.49	-4004	-0.0000285	0.0004492	0.0035	4.67	8881.57	11257.33	11257.33	1.86	No	Si
SLU 50	11.5	449.94	-13614	-0.0000267	0.0004492	0.0035	4.67	26371.96	31396.19	31396.19	69.78	No	Si
SLU 50	14.6	6097.02	-4020	-0.0000287	0.0004492	0.0035	4.67	8914	11291.02	11291.02	1.85	No	Si
SLU 72	11.5	633.5	-15131	-0.0000301	0.0004492	0.0035	4.67	28638.36	34401.65	34401.65	54.3	No	Si
SLU 72	14.6	6161.45	-4279	-0.0000279	0.0004492	0.0035	4.67	9456.88	11857.33	11857.33	1.92	No	Si
SLU 58	11.5	653.26	-14201	-0.0000283	0.0004492	0.0035	4.67	27264.79	32571.26	32571.26	49.86	No	Si
SLU 58	14.6	5867.72	-3963	-0.000027	0.0004492	0.0035	4.67	8794.12	11166.52	11166.52	1.9	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	11.5	-12.23	-7199	-0.0000133	0.0006738	0.0035	4.67		28406.26	28406.26	2323.01		Si
SLD 1	14.6	4165.78	-2500	-0.0000216	0.0006738	0.0035	4.67		7962.71	7962.71	1.91		Si
SLV 1	11.5	-117.4	-5734	-0.0000109	0.0006738	0.0035	4.67		25249.77	25249.77	215.07		Si
SLV 1	14.6	5033.2	-2705	-0.0000331	0.0006738	0.0035	4.67		8422.77	8422.77	1.67		Si
SLV 3	11.5	1057.08	-7787	-0.0000169	0.0006738	0.0035	4.67		19595.01	19595.01	18.54		Si
SLV 3	14.6	6489.03	-3729	-0.0000365	0.0006738	0.0035	4.67		10712.13	10712.13	1.65		Si
SLV 4	11.5	1459.16	-7981	-0.0000183	0.0006738	0.0035	4.67		20010.01	20010.01	13.71		Si
SLV 4	14.6	5309.07	-3271	-0.0000266	0.0006738	0.0035	4.67		9688.86	9688.86	1.82		Si
SLD 4	11.5	929.49	-8523	-0.000018	0.0006738	0.0035	4.67		21169.99	21169.99	22.78		Si
SLD 4	14.6	4266.26	-2806	-0.0000199	0.0006738	0.0035	4.67		8647.3	8647.3	2.03		Si
SLV 7	11.5	2079.31	-12165	-0.0000277	0.0006738	0.0035	4.67		28859.07	28859.07	13.88		Si
SLV 7	14.6	6154.55	-4202	-0.000028	0.0006738	0.0035	4.67		11760.9	11760.9	1.91		Si
SLD 7	11.5	1255.77	-11073	-0.0000236	0.0006738	0.0035	4.67		26576.3	26576.3	21.16		Si
SLD 7	14.6	4700.59	-3329	-0.0000208	0.0006738	0.0035	4.67		9817.17	9817.17	2.09		Si
SLD 3	11.5	674.41	-8400	-0.0000172	0.0006738	0.0035	4.67		20906.84	20906.84	31		Si
SLD 3	14.6	5014.84	-3096	-0.000025	0.0006738	0.0035	4.67		9296.47	9296.47	1.85		Si
SLV 8	11.5	2350	-12296	-0.0000286	0.0006738	0.0035	4.67		29129.75	29129.75	12.4		Si
SLV 8	14.6	5360.18	-3894	-0.0000235	0.0006738	0.0035	4.67		11081.59	11081.59	2.07		Si
SLV 2	11.5	284.68	-5928	-0.0000116	0.0006738	0.0035	4.67		15561.11	15561.11	54.66		Si
SLV 2	14.6	3853.24	-2248	-0.0000209	0.0006738	0.0035	4.67		7399.5	7399.5	1.92		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	11.5	304.36	-13742	-7619	-1288	4.67	4.67	-11654	9887	6824	101952	23496	23817	47313	No	36.75	Si
SLU 49	14.6	5724.73	-3934	-2181	-2634	4.67	2.639	-3336	8778	4649	101952	23496	23817	47313	No	17.96	Si
SLU 51	11.5	455.48	-13595	-7538	-1467	4.67	4.67	-11529	9871	6792	101952	23496	23817	47313	No	32.24	Si
SLU 51	14.6	6067.49	-4004	-2220	-2995	4.67	2.4594	-3396	8786	4665	101952	23496	23817	47313	No	15.8	Si
SLU 8	11.5	519.7	-11429	-6337	-1134	4.67	4.67	-9692	9626	6312	101952	23496	23817	47313	No	41.74	Si
SLU 8	14.6	5354.93	-3513	-1948	-2556	4.67	2.4324	-2979	8731	4556	101952	23496	23817	47313	No	18.51	Si
SLU 50	11.5	449.94	-13614	-7549	-1431	4.67	4.67	-11546	9873	6796	101952	23496	23817	47313	No	33.06	Si
SLU 50	14.6	6097.02	-4020	-2229	-3010	4.67	2.4548	-3409	8788	4668	101952	23496	23817	47313	No	15.72	Si
SLU 72	11.5	633.5	-15131	-8389	-1114	4.67	4.67	-12831	10044	7132	101952	23496	23817	47313	No	42.48	Si
SLU 72	14.6	6161.45	-4279	-2373	-2410	4.67	2.6855	-3629	8817	4726	101952	23496	23817	47313	No	19.64	Si
SLU 9	11.5	525.23	-11409	-6326	-1170	4.67	4.67	-9676	9623	6307	101952	23496	23817	47313	No	40.44	Si
SLU 9	14.6	5325.4	-3498	-1939	-2542	4.67	2.4375	-2966	8729	4553	101952	23496	23817	47313	No	18.61	Si
SLU 71	11.5	627.96	-15150	-8400	-1077	4.67	4.67	-12848	10046	7137	101952	23496	23817	47313	No	43.92	Si
SLU 71	14.6	6190.98	-4295	-2381	-2424	4.67	2.6804	-3642	8819	4729	101952	23496	23817	47313	No	19.52	Si
SLU 59	11.5	658.8	-14181	-7863	-1239	4.67	4.67	-12026	9937	6922	101952	23496	23817	47313	No	38.19	Si
SLU 59	14.6	5838.19	-3947	-2189	-2354	4.67	2.568	-3348	8780	4652	101952	23496	23817	47313	No	20.1	Si
SLU 48	11.5	298.82	-13762	-7630	-1251	4.67	4.67	-11671	9889	6829	101952	23496	23817	47313	No	37.82	Si
SLU 48	14.6	5754.26	-3949	-2190	-2649	4.67	2.6337	-3349	8780	4653	101952	23496	23817	47313	No	17.86	Si
SLU 58	11.5	653.26	-14201	-7874	-1202	4.67	4.67	-12043	9939	6926	101952	23496	23817	47313	No	39.35	Si
SLU 58	14.6	5867.72	-3963	-2197	-2369	4.67	2.5629	-3361	8781	4656	101952	23496	23817	47313	No	19.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	11.5	-1564.93	-5454	-3024	-6512	4.67	4.67	-4625	13425	8777	101952	35244	23817	59061		9.07	Si
SLV 6	14.6	507.43	-482	-267	-177	4.67	3.8451	-409	12582	6773	101952	35244	23817	59061		334.55	Si
SLV 7	11.5	2079.31	-12165	-6745	5865	4.67	4.67	-10316	14563	9521	101952	35244	23817	59061		10.07	Si
SLV 7	14.6	6154.55	-4202	-2330	-2851	4.67	2.6112	-3564	13213	6597	101952	35244	23817	59061		20.72	Si
SLV 14	11.5	-897.29	-11505	-6379	-2455	4.67	4.67	-9757	14451	9448	101952	35244	23817	59061		24.06	Si
SLV 14	14.6	-1404.31	-401	-222	3901	3.736	0	0	0	0	101952	28195	19054	47249		12.11	Si
SLV 3	11.5	1057.08	-7787	-4317	1614	4.67	4.67	-6603	13821	9036	101952	35244	23817	59061		36.6	Si
SLV 3	14.6	6489.03	-3729	-2068	-4886	4.67	1.7845	-3162	13132	6492	101952	35244	23817	59061		12.09	Si
SLV 5	11.5	-1835.62	-5323	-2951	-6758	4.67	4.67	-4514	13403	8763	101952	35244	23817	59061		8.74	Si
SLV 5	14.6	1301.81	-790	-438	-1169	4.67	2.0602	-670	12634	5840	101952	35244	23817	59061		50.52	Si
SLV 11	11.5	1724.72	-13838	-7673	5671	4.67	4.67	-11735	14847	9707	101952	35244	23817	59061		10.42	Si
SLV 11	14.6	4577.29	-3648	-2023	-808	4.67	3.241	-3094	13119	6474	101952	35244	23817	59061		73.09	Si
SLV 8	11.5	2350	-12296	-6817	6111	4.67	4.67	-10427	14585	9536	101952	35244	23817	59061		9.66	Si
SLV 8	14.6	5360.18	-3894	-2159	-1858	4.67	2.8756	-3302	13160	6529	101952	35244	23817	59061		31.79	Si
SLV 12	11.5	1995.41	-13969	-7745	5917	4.67	4.67	-11846	14869	9722	101952	35244	23817	59061		9.98	Si
SLV 12	14.6	3782.91	-3340	-1852	185	4.67	3.6074	-2833	13067	6599	101952	35244	23817	59061		320.06	Si
SLV 10	11.5	-1919.52	-7127	-3952	-6706	4.67	4.67	-6044	13709	8963	101952	35244	23817	59061		8.81	Si
SLV 10	14.6	-1069.84	72	40	1866	3.736	0	0	0	0	101952	28195	19054	47249		25.32	Si
SLV 9	11.5	-2190.21	-6996	-3879	-6952	4.67	4.67	-5933	13687	8948	101952	35244	23817	59061		8.49	Si
SLV 9	14.6	-275.46	-236	-131	873	4.67	3.5005	-267	12553	6152	101952	35244	23817	59061		67.63	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.05 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-4177	0.52	279.41	282.2	657.95	470.08	1.68	Si
SLV 6	-4220	0.52	279.41	284.99	661.73	473.36	1.69	Si
SLV 1	-4417	0.52	279.41	297.82	679.17	488.49	1.75	Si
SLV 2	-4481	0.52	279.41	301.94	684.78	493.36	1.77	Si
SLV 9	-5181	0.52	279.41	346.99	746.11	546.55	1.96	Si
SLV 10	-5224	0.52	279.41	349.73	749.84	549.79	1.97	Si
SLV 3	-5636	0.52	279.41	375.99	785.74	580.86	2.08	Si
SLV 4	-5700	0.52	279.41	380.02	791.28	585.65	2.1	Si
SLV 13	-7764	0.52	279.41	508.27	970.11	739.19	2.65	Si
SLV 14	-7828	0.52	279.41	512.15	975.58	743.86	2.66	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-3729	-7787	-225	4.713	677.3	0.901	76.05432	9.03132	Si
SLV 4	-3271	-7981	-225	5.135	632.7	0.897	83.19689	9.03132	Si
SLV 7	-4202	-12165	-57	4.373	723.9	0.905	70.25761	7.13476	Si
SLV 8	-3894	-12296	-57	4.607	693.5	0.902	74.22977	7.13476	Si
SLV 1	-2705	-5734	-231	5.772	578.1	0.893	93.97555	9.03132	Si
SLV 11	-3648	-13838	80	4.809	669.4	0.9	77.65425	7.13476	Si
SLV 12	-3340	-13969	81	5.094	639.3	0.897	82.49495	7.13476	Si
SLV 2	-2248	-5928	-231	6.418	534.9	0.89	104.81077	9.03132	Si
SLV 15	-1882	-13364	233	7.048	501.1	0.889	115.23317	9.03132	Si
SLV 16	-1425	-13558	233	8.038	460.4	0.89	131.193	9.03132	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.852	SLU 50	Si
V_SLU	15.718	SLU 50	Si
PF_SLV	1.651	SLV 3	Si
V_SLV	8.495	SLV 9	Si
PFFP_SLV	1.682	SLV 5	Si
R_SLV	8.421	SLV 3	Si

Maschio 245

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.503	-3.169	L7	L8	0.565	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	13.5	25.13	-975	-0.0000117	0.0003743	0.0035	0.565	258.84	281.09	281.09	11.18	No	Si
SLU 65	14.3	-116.96	-899	-0.000021	0.0003743	0.0035	0.565	239.78	311.4	311.4	2.66	No	Si
SLU 23	13.5	20.24	-812	-0.0000096	0.0003743	0.0035	0.565	217.88	238.81	238.81	11.8	No	Si
SLU 23	14.3	-102.21	-769	-0.0000182	0.0003743	0.0035	0.565	206.88	277.27	277.27	2.71	No	Si
SLU 52	13.5	22.29	-822	-0.0000099	0.0003743	0.0035	0.565	220.34	241.34	241.34	10.83	No	Si
SLU 52	14.3	-91.69	-739	-0.0000165	0.0003743	0.0035	0.565	199.13	269.33	269.33	2.94	No	Si
SLU 5	13.5	14.77	-676	-0.0000078	0.0003743	0.0035	0.565	182.88	203	203	13.74	No	Si
SLU 5	14.3	-79.68	-595	-0.0000141	0.0003743	0.0035	0.565	161.75	231.46	231.46	2.9	No	Si
SLU 2	13.5	20.63	-661	-0.0000082	0.0003743	0.0035	0.565	179.19	199.23	199.23	9.66	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 2	14.3	-84.99	-607	-0.0000151	0.0003743	0.0035	0.565	165.05	234.78	234.78	2.76	No	Si
SLU 26	13.5	14.38	-826	-0.0000092	0.0003743	0.0035	0.565	221.49	242.53	242.53	16.87	No	Si
SLU 26	14.3	-96.9	-756	-0.0000174	0.0003743	0.0035	0.565	203.65	273.95	273.95	2.83	No	Si
SLU 68	13.5	19.28	-990	-0.0000112	0.0003743	0.0035	0.565	262.37	284.75	284.75	14.77	No	Si
SLU 68	14.3	-111.66	-886	-0.0000201	0.0003743	0.0035	0.565	236.6	308.08	308.08	2.76	No	Si
SLU 73	13.5	21.89	-973	-0.0000113	0.0003743	0.0035	0.565	258.18	280.4	280.4	12.81	No	Si
SLU 73	14.3	-108.91	-901	-0.0000198	0.0003743	0.0035	0.565	240.21	311.86	311.86	2.86	No	Si
SLU 47	13.5	19.67	-839	-0.0000098	0.0003743	0.0035	0.565	224.62	245.77	245.77	12.5	No	Si
SLU 47	14.3	-94.44	-724	-0.0000169	0.0003743	0.0035	0.565	195.45	265.56	265.56	2.81	No	Si
SLU 44	13.5	25.53	-825	-0.0000103	0.0003743	0.0035	0.565	221.02	242.04	242.04	9.48	No	Si
SLU 44	14.3	-99.74	-737	-0.0000178	0.0003743	0.0035	0.565	198.69	268.87	268.87	2.7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	13.5	206.74	-10	-0.0163498	0.0005615	0.0035	0.452		22.09	22.09	0.11		No
SLV 10	14.3	-523.28	-280	-0.0057534	0.0005615	0.0035	0.452		147.34	147.34	0.28		No
SLV 2	13.5	334.2	538	0.1310069	0.0005615	0.0035	0.452		0	0	0		No
SLV 2	14.3	-630.33	-244	-0.0076827	0.0005615	0.0035	0.452		137.53	137.53	0.22		No
SLD 5	13.5	171.26	-87	-0.0114375	0.0005615	0.0035	0.452		43.59	43.59	0.25		No
SLD 5	14.3	-415.72	-323	-0.0036228	0.0005615	0.0035	0.452		159.04	159.04	0.38		No
SLV 6	13.5	332.75	527	0.1258707	0.0005615	0.0035	0.452		0	0	0		No
SLV 6	14.3	-730.15	-107	-0.0099522	0.0005615	0.0035	0.452		99.69	99.69	0.14		No
SLD 2	13.5	214.63	56	-0.0184894	0.0005615	0.0035	0.452		0	0	0		No
SLD 2	14.3	-419.97	-402	-0.0033473	0.0005615	0.0035	0.452		180.66	180.66	0.43		No
SLV 5	13.5	277.28	367	0.0603797	0.0005615	0.0035	0.452		0	0	0		No
SLV 5	14.3	-650	-90	-0.0087738	0.0005615	0.0035	0.452		95.06	95.06	0.15		No
SLV 1	13.5	251.81	300	0.0328065	0.0005615	0.0035	0.452		0	0	0		No
SLV 1	14.3	-511.28	-219	-0.0058348	0.0005615	0.0035	0.452		130.7	130.7	0.26		No
SLV 4	13.5	197.9	-24	-0.0152646	0.0005615	0.0035	0.452		25.97	25.97	0.13		No
SLV 4	14.3	-321.23	-532	-0.0014981	0.0005615	0.0035	0.452		215.97	215.97	0.67		No
SLD 6	13.5	204.92	10	-0.0166932	0.0005615	0.0035	0.452		16.32	16.32	0.08		No
SLD 6	14.3	-464.36	-333	-0.0044821	0.0005615	0.0035	0.452		161.83	161.83	0.35		No
SLD 1	13.5	162.36	-96	-0.010479	0.0005615	0.0035	0.452		45.89	45.89	0.28		No
SLD 1	14.3	-344.44	-386	-0.0021676	0.0005615	0.0035	0.452		176.35	176.35	0.51		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 26	13.5	14.38	-826	-688	120	0.565	0.565	-4350	7524	1190	35683	4737	1441	6178	No	51.53	Si
SLU 26	14.3	-96.9	-756	-630	39	0.565	0.4632	-4872	7594	985	35683	4737	1441	6178	No	157.76	Si
SLU 23	13.5	20.24	-812	-676	135	0.565	0.565	-4275	7514	1189	35683	4737	1441	6178	No	45.63	Si
SLU 23	14.3	-102.21	-769	-640	54	0.565	0.4488	-5112	7626	958	35683	4737	1441	6178	No	113.7	Si
SLU 64	13.5	20.37	-1030	-858	119	0.565	0.565	-5421	7667	1213	35683	4737	1441	6178	No	51.82	Si
SLU 64	14.3	-100.83	-910	-758	59	0.565	0.515	-4789	7583	1094	35683	4737	1441	6178	No	104.72	Si
SLU 2	13.5	20.63	-661	-551	115	0.565	0.565	-3482	7409	1172	35683	4737	1441	6178	No	53.88	Si
SLU 2	14.3	-84.99	-607	-506	68	0.565	0.4276	-4232	7509	899	35683	4737	1441	6178	No	90.57	Si
SLU 65	13.5	25.13	-975	-812	153	0.565	0.565	-5134	7629	1207	35683	4737	1441	6178	No	40.47	Si
SLU 65	14.3	-116.96	-899	-749	75	0.565	0.4572	-5870	7727	989	35683	4737	1441	6178	No	82.58	Si
SLU 76	13.5	16.03	-987	-822	116	0.565	0.565	-5195	7637	1208	35683	4737	1441	6178	No	53.17	Si
SLU 76	14.3	-103.61	-888	-739	53	0.565	0.4975	-4674	7568	1054	35683	4737	1441	6178	No	115.81	Si
SLU 73	13.5	21.89	-973	-810	132	0.565	0.565	-5120	7627	1207	35683	4737	1441	6178	No	46.91	Si
SLU 73	14.3	-108.91	-901	-750	69	0.565	0.4847	-5546	7684	1043	35683	4737	1441	6178	No	90.16	Si
SLU 68	13.5	19.28	-990	-824	137	0.565	0.565	-5209	7639	1208	35683	4737	1441	6178	No	45.04	Si
SLU 68	14.3	-111.66	-886	-738	60	0.565	0.4696	-5634	7696	1012	35683	4737	1441	6178	No	103.6	Si
SLU 47	13.5	19.67	-839	-698	116	0.565	0.565	-4415	7533	1192	35683	4737	1441	6178	No	53.06	Si
SLU 47	14.3	-94.44	-724	-603	74	0.565	0.4564	-4734	7576	968	35683	4737	1441	6178	No	84.05	Si
SLU 44	13.5	25.53	-825	-687	132	0.565	0.565	-4340	7523	1190	35683	4737	1441	6178	No	46.83	Si
SLU 44	14.3	-99.74	-737	-614	89	0.565	0.4415	-4979	7608	941	35683	4737	1441	6178	No	69.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	13.5	204.92	10	8	1216	0.452	0	0	0	0	35683	5685	1153	6837		5.62	Si
SLD 6	14.3	-464.36	-333	-277	-6	0.452	0	0	0	0	35683	5685	1153	6837		1053.56	Si
SLV 6	13.5	332.75	527	439	1986	0.452	0	0	0	0	35683	5685	1153	6837		3.44	Si
SLV 6	14.3	-730.15	-107	-89	-43	0.452	0	0	0	0	35683	5685	1153	6837		159.86	Si
SLV 15	13.5	-304.54	-2054	-1711	-1625	0.565	0.4028	-15280	13473	1519	35683	7106	1441	8547		5.26	Si
SLV 15	14.3	487.38	-1085	-904	79	0.452	0	0	0	0	35683	5685	1153	6837		86.81	Si
SLV 5	13.5	277.28	367	306	1749	0.452	0	0	0	0	35683	5685	1153	6837		3.91	Si
SLV 5	14.3	-650	-90	-75	-110	0.452	0	0	0	0	35683	5685	1153	6837		61.88	Si
SLV 1	13.5	251.81	300	249	1435	0.452	0	0	0	0	35683	5685	1153	6837		4.76	Si
SLV 1	14.3	-511.28	-219	-183	-86	0.452	0	0	0	0	35683	5685	1153	6837		79.42	Si
SLV 11	13.5	-303.09	-2044	-1702	-1824	0.565	0.4027	-15207	13458	1517	35683	7106	1441	8547		4.69	Si
SLV 11	14.3	587.2	-1223	-1018	136	0.452	0	0	0	0	35683	5685	1153	6837		50.26	Si
SLV 2	13.5	334.2	538	448	1787	0.452	0	0	0	0	35683	5685	1153	6837		3.83	Si
SLV 2	14.3	-630.33	-244	-203	15	0.452	0	0	0	0	35683	5685	1153	6837		471.5	Si
SLV 12	13.5	-247.62	-1884	-1568	-1587	0.565	0.4531	-12433	12903	1637	35683	7106	1441	8547		5.39	Si
SLV 12	14.3	507.05	-1240	-1032	204	0.452	0	0	0	0	35683	5685	1153	6837		33.56	Si
SLD 2	13.5	214.63	56	46	1146	0.452	0	0	0	0	35683	5685	1153	6837		5.97	Si
SLD 2	14.3	-419.97	-402	-335	27	0.452	0	0	0	0	35683	5685	1153	6837		251.64	Si
SLV 10	13.5	206.74	-10	-8	1330	0.452	0	0	0	0	35683	5685	1153	6837		5.14	Si
SLV 10	14.3	-523.28	-280	-233	-13	0.452	0	0	0	0	35683	5685	1153	6837		533.96	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	0	706	62.12	0	0	No, Trazione
SLV 16	179667	0.52	0	-51	62.12	0	0	No, e>t/2
SLV 7	179667	0.52	0	514	62.12	0	0	No, Trazione
SLV 15	179667	0.52	0	40	62.12	0	0	No, Trazione
SLV 12	179667	0.52	0	644	62.12	0	0	No, Trazione
SLV 8	179667	0.52	0	453	62.12	0	0	No, Trazione
SLV 3	179667	0.52	3774	-597	62.12	81.51	1.31	Si
SLV 4	179667	0.52	4348	-688	62.12	93.56	1.51	Si
SLV 13	179667	0.52	4643	-735	62.12	99.7	1.6	Si
SLV 14	179667	0.52	5217	-825	62.12	111.6	1.8	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-1542	-652	-54	1.628	227.5	0.92	25.70293	5.43428	Si
SLV 12	-1526	-634	-54	1.641	225.9	0.92	25.9278	5.43428	Si
SLV 7	-1374	-427	-60	1.772	210.6	0.916	28.11632	5.43428	Si
SLV 8	-1357	-409	-59	1.788	209	0.915	28.3857	5.43428	Si
SLV 15	-1002	-1175	-13	2.249	173.7	0.904	36.15646	6.05458	Si
SLV 16	-977	-1148	-13	2.288	171.2	0.903	36.80818	6.05458	Si
SLV 3	-440	-425	-32	3.633	119.9	0.889	59.39307	6.05458	Si
SLV 4	-415	-399	-31	3.736	117.6	0.889	61.07373	6.05458	Si
SLV 13	-366	-1395	16	3.979	113.3	0.89	64.9931	6.05458	Si
SLV 14	-342	-1368	17	4.101	111.2	0.89	66.93226	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.662	SLU 65	Si
V_SLU	40.47	SLU 65	Si
PF_SLV	0	SLD 2	No
V_SLV	3.443	SLV 6	Si
PFFP_SLV	0	SLV 15	No
R_SLV	4.73	SLV 11	Si

Maschio 246

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.113	-3.169	-5.438	-3.169	L7	L8	2.325	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	13.5	538.13	-3878	-0.000012	0.0003743	0.0035	2.325	4244.49	4576.25	4576.25	8.5	No	Si
SLU 65	14.3	136.41	-2543	-0.0000066	0.0003743	0.0035	2.325	2842.44	3138.94	3138.94	23.01	No	Si
SLU 60	13.5	427.34	-3086	-0.0000095	0.0003743	0.0035	2.325	3419.92	3727.01	3727.01	8.72	No	Si
SLU 60	14.3	122.15	-1896	-0.000005	0.0003743	0.0035	2.325	2140.96	2425.51	2425.51	19.86	No	Si
SLU 82	13.5	505.17	-3705	-0.0000114	0.0003743	0.0035	2.325	4066.05	4392.53	4392.53	8.7	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	14.3	201.7	-2479	-0.0000068	0.0003743	0.0035	2.325	2774.12	3069.65	3069.65	15.22	No	Si
SLU 10	13.5	373.53	-2597	-0.0000081	0.0003743	0.0035	2.325	2900.86	3197.9	3197.9	8.56	No	Si
SLU 10	14.3	108.69	-1647	-0.0000044	0.0003743	0.0035	2.325	1866.68	2148.83	2148.83	19.77	No	Si
SLU 61	13.5	443.56	-3121	-0.0000097	0.0003743	0.0035	2.325	3457.46	3765.45	3765.45	8.49	No	Si
SLU 61	14.3	120.88	-1918	-0.0000051	0.0003743	0.0035	2.325	2165.23	2450.06	2450.06	20.27	No	Si
SLU 43	13.5	449.49	-3235	-0.00001	0.0003743	0.0035	2.325	3577.21	3888.27	3888.27	8.65	No	Si
SLU 43	14.3	57.72	-1945	-0.0000048	0.0003743	0.0035	2.325	2194.42	2479.61	2479.61	42.96	No	Si
SLU 52	13.5	461.01	-3190	-0.00001	0.0003743	0.0035	2.325	3529.65	3839.45	3839.45	8.33	No	Si
SLU 52	14.3	100.7	-1947	-0.000005	0.0003743	0.0035	2.325	2197.43	2482.66	2482.66	24.65	No	Si
SLU 73	13.5	522.62	-3773	-0.0000117	0.0003743	0.0035	2.325	4136.83	4465.83	4465.83	8.55	No	Si
SLU 73	14.3	181.52	-2508	-0.0000068	0.0003743	0.0035	2.325	2805.75	3101.83	3101.83	17.09	No	Si
SLU 2	13.5	389.03	-2702	-0.0000084	0.0003743	0.0035	2.325	3012.84	3311.44	3311.44	8.51	No	Si
SLU 2	14.3	63.59	-1681	-0.0000042	0.0003743	0.0035	2.325	1904.41	2186.8	2186.8	34.39	No	Si
SLU 44	13.5	476.51	-3294	-0.0000103	0.0003743	0.0035	2.325	3639.45	3952.21	3952.21	8.29	No	Si
SLU 44	14.3	55.59	-1982	-0.0000048	0.0003743	0.0035	2.325	2234.8	2520.51	2520.51	45.34	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	13.5	1587.55	-3690	-0.0000178	0.0005615	0.0035	2.325		4429.38	4429.38	2.79		Si
SLV 1	14.3	-147.09	-2187	-0.0000058	0.0005615	0.0035	2.325		4038.78	4038.78	27.46		Si
SLV 5	13.5	2095.72	-4520	-0.0000229	0.0005615	0.0035	2.325		5331.18	5331.18	2.54		Si
SLV 5	14.3	-176.84	-2633	-0.000007	0.0005615	0.0035	2.325		4532.04	4532.04	25.63		Si
SLV 15	13.5	-1273.6	-1665	-0.0000147	0.0005615	0.0035	1.86		3457.52	3457.52	2.71		Si
SLV 15	14.3	575.61	-1427	-0.0000066	0.0005615	0.0035	2.325		1911.47	1911.47	3.32		Si
SLV 6	13.5	2389.53	-4657	-0.0000254	0.0005615	0.0035	2.325		5479.34	5479.34	2.29		Si
SLV 6	14.3	-328.41	-2616	-0.0000078	0.0005615	0.0035	2.325		4513.4	4513.4	13.74		Si
SLV 7	13.5	-1065.3	-1211	-0.0000149	0.0005615	0.0035	1.86		2950.06	2950.06	2.77		Si
SLV 7	14.3	363.63	-1059	-0.0000045	0.0005615	0.0035	2.325		1495.16	1495.16	4.11		Si
SLV 2	13.5	2023.97	-3894	-0.0000214	0.0005615	0.0035	2.325		4652.44	4652.44	2.3		Si
SLV 2	14.3	-372.23	-2162	-0.0000071	0.0005615	0.0035	2.325		4010.82	4010.82	10.78		Si
SLV 11	13.5	-1639.15	-901	-0.0001952	0.0005615	0.0035	1.86		2601.41	2601.41	1.59		Si
SLV 11	14.3	531.79	-973	-0.0000055	0.0005615	0.0035	2.325		1397.03	1397.03	2.63		Si
SLV 12	13.5	-1345.35	-1039	-0.0000887	0.0005615	0.0035	1.86		2756	2756	2.05		Si
SLV 12	14.3	380.23	-956	-0.0000044	0.0005615	0.0035	2.325		1377.81	1377.81	3.62		Si
SLD 6	13.5	1571.76	-3888	-0.0000181	0.0005615	0.0035	2.325		4646.13	4646.13	2.96		Si
SLD 6	14.3	-159.15	-2278	-0.0000061	0.0005615	0.0035	2.325		4139.81	4139.81	26.01		Si
SLV 10	13.5	1815.67	-4347	-0.0000206	0.0005615	0.0035	2.325		5144.77	5144.77	2.83		Si
SLV 10	14.3	-160.24	-2529	-0.0000067	0.0005615	0.0035	2.325		4418.24	4418.24	27.57		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	13.5	538.13	-3878	-3229	764	2.325	2.325	-4961	7606	4951	35683	19494	5929	25423	No	33.27	Si
SLU 65	14.3	136.41	-2543	-2117	720	2.325	2.325	-3252	7378	4803	35683	19494	5929	25423	No	35.31	Si
SLU 46	13.5	450.43	-3790	-3156	762	2.325	2.325	-4848	7591	4942	35683	19494	5929	25423	No	33.35	Si
SLU 46	14.3	94.08	-2446	-2037	683	2.325	2.325	-3129	7362	4792	35683	19494	5929	25423	No	37.23	Si
SLU 68	13.5	516.1	-3893	-3242	709	2.325	2.325	-4980	7608	4953	35683	19494	5929	25423	No	35.84	Si
SLU 68	14.3	154.16	-2561	-2132	670	2.325	2.325	-3275	7381	4805	35683	19494	5929	25423	No	37.96	Si
SLU 67	13.5	512.05	-4373	-3642	726	2.325	2.325	-5594	7690	5006	35683	19494	5929	25423	No	35.02	Si
SLU 67	14.3	174.9	-3007	-2504	693	2.325	2.325	-3846	7457	4855	35683	19494	5929	25423	No	36.68	Si
SLU 43	13.5	449.49	-3235	-2694	726	2.325	2.325	-4138	7496	4880	35683	19494	5929	25423	No	35.03	Si
SLU 43	14.3	57.72	-1945	-1619	677	2.325	2.325	-2488	7276	4737	35683	19494	5929	25423	No	37.57	Si
SLU 45	13.5	434.22	-3754	-3126	717	2.325	2.325	-4802	7585	4938	35683	19494	5929	25423	No	35.43	Si
SLU 45	14.3	95.35	-2424	-2018	663	2.325	2.325	-3100	7358	4790	35683	19494	5929	25423	No	38.34	Si
SLU 64	13.5	511.1	-3819	-3180	689	2.325	2.325	-4885	7596	4945	35683	19494	5929	25423	No	36.88	Si
SLU 64	14.3	138.54	-2506	-2087	687	2.325	2.325	-3205	7372	4799	35683	19494	5929	25423	No	37.01	Si
SLU 47	13.5	454.48	-3309	-2756	746	2.325	2.325	-4233	7509	4888	35683	19494	5929	25423	No	34.09	Si
SLU 47	14.3	73.34	-2000	-1665	659	2.325	2.325	-2558	7285	4743	35683	19494	5929	25423	No	38.55	Si
SLU 44	13.5	476.51	-3294	-2743	801	2.325	2.325	-4214	7506	4887	35683	19494	5929	25423	No	31.76	Si
SLU 44	14.3	55.59	-1982	-1650	710	2.325	2.325	-2535	7282	4741	35683	19494	5929	25423	No	35.82	Si
SLU 49	13.5	428.4	-3805	-3168	708	2.325	2.325	-4867	7593	4943	35683	19494	5929	25423	No	35.93	Si
SLU 49	14.3	111.83	-2464	-2052	633	2.325	2.325	-3152	7365	4794	35683	19494	5929	25423	No	40.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	13.5	-1065.3	-1211	-1009	-3016	1.86	0.8488	0	0	0	35683	23393	4743	28136		9.33	Si
SLV 7	14.3	363.63	-1059	-882	-1961	2.325	2.325	-1355	10688	6958	35683	29241	5929	35169		17.93	Si
SLV 12	13.5	-1345.35	-1039	-865	-3589	1.86	0	0	0	0	35683	23393	4743	28136		7.84	Si
SLV 12	14.3	380.23	-956	-796	-2322	2.325	2.2943	-1223	10661	6849	35683	29241	5929	35169		15.15	Si
SLV 2	13.5	2023.97	-3894	-3242	4518	2.325	1.9281	-4981	11413	6161	35683	29241	5929	35169		7.78	Si
SLV 2	14.3	-372.23	-2162	-1800	3383	2.325	2.325	-2766	10970	7141	35683	29241	5929	35169		10.4	Si
SLV 15	13.5	-1273.6	-1665	-1386	-3549	1.86	1.1925	0	0	0	35683	23393	4743	28136		7.93	Si
SLV 15	14.3	575.61	-1427	-1188	-2394	2.325	2.2772	-1825	10782	6875	35683	29241	5929	35169		14.69	Si
SLV 5	13.5	2095.72	-4520	-3764	4558	2.325	2.0965	-5782	11573	6794	35683	29241	5929	35169		7.72	Si
SLV 5	14.3	-176.84	-2633	-2192	3311	2.325	2.325	-3368	11090	7220	35683	29241	5929	35169		10.62	Si
SLV 11	13.5	-1639.15	-901	-751	-4395	1.86	0	0	0	0	35683	23393	4743	28136		6.4	Si
SLV 11	14.3	531.79	-973	-810	-2943	2.325	1.8477	-1244	10666	5518	35683	29241	5929	35169		11.95	Si
SLV 1	13.5	1587.55	-3690	-3073	3321	2.325	2.1968	-4720	11361	6988	35683	29241	5929	35169		10.59	Si
SLV 1	14.3	-147.09	-2187	-1821	2460	2.325	2.325	-2798	10976	7146	35683	29241	5929	35169		14.3	Si
SLV 10	13.5	1815.67	-4347	-3620	3985	2.325	2.2346	-5561	11529	7213	35683	29241	5929	35169		8.83	Si
SLV 10	14.3	-160.24	-2529	-2106	2950	2.325	2.325	-3235	11064	7203	35683	29241	5929	35169		11.92	Si
SLD 6	13.5	1571.76	-3888	-3238	3384	2.325	2.2747	-4973	11411	7268	35683	29241	5929	35169		10.39	Si
SLD 6	14.3	-159.15	-2278	-1897	2540	2.325	2.325	-2914	11000	7161	35683	29241	5929	35169		13.84	Si
SLV 6	13.5	2389.53	-4657	-3878	5364	2.325	1.9482	-5957	11608	6332	35683	29241	5929	35169		6.56	Si
SLV 6	14.3	-328.41	-2616	-2178	3932	2.325	2.325	-3346	11086	7217	35683	29241	5929	35169		8.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.52	3257	-2120	255.64	290.48	1.14	Si
SLV 2	179667	0.52	3283	-2137	255.64	292.79	1.15	Si
SLV 3	179667	0.52	3657	-2381	255.64	325.31	1.27	Si
SLV 1	179667	0.52	3683	-2398	255.64	327.6	1.28	Si
SLV 8	179667	0.52	4026	-2621	255.64	357.22	1.4	Si
SLV 6	179667	0.52	4114	-2678	255.64	364.82	1.43	Si
SLV 7	179667	0.52	4295	-2796	255.64	380.44	1.49	Si
SLV 5	179667	0.52	4383	-2853	255.64	388.01	1.52	Si
SLV 12	179667	0.52	4655	-3030	255.64	411.33	1.61	Si
SLV 10	179667	0.52	4743	-3088	255.64	418.86	1.64	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-2210	-5437	-490	3.188	529.9	0.89	52.06497	5.43428	Si
SLV 9	-2202	-5563	-489	3.194	529.2	0.89	52.16927	5.43428	Si
SLV 6	-2141	-4869	-513	3.236	523.6	0.89	52.87063	5.43428	Si
SLV 5	-2133	-4995	-513	3.243	522.8	0.89	52.97808	5.43428	Si
SLV 14	-1712	-5145	-115	3.737	484.4	0.889	61.08983	6.05458	Si
SLV 13	-1701	-5332	-114	3.749	483.3	0.889	61.29219	6.05458	Si
SLV 2	-1484	-3253	-194	3.968	464.2	0.89	64.80041	6.05458	Si
SLV 1	-1473	-3441	-194	3.982	463.1	0.89	65.02581	6.05458	Si
SLV 16	-1216	-4353	183	4.318	441.3	0.893	70.29745	6.05458	Si
SLV 15	-1205	-4541	183	4.335	440.3	0.893	70.55185	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.294	SLU 44	Si
V_SLU	31.758	SLU 44	Si
PF_SLV	1.587	SLV 11	Si
V_SLV	6.401	SLV 11	Si
PFFP_SLV	1.136	SLV 4	Si
R_SLV	9.581	SLV 10	Si

Maschio 247

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-2.213	-3.169	L7	L8	2.09	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	12.4	-670.29	-2738	-0.0000118	0.0003743	0.0035	2.09	2729.76	3856.14	3856.14	5.75	No	Si
SLU 41	14.2	745.52	-2148	-0.0000108	0.0003743	0.0035	2.09	2163.78	2412.79	2412.79	3.24	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	12.4	-592.94	-3501	-0.0000132	0.0003743	0.0035	2.09	3443.81	4592.7	4592.7	7.75	No	Si
SLU 82	14.2	774.6	-2408	-0.0000117	0.0003743	0.0035	2.09	2414.34	2669.07	2669.07	3.45	No	Si
SLU 42	12.4	-622.18	-2760	-0.0000115	0.0003743	0.0035	2.09	2750.33	3877.39	3877.39	6.23	No	Si
SLU 42	14.2	739.12	-2135	-0.0000108	0.0003743	0.0035	2.09	2151.21	2399.97	2399.97	3.25	No	Si
SLU 37	12.4	-565.19	-2863	-0.0000114	0.0003743	0.0035	2.09	2848.15	3978.77	3978.77	7.04	No	Si
SLU 37	14.2	706.44	-2141	-0.0000105	0.0003743	0.0035	2.09	2157.23	2406.11	2406.11	3.41	No	Si
SLU 83	12.4	-642.47	-3509	-0.0000136	0.0003743	0.0035	2.09	3450.75	4599.68	4599.68	7.16	No	Si
SLU 83	14.2	788.12	-2430	-0.0000119	0.0003743	0.0035	2.09	2435.77	2691.04	2691.04	3.41	No	Si
SLU 39	12.4	-668.86	-2709	-0.0000117	0.0003743	0.0035	2.09	2702.01	3827.55	3827.55	5.72	No	Si
SLU 39	14.2	738.4	-2139	-0.0000108	0.0003743	0.0035	2.09	2154.71	2403.54	2403.54	3.26	No	Si
SLU 84	12.4	-594.37	-3530	-0.0000133	0.0003743	0.0035	2.09	3470.74	4619.8	4619.8	7.77	No	Si
SLU 84	14.2	781.72	-2417	-0.0000118	0.0003743	0.0035	2.09	2423.32	2678.28	2678.28	3.43	No	Si
SLU 40	12.4	-620.76	-2731	-0.0000114	0.0003743	0.0035	2.09	2722.61	3848.77	3848.77	6.2	No	Si
SLU 40	14.2	732	-2126	-0.0000107	0.0003743	0.0035	2.09	2142.13	2390.73	2390.73	3.27	No	Si
SLU 38	12.4	-517.08	-2885	-0.0000111	0.0003743	0.0035	2.09	2868.63	4000.08	4000.08	7.74	No	Si
SLU 38	14.2	700.04	-2128	-0.0000105	0.0003743	0.0035	2.09	2144.65	2393.29	2393.29	3.42	No	Si
SLU 81	12.4	-641.05	-3480	-0.0000135	0.0003743	0.0035	2.09	3423.8	4572.59	4572.59	7.13	No	Si
SLU 81	14.2	781	-2421	-0.0000118	0.0003743	0.0035	2.09	2426.79	2681.83	2681.83	3.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	12.4	-2566.37	-1139	-0.0006004	0.0005615	0.0035	1.672		2287.83	2287.83	0.89		No
SLV 12	14.2	1961.87	-2499	-0.0000343	0.0005615	0.0035	2.09		2782.67	2782.67	1.42		Si
SLV 6	12.4	2429.9	-4621	-0.0000317	0.0005615	0.0035	2.09		4859.96	4859.96	2		Si
SLV 6	14.2	-1286.33	-764	-0.000215	0.0005615	0.0035	1.672		1908.45	1908.45	1.48		Si
SLV 13	12.4	-265.88	-3007	-0.0000095	0.0005615	0.0035	2.09		4150.08	4150.08	15.61		Si
SLV 13	14.2	1261.73	-1500	-0.0000261	0.0005615	0.0035	2.09		1778.08	1778.08	1.41		Si
SLV 8	12.4	-2292.76	-1263	-0.0004378	0.0005615	0.0035	1.672		2412.65	2412.65	1.05		Si
SLV 8	14.2	1362.88	-2541	-0.0000176	0.0005615	0.0035	2.09		2824.16	2824.16	2.07		Si
SLV 15	12.4	-1682.67	-1999	-0.0000344	0.0005615	0.0035	1.672		3151.42	3151.42	1.87		Si
SLV 15	14.2	2056.49	-2033	-0.0001897	0.0005615	0.0035	1.672		2315.12	2315.12	1.13		Si
SLD 11	12.4	-1828.65	-1749	-0.0001082	0.0005615	0.0035	1.672		2901.37	2901.37	1.59		Si
SLD 11	14.2	1508.8	-2271	-0.0000211	0.0005615	0.0035	2.09		2554.66	2554.66	1.69		Si
SLD 15	12.4	-1117.82	-2324	-0.0000145	0.0005615	0.0035	2.09		3474.14	3474.14	3.11		Si
SLD 15	14.2	1455.78	-1899	-0.0000242	0.0005615	0.0035	2.09		2180.26	2180.26	1.5		Si
SLV 16	12.4	-1144.77	-2204	-0.0000147	0.0005615	0.0035	2.09		3355.08	3355.08	2.93		Si
SLV 16	14.2	1670.39	-1788	-0.0000583	0.0005615	0.0035	2.09		2068.34	2068.34	1.24		Si
SLV 7	12.4	-2654.89	-1125	-0.0006473	0.0005615	0.0035	1.672		2273.82	2273.82	0.86		No
SLV 7	14.2	1622.82	-2706	-0.0000215	0.0005615	0.0035	2.09		2987.76	2987.76	1.84		Si
SLV 11	12.4	-2928.5	-1001	-0.0008367	0.0005615	0.0035	1.672		2149.06	2149.06	0.73		No
SLV 11	14.2	2221.81	-2664	-0.0000454	0.0005615	0.0035	2.09		2946.19	2946.19	1.33		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	12.4	-620.76	-2731	-2274	-1575	2.09	2.09	-3885	7462	4367	35683	17523	5329	22853	No	14.51	Si
SLU 40	14.2	732	-2126	-1770	-1568	2.09	2.09	-3025	7348	4300	35683	17523	5329	22853	No	14.57	Si
SLU 41	12.4	-670.29	-2738	-2280	-1612	2.09	2.09	-3896	7464	4368	35683	17523	5329	22853	No	14.17	Si
SLU 41	14.2	745.52	-2148	-1789	-1617	2.09	2.09	-3057	7352	4302	35683	17523	5329	22853	No	14.13	Si
SLU 77	12.4	-510.95	-3936	-3277	-1614	2.09	2.09	-5600	7691	4501	35683	17523	5329	22853	No	14.16	Si
SLU 77	14.2	846.07	-2832	-2358	-1620	2.09	2.09	-4029	7482	4378	35683	17523	5329	22853	No	14.11	Si
SLU 75	12.4	-461.42	-3928	-3271	-1576	2.09	2.09	-5590	7690	4500	35683	17523	5329	22853	No	14.5	Si
SLU 75	14.2	832.56	-2809	-2339	-1571	2.09	2.09	-3997	7477	4376	35683	17523	5329	22853	No	14.55	Si
SLU 84	12.4	-594.37	-3530	-2940	-1625	2.09	2.09	-5024	7614	4456	35683	17523	5329	22853	No	14.06	Si
SLU 84	14.2	781.72	-2417	-2013	-1620	2.09	2.09	-3439	7403	4332	35683	17523	5329	22853	No	14.11	Si
SLU 82	12.4	-592.94	-3501	-2916	-1632	2.09	2.09	-4982	7609	4453	35683	17523	5329	22853	No	14	Si
SLU 82	14.2	774.6	-2408	-2005	-1626	2.09	2.09	-3426	7401	4331	35683	17523	5329	22853	No	14.05	Si
SLU 81	12.4	-641.05	-3480	-2897	-1676	2.09	2.09	-4951	7605	4450	35683	17523	5329	22853	No	13.63	Si
SLU 81	14.2	781	-2421	-2016	-1682	2.09	2.09	-3444	7404	4333	35683	17523	5329	22853	No	13.58	Si
SLU 83	12.4	-642.47	-3509	-2922	-1669	2.09	2.09	-4993	7610	4453	35683	17523	5329	22853	No	13.69	Si
SLU 83	14.2	788.12	-2430	-2023	-1676	2.09	2.09	-3458	7405	4334	35683	17523	5329	22853	No	13.64	Si
SLU 74	12.4	-509.52	-3906	-3253	-1621	2.09	2.09	-5559	7686	4498	35683	17523	5329	22853	No	14.1	Si
SLU 74	14.2	838.96	-2822	-2350	-1627	2.09	2.09	-4016	7480	4377	35683	17523	5329	22853	No	14.05	Si
SLU 39	12.4	-668.86	-2709	-2256	-1619	2.09	2.09	-3855	7458	4365	35683	17523	5329	22853	No	14.11	Si
SLU 39	14.2	738.4	-2139	-1781	-1624	2.09	2.09	-3043	7350	4301	35683	17523	5329	22853	No	14.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	12.4	-1828.65	-1749	-1457	-3393	1.672	0	0	0	0	35683	21028	4264	25292		7.45	Si
SLD 11	14.2	1508.8	-2271	-1891	-3291	2.09	1.1421	-3232	11063	3538	35683	26285	5329	31615		9.61	Si
SLD 12	12.4	-1608.89	-1833	-1526	-3077	1.672	0.5014	0	0	0	35683	21028	4264	25292		8.22	Si
SLD 12	14.2	1351.06	-2171	-1808	-2974	2.09	1.2681	-3089	11035	3918	35683	26285	5329	31615		10.63	Si
SLV 12	12.4	-2566.37	-1139	-948	-4584	1.672	0	0	0	0	35683	21028	4264	25292		5.52	Si
SLV 12	14.2	1961.87	-2499	-2081	-4424	2.09	0.7795	-3556	11128	3410	35683	26285	5329	31615		7.15	Si
SLD 7	12.4	-1659.16	-1826	-1521	-2844	1.672	0.4095	0	0	0	35683	21028	4264	25292		8.89	Si
SLD 7	14.2	1128.42	-2301	-1916	-3010	2.09	1.6637	-3274	11071	5158	35683	26285	5329	31615		10.5	Si
SLV 10	12.4	2156.29	-4498	-3745	2417	2.09	1.6967	-6400	11697	5557	35683	26285	5329	31615		13.08	Si
SLV 10	14.2	-687.34	-722	-601	2672	1.672	0.2795	0	0	0	35683	21028	4264	25292		9.47	Si
SLV 6	12.4	2429.9	-4621	-3848	3286	2.09	1.5576	-6576	11732	5117	35683	26285	5329	31615		9.62	Si
SLV 6	14.2	-1286.33	-764	-636	3117	1.672	0	0	0	0	35683	21028	4264	25292		8.12	Si
SLV 11	12.4	-2928.5	-1001	-834	-5106	1.672	0	0	0	0	35683	21028	4264	25292		4.95	Si
SLV 11	14.2	2221.81	-2664	-2218	-4946	2.09	0.6329	-12592	12935	3447	35683	26285	5329	31615		6.39	Si
SLV 8	12.4	-2292.76	-1263	-1051	-3716	1.672	0	0	0	0	35683	21028	4264	25292		6.81	Si
SLV 8	14.2	1362.88	-2541	-2116	-3979	2.09	1.5257	-3615	11140	4759	35683	26285	5329	31615		7.95	Si
SLV 15	12.4	-1682.67	-1999	-1665	-3795	1.672	0.6099	0	0	0	35683	21028	4264	25292		6.66	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	14.2	2056.49	-2033	-1693	-3108	1.672	0.1007	0	0	0	35683	21028	4264	25292		8.14	Si
SLV 7	12.4	-2654.89	-1125	-937	-4237	1.672	0	0	0	0	35683	21028	4264	25292		5.97	Si
SLV 7	14.2	1622.82	-2706	-2253	-4500	2.09	1.3358	-3850	11187	4184	35683	26285	5329	31615		7.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.52	3526	-2064	229.8	282.24	1.23	Si
SLV 8	179667	0.52	3571	-2090	229.8	285.74	1.24	Si
SLV 11	179667	0.52	3579	-2094	229.8	286.33	1.25	Si
SLV 12	179667	0.52	3624	-2121	229.8	289.83	1.26	Si
SLV 3	179667	0.52	4203	-2459	229.8	334.85	1.46	Si
SLV 4	179667	0.52	4269	-2498	229.8	340	1.48	Si
SLV 15	179667	0.52	4377	-2562	229.8	348.34	1.52	Si
SLV 16	179667	0.52	4444	-2601	229.8	353.48	1.54	Si
SLV 1	179667	0.52	4844	-2835	229.8	384.28	1.67	Si
SLV 2	179667	0.52	4911	-2874	229.8	389.39	1.69	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-1741	-4489	264	3.468	453.7	0.889	56.69751	6.05458	Si
SLV 16	-1739	-4231	265	3.471	453.5	0.889	56.74034	6.05458	Si
SLV 13	-1621	-4490	140	3.633	442.8	0.889	59.39438	6.05458	Si
SLV 14	-1618	-4232	140	3.636	442.5	0.889	59.44071	6.05458	Si
SLV 11	-1514	-3977	261	3.716	433.2	0.889	60.74477	5.43428	Si
SLV 12	-1512	-3804	262	3.718	433	0.889	60.77753	5.43428	Si
SLV 7	-1200	-3575	135	4.168	405.7	0.891	67.96719	5.43428	Si
SLV 8	-1198	-3402	135	4.17	405.5	0.891	68.00692	5.43428	Si
SLV 9	-1114	-3981	-153	4.29	398.4	0.892	69.86543	5.43428	Si
SLV 10	-1112	-3807	-153	4.293	398.3	0.892	69.91252	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.236	SLU 41	Si
V_SLU	13.584	SLU 81	Si
PF_SLV	0.734	SLV 11	No
V_SLV	4.954	SLV 11	Si
PFFP_SLV	1.228	SLV 7	Si
R_SLV	9.364	SLV 15	Si

Maschio 248

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.853	5.951	-5.018	5.951	L7	L8	2.165	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 33	12.4	-414.14	-6159	-0.0000181	0.0003743	0.0035	2.165	6001.79	7455.38	7455.38	18	No	Si
SLU 33	14.2	16.97	-4020	-0.00001	0.0003743	0.0035	2.165	4068.68	4387.8	4387.8	258.56	No	Si
SLU 38	12.4	-360.84	-6549	-0.0000188	0.0003743	0.0035	2.165	6337.12	7822.95	7822.95	21.68	No	Si
SLU 38	14.2	268.79	-4411	-0.0000127	0.0003743	0.0035	2.165	4433.27	4768.43	4768.43	17.74	No	Si
SLU 31	12.4	-351.11	-5089	-0.000015	0.0003743	0.0035	2.165	5054.95	6458.26	6458.26	18.39	No	Si
SLU 31	14.2	13.18	-2951	-0.0000073	0.0003743	0.0035	2.165	3041.6	3328.09	3328.09	252.58	No	Si
SLU 42	12.4	-381.06	-5776	-0.0000169	0.0003743	0.0035	2.165	5667.14	7095.96	7095.96	18.62	No	Si
SLU 42	14.2	185.33	-3637	-0.0000102	0.0003743	0.0035	2.165	3705.28	4010.59	4010.59	21.64	No	Si
SLU 17	12.4	-217.91	-5759	-0.0000158	0.0003743	0.0035	2.165	5652.81	7080.76	7080.76	32.49	No	Si
SLU 17	14.2	214.07	-3669	-0.0000105	0.0003743	0.0035	2.165	3735.15	4041.47	4041.47	18.88	No	Si
SLU 43	12.4	-78.59	-5451	-0.000014	0.0003743	0.0035	2.165	5379.31	6793.95	6793.95	86.45	No	Si
SLU 43	14.2	-286.21	-2749	-0.0000087	0.0003743	0.0035	2.165	2843.1	4163.15	4163.15	14.55	No	Si
SLU 44	12.4	-113.7	-5451	-0.0000143	0.0003743	0.0035	2.165	5379.37	6794.02	6794.02	59.75	No	Si
SLU 44	14.2	-244.81	-2749	-0.0000084	0.0003743	0.0035	2.165	2843.17	4163.22	4163.22	17.01	No	Si
SLU 40	12.4	-369.17	-5046	-0.000015	0.0003743	0.0035	2.165	5015.59	6417.27	6417.27	17.38	No	Si
SLU 40	14.2	49.24	-2907	-0.0000075	0.0003743	0.0035	2.165	2998.97	3284.38	3284.38	66.7	No	Si
SLU 39	12.4	-348.1	-5046	-0.0000148	0.0003743	0.0035	2.165	5015.55	6417.23	6417.23	18.44	No	Si
SLU 39	14.2	24.4	-2907	-0.0000073	0.0003743	0.0035	2.165	2998.93	3284.33	3284.33	134.6	No	Si
SLU 1	12.4	-98.15	-4401	-0.0000115	0.0003743	0.0035	2.165	4424.48	5791.34	5791.34	59.01	No	Si
SLU 1	14.2	-205.73	-2310	-0.000007	0.0003743	0.0035	2.165	2407.19	3724.26	3724.26	18.1	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	12.4	-1917.84	-2718	-0.0000255	0.0005615	0.0035	1.732		4162.81	4162.81	2.17		Si
SLV 5	14.2	-1045.83	701	0.052549	0.0005615	0.0035	1.732		0	0	0		No
SLV 6	12.4	-2134.1	-3105	-0.0000279	0.0005615	0.0035	1.732		4558.62	4558.62	2.14		Si
SLV 6	14.2	-277.21	314	0.0232494	0.0005615	0.0035	1.732		0	0	0		No
SLD 3	12.4	-96.96	-3450	-0.0000091	0.0005615	0.0035	2.165		4909.48	4909.48	50.64		Si
SLD 3	14.2	-1058	-1854	-0.0000127	0.0005615	0.0035	2.165		3272.28	3272.28	3.09		Si
SLD 1	12.4	-697.76	-3053	-0.0000122	0.0005615	0.0035	2.165		4505.15	4505.15	6.46		Si
SLD 1	14.2	-1137.66	-952	-0.0000857	0.0005615	0.0035	1.732		2333.45	2333.45	2.05		Si
SLV 9	12.4	-1607.52	-3821	-0.0000204	0.0005615	0.0035	2.165		5284.35	5284.35	3.29		Si
SLV 9	14.2	-494.68	-164	-0.0000994	0.0005615	0.0035	1.732		1501.67	1501.67	3.04		Si
SLV 14	12.4	-316.94	-6383	-0.0000179	0.0005615	0.0035	2.165		7810.05	7810.05	24.64		Si
SLV 14	14.2	1265.14	-3452	-0.000017	0.0005615	0.0035	2.165		3875.42	3875.42	3.06		Si
SLV 3	12.4	-3.84	-2813	-0.0000069	0.0005615	0.0035	2.165		4259.92	4259.92	1108.99		Si
SLV 3	14.2	-1575.17	-1534	-0.0000624	0.0005615	0.0035	1.732		2941.12	2941.12	1.87		Si
SLV 2	12.4	-1351.33	-2707	-0.0000163	0.0005615	0.0035	2.165		4151.51	4151.51	3.07		Si
SLV 2	14.2	-572.02	-568	-0.0000198	0.0005615	0.0035	1.732		1930.13	1930.13	3.37		Si
SLD 5	12.4	-1197.77	-3468	-0.0000166	0.0005615	0.0035	2.165		4927.77	4927.77	4.11		Si
SLD 5	14.2	-695.19	-601	-0.0000467	0.0005615	0.0035	1.732		1964.6	1964.6	2.83		Si
SLV 1	12.4	-1030.09	-2132	-0.0000125	0.0005615	0.0035	2.165		3560.47	3560.47	3.46		Si
SLV 1	14.2	-1713.72	7	-0.00069	0.0005615	0.0035	1.732		1317.72	1317.72	0.77		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	12.4	-320.21	-7599	-6328	-312	2.165	2.165	-10438	8336	5053	35683	18152	5521	23673	No	75.85	Si
SLU 79	14.2	163.47	-4849	-4038	-312	2.165	2.165	-6661	7833	4748	35683	18152	5521	23673	No	75.85	Si
SLU 41	12.4	-359.99	-5776	-4810	-322	2.165	2.165	-7934	8002	4851	35683	18152	5521	23673	No	73.48	Si
SLU 41	14.2	160.49	-3637	-3029	-322	2.165	2.165	-4996	7611	4614	35683	18152	5521	23673	No	73.48	Si
SLU 38	12.4	-360.84	-6549	-5454	-383	2.165	2.165	-8996	8144	4937	35683	18152	5521	23673	No	61.84	Si
SLU 38	14.2	268.79	-4411	-3673	-383	2.165	2.165	-6059	7752	4699	35683	18152	5521	23673	No	61.84	Si
SLU 80	12.4	-341.28	-7599	-6328	-338	2.165	2.165	-10438	8336	5053	35683	18152	5521	23673	No	70.12	Si
SLU 80	14.2	188.31	-4849	-4038	-338	2.165	2.165	-6661	7833	4748	35683	18152	5521	23673	No	70.12	Si
SLU 36	12.4	-426.02	-6889	-5736	-355	2.165	2.165	-9463	8206	4975	35683	18152	5521	23673	No	66.73	Si
SLU 36	14.2	153.06	-4750	-3956	-355	2.165	2.165	-6525	7814	4737	35683	18152	5521	23673	No	66.73	Si
SLU 35	12.4	-404.95	-6889	-5736	-329	2.165	2.165	-9463	8206	4975	35683	18152	5521	23673	No	71.9	Si
SLU 35	14.2	128.22	-4750	-3956	-329	2.165	2.165	-6525	7814	4737	35683	18152	5521	23673	No	71.9	Si
SLU 37	12.4	-339.77	-6549	-5453	-357	2.165	2.165	-8996	8144	4937	35683	18152	5521	23673	No	66.25	Si
SLU 37	14.2	243.95	-4411	-3673	-357	2.165	2.165	-6059	7752	4699	35683	18152	5521	23673	No	66.25	Si
SLU 78	12.4	-406.46	-7938	-6610	-310	2.165	2.165	-10905	8398	5091	35683	18152	5521	23673	No	76.48	Si
SLU 78	14.2	72.58	-5189	-4321	-310	2.165	2.165	-7128	7895	4786	35683	18152	5521	23673	No	76.48	Si
SLU 42	12.4	-381.06	-5776	-4810	-348	2.165	2.165	-7934	8002	4851	35683	18152	5521	23673	No	68.09	Si
SLU 42	14.2	185.33	-3637	-3029	-348	2.165	2.165	-4996	7611	4614	35683	18152	5521	23673	No	68.09	Si
SLU 34	12.4	-363	-5819	-4846	-318	2.165	2.165	-7994	8010	4856	35683	18152	5521	23673	No	74.53	Si
SLU 34	14.2	149.26	-3681	-3065	-318	2.165	2.165	-5056	7619	4618	35683	18152	5521	23673	No	74.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	12.4	1813.32	-6090	-5071	1815	2.165	2.165	-8366	12090	7329	35683	27228	5521	32749		18.04	Si
SLV 11	14.2	-32.82	-5301	-4414	594	2.165	2.165	-7281	11873	7197	35683	27228	5521	32749		55.16	Si
SLV 7	12.4	1503	-4987	-4153	2226	2.165	2.165	-6851	11787	7145	35683	27228	5521	32749		14.71	Si
SLV 7	14.2	-583.97	-4435	-3693	469	2.165	2.165	-6093	11635	7053	35683	27228	5521	32749		69.77	Si
SLV 8	12.4	1286.74	-5375	-4476	1679	2.165	2.165	-7383	11893	7210	35683	27228	5521	32749		19.5	Si
SLV 8	14.2	184.65	-4823	-4016	-78	2.165	2.165	-6625	11742	7118	35683	27228	5521	32749		421.07	Si
SLV 9	12.4	-1607.52	-3821	-3182	-1752	2.165	1.9853	-5735	11564	6428	35683	27228	5521	32749		18.69	Si
SLV 9	14.2	-494.68	-164	-136	5	1.732	0	0	0	0	35683	21783	4417	26199		5522.58	Si
SLD 10	12.4	-1125.69	-4402	-3665	-1373	2.165	2.165	-6046	11626	7048	35683	27228	5521	32749		23.85	Si
SLD 10	14.2	119.64	-1381	-1150	-334	2.165	2.165	-1897	10796	6545	35683	27228	5521	32749		98	Si
SLV 10	12.4	-1823.78	-4208	-3504	-2299	2.165	1.9473	-6439	11704	6382	35683	27228	5521	32749		14.24	Si
SLV 10	14.2	273.94	-551	-459	-542	2.165	1.7563	-757	10568	5197	35683	27228	5521	32749		60.38	Si
SLV 5	12.4	-1917.84	-2718	-2264	-1341	1.732	1.1309	0	0	0	35683	21783	4417	26199		19.53	Si
SLV 5	14.2	-1045.83	701	584	-120	1.732	0	0	0	0	35683	21783	4417	26199		219	Si
SLV 3	12.4	-3.84	-2813	-2342	1590	2.165	2.165	-3864	11189	6783	35683	27228	5521	32749		20.6	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	14.2	-1575.17	-1534	-1278	251	1.732	0.1675	0	0	0	35683	21783	4417	26199		104.42	Si
SLV 14	12.4	-316.94	-6383	-5315	-1663	2.165	2.165	-8768	12170	7378	35683	27228	5521	32749		19.7	Si
SLV 14	14.2	1265.14	-3452	-2875	-324	2.165	2.1481	-4742	11365	6836	35683	27228	5521	32749		101.1	Si
SLV 6	12.4	-2134.1	-3105	-2586	-1888	1.732	1.1858	0	0	0	35683	21783	4417	26199		13.87	Si
SLV 6	14.2	-277.21	314	261	-667	1.732	0.5992	0	0	0	35683	21783	4417	26199		39.29	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.52	0	-1633	238.05	0	0	No, e>t/2
SLV 5	179667	0.52	0	-1677	238.05	0	0	No, e>t/2
SLV 6	179667	0.52	3406	-2064	238.05	282.58	1.19	Si
SLV 2	179667	0.52	3642	-2208	238.05	301.72	1.27	Si
SLV 3	179667	0.52	4225	-2561	238.05	348.64	1.46	Si
SLV 9	179667	0.52	4229	-2563	238.05	348.94	1.47	Si
SLV 10	179667	0.52	4867	-2951	238.05	399.92	1.68	Si
SLV 4	179667	0.52	5174	-3136	238.05	424.21	1.78	Si
SLV 13	179667	0.52	7566	-4587	238.05	610.31	2.56	Si
SLV 7	179667	0.52	7872	-4772	238.05	633.68	2.66	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-3869	-6920	195	2.211	668.5	0.904	35.52967	6.05458	Si
SLV 12	-3911	-7701	805	2.086	672.6	0.905	33.50968	5.43428	Si
SLV 11	-3381	-7713	805	2.299	620.5	0.9	37.12956	5.43428	Si
SLV 15	-3082	-6939	195	2.568	591.3	0.897	41.59271	6.05458	Si
SLV 14	-2984	-5532	-297	2.599	581.8	0.897	42.13208	6.05458	Si
SLV 8	-3171	-6978	835	2.39	600	0.898	38.67386	5.43428	Si
SLV 7	-2641	-6991	835	2.677	548.7	0.894	43.53463	5.43428	Si
SLV 13	-2197	-5550	-297	3.116	506.5	0.891	50.85374	6.05458	Si
SLV 4	-1404	-4512	297	3.902	434.2	0.89	63.74156	6.05458	Si
SLV 10	-960	-3072	-836	4.346	396.8	0.896	70.45386	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.546	SLU 43	Si
V_SLU	61.838	SLU 38	Si
PF_SLV	0	SLV 5	No
V_SLV	13.873	SLV 6	Si
PFFP_SLV	0	SLV 1	No
R_SLV	5.868	SLV 16	Si

Maschio 249

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.953	5.951	L7	L8	1.83	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	12.4	-390.22	-3354	-0.0000135	0.0003743	0.0035	1.83	2871.27	3776.92	3776.92	9.68	No	Si
SLU 81	14.2	1031.71	-3168	-0.0000191	0.0003743	0.0035	1.83	2722.67	2943.34	2943.34	2.85	No	Si
SLU 82	12.4	-410.58	-3352	-0.0000137	0.0003743	0.0035	1.83	2869.98	3775.59	3775.59	9.2	No	Si
SLU 82	14.2	1042.79	-3178	-0.0000192	0.0003743	0.0035	1.83	2730.5	2951.45	2951.45	2.83	No	Si
SLU 18	12.4	-292.92	-2338	-0.0000095	0.0003743	0.0035	1.83	2043.54	2926.52	2926.52	9.99	No	Si
SLU 18	14.2	696.45	-2100	-0.0000127	0.0003743	0.0035	1.83	1843.74	2040.62	2040.62	2.93	No	Si
SLU 19	12.4	-313.29	-2337	-0.0000097	0.0003743	0.0035	1.83	2042.19	2925.14	2925.14	9.34	No	Si
SLU 19	14.2	707.52	-2109	-0.0000128	0.0003743	0.0035	1.83	1851.93	2048.95	2048.95	2.9	No	Si
SLU 73	12.4	-337.32	-3487	-0.0000134	0.0003743	0.0035	1.83	2977.15	3886.16	3886.16	11.52	No	Si
SLU 73	14.2	1009.01	-3179	-0.0000189	0.0003743	0.0035	1.83	2731.47	2952.46	2952.46	2.93	No	Si
SLU 42	12.4	-410.91	-3060	-0.0000128	0.0003743	0.0035	1.83	2635.37	3537.37	3537.37	8.61	No	Si
SLU 42	14.2	1073.1	-3304	-0.0000199	0.0003743	0.0035	1.83	2831.63	3056.42	3056.42	2.85	No	Si
SLU 31	12.4	-386.49	-2742	-0.0000116	0.0003743	0.0035	1.83	2377.35	3274.16	3274.16	8.47	No	Si
SLU 31	14.2	928.62	-2786	-0.000017	0.0003743	0.0035	1.83	2413.01	2624.22	2624.22	2.83	No	Si
SLU 40	12.4	-459.75	-2608	-0.0000119	0.0003743	0.0035	1.83	2266.67	3157.78	3157.78	6.87	No	Si
SLU 40	14.2	962.41	-2785	-0.0000173	0.0003743	0.0035	1.83	2412.03	2623.2	2623.2	2.73	No	Si
SLU 39	12.4	-439.39	-2609	-0.0000117	0.0003743	0.0035	1.83	2268	3159.17	3159.17	7.19	No	Si
SLU 39	14.2	951.33	-2775	-0.0000172	0.0003743	0.0035	1.83	2404.06	2614.99	2614.99	2.75	No	Si
SLU 41	12.4	-390.55	-3061	-0.0000126	0.0003743	0.0035	1.83	2636.67	3538.68	3538.68	9.06	No	Si
SLU 41	14.2	1062.02	-3294	-0.0000198	0.0003743	0.0035	1.83	2823.85	3048.34	3048.34	2.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	12.4	-1021.9	-1777	-0.0000184	0.0005615	0.0035	1.464		2460.44	2460.44	2.41		Si
SLD 10	14.2	1237.55	-2591	-0.0000209	0.0005615	0.0035	1.83		2485.7	2485.7	2.01		Si
SLD 5	12.4	-876.6	-2181	-0.0000149	0.0005615	0.0035	1.83		2811.77	2811.77	3.21		Si
SLD 5	14.2	1173.98	-2663	-0.0000198	0.0005615	0.0035	1.83		2547.52	2547.52	2.17		Si
SLV 5	12.4	-1421.29	-1735	-0.0000583	0.0005615	0.0035	1.464		2423.52	2423.52	1.71		Si
SLV 5	14.2	1538.89	-2927	-0.0000267	0.0005615	0.0035	1.83		2776.87	2776.87	1.8		Si
SLV 6	12.4	-1711.64	-1578	-0.0002373	0.0005615	0.0035	1.464		2285.98	2285.98	1.34		Si
SLV 6	14.2	1719.46	-3043	-0.000031	0.0005615	0.0035	1.83		2876.52	2876.52	1.67		Si
SLV 9	12.4	-1381.12	-1243	-0.000199	0.0005615	0.0035	1.464		1992.01	1992.01	1.44		Si
SLV 9	14.2	1465.52	-2702	-0.0000257	0.0005615	0.0035	1.83		2581.74	2581.74	1.76		Si
SLV 10	12.4	-1671.47	-1086	-0.0003925	0.0005615	0.0035	1.464		1853.26	1853.26	1.11		Si
SLV 10	14.2	1646.09	-2818	-0.0000303	0.0005615	0.0035	1.83		2682.25	2682.25	1.63		Si
SLD 6	12.4	-1052.79	-2086	-0.0000179	0.0005615	0.0035	1.83		2728.98	2728.98	2.59		Si
SLD 6	14.2	1283.56	-2733	-0.0000217	0.0005615	0.0035	1.83		2608.53	2608.53	2.03		Si
SLD 9	12.4	-845.7	-1872	-0.0000142	0.0005615	0.0035	1.83		2543.33	2543.33	3.01		Si
SLD 9	14.2	1127.97	-2521	-0.000019	0.0005615	0.0035	1.83		2424.67	2424.67	2.15		Si
SLV 14	12.4	-684.85	-1431	-0.0000115	0.0005615	0.0035	1.83		2156.84	2156.84	3.15		Si
SLV 14	14.2	951.23	-2167	-0.000016	0.0005615	0.0035	1.83		2117.72	2117.72	2.23		Si
SLV 2	12.4	-818.77	-3072	-0.0000166	0.0005615	0.0035	1.83		3580.02	3580.02	4.37		Si
SLV 2	14.2	1195.79	-2919	-0.0000204	0.0005615	0.0035	1.83		2769.2	2769.2	2.32		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	12.4	-263.97	-4142	-3449	-1861	1.83	1.83	-6732	7842	4018	35683	15344	4666	20010	No	10.75	Si
SLU 75	14.2	1205.45	-4002	-3333	-1867	1.83	1.83	-6504	7812	4003	35683	15344	4666	20010	No	10.72	Si
SLU 82	12.4	-410.58	-3352	-2791	-1835	1.83	1.83	-5447	7671	3930	35683	15344	4666	20010	No	10.9	Si
SLU 82	14.2	1042.79	-3178	-2646	-1840	1.83	1.7605	-5164	7633	3763	35683	15344	4666	20010	No	10.87	Si
SLU 36	12.4	-264.3	-3850	-3206	-1844	1.83	1.83	-6256	7779	3986	35683	15344	4666	20010	No	10.85	Si
SLU 36	14.2	1235.76	-4128	-3438	-1848	1.83	1.83	-6709	7839	4017	35683	15344	4666	20010	No	10.83	Si
SLU 78	12.4	-215.13	-4594	-3826	-1930	1.83	1.83	-7466	7940	4068	35683	15344	4666	20010	No	10.37	Si
SLU 78	14.2	1316.14	-4521	-3765	-1935	1.83	1.83	-7348	7924	4060	35683	15344	4666	20010	No	10.34	Si
SLU 77	12.4	-194.77	-4596	-3827	-1906	1.83	1.83	-7469	7940	4069	35683	15344	4666	20010	No	10.5	Si
SLU 77	14.2	1305.06	-4512	-3757	-1912	1.83	1.83	-7332	7922	4059	35683	15344	4666	20010	No	10.47	Si
SLU 83	12.4	-341.38	-3806	-3169	-1880	1.83	1.83	-6185	7769	3981	35683	15344	4666	20010	No	10.64	Si
SLU 83	14.2	1142.4	-3687	-3070	-1886	1.83	1.8155	-5992	7743	3936	35683	15344	4666	20010	No	10.61	Si
SLU 84	12.4	-361.74	-3804	-3168	-1903	1.83	1.83	-6182	7769	3981	35683	15344	4666	20010	No	10.51	Si
SLU 84	14.2	1153.48	-3697	-3078	-1909	1.83	1.809	-6008	7746	3923	35683	15344	4666	20010	No	10.48	Si
SLU 80	12.4	-226.08	-4392	-3657	-1829	1.83	1.83	-7137	7896	4046	35683	15344	4666	20010	No	10.94	Si
SLU 80	14.2	1223.01	-4211	-3506	-1835	1.83	1.83	-6843	7857	4026	35683	15344	4666	20010	No	10.91	Si
SLU 74	12.4	-243.61	-4144	-3451	-1838	1.83	1.83	-6734	7842	4018	35683	15344	4666	20010	No	10.89	Si
SLU 74	14.2	1194.37	-3993	-3325	-1844	1.83	1.83	-6488	7810	4002	35683	15344	4666	20010	No	10.85	Si
SLU 35	12.4	-243.94	-3851	-3207	-1820	1.83	1.83	-6259	7779	3986	35683	15344	4666	20010	No	10.99	Si
SLU 35	14.2	1224.68	-4119	-3430	-1825	1.83	1.83	-6693	7837	4016	35683	15344	4666	20010	No	10.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	12.4	-876.6	-2181	-1816	-2140	1.83	1.5393	-4221	11261	4853	35683	23015	4666	27682		12.94	Si
SLD 5	14.2	1173.98	-2663	-2217	-2422	1.83	1.4223	-4327	11282	4493	35683	23015	4666	27682		11.43	Si
SLV 14	12.4	-684.85	-1431	-1191	-2467	1.83	1.3089	-3254	11067	4056	35683	23015	4666	27682		11.22	Si
SLV 14	14.2	951.23	-2167	-1805	-1285	1.83	1.4282	-3522	11121	4447	35683	23015	4666	27682		21.54	Si
SLD 6	12.4	-1052.79	-2086	-1737	-2383	1.83	1.2308	-5049	11427	3938	35683	23015	4666	27682		11.62	Si
SLD 6	14.2	1283.56	-2733	-2276	-2665	1.83	1.336	-4441	11305	4229	35683	23015	4666	27682		10.39	Si
SLD 10	12.4	-1021.9	-1777	-1480	-2551	1.464	1.0199	0	0	0	35683	18412	3733	22145		8.68	Si
SLD 10	14.2	1237.55	-2591	-2158	-2382	1.83	1.3123	-4211	11259	4137	35683	23015	4666	27682		11.62	Si
SLV 5	12.4	-1421.29	-1735	-1445	-2941	1.464	0.2873	0	0	0	35683	18412	3733	22145		7.53	Si
SLV 5	14.2	1538.89	-2927	-2438	-3397	1.83	1.168	-4758	11368	3718	35683	23015	4666	27682		8.15	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	12.4	-845.7	-1872	-1559	-2308	1.83	1.3899	-4010	11219	4366	35683	23015	4666	27682		11.99	Si
SLD 9	14.2	1127.97	-2521	-2099	-2139	1.83	1.4027	-4097	11236	4413	35683	23015	4666	27682		12.94	Si
SLV 10	12.4	-1671.47	-1086	-904	-3622	1.464	0	0	0	0	35683	18412	3733	22145		6.11	Si
SLV 10	14.2	1646.09	-2818	-2347	-3351	1.83	0.9926	-4580	11333	3150	35683	23015	4666	27682		8.26	Si
SLV 6	12.4	-1711.64	-1578	-1314	-3341	1.464	0	0	0	0	35683	18412	3733	22145		6.63	Si
SLV 6	14.2	1719.46	-3043	-2534	-3797	1.83	1.0501	-4946	11406	3354	35683	23015	4666	27682		7.29	Si
SLV 9	12.4	-1381.12	-1243	-1035	-3222	1.464	0	0	0	0	35683	18412	3733	22145		6.87	Si
SLV 9	14.2	1465.52	-2702	-2250	-2951	1.83	1.1179	-4391	11295	3535	35683	23015	4666	27682		9.38	Si
SLV 2	12.4	-818.77	-3072	-2558	-1530	1.83	1.83	-4992	11415	5849	35683	23015	4666	27682		18.1	Si
SLV 2	14.2	1195.79	-2919	-2430	-2773	1.83	1.5158	-4743	11365	4824	35683	23015	4666	27682		9.98	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.52	3726	-1909	201.21	260.78	1.3	Si
SLV 14	179667	0.52	3787	-1941	201.21	264.94	1.32	Si
SLV 9	179667	0.52	3840	-1968	201.21	268.53	1.33	Si
SLV 13	179667	0.52	3956	-2027	201.21	276.44	1.37	Si
SLV 6	179667	0.52	4236	-2171	201.21	295.47	1.47	Si
SLV 5	179667	0.52	4350	-2229	201.21	303.17	1.51	Si
SLV 16	179667	0.52	4373	-2241	201.21	304.73	1.51	Si
SLV 15	179667	0.52	4542	-2327	201.21	316.14	1.57	Si
SLV 2	179667	0.52	5488	-2812	201.21	379.51	1.89	Si
SLV 1	179667	0.52	5656	-2898	201.21	390.74	1.94	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-1936	-3690	31	3.109	435.6	0.891	50.70892	6.05458	Si
SLV 4	-1875	-3914	155	3.128	429.9	0.891	51.04075	6.05458	Si
SLV 1	-1903	-3449	31	3.139	432.5	0.891	51.2125	6.05458	Si
SLV 3	-1843	-3672	155	3.159	426.8	0.89	51.55579	6.05458	Si
SLV 14	-1666	-2993	-151	3.338	410.3	0.889	54.53579	6.05458	Si
SLV 13	-1633	-2752	-151	3.373	407.3	0.889	55.11587	6.05458	Si
SLV 6	-1907	-3145	-178	3.092	432.9	0.891	50.43154	5.43428	Si
SLV 16	-1605	-3217	-27	3.445	404.7	0.889	56.30156	6.05458	Si
SLV 5	-1885	-2983	-178	3.112	430.8	0.891	50.76886	5.43428	Si
SLV 15	-1573	-2975	-27	3.482	401.7	0.889	56.91061	6.05458	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.726	SLU 40	Si
V_SLU	10.34	SLU 78	Si
PF_SLV	1.109	SLV 10	Si
V_SLV	6.114	SLV 10	Si
PFFP_SLV	1.296	SLV 10	Si
R_SLV	8.375	SLV 2	Si

Maschio 250

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-0.123	5.951	L7	L8	9.12	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 18	11.5	-1587.82	-26817	-0.0000164	0.0003743	0.0035	9.12	109670.68	137569.15	137569.15	86.64	No	Si
SLU 18	14.6	-218.75	-2765	-0.0000017	0.0003743	0.0035	9.12	12472.76	37906.66	37906.66	173.29	No	Si
SLU 60	11.5	-1899.14	-32514	-0.00002	0.0003743	0.0035	9.12	129723.48	159162.47	159162.47	83.81	No	Si
SLU 60	14.6	-246.15	-3332	-0.000002	0.0003743	0.0035	9.12	15000.33	40414.46	40414.46	164.19	No	Si
SLU 39	11.5	-1467.54	-31001	-0.0000189	0.0003743	0.0035	9.12	124507.49	153509.98	153509.98	104.6	No	Si
SLU 39	14.6	-335	-3340	-0.0000021	0.0003743	0.0035	9.12	15034.95	40448.81	40448.81	120.74	No	Si
SLU 66	11.5	-294.23	-35759	-0.0000213	0.0003743	0.0035	9.12	140631.77	171435.56	171435.56	582.66	No	Si
SLU 66	14.6	-415.99	-4186	-0.0000026	0.0003743	0.0035	9.12	18782.74	44174.95	44174.95	106.19	No	Si
SLU 9	11.5	1319.46	-26513	-0.0000161	0.0003743	0.0035	9.12	108568.9	115648.85	115648.85	87.65	No	Si
SLU 9	14.6	-104.11	-3271	-0.0000019	0.0003743	0.0035	9.12	14727.43	40143.86	40143.86	385.59	No	Si
SLU 81	11.5	-1778.86	-36699	-0.0000225	0.0003743	0.0035	9.12	143723.96	174747	174747	98.24	No	Si
SLU 81	14.6	-362.39	-3908	-0.0000024	0.0003743	0.0035	9.12	17551.07	42949.4	42949.4	118.52	No	Si
SLU 7	11.5	1122.51	-27235	-0.0000165	0.0003743	0.0035	9.12	111183.28	118462.06	118462.06	105.53	No	Si
SLU 7	14.6	-191.33	-3403	-0.000002	0.0003743	0.0035	9.12	15313.5	40725.36	40725.36	212.86	No	Si
SLU 61	11.5	-1667.49	-32494	-0.0000199	0.0003743	0.0035	9.12	129654.72	159087.01	159087.01	95.41	No	Si
SLU 61	14.6	-204.14	-3330	-0.000002	0.0003743	0.0035	9.12	14988.79	40403.01	40403.01	197.92	No	Si
SLU 19	11.5	-1356.17	-26797	-0.0000163	0.0003743	0.0035	9.12	109597.91	137489.71	137489.71	101.38	No	Si
SLU 19	14.6	-176.75	-2762	-0.0000017	0.0003743	0.0035	9.12	12461.17	37895.17	37895.17	214.4	No	Si
SLU 30	11.5	1439.74	-30697	-0.0000187	0.0003743	0.0035	9.12	123450.32	130342.83	130342.83	90.53	No	Si
SLU 30	14.6	-220.35	-3846	-0.0000023	0.0003743	0.0035	9.12	17279.4	42679.71	42679.71	193.69	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	11.5	1444.19	-27659	-0.0000167	0.0005615	0.0035	9.12		123019.07	123019.07	85.18		Si
SLV 1	14.6	986.07	-2801	-0.000002	0.0005615	0.0035	9.12		16652.26	16652.26	16.89		Si
SLV 10	11.5	-1257.36	-24810	-0.000015	0.0005615	0.0035	9.12		131836.6	131836.6	104.85		Si
SLV 10	14.6	1665.32	-2717	-0.0000022	0.0005615	0.0035	9.12		16277	16277	9.77		Si
SLD 6	11.5	171.48	-25939	-0.0000152	0.0005615	0.0035	9.12		115976.43	115976.43	676.32		Si
SLD 6	14.6	1211.64	-2758	-0.000002	0.0005615	0.0035	9.12		16460.92	16460.92	13.59		Si
SLD 5	11.5	-655.37	-25875	-0.0000154	0.0005615	0.0035	9.12		136268.44	136268.44	207.93		Si
SLD 5	14.6	1063.99	-2750	-0.000002	0.0005615	0.0035	9.12		16424.13	16424.13	15.44		Si
SLV 5	11.5	-561.12	-26028	-0.0000154	0.0005615	0.0035	9.12		136908.97	136908.97	243.99		Si
SLV 5	14.6	1908.1	-2741	-0.0000023	0.0005615	0.0035	9.12		16384.19	16384.19	8.59		Si
SLV 11	11.5	-2808.25	-25023	-0.0000157	0.0005615	0.0035	9.12		132723.42	132723.42	47.26		Si
SLV 11	14.6	-2664	-2759	-0.0000026	0.0005615	0.0035	9.12		37855.8	37855.8	14.21		Si
SLV 6	11.5	801.42	-26134	-0.0000156	0.0005615	0.0035	9.12		116782.12	116782.12	145.72		Si
SLV 6	14.6	2151.42	-2755	-0.0000024	0.0005615	0.0035	9.12		16444.81	16444.81	7.64		Si
SLV 2	11.5	3468.09	-27816	-0.0000176	0.0005615	0.0035	9.12		123654.39	123654.39	35.65		Si
SLV 2	14.6	1347.49	-2821	-0.0000021	0.0005615	0.0035	9.12		16742.28	16742.28	12.42		Si
SLV 12	11.5	-1445.71	-25129	-0.0000152	0.0005615	0.0035	9.12		133162.66	133162.66	92.11		Si
SLV 12	14.6	-2420.68	-2773	-0.0000025	0.0005615	0.0035	9.12		37915.78	37915.78	15.66		Si
SLV 9	11.5	-2619.9	-24704	-0.0000154	0.0005615	0.0035	9.12		131398.13	131398.13	50.15		Si
SLV 9	14.6	1422	-2704	-0.0000021	0.0005615	0.0035	9.12		16216.38	16216.38	11.4		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	11.5	-1667.49	-32494	-27059	-1132	9.12	9.12	-10596	8357	23116	35683	76466	23256	58799	No	51.93	Si
SLU 61	14.6	-204.14	-3330	-2773	-1067	9.12	9.12	-1086	7089	18103	35683	76466	23256	53786	No	50.43	Si
SLU 19	11.5	-1356.17	-26797	-22314	-941	9.12	9.12	-8738	8110	21218	35683	76466	23256	56901	No	60.45	Si
SLU 19	14.6	-176.75	-2762	-2300	-875	9.12	9.12	-901	7065	18040	35683	76466	23256	53723	No	61.43	Si
SLU 63	11.5	-673.45	-33873	-28207	-954	9.12	9.12	-11046	8417	23575	35683	76466	23256	59258	No	62.09	Si
SLU 63	14.6	-165.12	-3692	-3074	-888	9.12	9.12	-1204	7105	18143	35683	76466	23256	53826	No	60.62	Si
SLU 62	11.5	-905.09	-33893	-28224	-897	9.12	9.12	-11052	8418	23582	35683	76466	23256	59265	No	66.09	Si
SLU 62	14.6	-207.12	-3694	-3076	-901	9.12	9.12	-1205	7105	18143	35683	76466	23256	53827	No	59.72	Si
SLU 18	11.5	-1587.82	-26817	-22331	-884	9.12	9.12	-8745	8110	21225	35683	76466	23256	56908	No	64.39	Si
SLU 18	14.6	-218.75	-2765	-2302	-888	9.12	9.12	-902	7065	18040	35683	76466	23256	53723	No	60.5	Si
SLU 81	11.5	-1778.86	-36699	-30560	-1008	9.12	9.12	-11967	8540	24516	35683	76466	23256	60199	No	59.73	Si
SLU 81	14.6	-362.39	-3908	-3254	-1013	9.12	9.12	-1274	7114	18167	35683	76466	23256	53850	No	53.15	Si
SLU 82	11.5	-1547.21	-36679	-30543	-1065	9.12	9.12	-11961	8539	24510	35683	76466	23256	60193	No	56.49	Si
SLU 82	14.6	-320.39	-3905	-3252	-1000	9.12	9.12	-1273	7114	18167	35683	76466	23256	53850	No	53.86	Si
SLU 52	11.5	-1306.79	-31568	-26287	-1073	9.12	9.12	-10294	8317	22808	35683	76466	23256	58491	No	54.49	Si
SLU 52	14.6	-177.76	-3263	-2717	-960	9.12	9.12	-1064	7086	18096	35683	76466	23256	53779	No	55.99	Si
SLU 60	11.5	-1899.14	-32514	-27075	-1075	9.12	9.12	-10603	8358	23123	35683	76466	23256	58806	No	54.73	Si
SLU 60	14.6	-246.15	-3332	-2775	-1080	9.12	9.12	-1087	7089	18103	35683	76466	23256	53787	No	49.8	Si
SLU 73	11.5	-1186.52	-35753	-29772	-1007	9.12	9.12	-11659	8499	24201	35683	76466	23256	59884	No	59.48	Si
SLU 73	14.6	-294.01	-3839	-3197	-894	9.12	9.12	-1252	7111	18160	35683	76466	23256	53843	No	60.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	11.5	-1445.71	-25129	-20925	10727	9.12	9.12	-8194	12056	30785	35683	114699	23256	66468		6.2	Si
SLV 12	14.6	-2420.68	-2773	-2309	5951	9.12	9.12	-904	10598	27062	35683	114699	23256	62745		10.54	Si
SLD 10	11.5	-1150.56	-25094	-20896	-7824	9.12	9.12	-8183	12053	30779	35683	114699	23256	66462		8.49	Si
SLD 10	14.6	899.99	-2735	-2277	-5088	9.12	9.12	-892	10595	27055	35683	114699	23256	62739		12.33	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	11.5	613.07	-26453	-22028	10882	9.12	9.12	-8626	12142	31006	35683	114699	23256	66689		6.13	Si
SLV 8	14.6	-1934.57	-2810	-2340	6209	9.12	9.12	-916	10600	27068	35683	114699	23256	62751		10.11	Si
SLV 6	11.5	801.42	-26134	-21762	-12778	9.12	9.12	-8522	12121	30952	35683	114699	23256	66636		5.21	Si
SLV 6	14.6	2151.42	-2755	-2294	-8010	9.12	9.12	-898	10596	27059	35683	114699	23256	62742		7.83	Si
SLD 6	11.5	171.48	-25939	-21600	-7723	9.12	9.12	-8459	12108	30920	35683	114699	23256	66603		8.62	Si
SLD 6	14.6	1211.64	-2758	-2297	-4922	9.12	9.12	-899	10597	27059	35683	114699	23256	62743		12.75	Si
SLV 7	11.5	-749.47	-26347	-21940	11723	9.12	9.12	-8592	12135	30988	35683	114699	23256	66671		5.69	Si
SLV 7	14.6	-2177.89	-2797	-2329	7049	9.12	9.12	-912	10599	27066	35683	114699	23256	62749		8.9	Si
SLV 5	11.5	-561.12	-26028	-21674	-11938	9.12	9.12	-8488	12114	30935	35683	114699	23256	66618		5.58	Si
SLV 5	14.6	1908.1	-2741	-2283	-7170	9.12	9.12	-894	10595	27057	35683	114699	23256	62740		8.75	Si
SLV 9	11.5	-2619.9	-24704	-20572	-12093	9.12	9.12	-8056	12028	30714	35683	114699	23256	66398		5.49	Si
SLV 9	14.6	1422	-2704	-2251	-7428	9.12	9.12	-882	10593	27050	35683	114699	23256	62733		8.45	Si
SLV 11	11.5	-2808.25	-25023	-20837	11567	9.12	9.12	-8160	12049	30767	35683	114699	23256	66451		5.74	Si
SLV 11	14.6	-2664	-2759	-2298	6791	9.12	9.12	-900	10597	27060	35683	114699	23256	62743		9.24	Si
SLV 10	11.5	-1257.36	-24810	-20659	-12934	9.12	9.12	-8090	12035	30732	35683	114699	23256	66415		5.14	Si
SLV 10	14.6	1665.32	-2717	-2263	-8268	9.12	9.12	-886	10594	27053	35683	114699	23256	62736		7.59	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.05 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.52	4445	-11350	1002.77	1542.75	1.54	Si
SLV 13	179667	0.52	4452	-11367	1002.77	1545.06	1.54	Si
SLV 16	179667	0.52	4481	-11443	1002.77	1555.02	1.55	Si
SLV 14	179667	0.52	4488	-11461	1002.77	1557.32	1.55	Si
SLV 11	179667	0.52	5065	-12934	1002.77	1750.76	1.75	Si
SLV 9	179667	0.52	5088	-12993	1002.77	1758.37	1.75	Si
SLV 12	179667	0.52	5090	-12997	1002.77	1758.95	1.75	Si
SLV 10	179667	0.52	5113	-13055	1002.77	1766.56	1.76	Si
SLV 7	179667	0.52	5599	-14297	1002.77	1928.2	1.92	Si
SLV 5	179667	0.52	5622	-14355	1002.77	1935.75	1.93	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.05 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-2838	-27912	-1581	5.061	1580.8	0.908	81.04134	6.05458	Si
SLV 3	-2818	-27755	-1581	5.071	1579.4	0.908	81.18051	6.05458	Si
SLV 2	-2821	-27816	-1496	5.078	1579.6	0.908	81.29469	6.05458	Si
SLV 1	-2801	-27659	-1496	5.088	1578.2	0.908	81.43436	6.05458	Si
SLV 14	-2696	-23402	1670	5.124	1570.9	0.909	81.8863	6.05458	Si
SLV 16	-2713	-23498	1584	5.124	1572.1	0.909	81.90854	6.05458	Si
SLV 13	-2676	-23245	1669	5.135	1569.5	0.91	82.02798	6.05458	Si
SLV 15	-2693	-23341	1584	5.135	1570.7	0.909	82.0502	6.05458	Si
SLV 8	-2810	-26453	-573	5.176	1578.8	0.908	82.85656	5.43428	Si
SLV 7	-2797	-26347	-574	5.183	1577.9	0.908	82.95241	5.43428	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	83.808	SLU 60	Si
V_SLU	49.804	SLU 60	Si
PF_SLV	7.644	SLV 6	Si
V_SLV	5.135	SLV 10	Si
PFFP_SLV	1.538	SLV 15	Si
R_SLV	13.385	SLV 4	Si

Maschio 253

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L7	F1	1.281	0.28	2.792	2.473	3.111			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 23	11.5	-348.8	-3802	-0.0000229	0.0003743	0.0035	1.2809	2181.22	2615.4	2615.4	7.5	No	Si
SLU 23	13.97	114.15	-980	-0.0000062	0.0003743	0.0035	1.2809	610.54	709.88	709.88	6.22	No	Si
SLU 39	11.5	-447.9	-3984	-0.0000256	0.0003743	0.0035	1.2809	2272.93	2712.72	2712.72	6.06	No	Si
SLU 39	13.97	111.96	-1012	-0.0000063	0.0003743	0.0035	1.2809	630.16	729.66	729.66	6.52	No	Si
SLU 64	11.5	-405.48	-4719	-0.000028	0.0003743	0.0035	1.2809	2631.56	3104.27	3104.27	7.66	No	Si
SLU 64	13.97	131.02	-1158	-0.0000073	0.0003743	0.0035	1.2809	718.18	818.91	818.91	6.25	No	Si
SLU 40	11.5	-441.84	-3941	-0.0000253	0.0003743	0.0035	1.2809	2251.38	2689.71	2689.71	6.09	No	Si
SLU 40	13.97	111.93	-1014	-0.0000063	0.0003743	0.0035	1.2809	631.55	731.06	731.06	6.53	No	Si
SLU 41	11.5	-451.27	-4255	-0.0000269	0.0003743	0.0035	1.2809	2407.76	2859.32	2859.32	6.34	No	Si
SLU 41	13.97	79.88	-1093	-0.000006	0.0003743	0.0035	1.2809	679.09	779.17	779.17	9.75	No	Si
SLU 42	11.5	-445.21	-4212	-0.0000266	0.0003743	0.0035	1.2809	2386.62	2836.04	2836.04	6.37	No	Si
SLU 42	13.97	79.85	-1095	-0.000006	0.0003743	0.0035	1.2809	680.47	780.57	780.57	9.78	No	Si
SLU 22	11.5	-358.89	-3873	-0.0000234	0.0003743	0.0035	1.2809	2217.44	2653.68	2653.68	7.39	No	Si
SLU 22	13.97	114.2	-976	-0.0000062	0.0003743	0.0035	1.2809	608.22	707.54	707.54	6.2	No	Si
SLU 82	11.5	-488.43	-4786	-0.00003	0.0003743	0.0035	1.2809	2663.5	3138.81	3138.81	6.43	No	Si
SLU 82	13.97	128.74	-1197	-0.0000074	0.0003743	0.0035	1.2809	741.26	842.44	842.44	6.54	No	Si
SLU 65	11.5	-395.38	-4647	-0.0000275	0.0003743	0.0035	1.2809	2597.46	3067.7	3067.7	7.76	No	Si
SLU 65	13.97	130.96	-1162	-0.0000073	0.0003743	0.0035	1.2809	720.47	821.25	821.25	6.27	No	Si
SLU 81	11.5	-494.48	-4829	-0.0000303	0.0003743	0.0035	1.2809	2683.78	3160.88	3160.88	6.39	No	Si
SLU 81	13.97	128.78	-1194	-0.0000074	0.0003743	0.0035	1.2809	739.88	841.05	841.05	6.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	11.5	-440.29	-2565	-0.0000191	0.0005615	0.0035	1.2809		1946.41	1946.41	4.42		Si
SLD 10	13.97	142.55	-794	-0.000006	0.0005615	0.0035	1.2809		598.55	598.55	4.2		Si
SLD 9	11.5	-457.31	-2587	-0.0000196	0.0005615	0.0035	1.2809		1959.04	1959.04	4.28		Si
SLD 9	13.97	142.58	-784	-0.0000059	0.0005615	0.0035	1.2809		592.74	592.74	4.16		Si
SLV 5	11.5	-351.8	-2046	-0.0000152	0.0005615	0.0035	1.2809		1638.68	1638.68	4.66		Si
SLV 5	13.97	148.71	-844	-0.0000063	0.0005615	0.0035	1.2809		629.63	629.63	4.23		Si
SLV 15	11.5	-625.74	-3832	-0.0000282	0.0005615	0.0035	1.2809		2682.74	2682.74	4.29		Si
SLV 15	13.97	118.84	-688	-0.0000051	0.0005615	0.0035	1.2809		532.74	532.74	4.48		Si
SLD 13	11.5	-559.11	-3146	-0.0000239	0.0005615	0.0035	1.2809		2287.39	2287.39	4.09		Si
SLD 13	13.97	134.91	-728	-0.0000056	0.0005615	0.0035	1.2809		557.27	557.27	4.13		Si
SLV 14	11.5	-661.76	-2832	-0.0000247	0.0005615	0.0035	1.2809		2102.13	2102.13	3.18		Si
SLV 14	13.97	159.39	-674	-0.0000058	0.0005615	0.0035	1.2809		523.45	523.45	3.28		Si
SLV 9	11.5	-552.75	-1919	-0.0000192	0.0005615	0.0035	1.2809		1562.19	1562.19	2.83		Si
SLV 9	13.97	175.56	-736	-0.0000064	0.0005615	0.0035	1.2809		562.63	562.63	3.2		Si
SLD 14	11.5	-532.69	-3113	-0.0000233	0.0005615	0.0035	1.2809		2267.56	2267.56	4.26		Si
SLD 14	13.97	134.85	-742	-0.0000056	0.0005615	0.0035	1.2809		566.29	566.29	4.2		Si
SLV 13	11.5	-703.4	-2885	-0.0000258	0.0005615	0.0035	1.2809		2133.23	2133.23	3.03		Si
SLV 13	13.97	159.48	-651	-0.0000057	0.0005615	0.0035	1.2809		509.23	509.23	3.19		Si
SLV 10	11.5	-524.72	-1883	-0.0000184	0.0005615	0.0035	1.2809		1540.64	1540.64	2.94		Si
SLV 10	13.97	175.5	-752	-0.0000065	0.0005615	0.0035	1.2809		572.2	572.2	3.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	11.5	-479.17	-5085	-4235	-2440	1.2809	1.2809	-11807	8519	3055	30925	10740	3266	14006	No	5.74	Si
SLU 75	13.97	134.99	-1342	-1118	-1603	1.2809	1.2809	-3116	7360	2640	30925	10740	3266	14006	No	8.74	Si
SLU 39	11.5	-447.9	-3984	-3317	-2380	1.2809	1.2809	-9249	8178	2933	30925	10740	3266	14006	No	5.88	Si
SLU 39	13.97	111.96	-1012	-843	-1668	1.2809	1.2809	-2350	7258	2603	30925	10740	3266	14006	No	8.4	Si
SLU 40	11.5	-441.84	-3941	-3281	-2399	1.2809	1.2809	-9149	8164	2928	30925	10740	3266	14006	No	5.84	Si
SLU 40	13.97	111.93	-1014	-845	-1698	1.2809	1.2809	-2355	7258	2603	30925	10740	3266	14006	No	8.25	Si
SLU 83	11.5	-497.85	-5101	-4248	-2435	1.2809	1.2809	-11844	8524	3057	30925	10740	3266	14006	No	5.75	Si
SLU 83	13.97	96.7	-1275	-1062	-1503	1.2809	1.2809	-2961	7339	2632	30925	10740	3266	14006	No	9.32	Si
SLU 73	11.5	-457.69	-4724	-3934	-2426	1.2809	1.2809	-10969	8407	3015	30925	10740	3266	14006	No	5.77	Si
SLU 73	13.97	129.39	-1187	-989	-1627	1.2809	1.2809	-2757	7312	2622	30925	10740	3266	14006	No	8.61	Si
SLU 81	11.5	-494.48	-4829	-4021	-2561	1.2809	1.2809	-11212	8439	3027	30925	10740	3266	14006	No	5.47	Si
SLU 81	13.97	128.78	-1194	-995	-1716	1.2809	1.2809	-2773	7314	2623	30925	10740	3266	14006	No	8.16	Si
SLU 78	11.5	-482.53	-5357	-4461	-2314	1.2809	1.2809	-12438	8603	3085	30925	10740	3266	14006	No	6.05	Si
SLU 78	13.97	102.91	-1423	-1185	-1389	1.2809	1.2809	-3304	7385	2649	30925	10740	3266	14006	No	10.08	Si
SLU 74	11.5	-485.22	-5128	-4270	-2421	1.2809	1.2809	-11907	8532	3060	30925	10740	3266	14006	No	5.79	Si
SLU 74	13.97	135.03	-1340	-1116	-1573	1.2809	1.2809	-3111	7359	2639	30925	10740	3266	14006	No	8.9	Si
SLU 82	11.5	-488.43	-4786	-3986	-2580	1.2809	1.2809	-11113	8426	3022	30925	10740	3266	14006	No	5.43	Si
SLU 82	13.97	128.74	-1197	-996	-1746	1.2809	1.2809	-2778	7315	2623	30925	10740	3266	14006	No	8.02	Si
SLU 84	11.5	-491.79	-5058	-4212	-2454	1.2809	1.2809	-11744	8510	3052	30925	10740	3266	14006	No	5.71	Si
SLU 84	13.97	96.66	-1278	-1064	-1532	1.2809	1.2809	-2967	7340	2632	30925	10740	3266	14006	No	9.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	11.5	-351.8	-2046	-1704	-4594	1.2809	1.2809	-4751	11367	4077	30925	16109	3266	19376		4.22	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	13.97	148.71	-844	-703	-2753	1.2809	1.2809	-1959	10809	3876	30925	16109	3266	19376		7.04	Si
SLD 13	11.5	-559.11	-3146	-2620	-4018	1.2809	1.2809	-7305	11878	4260	30925	16109	3266	19376		4.82	Si
SLD 13	13.97	134.91	-728	-606	-3039	1.2809	1.2809	-1690	10755	3857	30925	16109	3266	19376		6.38	Si
SLD 9	11.5	-457.31	-2587	-2154	-4310	1.2809	1.2809	-6007	11618	4167	30925	16109	3266	19376		4.49	Si
SLD 9	13.97	142.58	-784	-653	-2904	1.2809	1.2809	-1821	10781	3867	30925	16109	3266	19376		6.67	Si
SLV 13	11.5	-703.4	-2885	-2402	-5514	1.2809	1.1898	-6697	11756	3916	30925	16109	3266	19376		3.51	Si
SLV 13	13.97	159.48	-651	-542	-4277	1.2809	1.1863	-1511	10719	3560	30925	16109	3266	19376		4.53	Si
SLD 10	11.5	-440.29	-2565	-2136	-4156	1.2809	1.2809	-5957	11608	4163	30925	16109	3266	19376		4.66	Si
SLD 10	13.97	142.55	-794	-661	-2771	1.2809	1.2809	-1843	10785	3868	30925	16109	3266	19376		6.99	Si
SLV 14	11.5	-661.76	-2832	-2358	-5136	1.2809	1.2202	-6574	11732	4008	30925	16109	3266	19376		3.77	Si
SLV 14	13.97	159.39	-674	-561	-3951	1.2809	1.2115	-1564	10729	3640	30925	16109	3266	19376		4.9	Si
SLD 14	11.5	-532.69	-3113	-2592	-3777	1.2809	1.2809	-7227	11862	4254	30925	16109	3266	19376		5.13	Si
SLD 14	13.97	134.85	-742	-618	-2832	1.2809	1.2809	-1723	10761	3860	30925	16109	3266	19376		6.84	Si
SLV 9	11.5	-552.75	-1919	-1598	-6198	1.2809	1.0572	-5410	11499	3404	30925	16109	3266	19376		3.13	Si
SLV 9	13.97	175.56	-736	-613	-4215	1.2809	1.206	-1709	10759	3633	30925	16109	3266	19376		4.6	Si
SLV 6	11.5	-323.76	-2011	-1674	-4339	1.2809	1.2809	-4668	11350	4071	30925	16109	3266	19376		4.47	Si
SLV 6	13.97	148.65	-859	-715	-2534	1.2809	1.2809	-1995	10816	3879	30925	16109	3266	19376		7.65	Si
SLV 10	11.5	-524.72	-1883	-1568	-5943	1.2809	1.0855	-5171	11451	3481	30925	16109	3266	19376		3.26	Si
SLV 10	13.97	175.5	-752	-626	-3996	1.2809	1.2208	-1745	10766	3680	30925	16109	3266	19376		4.85	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 12.736 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.52	5943	-2131	112.75	286.78	2.54	Si
SLV 2	179667	0.52	5949	-2133	112.75	287.05	2.55	Si
SLV 3	179667	0.52	6107	-2190	112.75	294.4	2.61	Si
SLV 1	179667	0.52	6113	-2193	112.75	294.66	2.61	Si
SLV 8	179667	0.52	6236	-2237	112.75	300.34	2.66	Si
SLV 6	179667	0.52	6255	-2244	112.75	301.23	2.67	Si
SLV 7	179667	0.52	6347	-2276	112.75	305.45	2.71	Si
SLV 5	179667	0.52	6366	-2283	112.75	306.33	2.72	Si
SLV 12	179667	0.52	6470	-2321	112.75	311.12	2.76	Si
SLV 10	179667	0.52	6490	-2328	112.75	312	2.77	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 12.736 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-1070	-4203	11	3.718	260.5	0.89	60.73551	5.58033	Si
SLV 3	-1047	-4256	12	3.76	258.3	0.889	61.43948	5.58033	Si
SLV 2	-1032	-3256	56	3.766	257	0.889	61.54415	5.58033	Si
SLV 1	-1010	-3309	57	3.81	254.9	0.889	62.26922	5.58033	Si
SLV 8	-984	-5168	-62	3.857	252.6	0.889	63.04824	5.12054	Si
SLV 7	-969	-5204	-61	3.888	251.2	0.889	63.56682	5.12054	Si
SLV 12	-877	-5041	-80	4.077	242.8	0.889	66.65625	5.12054	Si
SLV 11	-862	-5077	-80	4.112	241.4	0.889	67.23072	5.12054	Si
SLV 6	-859	-2011	86	4.114	241.2	0.889	67.26444	5.12054	Si
SLV 16	-711	-3779	-51	4.509	228.1	0.89	73.6119	5.58033	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.057	SLU 39	Si
V_SLU	5.428	SLU 82	Si
PF_SLV	2.826	SLV 9	Si
V_SLV	3.126	SLV 9	Si
PFFP_SLV	2.544	SLV 4	Si
R_SLV	10.884	SLV 4	Si

Maschio 254

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.415	L7	F1	1.27	0.28	2.787	2.471	3.103			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	11.5	-249.91	-4323	-0.0000234	0.0003743	0.0035	1.2702	2417.95	2870.86	2870.86	11.49	No	Si
SLU 44	13.97	93.29	-766	-0.000005	0.0003743	0.0035	1.2702	476.25	573.19	573.19	6.14	No	Si
SLU 40	11.5	-297	-4202	-0.0000238	0.0003743	0.0035	1.2702	2359.2	2806.02	2806.02	9.45	No	Si
SLU 40	13.97	87.55	-710	-0.0000046	0.0003743	0.0035	1.2702	441.83	538.41	538.41	6.15	No	Si
SLU 82	11.5	-344.15	-5073	-0.0000287	0.0003743	0.0035	1.2702	2770.63	3257.81	3257.81	9.47	No	Si
SLU 82	13.97	104.18	-862	-0.0000056	0.0003743	0.0035	1.2702	534.35	631.44	631.44	6.06	No	Si
SLU 64	11.5	-312.38	-4896	-0.0000272	0.0003743	0.0035	1.2702	2689.13	3166.93	3166.93	10.14	No	Si
SLU 64	13.97	111.8	-878	-0.0000058	0.0003743	0.0035	1.2702	544.06	641.15	641.15	5.73	No	Si
SLU 23	11.5	-253.2	-3976	-0.0000219	0.0003743	0.0035	1.2702	2248.01	2685.22	2685.22	10.61	No	Si
SLU 23	13.97	95.19	-716	-0.0000048	0.0003743	0.0035	1.2702	445.45	542.08	542.08	5.69	No	Si
SLU 81	11.5	-351.37	-5103	-0.000029	0.0003743	0.0035	1.2702	2784.08	3273	3273	9.31	No	Si
SLU 81	13.97	104.17	-868	-0.0000056	0.0003743	0.0035	1.2702	538.02	635.11	635.11	6.1	No	Si
SLU 22	11.5	-265.24	-4025	-0.0000224	0.0003743	0.0035	1.2702	2272.29	2711.34	2711.34	10.22	No	Si
SLU 22	13.97	95.17	-726	-0.0000049	0.0003743	0.0035	1.2702	451.62	548.33	548.33	5.76	No	Si
SLU 73	11.5	-327.64	-4992	-0.000028	0.0003743	0.0035	1.2702	2733.22	3215.85	3215.85	9.82	No	Si
SLU 73	13.97	106.48	-861	-0.0000056	0.0003743	0.0035	1.2702	533.72	630.8	630.8	5.92	No	Si
SLU 31	11.5	-280.49	-4121	-0.0000231	0.0003743	0.0035	1.2702	2319.29	2762.3	2762.3	9.85	No	Si
SLU 31	13.97	89.85	-709	-0.0000047	0.0003743	0.0035	1.2702	441.19	537.76	537.76	5.99	No	Si
SLU 65	11.5	-300.35	-4847	-0.0000268	0.0003743	0.0035	1.2702	2666.34	3141.86	3141.86	10.46	No	Si
SLU 65	13.97	111.83	-868	-0.0000058	0.0003743	0.0035	1.2702	537.94	635.03	635.03	5.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	11.5	-646.29	-3732	-0.0000285	0.0005615	0.0035	1.2702		2603.57	2603.57	4.03		Si
SLV 1	13.97	136.44	-323	-0.0000053	0.0005615	0.0035	1.2702		299.91	299.91	2.2		Si
SLV 2	11.5	-719.3	-3882	-0.0000306	0.0005615	0.0035	1.2702		2687.92	2687.92	3.74		Si
SLV 2	13.97	141.79	-304	-0.0000063	0.0005615	0.0035	1.2702		288.31	288.31	2.03		Si
SLV 10	11.5	-144.89	-3125	-0.0000159	0.0005615	0.0035	1.2702		2255.97	2255.97	15.57		Si
SLV 10	13.97	138.26	-283	-0.0000068	0.0005615	0.0035	1.2702		274.97	274.97	1.99		Si
SLV 9	11.5	-95.74	-3024	-0.0000145	0.0005615	0.0035	1.2702		2197.01	2197.01	22.95		Si
SLV 9	13.97	134.66	-295	-0.0000058	0.0005615	0.0035	1.2702		282.78	282.78	2.1		Si
SLD 6	11.5	-345.89	-3462	-0.0000214	0.0005615	0.0035	1.2702		2451.13	2451.13	7.09		Si
SLD 6	13.97	127.88	-357	-0.0000045	0.0005615	0.0035	1.2702		321.16	321.16	2.51		Si
SLD 5	11.5	-316.06	-3401	-0.0000205	0.0005615	0.0035	1.2702		2416.36	2416.36	7.65		Si
SLD 5	13.97	125.7	-365	-0.0000044	0.0005615	0.0035	1.2702		325.9	325.9	2.59		Si
SLV 5	11.5	-360.4	-3189	-0.0000205	0.0005615	0.0035	1.2702		2293.46	2293.46	6.36		Si
SLV 5	13.97	157.72	-170	-0.0003209	0.0005615	0.0035	1.0162		204.21	204.21	1.29		Si
SLD 10	11.5	-176.38	-3357	-0.0000175	0.0005615	0.0035	1.2702		2391.07	2391.07	13.56		Si
SLD 10	13.97	113.17	-438	-0.0000041	0.0005615	0.0035	1.2702		371.24	371.24	3.28		Si
SLV 6	11.5	-409.55	-3290	-0.0000219	0.0005615	0.0035	1.2702		2352.61	2352.61	5.74		Si
SLV 6	13.97	161.32	-157	-0.0003913	0.0005615	0.0035	1.0162		196.35	196.35	1.22		Si
SLD 2	11.5	-545.45	-3822	-0.0000269	0.0005615	0.0035	1.2702		2654.44	2654.44	4.87		Si
SLD 2	13.97	118.32	-436	-0.0000042	0.0005615	0.0035	1.2702		370.23	370.23	3.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	11.5	-297	-4202	-3499	-913	1.2702	1.2702	-9839	8256	2936	30925	10650	3239	13889	No	15.21	Si
SLU 40	13.97	87.55	-710	-591	69	1.2702	1.2702	-1661	7166	2549	30925	10650	3239	13889	No	201.47	Si
SLU 31	11.5	-280.49	-4121	-3431	-873	1.2702	1.2702	-9648	8231	2927	30925	10650	3239	13889	No	15.91	Si
SLU 31	13.97	89.85	-709	-590	50	1.2702	1.2702	-1659	7166	2549	30925	10650	3239	13889	No	275.62	Si
SLU 75	11.5	-333.19	-5310	-4422	-864	1.2702	1.2702	-12432	8602	3059	30925	10650	3239	13889	No	16.07	Si
SLU 75	13.97	107.73	-990	-824	240	1.2702	1.2702	-2318	7253	2580	30925	10650	3239	13889	No	57.83	Si
SLU 74	11.5	-340.41	-5339	-4446	-857	1.2702	1.2702	-12501	8611	3063	30925	10650	3239	13889	No	16.21	Si
SLU 74	13.97	107.71	-996	-829	248	1.2702	1.2702	-2332	7255	2580	30925	10650	3239	13889	No	55.98	Si
SLU 65	11.5	-300.35	-4847	-4036	-872	1.2702	1.2702	-11348	8458	3008	30925	10650	3239	13889	No	15.92	Si
SLU 65	13.97	111.83	-868	-723	73	1.2702	1.2702	-2032	7215	2566	30925	10650	3239	13889	No	191.15	Si
SLU 73	11.5	-327.64	-4992	-4157	-977	1.2702	1.2702	-11687	8503	3024	30925	10650	3239	13889	No	14.22	Si
SLU 73	13.97	106.48	-861	-717	104	1.2702	1.2702	-2015	7213	2565	30925	10650	3239	13889	No	134.06	Si
SLU 81	11.5	-351.37	-5103	-4249	-1009	1.2702	1.2702	-11947	8537	3036	30925	10650	3239	13889	No	13.76	Si
SLU 81	13.97	104.17	-868	-723	130	1.2702	1.2702	-2032	7215	2566	30925	10650	3239	13889	No	106.77	Si
SLU 82	11.5	-344.15	-5073	-4224	-1017	1.2702	1.2702	-11878	8528	3033	30925	10650	3239	13889	No	13.66	Si
SLU 82	13.97	104.18	-862	-718	122	1.2702	1.2702	-2018	7213	2566	30925	10650	3239	13889	No	113.71	Si
SLU 64	11.5	-312.38	-4896	-4077	-860	1.2702	1.2702	-11463	8473	3014	30925	10650	3239	13889	No	16.16	Si
SLU 64	13.97	111.8	-878	-731	86	1.2702	1.2702	-2055	7219	2567	30925	10650	3239	13889	No	161.73	Si
SLU 39	11.5	-304.22	-4232	-3524	-905	1.2702	1.2702	-9908	8265	2940	30925	10650	3239	13889	No	15.34	Si
SLU 39	13.97	87.53	-716	-596	77	1.2702	1.2702	-1676	7168	2549	30925	10650	3239	13889	No	180.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	11.5	-646.29	-3732	-3107	-4275	1.2702	1.2702	-8737	12164	4326	30925	15975	3239	19214		4.49	Si
SLV 1	13.97	136.44	-323	-269	-2553	1.2702	0.6379	-756	10568	1888	30925	15975	3239	19214		7.53	Si
SLV 2	11.5	-719.3	-3882	-3232	-4813	1.2702	1.2702	-9088	12234	4351	30925	15975	3239	19214		3.99	Si
SLV 2	13.97	141.79	-304	-253	-2990	1.2702	0.5076	-712	10559	1780	30925	15975	3239	19214		6.43	Si
SLV 5	11.5	-360.4	-3189	-2656	-3773	1.2702	1.2702	-7466	11910	4236	30925	15975	3239	19214		5.09	Si
SLV 5	13.97	157.72	-170	-141	-880	1.0162	0	0	0	0	30925	12780	2591	15372		17.47	Si
SLV 16	11.5	172.27	-3653	-3042	2977	1.2702	1.2702	-8553	12127	4313	30925	15975	3239	19214		6.45	Si
SLV 16	13.97	24.36	-979	-815	2733	1.2702	1.2702	-2292	10875	3868	30925	15975	3239	19214		7.03	Si
SLV 6	11.5	-409.55	-3290	-2740	-4135	1.2702	1.2702	-7703	11957	4253	30925	15975	3239	19214		4.65	Si
SLV 6	13.97	161.32	-157	-131	-1174	1.0162	0	0	0	0	30925	12780	2591	15372		13.1	Si
SLV 15	11.5	245.28	-3503	-2917	3515	1.2702	1.2702	-8202	12057	4288	30925	15975	3239	19214		5.47	Si
SLV 15	13.97	19.02	-998	-831	3170	1.2702	1.2702	-2336	10884	3871	30925	15975	3239	19214		6.06	Si
SLD 2	11.5	-545.45	-3822	-3183	-3275	1.2702	1.2702	-8948	12206	4341	30925	15975	3239	19214		5.87	Si
SLD 2	13.97	118.32	-436	-363	-1876	1.2702	1.0912	-1021	10621	3245	30925	15975	3239	19214		10.24	Si
SLV 4	11.5	-709.92	-4203	-3500	-3404	1.2702	1.2702	-9840	12385	4405	30925	15975	3239	19214		5.64	Si
SLV 4	13.97	101.24	-559	-466	-2820	1.2702	1.2702	-1309	10679	3798	30925	15975	3239	19214		6.81	Si
SLD 1	11.5	-499.14	-3727	-3104	-2934	1.2702	1.2702	-8726	12162	4326	30925	15975	3239	19214		6.55	Si
SLD 1	13.97	114.93	-448	-373	-1599	1.2702	1.1354	-1048	10626	3378	30925	15975	3239	19214		12.02	Si
SLV 13	11.5	235.9	-3182	-2650	2106	1.2702	1.2702	-7450	11907	4235	30925	15975	3239	19214		9.12	Si
SLV 13	13.97	59.57	-743	-619	3000	1.2702	1.2702	-1739	10764	3829	30925	15975	3239	19214		6.41	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 12.735 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 13	179667	0.52	4895	-1741	111.42	235.94	2.12	Si
SLV 9	179667	0.52	5164	-1837	111.42	248.44	2.23	Si
SLV 15	179667	0.52	5210	-1853	111.42	250.59	2.25	Si
SLV 14	179667	0.52	5230	-1860	111.42	251.51	2.26	Si
SLV 10	179667	0.52	5390	-1917	111.42	258.89	2.32	Si
SLV 16	179667	0.52	5545	-1972	111.42	266.09	2.39	Si
SLV 5	179667	0.52	5662	-2014	111.42	271.49	2.44	Si
SLV 6	179667	0.52	5888	-2094	111.42	281.87	2.53	Si
SLV 11	179667	0.52	6214	-2210	111.42	296.82	2.66	Si
SLV 12	179667	0.52	6439	-2290	111.42	307.12	2.76	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 12.735 Wa = 0.05 Ta = 0.0463

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-998	-3503	-40	3.828	252.1	0.889	62.57307	5.57427	Si
SLV 11	-1145	-4095	55	3.548	265.9	0.89	57.90913	5.11663	Si
SLV 16	-979	-3653	-40	3.866	250.4	0.889	63.19256	5.57427	Si
SLV 12	-1132	-4196	55	3.57	264.7	0.89	58.27354	5.11663	Si
SLV 7	-1019	-4260	91	3.76	254.1	0.889	61.43943	5.11663	Si
SLV 8	-1006	-4361	90	3.784	253	0.889	61.84762	5.11663	Si
SLV 13	-743	-3182	-86	4.39	229.2	0.89	71.70375	5.57427	Si
SLV 14	-724	-3332	-86	4.439	227.5	0.89	72.49865	5.57427	Si
SLV 3	-578	-4053	80	4.881	215.1	0.893	79.39258	5.57427	Si
SLV 4	-559	-4203	79	4.943	213.6	0.894	80.34401	5.57427	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.679	SLU 65	Si
V_SLU	13.662	SLU 82	Si
PF_SLV	1.217	SLV 6	Si
V_SLV	3.992	SLV 2	Si
PFFP_SLV	2.118	SLV 13	Si
R_SLV	11.225	SLV 15	Si

Maschio 261

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-13.143	-4.685	L3	Z medio 275 cm	0.47	0.3	2.75	2.75	2.75			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	0	468.34	-10191	-0.0002308	0.0003743	0.0035	0.47	694.7	1212.62	1212.62	2.59	No	Si
SLU 76	2.5	74.49	-8777	-0.0001225	0.0003743	0.0035	0.47	801.51	1184.38	1184.38	15.9	No	Si
SLU 77	0	465.1	-10197	-0.0002302	0.0003743	0.0035	0.47	694.1	1212.58	1212.58	2.61	No	Si
SLU 77	2.5	68.71	-8778	-0.0001215	0.0003743	0.0035	0.47	801.44	1184.44	1184.44	17.24	No	Si
SLU 83	0	475.54	-10485	-0.0002397	0.0003743	0.0035	0.47	664.27	1210.75	1210.75	2.55	No	Si
SLU 83	2.5	68.88	-9040	-0.0001257	0.0003743	0.0035	0.47	786.61	1198.37	1198.37	17.4	No	Si
SLU 80	0	469.33	-10221	-0.0002318	0.0003743	0.0035	0.47	691.8	1212.43	1212.43	2.58	No	Si
SLU 80	2.5	71	-8801	-0.0001222	0.0003743	0.0035	0.47	800.25	1185.64	1185.64	16.7	No	Si
SLU 82	0	477.15	-10487	-0.0002401	0.0003743	0.0035	0.47	664.1	1210.74	1210.74	2.54	No	Si
SLU 82	2.5	73.14	-9045	-0.0001266	0.0003743	0.0035	0.47	786.28	1198.66	1198.66	16.39	No	Si
SLU 84	0	483.33	-10578	-0.0002439	0.0003743	0.0035	0.47	654.12	1210.18	1210.18	2.5	No	Si
SLU 84	2.5	71.17	-9128	-0.0001275	0.0003743	0.0035	0.47	781.13	1203.11	1203.11	16.91	No	Si
SLU 81	0	469.36	-10395	-0.000236	0.0003743	0.0035	0.47	673.98	1211.32	1211.32	2.58	No	Si
SLU 81	2.5	70.85	-8957	-0.0001247	0.0003743	0.0035	0.47	791.52	1193.95	1193.95	16.85	No	Si
SLU 73	0	462.16	-10101	-0.0002272	0.0003743	0.0035	0.47	703.53	1213.23	1213.23	2.63	No	Si
SLU 73	2.5	76.47	-8695	-0.0001216	0.0003743	0.0035	0.47	805.71	1180.06	1180.06	15.43	No	Si
SLU 75	0	466.71	-10199	-0.0002306	0.0003743	0.0035	0.47	693.95	1212.57	1212.57	2.6	No	Si
SLU 75	2.5	72.97	-8784	-0.0001223	0.0003743	0.0035	0.47	801.16	1184.73	1184.73	16.24	No	Si
SLU 78	0	472.9	-10290	-0.0002343	0.0003743	0.0035	0.47	684.82	1211.98	1211.98	2.56	No	Si
SLU 78	2.5	71	-8866	-0.0001233	0.0003743	0.0035	0.47	796.71	1189.09	1189.09	16.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	0	-267.35	2189	1.7425533	0.0005615	0.0035	0.376		0	0	0		No
SLV 8	2.5	263.56	2182	1.7069033	0.0005615	0.0035	0.376		0	0	0		No
SLV 4	0	-327.58	-3646	-0.0000876	0.0005615	0.0035	0.47		778.85	778.85	2.38		Si
SLV 4	2.5	907.76	-4182	-0.0085588	0.0005615	0.0035	0.376		844.43	844.43	0.93		No
SLD 8	0	-37.08	-1571	-0.0000218	0.0005615	0.0035	0.47		377.11	377.11	10.17		Si
SLD 8	2.5	192.63	-1182	-0.0000558	0.0005615	0.0035	0.47		277.13	277.13	1.44		Si
SLV 16	0	632.9	-4813	-0.0001738	0.0005615	0.0035	0.47		943.52	943.52	1.49		Si
SLV 16	2.5	-716.18	-2792	-0.0057924	0.0005615	0.0035	0.376		621.81	621.81	0.87		No
SLV 3	0	-260.54	-3656	-0.0000771	0.0005615	0.0035	0.47		780.6	780.6	3		Si
SLV 3	2.5	785.03	-4005	-0.0005478	0.0005615	0.0035	0.376		811.05	811.05	1.03		Si
SLD 11	0	174.89	-1801	-0.000044	0.0005615	0.0035	0.47		407.33	407.33	2.33		Si
SLD 11	2.5	-169.1	-842	-0.000084	0.0005615	0.0035	0.376		220.57	220.57	1.3		Si
SLV 7	0	-222.22	2182	1.7352785	0.0005615	0.0035	0.376		0	0	0		No
SLV 7	2.5	180.93	2302	1.8076446	0.0005615	0.0035	0.376		0	0	0		No
SLV 15	0	699.94	-4823	-0.0002061	0.0005615	0.0035	0.47		944.92	944.92	1.35		Si
SLV 15	2.5	-838.91	-2614	-0.009961	0.0005615	0.0035	0.376		587.96	587.96	0.7		No
SLV 12	0	20.79	1839	0	0.0005615	0.0035	0.376		0	0	0		No
SLV 12	2.5	-223.62	2599	2.0650663	0.0005615	0.0035	0.376		0	0	0		No
SLV 11	0	65.93	1832	0	0.0005615	0.0035	0.376		0	0	0		No
SLV 11	2.5	-306.25	2719	2.1633394	0.0005615	0.0035	0.376		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0	469.36	-10395	-8753	1081	0.47	0.47	-62080	10833	2787	30925	4222	1199	5421	No	5.02	Si
SLU 81	2.5	70.85	-8957	-7543	-238	0.47	0.47	-53497	10833	2464	30925	4222	1199	5421	No	22.79	Si
SLU 84	0	483.33	-10578	-8908	1108	0.47	0.47	-63175	10833	2828	30925	4222	1199	5421	No	4.89	Si
SLU 84	2.5	71.17	-9128	-7687	-253	0.47	0.47	-54514	10833	2502	30925	4222	1199	5421	No	21.46	Si
SLU 76	0	468.34	-10191	-8582	1073	0.47	0.47	-60867	10833	2741	30925	4222	1199	5421	No	5.05	Si
SLU 76	2.5	74.49	-8777	-7391	-262	0.47	0.47	-52420	10833	2423	30925	4222	1199	5421	No	20.68	Si
SLU 83	0	475.54	-10485	-8830	1091	0.47	0.47	-62623	10833	2807	30925	4222	1199	5421	No	4.97	Si
SLU 83	2.5	68.88	-9040	-7613	-238	0.47	0.47	-53990	10833	2482	30925	4222	1199	5421	No	22.8	Si
SLU 73	0	462.16	-10101	-8506	1063	0.47	0.47	-60324	10833	2721	30925	4222	1199	5421	No	5.1	Si
SLU 73	2.5	76.47	-8695	-7322	-262	0.47	0.47	-51927	10833	2405	30925	4222	1199	5421	No	20.67	Si
SLU 77	0	465.1	-10197	-8587	1063	0.47	0.47	-60903	10833	2742	30925	4222	1199	5421	No	5.1	Si
SLU 77	2.5	68.71	-8778	-7392	-239	0.47	0.47	-52427	10833	2424	30925	4222	1199	5421	No	22.71	Si
SLU 78	0	472.9	-10290	-8665	1080	0.47	0.47	-61455	10833	2763	30925	4222	1199	5421	No	5.02	Si
SLU 78	2.5	71	-8866	-7466	-254	0.47	0.47	-52951	10833	2443	30925	4222	1199	5421	No	21.38	Si
SLU 80	0	469.33	-10221	-8607	1072	0.47	0.47	-61042	10833	2748	30925	4222	1199	5421	No	5.06	Si
SLU 80	2.5	71	-8801	-7411	-252	0.47	0.47	-52562	10833	2429	30925	4222	1199	5421	No	21.5	Si
SLU 82	0	477.15	-10487	-8831	1098	0.47	0.47	-62632	10833	2807	30925	4222	1199	5421	No	4.94	Si
SLU 82	2.5	73.14	-9045	-7617	-253	0.47	0.47	-54022	10833	2484	30925	4222	1199	5421	No	21.45	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0	466.71	-10199	-8589	1069	0.47	0.47	-60912	10833	2743	30925	4222	1199	5421	No	5.07	Si
SLU 75	2.5	72.97	-8784	-7397	-254	0.47	0.47	-52459	10833	2425	30925	4222	1199	5421	No	21.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	0	597.47	-15660	-13187	1721	0.47	0.47	-93527	16250	4195	30925	6333	1199	7532		4.38	Si
SLV 5	2.5	340.27	-14409	-12134	-631	0.47	0.47	-86058	16250	3914	30925	6333	1199	7532		11.93	Si
SLV 9	0	885.62	-16010	-13482	1761	0.47	0.47	-95618	16250	4274	30925	6333	1199	7532		4.28	Si
SLV 9	2.5	-146.91	-13992	-11783	-158	0.47	0.47	-83568	16250	3821	30925	6333	1199	7532		47.73	Si
SLV 6	0	552.34	-15653	-13182	1724	0.47	0.47	-93487	16250	4194	30925	6333	1199	7532		4.37	Si
SLV 6	2.5	422.9	-14529	-12235	-722	0.47	0.47	-86772	16250	3941	30925	6333	1199	7532		10.44	Si
SLD 6	0	443.37	-12020	-10122	1305	0.47	0.47	-71791	16250	3378	30925	6333	1199	7532		5.77	Si
SLD 6	2.5	285.75	-10968	-9236	-511	0.47	0.47	-65505	16250	3142	30925	6333	1199	7532		14.75	Si
SLD 9	0	655.35	-12250	-10316	1327	0.47	0.47	-73162	16250	3430	30925	6333	1199	7532		5.67	Si
SLD 9	2.5	-75.98	-10628	-8950	-153	0.47	0.47	-63477	16250	3065	30925	6333	1199	7532		49.3	Si
SLV 10	0	840.49	-16003	-13477	1764	0.47	0.47	-95578	16250	4272	30925	6333	1199	7532		4.27	Si
SLV 10	2.5	-64.29	-14112	-11884	-248	0.47	0.47	-84281	16250	3848	30925	6333	1199	7532		30.37	Si
SLD 5	0	470.76	-12024	-10126	1303	0.47	0.47	-71815	16250	3379	30925	6333	1199	7532		5.78	Si
SLD 5	2.5	235.61	-10896	-9175	-456	0.47	0.47	-65072	16250	3125	30925	6333	1199	7532		16.52	Si
SLD 10	0	627.96	-12246	-10312	1330	0.47	0.47	-73138	16250	3429	30925	6333	1199	7532		5.66	Si
SLD 10	2.5	-25.84	-10701	-9011	-208	0.47	0.47	-63910	16250	3082	30925	6333	1199	7532		36.3	Si
SLV 2	0	-81.67	-8999	-7578	958	0.47	0.47	-53742	16250	2699	30925	6333	1199	7532		7.86	Si
SLV 2	2.5	955.56	-9196	-7744	-1113	0.47	0.3933	-54919	16250	2744	30925	6333	1199	7532		6.76	Si
SLV 4	0	-327.58	-3646	-3070	341	0.47	0.4355	-21774	14772	1930	30925	6333	1199	7532		22.11	Si
SLV 4	2.5	907.76	-4182	-3522	-957	0.376	0.0538	0	0	0	30925	5067	959	6025		6.3	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.375 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.27	0	2192	22.68	0	0	No, Trazione
SLV 7	179667	0.27	0	2126	22.68	0	0	No, Trazione
SLV 8	179667	0.27	0	2055	22.68	0	0	No, Trazione
SLV 11	179667	0.27	0	2262	22.68	0	0	No, Trazione
SLV 15	179667	0.27	23965	-3379	22.68	427.32	18.84	Si
SLV 16	179667	0.27	24706	-3484	22.68	438	19.31	Si
SLV 3	179667	0.27	27187	-3833	22.68	472.64	20.84	Si
SLV 4	179667	0.27	27928	-3938	22.68	482.66	21.28	Si
SLV 6	179667	0.27	103296	-14565	22.68	706.99	31.17	Si
SLV 5	179667	0.27	102798	-14494	22.68	710.68	31.33	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.375 Wa = 0.05 Ta = 0.0421

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-12228	-16010	15	0.265	1300.1	0.987	3.8996	3.10582	Si
SLV 10	-12195	-16003	15	0.265	1296.7	0.987	3.90795	3.10582	Si
SLV 5	-11800	-15660	12	0.272	1256.5	0.986	4.0143	3.10582	Si
SLV 6	-11766	-15653	12	0.273	1253	0.986	4.02327	3.10582	Si
SLV 13	-7785	-10175	17	0.379	847.3	0.98	5.62719	3.35529	Si
SLV 14	-7735	-10165	17	0.381	842.2	0.98	5.65741	3.35529	Si
SLV 1	-6356	-9008	7	0.45	701.8	0.976	6.7029	3.35529	Si
SLV 2	-6307	-8999	7	0.453	696.7	0.976	6.74798	3.35529	Si
SLV 15	-3541	-4823	15	0.734	415.1	0.961	11.1078	3.35529	Si
SLV 16	-3491	-4813	15	0.743	410.1	0.96	11.24609	3.35529	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.504	SLU 84	Si
V_SLU	4.892	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	4.269	SLV 10	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.256	SLV 9	Si

Maschio 262

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.743	-4.685	-11.003	-4.685	L3	Z medio 275 cm	0.74	0.3	2.75	2.75	2.75			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0	847.95	-9193	-0.000124	0.0003743	0.0035	0.7401	2018.49	2424.03	2424.03	2.86	No	Si
SLU 84	2.5	-1365.1	-16565	-0.0002595	0.0003743	0.0035	0.7401	1638.15	3037.51	3037.51	2.23	No	Si
SLU 82	0	833.69	-9152	-0.0001226	0.0003743	0.0035	0.7401	2015.68	2418.14	2418.14	2.9	No	Si
SLU 82	2.5	-1345	-16403	-0.0002547	0.0003743	0.0035	0.7401	1665.6	3038.02	3038.02	2.26	No	Si
SLU 76	0	787.93	-8952	-0.0001176	0.0003743	0.0035	0.7401	2000.93	2389.12	2389.12	3.03	No	Si
SLU 76	2.5	-1292.97	-15900	-0.0002413	0.0003743	0.0035	0.7401	1745.5	3040.34	3040.34	2.35	No	Si
SLU 79	0	800.76	-8848	-0.0001174	0.0003743	0.0035	0.7401	1992.75	2374.16	2374.16	2.96	No	Si
SLU 79	2.5	-1296.7	-15854	-0.000241	0.0003743	0.0035	0.7401	1752.25	3040.61	3040.61	2.34	No	Si
SLU 77	0	807.27	-8897	-0.0001184	0.0003743	0.0035	0.7401	1996.62	2381.15	2381.15	2.95	No	Si
SLU 77	2.5	-1305.77	-15959	-0.0002435	0.0003743	0.0035	0.7401	1736.47	3040.01	3040.01	2.33	No	Si
SLU 78	0	808.12	-8984	-0.0001192	0.0003743	0.0035	0.7401	2003.32	2393.64	2393.64	2.96	No	Si
SLU 78	2.5	-1315.59	-16083	-0.0002464	0.0003743	0.0035	0.7401	1717.3	3039.36	3039.36	2.31	No	Si
SLU 75	0	793.87	-8943	-0.0001179	0.0003743	0.0035	0.7401	2000.23	2387.81	2387.81	3.01	No	Si
SLU 75	2.5	-1295.49	-15922	-0.0002419	0.0003743	0.0035	0.7401	1742.19	3040.22	3040.22	2.35	No	Si
SLU 80	0	801.62	-8935	-0.0001183	0.0003743	0.0035	0.7401	1999.59	2386.62	2386.62	2.98	No	Si
SLU 80	2.5	-1306.52	-15979	-0.0002439	0.0003743	0.0035	0.7401	1733.51	3039.9	3039.9	2.33	No	Si
SLU 81	0	832.84	-9066	-0.0001217	0.0003743	0.0035	0.7401	2009.46	2405.55	2405.55	2.89	No	Si
SLU 81	2.5	-1335.18	-16279	-0.0002516	0.0003743	0.0035	0.7401	1686.07	3038.49	3038.49	2.28	No	Si
SLU 83	0	847.09	-9106	-0.0001231	0.0003743	0.0035	0.7401	2012.39	2411.41	2411.41	2.85	No	Si
SLU 83	2.5	-1355.28	-16441	-0.0002563	0.0003743	0.0035	0.7401	1659.28	3037.89	3037.89	2.24	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	0	2503.26	2445	0.3525578	0.0005615	0.0035	0.5921		0	0	0		No
SLV 15	2.5	-3104.43	-14882	-0.0004385	0.0005615	0.0035	0.5921		3801.97	3801.97	1.22		Si
SLV 11	0	865.23	5086	1.2897185	0.0005615	0.0035	0.5921		0	0	0		No
SLV 11	2.5	-822.48	-1585	-0.0014196	0.0005615	0.0035	0.5921		691.92	691.92	0.84		No
SLV 7	0	-310.07	1811	0.4751765	0.0005615	0.0035	0.5921		0	0	0		No
SLV 7	2.5	584.62	2685	0.6757265	0.0005615	0.0035	0.5921		0	0	0		No
SLV 4	0	-1692.35	-9289	-0.0001868	0.0005615	0.0035	0.7401		2869.08	2869.08	1.7		Si
SLV 4	2.5	1921.72	382	-0.0864732	0.0005615	0.0035	0.5921		0	0	0		No
SLD 12	0	634.38	149	-0.0285632	0.0005615	0.0035	0.5921		0	0	0		No
SLD 12	2.5	-732.81	-5086	-0.0000778	0.0005615	0.0035	0.7401		1795.52	1795.52	2.45		Si
SLV 8	0	-497.19	1261	0.3347232	0.0005615	0.0035	0.5921		0	0	0		No
SLV 8	2.5	810.69	3379	0.8472114	0.0005615	0.0035	0.5921		0	0	0		No
SLV 16	0	2225.32	1627	0.0819453	0.0005615	0.0035	0.5921		0	0	0		No
SLV 16	2.5	-2768.63	-13851	-0.0003581	0.0005615	0.0035	0.7401		3671.65	3671.65	1.33		Si
SLV 12	0	678.11	4536	1.1535621	0.0005615	0.0035	0.5921		0	0	0		No
SLV 12	2.5	-596.41	-891	-0.0012401	0.0005615	0.0035	0.5921		450.95	450.95	0.76		No
SLD 11	0	747.93	483	0.0045386	0.0005615	0.0035	0.5921		0	0	0		No
SLD 11	2.5	-870	-5507	-0.0000907	0.0005615	0.0035	0.7401		1914.87	1914.87	2.2		Si
SLV 3	0	-1414.41	-8472	-0.0001533	0.0005615	0.0035	0.7401		2681.59	2681.59	1.9		Si
SLV 3	2.5	1585.92	-650	-0.0554294	0.0005615	0.0035	0.5921		269.7	269.7	0.17		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0	793.87	-8943	-7531	1650	0.7401	0.7401	-33918	10833	2721	30925	6649	1887	8536	No	5.17	Si
SLU 75	2.5	-1295.49	-15922	-13408	2175	0.7401	0.7401	-60384	10833	4288	30925	6649	1887	8536	No	3.93	Si
SLU 76	0	787.93	-8952	-7539	1641	0.7401	0.7401	-33953	10833	2723	30925	6649	1887	8536	No	5.2	Si
SLU 76	2.5	-1292.97	-15900	-13389	2175	0.7401	0.7401	-60301	10833	4283	30925	6649	1887	8536	No	3.92	Si
SLU 81	0	832.84	-9066	-7634	1714	0.7401	0.7401	-34383	10833	2748	30925	6649	1887	8536	No	4.98	Si
SLU 81	2.5	-1335.18	-16279	-13708	2227	0.7401	0.7401	-61740	10833	4368	30925	6649	1887	8536	No	3.83	Si
SLU 79	0	800.76	-8848	-7451	1653	0.7401	0.7401	-33558	10833	2699	30925	6649	1887	8536	No	5.16	Si
SLU 79	2.5	-1296.7	-15854	-13351	2172	0.7401	0.7401	-60130	10833	4273	30925	6649	1887	8536	No	3.93	Si
SLU 77	0	807.27	-8897	-7492	1666	0.7401	0.7401	-33743	10833	2710	30925	6649	1887	8536	No	5.12	Si
SLU 77	2.5	-1305.77	-15959	-13439	2187	0.7401	0.7401	-60527	10833	4296	30925	6649	1887	8536	No	3.9	Si
SLU 78	0	808.12	-8984	-7565	1672	0.7401	0.7401	-34071	10833	2730	30925	6649	1887	8536	No	5.1	Si
SLU 78	2.5	-1315.59	-16083	-13544	2210	0.7401	0.7401	-60998	10833	4324	30925	6649	1887	8536	No	3.86	Si
SLU 82	0	833.69	-9152	-7707	1720	0.7401	0.7401	-34712	10833	2768	30925	6649	1887	8536	No	4.96	Si
SLU 82	2.5	-1345	-16403	-13813	2250	0.7401	0.7401	-62210	10833	4396	30925	6649	1887	8536	No	3.79	Si
SLU 83	0	847.09	-9106	-7668	1736	0.7401	0.7401	-34536	10833	2757	30925	6649	1887	8536	No	4.92	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	2.5	-1355.28	-16441	-13845	2263	0.7401	0.7401	-62353	10833	4404	30925	6649	1887	8536	No	3.77	Si
SLU 80	0	801.62	-8935	-7524	1659	0.7401	0.7401	-33887	10833	2719	30925	6649	1887	8536	No	5.15	Si
SLU 80	2.5	-1306.52	-15979	-13456	2195	0.7401	0.7401	-60601	10833	4301	30925	6649	1887	8536	No	3.89	Si
SLU 84	0	847.95	-9193	-7741	1742	0.7401	0.7401	-34865	10833	2777	30925	6649	1887	8536	No	4.9	Si
SLU 84	2.5	-1365.1	-16565	-13949	2285	0.7401	0.7401	-62824	10833	4432	30925	6649	1887	8536	No	3.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	0	-1692.35	-9289	-7822	-1060	0.7401	0.5636	-47563	16250	3155	30925	9973	1887	11860		11.19	Si
SLV 4	2.5	1921.72	382	321	-3297	0.5921	0	0	0	0	30925	7979	1510	9488		2.88	Si
SLV 13	0	2693.06	-3209	-2702	3204	0.5921	0	0	0	0	30925	7979	1510	9488		2.96	Si
SLV 13	2.5	-3606.26	-21866	-18413	6135	0.7401	0.6154	-111728	16250	5979	30925	9973	1887	11860		1.93	Si
SLV 16	0	2225.32	1627	1370	2364	0.5921	0	0	0	0	30925	7979	1510	9488		4.01	Si
SLV 16	2.5	-2768.63	-13851	-11664	5088	0.7401	0.5105	-80697	16250	4179	30925	9973	1887	11860		2.33	Si
SLD 13	0	1898.95	-4152	-3496	2424	0.5921	0	0	0	0	30925	7979	1510	9488		3.91	Si
SLD 13	2.5	-2593.89	-17685	-14892	4426	0.7401	0.6702	-78282	16250	5040	30925	9973	1887	11860		2.68	Si
SLD 14	0	1722.63	-4671	-3933	2277	0.5921	0.0037	0	0	0	30925	7979	1510	9488		4.17	Si
SLD 14	2.5	-2380.86	-17030	-14341	4025	0.7401	0.6908	-72716	16250	4893	30925	9973	1887	11860		2.95	Si
SLD 16	0	1611.25	-1360	-1145	1921	0.5921	0	0	0	0	30925	7979	1510	9488		4.94	Si
SLD 16	2.5	-2086.69	-12941	-10897	3781	0.7401	0.6264	-60205	16250	3975	30925	9973	1887	11860		3.14	Si
SLD 15	0	1787.58	-842	-709	2068	0.5921	0	0	0	0	30925	7979	1510	9488		4.59	Si
SLD 15	2.5	-2299.73	-13595	-11448	4181	0.7401	0.6027	-66048	16250	4122	30925	9973	1887	11860		2.84	Si
SLV 9	0	1497.9	-13759	-11586	2677	0.7401	0.7401	-52182	16250	4158	30925	9973	1887	11860		4.43	Si
SLV 9	2.5	-2495.23	-24863	-20937	3582	0.7401	0.7401	-94297	16250	6652	30925	9973	1887	11860		3.31	Si
SLV 14	0	2415.12	-4026	-3391	2972	0.5921	0	0	0	0	30925	7979	1510	9488		3.19	Si
SLV 14	2.5	-3270.45	-20835	-17545	5504	0.7401	0.6393	-99713	16250	5747	30925	9973	1887	11860		2.15	Si
SLV 15	0	2503.26	2445	2059	2596	0.5921	0	0	0	0	30925	7979	1510	9488		3.66	Si
SLV 15	2.5	-3104.43	-14882	-12533	5719	0.5921	0.4844	0	0	0	30925	7979	1510	9488		1.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.375 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.27	0	2848	35.72	0	0	No, Trazione
SLV 8	179667	0.27	0	3392	35.72	0	0	No, Trazione
SLV 7	179667	0.27	0	3329	35.72	0	0	No, Trazione
SLV 11	179667	0.27	0	2784	35.72	0	0	No, Trazione
SLV 4	179667	0.27	19518	-4334	35.72	566.98	15.87	Si
SLV 3	179667	0.27	19944	-4428	35.72	577.51	16.17	Si
SLV 16	179667	0.27	27689	-6148	35.72	754.99	21.14	Si
SLV 15	179667	0.27	28115	-6243	35.72	763.99	21.39	Si
SLV 2	179667	0.27	51854	-11514	35.72	1140.63	31.94	Si
SLV 1	179667	0.27	52280	-11608	35.72	1145.14	32.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.375 Wa = 0.05 Ta = 0.0421

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-19606	-13759	6	0.262	2083	0.987	3.85823	3.10582	Si
SLV 10	-19230	-14309	6	0.266	2044.7	0.987	3.91732	3.10582	Si
SLV 13	-15770	-3209	23	0.31	1692	0.984	4.57488	3.35529	Si
SLV 5	-17213	-17034	0	0.29	1839.1	0.985	4.28173	3.10582	Si
SLV 6	-16837	-17584	0	0.295	1800.8	0.985	4.35823	3.10582	Si
SLV 14	-15211	-4026	22	0.319	1635.1	0.983	4.71118	3.35529	Si
SLV 15	-10010	2445	31	0.448	1105.2	0.976	6.67419	3.35529	Si, Trazione
SLV 16	-9451	1627	30	0.47	1048.3	0.975	7.01069	3.35529	Si, Trazione
SLV 1	-7793	-14125	2	0.556	879.3	0.97	8.33311	3.35529	Si
SLV 2	-7234	-14942	2	0.592	822.5	0.968	8.89038	3.35529	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.225	SLU 84	Si
V_SLU	3.735	SLU 84	Si
PF_SLV	0	SLD 11	No
V_SLV	1.659	SLV 15	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.242	SLV 9	Si

Maschio 265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-12.868	-4.685	Z medio 275 cm	Z medio 618 cm	0.745	0.3	3.43	3.43	3.43			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	3.7	741.9	-11380	-0.000137	0.0003743	0.0035	0.745	2118.84	2779.29	2779.29	3.75	No	Si
SLU 83	5.7	-358.51	-9036	-0.0000888	0.0003743	0.0035	0.745	2029.16	2513.31	2513.31	7.01	No	Si
SLU 75	3.7	723.97	-11106	-0.0001329	0.0003743	0.0035	0.745	2117.64	2736.58	2736.58	3.78	No	Si
SLU 75	5.7	-350.62	-8745	-0.0000858	0.0003743	0.0035	0.745	2005.44	2463.94	2463.94	7.03	No	Si
SLU 82	3.7	733.72	-11327	-0.0001358	0.0003743	0.0035	0.745	2118.8	2771.35	2771.35	3.78	No	Si
SLU 82	5.7	-353.59	-8957	-0.0000878	0.0003743	0.0035	0.745	2023.01	2500.62	2500.62	7.07	No	Si
SLU 76	3.7	719.39	-11071	-0.0001322	0.0003743	0.0035	0.745	2117.31	2731.03	2731.03	3.8	No	Si
SLU 76	5.7	-347.69	-8696	-0.0000851	0.0003743	0.0035	0.745	2001.19	2454.49	2454.49	7.06	No	Si
SLU 79	3.7	722.49	-11061	-0.0001323	0.0003743	0.0035	0.745	2117.21	2729.43	2729.43	3.78	No	Si
SLU 79	5.7	-348.09	-8760	-0.0000857	0.0003743	0.0035	0.745	2006.73	2466.85	2466.85	7.09	No	Si
SLU 81	3.7	726.09	-11233	-0.0001343	0.0003743	0.0035	0.745	2118.5	2756.57	2756.57	3.8	No	Si
SLU 81	5.7	-346.82	-8935	-0.0000872	0.0003743	0.0035	0.745	2021.23	2496.93	2496.93	7.2	No	Si
SLU 80	3.7	730.12	-11156	-0.0001338	0.0003743	0.0035	0.745	2118.04	2744.38	2744.38	3.76	No	Si
SLU 80	5.7	-354.86	-8782	-0.0000864	0.0003743	0.0035	0.745	2008.65	2470.89	2470.89	6.96	No	Si
SLU 77	3.7	732.15	-11159	-0.000134	0.0003743	0.0035	0.745	2118.06	2744.95	2744.95	3.75	No	Si
SLU 77	5.7	-355.53	-8824	-0.0000868	0.0003743	0.0035	0.745	2012.14	2478.12	2478.12	6.97	No	Si
SLU 78	3.7	739.78	-11254	-0.0001355	0.0003743	0.0035	0.745	2118.59	2759.88	2759.88	3.73	No	Si
SLU 78	5.7	-362.3	-8846	-0.0000874	0.0003743	0.0035	0.745	2014.01	2481.99	2481.99	6.85	No	Si
SLU 84	3.7	749.53	-11475	-0.0001385	0.0003743	0.0035	0.745	2118.68	2792.94	2792.94	3.73	No	Si
SLU 84	5.7	-365.28	-9059	-0.0000894	0.0003743	0.0035	0.745	2030.87	2516.84	2516.84	6.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	3.7	-1948.9	611	0.1370051	0.0005615	0.0035	0.596		0	0	0		No
SLV 4	5.7	2159.96	-9836	-0.0002586	0.0005615	0.0035	0.745		2872.88	2872.88	1.33		Si
SLV 12	3.7	299.32	664	0.1587273	0.0005615	0.0035	0.596		0	0	0		No
SLV 12	5.7	-174.88	-880	-0.0000167	0.0005615	0.0035	0.745		449.79	449.79	2.57		Si
SLV 8	3.7	-931.73	3600	0.9494627	0.0005615	0.0035	0.596		0	0	0		No
SLV 8	5.7	1052.2	-3689	-0.0001556	0.0005615	0.0035	0.745		1294.62	1294.62	1.23		Si
SLV 13	3.7	2884	-15536	-0.0003703	0.0005615	0.0035	0.745		3878.42	3878.42	1.34		Si
SLV 13	5.7	-2575.28	-2088	-0.0144131	0.0005615	0.0035	0.596		866.17	866.17	0.34		No
SLV 11	3.7	517.94	155	-0.0228501	0.0005615	0.0035	0.596		0	0	0		No
SLV 11	5.7	-391.85	-382	-0.0009324	0.0005615	0.0035	0.596		271.81	271.81	0.69		No
SLV 7	3.7	-713.11	3091	0.8138592	0.0005615	0.0035	0.596		0	0	0		No
SLV 7	5.7	835.22	-3192	-0.0001015	0.0005615	0.0035	0.745		1137.58	1137.58	1.36		Si
SLV 3	3.7	-1624.16	-146	-0.012099	0.0005615	0.0035	0.596		186.14	186.14	0.11		No
SLV 3	5.7	1837.67	-9097	-0.0002047	0.0005615	0.0035	0.745		2712.86	2712.86	1.48		Si
SLV 14	3.7	2559.27	-14779	-0.000313	0.0005615	0.0035	0.745		3761.43	3761.43	1.47		Si
SLV 14	5.7	-2252.99	-2827	-0.0104078	0.0005615	0.0035	0.596		1112.29	1112.29	0.49		No
SLV 16	3.7	2154.6	-9175	-0.0002708	0.0005615	0.0035	0.745		2729.69	2729.69	1.27		Si
SLV 16	5.7	-1930.29	-471	-0.0134311	0.0005615	0.0035	0.596		303.8	303.8	0.16		No
SLV 15	3.7	2479.34	-9932	-0.0003548	0.0005615	0.0035	0.745		2893.86	2893.86	1.17		Si
SLV 15	5.7	-2252.58	268	-0.0172544	0.0005615	0.0035	0.596		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	3.7	730.12	-11156	-9394	1313	0.745	0.745	-42034	10833	3222	38062	6692	1900	8592	No	6.54	Si
SLU 80	5.7	-354.86	-8782	-7396	624	0.745	0.745	-33092	10833	2689	38062	6692	1900	8592	No	13.78	Si
SLU 79	3.7	722.49	-11061	-9314	1297	0.745	0.745	-41677	10833	3201	38062	6692	1900	8592	No	6.62	Si
SLU 79	5.7	-348.09	-8760	-7377	604	0.745	0.745	-33007	10833	2684	38062	6692	1900	8592	No	14.22	Si
SLU 84	3.7	749.53	-11475	-9663	1334	0.745	0.745	-43238	10833	3294	38062	6692	1900	8592	No	6.44	Si
SLU 84	5.7	-365.28	-9059	-7628	649	0.745	0.745	-34133	10833	2751	38062	6692	1900	8592	No	13.24	Si
SLU 83	3.7	741.9	-11380	-9583	1318	0.745	0.745	-42881	10833	3273	38062	6692	1900	8592	No	6.52	Si
SLU 83	5.7	-358.51	-9036	-7610	630	0.745	0.745	-34049	10833	2746	38062	6692	1900	8592	No	13.65	Si
SLU 78	3.7	739.78	-11254	-9477	1321	0.745	0.745	-42404	10833	3244	38062	6692	1900	8592	No	6.51	Si
SLU 78	5.7	-362.3	-8846	-7449	639	0.745	0.745	-33333	10833	2704	38062	6692	1900	8592	No	13.44	Si
SLU 82	3.7	733.72	-11327	-9539	1300	0.745	0.745	-42681	10833	3261	38062	6692	1900	8592	No	6.61	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	5.7	-353.59	-8957	-7543	626	0.745	0.745	-33751	10833	2729	38062	6692	1900	8592	No	13.74	Si
SLU 76	3.7	719.39	-11071	-9323	1289	0.745	0.745	-41715	10833	3203	38062	6692	1900	8592	No	6.66	Si
SLU 76	5.7	-347.69	-8696	-7323	613	0.745	0.745	-32767	10833	2670	38062	6692	1900	8592	No	14.01	Si
SLU 81	3.7	726.09	-11233	-9459	1284	0.745	0.745	-42324	10833	3240	38062	6692	1900	8592	No	6.69	Si
SLU 81	5.7	-346.82	-8935	-7524	606	0.745	0.745	-33667	10833	2724	38062	6692	1900	8592	No	14.18	Si
SLU 77	3.7	732.15	-11159	-9397	1305	0.745	0.745	-42048	10833	3223	38062	6692	1900	8592	No	6.59	Si
SLU 77	5.7	-355.53	-8824	-7431	620	0.745	0.745	-33248	10833	2699	38062	6692	1900	8592	No	13.86	Si
SLU 75	3.7	723.97	-11106	-9353	1286	0.745	0.745	-41848	10833	3211	38062	6692	1900	8592	No	6.68	Si
SLU 75	5.7	-350.62	-8745	-7364	616	0.745	0.745	-32951	10833	2681	38062	6692	1900	8592	No	13.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	3.7	-1544.23	-4993	-4205	-1961	0.596	0.1896	0	0	0	38062	8031	1520	9550		4.87	Si
SLV 2	5.7	1837.26	-12191	-10266	-4313	0.745	0.6653	-45937	16250	3813	38062	10038	1900	11938		2.77	Si
SLV 4	3.7	-1948.9	611	514	-2690	0.596	0	0	0	0	38062	8031	1520	9550		3.55	Si
SLV 4	5.7	2159.96	-9836	-8283	-5382	0.745	0.4586	-37061	16250	3285	38062	10038	1900	11938		2.22	Si
SLV 14	3.7	2559.27	-14779	-12445	3855	0.745	0.5979	-55687	16250	4395	38062	10038	1900	11938		3.1	Si
SLV 14	5.7	-2252.99	-2827	-2380	5301	0.596	0	0	0	0	38062	8031	1520	9550		1.8	Si
SLV 3	3.7	-1624.16	-146	-123	-2187	0.596	0	0	0	0	38062	8031	1520	9550		4.37	Si
SLV 3	5.7	1837.67	-9097	-7661	-4631	0.745	0.5114	-34277	16250	3119	38062	10038	1900	11938		2.58	Si
SLV 13	3.7	2884	-15536	-13083	4358	0.745	0.5605	-58538	16250	4564	38062	10038	1900	11938		2.74	Si
SLV 13	5.7	-2575.28	-2088	-1758	6052	0.596	0	0	0	0	38062	8031	1520	9550		1.58	Si
SLV 15	3.7	2479.34	-9932	-8364	3629	0.745	0.3685	-37423	16250	3306	38062	10038	1900	11938		3.29	Si
SLV 15	5.7	-2252.58	268	225	4983	0.596	0	0	0	0	38062	8031	1520	9550		1.92	Si
SLV 16	3.7	2154.6	-9175	-7726	3126	0.745	0.413	-34572	16250	3136	38062	10038	1900	11938		3.82	Si
SLV 16	5.7	-1930.29	-471	-397	4232	0.596	0	0	0	0	38062	8031	1520	9550		2.26	Si
SLD 13	3.7	2002.33	-12482	-10512	3064	0.745	0.6362	-47034	16250	3879	38062	10038	1900	11938		3.9	Si
SLD 13	5.7	-1714.91	-3417	-2877	3967	0.596	0	0	0	0	38062	8031	1520	9550		2.41	Si
SLD 14	3.7	1796.32	-12002	-10107	2745	0.745	0.6685	-45225	16250	3771	38062	10038	1900	11938		4.35	Si
SLD 14	5.7	-1510.44	-3886	-3272	3491	0.596	0	0	0	0	38062	8031	1520	9550		2.74	Si
SLD 15	3.7	1764.96	-9200	-7748	2637	0.745	0.5419	-34667	16250	3142	38062	10038	1900	11938		4.53	Si
SLD 15	5.7	-1526.05	-2038	-1717	3340	0.596	0	0	0	0	38062	8031	1520	9550		2.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.465 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.34	0	-364	69.49	0	0	No, e>t/2
SLV 7	179667	0.34	0	1067	69.49	0	0	No, Trazione
SLV 8	179667	0.34	0	1345	69.49	0	0	No, Trazione
SLV 11	179667	0.34	2873	-642	69.49	94.49	1.36	Si
SLV 4	179667	0.34	8044	-1798	69.49	255.46	3.68	Si
SLV 3	179667	0.34	9893	-2211	69.49	310.16	4.46	Si
SLV 2	179667	0.34	28001	-6258	69.49	766.58	11.03	Si
SLV 1	179667	0.34	29850	-6671	69.49	805.09	11.59	Si
SLV 16	179667	0.34	33529	-7493	69.49	877.23	12.62	Si
SLV 15	179667	0.34	35378	-7907	69.49	911.25	13.11	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.465 Wa = 0.05 Ta = 0.0655

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-8512	-6809	-1	0.502	974.5	0.966	7.54292	4.57078	Si
SLV 1	-8166	-6827	-2	0.519	939.3	0.965	7.82088	4.57078	Si
SLV 6	-9241	-11962	12	0.467	1048.8	0.969	7.00559	4.03265	Si
SLV 5	-9008	-11974	11	0.477	1025.1	0.968	7.16339	4.03265	Si
SLV 10	-7914	-12247	16	0.532	913.7	0.964	8.01303	4.03265	Si
SLV 9	-7681	-12259	16	0.545	890	0.964	8.22547	4.03265	Si
SLV 4	-6510	-2679	-8	0.628	770.9	0.958	9.52158	4.57078	Si
SLV 3	-6164	-2697	-9	0.657	735.7	0.957	9.9868	4.57078	Si
SLV 14	-4086	-7758	13	0.923	524.8	0.942	14.24993	4.57078	Si
SLV 13	-3740	-7776	13	0.992	489.7	0.938	15.36829	4.57078	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.726	SLU 84	Si
V_SLU	6.438	SLU 84	Si
PF_SLV	0	SLV 4	No
V_SLV	1.578	SLV 13	Si
PFFP_SLV	0	SLV 8	No
R_SLV	1.65	SLV 2	Si

Maschio 266

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	-4.685	-11.143	-4.685	Z medio 275 cm	Z medio 618 cm	0.725	0.3	3.43	3.43	3.43			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	3.7	681.05	-10240	-0.0001267	0.0003743	0.0035	0.7251	1996.18	2506.72	2506.72	3.68	No	Si
SLU 78	5.7	-1347.83	-12967	-0.0002128	0.0003743	0.0035	0.7251	1948.93	2821.1	2821.1	2.09	No	Si
SLU 75	3.7	667.26	-10150	-0.0001248	0.0003743	0.0035	0.7251	1993.6	2493.3	2493.3	3.74	No	Si
SLU 75	5.7	-1322.2	-12795	-0.0002081	0.0003743	0.0035	0.7251	1959.07	2809.78	2809.78	2.13	No	Si
SLU 83	3.7	702	-10410	-0.00013	0.0003743	0.0035	0.7251	2000.34	2532.2	2532.2	3.61	No	Si
SLU 83	5.7	-1384.51	-13254	-0.0002201	0.0003743	0.0035	0.7251	1929.76	2840.61	2840.61	2.05	No	Si
SLU 79	3.7	672.59	-10121	-0.0001249	0.0003743	0.0035	0.7251	1992.69	2488.9	2488.9	3.7	No	Si
SLU 79	5.7	-1327.85	-12817	-0.0002089	0.0003743	0.0035	0.7251	1957.85	2811.18	2811.18	2.12	No	Si
SLU 84	3.7	705.19	-10462	-0.0001307	0.0003743	0.0035	0.7251	2001.42	2540.03	2540.03	3.6	No	Si
SLU 84	5.7	-1393.02	-13308	-0.0002217	0.0003743	0.0035	0.7251	1925.89	2844.31	2844.31	2.04	No	Si
SLU 77	3.7	677.85	-10189	-0.0001259	0.0003743	0.0035	0.7251	1994.72	2498.98	2498.98	3.69	No	Si
SLU 77	5.7	-1339.33	-12913	-0.0002112	0.0003743	0.0035	0.7251	1952.2	2817.54	2817.54	2.1	No	Si
SLU 80	3.7	675.78	-10173	-0.0001256	0.0003743	0.0035	0.7251	1994.26	2496.61	2496.61	3.69	No	Si
SLU 80	5.7	-1336.36	-12870	-0.0002104	0.0003743	0.0035	0.7251	1954.75	2814.7	2814.7	2.11	No	Si
SLU 82	3.7	691.4	-10372	-0.0001288	0.0003743	0.0035	0.7251	1999.49	2526.46	2526.46	3.65	No	Si
SLU 82	5.7	-1367.38	-13136	-0.0002169	0.0003743	0.0035	0.7251	1937.94	2832.54	2832.54	2.07	No	Si
SLU 81	3.7	688.21	-10320	-0.000128	0.0003743	0.0035	0.7251	1998.25	2518.67	2518.67	3.66	No	Si
SLU 81	5.7	-1358.88	-13083	-0.0002154	0.0003743	0.0035	0.7251	1941.5	2828.91	2828.91	2.08	No	Si
SLU 76	3.7	664.12	-10117	-0.0001242	0.0003743	0.0035	0.7251	1992.58	2488.37	2488.37	3.75	No	Si
SLU 76	5.7	-1316.4	-12735	-0.0002068	0.0003743	0.0035	0.7251	1962.43	2805.81	2805.81	2.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	3.7	-327.31	-1299	-0.0000393	0.0005615	0.0035	0.5801		582.19	582.19	1.78		Si
SLV 7	5.7	429.64	-1005	-0.0027096	0.0005615	0.0035	0.5801		387.11	387.11	0.9		No
SLV 4	3.7	-1261.48	-6919	-0.0001395	0.0005615	0.0035	0.7251		2243.2	2243.2	1.78		Si
SLV 4	5.7	1726.67	-1220	-0.0551313	0.0005615	0.0035	0.5801		460.67	460.67	0.27		No
SLV 11	3.7	546.51	-362	-0.0176471	0.0005615	0.0035	0.5801		162.25	162.25	0.3		No
SLV 11	5.7	-881.12	-4083	-0.0000977	0.0005615	0.0035	0.5801		1465.69	1465.69	1.66		Si
SLV 15	3.7	1877.27	-3450	-0.0302532	0.0005615	0.0035	0.5801		1183.85	1183.85	0.63		No
SLV 15	5.7	-2982.73	-12193	-0.000552	0.0005615	0.0035	0.5801		3314.5	3314.5	1.11		Si
SLV 12	3.7	394.34	-595	-0.0075139	0.0005615	0.0035	0.5801		244.43	244.43	0.62		No
SLV 12	5.7	-652.11	-3602	-0.0000681	0.0005615	0.0035	0.7251		1322.06	1322.06	2.03		Si
SLV 3	3.7	-1035.45	-6573	-0.0001141	0.0005615	0.0035	0.7251		2155.4	2155.4	2.08		Si
SLV 3	5.7	1386.49	-1935	-0.0304179	0.0005615	0.0035	0.5801		700.54	700.54	0.51		No
SLV 8	3.7	-479.48	-1532	-0.0001029	0.0005615	0.0035	0.5801		660.69	660.69	1.38		Si
SLV 8	5.7	658.66	-524	-0.0199753	0.0005615	0.0035	0.5801		219.45	219.45	0.33		No
SLV 13	3.7	2112.45	-7082	-0.0006813	0.0005615	0.0035	0.7251		2170.82	2170.82	1.03		Si
SLV 13	5.7	-3425.69	-15968	-0.0006291	0.0005615	0.0035	0.5801		3829.28	3829.28	1.12		Si
SLD 15	3.7	1354.65	-4830	-0.0002307	0.0005615	0.0035	0.7251		1561.07	1561.07	1.15		Si
SLD 15	5.7	-2227.57	-11004	-0.0002818	0.0005615	0.0035	0.5801		3105.69	3105.69	1.39		Si
SLV 16	3.7	1651.24	-3796	-0.01689	0.0005615	0.0035	0.5801		1286.07	1286.07	0.78		No
SLV 16	5.7	-2642.55	-11478	-0.0003946	0.0005615	0.0035	0.5801		3187.9	3187.9	1.21		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	3.7	672.59	-10121	-8523	602	0.7251	0.7251	-39178	10833	2971	38062	6514	1849	8363	No	13.9	Si
SLU 79	5.7	-1327.85	-12817	-10793	2234	0.7251	0.7251	-49614	10833	3576	38062	6514	1849	8363	No	3.74	Si
SLU 80	3.7	675.78	-10173	-8567	599	0.7251	0.7251	-39379	10833	2982	38062	6514	1849	8363	No	13.96	Si
SLU 80	5.7	-1336.36	-12870	-10838	2251	0.7251	0.7251	-49821	10833	3588	38062	6514	1849	8363	No	3.72	Si
SLU 84	3.7	705.19	-10462	-8810	622	0.7251	0.7251	-40498	10833	3047	38062	6514	1849	8363	No	13.44	Si
SLU 84	5.7	-1393.02	-13308	-11206	2352	0.7251	0.7251	-51514	10833	3686	38062	6514	1849	8363	No	3.56	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	3.7	677.85	-10189	-8580	612	0.7251	0.7251	-39440	10833	2986	38062	6514	1849	8363	No	13.67	Si
SLU 77	5.7	-1339.33	-12913	-10874	2253	0.7251	0.7251	-49987	10833	3598	38062	6514	1849	8363	No	3.71	Si
SLU 83	3.7	702	-10410	-8766	625	0.7251	0.7251	-40297	10833	3036	38062	6514	1849	8363	No	13.38	Si
SLU 83	5.7	-1384.51	-13254	-11161	2335	0.7251	0.7251	-51307	10833	3674	38062	6514	1849	8363	No	3.58	Si
SLU 78	3.7	681.05	-10240	-8623	609	0.7251	0.7251	-39641	10833	2998	38062	6514	1849	8363	No	13.73	Si
SLU 78	5.7	-1347.83	-12967	-10919	2271	0.7251	0.7251	-50194	10833	3610	38062	6514	1849	8363	No	3.68	Si
SLU 76	3.7	664.12	-10117	-8520	591	0.7251	0.7251	-39164	10833	2970	38062	6514	1849	8363	No	14.15	Si
SLU 76	5.7	-1316.4	-12735	-10724	2213	0.7251	0.7251	-49295	10833	3558	38062	6514	1849	8363	No	3.78	Si
SLU 81	3.7	688.21	-10320	-8691	619	0.7251	0.7251	-39949	10833	3016	38062	6514	1849	8363	No	13.52	Si
SLU 81	5.7	-1358.88	-13083	-11017	2285	0.7251	0.7251	-50644	10833	3636	38062	6514	1849	8363	No	3.66	Si
SLU 82	3.7	691.4	-10372	-8734	616	0.7251	0.7251	-40150	10833	3027	38062	6514	1849	8363	No	13.57	Si
SLU 82	5.7	-1367.38	-13136	-11062	2302	0.7251	0.7251	-50851	10833	3648	38062	6514	1849	8363	No	3.63	Si
SLU 75	3.7	667.26	-10150	-8548	603	0.7251	0.7251	-39293	10833	2977	38062	6514	1849	8363	No	13.87	Si
SLU 75	5.7	-1322.2	-12795	-10775	2221	0.7251	0.7251	-49530	10833	3571	38062	6514	1849	8363	No	3.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	3.7	1492.61	-6956	-5858	1425	0.7251	0.444	-26929	15802	2609	38062	9771	1849	11620		8.15	Si
SLD 13	5.7	-2487.3	-13213	-11127	4887	0.7251	0.523	-74661	16250	4014	38062	9771	1849	11620		2.38	Si
SLD 14	3.7	1349.21	-7176	-6043	1258	0.7251	0.5237	-27779	15972	2659	38062	9771	1849	11620		9.24	Si
SLD 14	5.7	-2271.49	-12760	-10745	4407	0.7251	0.5537	-67636	16250	3913	38062	9771	1849	11620		2.64	Si
SLV 14	3.7	1886.42	-7428	-6255	1761	0.7251	0.3259	-28755	16168	2715	38062	9771	1849	11620		6.6	Si
SLV 14	5.7	-3085.52	-15253	-12844	6109	0.5801	0.4808	0	0	0	38062	7817	1479	9296		1.52	Si
SLD 15	3.7	1354.65	-4830	-4068	1406	0.7251	0.2464	-56999	16250	2132	38062	9771	1849	11620		8.26	Si
SLD 15	5.7	-2227.57	-11004	-9266	4567	0.5801	0.4804	0	0	0	38062	7817	1479	9296		2.04	Si
SLV 13	3.7	2112.45	-7082	-5964	2026	0.7251	0.1929	-117371	16250	2638	38062	9771	1849	11620		5.74	Si
SLV 13	5.7	-3425.69	-15968	-13446	6866	0.5801	0.4441	0	0	0	38062	7817	1479	9296		1.35	Si
SLV 3	3.7	-1035.45	-6573	-5535	-946	0.7251	0.6151	-30485	16250	2999	38062	9771	1849	11620		12.29	Si
SLV 3	5.7	1386.49	-1935	-1630	-3300	0.5801	0	0	0	0	38062	7817	1479	9296		2.82	Si
SLV 15	3.7	1877.27	-3450	-2905	1995	0.5801	0	0	0	0	38062	7817	1479	9296		4.66	Si
SLV 15	5.7	-2982.73	-12193	-10268	6320	0.5801	0.3538	0	0	0	38062	7817	1479	9296		1.47	Si
SLV 4	3.7	-1261.48	-6919	-5827	-1210	0.7251	0.5408	-36645	16250	2636	38062	9771	1849	11620		9.6	Si
SLV 4	5.7	1726.67	-1220	-1028	-4057	0.5801	0	0	0	0	38062	7817	1479	9296		2.29	Si
SLV 16	3.7	1651.24	-3796	-3197	1730	0.5801	0	0	0	0	38062	7817	1479	9296		5.37	Si
SLV 16	5.7	-2642.55	-11478	-9666	5563	0.5801	0.3971	0	0	0	38062	7817	1479	9296		1.67	Si
SLD 16	3.7	1211.25	-5050	-4253	1239	0.7251	0.3682	-19549	14326	2181	38062	9771	1849	11620		9.38	Si
SLD 16	5.7	-2011.76	-10550	-8884	4086	0.7251	0.5157	-59601	16250	3416	38062	9771	1849	11620		2.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.465 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.34	6296	-1370	67.64	196.98	2.91	Si
SLV 12	179667	0.34	6912	-1504	67.64	215.35	3.18	Si
SLV 7	179667	0.34	8462	-1841	67.64	260.83	3.86	Si
SLV 8	179667	0.34	9078	-1975	67.64	278.63	4.12	Si
SLV 15	179667	0.34	23025	-5009	67.64	638.06	9.43	Si
SLV 16	179667	0.34	23941	-5208	67.64	658.75	9.74	Si
SLV 3	179667	0.34	30246	-6580	67.64	791.48	11.7	Si
SLV 4	179667	0.34	31161	-6779	67.64	809.34	11.96	Si
SLV 13	179667	0.34	39659	-8627	67.64	958.05	14.16	Si
SLV 14	179667	0.34	40574	-8827	67.64	972.23	14.37	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.465 Wa = 0.05 Ta = 0.0655

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-11493	-15274	3	0.381	1275.2	0.975	5.67803	4.03265	Si
SLV 13	-9872	-12942	-4	0.432	1110.2	0.971	6.47205	4.57078	Si
SLV 10	-11343	-14942	3	0.385	1260	0.974	5.74222	4.03265	Si
SLV 14	-9651	-12448	-4	0.441	1087.6	0.97	6.60055	4.57078	Si
SLV 5	-10340	-13096	7	0.416	1157.8	0.972	6.21329	4.03265	Si
SLV 6	-10191	-12763	7	0.421	1142.6	0.972	6.29197	4.03265	Si
SLV 15	-7301	-8695	-6	0.558	848.4	0.963	8.41688	4.57078	Si
SLV 16	-7079	-8202	-6	0.572	825.9	0.962	8.64667	4.57078	Si
SLV 1	-6032	-5680	11	0.654	719.4	0.957	9.93483	4.57078	Si
SLV 2	-5811	-5186	11	0.675	696.9	0.956	10.26529	4.57078	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.042	SLU 84	Si
V_SLU	3.556	SLU 84	Si
PF_SLV	0.267	SLV 4	No
V_SLV	1.354	SLV 13	Si
PFFP_SLV	2.912	SLV 11	Si
R_SLV	1.408	SLV 9	Si

Maschio 271

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-12.868	-4.685	Z medio 618 cm	Z medio 966 cm	0.745	0.3	3.48	3.48	3.48			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	7.13	486	-9353	-0.0000999	0.0003743	0.0035	0.745	2051.91	2470.86	2470.86	5.08	No	Si
SLU 82	9.13	-290.12	-5102	-0.0000524	0.0003743	0.0035	0.745	1474.44	1722.76	1722.76	5.94	No	Si
SLU 40	7.13	442.93	-8011	-0.0000853	0.0003743	0.0035	0.745	1933.5	2258.26	2258.26	5.1	No	Si
SLU 40	9.13	-282.97	-4225	-0.0000453	0.0003743	0.0035	0.745	1281.57	1489.84	1489.84	5.26	No	Si
SLU 84	7.13	500.64	-9542	-0.0001026	0.0003743	0.0035	0.745	2063.86	2498.82	2498.82	4.99	No	Si
SLU 84	9.13	-299.13	-5243	-0.000054	0.0003743	0.0035	0.745	1503.09	1758.01	1758.01	5.88	No	Si
SLU 80	7.13	486.24	-9408	-0.0001004	0.0003743	0.0035	0.745	2055.52	2479.03	2479.03	5.1	No	Si
SLU 80	9.13	-280.82	-5265	-0.0000531	0.0003743	0.0035	0.745	1507.38	1763.33	1763.33	6.28	No	Si
SLU 83	7.13	491.93	-9513	-0.0001018	0.0003743	0.0035	0.745	2062.15	2494.67	2494.67	5.07	No	Si
SLU 83	9.13	-292.01	-5282	-0.0000539	0.0003743	0.0035	0.745	1510.87	1767.68	1767.68	6.05	No	Si
SLU 78	7.13	494.34	-9502	-0.0001018	0.0003743	0.0035	0.745	2061.44	2492.97	2492.97	5.04	No	Si
SLU 78	9.13	-289.1	-5293	-0.0000538	0.0003743	0.0035	0.745	1512.95	1770.27	1770.27	6.12	No	Si
SLU 38	7.13	443.16	-8066	-0.0000858	0.0003743	0.0035	0.745	1939.54	2270.47	2270.47	5.12	No	Si
SLU 38	9.13	-273.68	-4387	-0.000046	0.0003743	0.0035	0.745	1319.17	1534.31	1534.31	5.61	No	Si
SLU 36	7.13	451.27	-8160	-0.0000871	0.0003743	0.0035	0.745	1949.58	2290.61	2290.61	5.08	No	Si
SLU 36	9.13	-281.96	-4415	-0.0000467	0.0003743	0.0035	0.745	1325.54	1541.91	1541.91	5.47	No	Si
SLU 41	7.13	448.85	-8172	-0.0000871	0.0003743	0.0035	0.745	1950.8	2293.05	2293.05	5.11	No	Si
SLU 41	9.13	-284.87	-4405	-0.0000468	0.0003743	0.0035	0.745	1323.17	1539.08	1539.08	5.4	No	Si
SLU 42	7.13	457.56	-8200	-0.0000879	0.0003743	0.0035	0.745	1953.77	2298.94	2298.94	5.02	No	Si
SLU 42	9.13	-291.99	-4366	-0.0000469	0.0003743	0.0035	0.745	1314.27	1528.47	1528.47	5.23	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 14	7.13	1400.48	-9854	-0.0001578	0.0005615	0.0035	0.745		2877.06	2877.06	2.05		Si
SLD 14	9.13	-1319.4	-464	-0.0084288	0.0005615	0.0035	0.596		301.21	301.21	0.23		No
SLV 16	7.13	1633.12	-9204	-0.0001768	0.0005615	0.0035	0.745		2736.08	2736.08	1.68		Si
SLV 16	9.13	-1637.33	522	0.1183006	0.0005615	0.0035	0.596		0	0	0		No
SLD 15	7.13	1331.64	-8709	-0.0001447	0.0005615	0.0035	0.745		2630.08	2630.08	1.98		Si
SLD 15	9.13	-1297.19	-441	-0.0083134	0.0005615	0.0035	0.596		292.95	292.95	0.23		No
SLV 13	7.13	2304.14	-12696	-0.0002698	0.0005615	0.0035	0.745		3448.45	3448.45	1.5		Si
SLV 13	9.13	-2280.51	2140	0.5821683	0.0005615	0.0035	0.596		0	0	0		No
SLV 15	7.13	1899.33	-9941	-0.0002114	0.0005615	0.0035	0.745		2895.94	2895.94	1.52		Si
SLV 15	9.13	-1928.06	1318	0.363596	0.0005615	0.0035	0.596		0	0	0		No
SLV 9	7.13	1559.4	-12542	-0.0001918	0.0005615	0.0035	0.745		3425.56	3425.56	2.2		Si
SLV 9	9.13	-1377.49	-504	-0.0087918	0.0005615	0.0035	0.596		315.76	315.76	0.23		No
SLD 13	7.13	1569.37	-10321	-0.0001752	0.0005615	0.0035	0.745		2979.41	2979.41	1.9		Si
SLD 13	9.13	-1503.84	42	-0.0118164	0.0005615	0.0035	0.596		0	0	0		No
SLV 14	7.13	2037.93	-11959	-0.0002325	0.0005615	0.0035	0.745		3336.05	3336.05	1.64		Si
SLV 14	9.13	-1989.78	1344	0.3708016	0.0005615	0.0035	0.596		0	0	0		No
SLV 4	7.13	-1719.78	76	-0.0136967	0.0005615	0.0035	0.596		0	0	0		No
SLV 4	9.13	1981.85	-9403	-0.0002274	0.0005615	0.0035	0.745		2779.03	2779.03	1.4		Si
SLV 8	7.13	-975.04	-78	-0.0068705	0.0005615	0.0035	0.596		161.44	161.44	0.17		No
SLV 8	9.13	1078.83	-6758	-0.0001129	0.0005615	0.0035	0.745		2143.75	2143.75	1.99		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7.13	479.71	-9313	-7842	1943	0.745	0.745	-35088	10833	2808	38062	6693	1900	8592	No	4.42	Si
SLU 75	9.13	-280.09	-5152	-4338	822	0.745	0.745	-19411	9533	2131	38062	6693	1900	8592	No	10.46	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	7.13	477.29	-9324	-7852	1957	0.745	0.745	-35132	10833	2811	38062	6693	1900	8592	No	4.39	Si
SLU 81	9.13	-282.99	-5141	-4329	840	0.745	0.745	-19371	9527	2129	38062	6693	1900	8592	No	10.22	Si
SLU 79	7.13	477.53	-9379	-7899	1976	0.745	0.745	-35340	10833	2823	38062	6693	1900	8592	No	4.35	Si
SLU 79	9.13	-273.7	-5304	-4466	797	0.745	0.745	-19983	9609	2148	38062	6693	1900	8592	No	10.78	Si
SLU 78	7.13	494.34	-9502	-8002	2006	0.745	0.745	-35801	10833	2851	38062	6693	1900	8592	No	4.28	Si
SLU 78	9.13	-289.1	-5293	-4457	836	0.745	0.745	-19942	9603	2146	38062	6693	1900	8592	No	10.28	Si
SLU 77	7.13	485.63	-9473	-7978	1986	0.745	0.745	-35694	10833	2845	38062	6693	1900	8592	No	4.33	Si
SLU 77	9.13	-281.98	-5332	-4490	820	0.745	0.745	-20088	9623	2151	38062	6693	1900	8592	No	10.48	Si
SLU 80	7.13	486.24	-9408	-7922	1995	0.745	0.745	-35447	10833	2830	38062	6693	1900	8592	No	4.31	Si
SLU 80	9.13	-280.82	-5265	-4434	813	0.745	0.745	-19837	9589	2143	38062	6693	1900	8592	No	10.57	Si
SLU 83	7.13	491.93	-9513	-8011	2021	0.745	0.745	-35845	10833	2854	38062	6693	1900	8592	No	4.25	Si
SLU 83	9.13	-292.01	-5282	-4448	854	0.745	0.745	-19903	9598	2145	38062	6693	1900	8592	No	10.06	Si
SLU 76	7.13	477.41	-9237	-7779	1945	0.745	0.745	-34805	10833	2792	38062	6693	1900	8592	No	4.42	Si
SLU 76	9.13	-276.56	-5098	-4293	810	0.745	0.745	-19208	9505	2124	38062	6693	1900	8592	No	10.61	Si
SLU 84	7.13	500.64	-9542	-8035	2040	0.745	0.745	-35952	10833	2860	38062	6693	1900	8592	No	4.21	Si
SLU 84	9.13	-299.13	-5243	-4416	871	0.745	0.745	-19756	9579	2141	38062	6693	1900	8592	No	9.87	Si
SLU 82	7.13	486	-9353	-7876	1977	0.745	0.745	-35239	10833	2817	38062	6693	1900	8592	No	4.35	Si
SLU 82	9.13	-290.12	-5102	-4297	857	0.745	0.745	-19225	9508	2125	38062	6693	1900	8592	No	10.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	7.13	2304.14	-12696	-10691	6391	0.745	0.573	-47835	16250	3927	38062	10039	1900	11939		1.87	Si
SLV 13	9.13	-2280.51	2140	1802	5057	0.596	0	0	0	0	38062	8031	1520	9551		1.89	Si
SLV 14	7.13	2037.93	-11959	-10071	5699	0.745	0.6063	-45061	16250	3761	38062	10039	1900	11939		2.09	Si
SLV 14	9.13	-1989.78	1344	1132	4439	0.596	0	0	0	0	38062	8031	1520	9551		2.15	Si
SLV 4	7.13	-1719.78	76	64	-3946	0.596	0	0	0	0	38062	8031	1520	9551		2.42	Si
SLV 4	9.13	1981.85	-9403	-7918	-4130	0.745	0.4852	-35429	16250	3187	38062	10039	1900	11939		2.89	Si
SLV 15	7.13	1899.33	-9941	-8371	5353	0.745	0.5443	-37454	16250	3308	38062	10039	1900	11939		2.23	Si
SLV 15	9.13	-1928.06	1318	1110	4039	0.596	0	0	0	0	38062	8031	1520	9551		2.36	Si
SLV 9	7.13	1559.4	-12542	-10561	4476	0.745	0.7445	-47254	16250	3892	38062	10039	1900	11939		2.67	Si
SLV 9	9.13	-1377.49	-504	-425	3502	0.596	0	0	0	0	38062	8031	1520	9551		2.73	Si
SLV 16	7.13	1633.12	-9204	-7751	4662	0.745	0.5852	-34680	16250	3143	38062	10039	1900	11939		2.56	Si
SLV 16	9.13	-1637.33	522	439	3420	0.596	0	0	0	0	38062	8031	1520	9551		2.79	Si
SLD 13	7.13	1569.37	-10321	-8692	4504	0.745	0.6613	-38889	16250	3394	38062	10039	1900	11939		2.65	Si
SLD 13	9.13	-1503.84	42	35	3376	0.596	0	0	0	0	38062	8031	1520	9551		2.83	Si
SLV 10	7.13	1380.18	-12046	-10144	4010	0.745	0.745	-45386	16250	3781	38062	10039	1900	11939		2.98	Si
SLV 10	9.13	-1181.76	-1041	-876	3085	0.596	0	0	0	0	38062	8031	1520	9551		3.1	Si
SLD 14	7.13	1400.48	-9854	-8298	4065	0.745	0.6911	-37129	16250	3369	38062	10039	1900	11939		2.94	Si
SLD 14	9.13	-1319.4	-464	-391	2984	0.596	0	0	0	0	38062	8031	1520	9551		3.2	Si
SLV 3	7.13	-1453.57	-660	-556	-3254	0.596	0	0	0	0	38062	8031	1520	9551		2.93	Si
SLV 3	9.13	1691.12	-8606	-7247	-3511	0.745	0.528	-32427	16250	3009	38062	10039	1900	11939		3.4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.92 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.41	11591	-2591	87.15	359.09	4.12	Si
SLV 7	179667	0.41	12249	-2738	87.15	377.72	4.33	Si
SLV 4	179667	0.41	14902	-3331	87.15	450.85	5.17	Si
SLV 12	179667	0.41	15479	-3460	87.15	466.35	5.35	Si
SLV 3	179667	0.41	15881	-3549	87.15	477.03	5.47	Si
SLV 11	179667	0.41	16138	-3607	87.15	483.85	5.55	Si
SLV 2	179667	0.41	21766	-4865	87.15	625.71	7.18	Si
SLV 1	179667	0.41	22745	-5083	87.15	648.95	7.45	Si
SLV 16	179667	0.41	27864	-6228	87.15	763.7	8.76	Si
SLV 15	179667	0.41	28843	-6446	87.15	784.32	9	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.92 Wa = 0.05 Ta = 0.0674

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-5724	-4720	-13	0.697	692.6	0.954	10.62509	5.37418	Si
SLV 3	-5360	-4590	-13	0.736	655.6	0.951	11.25034	5.37418	Si
SLV 2	-5227	-6624	-6	0.753	642.1	0.951	11.51638	5.37418	Si
SLV 1	-4863	-6494	-6	0.8	605.2	0.948	12.25992	5.37418	Si
SLV 8	-4646	-1853	-14	0.829	583.1	0.946	12.7337	4.72207	Si
SLV 7	-4401	-1765	-14	0.867	558.3	0.944	13.34209	4.72207	Si
SLV 12	-3276	-1317	-7	1.101	444.4	0.932	17.16581	4.72207	Si
SLV 11	-3031	-1230	-8	1.171	419.7	0.929	18.31085	4.72207	Si
SLV 6	-2991	-8200	10	1.182	415.7	0.929	18.50356	4.72207	Si
SLV 5	-2746	-8112	10	1.263	391	0.925	19.84715	4.72207	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.991	SLU 84	Si
V_SLU	4.211	SLU 84	Si
PF_SLV	0	SLD 13	No
V_SLV	1.868	SLV 13	Si
PFFP_SLV	4.12	SLV 8	Si

Stato limite	Coeff.s.	Comb.	Verifica
R_SLV	1.977	SLV 4	Si

Maschio 272

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	-4.685	-11.143	-4.685	Z medio 618 cm	Z medio 966 cm	0.725	0.3	3.48	3.48	3.48			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	7.13	447.88	-6182	-0.0000733	0.0003743	0.0035	0.725	1615.32	1788.62	1788.62	3.99	No	Si
SLU 40	9.13	-657.05	-7169	-0.0000957	0.0003743	0.0035	0.725	1757.41	2099.83	2099.83	3.2	No	Si
SLU 83	7.13	486.77	-7525	-0.0000875	0.0003743	0.0035	0.725	1800.9	2078.98	2078.98	4.27	No	Si
SLU 83	9.13	-749.11	-8552	-0.000115	0.0003743	0.0035	0.725	1902.81	2342.93	2342.93	3.13	No	Si
SLU 42	7.13	462.58	-6274	-0.000075	0.0003743	0.0035	0.725	1629.91	1807.99	1807.99	3.91	No	Si
SLU 42	9.13	-680.58	-7381	-0.0000992	0.0003743	0.0035	0.725	1783.8	2135.33	2135.33	3.14	No	Si
SLU 84	7.13	492	-7523	-0.0000878	0.0003743	0.0035	0.725	1800.57	2078.36	2078.36	4.22	No	Si
SLU 84	9.13	-753.7	-8558	-0.0001153	0.0003743	0.0035	0.725	1903.3	2343.99	2343.99	3.11	No	Si
SLU 41	7.13	457.35	-6277	-0.0000747	0.0003743	0.0035	0.725	1630.34	1808.58	1808.58	3.95	No	Si
SLU 41	9.13	-675.99	-7375	-0.0000989	0.0003743	0.0035	0.725	1783.07	2134.32	2134.32	3.16	No	Si
SLU 81	7.13	472.07	-7433	-0.0000857	0.0003743	0.0035	0.725	1790.08	2058.53	2058.53	4.36	No	Si
SLU 81	9.13	-725.59	-8339	-0.0001113	0.0003743	0.0035	0.725	1884.56	2303.84	2303.84	3.18	No	Si
SLU 78	7.13	464.28	-7517	-0.0000859	0.0003743	0.0035	0.725	1799.86	2077	2077	4.47	No	Si
SLU 78	9.13	-734.91	-8506	-0.0001135	0.0003743	0.0035	0.725	1898.99	2334.44	2334.44	3.18	No	Si
SLU 77	7.13	459.04	-7519	-0.0000855	0.0003743	0.0035	0.725	1800.19	2077.62	2077.62	4.53	No	Si
SLU 77	9.13	-730.33	-8500	-0.0001131	0.0003743	0.0035	0.725	1898.48	2333.34	2333.34	3.19	No	Si
SLU 80	7.13	460.09	-7462	-0.0000851	0.0003743	0.0035	0.725	1793.42	2064.78	2064.78	4.49	No	Si
SLU 80	9.13	-728.47	-8439	-0.0001124	0.0003743	0.0035	0.725	1893.34	2322.19	2322.19	3.19	No	Si
SLU 82	7.13	477.3	-7431	-0.000086	0.0003743	0.0035	0.725	1789.74	2057.91	2057.91	4.31	No	Si
SLU 82	9.13	-730.18	-8345	-0.0001116	0.0003743	0.0035	0.725	1885.09	2304.93	2304.93	3.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	7.13	-1387.16	-9412	-0.0001619	0.0005615	0.0035	0.725		2823.17	2823.17	2.04		Si
SLV 3	9.13	1269.35	-1115	-0.0371569	0.0005615	0.0035	0.58		424.61	424.61	0.33		No
SLD 16	7.13	1152.81	-2012	-0.0198884	0.0005615	0.0035	0.58		725.58	725.58	0.63		No
SLD 16	9.13	-1377.67	-7459	-0.0001543	0.0005615	0.0035	0.725		2377.07	2377.07	1.73		Si
SLD 15	7.13	1320.28	-1455	-0.0343457	0.0005615	0.0035	0.58		540.22	540.22	0.41		No
SLD 15	9.13	-1553.6	-7831	-0.0001791	0.0005615	0.0035	0.725		2467.01	2467.01	1.59		Si
SLD 13	7.13	1468.96	-2035	-0.0324713	0.0005615	0.0035	0.58		733.14	733.14	0.5		No
SLD 13	9.13	-1705.24	-8751	-0.0001993	0.0005615	0.0035	0.725		2680.18	2680.18	1.57		Si
SLV 2	7.13	-1397.51	-11283	-0.0001772	0.0005615	0.0035	0.725		3153.03	3153.03	2.26		Si
SLV 2	9.13	1288.2	-2101	-0.0241949	0.0005615	0.0035	0.58		755.13	755.13	0.59		No
SLV 15	7.13	1908.08	737	-0.0866349	0.0005615	0.0035	0.58		0	0	0		No
SLV 15	9.13	-2168.96	-9036	-0.0003097	0.0005615	0.0035	0.58		2742.37	2742.37	1.26		Si
SLV 4	7.13	-1651.13	-10289	-0.0001935	0.0005615	0.0035	0.725		2983.83	2983.83	1.81		Si
SLV 4	9.13	1546.67	-529	-0.0587666	0.0005615	0.0035	0.58		221.18	221.18	0.14		No
SLV 14	7.13	1897.73	-1133	-0.063968	0.0005615	0.0035	0.58		430.74	430.74	0.23		No
SLV 14	9.13	-2150.11	-10022	-0.0002763	0.0005615	0.0035	0.58		2939.37	2939.37	1.37		Si
SLV 13	7.13	2161.71	-256	-0.0908051	0.0005615	0.0035	0.58		124.49	124.49	0.06		No
SLV 13	9.13	-2427.42	-10608	-0.0003442	0.0005615	0.0035	0.58		3037.37	3037.37	1.25		Si
SLV 16	7.13	1644.11	-140	-0.070038	0.0005615	0.0035	0.58		82.95	82.95	0.05		No
SLV 16	9.13	-1891.65	-8450	-0.0002409	0.0005615	0.0035	0.58		2610.83	2610.83	1.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	7.13	492	-7523	-6335	-7	0.725	0.725	-29126	10828	2387	38062	6513	1849	8362	No	1164.68	Si
SLU 84	9.13	-753.7	-8558	-7206	1397	0.725	0.725	-33133	10833	2620	38062	6513	1849	8362	No	5.99	Si
SLU 80	7.13	460.09	-7462	-6283	-65	0.725	0.725	-28890	10796	2374	38062	6513	1849	8362	No	127.68	Si
SLU 80	9.13	-728.47	-8439	-7107	1364	0.725	0.725	-32675	10833	2593	38062	6513	1849	8362	No	6.13	Si
SLU 81	7.13	472.07	-7433	-6260	-27	0.725	0.725	-28781	10782	2367	38062	6513	1849	8362	No	310.15	Si
SLU 81	9.13	-725.59	-8339	-7023	1332	0.725	0.725	-32288	10833	2571	38062	6513	1849	8362	No	6.28	Si
SLU 77	7.13	459.04	-7519	-6332	-68	0.725	0.725	-29113	10826	2387	38062	6513	1849	8362	No	123.54	Si
SLU 77	9.13	-730.33	-8500	-7158	1363	0.725	0.725	-32909	10833	2607	38062	6513	1849	8362	No	6.13	Si
SLU 82	7.13	477.3	-7431	-6257	-11	0.725	0.725	-28770	10780	2367	38062	6513	1849	8362	No	775.26	Si
SLU 82	9.13	-730.18	-8345	-7028	1343	0.725	0.725	-32311	10833	2572	38062	6513	1849	8362	No	6.23	Si
SLU 75	7.13	449.58	-7425	-6252	-55	0.725	0.725	-28746	10777	2365	38062	6513	1849	8362	No	151.7	Si
SLU 75	9.13	-711.39	-8293	-6984	1320	0.725	0.725	-32110	10833	2560	38062	6513	1849	8362	No	6.34	Si
SLU 76	7.13	448.88	-7368	-6204	-58	0.725	0.725	-28526	10748	2352	38062	6513	1849	8362	No	143.39	Si
SLU 76	9.13	-708	-8231	-6931	1316	0.725	0.725	-31869	10833	2546	38062	6513	1849	8362	No	6.35	Si
SLU 79	7.13	454.86	-7464	-6286	-82	0.725	0.725	-28900	10798	2374	38062	6513	1849	8362	No	102.39	Si
SLU 79	9.13	-723.88	-8433	-7102	1353	0.725	0.725	-32652	10833	2592	38062	6513	1849	8362	No	6.18	Si
SLU 78	7.13	464.28	-7517	-6330	-52	0.725	0.725	-29102	10825	2386	38062	6513	1849	8362	No	162.32	Si
SLU 78	9.13	-734.91	-8506	-7163	1374	0.725	0.725	-32932	10833	2608	38062	6513	1849	8362	No	6.09	Si
SLU 83	7.13	486.77	-7525	-6337	-23	0.725	0.725	-29137	10829	2388	38062	6513	1849	8362	No	358.05	Si
SLU 83	9.13	-749.11	-8552	-7201	1386	0.725	0.725	-33110	10833	2618	38062	6513	1849	8362	No	6.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	7.13	-1387.16	-9412	-7926	-4519	0.725	0.6454	-41922	16250	3161	38062	9769	1849	11618		2.57	Si
SLV 3	9.13	1269.35	-1115	-939	-2591	0.58	0	0	0	0	38062	7816	1479	9295		3.59	Si
SLV 4	7.13	-1651.13	-10289	-8665	-5218	0.725	0.6061	-49038	16250	3357	38062	9769	1849	11618		2.23	Si
SLV 4	9.13	1546.67	-529	-446	-3169	0.58	0	0	0	0	38062	7816	1479	9295		2.93	Si
SLV 14	7.13	1897.73	-1133	-954	4225	0.58	0	0	0	0	38062	7816	1479	9295		2.2	Si
SLV 14	9.13	-2150.11	-10022	-8439	4217	0.58	0.4439	0	0	0	38062	7816	1479	9295		2.2	Si
SLD 13	7.13	1468.96	-2035	-1713	3079	0.58	0	0	0	0	38062	7816	1479	9295		3.02	Si
SLD 13	9.13	-1705.24	-8751	-7370	3351	0.725	0.5029	-50308	16250	3012	38062	9769	1849	11618		3.47	Si
SLV 1	7.13	-1133.53	-10406	-8763	-3758	0.725	0.725	-40289	16250	3534	38062	9769	1849	11618		3.09	Si
SLV 1	9.13	1010.89	-2687	-2263	-2218	0.58	0	0	0	0	38062	7816	1479	9295		4.19	Si
SLV 15	7.13	1908.08	737	621	4163	0.58	0	0	0	0	38062	7816	1479	9295		2.23	Si
SLV 15	9.13	-2168.96	-9036	-7609	4422	0.58	0.3674	0	0	0	38062	7816	1479	9295		2.1	Si
SLV 2	7.13	-1397.51	-11283	-9501	-4457	0.725	0.7159	-43684	16250	3581	38062	9769	1849	11618		2.61	Si
SLV 2	9.13	1288.2	-2101	-1769	-2796	0.58	0	0	0	0	38062	7816	1479	9295		3.32	Si
SLD 4	7.13	-958.39	-8511	-7167	-3373	0.725	0.725	-32952	16250	3534	38062	9769	1849	11618		3.44	Si
SLD 4	9.13	824.48	-2386	-2009	-1725	0.58	0.0507	0	0	0	38062	7816	1479	9295		5.39	Si
SLV 13	7.13	2161.71	-256	-216	4924	0.58	0	0	0	0	38062	7816	1479	9295		1.89	Si
SLV 13	9.13	-2427.42	-10608	-8933	4795	0.58	0.401	0	0	0	38062	7816	1479	9295		1.94	Si
SLV 16	7.13	1644.11	-140	-118	3465	0.58	0	0	0	0	38062	7816	1479	9295		2.68	Si
SLV 16	9.13	-1891.65	-8450	-7115	3844	0.58	0.4159	0	0	0	38062	7816	1479	9295		2.42	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.92 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.41	5611	-1220	84.81	176.32	2.08	Si
SLV 16	179667	0.41	7678	-1670	84.81	237.89	2.81	Si
SLV 11	179667	0.41	8084	-1758	84.81	249.77	2.95	Si
SLV 12	179667	0.41	9475	-2061	84.81	289.95	3.42	Si
SLV 13	179667	0.41	10761	-2341	84.81	326.35	3.85	Si
SLV 14	179667	0.41	12828	-2790	84.81	383.37	4.52	Si
SLV 7	179667	0.41	15064	-3277	84.81	443	5.22	Si
SLV 8	179667	0.41	16456	-3579	84.81	479.03	5.65	Si
SLV 9	179667	0.41	25252	-5492	84.81	687.63	8.11	Si
SLV 10	179667	0.41	26644	-5795	84.81	717.6	8.46	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.92 Wa = 0.05 Ta = 0.0674

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-5882	-6443	-7	0.667	705.7	0.956	10.14507	5.37418	Si
SLV 14	-5684	-6448	-7	0.686	685.5	0.954	10.4529	5.37418	Si
SLV 15	-5055	-4686	-7	0.757	621.6	0.95	11.57785	5.37418	Si
SLV 9	-5770	-8216	-1	0.679	694.3	0.955	10.33123	4.72207	Si
SLV 16	-4856	-4691	-7	0.783	601.5	0.949	11.98654	5.37418	Si
SLV 10	-5636	-8219	-1	0.692	680.7	0.954	10.54415	4.72207	Si
SLV 5	-4874	-7978	4	0.781	603.2	0.949	11.95679	4.72207	Si
SLV 6	-4740	-7981	4	0.799	589.7	0.948	12.24833	4.72207	Si
SLV 1	-2895	-5648	10	1.187	403	0.928	18.58278	5.37418	Si
SLV 2	-2697	-5653	10	1.254	383	0.926	19.69613	5.37418	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.11	SLU 84	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	5.986	SLU 84	Si
PF_SLV	0	SLV 15	No
V_SLV	1.888	SLV 13	Si
PFFP_SLV	2.079	SLV 15	Si
R_SLV	1.888	SLV 13	Si

Maschio 276

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.709	-13.763	-4.709	L2	L3	2.75	0.45	1.95	1.95	1.95			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	-1.95	-6037.65	-13611	-0.0000337	0.0003743	0.0035	2.75	16692.79	19281.07	19281.07	3.19	No	Si
SLU 77	0	4746.08	-22119	-0.0000415	0.0003743	0.0035	2.75	25074.45	26201.16	26201.16	5.52	No	Si
SLU 78	-1.95	-6101.84	-13804	-0.0000341	0.0003743	0.0035	2.75	16901.28	19500.67	19500.67	3.2	No	Si
SLU 78	0	4807.55	-22339	-0.000042	0.0003743	0.0035	2.75	25270.06	26434.53	26434.53	5.5	No	Si
SLU 82	-1.95	-6214.89	-14172	-0.0000349	0.0003743	0.0035	2.75	17294.83	19914.49	19914.49	3.2	No	Si
SLU 82	0	4844.74	-23199	-0.0000433	0.0003743	0.0035	2.75	26024.75	27350.41	27350.41	5.65	No	Si
SLU 81	-1.95	-6150.71	-13978	-0.0000345	0.0003743	0.0035	2.75	17087.89	19697.01	19697.01	3.2	No	Si
SLU 81	0	4783.27	-22979	-0.0000428	0.0003743	0.0035	2.75	25833.26	27115.63	27115.63	5.67	No	Si
SLU 75	-1.95	-6047.82	-13736	-0.0000339	0.0003743	0.0035	2.75	16827.92	19423.43	19423.43	3.21	No	Si
SLU 75	0	4717.72	-22196	-0.0000415	0.0003743	0.0035	2.75	25143.17	26282.96	26282.96	5.57	No	Si
SLU 83	-1.95	-6204.72	-14047	-0.0000347	0.0003743	0.0035	2.75	17160.89	19773.76	19773.76	3.19	No	Si
SLU 83	0	4873.09	-23122	-0.0000433	0.0003743	0.0035	2.75	25957.72	27268.03	27268.03	5.6	No	Si
SLU 79	-1.95	-6006.55	-13558	-0.0000335	0.0003743	0.0035	2.75	16636.59	19221.84	19221.84	3.2	No	Si
SLU 79	0	4697.67	-21995	-0.0000412	0.0003743	0.0035	2.75	24963.73	26069.7	26069.7	5.55	No	Si
SLU 74	-1.95	-5983.64	-13542	-0.0000334	0.0003743	0.0035	2.75	16619.14	19203.44	19203.44	3.21	No	Si
SLU 74	0	4656.25	-21977	-0.0000411	0.0003743	0.0035	2.75	24946.87	26049.71	26049.71	5.59	No	Si
SLU 80	-1.95	-6070.73	-13752	-0.000034	0.0003743	0.0035	2.75	16845.3	19441.74	19441.74	3.2	No	Si
SLU 80	0	4759.14	-22215	-0.0000417	0.0003743	0.0035	2.75	25159.94	26302.96	26302.96	5.53	No	Si
SLU 84	-1.95	-6268.91	-14241	-0.0000352	0.0003743	0.0035	2.75	17367.54	19990.85	19990.85	3.19	No	Si
SLU 84	0	4934.57	-23341	-0.0000437	0.0003743	0.0035	2.75	26148.52	27503.04	27503.04	5.57	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	-1.95	-4870.95	-7024	-0.0000233	0.0005615	0.0035	2.75		11476.9	11476.9	2.36		Si
SLD 16	0	7872.38	-8185	-0.0000455	0.0005615	0.0035	2.75		11241.25	11241.25	1.43		Si
SLD 11	-1.95	-2179.32	-1413	-0.0000813	0.0005615	0.0035	2.2		4111.24	4111.24	1.89		Si
SLD 11	0	2803.36	-1715	-0.0007959	0.0005615	0.0035	2.2		2737.41	2737.41	0.98		No
SLV 16	-1.95	-5185.42	-5319	-0.0000301	0.0005615	0.0035	2.2		9266.12	9266.12	1.79		Si
SLV 16	0	10503.08	-3947	-0.0181355	0.0005615	0.0035	2.75		5720.21	5720.21	0.54		No
SLD 12	-1.95	-2001.07	-1439	-0.0000492	0.0005615	0.0035	2.2		4145.38	4145.38	2.07		Si
SLD 12	0	2309.59	-2063	-0.0000182	0.0005615	0.0035	2.75		3205.85	3205.85	1.39		Si
SLV 11	-1.95	-735.13	4256	0.3722866	0.0005615	0.0035	2.2		0	0	0		No
SLV 11	0	2386.19	7382	0.6373166	0.0005615	0.0035	2.2		0	0	0		No
SLV 12	-1.95	-441.39	4214	0.3680084	0.0005615	0.0035	2.2		0	0	0		No
SLV 12	0	1572.51	6809	0.5894136	0.0005615	0.0035	2.2		0	0	0		No
SLV 15	-1.95	-5621.74	-5256	-0.0000389	0.0005615	0.0035	2.2		9184.57	9184.57	1.63		Si
SLV 15	0	11711.7	-3095	-0.0267217	0.0005615	0.0035	2.75		4588.02	4588.02	0.39		No
SLV 8	-1.95	1106.51	4181	0.3615961	0.0005615	0.0035	2.2		0	0	0		No
SLV 8	0	-3969.72	3709	0.3300168	0.0005615	0.0035	2.2		0	0	0		No
SLV 7	-1.95	812.77	4223	0.3659911	0.0005615	0.0035	2.2		0	0	0		No
SLV 7	0	-3156.04	4282	0.3789261	0.0005615	0.0035	2.2		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	-1.95	-5147.76	-6985	-0.0000247	0.0005615	0.0035	2.75		11425.66	11425.66	2.22		Si
SLD 15	0	8639.15	-7644	-0.0000732	0.0005615	0.0035	2.75		10545.86	10545.86	1.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-1.95	-6059.51	-13813	-12278	-13401	2.75	2.75	-9922	8267	10868	21410	37056	7013	32278	No	2.41	Si
SLU 76	0	4710.3	-22219	-19750	-9805	2.75	2.75	-15960	9072	13857	21410	37056	7013	35267	No	3.6	Si
SLU 77	-1.95	-6037.65	-13611	-12098	-13348	2.75	2.75	-9776	8248	10796	21410	37056	7013	32206	No	2.41	Si
SLU 77	0	4746.08	-22119	-19662	-9830	2.75	2.75	-15888	9063	13822	21410	37056	7013	35232	No	3.58	Si
SLU 83	-1.95	-6204.72	-14047	-12486	-13703	2.75	2.75	-10090	8290	10951	21410	37056	7013	32361	No	2.36	Si
SLU 83	0	4873.09	-23122	-20552	-10145	2.75	2.75	-16608	9159	14178	21410	37056	7013	35588	No	3.51	Si
SLU 84	-1.95	-6268.91	-14241	-12658	-13894	2.75	2.75	-10229	8308	11020	21410	37056	7013	32430	No	2.33	Si
SLU 84	0	4934.57	-23341	-20748	-10260	2.75	2.75	-16766	9180	14256	21410	37056	7013	35666	No	3.48	Si
SLU 75	-1.95	-6047.82	-13736	-12210	-13366	2.75	2.75	-9867	8260	10841	21410	37056	7013	32251	No	2.41	Si
SLU 75	0	4717.72	-22196	-19730	-9799	2.75	2.75	-15944	9070	13849	21410	37056	7013	35259	No	3.6	Si
SLU 80	-1.95	-6070.73	-13752	-12224	-13446	2.75	2.75	-9878	8262	10847	21410	37056	7013	32257	No	2.4	Si
SLU 80	0	4759.14	-22215	-19747	-9874	2.75	2.75	-15957	9072	13856	21410	37056	7013	35266	No	3.57	Si
SLU 78	-1.95	-6101.84	-13804	-12271	-13539	2.75	2.75	-9916	8267	10865	21410	37056	7013	32275	No	2.38	Si
SLU 78	0	4807.55	-22339	-19857	-9945	2.75	2.75	-16046	9084	13900	21410	37056	7013	35310	No	3.55	Si
SLU 81	-1.95	-6150.71	-13978	-12425	-13530	2.75	2.75	-10041	8283	10927	21410	37056	7013	32337	No	2.39	Si
SLU 81	0	4783.27	-22979	-20426	-10000	2.75	2.75	-16506	9145	14127	21410	37056	7013	35537	No	3.55	Si
SLU 82	-1.95	-6214.89	-14172	-12598	-13721	2.75	2.75	-10180	8302	10996	21410	37056	7013	32406	No	2.36	Si
SLU 82	0	4844.74	-23199	-20621	-10114	2.75	2.75	-16663	9166	14205	21410	37056	7013	35615	No	3.52	Si
SLU 79	-1.95	-6006.55	-13558	-12052	-13255	2.75	2.75	-9739	8243	10778	21410	37056	7013	32188	No	2.43	Si
SLU 79	0	4697.67	-21995	-19551	-9759	2.75	2.75	-15799	9051	13778	21410	37056	7013	35187	No	3.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-1.95	-8201.27	-13451	-11957	-35362	2.75	2.2959	-11638	12744	13718	21410	55584	7013	35128		0.99	No
SLV 13	0	13993.51	-15296	-13596	-29290	2.75	1.3804	-10987	12614	14374	21410	55584	7013	35784		1.22	Si
SLV 14	-1.95	-7764.95	-13514	-12012	-32275	2.75	2.4012	-11177	12652	13741	21410	55584	7013	35151		1.09	Si
SLV 14	0	12784.88	-16147	-14353	-26792	2.75	1.7497	-11598	12736	14677	21410	55584	7013	36087		1.35	Si
SLV 9	-1.95	-9333.55	-23060	-20498	-28451	2.75	2.75	-16564	13729	17135	21410	55584	7013	38545		1.35	Si
SLV 9	0	9992.2	-33285	-29587	-20976	2.75	2.75	-23909	15198	20770	21410	55584	7013	42180		2.01	Si
SLV 16	-1.95	-5185.42	-5319	-4728	-24977	2.2	1.2002	0	0	0	21410	44468	5610	21410		0.86	No
SLV 16	0	10503.08	-3947	-3508	-22014	2.75	0	0	16250	10339	21410	55584	7013	31749		1.44	Si
SLD 14	-1.95	-6382.21	-11826	-10512	-23671	2.75	2.506	-9357	12288	13857	21410	55584	7013	35267		1.49	Si
SLD 14	0	9209.61	-15330	-13627	-19334	2.75	2.3227	-11011	12619	14386	21410	55584	7013	35796		1.85	Si
SLD 15	-1.95	-5147.76	-6985	-6209	-21350	2.75	1.914	-7231	11863	11419	21410	55584	7013	32829		1.54	Si
SLD 15	0	8639.15	-7644	-6795	-18117	2.75	0.7346	-20771	14571	11654	21410	55584	7013	33064		1.82	Si
SLV 10	-1.95	-9039.81	-23102	-20535	-26372	2.75	2.75	-16594	13735	17150	21410	55584	7013	38560		1.46	Si
SLV 10	0	9178.52	-33859	-30097	-19295	2.75	2.75	-24320	15281	20974	21410	55584	7013	42384		2.2	Si
SLD 16	-1.95	-4870.95	-7024	-6244	-19391	2.75	2.0447	-6807	11778	11433	21410	55584	7013	32843		1.69	Si
SLD 16	0	7872.38	-8185	-7275	-16533	2.75	1.2395	-5879	11592	11846	21410	55584	7013	33256		2.01	Si
SLD 13	-1.95	-6659.02	-11787	-10477	-25630	2.75	2.4301	-9625	12342	13496	21410	55584	7013	34906		1.36	Si
SLD 13	0	9976.37	-14790	-13146	-20919	2.75	2.1014	-10623	12541	14194	21410	55584	7013	35604		1.7	Si
SLV 15	-1.95	-5621.74	-5256	-4672	-28065	2.2	0.9164	0	0	0	21410	44468	5610	21410		0.76	No
SLV 15	0	11711.7	-3095	-2751	-24512	2.75	0	0	16250	10036	21410	55584	7013	31446		1.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.975 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	0	4433	88.27	0	0	No, Trazione
SLV 12	179667	0.24	0	5509	88.27	0	0	No, Trazione
SLV 11	179667	0.24	0	5788	88.27	0	0	No, Trazione
SLV 8	179667	0.24	0	4155	88.27	0	0	No, Trazione
SLV 15	179667	0.24	4651	-5756	88.27	1255.59	14.22	Si
SLV 16	179667	0.24	4985	-6169	88.27	1342.81	15.21	Si
SLV 3	179667	0.24	8299	-10269	88.27	2185.07	24.76	Si
SLV 4	179667	0.24	8633	-10683	88.27	2267.85	25.69	Si
SLV 13	179667	0.24	13787	-17062	88.27	3492.36	39.57	Si
SLV 14	179667	0.24	14122	-17476	88.27	3568.45	40.43	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.975 Wa = 0.08 Ta = 0.0141

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-36959	-23135	601	0.501	4102.7	0.974	7.47468	2.39833	Si
SLV 5	-36386	-23093	589	0.507	4044.3	0.974	7.56741	2.39833	Si
SLV 10	-33859	-23102	544	0.536	3787	0.972	8.00964	2.39833	Si
SLV 9	-33285	-23060	533	0.543	3728.6	0.972	8.11952	2.39833	Si
SLV 2	-26481	-13622	431	0.648	3035.9	0.966	9.75028	2.45804	Si
SLV 1	-25630	-13560	414	0.665	2949.2	0.965	10.01458	2.45804	Si
SLV 14	-16147	-13514	242	0.959	1985.1	0.95	14.66648	2.45804	Si
SLV 13	-15296	-13451	225	1.001	1898.6	0.948	15.34238	2.45804	Si
SLV 4	-14281	-5427	226	1.056	1795.7	0.946	16.2223	2.45804	Si
SLV 3	-13429	-5365	209	1.108	1709.3	0.943	17.07023	2.45804	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.187	SLU 83	Si
V_SLU	2.334	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	0.763	SLV 15	No
PFFP_SLV	0	SLV 12	No
R_SLV	3.117	SLV 6	Si

Maschio 278

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-12.868	-4.685	Z medio 966 cm	F1	0.745	0.3	4.312	4.313	4.312			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	10.61	619.94	-5096	-0.0000719	0.0003743	0.0035	0.745	1473.12	1609.13	1609.13	2.6	No	Si
SLU 84	12.61	-94.7	-1614	-0.000016	0.0003743	0.0035	0.745	558.72	698.57	698.57	7.38	No	Si
SLU 36	10.61	563.84	-4541	-0.0000642	0.0003743	0.0035	0.745	1354	1449.59	1449.59	2.57	No	Si
SLU 36	12.61	-87.08	-1473	-0.0000146	0.0003743	0.0035	0.745	513.15	650.81	650.81	7.47	No	Si
SLU 39	10.61	535.89	-4145	-0.0000595	0.0003743	0.0035	0.745	1262.7	1338.2	1338.2	2.5	No	Si
SLU 39	12.61	-95.26	-1144	-0.0000128	0.0003743	0.0035	0.745	404.87	538.2	538.2	5.65	No	Si
SLU 82	10.61	597.88	-4851	-0.0000687	0.0003743	0.0035	0.745	1421.74	1538.13	1538.13	2.57	No	Si
SLU 82	12.61	-96.28	-1455	-0.0000149	0.0003743	0.0035	0.745	507.22	644.59	644.59	6.7	No	Si
SLU 31	10.61	514.78	-3997	-0.0000571	0.0003743	0.0035	0.745	1227.31	1297.21	1297.21	2.52	No	Si
SLU 31	12.61	-88.69	-1152	-0.0000125	0.0003743	0.0035	0.745	407.41	540.8	540.8	6.1	No	Si
SLU 42	10.61	565.94	-4370	-0.000063	0.0003743	0.0035	0.745	1315.15	1401.14	1401.14	2.48	No	Si
SLU 42	12.61	-98.4	-1289	-0.0000139	0.0003743	0.0035	0.745	453.03	587.9	587.9	5.97	No	Si
SLU 33	10.61	541.78	-4296	-0.000061	0.0003743	0.0035	0.745	1298.18	1380.48	1380.48	2.55	No	Si
SLU 33	12.61	-88.65	-1313	-0.0000136	0.0003743	0.0035	0.745	460.91	596.1	596.1	6.72	No	Si
SLU 34	10.61	536.84	-4242	-0.0000603	0.0003743	0.0035	0.745	1285.53	1365.27	1365.27	2.54	No	Si
SLU 34	12.61	-87.12	-1312	-0.0000135	0.0003743	0.0035	0.745	460.49	595.65	595.65	6.84	No	Si
SLU 40	10.61	543.89	-4125	-0.0000599	0.0003743	0.0035	0.745	1257.95	1332.63	1332.63	2.45	No	Si
SLU 40	12.61	-99.98	-1129	-0.0000129	0.0003743	0.0035	0.745	399.83	533.03	533.03	5.33	No	Si
SLU 41	10.61	557.94	-4390	-0.0000627	0.0003743	0.0035	0.745	1319.74	1406.78	1406.78	2.52	No	Si
SLU 41	12.61	-93.68	-1304	-0.0000138	0.0003743	0.0035	0.745	457.99	593.05	593.05	6.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	10.61	2144.23	-6514	-0.0055168	0.0005615	0.0035	0.745		2075.12	2075.12	0.97		No
SLV 13	12.61	-936.57	3120	0.8246607	0.0005615	0.0035	0.596		0	0	0		No
SLV 14	10.61	1909.18	-6061	-0.0005828	0.0005615	0.0035	0.745		1949.08	1949.08	1.02		Si
SLV 14	12.61	-838.13	2659	0.7032418	0.0005615	0.0035	0.596		0	0	0		No
SLD 14	10.61	1342.18	-5101	-0.0001744	0.0005615	0.0035	0.745		1686.25	1686.25	1.26		Si
SLD 14	12.61	-544.24	1257	0.3341562	0.0005615	0.0035	0.596		0	0	0		No
SLD 16	10.61	1085.37	-5084	-0.0001138	0.0005615	0.0035	0.745		1681.7	1681.7	1.55		Si
SLD 16	12.61	-419.07	770	0.2056776	0.0005615	0.0035	0.596		0	0	0		No
SLV 9	10.61	1606.36	-4456	-0.0069338	0.0005615	0.0035	0.596		1512.87	1512.87	0.94		No
SLV 9	12.61	-648.95	1458	0.3879308	0.0005615	0.0035	0.596		0	0	0		No
SLD 15	10.61	1234.49	-5372	-0.0001365	0.0005615	0.0035	0.745		1759.72	1759.72	1.43		Si
SLD 15	12.61	-481.52	1063	0.2828142	0.0005615	0.0035	0.596		0	0	0		No
SLV 10	10.61	1448.12	-4151	-0.0045153	0.0005615	0.0035	0.596		1431.16	1431.16	0.99		No
SLV 10	12.61	-582.68	1148	0.306081	0.0005615	0.0035	0.596		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	10.61	1470.95	-6033	-0.0001755	0.0005615	0.0035	0.745		1941.28	1941.28	1.32		Si
SLV 16	12.61	-624.66	1829	0.4843213	0.0005615	0.0035	0.596		0	0	0		No
SLV 15	10.61	1706	-6486	-0.0002329	0.0005615	0.0035	0.745		2067.23	2067.23	1.21		Si
SLV 15	12.61	-723.11	2290	0.6057591	0.0005615	0.0035	0.596		0	0	0		No
SLD 13	10.61	1491.3	-5388	-0.0002185	0.0005615	0.0035	0.745		1764.31	1764.31	1.18		Si
SLD 13	12.61	-606.7	1549	0.4112492	0.0005615	0.0035	0.596		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	10.61	611.93	-5116	-4308	2009	0.745	0.745	-19276	9515	2126	49956	6693	1900	8592	No	4.28	Si
SLU 83	12.61	-89.98	-1629	-1372	610	0.745	0.745	-6140	7763	1735	49956	6693	1900	8592	No	14.1	Si
SLU 74	10.61	587.77	-5042	-4246	1908	0.745	0.745	-18999	9478	2118	49956	6693	1900	8592	No	4.5	Si
SLU 74	12.61	-80.23	-1653	-1392	567	0.745	0.745	-6230	7775	1738	49956	6693	1900	8592	No	15.15	Si
SLU 81	10.61	589.88	-4871	-4102	1915	0.745	0.745	-18353	9391	2099	49956	6693	1900	8592	No	4.49	Si
SLU 81	12.61	-91.55	-1470	-1238	640	0.745	0.745	-5538	7683	1717	49956	6693	1900	8592	No	13.42	Si
SLU 79	10.61	599.55	-5246	-4418	1998	0.745	0.745	-19768	9580	2141	49956	6693	1900	8592	No	4.3	Si
SLU 79	12.61	-73.97	-1822	-1534	511	0.745	0.745	-6865	7860	1757	49956	6693	1900	8592	No	16.82	Si
SLU 84	10.61	619.94	-5096	-4291	2012	0.745	0.745	-19201	9505	2124	49956	6693	1900	8592	No	4.27	Si
SLU 84	12.61	-94.7	-1614	-1360	601	0.745	0.745	-6083	7756	1733	49956	6693	1900	8592	No	14.29	Si
SLU 80	10.61	607.55	-5226	-4401	2001	0.745	0.745	-19692	9570	2139	49956	6693	1900	8592	No	4.3	Si
SLU 80	12.61	-78.69	-1807	-1522	503	0.745	0.745	-6808	7852	1755	49956	6693	1900	8592	No	17.09	Si
SLU 78	10.61	617.83	-5267	-4436	2005	0.745	0.745	-19847	9591	2144	49956	6693	1900	8592	No	4.29	Si
SLU 78	12.61	-83.38	-1798	-1514	528	0.745	0.745	-6775	7848	1754	49956	6693	1900	8592	No	16.27	Si
SLU 77	10.61	609.83	-5287	-4453	2003	0.745	0.745	-19922	9601	2146	49956	6693	1900	8592	No	4.29	Si
SLU 77	12.61	-78.66	-1813	-1527	536	0.745	0.745	-6832	7855	1756	49956	6693	1900	8592	No	16.02	Si
SLU 82	10.61	597.88	-4851	-4085	1917	0.745	0.745	-18277	9381	2097	49956	6693	1900	8592	No	4.48	Si
SLU 82	12.61	-96.28	-1455	-1225	632	0.745	0.745	-5481	7675	1715	49956	6693	1900	8592	No	13.6	Si
SLU 75	10.61	595.77	-5022	-4229	1910	0.745	0.745	-18923	9468	2116	49956	6693	1900	8592	No	4.5	Si
SLU 75	12.61	-84.95	-1638	-1380	559	0.745	0.745	-6173	7768	1736	49956	6693	1900	8592	No	15.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	10.61	1909.18	-6061	-5104	4732	0.745	0.1725	-109500	16250	2437	49956	10039	1900	11939		2.52	Si
SLV 14	12.61	-838.13	2659	2239	3239	0.596	0.1718	0	0	0	49956	8031	1520	9551		2.95	Si
SLV 4	10.61	-1416.89	-270	-227	-2966	0.596	0	0	0	0	49956	8031	1520	9551		3.22	Si
SLV 4	12.61	862.69	-5470	-4607	-2964	0.745	0.6444	-20611	14539	2811	49956	10039	1900	11939		4.03	Si
SLV 16	10.61	1470.95	-6033	-5080	4350	0.745	0.386	-22731	14963	2431	49956	10039	1900	11939		2.74	Si
SLV 16	12.61	-624.66	1829	1540	3064	0.596	0.0928	0	0	0	49956	8031	1520	9551		3.12	Si
SLV 10	10.61	1448.12	-4151	-3495	2719	0.596	0.0709	0	0	0	49956	8031	1520	9551		3.51	Si
SLV 10	12.61	-582.68	1148	966	1394	0.596	0	0	0	0	49956	8031	1520	9551		6.85	Si
SLV 15	10.61	1706	-6486	-5462	4977	0.745	0.3284	-24437	15304	2532	49956	10039	1900	11939		2.4	Si
SLV 15	12.61	-723.11	2290	1929	3434	0.596	0.1703	0	0	0	49956	8031	1520	9551		2.78	Si
SLD 13	10.61	1491.3	-5388	-4538	3850	0.745	0.2872	-20302	14477	2286	49956	10039	1900	11939		3.1	Si
SLD 13	12.61	-606.7	1549	1305	2420	0.596	0	0	0	0	49956	8031	1520	9551		3.95	Si
SLV 13	10.61	2144.23	-6514	-5485	5359	0.745	0.13	-174837	16250	2539	49956	10039	1900	11939		2.23	Si
SLV 13	12.61	-936.57	3120	2627	3609	0.596	0.217	0	0	0	49956	8031	1520	9551		2.65	Si
SLV 9	10.61	1606.36	-4456	-3752	3141	0.596	0.0359	0	0	0	49956	8031	1520	9551		3.04	Si
SLV 9	12.61	-648.95	1458	1228	1644	0.596	0	0	0	0	49956	8031	1520	9551		5.81	Si
SLD 14	10.61	1342.18	-5101	-4296	3452	0.745	0.3282	-19220	14261	2221	49956	10039	1900	11939		3.46	Si
SLD 14	12.61	-544.24	1257	1058	2185	0.596	0	0	0	0	49956	8031	1520	9551		4.37	Si
SLD 15	10.61	1234.49	-5372	-4523	3626	0.745	0.428	-20239	14464	2282	49956	10039	1900	11939		3.29	Si
SLD 15	12.61	-481.52	1063	895	2316	0.596	0	0	0	0	49956	8031	1520	9551		4.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 11.816 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.5	0	-1062	160.86	0	0	No, e>t/2
SLV 5	179667	0.5	0	-1068	160.86	0	0	No, e>t/2
SLV 10	179667	0.5	5035	-1125	160.86	163.25	1.01	Si
SLV 9	179667	0.5	5064	-1132	160.86	164.13	1.02	Si
SLV 2	179667	0.5	8360	-1869	160.86	264.94	1.65	Si
SLV 1	179667	0.5	8402	-1878	160.86	266.19	1.65	Si
SLV 14	179667	0.5	9313	-2081	160.86	293.17	1.82	Si
SLV 13	179667	0.5	9355	-2091	160.86	294.41	1.83	Si
SLV 4	179667	0.5	11747	-2625	160.86	363.52	2.26	Si
SLV 3	179667	0.5	11789	-2635	160.86	364.71	2.27	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 11.816 Wa = 0.05 Ta = 0.1035

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-879	-1807	11	2.442	236.9	0.889	39.91889	7.99338	Si
SLV 14	-808	-1901	12	2.544	230.4	0.889	41.58524	7.99338	Si
SLV 15	-681	-2028	-3	2.755	219.3	0.89	44.97315	7.99338	Si
SLV 16	-610	-2122	-2	2.887	213.1	0.892	47.04756	7.99338	Si
SLV 9	-917	-1990	23	2.384	240.3	0.889	38.97858	6.47964	Si
SLV 10	-868	-2053	24	2.449	235.9	0.889	40.04207	6.47964	Si
SLV 5	-761	-2354	20	2.611	226.2	0.889	42.67714	6.47964	Si
SLV 6	-713	-2418	20	2.69	222	0.89	43.92861	6.47964	Si
SLV 1	-359	-3023	-1	3.47	193.4	0.906	55.64711	7.99338	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-288	-3117	0	3.683	188.6	0.914	58.53117	7.99338	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.45	SLU 40	Si
V_SLU	4.271	SLU 84	Si
PF_SLV	0	SLD 9	No
V_SLV	2.228	SLV 13	Si
PFFP_SLV	0	SLV 5	No
R_SLV	4.994	SLV 13	Si

Maschio 279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	-4.685	-11.143	-4.685	Z medio 966 cm	F1	0.725	0.3	4.311	4.311	4.311			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	10.61	360.61	-3308	-0.0000447	0.0003743	0.0035	0.725	1020.05	1074.05	1074.05	2.98	No	Si
SLU 82	12.61	-328.43	-3355	-0.0000431	0.0003743	0.0035	0.725	1031.89	1207.28	1207.28	3.68	No	Si
SLU 84	10.61	371.25	-3477	-0.0000467	0.0003743	0.0035	0.725	1062.51	1118.32	1118.32	3.01	No	Si
SLU 84	12.61	-344.71	-3572	-0.0000458	0.0003743	0.0035	0.725	1086.07	1268.44	1268.44	3.68	No	Si
SLU 41	10.61	350.63	-2882	-0.0000409	0.0003743	0.0035	0.725	908.63	964.07	964.07	2.75	No	Si
SLU 41	12.61	-310.51	-3098	-0.0000401	0.0003743	0.0035	0.725	965.85	1132.96	1132.96	3.65	No	Si
SLU 33	10.61	324.7	-2864	-0.0000392	0.0003743	0.0035	0.725	903.94	959.6	959.6	2.96	No	Si
SLU 33	12.61	-296.56	-3021	-0.0000387	0.0003743	0.0035	0.725	945.63	1110.46	1110.46	3.74	No	Si
SLU 39	10.61	339.99	-2713	-0.000039	0.0003743	0.0035	0.725	862.89	920.02	920.02	2.71	No	Si
SLU 39	12.61	-294.23	-2880	-0.0000375	0.0003743	0.0035	0.725	908.3	1069.38	1069.38	3.63	No	Si
SLU 34	10.61	323.58	-2829	-0.0000388	0.0003743	0.0035	0.725	894.44	950.49	950.49	2.94	No	Si
SLU 34	12.61	-294.51	-3006	-0.0000384	0.0003743	0.0035	0.725	941.84	1106.27	1106.27	3.76	No	Si
SLU 42	10.61	356.93	-2843	-0.000041	0.0003743	0.0035	0.725	898.28	954.18	954.18	2.67	No	Si
SLU 42	12.61	-311.66	-3109	-0.0000403	0.0003743	0.0035	0.725	968.76	1136.22	1136.22	3.65	No	Si
SLU 36	10.61	335.35	-3033	-0.0000411	0.0003743	0.0035	0.725	948.85	1002.79	1002.79	2.99	No	Si
SLU 36	12.61	-312.84	-3238	-0.0000413	0.0003743	0.0035	0.725	1002.18	1173.65	1173.65	3.75	No	Si
SLU 31	10.61	312.94	-2660	-0.0000369	0.0003743	0.0035	0.725	848.41	905.92	905.92	2.89	No	Si
SLU 31	12.61	-278.24	-2789	-0.0000358	0.0003743	0.0035	0.725	883.64	1042.54	1042.54	3.75	No	Si
SLU 40	10.61	346.28	-2674	-0.0000391	0.0003743	0.0035	0.725	852.32	909.74	909.74	2.63	No	Si
SLU 40	12.61	-295.39	-2891	-0.0000376	0.0003743	0.0035	0.725	911.29	1072.65	1072.65	3.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	10.61	-971.67	-5377	-0.0001045	0.0005615	0.0035	0.725		1835.64	1835.64	1.89		Si
SLV 1	12.61	378	614	0.1335509	0.0005615	0.0035	0.58		0	0	0		No
SLV 14	10.61	1651.84	1245	0.0618354	0.0005615	0.0035	0.58		0	0	0		No
SLV 14	12.61	-895.35	-5730	-0.0000976	0.0005615	0.0035	0.725		1931.88	1931.88	2.16		Si
SLV 2	10.61	-1206.35	-5980	-0.0001346	0.0005615	0.0035	0.725		1999.94	1999.94	1.66		Si
SLV 2	12.61	466.84	1007	0.2362185	0.0005615	0.0035	0.58		0	0	0		No
SLV 15	10.61	1574.68	919	-0.0257548	0.0005615	0.0035	0.58		0	0	0		No
SLV 15	12.61	-876.83	-5535	-0.0000951	0.0005615	0.0035	0.725		1878.8	1878.8	2.14		Si
SLV 13	10.61	1886.53	1847	0.2474466	0.0005615	0.0035	0.58		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	12.61	-984.18	-6123	-0.0001075	0.0005615	0.0035	0.725		2038.81	2038.81	2.07		Si
SLD 4	10.61	-896.91	-5307	-0.0000962	0.0005615	0.0035	0.725		1816.41	1816.41	2.03		Si
SLD 4	12.61	290.52	188	0.0003739	0.0005615	0.0035	0.58		0	0	0		No
SLV 16	10.61	1340	316	-0.0636239	0.0005615	0.0035	0.58		0	0	0		No
SLV 16	12.61	-787.99	-5141	-0.0000855	0.0005615	0.0035	0.725		1770.86	1770.86	2.25		Si
SLV 9	10.61	1211.64	304	-0.0576105	0.0005615	0.0035	0.58		0	0	0		No
SLV 9	12.61	-618.16	-4387	-0.0000679	0.0005615	0.0035	0.725		1554.33	1554.33	2.51		Si
SLV 3	10.61	-1283.51	-6306	-0.0001447	0.0005615	0.0035	0.58		2086.49	2086.49	1.63		Si
SLV 3	12.61	485.36	1202	0.2877412	0.0005615	0.0035	0.58		0	0	0		No
SLV 4	10.61	-1518.2	-6909	-0.000182	0.0005615	0.0035	0.58		2240.04	2240.04	1.48		Si
SLV 4	12.61	574.2	1595	0.3870495	0.0005615	0.0035	0.58		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	10.61	338.05	-3696	-3112	-25	0.725	0.725	-14309	8852	1925	49956	6513	1849	8362	No	339.08	Si
SLU 79	12.61	-341.91	-3669	-3089	1078	0.725	0.725	-14204	8838	1922	49956	6513	1849	8362	No	7.76	Si
SLU 78	10.61	349.67	-3667	-3088	35	0.725	0.725	-14197	8837	1922	49956	6513	1849	8362	No	238.61	Si
SLU 78	12.61	-345.88	-3702	-3117	1108	0.725	0.725	-14331	8855	1926	49956	6513	1849	8362	No	7.55	Si
SLU 38	10.61	330.03	-3023	-2546	74	0.725	0.725	-11706	8505	1850	49956	6513	1849	8362	No	113.44	Si
SLU 38	12.61	-310.02	-3216	-2709	994	0.725	0.725	-12453	8605	1872	49956	6513	1849	8362	No	8.41	Si
SLU 77	10.61	343.37	-3705	-3120	4	0.725	0.725	-14346	8857	1926	49956	6513	1849	8362	No	2011.2	Si
SLU 77	12.61	-344.73	-3690	-3108	1082	0.725	0.725	-14288	8850	1925	49956	6513	1849	8362	No	7.73	Si
SLU 84	10.61	371.25	-3477	-2928	86	0.725	0.725	-13462	8739	1901	49956	6513	1849	8362	No	96.93	Si
SLU 84	12.61	-344.71	-3572	-3008	1070	0.725	0.725	-13831	8789	1912	49956	6513	1849	8362	No	7.81	Si
SLU 83	10.61	364.95	-3516	-2960	55	0.725	0.725	-13611	8759	1905	49956	6513	1849	8362	No	151	Si
SLU 83	12.61	-343.55	-3561	-2999	1044	0.725	0.725	-13788	8783	1910	49956	6513	1849	8362	No	8.01	Si
SLU 80	10.61	344.35	-3657	-3080	6	0.725	0.725	-14160	8832	1921	49956	6513	1849	8362	No	1342.95	Si
SLU 80	12.61	-343.06	-3680	-3099	1105	0.725	0.725	-14247	8844	1924	49956	6513	1849	8362	No	7.57	Si
SLU 36	10.61	335.35	-3033	-2554	103	0.725	0.725	-11743	8510	1851	49956	6513	1849	8362	No	81.55	Si
SLU 36	12.61	-312.84	-3238	-2727	998	0.725	0.725	-12537	8616	1874	49956	6513	1849	8362	No	8.38	Si
SLU 76	10.61	337.9	-3463	-2916	48	0.725	0.725	-13407	8732	1899	49956	6513	1849	8362	No	175.87	Si
SLU 76	12.61	-327.56	-3470	-2922	1034	0.725	0.725	-13434	8736	1900	49956	6513	1849	8362	No	8.09	Si
SLU 75	10.61	339.02	-3498	-2946	56	0.725	0.725	-13544	8750	1903	49956	6513	1849	8362	No	149.93	Si
SLU 75	12.61	-329.61	-3484	-2934	1019	0.725	0.725	-13489	8743	1902	49956	6513	1849	8362	No	8.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	10.61	-1206.35	-5980	-5036	-3592	0.725	0.4823	-35471	16250	2390	49956	9769	1849	11618		3.23	Si
SLV 2	12.61	466.84	1007	848	-2224	0.58	0	0	0	0	49956	7816	1479	9295		4.18	Si
SLV 3	10.61	-1283.51	-6306	-5310	-4140	0.58	0.4769	0	0	0	49956	7816	1479	9295		2.24	Si
SLV 3	12.61	485.36	1202	1012	-2714	0.58	0	0	0	0	49956	7816	1479	9295		3.42	Si
SLV 16	10.61	1340	316	266	2807	0.58	0	0	0	0	49956	7816	1479	9295		3.31	Si
SLV 16	12.61	-787.99	-5141	-4330	3049	0.725	0.6277	-23267	15070	2838	49956	9769	1849	11618		3.81	Si
SLV 4	10.61	-1518.2	-6909	-5818	-4782	0.58	0.4282	0	0	0	49956	7816	1479	9295		1.94	Si
SLV 4	12.61	574.2	1595	1344	-3091	0.58	0.0078	0	0	0	49956	7816	1479	9295		3.01	Si
SLV 13	10.61	1886.53	1847	1556	4639	0.58	0	0	0	0	49956	7816	1479	9295		2	Si
SLV 13	12.61	-984.18	-6123	-5156	4293	0.725	0.6053	-28828	16182	2939	49956	9769	1849	11618		2.71	Si
SLV 14	10.61	1651.84	1245	1048	3997	0.58	0	0	0	0	49956	7816	1479	9295		2.33	Si
SLV 14	12.61	-895.35	-5730	-4825	3916	0.725	0.6187	-26353	15687	2912	49956	9769	1849	11618		2.97	Si
SLV 15	10.61	1574.68	919	774	3449	0.58	0	0	0	0	49956	7816	1479	9295		2.7	Si
SLV 15	12.61	-876.83	-5535	-4661	3426	0.725	0.6123	-25716	15560	2858	49956	9769	1849	11618		3.39	Si
SLV 9	10.61	1211.64	304	256	3266	0.58	0	0	0	0	49956	7816	1479	9295		2.85	Si
SLV 9	12.61	-618.16	-4387	-3695	3094	0.725	0.6648	-18680	14153	2823	49956	9769	1849	11618		3.76	Si
SLD 13	10.61	1265.24	246	207	2911	0.58	0	0	0	0	49956	7816	1479	9295		3.19	Si
SLD 13	12.61	-700.51	-4716	-3971	2939	0.725	0.6419	-20793	14575	2807	49956	9769	1849	11618		3.95	Si
SLV 10	10.61	1053.64	-102	-86	2834	0.58	0	0	0	0	49956	7816	1479	9295		3.28	Si
SLV 10	12.61	-558.35	-4122	-3471	2840	0.725	0.6812	-15960	13609	2781	49956	9769	1849	11618		4.09	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 11.815 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.5	6117	-1331	156.43	191.58	1.22	Si
SLV 10	179667	0.5	6513	-1417	156.43	203.43	1.3	Si
SLV 13	179667	0.5	6570	-1429	156.43	205.13	1.31	Si
SLV 14	179667	0.5	7158	-1557	156.43	222.59	1.42	Si
SLV 5	179667	0.5	7924	-1724	156.43	245.11	1.57	Si
SLV 6	179667	0.5	8320	-1810	156.43	256.65	1.64	Si
SLV 15	179667	0.5	8847	-1924	156.43	271.92	1.74	Si
SLV 16	179667	0.5	9435	-2052	156.43	288.81	1.85	Si
SLV 1	179667	0.5	12593	-2739	156.43	376.97	2.41	Si
SLV 2	179667	0.5	13181	-2867	156.43	392.92	2.51	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 11.815 Wa = 0.05 Ta = 0.1034

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-668	-3005	-1	2.747	213.8	0.89	44.83835	7.98934	Si
SLV 2	-629	-3346	14	2.81	210.4	0.891	45.84128	7.98934	Si
SLV 3	-579	-2922	0	2.917	206.2	0.892	47.50821	7.98934	Si
SLV 1	-540	-3264	15	2.988	202.9	0.894	48.59831	7.98934	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-474	-2394	-24	3.128	197.6	0.897	50.70145	6.47737	Si
SLV 7	-414	-2338	-23	3.276	193	0.901	52.87318	6.47737	Si
SLV 6	-343	-3532	29	3.467	187.7	0.907	55.5655	6.47737	Si
SLV 16	-24	-2436	-13	4.744	172.2	0.987	69.88681	7.98934	Si
SLV 5	-283	-3477	29	3.649	183.6	0.914	58.02234	6.47737	Si
SLV 12	-281	-2223	-27	3.656	183.5	0.914	58.11956	6.47737	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.627	SLU 40	Si
V_SLU	7.545	SLU 78	Si
PF_SLV	0	SLD 4	No
V_SLV	1.944	SLV 4	Si
PFFP_SLV	1.225	SLV 9	Si
R_SLV	5.612	SLV 4	Si

Maschio 283

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)
Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-0.354	-11.003	0.906	L4	L6	1.26	0.28	7.22	7.22	7.22			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	0.73	156.75	-18493	-0.0000923	0.0003743	0.0035	1.26	5652.3	7558.98	7558.98	48.22	No	Si
SLU 48	7.95	350.53	-10776	-0.0000561	0.0003743	0.0035	1.26	4752.23	5328.13	5328.13	15.2	No	Si
SLU 71	0.73	272.21	-20569	-0.0001073	0.0003743	0.0035	1.26	5537.83	7808.04	7808.04	28.68	No	Si
SLU 71	7.95	393.13	-12297	-0.0000647	0.0003743	0.0035	1.26	5094.89	5919.14	5919.14	15.06	No	Si
SLU 45	0.73	144.12	-18226	-0.0000905	0.0003743	0.0035	1.26	5656.05	7528.49	7528.49	52.24	No	Si
SLU 45	7.95	332.6	-10555	-0.0000546	0.0003743	0.0035	1.26	4695.63	5244.19	5244.19	15.77	No	Si
SLU 29	0.73	275.14	-17030	-0.000087	0.0003743	0.0035	1.26	5642.13	7208.84	7208.84	26.2	No	Si
SLU 29	7.95	334.84	-10362	-0.0000537	0.0003743	0.0035	1.26	4644.93	5171.54	5171.54	15.44	No	Si
SLU 69	0.73	277.91	-20685	-0.0001082	0.0003743	0.0035	1.26	5527.01	7822.55	7822.55	28.15	No	Si
SLU 69	7.95	399.38	-12396	-0.0000654	0.0003743	0.0035	1.26	5114.36	5958.44	5958.44	14.92	No	Si
SLU 6	0.73	159.67	-14954	-0.000073	0.0003743	0.0035	1.26	5498.81	6662.66	6662.66	41.73	No	Si
SLU 6	7.95	292.24	-8841	-0.0000454	0.0003743	0.0035	1.26	4199.05	4612	4612	15.78	No	Si
SLU 27	0.73	280.84	-17145	-0.0000878	0.0003743	0.0035	1.26	5645.67	7240.2	7240.2	25.78	No	Si
SLU 27	7.95	341.1	-10461	-0.0000543	0.0003743	0.0035	1.26	4671.1	5208.76	5208.76	15.27	No	Si
SLU 70	0.73	299.6	-20638	-0.0001085	0.0003743	0.0035	1.26	5531.48	7816.62	7816.62	26.09	No	Si
SLU 70	7.95	376.53	-12414	-0.0000649	0.0003743	0.0035	1.26	5117.89	5965.65	5965.65	15.84	No	Si
SLU 66	0.73	265.29	-20418	-0.0001062	0.0003743	0.0035	1.26	5551.3	7789.14	7789.14	29.36	No	Si
SLU 66	7.95	381.46	-12175	-0.0000638	0.0003743	0.0035	1.26	5070.32	5870.68	5870.68	15.39	No	Si
SLU 50	0.73	151.05	-18378	-0.0000915	0.0003743	0.0035	1.26	5654.23	7545.74	7545.74	49.96	No	Si
SLU 50	7.95	344.27	-10677	-0.0000555	0.0003743	0.0035	1.26	4727.15	5290.55	5290.55	15.37	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.73	371.7	-23248	-19359	216	1.26	1.26	-54872	10833	6294	83261	10564	3213	13777	No	63.91	Si
SLU 78	7.95	274.65	-14880	-12391	11	1.26	1.26	-35121	10833	4436	83261	10564	3213	13777	No	1297.25	Si
SLU 80	0.73	366	-23132	-19262	215	1.26	1.26	-54599	10833	6269	83261	10564	3213	13777	No	64.17	Si
SLU 80	7.95	268.4	-14781	-12308	10	1.26	1.26	-34888	10833	4414	83261	10564	3213	13777	No	1320.63	Si
SLU 82	0.73	371.64	-23716	-19749	219	1.26	1.26	-55977	10833	6398	83261	10564	3213	13777	No	62.98	Si
SLU 82	7.95	188.88	-15396	-12820	10	1.26	1.26	-36338	10833	4551	83261	10564	3213	13777	No	1339.38	Si
SLU 79	0.73	344.3	-23179	-19302	219	1.26	1.26	-54710	10833	6279	83261	10564	3213	13777	No	62.93	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	7.95	291.25	-14763	-12293	10	1.26	1.26	-34845	10833	4410	83261	10564	3213	13777	No	1339.72	Si
SLU 75	0.73	359.07	-22981	-19136	213	1.26	1.26	-54241	10833	6235	83261	10564	3213	13777	No	64.64	Si
SLU 75	7.95	256.73	-14659	-12207	10	1.26	1.26	-34599	10833	4387	83261	10564	3213	13777	No	1337.28	Si
SLU 83	0.73	362.57	-24031	-20011	225	1.26	1.26	-56719	10833	6468	83261	10564	3213	13777	No	61.12	Si
SLU 83	7.95	229.67	-15599	-12989	10	1.26	1.26	-36817	10833	4596	83261	10564	3213	13777	No	1317.69	Si
SLU 77	0.73	350	-23295	-19398	220	1.26	1.26	-54983	10833	6305	83261	10564	3213	13777	No	62.68	Si
SLU 77	7.95	297.51	-14862	-12376	10	1.26	1.26	-35078	10833	4432	83261	10564	3213	13777	No	1315.66	Si
SLU 84	0.73	384.27	-23984	-19971	221	1.26	1.26	-56608	10833	6458	83261	10564	3213	13777	No	62.29	Si
SLU 84	7.95	206.81	-15617	-13004	11	1.26	1.26	-36860	10833	4600	83261	10564	3213	13777	No	1299.22	Si
SLU 74	0.73	337.38	-23028	-19176	217	1.26	1.26	-54352	10833	6246	83261	10564	3213	13777	No	63.39	Si
SLU 74	7.95	279.58	-14641	-12191	10	1.26	1.26	-34556	10833	4383	83261	10564	3213	13777	No	1356.86	Si
SLU 81	0.73	349.95	-23764	-19788	223	1.26	1.26	-56089	10833	6409	83261	10564	3213	13777	No	61.79	Si
SLU 81	7.95	211.74	-15377	-12805	10	1.26	1.26	-36295	10833	4547	83261	10564	3213	13777	No	1359.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.34 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.34	28467	-10043	495.89	1143.95	2.31	Si
SLV 8	179667	0.34	28541	-10069	495.89	1146.23	2.31	Si
SLV 11	179667	0.34	28737	-10139	495.89	1152.31	2.32	Si
SLV 12	179667	0.34	28811	-10165	495.89	1154.58	2.33	Si
SLV 3	179667	0.34	30372	-10715	495.89	1201.79	2.42	Si
SLV 4	179667	0.34	30481	-10754	495.89	1205.04	2.43	Si
SLV 15	179667	0.34	31273	-11033	495.89	1228.35	2.48	Si
SLV 16	179667	0.34	31383	-11072	495.89	1231.54	2.48	Si
SLV 1	179667	0.34	32290	-11392	495.89	1257.67	2.54	Si
SLV 2	179667	0.34	32400	-11431	495.89	1260.79	2.54	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.34 Wa = 0.05 Ta = 0.3109

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-11607	-18705	256	0.513	1544.2	0.936	7.97471	15.0344	No
SLV 13	-11603	-18798	256	0.514	1543.8	0.936	7.97718	15.0344	No
SLV 16	-10902	-20802	243	0.541	1473	0.933	8.42302	15.0344	No
SLV 15	-10898	-20896	243	0.541	1472.6	0.933	8.42578	15.0344	No
SLV 10	-11179	-13385	79	0.542	1500.9	0.934	8.43625	13.15618	No
SLV 9	-11176	-13448	79	0.542	1500.7	0.934	8.43807	13.15618	No
SLV 6	-10108	-10911	-86	0.587	1392.8	0.93	9.17072	13.15618	No
SLV 5	-10105	-10973	-86	0.587	1392.5	0.93	9.17283	13.15618	No
SLV 2	-8037	-10455	-294	0.68	1184.4	0.921	10.74283	15.0344	No
SLV 1	-8033	-10549	-294	0.681	1184	0.921	10.74727	15.0344	No

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.919	SLU 69	Si
V_SLU	61.122	SLU 83	Si
PFFP_SLV	2.307	SLV 7	Si
R_SLV	0.53	SLV 14	No

1.7 Verifiche travi di accoppiamento in muratura

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

X ini.: coordinata punto iniziale. [m]
Y ini.: coordinata punto iniziale. [m]
Z ini.inf.: coordinata punto iniziale. [m]
Z ini.sup.: coordinata punto iniziale. [m]
H ini.: altezza della sezione iniziale. [m]
X fin.: coordinata punto finale. [m]
Y fin.: coordinata punto finale. [m]
Z fin.inf.: coordinata punto finale. [m]
Z fin.sup: coordinata punto finale. [m]
H fin.: altezza della sezione finale. [m]
Luce: lunghezza della trave. [m]
Spessore: spessore. [m]
R. Trazione: resistenza a trazione dell'elemento teso disposto orizzontalmente. [daN]
fb_: resistenza normalizzata a compressione in direzione orizzontale dei blocchi. [daN/m²]
fhk: resistenza caratteristica a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]

fvk0: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]
fhmedio: resistenza media a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]
τ0: resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]
fv0: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]
μ: coefficiente di attrito [C8.7.1.17].
φ: coefficiente di ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.
fvk,lim: valore caratteristico massimo della resistenza a taglio che può essere impiegata nel calcolo (§11.10.3.3). [daN/m²]
E: modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]
G: modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]
FC: fattore di confidenza della muratura.
Materiale: descrizione del materiale.
Fu Verticale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]
Fu Orizzontale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]
tfv: spessore di calcolo equivalente verticale di uno strato di rinforzo.
tfo: spessore di calcolo equivalente orizzontale di uno strato di rinforzo.
E: modulo di elasticità longitudinale. [daN/m²]
εu: dilatazione a rottura.
Tipo fibra: natura della fibra.
materiale: materiale fibra del rinforzo.
lato applicazione: lato di applicazione del rinforzo.
esposizione: condizione di esposizione secondo CNR-DT 215 §3.2.
ancoraggio verticale iniziale: grado di ancoraggio iniziale dei rinforzi verticali.
ancoraggio verticale finale: grado di ancoraggio finale dei rinforzi verticali.
ancoraggio orizzontale iniziale: grado di ancoraggio iniziale dei rinforzi orizzontali.
ancoraggio orizzontale finale: grado di ancoraggio finale dei rinforzi orizzontali.
strati: numero strati del rinforzo.
verifica taglio: tipo di verifica a taglio.
εlim,conv / ε,CNR DT-200: dati relativi ai parametri per il calcolo della deformazione di progetto.
αt: coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a tagliosecondo CNR-DT 215 §4.1.1.
α: coeffiicente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.
εlim,conv: deformazione limite convenzionale del rinforzo FRCM.
ε,fd: deformazione di progetto del rinforzo FRCM ovvero CRM.
γF,d: fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.
connettori: presenza di connettori per la prevenzione del distacco del rinforzo.
tipo di muratura: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.
CRM / Fibrenet?: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.
CRM: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.
intonaco: materiale intonaco FRCM ovvero CRM.
spessore intonaco: spessore intonaco. [m]
tipo blocco fibrenet: tipo blocco muratura per verifica a tglio tipo Fibrenet.
Comb.: combinazione.
Sez.: sezione di verifica.
*M: momento flettente nel piano. [daN*m]*
N: sforzo normale. [daN]
εm: deformazione della muratura.
εm_: deformazione elastica della muratura.
εmu: deformazione ultima della muratura.
df: distanza tra il lembo compresso e la fibra tesa più lontana. [m]
*M0d: momento resistente della sezione non rinforzata. [daN*m]*
*M1d: momento resistente della sezione rinforzata. [daN*m]*
*MRd: momento resistente della sezione. [daN*m]*
incremento > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.
c.s.: coefficiente di sicurezza.
Verifica: stato di verifica.
V: taglio nel piano. [daN]
df: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]
fvd: resistenza a taglio di calcolo. [daN/m²]
Vt: resistenza a taglio della muratura non rinforzata. [daN]
Vt,f: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]
Vt,c: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]
Vt,c int.: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]
Vt,R: resistenza a taglio della sezione rinforzata. [daN]
Stato limite: pF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche.
Coeff.s.: coefficiente di sicurezza.

Trave di accoppiamento 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.863	5.876	-1.95	0.05	2	-22.863	5.876	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1225.78	-6570	-0.0001275	0.0001872	0.0035	2		10737.13	10737.13	No	8.76	Si
SLU 81	fin.	3452.76	-8125	-0.0004077	0.0001872	0.0035	2		10722.86	10722.86	No	3.11	Si
SLU 80	ini.	-1200.61	-6467	-0.0001248	0.0001872	0.0035	2		10737.13	10737.13	No	8.94	Si
SLU 80	fin.	3412.49	-8006	-0.000402	0.0001872	0.0035	2		10722.86	10722.86	No	3.14	Si
SLU 75	ini.	-1192.28	-6413	-0.0001239	0.0001872	0.0035	2		10737.13	10737.13	No	9.01	Si
SLU 75	fin.	3388.3	-7940	-0.0003987	0.0001872	0.0035	2		10722.86	10722.86	No	3.16	Si
SLU 77	ini.	-1259.17	-6616	-0.0001312	0.0001872	0.0035	2		10737.13	10737.13	No	8.53	Si
SLU 77	fin.	3468.64	-8207	-0.0004099	0.0001872	0.0035	2		10722.86	10722.86	No	3.09	Si
SLU 78	ini.	-1210.55	-6522	-0.0001259	0.0001872	0.0035	2		10737.13	10737.13	No	8.87	Si
SLU 78	fin.	3436.12	-8073	-0.0004054	0.0001872	0.0035	2		10722.86	10722.86	No	3.12	Si
SLU 79	ini.	-1249.22	-6561	-0.0001301	0.0001872	0.0035	2		10737.13	10737.13	No	8.6	Si
SLU 79	fin.	3445.01	-8140	-0.0004066	0.0001872	0.0035	2		10722.86	10722.86	No	3.11	Si
SLU 83	ini.	-1244.05	-6679	-0.0001296	0.0001872	0.0035	2		10737.13	10737.13	No	8.63	Si
SLU 83	fin.	3500.58	-8258	-0.0004145	0.0001872	0.0035	2		10722.86	10722.86	No	3.06	Si
SLU 74	ini.	-1240.9	-6508	-0.0001292	0.0001872	0.0035	2		10737.13	10737.13	No	8.65	Si
SLU 74	fin.	3420.82	-8074	-0.0004032	0.0001872	0.0035	2		10722.86	10722.86	No	3.13	Si
SLU 84	ini.	-1195.43	-6584	-0.0001242	0.0001872	0.0035	2		10737.13	10737.13	No	8.98	Si
SLU 84	fin.	3468.06	-8124	-0.0004099	0.0001872	0.0035	2		10722.86	10722.86	No	3.09	Si
SLU 82	ini.	-1177.17	-6476	-0.0001222	0.0001872	0.0035	2		10737.13	10737.13	No	9.12	Si
SLU 82	fin.	3420.24	-7991	-0.0004031	0.0001872	0.0035	2		10722.86	10722.86	No	3.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1225.78	3385	2	0	6250	7930	13475	5100	14180	No	4.19	Si
SLU 81	fin.	3452.76	8330	2	0	6250	7930	13475	5100	14180	No	1.7	Si
SLU 78	ini.	-1210.55	3399	2	0	6250	7930	13475	5100	14180	No	4.17	Si
SLU 78	fin.	3436.12	8252	2	0	6250	7930	13475	5100	14180	No	1.72	Si
SLU 84	ini.	-1195.43	3342	2	0	6250	7930	13475	5100	14180	No	4.24	Si
SLU 84	fin.	3468.06	8311	2	0	6250	7930	13475	5100	14180	No	1.71	Si
SLU 74	ini.	-1240.9	3442	2	0	6250	7930	13475	5100	14180	No	4.12	Si
SLU 74	fin.	3420.82	8271	2	0	6250	7930	13475	5100	14180	No	1.71	Si
SLU 83	ini.	-1244.05	3427	2	0	6250	7930	13475	5100	14180	No	4.14	Si
SLU 83	fin.	3500.58	8462	2	0	6250	7930	13475	5100	14180	No	1.68	Si
SLU 77	ini.	-1259.17	3484	2	0	6250	7930	13475	5100	14180	No	4.07	Si
SLU 77	fin.	3468.64	8403	2	0	6250	7930	13475	5100	14180	No	1.69	Si
SLU 82	ini.	-1177.17	3300	2	0	6250	7930	13475	5100	14180	No	4.3	Si
SLU 82	fin.	3420.24	8179	2	0	6250	7930	13475	5100	14180	No	1.73	Si
SLU 80	ini.	-1200.61	3377	2	0	6250	7930	13475	5100	14180	No	4.2	Si
SLU 80	fin.	3412.49	8186	2	0	6250	7930	13475	5100	14180	No	1.73	Si
SLU 75	ini.	-1192.28	3357	2	0	6250	7930	13475	5100	14180	No	4.22	Si
SLU 75	fin.	3388.3	8120	2	0	6250	7930	13475	5100	14180	No	1.75	Si
SLU 79	ini.	-1249.22	3462	2	0	6250	7930	13475	5100	14180	No	4.1	Si
SLU 79	fin.	3445.01	8337	2	0	6250	7930	13475	5100	14180	No	1.7	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2123.58	-3063	-0.0002247	0.0002807	0.0035	2		15648.46	15648.46		7.37	Si
SLV 16	fin.	4248.92	-6085	-0.0004939	0.0002807	0.0035	2		15635.95	15635.95		3.68	Si
SLD 12	ini.	-2737.33	-7612	-0.0002968	0.0002807	0.0035	2		15648.46	15648.46		5.72	Si
SLD 12	fin.	4048.61	-10575	-0.0004662	0.0002807	0.0035	2		15635.95	15635.95		3.86	Si
SLD 11	ini.	-2487.8	-7546	-0.000267	0.0002807	0.0035	2		15648.46	15648.46		6.29	Si
SLD 11	fin.	3893.82	-10217	-0.0004452	0.0002807	0.0035	2		15635.95	15635.95		4.02	Si
SLV 7	ini.	-3580.8	-11874	-0.0004031	0.0002807	0.0035	2		15648.46	15648.46		4.37	Si
SLV 7	fin.	4380.23	-15163	-0.0005122	0.0002807	0.0035	2		15635.95	15635.95		3.57	Si
SLV 8	ini.	-3991.98	-11984	-0.000458	0.0002807	0.0035	2		15648.46	15648.46		3.92	Si
SLV 8	fin.	4635.3	-15753	-0.0005485	0.0002807	0.0035	2		15635.95	15635.95		3.37	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-2714.91	-8925	-0.0002941	0.0002807	0.0035	2		15648.46	15648.46		5.76	Si
SLD 8	fin.	3694.25	-11580	-0.0004185	0.0002807	0.0035	2		15635.95	15635.95		4.23	Si
SLV 15	ini.	-1512.81	-2900	-0.0001566	0.0002807	0.0035	2		15648.46	15648.46		10.34	Si
SLV 15	fin.	3870.03	-5208	-0.000442	0.0002807	0.0035	2		15635.95	15635.95		4.04	Si
SLV 11	ini.	-3610.48	-9830	-0.000407	0.0002807	0.0035	2		15648.46	15648.46		4.33	Si
SLV 11	fin.	4952.83	-13572	-0.0005947	0.0002807	0.0035	2		15635.95	15635.95		3.16	Si
SLV 12	ini.	-4021.67	-9940	-0.0004621	0.0002807	0.0035	2		15648.46	15648.46		3.89	Si
SLV 12	fin.	5207.9	-14162	-0.0006326	0.0002807	0.0035	2		15635.95	15635.95		3	Si
SLD 7	ini.	-2465.39	-8859	-0.0002643	0.0002807	0.0035	2		15648.46	15648.46		6.35	Si
SLD 7	fin.	3539.46	-11222	-0.0003981	0.0002807	0.0035	2		15635.95	15635.95		4.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2123.58	7946	2	0	6643	7930	20213	5100	14573		1.83	Si
SLV 16	fin.	4248.92	9879	2	0	6643	7930	20213	5100	14573		1.48	Si
SLV 11	ini.	-3610.48	8457	2	0	6643	7930	20213	5100	14573		1.72	Si
SLV 11	fin.	4952.83	15149	2	0	6643	7930	20213	5100	14573		0.96	No
SLV 4	ini.	-2024.63	2102	2	0	6643	7930	20213	5100	14573		6.93	Si
SLV 4	fin.	2340.27	9286	2	0	6643	7930	20213	5100	14573		1.57	Si
SLD 8	ini.	-2714.91	5586	2	0	6643	7930	20213	5100	14573		2.61	Si
SLD 8	fin.	3694.25	11833	2	0	6643	7930	20213	5100	14573		1.23	Si
SLV 12	ini.	-4021.67	9532	2	0	6643	7930	20213	5100	14573		1.53	Si
SLV 12	fin.	5207.9	16343	2	0	6643	7930	20213	5100	14573		0.89	No
SLD 11	ini.	-2487.8	6054	2	0	6643	7930	20213	5100	14573		2.41	Si
SLD 11	fin.	3893.82	11240	2	0	6643	7930	20213	5100	14573		1.3	Si
SLV 8	ini.	-3991.98	7779	2	0	6643	7930	20213	5100	14573		1.87	Si
SLV 8	fin.	4635.3	16165	2	0	6643	7930	20213	5100	14573		0.9	No
SLV 7	ini.	-3580.8	6704	2	0	6643	7930	20213	5100	14573		2.17	Si
SLV 7	fin.	4380.23	14971	2	0	6643	7930	20213	5100	14573		0.97	No
SLD 12	ini.	-2737.33	6706	2	0	6643	7930	20213	5100	14573		2.17	Si
SLD 12	fin.	4048.61	11965	2	0	6643	7930	20213	5100	14573		1.22	Si
SLD 7	ini.	-2465.39	4933	2	0	6643	7930	20213	5100	14573		2.95	Si
SLD 7	fin.	3539.46	11109	2	0	6643	7930	20213	5100	14573		1.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.002	SLV 12	Si
V_SLV	0.892	SLV 12	No
PF_SLU	3.063	SLU 83	Si
V_SLU	1.676	SLU 83	Si

Trave di accoppiamento 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-19.618	1.366	0.05	0.73	0.68	-19.618	2.071	0.05	0.73	0.68	0.705	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	697.28	-1792	-0.0007861	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.48	Si
SLU 74	fin.	-1575.05	-4761	-0.002805	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.1	Si
SLU 78	ini.	696.82	-1782	-0.0007855	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.48	Si
SLU 78	fin.	-1567.05	-4734	-0.0027728	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.11	Si
SLU 77	ini.	706.71	-1818	-0.0007998	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.45	Si
SLU 77	fin.	-1597.03	-4829	-0.0028958	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.09	Si
SLU 81	ini.	712.33	-1828	-0.0008079	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.43	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-1608.88	-4860	-0.002946	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.08	Si
SLU 75	ini.	687.39	-1756	-0.0007719	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.51	Si
SLU 75	fin.	-1545.07	-4666	-0.0026864	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.12	Si
SLU 79	ini.	701.74	-1805	-0.0007926	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.46	Si
SLU 79	fin.	-1585.62	-4794	-0.0028482	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.09	Si
SLU 83	ini.	721.77	-1854	-0.0008217	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.4	Si
SLU 83	fin.	-1630.86	-4928	-0.0030416	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.06	Si
SLU 84	ini.	711.87	-1818	-0.0008072	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.43	Si
SLU 84	fin.	-1600.88	-4833	-0.002912	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.08	Si
SLU 82	ini.	702.44	-1792	-0.0007936	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.46	Si
SLU 82	fin.	-1578.9	-4764	-0.0028207	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.1	Si
SLU 80	ini.	691.85	-1768	-0.0007783	0.0002246	0.0035	0.68		1728.72	1728.72	No	2.5	Si
SLU 80	fin.	-1555.63	-4698	-0.0027275	0.0002246	0.0035	0.68		1732.96	1732.96	No	1.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	702.44	-2186	0.68	0	1700	5392	3666	1734	5400	No	2.47	Si
SLU 82	fin.	-1578.9	-7735	0.68	0	1700	5392	3666	1734	5400	No	0.7	No
SLU 75	ini.	687.39	-2143	0.68	0	1700	5392	3666	1734	5400	No	2.52	Si
SLU 75	fin.	-1545.07	-7564	0.68	0	1700	5392	3666	1734	5400	No	0.71	No
SLU 77	ini.	706.71	-2244	0.68	0	1700	5392	3666	1734	5400	No	2.41	Si
SLU 77	fin.	-1597.03	-7775	0.68	0	1700	5392	3666	1734	5400	No	0.69	No
SLU 83	ini.	721.77	-2287	0.68	0	1700	5392	3666	1734	5400	No	2.36	Si
SLU 83	fin.	-1630.86	-7946	0.68	0	1700	5392	3666	1734	5400	No	0.68	No
SLU 80	ini.	691.85	-2160	0.68	0	1700	5392	3666	1734	5400	No	2.5	Si
SLU 80	fin.	-1555.63	-7613	0.68	0	1700	5392	3666	1734	5400	No	0.71	No
SLU 74	ini.	697.28	-2209	0.68	0	1700	5392	3666	1734	5400	No	2.44	Si
SLU 74	fin.	-1575.05	-7674	0.68	0	1700	5392	3666	1734	5400	No	0.7	No
SLU 78	ini.	696.82	-2179	0.68	0	1700	5392	3666	1734	5400	No	2.48	Si
SLU 78	fin.	-1567.05	-7665	0.68	0	1700	5392	3666	1734	5400	No	0.7	No
SLU 79	ini.	701.74	-2226	0.68	0	1700	5392	3666	1734	5400	No	2.43	Si
SLU 79	fin.	-1585.62	-7722	0.68	0	1700	5392	3666	1734	5400	No	0.7	No
SLU 84	ini.	711.87	-2222	0.68	0	1700	5392	3666	1734	5400	No	2.43	Si
SLU 84	fin.	-1600.88	-7837	0.68	0	1700	5392	3666	1734	5400	No	0.69	No
SLU 81	ini.	712.33	-2252	0.68	0	1700	5392	3666	1734	5400	No	2.4	Si
SLU 81	fin.	-1608.88	-7845	0.68	0	1700	5392	3666	1734	5400	No	0.69	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	738.79	-2098	-0.0007937	0.0003369	0.0035	0.68		1701.01	1701.01		2.3	Si
SLV 4	fin.	-1799.64	-5571	-0.0034184	0.0003369	0.0035	0.68		1705.56	1705.56		0.95	No
SLD 11	ini.	772.19	-2384	-0.0008399	0.0003369	0.0035	0.68		1701.01	1701.01		2.2	Si
SLD 11	fin.	-2016.42	-6259	-0.0042199	0.0003369	0.0035	0.68		1705.56	1705.56		0.85	No
SLD 7	ini.	803.69	-2455	-0.0008845	0.0003369	0.0035	0.68		1701.01	1701.01		2.12	Si
SLD 7	fin.	-2078.57	-6460	-0.0044321	0.0003369	0.0035	0.68		1705.56	1705.56		0.82	No
SLD 12	ini.	786.77	-2442	-0.0008604	0.0003369	0.0035	0.68		1701.01	1701.01		2.16	Si
SLD 12	fin.	-2063.34	-6409	-0.0043806	0.0003369	0.0035	0.68		1705.56	1705.56		0.83	No
SLV 7	ini.	1035.97	-3328	-0.0012466	0.0003369	0.0035	0.68		1701.01	1701.01		1.64	Si
SLV 7	fin.	-2790.73	-8737	-0.0066404	0.0003369	0.0035	0.68		1705.56	1705.56		0.61	No
SLV 8	ini.	1059.99	-3423	-0.001288	0.0003369	0.0035	0.68		1701.01	1701.01		1.6	Si
SLV 8	fin.	-2868.04	-8984	-0.0068673	0.0003369	0.0035	0.68		1705.56	1705.56		0.59	No
SLD 8	ini.	818.27	-2513	-0.0009055	0.0003369	0.0035	0.68		1701.01	1701.01		2.08	Si
SLD 8	fin.	-2125.49	-6610	-0.0045888	0.0003369	0.0035	0.68		1705.56	1705.56		0.8	No
SLV 11	ini.	986.04	-3218	-0.0011632	0.0003369	0.0035	0.68		1701.01	1701.01		1.73	Si
SLV 11	fin.	-2693.31	-8423	-0.0063518	0.0003369	0.0035	0.68		1705.56	1705.56		0.63	No
SLV 12	ini.	1010.06	-3313	-0.0012029	0.0003369	0.0035	0.68		1701.01	1701.01		1.68	Si
SLV 12	fin.	-2770.62	-8670	-0.0065812	0.0003369	0.0035	0.68		1705.56	1705.56		0.62	No
SLV 3	ini.	703.11	-1958	-0.0007454	0.0003369	0.0035	0.68		1701.01	1701.01		2.42	Si
SLV 3	fin.	-1684.8	-5205	-0.0029472	0.0003369	0.0035	0.68		1705.56	1705.56		1.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	786.77	-3710	0.68	0	2550	5392	5498	1734	7232		1.95	Si
SLD 12	fin.	-2063.34	-8845	0.68	0	2550	5392	5498	1734	7232		0.82	No
SLD 11	ini.	772.19	-3607	0.68	0	2550	5392	5498	1734	7232		2.01	Si
SLD 11	fin.	-2016.42	-8679	0.68	0	2550	5392	5498	1734	7232		0.83	No
SLV 3	ini.	703.11	-2718	0.68	0	2550	5392	5498	1734	7232		2.66	Si
SLV 3	fin.	-1684.8	-7593	0.68	0	2550	5392	5498	1734	7232		0.95	No
SLV 4	ini.	738.79	-2970	0.68	0	2550	5392	5498	1734	7232		2.44	Si
SLV 4	fin.	-1799.64	-8000	0.68	0	2550	5392	5498	1734	7232		0.9	No
SLV 8	ini.	1059.99	-5422	0.68	0	2550	5392	5498	1734	7232		1.33	Si
SLV 8	fin.	-2868.04	-11848	0.68	0	2550	5392	5498	1734	7232		0.61	No
SLD 7	ini.	803.69	-3694	0.68	0	2550	5392	5498	1734	7232		1.96	Si
SLD 7	fin.	-2078.57	-8948	0.68	0	2550	5392	5498	1734	7232		0.81	No
SLD 8	ini.	818.27	-3797	0.68	0	2550	5392	5498	1734	7232		1.9	Si
SLD 8	fin.	-2125.49	-9114	0.68	0	2550	5392	5498	1734	7232		0.79	No
SLV 7	ini.	1035.97	-5252	0.68	0	2550	5392	5498	1734	7232		1.38	Si
SLV 7	fin.	-2790.73	-11575	0.68	0	2550	5392	5498	1734	7232		0.62	No
SLV 11	ini.	986.04	-5116	0.68	0	2550	5392	5498	1734	7232		1.41	Si
SLV 11	fin.	-2693.31	-11153	0.68	0	2550	5392	5498	1734	7232		0.65	No
SLV 12	ini.	1010.06	-5286	0.68	0	2550	5392	5498	1734	7232		1.37	Si
SLV 12	fin.	-2770.62	-11426	0.68	0	2550	5392	5498	1734	7232		0.63	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.595	SLV 8	No
V_SLV	0.61	SLV 8	No
PF_SLU	1.063	SLU 83	Si
V_SLU	0.68	SLU 83	No

Trave di accoppiamento 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.573	-3.284	-1.95	0.05	2	-22.573	-3.284	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-3220.53	-3459	-0.000375	0.0001872	0.0035	2		10737.13	10737.13	No	3.33	Si
SLU 79	fin.	3012.79	-7176	-0.0003469	0.0001872	0.0035	2		10722.86	10722.86	No	3.56	Si
SLU 75	ini.	-3247.53	-3492	-0.0003787	0.0001872	0.0035	2		10737.13	10737.13	No	3.31	Si
SLU 75	fin.	3015.75	-7219	-0.0003473	0.0001872	0.0035	2		10722.86	10722.86	No	3.56	Si
SLU 76	ini.	-3250.96	-3497	-0.0003792	0.0001872	0.0035	2		10737.13	10737.13	No	3.3	Si
SLU 76	fin.	3002.34	-7213	-0.0003455	0.0001872	0.0035	2		10722.86	10722.86	No	3.57	Si
SLU 78	ini.	-3278.77	-3525	-0.000383	0.0001872	0.0035	2		10737.13	10737.13	No	3.27	Si
SLU 78	fin.	3040.54	-7288	-0.0003507	0.0001872	0.0035	2		10722.86	10722.86	No	3.53	Si
SLU 84	ini.	-3320.14	-3607	-0.0003888	0.0001872	0.0035	2		10737.13	10737.13	No	3.23	Si
SLU 84	fin.	3096.33	-7420	-0.0003583	0.0001872	0.0035	2		10722.86	10722.86	No	3.46	Si
SLU 80	ini.	-3257.53	-3501	-0.0003801	0.0001872	0.0035	2		10737.13	10737.13	No	3.3	Si
SLU 80	fin.	3021.39	-7239	-0.0003481	0.0001872	0.0035	2		10722.86	10722.86	No	3.55	Si
SLU 82	ini.	-3288.9	-3574	-0.0003844	0.0001872	0.0035	2		10737.13	10737.13	No	3.26	Si
SLU 82	fin.	3071.54	-7352	-0.0003549	0.0001872	0.0035	2		10722.86	10722.86	No	3.49	Si
SLU 83	ini.	-3283.14	-3565	-0.0003836	0.0001872	0.0035	2		10737.13	10737.13	No	3.27	Si
SLU 83	fin.	3087.72	-7357	-0.0003571	0.0001872	0.0035	2		10722.86	10722.86	No	3.47	Si
SLU 77	ini.	-3241.77	-3482	-0.0003779	0.0001872	0.0035	2		10737.13	10737.13	No	3.31	Si
SLU 77	fin.	3031.93	-7224	-0.0003495	0.0001872	0.0035	2		10722.86	10722.86	No	3.54	Si
SLU 81	ini.	-3251.9	-3531	-0.0003793	0.0001872	0.0035	2		10737.13	10737.13	No	3.3	Si
SLU 81	fin.	3062.93	-7288	-0.0003537	0.0001872	0.0035	2		10722.86	10722.86	No	3.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-3257.53	7731	2	0	6250	7930	13475	5100	14180	No	1.83	Si
SLU 80	fin.	3021.39	12000	2	0	6250	7930	13475	5100	14180	No	1.18	Si
SLU 81	ini.	-3251.9	7743	2	0	6250	7930	13475	5100	14180	No	1.83	Si
SLU 81	fin.	3062.93	12093	2	0	6250	7930	13475	5100	14180	No	1.17	Si
SLU 84	ini.	-3320.14	7842	2	0	6250	7930	13475	5100	14180	No	1.81	Si
SLU 84	fin.	3096.33	12310	2	0	6250	7930	13475	5100	14180	No	1.15	Si
SLU 76	ini.	-3250.96	7684	2	0	6250	7930	13475	5100	14180	No	1.85	Si
SLU 76	fin.	3002.34	11958	2	0	6250	7930	13475	5100	14180	No	1.19	Si
SLU 78	ini.	-3278.77	7781	2	0	6250	7930	13475	5100	14180	No	1.82	Si
SLU 78	fin.	3040.54	12080	2	0	6250	7930	13475	5100	14180	No	1.17	Si
SLU 77	ini.	-3241.77	7751	2	0	6250	7930	13475	5100	14180	No	1.83	Si
SLU 77	fin.	3031.93	11975	2	0	6250	7930	13475	5100	14180	No	1.18	Si
SLU 82	ini.	-3288.9	7774	2	0	6250	7930	13475	5100	14180	No	1.82	Si
SLU 82	fin.	3071.54	12197	2	0	6250	7930	13475	5100	14180	No	1.16	Si
SLU 75	ini.	-3247.53	7713	2	0	6250	7930	13475	5100	14180	No	1.84	Si
SLU 75	fin.	3015.75	11967	2	0	6250	7930	13475	5100	14180	No	1.18	Si
SLU 83	ini.	-3283.14	7811	2	0	6250	7930	13475	5100	14180	No	1.82	Si
SLU 83	fin.	3087.72	12205	2	0	6250	7930	13475	5100	14180	No	1.16	Si
SLU 79	ini.	-3220.53	7701	2	0	6250	7930	13475	5100	14180	No	1.84	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	fin.	3012.79	11896	2	0	6250	7930	13475	5100	14180	No	1.19	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-4943.71	-5637	-0.0005927	0.0002807	0.0035	2		15648.46	15648.46		3.17	Si
SLD 9	fin.	3525.88	-10279	-0.0003963	0.0002807	0.0035	2		15635.95	15635.95		4.43	Si
SLV 6	ini.	-6079.15	-8779	-0.0007672	0.0002807	0.0035	2		15648.46	15648.46		2.57	Si
SLV 6	fin.	3665.88	-14456	-0.0004147	0.0002807	0.0035	2		15635.95	15635.95		4.27	Si
SLD 6	ini.	-4484.04	-6151	-0.0005264	0.0002807	0.0035	2		15648.46	15648.46		3.49	Si
SLD 6	fin.	3002.52	-10536	-0.0003296	0.0002807	0.0035	2		15635.95	15635.95		5.21	Si
SLV 5	ini.	-6454.63	-9168	-0.0008283	0.0002807	0.0035	2		15648.46	15648.46		2.42	Si
SLV 5	fin.	3752.34	-15102	-0.0004262	0.0002807	0.0035	2		15635.95	15635.95		4.17	Si
SLV 9	ini.	-6819.62	-7995	-0.0008894	0.0002807	0.0035	2		15648.46	15648.46		2.29	Si
SLV 9	fin.	4509.52	-14050	-0.0005305	0.0002807	0.0035	2		15635.95	15635.95		3.47	Si
SLD 5	ini.	-4711.89	-6387	-0.000559	0.0002807	0.0035	2		15648.46	15648.46		3.32	Si
SLD 5	fin.	3054.99	-10928	-0.0003361	0.0002807	0.0035	2		15635.95	15635.95		5.12	Si
SLV 14	ini.	-3846.29	-1932	-0.0004384	0.0002807	0.0035	2		15648.46	15648.46		4.07	Si
SLV 14	fin.	3895.53	-5526	-0.0004454	0.0002807	0.0035	2		15635.95	15635.95		4.01	Si
SLV 13	ini.	-4404.02	-2510	-0.0005151	0.0002807	0.0035	2		15648.46	15648.46		3.55	Si
SLV 13	fin.	4023.97	-6486	-0.0004629	0.0002807	0.0035	2		15635.95	15635.95		3.89	Si
SLD 10	ini.	-4715.86	-5400	-0.0005595	0.0002807	0.0035	2		15648.46	15648.46		3.32	Si
SLD 10	fin.	3473.41	-9887	-0.0003895	0.0002807	0.0035	2		15635.95	15635.95		4.5	Si
SLV 10	ini.	-6444.14	-7605	-0.0008265	0.0002807	0.0035	2		15648.46	15648.46		2.43	Si
SLV 10	fin.	4423.06	-13404	-0.0005183	0.0002807	0.0035	2		15635.95	15635.95		3.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	-4484.04	8993	2	0	6643	7930	20213	5100	14573		1.62	Si
SLD 6	fin.	3002.52	14406	2	0	6643	7930	20213	5100	14573		1.01	Si
SLV 5	ini.	-6454.63	12223	2	0	6643	7930	20213	5100	14573		1.19	Si
SLV 5	fin.	3752.34	19623	2	0	6643	7930	20213	5100	14573		0.74	No
SLV 14	ini.	-3846.29	10353	2	0	6643	7930	20213	5100	14573		1.41	Si
SLV 14	fin.	3895.53	12389	2	0	6643	7930	20213	5100	14573		1.18	Si
SLD 5	ini.	-4711.89	9394	2	0	6643	7930	20213	5100	14573		1.55	Si
SLD 5	fin.	3054.99	14877	2	0	6643	7930	20213	5100	14573		0.98	No
SLD 9	ini.	-4943.71	10614	2	0	6643	7930	20213	5100	14573		1.37	Si
SLD 9	fin.	3525.88	15394	2	0	6643	7930	20213	5100	14573		0.95	No
SLV 9	ini.	-6819.62	14115	2	0	6643	7930	20213	5100	14573		1.03	Si
SLV 9	fin.	4509.52	20411	2	0	6643	7930	20213	5100	14573		0.71	No
SLV 10	ini.	-6444.14	13454	2	0	6643	7930	20213	5100	14573		1.08	Si
SLV 10	fin.	4423.06	19635	2	0	6643	7930	20213	5100	14573		0.74	No
SLV 6	ini.	-6079.15	11562	2	0	6643	7930	20213	5100	14573		1.26	Si
SLV 6	fin.	3665.88	18847	2	0	6643	7930	20213	5100	14573		0.77	No
SLV 13	ini.	-4404.02	11335	2	0	6643	7930	20213	5100	14573		1.29	Si
SLV 13	fin.	4023.97	13542	2	0	6643	7930	20213	5100	14573		1.08	Si
SLD 10	ini.	-4715.86	10212	2	0	6643	7930	20213	5100	14573		1.43	Si
SLD 10	fin.	3473.41	14923	2	0	6643	7930	20213	5100	14573		0.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.295	SLV 9	Si
V_SLV	0.714	SLV 9	No
PF_SLU	3.234	SLU 84	Si
V_SLU	1.152	SLU 84	Si

Trave di accoppiamento 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.273	-3.284	-1.95	0.05	2	-18.273	-3.284	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	591.13	-17418	-0.0000599	0.0001872	0.0035	2		10722.86	10722.86	No	18.14	Si
SLU 77	fin.	-1062.16	-9505	-0.0001097	0.0001872	0.0035	2		10737.13	10737.13	No	10.11	Si
SLU 58	ini.	515.67	-15557	-0.0000521	0.0001872	0.0035	2		10722.86	10722.86	No	20.79	Si
SLU 58	fin.	-1032.44	-8325	-0.0001065	0.0001872	0.0035	2		10737.13	10737.13	No	10.4	Si
SLU 69	ini.	375.7	-15633	-0.0000377	0.0001872	0.0035	2		10722.86	10722.86	No	28.54	Si
SLU 69	fin.	-1039.44	-8461	-0.0001072	0.0001872	0.0035	2		10737.13	10737.13	No	10.33	Si
SLU 74	ini.	577.61	-17283	-0.0000585	0.0001872	0.0035	2		10722.86	10722.86	No	18.56	Si
SLU 74	fin.	-1038.99	-9460	-0.0001072	0.0001872	0.0035	2		10737.13	10737.13	No	10.33	Si
SLU 71	ini.	380.12	-15558	-0.0000382	0.0001872	0.0035	2		10722.86	10722.86	No	28.21	Si
SLU 71	fin.	-1039.02	-8411	-0.0001072	0.0001872	0.0035	2		10737.13	10737.13	No	10.33	Si
SLU 62	ini.	594.48	-16188	-0.0000602	0.0001872	0.0035	2		10722.86	10722.86	No	18.04	Si
SLU 62	fin.	-1019.01	-8727	-0.000105	0.0001872	0.0035	2		10737.13	10737.13	No	10.54	Si
SLU 81	ini.	660.83	-17838	-0.0000671	0.0001872	0.0035	2		10722.86	10722.86	No	16.23	Si
SLU 81	fin.	-1025.14	-9811	-0.0001057	0.0001872	0.0035	2		10737.13	10737.13	No	10.47	Si
SLU 83	ini.	674.35	-17973	-0.0000685	0.0001872	0.0035	2		10722.86	10722.86	No	15.9	Si
SLU 83	fin.	-1048.31	-9857	-0.0001082	0.0001872	0.0035	2		10737.13	10737.13	No	10.24	Si
SLU 56	ini.	511.25	-15633	-0.0000516	0.0001872	0.0035	2		10722.86	10722.86	No	20.97	Si
SLU 56	fin.	-1032.86	-8375	-0.0001065	0.0001872	0.0035	2		10737.13	10737.13	No	10.4	Si
SLU 79	ini.	595.55	-17343	-0.0000603	0.0001872	0.0035	2		10722.86	10722.86	No	18.01	Si
SLU 79	fin.	-1061.74	-9455	-0.0001096	0.0001872	0.0035	2		10737.13	10737.13	No	10.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	595.55	-9640	2	0	6250	7930	13475	5100	14180	No	1.47	Si
SLU 79	fin.	-1061.74	-9525	2	0	6250	7930	13475	5100	14180	No	1.49	Si
SLU 81	ini.	660.83	-9847	2	0	6250	7930	13475	5100	14180	No	1.44	Si
SLU 81	fin.	-1025.14	-9660	2	0	6250	7930	13475	5100	14180	No	1.47	Si
SLU 84	ini.	611.81	-9805	2	0	6250	7930	13475	5100	14180	No	1.45	Si
SLU 84	fin.	-980.82	-9570	2	0	6250	7930	13475	5100	14180	No	1.48	Si
SLU 77	ini.	591.13	-9666	2	0	6250	7930	13475	5100	14180	No	1.47	Si
SLU 77	fin.	-1062.16	-9541	2	0	6250	7930	13475	5100	14180	No	1.49	Si
SLU 78	ini.	528.58	-9490	2	0	6250	7930	13475	5100	14180	No	1.49	Si
SLU 78	fin.	-994.67	-9333	2	0	6250	7930	13475	5100	14180	No	1.52	Si
SLU 83	ini.	674.35	-9981	2	0	6250	7930	13475	5100	14180	No	1.42	Si
SLU 83	fin.	-1048.31	-9779	2	0	6250	7930	13475	5100	14180	No	1.45	Si
SLU 74	ini.	577.61	-9532	2	0	6250	7930	13475	5100	14180	No	1.49	Si
SLU 74	fin.	-1038.99	-9422	2	0	6250	7930	13475	5100	14180	No	1.5	Si
SLU 82	ini.	598.29	-9671	2	0	6250	7930	13475	5100	14180	No	1.47	Si
SLU 82	fin.	-957.65	-9451	2	0	6250	7930	13475	5100	14180	No	1.5	Si
SLU 80	ini.	533	-9464	2	0	6250	7930	13475	5100	14180	No	1.5	Si
SLU 80	fin.	-994.25	-9317	2	0	6250	7930	13475	5100	14180	No	1.52	Si
SLU 75	ini.	515.06	-9356	2	0	6250	7930	13475	5100	14180	No	1.52	Si
SLU 75	fin.	-971.5	-9214	2	0	6250	7930	13475	5100	14180	No	1.54	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	4204.28	-14976	-0.0004877	0.0002807	0.0035	2		15635.95	15635.95		3.72	Si
SLV 3	fin.	-3466.74	-2252	-0.0003882	0.0002807	0.0035	2		15648.46	15648.46		4.51	Si
SLV 8	ini.	4209.55	-6437	-0.0004884	0.0002807	0.0035	2		15635.95	15635.95		3.71	Si
SLV 8	fin.	-4429.11	2193	-0.0005186	0.0002807	0.0035	2		15648.46	15648.46		3.53	Si
SLV 7	ini.	3861.97	-6031	-0.0004409	0.0002807	0.0035	2		15635.95	15635.95		4.05	Si
SLV 7	fin.	-4198.21	1802	-0.0004863	0.0002807	0.0035	2		15648.46	15648.46		3.73	Si
SLD 4	ini.	3089.51	-14370	-0.0003405	0.0002807	0.0035	2		15635.95	15635.95		5.06	Si
SLD 4	fin.	-2665.74	-3520	-0.0002882	0.0002807	0.0035	2		15648.46	15648.46		5.87	Si
SLV 12	ini.	2211.23	-3079	-0.000235	0.0002807	0.0035	2		15635.95	15635.95		7.07	Si
SLV 12	fin.	-3235.99	905	-0.0003586	0.0002807	0.0035	2		15648.46	15648.46		4.84	Si
SLV 4	ini.	4720.57	-15579	-0.0005608	0.0002807	0.0035	2		15635.95	15635.95		3.31	Si
SLV 4	fin.	-3809.71	-1671	-0.0004335	0.0002807	0.0035	2		15648.46	15648.46		4.11	Si
SLV 14	ini.	-3573.08	-8779	-0.0004021	0.0002807	0.0035	2		15648.46	15648.46		4.38	Si
SLV 14	fin.	1939.43	-10648	-0.000204	0.0002807	0.0035	2		15635.95	15635.95		8.06	Si
SLV 13	ini.	-4089.37	-8176	-0.0004713	0.0002807	0.0035	2		15648.46	15648.46		3.83	Si
SLV 13	fin.	2282.39	-11229	-0.0002432	0.0002807	0.0035	2		15635.95	15635.95		6.85	Si
SLV 10	ini.	-3230.77	-17724	-0.0003579	0.0002807	0.0035	2		15648.46	15648.46		4.84	Si
SLV 10	fin.	2670.9	-14702	-0.0002891	0.0002807	0.0035	2		15635.95	15635.95		5.85	Si
SLV 9	ini.	-3578.35	-17318	-0.0004028	0.0002807	0.0035	2		15648.46	15648.46		4.37	Si
SLV 9	fin.	2901.79	-15093	-0.0003171	0.0002807	0.0035	2		15635.95	15635.95		5.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	4204.28	-19703	2	0	6643	7930	20213	5100	14573		0.74	No
SLV 3	fin.	-3466.74	-20576	2	0	6643	7930	20213	5100	14573		0.71	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 4	ini.	3089.51	-16155	2	0	6643	7930	20213	5100	14573		0.9	No
SLD 4	fin.	-2665.74	-16731	2	0	6643	7930	20213	5100	14573		0.87	No
SLD 2	ini.	2130.26	-14541	2	0	6643	7930	20213	5100	14573		1	Si
SLD 2	fin.	-1626.52	-14277	2	0	6643	7930	20213	5100	14573		1.02	Si
SLV 8	ini.	4209.55	-15582	2	0	6643	7930	20213	5100	14573		0.94	No
SLV 8	fin.	-4429.11	-18098	2	0	6643	7930	20213	5100	14573		0.81	No
SLV 4	ini.	4720.57	-21713	2	0	6643	7930	20213	5100	14573		0.67	No
SLV 4	fin.	-3809.71	-22626	2	0	6643	7930	20213	5100	14573		0.64	No
SLD 3	ini.	2761.97	-14879	2	0	6643	7930	20213	5100	14573		0.98	No
SLD 3	fin.	-2448.16	-15431	2	0	6643	7930	20213	5100	14573		0.94	No
SLD 8	ini.	2658.96	-12049	2	0	6643	7930	20213	5100	14573		1.21	Si
SLD 8	fin.	-2947.86	-13568	2	0	6643	7930	20213	5100	14573		1.07	Si
SLV 1	ini.	2571.68	-16962	2	0	6643	7930	20213	5100	14573		0.86	No
SLV 1	fin.	-1694.68	-16407	2	0	6643	7930	20213	5100	14573		0.89	No
SLV 2	ini.	3087.97	-18972	2	0	6643	7930	20213	5100	14573		0.77	No
SLV 2	fin.	-2037.65	-18456	2	0	6643	7930	20213	5100	14573		0.79	No
SLV 7	ini.	3861.97	-14229	2	0	6643	7930	20213	5100	14573		1.02	Si
SLV 7	fin.	-4198.21	-16718	2	0	6643	7930	20213	5100	14573		0.87	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.312	SLV 4	Si
V_SLV	0.644	SLV 4	No
PF_SLU	10.109	SLU 77	Si
V_SLU	1.421	SLU 83	Si

Trave di accoppiamento 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-14.223	-3.284	0.15	0.73	0.58	-16.523	-3.284	0.15	0.73	0.58	2.3	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-154.67	-822	-0.0001976	0.0001872	0.0035	0.58		958.44	958.44	No	6.2	Si
SLU 80	fin.	-1733.59	-6902	-0.005964	0.0001872	0.0035	0.58		958.44	958.44	No	0.55	No
SLU 84	ini.	-171.03	-855	-0.0002209	0.0001872	0.0035	0.58		958.44	958.44	No	5.6	Si
SLU 84	fin.	-1810.28	-7174	-0.0063013	0.0001872	0.0035	0.58		958.44	958.44	No	0.53	No
SLU 77	ini.	-154.81	-822	-0.0001978	0.0001872	0.0035	0.58		958.44	958.44	No	6.19	Si
SLU 77	fin.	-1732.93	-6899	-0.0059611	0.0001872	0.0035	0.58		958.44	958.44	No	0.55	No
SLU 75	ini.	-155.76	-823	-0.0001991	0.0001872	0.0035	0.58		958.44	958.44	No	6.15	Si
SLU 75	fin.	-1727.82	-6877	-0.0059384	0.0001872	0.0035	0.58		958.44	958.44	No	0.55	No
SLU 78	ini.	-154.19	-827	-0.0001969	0.0001872	0.0035	0.58		958.44	958.44	No	6.22	Si
SLU 78	fin.	-1741.8	-6939	-0.0060003	0.0001872	0.0035	0.58		958.44	958.44	No	0.55	No
SLU 83	ini.	-171.66	-851	-0.0002218	0.0001872	0.0035	0.58		958.44	958.44	No	5.58	Si
SLU 83	fin.	-1801.41	-7133	-0.0062621	0.0001872	0.0035	0.58		958.44	958.44	No	0.53	No
SLU 81	ini.	-173.23	-846	-0.0002241	0.0001872	0.0035	0.58		958.44	958.44	No	5.53	Si
SLU 81	fin.	-1787.42	-7071	-0.006201	0.0001872	0.0035	0.58		958.44	958.44	No	0.54	No
SLU 82	ini.	-172.61	-851	-0.0002231	0.0001872	0.0035	0.58		958.44	958.44	No	5.55	Si
SLU 82	fin.	-1796.3	-7112	-0.0062398	0.0001872	0.0035	0.58		958.44	958.44	No	0.53	No
SLU 79	ini.	-155.29	-817	-0.0001984	0.0001872	0.0035	0.58		958.44	958.44	No	6.17	Si
SLU 79	fin.	-1724.72	-6862	-0.0059247	0.0001872	0.0035	0.58		958.44	958.44	No	0.56	No
SLU 76	ini.	-155.82	-820	-0.0001992	0.0001872	0.0035	0.58		958.44	958.44	No	6.15	Si
SLU 76	fin.	-1725.52	-6867	-0.0059282	0.0001872	0.0035	0.58		958.44	958.44	No	0.56	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-171.03	1316	0.58	0	650	4599	3908	1479	5249	No	3.99	Si
SLU 84	fin.	-1810.28	-4971	0.58	0	650	4599	3908	1479	5249	No	1.06	Si
SLU 76	ini.	-155.82	1209	0.58	0	650	4599	3908	1479	5249	No	4.34	Si
SLU 76	fin.	-1725.52	-4701	0.58	0	650	4599	3908	1479	5249	No	1.12	Si
SLU 82	ini.	-172.61	1325	0.58	0	650	4599	3908	1479	5249	No	3.96	Si
SLU 82	fin.	-1796.3	-4945	0.58	0	650	4599	3908	1479	5249	No	1.06	Si
SLU 81	ini.	-173.23	1331	0.58	0	650	4599	3908	1479	5249	No	3.94	Si
SLU 81	fin.	-1787.42	-4932	0.58	0	650	4599	3908	1479	5249	No	1.06	Si
SLU 79	ini.	-155.29	1209	0.58	0	650	4599	3908	1479	5249	No	4.34	Si
SLU 79	fin.	-1724.72	-4704	0.58	0	650	4599	3908	1479	5249	No	1.12	Si
SLU 83	ini.	-171.66	1322	0.58	0	650	4599	3908	1479	5249	No	3.97	Si
SLU 83	fin.	-1801.41	-4958	0.58	0	650	4599	3908	1479	5249	No	1.06	Si
SLU 80	ini.	-154.67	1203	0.58	0	650	4599	3908	1479	5249	No	4.36	Si
SLU 80	fin.	-1733.59	-4717	0.58	0	650	4599	3908	1479	5249	No	1.11	Si
SLU 78	ini.	-154.19	1199	0.58	0	650	4599	3908	1479	5249	No	4.38	Si
SLU 78	fin.	-1741.8	-4732	0.58	0	650	4599	3908	1479	5249	No	1.11	Si
SLU 75	ini.	-155.76	1209	0.58	0	650	4599	3908	1479	5249	No	4.34	Si
SLU 75	fin.	-1727.82	-4707	0.58	0	650	4599	3908	1479	5249	No	1.12	Si
SLU 77	ini.	-154.81	1205	0.58	0	650	4599	3908	1479	5249	No	4.36	Si
SLU 77	fin.	-1732.93	-4719	0.58	0	650	4599	3908	1479	5249	No	1.11	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-6.99	-229	-0.0000082	0.0002807	0.0035	0.58		1327.74	1327.74		190.02	Si
SLV 5	fin.	-2203.31	-9119	-0.0075655	0.0002807	0.0035	0.58		1327.74	1327.74		0.6	No
SLV 6	ini.	16.32	-120	-0.0000194	0.0002807	0.0035	0.58		1324.07	1324.07		81.13	Si
SLV 6	fin.	-2245.13	-9247	-0.0077339	0.0002807	0.0035	0.58		1327.74	1327.74		0.59	No
SLV 9	ini.	-222.92	-1239	-0.0002865	0.0002807	0.0035	0.58		1327.74	1327.74		5.96	Si
SLV 9	fin.	-1750.46	-7427	-0.005682	0.0002807	0.0035	0.58		1327.74	1327.74		0.76	No
SLD 2	ini.	145.76	565	-0.0001814	0.0002807	0.0035	0.58		1324.07	1324.07		9.08	Si
SLD 2	fin.	-1809.63	-7156	-0.0059345	0.0002807	0.0035	0.58		1327.74	1327.74		0.73	No
SLD 5	ini.	-36.34	-331	-0.0000433	0.0002807	0.0035	0.58		1327.74	1327.74		36.53	Si
SLD 5	fin.	-1781.96	-7307	-0.0058168	0.0002807	0.0035	0.58		1327.74	1327.74		0.75	No
SLV 2	ini.	280.05	1182	-0.000372	0.0002807	0.0035	0.58		1324.07	1324.07		4.73	Si
SLV 2	fin.	-2196.94	-8667	-0.0075398	0.0002807	0.0035	0.58		1327.74	1327.74		0.6	No
SLV 1	ini.	245.43	1020	-0.00032	0.0002807	0.0035	0.58		1324.07	1324.07		5.39	Si
SLV 1	fin.	-2134.84	-8476	-0.0072882	0.0002807	0.0035	0.58		1327.74	1327.74		0.62	No
SLD 1	ini.	123.79	462	-0.0001527	0.0002807	0.0035	0.58		1324.07	1324.07		10.7	Si
SLD 1	fin.	-1770.23	-7036	-0.0057667	0.0002807	0.0035	0.58		1327.74	1327.74		0.75	No
SLD 6	ini.	-22.2	-265	-0.0000263	0.0002807	0.0035	0.58		1327.74	1327.74		59.81	Si
SLD 6	fin.	-1807.33	-7384	-0.0059247	0.0002807	0.0035	0.58		1327.74	1327.74		0.73	No
SLV 10	ini.	-199.62	-1129	-0.0002537	0.0002807	0.0035	0.58		1327.74	1327.74		6.65	Si
SLV 10	fin.	-1792.28	-7555	-0.0058608	0.0002807	0.0035	0.58		1327.74	1327.74		0.74	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	16.32	34	0.58	0	728	4599	5862	1479	5327		158.25	Si
SLV 6	fin.	-2245.13	-5344	0.58	0	728	4599	5862	1479	5327		1	No
SLV 4	ini.	285.32	-589	0.58	0	728	4599	5862	1479	5327		9.05	Si
SLV 4	fin.	-1694.1	-4734	0.58	0	728	4599	5862	1479	5327		1.13	Si
SLV 3	ini.	250.7	-456	0.58	0	728	4599	5862	1479	5327		11.67	Si
SLV 3	fin.	-1631.99	-4533	0.58	0	728	4599	5862	1479	5327		1.18	Si
SLD 2	ini.	145.76	-204	0.58	0	728	4599	5862	1479	5327		26.1	Si
SLD 2	fin.	-1809.63	-4727	0.58	0	728	4599	5862	1479	5327		1.13	Si
SLV 2	ini.	280.05	-755	0.58	0	728	4599	5862	1479	5327		7.05	Si
SLV 2	fin.	-2196.94	-5665	0.58	0	728	4599	5862	1479	5327		0.94	No
SLV 1	ini.	245.43	-623	0.58	0	728	4599	5862	1479	5327		8.55	Si
SLV 1	fin.	-2134.84	-5464	0.58	0	728	4599	5862	1479	5327		0.97	No
SLD 5	ini.	-36.34	363	0.58	0	728	4599	5862	1479	5327		14.67	Si
SLD 5	fin.	-1781.96	-4376	0.58	0	728	4599	5862	1479	5327		1.22	Si
SLD 1	ini.	123.79	-120	0.58	0	728	4599	5862	1479	5327		44.37	Si
SLD 1	fin.	-1770.23	-4600	0.58	0	728	4599	5862	1479	5327		1.16	Si
SLV 5	ini.	-6.99	123	0.58	0	728	4599	5862	1479	5327		43.38	Si
SLV 5	fin.	-2203.31	-5208	0.58	0	728	4599	5862	1479	5327		1.02	Si
SLD 6	ini.	-22.2	309	0.58	0	728	4599	5862	1479	5327		17.24	Si
SLD 6	fin.	-1807.33	-4458	0.58	0	728	4599	5862	1479	5327		1.19	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.591	SLV 6	No
V_SLV	0.94	SLV 2	No
PF_SLU	0.529	SLU 84	No
V_SLU	1.056	SLU 84	Si

Trave di accoppiamento 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.813	6.576	-1.95	0.05	2	-16.813	6.576	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	3052.85	-7918	-0.0003524	0.0001872	0.0035	2		10722.86	10722.86	No	3.51	Si
SLU 74	fin.	-576.61	-7264	-0.0000583	0.0001872	0.0035	2		10737.13	10737.13	No	18.62	Si
SLU 80	ini.	3062.31	-7881	-0.0003537	0.0001872	0.0035	2		10722.86	10722.86	No	3.5	Si
SLU 80	fin.	-564.77	-7242	-0.0000571	0.0001872	0.0035	2		10737.13	10737.13	No	19.01	Si
SLU 78	ini.	3082.99	-7939	-0.0003565	0.0001872	0.0035	2		10722.86	10722.86	No	3.48	Si
SLU 78	fin.	-566.16	-7297	-0.0000572	0.0001872	0.0035	2		10737.13	10737.13	No	18.96	Si
SLU 81	ini.	3091.16	-8040	-0.0003576	0.0001872	0.0035	2		10722.86	10722.86	No	3.47	Si
SLU 81	fin.	-573.75	-7398	-0.000058	0.0001872	0.0035	2		10737.13	10737.13	No	18.71	Si
SLU 84	ini.	3121.3	-8061	-0.0003617	0.0001872	0.0035	2		10722.86	10722.86	No	3.44	Si
SLU 84	fin.	-563.3	-7431	-0.0000569	0.0001872	0.0035	2		10737.13	10737.13	No	19.06	Si
SLU 83	ini.	3141.43	-8169	-0.0003645	0.0001872	0.0035	2		10722.86	10722.86	No	3.41	Si
SLU 83	fin.	-583.73	-7504	-0.000059	0.0001872	0.0035	2		10737.13	10737.13	No	18.39	Si
SLU 75	ini.	3032.71	-7810	-0.0003496	0.0001872	0.0035	2		10722.86	10722.86	No	3.54	Si
SLU 75	fin.	-556.18	-7191	-0.0000562	0.0001872	0.0035	2		10737.13	10737.13	No	19.31	Si
SLU 79	ini.	3082.45	-7988	-0.0003564	0.0001872	0.0035	2		10722.86	10722.86	No	3.48	Si
SLU 79	fin.	-585.2	-7314	-0.0000592	0.0001872	0.0035	2		10737.13	10737.13	No	18.35	Si
SLU 82	ini.	3071.02	-7932	-0.0003548	0.0001872	0.0035	2		10722.86	10722.86	No	3.49	Si
SLU 82	fin.	-553.32	-7325	-0.0000559	0.0001872	0.0035	2		10737.13	10737.13	No	19.41	Si
SLU 77	ini.	3103.12	-8047	-0.0003592	0.0001872	0.0035	2		10722.86	10722.86	No	3.46	Si
SLU 77	fin.	-586.59	-7370	-0.0000593	0.0001872	0.0035	2		10737.13	10737.13	No	18.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	3103.12	-6051	2	0	6250	7930	13475	5100	14180	No	2.34	Si
SLU 77	fin.	-586.59	-1543	2	0	6250	7930	13475	5100	14180	No	9.19	Si
SLU 80	ini.	3062.31	-5900	2	0	6250	7930	13475	5100	14180	No	2.4	Si
SLU 80	fin.	-564.77	-1509	2	0	6250	7930	13475	5100	14180	No	9.39	Si
SLU 82	ini.	3071.02	-5893	2	0	6250	7930	13475	5100	14180	No	2.41	Si
SLU 82	fin.	-553.32	-1442	2	0	6250	7930	13475	5100	14180	No	9.83	Si
SLU 75	ini.	3032.71	-5823	2	0	6250	7930	13475	5100	14180	No	2.44	Si
SLU 75	fin.	-556.18	-1479	2	0	6250	7930	13475	5100	14180	No	9.59	Si
SLU 78	ini.	3082.99	-5944	2	0	6250	7930	13475	5100	14180	No	2.39	Si
SLU 78	fin.	-566.16	-1508	2	0	6250	7930	13475	5100	14180	No	9.4	Si
SLU 79	ini.	3082.45	-6007	2	0	6250	7930	13475	5100	14180	No	2.36	Si
SLU 79	fin.	-585.2	-1544	2	0	6250	7930	13475	5100	14180	No	9.18	Si
SLU 74	ini.	3052.85	-5929	2	0	6250	7930	13475	5100	14180	No	2.39	Si
SLU 74	fin.	-576.61	-1513	2	0	6250	7930	13475	5100	14180	No	9.37	Si
SLU 81	ini.	3091.16	-6000	2	0	6250	7930	13475	5100	14180	No	2.36	Si
SLU 81	fin.	-573.75	-1477	2	0	6250	7930	13475	5100	14180	No	9.6	Si
SLU 84	ini.	3121.3	-6015	2	0	6250	7930	13475	5100	14180	No	2.36	Si
SLU 84	fin.	-563.3	-1472	2	0	6250	7930	13475	5100	14180	No	9.63	Si
SLU 83	ini.	3141.43	-6121	2	0	6250	7930	13475	5100	14180	No	2.32	Si
SLU 83	fin.	-583.73	-1506	2	0	6250	7930	13475	5100	14180	No	9.41	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	4600.03	-12860	-0.0005434	0.0002807	0.0035	2		15635.95	15635.95		3.4	Si
SLV 11	fin.	-2204.87	-8634	-0.000234	0.0002807	0.0035	2		15648.46	15648.46		7.1	Si
SLD 15	ini.	4059.3	-7007	-0.0004677	0.0002807	0.0035	2		15635.95	15635.95		3.85	Si
SLD 15	fin.	-1676.47	-3034	-0.0001746	0.0002807	0.0035	2		15648.46	15648.46		9.33	Si
SLV 13	ini.	4126.35	-3657	-0.0004769	0.0002807	0.0035	2		15635.95	15635.95		3.79	Si
SLV 13	fin.	-1590.42	861	-0.0001651	0.0002807	0.0035	2		15648.46	15648.46		9.84	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	4310.5	-7363	-0.0005025	0.0002807	0.0035	2		15635.95	15635.95		3.63	Si
SLD 16	fin.	-1911.49	-2804	-0.0002007	0.0002807	0.0035	2		15648.46	15648.46		8.19	Si
SLD 14	ini.	3675.46	-4749	-0.000416	0.0002807	0.0035	2		15635.95	15635.95		4.25	Si
SLD 14	fin.	-1426.01	-1062	-0.0001472	0.0002807	0.0035	2		15648.46	15648.46		10.97	Si
SLV 15	ini.	5210.26	-8116	-0.000633	0.0002807	0.0035	2		15635.95	15635.95		3	Si
SLV 15	fin.	-2418.19	-2100	-0.0002588	0.0002807	0.0035	2		15648.46	15648.46		6.47	Si
SLV 12	ini.	4866.59	-13238	-0.000582	0.0002807	0.0035	2		15635.95	15635.95		3.21	Si
SLV 12	fin.	-2454.27	-8389	-0.000263	0.0002807	0.0035	2		15648.46	15648.46		6.38	Si
SLD 12	ini.	3766.4	-10002	-0.0004281	0.0002807	0.0035	2		15635.95	15635.95		4.15	Si
SLD 12	fin.	-1643.25	-6887	-0.0001709	0.0002807	0.0035	2		15648.46	15648.46		9.52	Si
SLV 16	ini.	5606.21	-8677	-0.0006934	0.0002807	0.0035	2		15635.95	15635.95		2.79	Si
SLV 16	fin.	-2788.64	-1737	-0.000303	0.0002807	0.0035	2		15648.46	15648.46		5.61	Si
SLV 14	ini.	4522.3	-4219	-0.0005323	0.0002807	0.0035	2		15635.95	15635.95		3.46	Si
SLV 14	fin.	-1960.87	1225	-0.0002062	0.0002807	0.0035	2		15648.46	15648.46		7.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	4866.59	-15149	2	0	6643	7930	20213	5100	14573		0.96	No
SLV 12	fin.	-2454.27	-7638	2	0	6643	7930	20213	5100	14573		1.91	Si
SLD 16	ini.	4310.5	-11795	2	0	6643	7930	20213	5100	14573		1.24	Si
SLD 16	fin.	-1911.49	-8628	2	0	6643	7930	20213	5100	14573		1.69	Si
SLV 11	ini.	4600.03	-13996	2	0	6643	7930	20213	5100	14573		1.04	Si
SLV 11	fin.	-2204.87	-6551	2	0	6643	7930	20213	5100	14573		2.22	Si
SLD 15	ini.	4059.3	-10708	2	0	6643	7930	20213	5100	14573		1.36	Si
SLD 15	fin.	-1676.47	-7604	2	0	6643	7930	20213	5100	14573		1.92	Si
SLV 14	ini.	4522.3	-11710	2	0	6643	7930	20213	5100	14573		1.24	Si
SLV 14	fin.	-1960.87	-11173	2	0	6643	7930	20213	5100	14573		1.3	Si
SLV 16	ini.	5606.21	-16395	2	0	6643	7930	20213	5100	14573		0.89	No
SLV 16	fin.	-2788.64	-12920	2	0	6643	7930	20213	5100	14573		1.13	Si
SLV 15	ini.	5210.26	-14682	2	0	6643	7930	20213	5100	14573		0.99	No
SLV 15	fin.	-2418.19	-11305	2	0	6643	7930	20213	5100	14573		1.29	Si
SLD 12	ini.	3766.4	-10689	2	0	6643	7930	20213	5100	14573		1.36	Si
SLD 12	fin.	-1643.25	-5124	2	0	6643	7930	20213	5100	14573		2.84	Si
SLV 1	ini.	-1415.03	8382	2	0	6643	7930	20213	5100	14573		1.74	Si
SLV 1	fin.	1951.26	10604	2	0	6643	7930	20213	5100	14573		1.37	Si
SLV 13	ini.	4126.35	-9997	2	0	6643	7930	20213	5100	14573		1.46	Si
SLV 13	fin.	-1590.42	-9557	2	0	6643	7930	20213	5100	14573		1.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.789	SLV 16	Si
V_SLV	0.889	SLV 16	No
PF_SLU	3.413	SLU 83	Si
V_SLU	2.316	SLU 83	Si

Trave di accoppiamento 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.813	6.576	0.45	0.73	0.28	-16.813	6.576	0.45	0.73	0.28	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	49.6	828	-0.0002822	0.0001872	0.0035	0.28		296.29	296.29	No	5.97	Si
SLU 82	fin.	-338.93	-1815	-0.0046134	0.0001872	0.0035	0.28		298.02	298.02	No	0.88	No
SLU 83	ini.	52.34	858	-0.0003002	0.0001872	0.0035	0.28		296.29	296.29	No	5.66	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	-347.84	-1867	-0.0047979	0.0001872	0.0035	0.28		298.02	298.02	No	0.86	No
SLU 81	ini.	51.27	843	-0.0002931	0.0001872	0.0035	0.28		296.29	296.29	No	5.78	Si
SLU 81	fin.	-342.49	-1837	-0.0046875	0.0001872	0.0035	0.28		298.02	298.02	No	0.87	No
SLU 79	ini.	52.14	848	-0.0002989	0.0001872	0.0035	0.28		296.29	296.29	No	5.68	Si
SLU 79	fin.	-341.6	-1834	-0.004669	0.0001872	0.0035	0.28		298.02	298.02	No	0.87	No
SLU 75	ini.	49.52	823	-0.0002817	0.0001872	0.0035	0.28		296.29	296.29	No	5.98	Si
SLU 75	fin.	-334.92	-1794	-0.0045291	0.0001872	0.0035	0.28		298.02	298.02	No	0.89	No
SLU 77	ini.	52.26	852	-0.0002997	0.0001872	0.0035	0.28		296.29	296.29	No	5.67	Si
SLU 77	fin.	-343.83	-1845	-0.0047153	0.0001872	0.0035	0.28		298.02	298.02	No	0.87	No
SLU 74	ini.	51.19	838	-0.0002926	0.0001872	0.0035	0.28		296.29	296.29	No	5.79	Si
SLU 74	fin.	-338.47	-1815	-0.0046038	0.0001872	0.0035	0.28		298.02	298.02	No	0.88	No
SLU 78	ini.	50.59	837	-0.0002887	0.0001872	0.0035	0.28		296.29	296.29	No	5.86	Si
SLU 78	fin.	-340.28	-1824	-0.0046415	0.0001872	0.0035	0.28		298.02	298.02	No	0.88	No
SLU 84	ini.	50.67	843	-0.0002892	0.0001872	0.0035	0.28		296.29	296.29	No	5.85	Si
SLU 84	fin.	-344.29	-1845	-0.0047248	0.0001872	0.0035	0.28		298.02	298.02	No	0.87	No
SLU 80	ini.	50.47	833	-0.0002879	0.0001872	0.0035	0.28		296.29	296.29	No	5.87	Si
SLU 80	fin.	-338.04	-1812	-0.0045948	0.0001872	0.0035	0.28		298.02	298.02	No	0.88	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	51.19	26	0.28	0	447	2220	1887	714	2601	No	101.55	Si
SLU 74	fin.	-338.47	-1639	0.28	0	447	2220	1887	714	2601	No	1.59	Si
SLU 83	ini.	52.34	26	0.28	0	447	2220	1887	714	2601	No	100.5	Si
SLU 83	fin.	-347.84	-1683	0.28	0	447	2220	1887	714	2601	No	1.55	Si
SLU 82	ini.	49.6	33	0.28	0	447	2220	1887	714	2601	No	79.11	Si
SLU 82	fin.	-338.93	-1643	0.28	0	447	2220	1887	714	2601	No	1.58	Si
SLU 75	ini.	49.52	31	0.28	0	447	2220	1887	714	2601	No	83.67	Si
SLU 75	fin.	-334.92	-1623	0.28	0	447	2220	1887	714	2601	No	1.6	Si
SLU 80	ini.	50.47	29	0.28	0	447	2220	1887	714	2601	No	90.69	Si
SLU 80	fin.	-338.04	-1638	0.28	0	447	2220	1887	714	2601	No	1.59	Si
SLU 77	ini.	52.26	24	0.28	0	447	2220	1887	714	2601	No	107.98	Si
SLU 77	fin.	-343.83	-1664	0.28	0	447	2220	1887	714	2601	No	1.56	Si
SLU 81	ini.	51.27	27	0.28	0	447	2220	1887	714	2601	No	94.91	Si
SLU 81	fin.	-342.49	-1658	0.28	0	447	2220	1887	714	2601	No	1.57	Si
SLU 84	ini.	50.67	31	0.28	0	447	2220	1887	714	2601	No	82.96	Si
SLU 84	fin.	-344.29	-1667	0.28	0	447	2220	1887	714	2601	No	1.56	Si
SLU 78	ini.	50.59	30	0.28	0	447	2220	1887	714	2601	No	87.99	Si
SLU 78	fin.	-340.28	-1648	0.28	0	447	2220	1887	714	2601	No	1.58	Si
SLU 79	ini.	52.14	23	0.28	0	447	2220	1887	714	2601	No	112.07	Si
SLU 79	fin.	-341.6	-1653	0.28	0	447	2220	1887	714	2601	No	1.57	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 11	ini.	156.74	1571	-0.001096	0.0002807	0.0035	0.28		305.93	305.93		1.95	Si
SLD 11	fin.	-439.17	-2402	-0.0061835	0.0002807	0.0035	0.28		307.71	307.71		0.7	No
SLV 14	ini.	314.32	2400	-0.003796	0.0002807	0.0035	0.28		305.93	305.93		0.97	No
SLV 14	fin.	-439.36	-2833	-0.006187	0.0002807	0.0035	0.28		307.71	307.71		0.7	No
SLD 12	ini.	176.44	1707	-0.0012929	0.0002807	0.0035	0.28		305.93	305.93		1.73	Si
SLD 12	fin.	-458.48	-2536	-0.0065291	0.0002807	0.0035	0.28		307.71	307.71		0.67	No
SLV 11	ini.	233.6	2209	-0.0020257	0.0002807	0.0035	0.28		305.93	305.93		1.31	Si
SLV 11	fin.	-576.77	-3184	-0.0085643	0.0002807	0.0035	0.28		307.71	307.71		0.53	No
SLD 15	ini.	229.99	1953	-0.0019684	0.0002807	0.0035	0.28		305.93	305.93		1.33	Si
SLD 15	fin.	-437.93	-2596	-0.0061614	0.0002807	0.0035	0.28		307.71	307.71		0.7	No
SLV 16	ini.	389.93	3083	-0.0053264	0.0002807	0.0035	0.28		305.93	305.93		0.78	No
SLV 16	fin.	-607.04	-3725	-0.0090703	0.0002807	0.0035	0.28		307.71	307.71		0.51	No
SLV 12	ini.	266.06	2434	-0.0026374	0.0002807	0.0035	0.28		305.93	305.93		1.15	Si
SLV 12	fin.	-608.6	-3406	-0.0090964	0.0002807	0.0035	0.28		307.71	307.71		0.51	No
SLD 16	ini.	260.57	2166	-0.0025207	0.0002807	0.0035	0.28		305.93	305.93		1.17	Si
SLD 16	fin.	-467.92	-2805	-0.0066962	0.0002807	0.0035	0.28		307.71	307.71		0.66	No
SLV 8	ini.	91.02	1241	-0.0005476	0.0002807	0.0035	0.28		305.93	305.93		3.36	Si
SLV 8	fin.	-448.88	-2287	-0.0063578	0.0002807	0.0035	0.28		307.71	307.71		0.69	No
SLV 15	ini.	341.72	2749	-0.0043833	0.0002807	0.0035	0.28		305.93	305.93		0.9	No
SLV 15	fin.	-559.76	-3396	-0.0082777	0.0002807	0.0035	0.28		307.71	307.71		0.55	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	233.6	-925	0.28	0	623	2220	2830	714	2844		3.08	Si
SLV 11	fin.	-576.77	-2580	0.28	0	623	2220	2830	714	2844		1.1	Si
SLV 12	ini.	266.06	-1057	0.28	0	623	2220	2830	714	2844		2.69	Si
SLV 12	fin.	-608.6	-2710	0.28	0	623	2220	2830	714	2844		1.05	Si
SLV 14	ini.	314.32	-1118	0.28	0	623	2220	2830	714	2844		2.54	Si
SLV 14	fin.	-439.36	-1978	0.28	0	623	2220	2830	714	2844		1.44	Si
SLD 15	ini.	229.99	-823	0.28	0	623	2220	2830	714	2844		3.46	Si
SLD 15	fin.	-437.93	-1984	0.28	0	623	2220	2830	714	2844		1.43	Si
SLD 11	ini.	156.74	-566	0.28	0	623	2220	2830	714	2844		5.02	Si
SLD 11	fin.	-439.17	-1996	0.28	0	623	2220	2830	714	2844		1.42	Si
SLD 12	ini.	176.44	-647	0.28	0	623	2220	2830	714	2844		4.4	Si
SLD 12	fin.	-458.48	-2075	0.28	0	623	2220	2830	714	2844		1.37	Si
SLV 16	ini.	389.93	-1501	0.28	0	623	2220	2830	714	2844		1.89	Si
SLV 16	fin.	-607.04	-2686	0.28	0	623	2220	2830	714	2844		1.06	Si
SLV 8	ini.	91.02	-320	0.28	0	623	2220	2830	714	2844		8.88	Si
SLV 8	fin.	-448.88	-2049	0.28	0	623	2220	2830	714	2844		1.39	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	341.72	-1305	0.28	0	623	2220	2830	714	2844		2.18	Si
SLV 15	fin.	-559.76	-2493	0.28	0	623	2220	2830	714	2844		1.14	Si
SLD 16	ini.	260.57	-948	0.28	0	623	2220	2830	714	2844		3	Si
SLD 16	fin.	-467.92	-2106	0.28	0	623	2220	2830	714	2844		1.35	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.506	SLV 12	No
V_SLV	1.049	SLV 12	Si
PF_SLU	0.857	SLU 83	No
V_SLU	1.545	SLU 83	Si

Trave di accoppiamento 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.528	1.141	0.15	0.73	0.58	-7.428	1.141	0.15	0.73	0.58	0.9	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1167.16	-7314	-0.0029508	0.0002246	0.0035	0.58		980.26	980.26	No	0.84	No
SLU 81	fin.	-796.94	-5817	-0.0014545	0.0002246	0.0035	0.58		980.26	980.26	No	1.23	Si
SLU 82	ini.	-1186.86	-7473	-0.0030693	0.0002246	0.0035	0.58		980.26	980.26	No	0.83	No
SLU 82	fin.	-788.32	-5770	-0.0014312	0.0002246	0.0035	0.58		980.26	980.26	No	1.24	Si
SLU 78	ini.	-1178.13	-7327	-0.0030164	0.0002246	0.0035	0.58		980.26	980.26	No	0.83	No
SLU 78	fin.	-789.93	-5737	-0.0014355	0.0002246	0.0035	0.58		980.26	980.26	No	1.24	Si
SLU 80	ini.	-1171.42	-7297	-0.0029761	0.0002246	0.0035	0.58		980.26	980.26	No	0.84	No
SLU 80	fin.	-784.61	-5701	-0.0014212	0.0002246	0.0035	0.58		980.26	980.26	No	1.25	Si
SLU 83	ini.	-1182.49	-7392	-0.0030427	0.0002246	0.0035	0.58		980.26	980.26	No	0.83	No
SLU 83	fin.	-808.12	-5892	-0.0014852	0.0002246	0.0035	0.58		980.26	980.26	No	1.21	Si
SLU 84	ini.	-1202.18	-7551	-0.0031632	0.0002246	0.0035	0.58		980.26	980.26	No	0.82	No
SLU 84	fin.	-799.49	-5845	-0.0014615	0.0002246	0.0035	0.58		980.26	980.26	No	1.23	Si
SLU 77	ini.	-1158.43	-7168	-0.0028996	0.0002246	0.0035	0.58		980.26	980.26	No	0.85	No
SLU 77	fin.	-798.56	-5784	-0.0014589	0.0002246	0.0035	0.58		980.26	980.26	No	1.23	Si
SLU 75	ini.	-1162.8	-7249	-0.0029251	0.0002246	0.0035	0.58		980.26	980.26	No	0.84	No
SLU 75	fin.	-778.76	-5662	-0.0014056	0.0002246	0.0035	0.58		980.26	980.26	No	1.26	Si
SLU 76	ini.	-1169.22	-7325	-0.002963	0.0002246	0.0035	0.58		980.26	980.26	No	0.84	No
SLU 76	fin.	-767.69	-5595	-0.0013764	0.0002246	0.0035	0.58		980.26	980.26	No	1.28	Si
SLU 73	ini.	-1153.9	-7247	-0.0028734	0.0002246	0.0035	0.58		980.26	980.26	No	0.85	No
SLU 73	fin.	-756.52	-5520	-0.0013474	0.0002246	0.0035	0.58		980.26	980.26	No	1.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-1202.18	8441	0.58	0	1760	4599	4690	1479	6169	No	0.73	No
SLU 84	fin.	-799.49	-7337	0.58	0	1760	4599	4690	1479	6169	No	0.84	No
SLU 75	ini.	-1162.8	7989	0.58	0	1760	4599	4690	1479	6169	No	0.77	No
SLU 75	fin.	-778.76	-6976	0.58	0	1760	4599	4690	1479	6169	No	0.88	No
SLU 78	ini.	-1178.13	8035	0.58	0	1760	4599	4690	1479	6169	No	0.77	No
SLU 78	fin.	-789.93	-7032	0.58	0	1760	4599	4690	1479	6169	No	0.88	No
SLU 73	ini.	-1153.9	7993	0.58	0	1760	4599	4690	1479	6169	No	0.77	No
SLU 73	fin.	-756.52	-6833	0.58	0	1760	4599	4690	1479	6169	No	0.9	No
SLU 81	ini.	-1167.16	8289	0.58	0	1760	4599	4690	1479	6169	No	0.74	No
SLU 81	fin.	-796.94	-7367	0.58	0	1760	4599	4690	1479	6169	No	0.84	No
SLU 82	ini.	-1186.86	8394	0.58	0	1760	4599	4690	1479	6169	No	0.73	No
SLU 82	fin.	-788.32	-7281	0.58	0	1760	4599	4690	1479	6169	No	0.85	No
SLU 77	ini.	-1158.43	7930	0.58	0	1760	4599	4690	1479	6169	No	0.78	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-798.56	-7118	0.58	0	1760	4599	4690	1479	6169	No	0.87	No
SLU 76	ini.	-1169.22	8040	0.58	0	1760	4599	4690	1479	6169	No	0.77	No
SLU 76	fin.	-767.69	-6889	0.58	0	1760	4599	4690	1479	6169	No	0.9	No
SLU 80	ini.	-1171.42	8017	0.58	0	1760	4599	4690	1479	6169	No	0.77	No
SLU 80	fin.	-784.61	-7002	0.58	0	1760	4599	4690	1479	6169	No	0.88	No
SLU 83	ini.	-1182.49	8336	0.58	0	1760	4599	4690	1479	6169	No	0.74	No
SLU 83	fin.	-808.12	-7423	0.58	0	1760	4599	4690	1479	6169	No	0.83	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	178.29	1176	-0.000223	0.0003369	0.0035	0.58		1156.6	1156.6		6.49	Si
SLV 3	fin.	-2226.03	-13785	-0.0074535	0.0003369	0.0035	0.58		1160.4	1160.4		0.52	No
SLV 14	ini.	-1747.81	-10825	-0.0054972	0.0003369	0.0035	0.58		1160.4	1160.4		0.66	No
SLV 14	fin.	1144.42	6009	-0.0025616	0.0003369	0.0035	0.58		1156.6	1156.6		1.01	Si
SLV 5	ini.	-1770.22	-13372	-0.0055921	0.0003369	0.0035	0.58		1160.4	1160.4		0.66	No
SLV 5	fin.	-535.95	-4135	-0.000792	0.0003369	0.0035	0.58		1160.4	1160.4		2.17	Si
SLV 1	ini.	-528.76	-4563	-0.0007785	0.0003369	0.0035	0.58		1160.4	1160.4		2.19	Si
SLV 1	fin.	-1944.07	-12282	-0.0063171	0.0003369	0.0035	0.58		1160.4	1160.4		0.6	No
SLV 9	ini.	-2119.69	-15124	-0.00703	0.0003369	0.0035	0.58		1160.4	1160.4		0.55	No
SLV 9	fin.	387.67	1338	-0.0005331	0.0003369	0.0035	0.58		1156.6	1156.6		2.98	Si
SLV 4	ini.	124.13	755	-0.0001523	0.0003369	0.0035	0.58		1156.6	1156.6		9.32	Si
SLV 4	fin.	-2216.3	-13736	-0.007415	0.0003369	0.0035	0.58		1160.4	1160.4		0.52	No
SLV 13	ini.	-1693.65	-10403	-0.0052655	0.0003369	0.0035	0.58		1160.4	1160.4		0.69	No
SLV 13	fin.	1134.7	5959	-0.002515	0.0003369	0.0035	0.58		1156.6	1156.6		1.02	Si
SLV 10	ini.	-2156.15	-15408	-0.0071758	0.0003369	0.0035	0.58		1160.4	1160.4		0.54	No
SLV 10	fin.	394.22	1371	-0.0005439	0.0003369	0.0035	0.58		1156.6	1156.6		2.93	Si
SLV 6	ini.	-1806.68	-13656	-0.0057453	0.0003369	0.0035	0.58		1160.4	1160.4		0.64	No
SLV 6	fin.	-529.41	-4102	-0.0007797	0.0003369	0.0035	0.58		1160.4	1160.4		2.19	Si
SLV 2	ini.	-582.92	-4985	-0.0008823	0.0003369	0.0035	0.58		1160.4	1160.4		1.99	Si
SLV 2	fin.	-1934.34	-12232	-0.006277	0.0003369	0.0035	0.58		1160.4	1160.4		0.6	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-1598.61	10036	0.58	0	1925	4599	7035	1479	6525		0.65	No
SLD 10	fin.	32.89	-643	0.58	0	1925	4599	7035	1479	6525		10.14	Si
SLV 4	ini.	124.13	-2256	0.58	0	1925	4599	7035	1479	6525		2.89	Si
SLV 4	fin.	-2216.3	-11805	0.58	0	1925	4599	7035	1479	6525		0.55	No
SLV 8	ini.	550.17	-2582	0.58	0	1925	4599	7035	1479	6525		2.53	Si
SLV 8	fin.	-1469.28	-11252	0.58	0	1925	4599	7035	1479	6525		0.58	No
SLV 14	ini.	-1747.81	13011	0.58	0	1925	4599	7035	1479	6525		0.5	No
SLV 14	fin.	1144.42	2657	0.58	0	1925	4599	7035	1479	6525		2.46	Si
SLV 10	ini.	-2156.15	13251	0.58	0	1925	4599	7035	1479	6525		0.49	No
SLV 10	fin.	394.22	2039	0.58	0	1925	4599	7035	1479	6525		3.2	Si
SLV 3	ini.	178.29	-2519	0.58	0	1925	4599	7035	1479	6525		2.59	Si
SLV 3	fin.	-2226.03	-12003	0.58	0	1925	4599	7035	1479	6525		0.54	No
SLV 13	ini.	-1693.65	12748	0.58	0	1925	4599	7035	1479	6525		0.51	No
SLV 13	fin.	1134.7	2459	0.58	0	1925	4599	7035	1479	6525		2.65	Si
SLD 14	ini.	-1382.06	10117	0.58	0	1925	4599	7035	1479	6525		0.64	No
SLD 14	fin.	530.42	-65	0.58	0	1925	4599	7035	1479	6525		100.39	Si
SLV 7	ini.	586.63	-2758	0.58	0	1925	4599	7035	1479	6525		2.37	Si
SLV 7	fin.	-1475.83	-11385	0.58	0	1925	4599	7035	1479	6525		0.57	No
SLV 9	ini.	-2119.69	13074	0.58	0	1925	4599	7035	1479	6525		0.5	No
SLV 9	fin.	387.67	1906	0.58	0	1925	4599	7035	1479	6525		3.42	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.521	SLV 3	No
V_SLV	0.492	SLV 10	No
PF_SLU	0.815	SLU 84	No
V_SLU	0.731	SLU 84	No

Trave di accoppiamento 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.888	6.576	-1.95	0.05	2	-11.888	6.576	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	1798.12	-9802	-0.0001928	0.0001872	0.0035	2		10722.86	10722.86	No	5.96	Si
SLU 78	fin.	1007.47	-9538	-0.0001039	0.0001872	0.0035	2		10722.86	10722.86	No	10.64	Si
SLU 75	ini.	1777.89	-9643	-0.0001904	0.0001872	0.0035	2		10722.86	10722.86	No	6.03	Si
SLU 75	fin.	991.35	-9380	-0.0001021	0.0001872	0.0035	2		10722.86	10722.86	No	10.82	Si
SLU 79	ini.	1778.49	-9860	-0.0001905	0.0001872	0.0035	2		10722.86	10722.86	No	6.03	Si
SLU 79	fin.	994.15	-9603	-0.0001024	0.0001872	0.0035	2		10722.86	10722.86	No	10.79	Si
SLU 77	ini.	1788.73	-9932	-0.0001917	0.0001872	0.0035	2		10722.86	10722.86	No	5.99	Si
SLU 77	fin.	1006.66	-9677	-0.0001038	0.0001872	0.0035	2		10722.86	10722.86	No	10.65	Si
SLU 80	ini.	1787.88	-9730	-0.0001916	0.0001872	0.0035	2		10722.86	10722.86	No	6	Si
SLU 80	fin.	994.96	-9464	-0.0001025	0.0001872	0.0035	2		10722.86	10722.86	No	10.78	Si
SLU 76	ini.	1773.92	-9484	-0.00019	0.0001872	0.0035	2		10722.86	10722.86	No	6.04	Si
SLU 76	fin.	979.38	-9213	-0.0001008	0.0001872	0.0035	2		10722.86	10722.86	No	10.95	Si
SLU 83	ini.	1828.18	-10033	-0.0001964	0.0001872	0.0035	2		10722.86	10722.86	No	5.87	Si
SLU 83	fin.	1036.17	-9775	-0.000107	0.0001872	0.0035	2		10722.86	10722.86	No	10.35	Si
SLU 82	ini.	1817.34	-9744	-0.0001951	0.0001872	0.0035	2		10722.86	10722.86	No	5.9	Si
SLU 82	fin.	1020.86	-9478	-0.0001053	0.0001872	0.0035	2		10722.86	10722.86	No	10.5	Si
SLU 84	ini.	1837.57	-9903	-0.0001975	0.0001872	0.0035	2		10722.86	10722.86	No	5.84	Si
SLU 84	fin.	1036.97	-9636	-0.0001071	0.0001872	0.0035	2		10722.86	10722.86	No	10.34	Si
SLU 81	ini.	1807.96	-9874	-0.000194	0.0001872	0.0035	2		10722.86	10722.86	No	5.93	Si
SLU 81	fin.	1020.05	-9617	-0.0001052	0.0001872	0.0035	2		10722.86	10722.86	No	10.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	1787.88	-2704	2	0	6250	7930	13475	5100	14180	No	5.24	Si
SLU 80	fin.	994.96	363	2	0	6250	7930	13475	5100	14180	No	39.06	Si
SLU 82	ini.	1817.34	-2738	2	0	6250	7930	13475	5100	14180	No	5.18	Si
SLU 82	fin.	1020.86	385	2	0	6250	7930	13475	5100	14180	No	36.84	Si
SLU 83	ini.	1828.18	-2795	2	0	6250	7930	13475	5100	14180	No	5.07	Si
SLU 83	fin.	1036.17	458	2	0	6250	7930	13475	5100	14180	No	30.99	Si
SLU 78	ini.	1798.12	-2719	2	0	6250	7930	13475	5100	14180	No	5.21	Si
SLU 78	fin.	1007.47	385	2	0	6250	7930	13475	5100	14180	No	36.86	Si
SLU 81	ini.	1807.96	-2750	2	0	6250	7930	13475	5100	14180	No	5.16	Si
SLU 81	fin.	1020.05	427	2	0	6250	7930	13475	5100	14180	No	33.18	Si
SLU 74	ini.	1768.5	-2686	2	0	6250	7930	13475	5100	14180	No	5.28	Si
SLU 74	fin.	990.55	397	2	0	6250	7930	13475	5100	14180	No	35.72	Si
SLU 79	ini.	1778.49	-2716	2	0	6250	7930	13475	5100	14180	No	5.22	Si
SLU 79	fin.	994.15	405	2	0	6250	7930	13475	5100	14180	No	34.97	Si
SLU 84	ini.	1837.57	-2783	2	0	6250	7930	13475	5100	14180	No	5.09	Si
SLU 84	fin.	1036.97	415	2	0	6250	7930	13475	5100	14180	No	34.15	Si
SLU 75	ini.	1777.89	-2674	2	0	6250	7930	13475	5100	14180	No	5.3	Si
SLU 75	fin.	991.35	354	2	0	6250	7930	13475	5100	14180	No	40	Si
SLU 77	ini.	1788.73	-2731	2	0	6250	7930	13475	5100	14180	No	5.19	Si
SLU 77	fin.	1006.66	427	2	0	6250	7930	13475	5100	14180	No	33.19	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-2339.78	-6624	-0.0002496	0.0002807	0.0035	2		15648.46	15648.46		6.69	Si
SLV 3	fin.	4380.94	-11026	-0.0005123	0.0002807	0.0035	2		15635.95	15635.95		3.57	Si
SLV 13	ini.	4413.65	-6421	-0.0005169	0.0002807	0.0035	2		15635.95	15635.95		3.54	Si
SLV 13	fin.	-2708.23	-2267	-0.0002933	0.0002807	0.0035	2		15648.46	15648.46		5.78	Si
SLV 16	ini.	4519.77	-12095	-0.000532	0.0002807	0.0035	2		15635.95	15635.95		3.46	Si
SLV 16	fin.	-3019.13	-7647	-0.0003314	0.0002807	0.0035	2		15648.46	15648.46		5.18	Si
SLV 4	ini.	-1990.96	-7010	-0.0002096	0.0002807	0.0035	2		15648.46	15648.46		7.86	Si
SLV 4	fin.	3984.33	-10787	-0.0004575	0.0002807	0.0035	2		15635.95	15635.95		3.92	Si
SLV 15	ini.	4170.95	-11708	-0.0004831	0.0002807	0.0035	2		15635.95	15635.95		3.75	Si
SLV 15	fin.	-2622.51	-7886	-0.000283	0.0002807	0.0035	2		15648.46	15648.46		5.97	Si
SLV 1	ini.	-2097.08	-1336	-0.0002217	0.0002807	0.0035	2		15648.46	15648.46		7.46	Si
SLV 1	fin.	4295.22	-5406	-0.0005003	0.0002807	0.0035	2		15635.95	15635.95		3.64	Si
SLV 2	ini.	-1748.26	-1722	-0.0001825	0.0002807	0.0035	2		15648.46	15648.46		8.95	Si
SLV 2	fin.	3898.61	-5168	-0.0004458	0.0002807	0.0035	2		15635.95	15635.95		4.01	Si
SLD 16	ini.	3333.95	-10011	-0.0003715	0.0002807	0.0035	2		15635.95	15635.95		4.69	Si
SLD 16	fin.	-1703.19	-7092	-0.0001775	0.0002807	0.0035	2		15648.46	15648.46		9.19	Si
SLV 14	ini.	4762.47	-6807	-0.0005668	0.0002807	0.0035	2		15635.95	15635.95		3.28	Si
SLV 14	fin.	-3104.84	-2028	-0.0003421	0.0002807	0.0035	2		15648.46	15648.46		5.04	Si
SLD 14	ini.	3476.38	-6911	-0.0003899	0.0002807	0.0035	2		15635.95	15635.95		4.5	Si
SLD 14	fin.	-1754.51	-3797	-0.0001832	0.0002807	0.0035	2		15648.46	15648.46		8.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 16	ini.	3333.95	-9241	2	0	6643	7930	20213	5100	14573		1.58	Si
SLD 16	fin.	-1703.19	-6644	2	0	6643	7930	20213	5100	14573		2.19	Si
SLV 3	ini.	-2339.78	9327	2	0	6643	7930	20213	5100	14573		1.56	Si
SLV 3	fin.	4380.94	12306	2	0	6643	7930	20213	5100	14573		1.18	Si
SLD 14	ini.	3476.38	-8914	2	0	6643	7930	20213	5100	14573		1.63	Si
SLD 14	fin.	-1754.51	-7625	2	0	6643	7930	20213	5100	14573		1.91	Si
SLV 13	ini.	4413.65	-11544	2	0	6643	7930	20213	5100	14573		1.26	Si
SLV 13	fin.	-2708.23	-10713	2	0	6643	7930	20213	5100	14573		1.36	Si
SLV 1	ini.	-2097.08	9889	2	0	6643	7930	20213	5100	14573		1.47	Si
SLV 1	fin.	4295.22	10635	2	0	6643	7930	20213	5100	14573		1.37	Si
SLV 16	ini.	4519.77	-13469	2	0	6643	7930	20213	5100	14573		1.08	Si
SLV 16	fin.	-3019.13	-10391	2	0	6643	7930	20213	5100	14573		1.4	Si
SLV 15	ini.	4170.95	-12106	2	0	6643	7930	20213	5100	14573		1.2	Si
SLV 15	fin.	-2622.51	-9041	2	0	6643	7930	20213	5100	14573		1.61	Si
SLV 2	ini.	-1748.26	8525	2	0	6643	7930	20213	5100	14573		1.71	Si
SLV 2	fin.	3898.61	9285	2	0	6643	7930	20213	5100	14573		1.57	Si
SLV 4	ini.	-1990.96	7964	2	0	6643	7930	20213	5100	14573		1.83	Si
SLV 4	fin.	3984.33	10956	2	0	6643	7930	20213	5100	14573		1.33	Si
SLV 14	ini.	4762.47	-12908	2	0	6643	7930	20213	5100	14573		1.13	Si
SLV 14	fin.	-3104.84	-12062	2	0	6643	7930	20213	5100	14573		1.21	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.283	SLV 14	Si
V_SLV	1.082	SLV 16	Si
PF_SLU	5.835	SLU 84	Si
V_SLU	5.073	SLU 83	Si

Trave di accoppiamento 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.888	6.576	0.45	0.73	0.28	-11.888	6.576	0.45	0.73	0.28	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-205.15	-384	-0.0017292	0.0001872	0.0035	0.28		298.02	298.02	No	1.45	Si
SLU 78	fin.	-311.43	-948	-0.0040151	0.0001872	0.0035	0.28		298.02	298.02	No	0.96	No
SLU 74	ini.	-204.43	-384	-0.0017194	0.0001872	0.0035	0.28		298.02	298.02	No	1.46	Si
SLU 74	fin.	-309.47	-940	-0.0039703	0.0001872	0.0035	0.28		298.02	298.02	No	0.96	No
SLU 79	ini.	-205.21	-386	-0.0017301	0.0001872	0.0035	0.28		298.02	298.02	No	1.45	Si
SLU 79	fin.	-311.09	-947	-0.0040073	0.0001872	0.0035	0.28		298.02	298.02	No	0.96	No
SLU 77	ini.	-206.4	-391	-0.0017466	0.0001872	0.0035	0.28		298.02	298.02	No	1.44	Si
SLU 77	fin.	-312.55	-952	-0.0040406	0.0001872	0.0035	0.28		298.02	298.02	No	0.95	No
SLU 82	ini.	-213.04	-390	-0.001842	0.0001872	0.0035	0.28		298.02	298.02	No	1.4	Si
SLU 82	fin.	-319.43	-955	-0.0041948	0.0001872	0.0035	0.28		298.02	298.02	No	0.93	No
SLU 81	ini.	-214.29	-396	-0.0018606	0.0001872	0.0035	0.28		298.02	298.02	No	1.39	Si
SLU 81	fin.	-320.55	-959	-0.0042195	0.0001872	0.0035	0.28		298.02	298.02	No	0.93	No
SLU 75	ini.	-203.18	-377	-0.0017023	0.0001872	0.0035	0.28		298.02	298.02	No	1.47	Si
SLU 75	fin.	-308.35	-936	-0.0039445	0.0001872	0.0035	0.28		298.02	298.02	No	0.97	No
SLU 84	ini.	-215.01	-397	-0.0018715	0.0001872	0.0035	0.28		298.02	298.02	No	1.39	Si
SLU 84	fin.	-322.51	-967	-0.0042624	0.0001872	0.0035	0.28		298.02	298.02	No	0.92	No
SLU 83	ini.	-216.26	-403	-0.0018904	0.0001872	0.0035	0.28		298.02	298.02	No	1.38	Si
SLU 83	fin.	-323.63	-971	-0.0042869	0.0001872	0.0035	0.28		298.02	298.02	No	0.92	No
SLU 80	ini.	-203.95	-380	-0.0017129	0.0001872	0.0035	0.28		298.02	298.02	No	1.46	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-309.97	-943	-0.0039817	0.0001872	0.0035	0.28		298.02	298.02	No	0.96	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-205.21	1268	0.28	0	447	2220	1887	714	2601	No	2.05	Si
SLU 79	fin.	-311.09	-1753	0.28	0	447	2220	1887	714	2601	No	1.48	Si
SLU 78	ini.	-205.15	1269	0.28	0	447	2220	1887	714	2601	No	2.05	Si
SLU 78	fin.	-311.43	-1754	0.28	0	447	2220	1887	714	2601	No	1.48	Si
SLU 75	ini.	-203.18	1258	0.28	0	447	2220	1887	714	2601	No	2.07	Si
SLU 75	fin.	-308.35	-1738	0.28	0	447	2220	1887	714	2601	No	1.5	Si
SLU 77	ini.	-206.4	1275	0.28	0	447	2220	1887	714	2601	No	2.04	Si
SLU 77	fin.	-312.55	-1761	0.28	0	447	2220	1887	714	2601	No	1.48	Si
SLU 84	ini.	-215.01	1328	0.28	0	447	2220	1887	714	2601	No	1.96	Si
SLU 84	fin.	-322.51	-1820	0.28	0	447	2220	1887	714	2601	No	1.43	Si
SLU 82	ini.	-213.04	1317	0.28	0	447	2220	1887	714	2601	No	1.97	Si
SLU 82	fin.	-319.43	-1803	0.28	0	447	2220	1887	714	2601	No	1.44	Si
SLU 80	ini.	-203.95	1262	0.28	0	447	2220	1887	714	2601	No	2.06	Si
SLU 80	fin.	-309.97	-1746	0.28	0	447	2220	1887	714	2601	No	1.49	Si
SLU 74	ini.	-204.43	1264	0.28	0	447	2220	1887	714	2601	No	2.06	Si
SLU 74	fin.	-309.47	-1744	0.28	0	447	2220	1887	714	2601	No	1.49	Si
SLU 83	ini.	-216.26	1334	0.28	0	447	2220	1887	714	2601	No	1.95	Si
SLU 83	fin.	-323.63	-1826	0.28	0	447	2220	1887	714	2601	No	1.42	Si
SLU 81	ini.	-214.29	1323	0.28	0	447	2220	1887	714	2601	No	1.97	Si
SLU 81	fin.	-320.55	-1810	0.28	0	447	2220	1887	714	2601	No	1.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	168.89	1980	-0.0012152	0.0002807	0.0035	0.28		305.93	305.93		1.81	Si
SLV 16	fin.	-574.62	-2940	-0.0085279	0.0002807	0.0035	0.28		307.71	307.71		0.54	No
SLV 3	ini.	-490.78	-2682	-0.0070972	0.0002807	0.0035	0.28		307.71	307.71		0.63	No
SLV 3	fin.	88.29	1515	-0.0005278	0.0002807	0.0035	0.28		305.93	305.93		3.47	Si
SLV 15	ini.	134.15	1731	-0.000891	0.0002807	0.0035	0.28		305.93	305.93		2.28	Si
SLV 15	fin.	-539.97	-2702	-0.0079426	0.0002807	0.0035	0.28		307.71	307.71		0.57	No
SLD 15	ini.	39.38	1027	-0.0002112	0.0002807	0.0035	0.28		305.93	305.93		7.77	Si
SLD 15	fin.	-419.34	-1958	-0.0058254	0.0002807	0.0035	0.28		307.71	307.71		0.73	No
SLV 13	ini.	190.32	1942	-0.0014443	0.0002807	0.0035	0.28		305.93	305.93		1.61	Si
SLV 13	fin.	-468.99	-2571	-0.0067153	0.0002807	0.0035	0.28		307.71	307.71		0.66	No
SLV 14	ini.	225.06	2191	-0.0018932	0.0002807	0.0035	0.28		305.93	305.93		1.36	Si
SLV 14	fin.	-503.63	-2808	-0.0073198	0.0002807	0.0035	0.28		307.71	307.71		0.61	No
SLV 4	ini.	-456.04	-2433	-0.0064856	0.0002807	0.0035	0.28		307.71	307.71		0.67	No
SLV 4	fin.	53.65	1277	-0.000296	0.0002807	0.0035	0.28		305.93	305.93		5.7	Si
SLV 12	ini.	-121.04	148	-0.0007746	0.0002807	0.0035	0.28		307.71	307.71		2.54	Si
SLV 12	fin.	-431.88	-1579	-0.0060515	0.0002807	0.0035	0.28		307.71	307.71		0.71	No
SLV 1	ini.	-434.61	-2471	-0.0061015	0.0002807	0.0035	0.28		307.71	307.71		0.71	No
SLV 1	fin.	159.28	1647	-0.0011203	0.0002807	0.0035	0.28		305.93	305.93		1.92	Si
SLD 16	ini.	61.42	1185	-0.0003448	0.0002807	0.0035	0.28		305.93	305.93		4.98	Si
SLD 16	fin.	-441.31	-2109	-0.0062223	0.0002807	0.0035	0.28		307.71	307.71		0.7	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	134.15	-197	0.28	0	623	2220	2830	714	2844		14.43	Si
SLV 15	fin.	-539.97	-2599	0.28	0	623	2220	2830	714	2844		1.09	Si
SLV 11	ini.	-144.43	1078	0.28	0	623	2220	2830	714	2844		2.64	Si
SLV 11	fin.	-408.56	-2116	0.28	0	623	2220	2830	714	2844		1.34	Si
SLV 16	ini.	168.89	-336	0.28	0	623	2220	2830	714	2844		8.45	Si
SLV 16	fin.	-574.62	-2742	0.28	0	623	2220	2830	714	2844		1.04	Si
SLV 3	ini.	-490.78	2345	0.28	0	623	2220	2830	714	2844		1.21	Si
SLV 3	fin.	88.29	43	0.28	0	623	2220	2830	714	2844		66.38	Si
SLV 12	ini.	-121.04	984	0.28	0	623	2220	2830	714	2844		2.89	Si
SLV 12	fin.	-431.88	-2212	0.28	0	623	2220	2830	714	2844		1.29	Si
SLV 4	ini.	-456.04	2206	0.28	0	623	2220	2830	714	2844		1.29	Si
SLV 4	fin.	53.65	-100	0.28	0	623	2220	2830	714	2844		28.52	Si
SLV 13	ini.	190.32	-547	0.28	0	623	2220	2830	714	2844		5.2	Si
SLV 13	fin.	-468.99	-2240	0.28	0	623	2220	2830	714	2844		1.27	Si
SLD 15	ini.	39.38	167	0.28	0	623	2220	2830	714	2844		17.04	Si
SLD 15	fin.	-419.34	-2079	0.28	0	623	2220	2830	714	2844		1.37	Si
SLV 14	ini.	225.06	-687	0.28	0	623	2220	2830	714	2844		4.14	Si
SLV 14	fin.	-503.63	-2383	0.28	0	623	2220	2830	714	2844		1.19	Si
SLD 16	ini.	61.42	78	0.28	0	623	2220	2830	714	2844		36.23	Si
SLD 16	fin.	-441.31	-2170	0.28	0	623	2220	2830	714	2844		1.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.536	SLV 16	No
V_SLV	1.037	SLV 16	Si
PF_SLU	0.921	SLU 83	No
V_SLU	1.424	SLU 83	Si

Trave di accoppiamento 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.576	-1.95	0.05	2	-6.963	6.576	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-333.3	-6928	-0.0000334	0.0001872	0.0035	2		10737.13	10737.13	No	32.21	Si
SLU 79	fin.	2333.28	-6335	-0.0002581	0.0001872	0.0035	2		10722.86	10722.86	No	4.6	Si
SLU 84	ini.	-294.07	-7036	-0.0000294	0.0001872	0.0035	2		10737.13	10737.13	No	36.51	Si
SLU 84	fin.	2353.81	-6400	-0.0002607	0.0001872	0.0035	2		10722.86	10722.86	No	4.56	Si
SLU 77	ini.	-327.31	-6985	-0.0000328	0.0001872	0.0035	2		10737.13	10737.13	No	32.8	Si
SLU 77	fin.	2343.78	-6380	-0.0002594	0.0001872	0.0035	2		10722.86	10722.86	No	4.58	Si
SLU 82	ini.	-286.1	-6941	-0.0000286	0.0001872	0.0035	2		10737.13	10737.13	No	37.53	Si
SLU 82	fin.	2318.61	-6311	-0.0002562	0.0001872	0.0035	2		10722.86	10722.86	No	4.62	Si
SLU 75	ini.	-303.42	-6813	-0.0000303	0.0001872	0.0035	2		10737.13	10737.13	No	35.39	Si
SLU 75	fin.	2301.03	-6219	-0.000254	0.0001872	0.0035	2		10722.86	10722.86	No	4.66	Si
SLU 81	ini.	-302.03	-7018	-0.0000302	0.0001872	0.0035	2		10737.13	10737.13	No	35.55	Si
SLU 81	fin.	2326.15	-6383	-0.0002572	0.0001872	0.0035	2		10722.86	10722.86	No	4.61	Si
SLU 83	ini.	-310	-7113	-0.000031	0.0001872	0.0035	2		10737.13	10737.13	No	34.64	Si
SLU 83	fin.	2361.35	-6472	-0.0002616	0.0001872	0.0035	2		10722.86	10722.86	No	4.54	Si
SLU 80	ini.	-317.37	-6852	-0.0000318	0.0001872	0.0035	2		10737.13	10737.13	No	33.83	Si
SLU 80	fin.	2325.74	-6263	-0.0002571	0.0001872	0.0035	2		10722.86	10722.86	No	4.61	Si
SLU 74	ini.	-319.34	-6890	-0.000032	0.0001872	0.0035	2		10737.13	10737.13	No	33.62	Si
SLU 74	fin.	2308.57	-6291	-0.000255	0.0001872	0.0035	2		10722.86	10722.86	No	4.64	Si
SLU 78	ini.	-311.39	-6908	-0.0000311	0.0001872	0.0035	2		10737.13	10737.13	No	34.48	Si
SLU 78	fin.	2336.23	-6308	-0.0002584	0.0001872	0.0035	2		10722.86	10722.86	No	4.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-311.39	90	2	0	6250	7930	13475	5100	14180	No	156.71	Si
SLU 78	fin.	2336.23	3047	2	0	6250	7930	13475	5100	14180	No	4.65	Si
SLU 74	ini.	-319.34	82	2	0	6250	7930	13475	5100	14180	No	173.27	Si
SLU 74	fin.	2308.57	3022	2	0	6250	7930	13475	5100	14180	No	4.69	Si
SLU 79	ini.	-333.3	104	2	0	6250	7930	13475	5100	14180	No	136.42	Si
SLU 79	fin.	2333.28	3079	2	0	6250	7930	13475	5100	14180	No	4.6	Si
SLU 83	ini.	-310	-1	2	0	6250	7930	13475	5100	14180	No	11624.79	Si
SLU 83	fin.	2361.35	3084	2	0	6250	7930	13475	5100	14180	No	4.6	Si
SLU 81	ini.	-302.03	3	2	0	6250	7930	13475	5100	14180	No	4109.83	Si
SLU 81	fin.	2326.15	3020	2	0	6250	7930	13475	5100	14180	No	4.7	Si
SLU 82	ini.	-286.1	17	2	0	6250	7930	13475	5100	14180	No	845.65	Si
SLU 82	fin.	2318.61	2980	2	0	6250	7930	13475	5100	14180	No	4.76	Si
SLU 77	ini.	-327.31	77	2	0	6250	7930	13475	5100	14180	No	183.75	Si
SLU 77	fin.	2343.78	3086	2	0	6250	7930	13475	5100	14180	No	4.59	Si
SLU 84	ini.	-294.07	12	2	0	6250	7930	13475	5100	14180	No	1172.09	Si
SLU 84	fin.	2353.81	3045	2	0	6250	7930	13475	5100	14180	No	4.66	Si
SLU 80	ini.	-317.37	117	2	0	6250	7930	13475	5100	14180	No	120.93	Si
SLU 80	fin.	2325.74	3040	2	0	6250	7930	13475	5100	14180	No	4.66	Si
SLU 75	ini.	-303.42	95	2	0	6250	7930	13475	5100	14180	No	149.02	Si
SLU 75	fin.	2301.03	2983	2	0	6250	7930	13475	5100	14180	No	4.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-2484.08	-1850	-0.0002666	0.0002807	0.0035	2		15648.46	15648.46		6.3	Si
SLV 4	fin.	4322.93	-4479	-0.0005042	0.0002807	0.0035	2		15635.95	15635.95		3.62	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-1543.04	-586	-0.0001599	0.0002807	0.0035	2		15648.46	15648.46		10.14	Si
SLD 1	fin.	3357	-2595	-0.0003744	0.0002807	0.0035	2		15635.95	15635.95		4.66	Si
SLD 2	ini.	-1325.25	-935	-0.0001364	0.0002807	0.0035	2		15648.46	15648.46		11.81	Si
SLD 2	fin.	3138.17	-2617	-0.0003466	0.0002807	0.0035	2		15635.95	15635.95		4.98	Si
SLV 2	ini.	-1894.48	1303	-0.0001988	0.0002807	0.0035	2		15648.46	15648.46		8.26	Si
SLV 2	fin.	3975.82	-1534	-0.0004563	0.0002807	0.0035	2		15635.95	15635.95		3.93	Si
SLV 7	ini.	-1993.57	-8344	-0.0002099	0.0002807	0.0035	2		15648.46	15648.46		7.85	Si
SLV 7	fin.	3126.65	-8818	-0.0003451	0.0002807	0.0035	2		15635.95	15635.95		5	Si
SLV 3	ini.	-2827.38	-1300	-0.0003077	0.0002807	0.0035	2		15648.46	15648.46		5.53	Si
SLV 3	fin.	4667.86	-4444	-0.0005532	0.0002807	0.0035	2		15635.95	15635.95		3.35	Si
SLV 8	ini.	-1762.45	-8714	-0.0001841	0.0002807	0.0035	2		15648.46	15648.46		8.88	Si
SLV 8	fin.	2894.43	-8842	-0.0003162	0.0002807	0.0035	2		15635.95	15635.95		5.4	Si
SLV 1	ini.	-2237.78	1853	-0.0002378	0.0002807	0.0035	2		15648.46	15648.46		6.99	Si
SLV 1	fin.	4320.75	-1499	-0.0005039	0.0002807	0.0035	2		15635.95	15635.95		3.62	Si
SLD 3	ini.	-1891.57	-2433	-0.0001985	0.0002807	0.0035	2		15648.46	15648.46		8.27	Si
SLD 3	fin.	3559.52	-4320	-0.0004007	0.0002807	0.0035	2		15635.95	15635.95		4.39	Si
SLD 4	ini.	-1673.77	-2782	-0.0001743	0.0002807	0.0035	2		15648.46	15648.46		9.35	Si
SLD 4	fin.	3340.69	-4343	-0.0003723	0.0002807	0.0035	2		15635.95	15635.95		4.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	1360.01	-7874	2	0	6643	7930	20213	5100	14573		1.85	Si
SLV 15	fin.	-731.6	-4070	2	0	6643	7930	20213	5100	14573		3.58	Si
SLV 7	ini.	-1993.57	1866	2	0	6643	7930	20213	5100	14573		7.81	Si
SLV 7	fin.	3126.65	7123	2	0	6643	7930	20213	5100	14573		2.05	Si
SLV 14	ini.	2292.91	-8244	2	0	6643	7930	20213	5100	14573		1.77	Si
SLV 14	fin.	-1423.64	-6652	2	0	6643	7930	20213	5100	14573		2.19	Si
SLV 16	ini.	1703.31	-9020	2	0	6643	7930	20213	5100	14573		1.62	Si
SLV 16	fin.	-1076.53	-5245	2	0	6643	7930	20213	5100	14573		2.78	Si
SLD 3	ini.	-1891.57	5740	2	0	6643	7930	20213	5100	14573		2.54	Si
SLD 3	fin.	3559.52	7712	2	0	6643	7930	20213	5100	14573		1.89	Si
SLV 1	ini.	-2237.78	9568	2	0	6643	7930	20213	5100	14573		1.52	Si
SLV 1	fin.	4320.75	9515	2	0	6643	7930	20213	5100	14573		1.53	Si
SLV 3	ini.	-2827.38	8792	2	0	6643	7930	20213	5100	14573		1.66	Si
SLV 3	fin.	4667.86	10922	2	0	6643	7930	20213	5100	14573		1.33	Si
SLV 13	ini.	1949.61	-7098	2	0	6643	7930	20213	5100	14573		2.05	Si
SLV 13	fin.	-1078.71	-5477	2	0	6643	7930	20213	5100	14573		2.66	Si
SLV 2	ini.	-1894.48	8422	2	0	6643	7930	20213	5100	14573		1.73	Si
SLV 2	fin.	3975.82	8340	2	0	6643	7930	20213	5100	14573		1.75	Si
SLV 4	ini.	-2484.08	7646	2	0	6643	7930	20213	5100	14573		1.91	Si
SLV 4	fin.	4322.93	9747	2	0	6643	7930	20213	5100	14573		1.5	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.35	SLV 3	Si
V_SLV	1.334	SLV 3	Si
PF_SLU	4.541	SLU 83	Si
V_SLU	4.595	SLU 77	Si

Trave di accoppiamento 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.576	0.45	0.73	0.28	-6.963	6.576	0.45	0.73	0.28	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-342.55	-1687	-0.0046887	0.0001872	0.0035	0.28		298.02	298.02	No	0.87	No
SLU 75	fin.	12.32	890	-0.0000635	0.0001872	0.0035	0.28		296.29	296.29	No	24.06	Si
SLU 82	ini.	-346	-1702	-0.00476	0.0001872	0.0035	0.28		298.02	298.02	No	0.86	No
SLU 82	fin.	10.74	891	-0.0000552	0.0001872	0.0035	0.28		296.29	296.29	No	27.58	Si
SLU 77	ini.	-350.83	-1731	-0.0048589	0.0001872	0.0035	0.28		298.02	298.02	No	0.85	No
SLU 77	fin.	13.22	915	-0.0000683	0.0001872	0.0035	0.28		296.29	296.29	No	22.41	Si
SLU 79	ini.	-348.82	-1722	-0.0048179	0.0001872	0.0035	0.28		298.02	298.02	No	0.85	No
SLU 79	fin.	13.82	913	-0.0000715	0.0001872	0.0035	0.28		296.29	296.29	No	21.44	Si
SLU 78	ini.	-347.87	-1714	-0.0047985	0.0001872	0.0035	0.28		298.02	298.02	No	0.86	No
SLU 78	fin.	12.79	905	-0.0000661	0.0001872	0.0035	0.28		296.29	296.29	No	23.16	Si
SLU 83	ini.	-354.28	-1746	-0.004929	0.0001872	0.0035	0.28		298.02	298.02	No	0.84	No
SLU 83	fin.	11.65	917	-0.00006	0.0001872	0.0035	0.28		296.29	296.29	No	25.44	Si
SLU 84	ini.	-351.32	-1730	-0.004869	0.0001872	0.0035	0.28		298.02	298.02	No	0.85	No
SLU 84	fin.	11.22	907	-0.0000577	0.0001872	0.0035	0.28		296.29	296.29	No	26.41	Si
SLU 81	ini.	-348.96	-1719	-0.0048207	0.0001872	0.0035	0.28		298.02	298.02	No	0.85	No
SLU 81	fin.	11.17	901	-0.0000575	0.0001872	0.0035	0.28		296.29	296.29	No	26.53	Si
SLU 80	ini.	-345.86	-1706	-0.0047572	0.0001872	0.0035	0.28		298.02	298.02	No	0.86	No
SLU 80	fin.	13.39	903	-0.0000692	0.0001872	0.0035	0.28		296.29	296.29	No	22.13	Si
SLU 74	ini.	-345.5	-1703	-0.0047499	0.0001872	0.0035	0.28		298.02	298.02	No	0.86	No
SLU 74	fin.	12.74	900	-0.0000658	0.0001872	0.0035	0.28		296.29	296.29	No	23.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-345.86	1731	0.28	0	447	2220	1887	714	2601	No	1.5	Si
SLU 80	fin.	13.39	-287	0.28	0	447	2220	1887	714	2601	No	9.07	Si
SLU 82	ini.	-346	1734	0.28	0	447	2220	1887	714	2601	No	1.5	Si
SLU 82	fin.	10.74	-300	0.28	0	447	2220	1887	714	2601	No	8.66	Si
SLU 75	ini.	-342.55	1716	0.28	0	447	2220	1887	714	2601	No	1.52	Si
SLU 75	fin.	12.32	-289	0.28	0	447	2220	1887	714	2601	No	8.99	Si
SLU 84	ini.	-351.32	1759	0.28	0	447	2220	1887	714	2601	No	1.48	Si
SLU 84	fin.	11.22	-303	0.28	0	447	2220	1887	714	2601	No	8.59	Si
SLU 74	ini.	-345.5	1730	0.28	0	447	2220	1887	714	2601	No	1.5	Si
SLU 74	fin.	12.74	-290	0.28	0	447	2220	1887	714	2601	No	8.97	Si
SLU 81	ini.	-348.96	1748	0.28	0	447	2220	1887	714	2601	No	1.49	Si
SLU 81	fin.	11.17	-301	0.28	0	447	2220	1887	714	2601	No	8.64	Si
SLU 78	ini.	-347.87	1742	0.28	0	447	2220	1887	714	2601	No	1.49	Si
SLU 78	fin.	12.79	-292	0.28	0	447	2220	1887	714	2601	No	8.92	Si
SLU 77	ini.	-350.83	1755	0.28	0	447	2220	1887	714	2601	No	1.48	Si
SLU 77	fin.	13.22	-292	0.28	0	447	2220	1887	714	2601	No	8.89	Si
SLU 83	ini.	-354.28	1773	0.28	0	447	2220	1887	714	2601	No	1.47	Si
SLU 83	fin.	11.65	-303	0.28	0	447	2220	1887	714	2601	No	8.57	Si
SLU 79	ini.	-348.82	1745	0.28	0	447	2220	1887	714	2601	No	1.49	Si
SLU 79	fin.	13.82	-288	0.28	0	447	2220	1887	714	2601	No	9.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-480.28	-2585	-0.006914	0.0002807	0.0035	0.28		307.71	307.71		0.64	No
SLV 8	fin.	99.84	1742	-0.0006132	0.0002807	0.0035	0.28		305.93	305.93		3.06	Si
SLD 8	ini.	-383.91	-2024	-0.0051701	0.0002807	0.0035	0.28		307.71	307.71		0.8	No
SLD 8	fin.	67.83	1318	-0.0003864	0.0002807	0.0035	0.28		305.93	305.93		4.51	Si
SLV 4	ini.	-489.25	-2874	-0.0070705	0.0002807	0.0035	0.28		307.71	307.71		0.63	No
SLV 4	fin.	250.98	2457	-0.0023301	0.0002807	0.0035	0.28		305.93	305.93		1.22	Si
SLV 11	ini.	-377.34	-1846	-0.0050452	0.0002807	0.0035	0.28		307.71	307.71		0.82	No
SLV 11	fin.	-25.83	871	-0.0001344	0.0002807	0.0035	0.28		307.71	307.71		11.91	Si
SLD 4	ini.	-396.55	-2248	-0.0054071	0.0002807	0.0035	0.28		307.71	307.71		0.78	No
SLD 4	fin.	165.2	1795	-0.0011782	0.0002807	0.0035	0.28		305.93	305.93		1.85	Si
SLV 1	ini.	-409.75	-2492	-0.0056507	0.0002807	0.0035	0.28		307.71	307.71		0.75	No
SLV 1	fin.	271.04	2323	-0.0027486	0.0002807	0.0035	0.28		305.93	305.93		1.13	Si
SLV 7	ini.	-503	-2745	-0.0073089	0.0002807	0.0035	0.28		307.71	307.71		0.61	No
SLV 7	fin.	123.2	1920	-0.0007981	0.0002807	0.0035	0.28		305.93	305.93		2.48	Si
SLD 3	ini.	-417.95	-2399	-0.0058003	0.0002807	0.0035	0.28		307.71	307.71		0.74	No
SLD 3	fin.	187.21	1963	-0.0014093	0.0002807	0.0035	0.28		305.93	305.93		1.63	Si
SLV 3	ini.	-522.99	-3111	-0.0076529	0.0002807	0.0035	0.28		307.71	307.71		0.59	No
SLV 3	fin.	285.67	2722	-0.0031042	0.0002807	0.0035	0.28		305.93	305.93		1.07	Si
SLD 7	ini.	-397.69	-2121	-0.0054284	0.0002807	0.0035	0.28		307.71	307.71		0.77	No
SLD 7	fin.	82.01	1426	-0.000483	0.0002807	0.0035	0.28		305.93	305.93		3.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-503	2393	0.28	0	623	2220	2830	714	2844		1.19	Si
SLV 7	fin.	123.2	16	0.28	0	623	2220	2830	714	2844		178.21	Si
SLD 8	ini.	-383.91	1859	0.28	0	623	2220	2830	714	2844		1.53	Si
SLD 8	fin.	67.83	-110	0.28	0	623	2220	2830	714	2844		25.75	Si
SLV 4	ini.	-489.25	2258	0.28	0	623	2220	2830	714	2844		1.26	Si
SLV 4	fin.	250.98	737	0.28	0	623	2220	2830	714	2844		3.86	Si
SLD 7	ini.	-397.69	1915	0.28	0	623	2220	2830	714	2844		1.49	Si
SLD 7	fin.	82.01	-55	0.28	0	623	2220	2830	714	2844		51.7	Si
SLD 4	ini.	-396.55	1863	0.28	0	623	2220	2830	714	2844		1.53	Si
SLD 4	fin.	165.2	406	0.28	0	623	2220	2830	714	2844		7	Si
SLV 11	ini.	-377.34	1879	0.28	0	623	2220	2830	714	2844		1.51	Si
SLV 11	fin.	-25.83	-606	0.28	0	623	2220	2830	714	2844		4.69	Si
SLD 3	ini.	-417.95	1950	0.28	0	623	2220	2830	714	2844		1.46	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	fin.	187.21	492	0.28	0	623	2220	2830	714	2844		5.78	Si
SLV 8	ini.	-480.28	2301	0.28	0	623	2220	2830	714	2844		1.24	Si
SLV 8	fin.	99.84	-75	0.28	0	623	2220	2830	714	2844		37.73	Si
SLV 3	ini.	-522.99	2395	0.28	0	623	2220	2830	714	2844		1.19	Si
SLV 3	fin.	285.67	872	0.28	0	623	2220	2830	714	2844		3.26	Si
SLV 1	ini.	-409.75	1863	0.28	0	623	2220	2830	714	2844		1.53	Si
SLV 1	fin.	271.04	965	0.28	0	623	2220	2830	714	2844		2.95	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.588	SLV 3	No
V_SLV	1.187	SLV 3	Si
PF_SLU	0.841	SLU 83	No
V_SLU	1.467	SLU 83	Si

Trave di accoppiamento 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.778	1.366	0.05	0.73	0.68	-9.778	2.071	0.05	0.73	0.68	0.705	0.2	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	184.2	-662	-0.0001669	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.48	Si
SLU 80	fin.	-1639.92	-4015	-0.0030816	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.07	Si
SLU 79	ini.	182.98	-673	-0.0001658	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.55	Si
SLU 79	fin.	-1664.65	-4086	-0.0031915	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.05	Si
SLU 83	ini.	187.83	-687	-0.0001705	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.3	Si
SLU 83	fin.	-1699.81	-4167	-0.003347	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.03	Si
SLU 84	ini.	189.05	-676	-0.0001716	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.24	Si
SLU 84	fin.	-1675.08	-4097	-0.0032379	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.05	Si
SLU 78	ini.	185.36	-667	-0.0001681	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.42	Si
SLU 78	fin.	-1651.32	-4044	-0.0031322	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.06	Si
SLU 74	ini.	182.2	-669	-0.000165	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.59	Si
SLU 74	fin.	-1652.32	-4054	-0.0031366	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.06	Si
SLU 82	ini.	187.11	-668	-0.0001698	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.33	Si
SLU 82	fin.	-1651.34	-4037	-0.0031323	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.06	Si
SLU 75	ini.	183.42	-658	-0.0001662	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.52	Si
SLU 75	fin.	-1627.58	-3984	-0.0030272	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.08	Si
SLU 81	ini.	185.89	-679	-0.0001686	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.4	Si
SLU 81	fin.	-1676.08	-4107	-0.0032423	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.04	Si
SLU 77	ini.	184.14	-678	-0.0001669	0.0002246	0.0035	0.68		1746.52	1746.52	No	9.48	Si
SLU 77	fin.	-1676.06	-4114	-0.0032422	0.0002246	0.0035	0.68		1750.75	1750.75	No	1.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	183.42	-2903	0.68	0	1133	5392	2444	1734	4178	No	1.44	Si
SLU 75	fin.	-1627.58	-5609	0.68	10833	1133	5392	2444	1734	4178	No	0.74	No
SLU 82	ini.	187.11	-2920	0.68	0	1133	5392	2444	1734	4178	No	1.43	Si
SLU 82	fin.	-1651.34	-5712	0.68	10833	1133	5392	2444	1734	4178	No	0.73	No
SLU 83	ini.	187.83	-3022	0.68	0	1133	5392	2444	1734	4178	No	1.38	Si
SLU 83	fin.	-1699.81	-5851	0.68	10833	1133	5392	2444	1734	4178	No	0.71	No
SLU 81	ini.	185.89	-2973	0.68	0	1133	5392	2444	1734	4178	No	1.41	Si
SLU 81	fin.	-1676.08	-5776	0.68	10833	1133	5392	2444	1734	4178	No	0.72	No
SLU 80	ini.	184.2	-2928	0.68	0	1133	5392	2444	1734	4178	No	1.43	Si
SLU 80	fin.	-1639.92	-5647	0.68	10833	1133	5392	2444	1734	4178	No	0.74	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	182.2	-2955	0.68	0	1133	5392	2444	1734	4178	No	1.41	Si
SLU 74	fin.	-1652.32	-5673	0.68	10833	1133	5392	2444	1734	4178	No	0.74	No
SLU 84	ini.	189.05	-2969	0.68	0	1133	5392	2444	1734	4178	No	1.41	Si
SLU 84	fin.	-1675.08	-5787	0.68	10833	1133	5392	2444	1734	4178	No	0.72	No
SLU 77	ini.	184.14	-3004	0.68	0	1133	5392	2444	1734	4178	No	1.39	Si
SLU 77	fin.	-1676.06	-5748	0.68	10833	1133	5392	2444	1734	4178	No	0.73	No
SLU 78	ini.	185.36	-2952	0.68	0	1133	5392	2444	1734	4178	No	1.42	Si
SLU 78	fin.	-1651.32	-5684	0.68	10833	1133	5392	2444	1734	4178	No	0.73	No
SLU 79	ini.	182.98	-2981	0.68	0	1133	5392	2444	1734	4178	No	1.4	Si
SLU 79	fin.	-1664.65	-5711	0.68	10833	1133	5392	2444	1734	4178	No	0.73	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	3.96	-1150	-0.0000034	0.0003369	0.0035	0.68		1789.9	1789.9		451.89	Si
SLV 11	fin.	-2591.6	-6942	-0.0060465	0.0003369	0.0035	0.68		1794.28	1794.28		0.69	No
SLV 4	ini.	148.29	-859	-0.0001311	0.0003369	0.0035	0.68		1789.9	1789.9		12.07	Si
SLV 4	fin.	-1743.03	-4590	-0.0031873	0.0003369	0.0035	0.68		1794.28	1794.28		1.03	Si
SLV 8	ini.	37.68	-1249	-0.0000325	0.0003369	0.0035	0.68		1789.9	1789.9		47.5	Si
SLV 8	fin.	-2672.55	-7210	-0.0062898	0.0003369	0.0035	0.68		1794.28	1794.28		0.67	No
SLD 7	ini.	74.92	-932	-0.0000651	0.0003369	0.0035	0.68		1789.9	1789.9		23.89	Si
SLD 7	fin.	-2054.4	-5433	-0.0043502	0.0003369	0.0035	0.68		1794.28	1794.28		0.87	No
SLD 12	ini.	54.72	-854	-0.0000473	0.0003369	0.0035	0.68		1789.9	1789.9		32.71	Si
SLD 12	fin.	-1972.86	-5174	-0.0040673	0.0003369	0.0035	0.68		1794.28	1794.28		0.91	No
SLV 7	ini.	35.62	-1260	-0.0000307	0.0003369	0.0035	0.68		1789.9	1789.9		50.25	Si
SLV 7	fin.	-2696.9	-7281	-0.0063625	0.0003369	0.0035	0.68		1794.28	1794.28		0.67	No
SLD 11	ini.	53.48	-861	-0.0000462	0.0003369	0.0035	0.68		1789.9	1789.9		33.47	Si
SLD 11	fin.	-1987.63	-5217	-0.0041194	0.0003369	0.0035	0.68		1794.28	1794.28		0.9	No
SLD 8	ini.	76.17	-925	-0.0000662	0.0003369	0.0035	0.68		1789.9	1789.9		23.5	Si
SLD 8	fin.	-2039.63	-5389	-0.0042997	0.0003369	0.0035	0.68		1794.28	1794.28		0.88	No
SLV 3	ini.	145.23	-876	-0.0001283	0.0003369	0.0035	0.68		1789.9	1789.9		12.32	Si
SLV 3	fin.	-1779.19	-4697	-0.0033359	0.0003369	0.0035	0.68		1794.28	1794.28		1.01	Si
SLV 12	ini.	6.02	-1139	-0.0000051	0.0003369	0.0035	0.68		1789.9	1789.9		297.46	Si
SLV 12	fin.	-2567.26	-6870	-0.0059727	0.0003369	0.0035	0.68		1794.28	1794.28		0.7	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	35.62	-5463	0.68	0	1700	5392	3666	1734	5400		0.99	No
SLV 7	fin.	-2696.9	-8039	0.68	16250	1700	5392	3666	1734	5400		0.67	No
SLV 12	ini.	6.02	-5010	0.68	0	1700	5392	3666	1734	5400		1.08	Si
SLV 12	fin.	-2567.26	-7509	0.68	16250	1700	5392	3666	1734	5400		0.72	No
SLD 8	ini.	76.17	-4028	0.68	0	1700	5392	3666	1734	5400		1.34	Si
SLD 8	fin.	-2039.63	-6299	0.68	0	1700	5392	3666	1734	5400		0.86	No
SLV 8	ini.	37.68	-5411	0.68	0	1700	5392	3666	1734	5400		1	No
SLV 8	fin.	-2672.55	-7980	0.68	16250	1700	5392	3666	1734	5400		0.68	No
SLV 11	ini.	3.96	-5062	0.68	0	1700	5392	3666	1734	5400		1.07	Si
SLV 11	fin.	-2591.6	-7568	0.68	16250	1700	5392	3666	1734	5400		0.71	No
SLD 12	ini.	54.72	-3776	0.68	0	1700	5392	3666	1734	5400		1.43	Si
SLD 12	fin.	-1972.86	-6002	0.68	0	1700	5392	3666	1734	5400		0.9	No
SLV 4	ini.	148.29	-3635	0.68	0	1700	5392	3666	1734	5400		1.49	Si
SLV 4	fin.	-1743.03	-5798	0.68	0	1700	5392	3666	1734	5400		0.93	No
SLD 7	ini.	74.92	-4060	0.68	0	1700	5392	3666	1734	5400		1.33	Si
SLD 7	fin.	-2054.4	-6335	0.68	0	1700	5392	3666	1734	5400		0.85	No
SLD 11	ini.	53.48	-3807	0.68	0	1700	5392	3666	1734	5400		1.42	Si
SLD 11	fin.	-1987.63	-6038	0.68	0	1700	5392	3666	1734	5400		0.89	No
SLV 3	ini.	145.23	-3712	0.68	0	1700	5392	3666	1734	5400		1.45	Si
SLV 3	fin.	-1779.19	-5885	0.68	0	1700	5392	3666	1734	5400		0.92	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.665	SLV 7	No
V_SLV	0.672	SLV 7	No
PF_SLU	1.03	SLU 83	Si
V_SLU	0.714	SLU 83	No

Trave di accoppiamento 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-10.553	-3.284	0.1	0.73	0.63	-8.253	-3.284	0.1	0.73	0.63	2.3	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	97.24	-82	-0.0001009	0.0001872	0.0035	0.63		1091.58	1091.58	No	11.23	Si
SLU 79	fin.	-367.56	-2217	-0.0004423	0.0001872	0.0035	0.63		1096.09	1096.09	No	2.98	Si
SLU 74	ini.	96.5	-97	-0.0001001	0.0001872	0.0035	0.63		1091.58	1091.58	No	11.31	Si
SLU 74	fin.	-364.89	-2206	-0.0004384	0.0001872	0.0035	0.63		1096.09	1096.09	No	3	Si
SLU 82	ini.	101.12	-130	-0.0001052	0.0001872	0.0035	0.63		1091.58	1091.58	No	10.79	Si
SLU 82	fin.	-380.07	-2275	-0.0004605	0.0001872	0.0035	0.63		1096.09	1096.09	No	2.88	Si
SLU 78	ini.	96.32	-74	-0.0000999	0.0001872	0.0035	0.63		1091.58	1091.58	No	11.33	Si
SLU 78	fin.	-368.18	-2239	-0.0004432	0.0001872	0.0035	0.63		1096.09	1096.09	No	2.98	Si
SLU 77	ini.	97.57	-77	-0.0001013	0.0001872	0.0035	0.63		1091.58	1091.58	No	11.19	Si
SLU 77	fin.	-368.55	-2229	-0.0004437	0.0001872	0.0035	0.63		1096.09	1096.09	No	2.97	Si
SLU 83	ini.	103.44	-111	-0.0001077	0.0001872	0.0035	0.63		1091.58	1091.58	No	10.55	Si
SLU 83	fin.	-384.11	-2288	-0.0004664	0.0001872	0.0035	0.63		1096.09	1096.09	No	2.85	Si
SLU 80	ini.	95.99	-79	-0.0000996	0.0001872	0.0035	0.63		1091.58	1091.58	No	11.37	Si
SLU 80	fin.	-367.19	-2227	-0.0004417	0.0001872	0.0035	0.63		1096.09	1096.09	No	2.99	Si
SLU 75	ini.	95.25	-95	-0.0000988	0.0001872	0.0035	0.63		1091.58	1091.58	No	11.46	Si
SLU 75	fin.	-364.52	-2216	-0.0004379	0.0001872	0.0035	0.63		1096.09	1096.09	No	3.01	Si
SLU 81	ini.	102.37	-132	-0.0001065	0.0001872	0.0035	0.63		1091.58	1091.58	No	10.66	Si
SLU 81	fin.	-380.45	-2265	-0.000461	0.0001872	0.0035	0.63		1096.09	1096.09	No	2.88	Si
SLU 84	ini.	102.19	-109	-0.0001063	0.0001872	0.0035	0.63		1091.58	1091.58	No	10.68	Si
SLU 84	fin.	-383.73	-2298	-0.0004658	0.0001872	0.0035	0.63		1096.09	1096.09	No	2.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	95.25	1474	0.63	0	726	4996	4245	1607	5722	No	3.88	Si
SLU 75	fin.	-364.52	-30	0.63	0	726	4996	4245	1607	5722	No	187.75	Si
SLU 84	ini.	102.19	1575	0.63	0	726	4996	4245	1607	5722	No	3.63	Si
SLU 84	fin.	-383.73	-77	0.63	0	726	4996	4245	1607	5722	No	74.01	Si
SLU 82	ini.	101.12	1594	0.63	0	726	4996	4245	1607	5722	No	3.59	Si
SLU 82	fin.	-380.07	-76	0.63	0	726	4996	4245	1607	5722	No	75.37	Si
SLU 81	ini.	102.37	1602	0.63	0	726	4996	4245	1607	5722	No	3.57	Si
SLU 81	fin.	-380.45	-95	0.63	0	726	4996	4245	1607	5722	No	60.28	Si
SLU 83	ini.	103.44	1583	0.63	0	726	4996	4245	1607	5722	No	3.61	Si
SLU 83	fin.	-384.11	-96	0.63	0	726	4996	4245	1607	5722	No	59.41	Si
SLU 73	ini.	93.02	1489	0.63	0	726	4996	4245	1607	5722	No	3.84	Si
SLU 73	fin.	-359.62	-24	0.63	0	726	4996	4245	1607	5722	No	234.8	Si
SLU 79	ini.	97.24	1464	0.63	0	726	4996	4245	1607	5722	No	3.91	Si
SLU 79	fin.	-367.56	-59	0.63	0	726	4996	4245	1607	5722	No	97.24	Si
SLU 74	ini.	96.5	1481	0.63	0	726	4996	4245	1607	5722	No	3.86	Si
SLU 74	fin.	-364.89	-49	0.63	0	726	4996	4245	1607	5722	No	115.64	Si
SLU 76	ini.	94.09	1470	0.63	0	726	4996	4245	1607	5722	No	3.89	Si
SLU 76	fin.	-363.28	-26	0.63	0	726	4996	4245	1607	5722	No	222.05	Si
SLU 39	ini.	92.38	1469	0.63	0	726	4996	4245	1607	5722	No	3.9	Si
SLU 39	fin.	-326.14	-119	0.63	0	726	4996	4245	1607	5722	No	48.22	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	233.39	2847	-0.0002514	0.0002807	0.0035	0.63		1559.1	1559.1		6.68	Si
SLV 13	fin.	-689.44	-3648	-0.0009096	0.0002807	0.0035	0.63		1563.16	1563.16		2.27	Si
SLV 9	ini.	59.98	950	-0.0000609	0.0002807	0.0035	0.63		1559.1	1559.1		25.99	Si
SLV 9	fin.	-388.8	-2984	-0.0004473	0.0002807	0.0035	0.63		1563.16	1563.16		4.02	Si
SLD 13	ini.	172.69	1798	-0.0001818	0.0002807	0.0035	0.63		1559.1	1559.1		9.03	Si
SLD 13	fin.	-529.97	-2870	-0.0006508	0.0002807	0.0035	0.63		1563.16	1563.16		2.95	Si
SLV 14	ini.	217.51	2568	-0.0002328	0.0002807	0.0035	0.63		1559.1	1559.1		7.17	Si
SLV 14	fin.	-651.07	-3530	-0.0008443	0.0002807	0.0035	0.63		1563.16	1563.16		2.4	Si
SLD 14	ini.	162.62	1621	-0.0001706	0.0002807	0.0035	0.63		1559.1	1559.1		9.59	Si
SLD 14	fin.	-505.63	-2795	-0.0006141	0.0002807	0.0035	0.63		1563.16	1563.16		3.09	Si
SLV 15	ini.	270.29	2788	-0.0002955	0.0002807	0.0035	0.63		1559.1	1559.1		5.77	Si
SLV 15	fin.	-687.87	-3120	-0.0009069	0.0002807	0.0035	0.63		1563.16	1563.16		2.27	Si
SLD 15	ini.	194.27	1763	-0.0002061	0.0002807	0.0035	0.63		1559.1	1559.1		8.03	Si
SLD 15	fin.	-528.99	-2560	-0.0006493	0.0002807	0.0035	0.63		1563.16	1563.16		2.95	Si
SLD 16	ini.	184.19	1586	-0.0001947	0.0002807	0.0035	0.63		1559.1	1559.1		8.46	Si
SLD 16	fin.	-504.65	-2486	-0.0006126	0.0002807	0.0035	0.63		1563.16	1563.16		3.1	Si
SLV 16	ini.	254.41	2508	-0.0002763	0.0002807	0.0035	0.63		1559.1	1559.1		6.13	Si
SLV 16	fin.	-649.51	-3002	-0.0008417	0.0002807	0.0035	0.63		1563.16	1563.16		2.41	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	182.98	751	-0.0001934	0.0002807	0.0035	0.63		1559.1	1559.1		8.52	Si
SLV 11	fin.	-383.58	-1224	-0.0004402	0.0002807	0.0035	0.63		1563.16	1563.16		4.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-39.86	2721	0.63	0	804	4996	6367	1607	5799		2.13	Si
SLD 3	fin.	12.96	824	0.63	0	804	4996	6367	1607	5799		7.03	Si
SLV 1	ini.	-131.66	3517	0.63	0	804	4996	6367	1607	5799		1.65	Si
SLV 1	fin.	156.84	2033	0.63	0	804	4996	6367	1607	5799		2.85	Si
SLD 1	ini.	-61.44	2608	0.63	0	804	4996	6367	1607	5799		2.22	Si
SLD 1	fin.	11.99	1281	0.63	0	804	4996	6367	1607	5799		4.53	Si
SLV 15	ini.	270.29	-1890	0.63	0	804	4996	6367	1607	5799		3.07	Si
SLV 15	fin.	-687.87	-2230	0.63	0	804	4996	6367	1607	5799		2.6	Si
SLV 4	ini.	-110.63	4026	0.63	0	804	4996	6367	1607	5799		1.44	Si
SLV 4	fin.	196.77	1465	0.63	0	804	4996	6367	1607	5799		3.96	Si
SLV 2	ini.	-147.54	3832	0.63	0	804	4996	6367	1607	5799		1.51	Si
SLV 2	fin.	195.2	2246	0.63	0	804	4996	6367	1607	5799		2.58	Si
SLV 3	ini.	-94.75	3710	0.63	0	804	4996	6367	1607	5799		1.56	Si
SLV 3	fin.	158.4	1252	0.63	0	804	4996	6367	1607	5799		4.63	Si
SLD 4	ini.	-49.94	2921	0.63	0	804	4996	6367	1607	5799		1.99	Si
SLD 4	fin.	37.3	960	0.63	0	804	4996	6367	1607	5799		6.04	Si
SLV 8	ini.	62.78	2239	0.63	0	804	4996	6367	1607	5799		2.59	Si
SLV 8	fin.	-103.87	-699	0.63	0	804	4996	6367	1607	5799		8.3	Si
SLD 2	ini.	-71.51	2808	0.63	0	804	4996	6367	1607	5799		2.07	Si
SLD 2	fin.	36.32	1416	0.63	0	804	4996	6367	1607	5799		4.09	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.267	SLV 13	Si
V_SLV	1.441	SLV 4	Si
PF_SLU	2.854	SLU 83	Si
V_SLU	3.573	SLU 81	Si

Trave di accoppiamento 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	1.366	0.15	0.73	0.58	-5.158	2.071	0.15	0.73	0.58	0.705	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	342.44	-573	-0.0004855	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.67	Si
SLU 83	fin.	-1363.57	-4383	-0.004077	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.93	No
SLU 77	ini.	336.15	-564	-0.0004748	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.74	Si
SLU 77	fin.	-1336.74	-4299	-0.0039365	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.94	No
SLU 80	ini.	328.83	-518	-0.0004624	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.82	Si
SLU 80	fin.	-1304.26	-4158	-0.0037614	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.97	No
SLU 84	ini.	337.47	-533	-0.000477	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.73	Si
SLU 84	fin.	-1340.25	-4274	-0.0039551	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.94	No
SLU 74	ini.	331.51	-556	-0.0004669	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.79	Si
SLU 74	fin.	-1318.72	-4240	-0.0038401	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.96	No
SLU 81	ini.	337.79	-565	-0.0004775	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.72	Si
SLU 81	fin.	-1345.55	-4324	-0.003983	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.94	No
SLU 75	ini.	326.54	-515	-0.0004585	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.85	Si
SLU 75	fin.	-1295.41	-4131	-0.0037126	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.97	No
SLU 82	ini.	332.82	-524	-0.0004691	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.78	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	fin.	-1322.24	-4215	-0.0038591	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.95	No
SLU 78	ini.	331.18	-524	-0.0004663	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.8	Si
SLU 78	fin.	-1313.42	-4190	-0.0038114	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.96	No
SLU 79	ini.	333.8	-558	-0.0004708	0.0002246	0.0035	0.58		1257.73	1257.73	No	3.77	Si
SLU 79	fin.	-1327.57	-4267	-0.0038877	0.0002246	0.0035	0.58		1261.33	1261.33	No	0.95	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	328.83	-1412	0.58	0	1450	4599	3127	1479	4606	No	3.26	Si
SLU 80	fin.	-1304.26	-6111	0.58	0	1450	4599	3127	1479	4606	No	0.75	No
SLU 77	ini.	336.15	-1480	0.58	0	1450	4599	3127	1479	4606	No	3.11	Si
SLU 77	fin.	-1336.74	-6233	0.58	0	1450	4599	3127	1479	4606	No	0.74	No
SLU 82	ini.	332.82	-1430	0.58	0	1450	4599	3127	1479	4606	No	3.22	Si
SLU 82	fin.	-1322.24	-6196	0.58	0	1450	4599	3127	1479	4606	No	0.74	No
SLU 79	ini.	333.8	-1467	0.58	0	1450	4599	3127	1479	4606	No	3.14	Si
SLU 79	fin.	-1327.57	-6193	0.58	0	1450	4599	3127	1479	4606	No	0.74	No
SLU 81	ini.	337.79	-1486	0.58	0	1450	4599	3127	1479	4606	No	3.1	Si
SLU 81	fin.	-1345.55	-6278	0.58	0	1450	4599	3127	1479	4606	No	0.73	No
SLU 83	ini.	342.44	-1508	0.58	0	1450	4599	3127	1479	4606	No	3.05	Si
SLU 83	fin.	-1363.57	-6360	0.58	0	1450	4599	3127	1479	4606	No	0.72	No
SLU 75	ini.	326.54	-1403	0.58	0	1450	4599	3127	1479	4606	No	3.28	Si
SLU 75	fin.	-1295.41	-6069	0.58	0	1450	4599	3127	1479	4606	No	0.76	No
SLU 84	ini.	337.47	-1452	0.58	0	1450	4599	3127	1479	4606	No	3.17	Si
SLU 84	fin.	-1340.25	-6278	0.58	0	1450	4599	3127	1479	4606	No	0.73	No
SLU 78	ini.	331.18	-1425	0.58	0	1450	4599	3127	1479	4606	No	3.23	Si
SLU 78	fin.	-1313.42	-6151	0.58	0	1450	4599	3127	1479	4606	No	0.75	No
SLU 74	ini.	331.51	-1459	0.58	0	1450	4599	3127	1479	4606	No	3.16	Si
SLU 74	fin.	-1318.72	-6151	0.58	0	1450	4599	3127	1479	4606	No	0.75	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	379.33	-1814	-0.0005194	0.0003369	0.0035	0.58		1250.09	1250.09		3.3	Si
SLD 8	fin.	-1672.33	-6611	-0.0051733	0.0003369	0.0035	0.58		1253.87	1253.87		0.75	No
SLD 12	ini.	375.05	-1618	-0.0005124	0.0003369	0.0035	0.58		1250.09	1250.09		3.33	Si
SLD 12	fin.	-1618.6	-6235	-0.004938	0.0003369	0.0035	0.58		1253.87	1253.87		0.77	No
SLV 12	ini.	480.96	-2515	-0.0006935	0.0003369	0.0035	0.58		1250.09	1250.09		2.6	Si
SLV 12	fin.	-2133.73	-8641	-0.0070862	0.0003369	0.0035	0.58		1253.87	1253.87		0.59	No
SLD 11	ini.	382.96	-1678	-0.0005253	0.0003369	0.0035	0.58		1250.09	1250.09		3.26	Si
SLD 11	fin.	-1654.76	-6402	-0.0050968	0.0003369	0.0035	0.58		1253.87	1253.87		0.76	No
SLV 7	ini.	500.53	-2921	-0.000729	0.0003369	0.0035	0.58		1250.09	1250.09		2.5	Si
SLV 7	fin.	-2277.43	-9503	-0.0076564	0.0003369	0.0035	0.58		1253.87	1253.87		0.55	No
SLV 8	ini.	487.49	-2821	-0.0007053	0.0003369	0.0035	0.58		1250.09	1250.09		2.56	Si
SLV 8	fin.	-2217.85	-9229	-0.0074211	0.0003369	0.0035	0.58		1253.87	1253.87		0.57	No
SLD 7	ini.	387.24	-1874	-0.0005323	0.0003369	0.0035	0.58		1250.09	1250.09		3.23	Si
SLD 7	fin.	-1708.48	-6778	-0.0053293	0.0003369	0.0035	0.58		1253.87	1253.87		0.73	No
SLV 4	ini.	306.18	-1512	-0.0004044	0.0003369	0.0035	0.58		1250.09	1250.09		4.08	Si
SLV 4	fin.	-1384.16	-5508	-0.0038383	0.0003369	0.0035	0.58		1253.87	1253.87		0.91	No
SLV 3	ini.	325.54	-1659	-0.000434	0.0003369	0.0035	0.58		1250.09	1250.09		3.84	Si
SLV 3	fin.	-1472.66	-5915	-0.0042715	0.0003369	0.0035	0.58		1253.87	1253.87		0.85	No
SLV 11	ini.	493.99	-2614	-0.000717	0.0003369	0.0035	0.58		1250.09	1250.09		2.53	Si
SLV 11	fin.	-2193.32	-8915	-0.0073238	0.0003369	0.0035	0.58		1253.87	1253.87		0.57	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	493.99	-4032	0.58	0	2175	4599	4690	1479	6169		1.53	Si
SLV 11	fin.	-2193.32	-8757	0.58	0	2175	4599	4690	1479	6169		0.7	No
SLV 4	ini.	306.18	-2406	0.58	0	2175	4599	4690	1479	6169		2.56	Si
SLV 4	fin.	-1384.16	-5775	0.58	0	2175	4599	4690	1479	6169		1.07	Si
SLV 7	ini.	500.53	-4381	0.58	0	2175	4599	4690	1479	6169		1.41	Si
SLV 7	fin.	-2277.43	-8982	0.58	0	2175	4599	4690	1479	6169		0.69	No
SLV 3	ini.	325.54	-2611	0.58	0	2175	4599	4690	1479	6169		2.36	Si
SLV 3	fin.	-1472.66	-6089	0.58	0	2175	4599	4690	1479	6169		1.01	Si
SLD 8	ini.	379.33	-2902	0.58	0	2175	4599	4690	1479	6169		2.13	Si
SLD 8	fin.	-1672.33	-6877	0.58	0	2175	4599	4690	1479	6169		0.9	No
SLD 7	ini.	387.24	-2985	0.58	0	2175	4599	4690	1479	6169		2.07	Si
SLD 7	fin.	-1708.48	-7005	0.58	0	2175	4599	4690	1479	6169		0.88	No
SLV 8	ini.	487.49	-4244	0.58	0	2175	4599	4690	1479	6169		1.45	Si
SLV 8	fin.	-2217.85	-8770	0.58	0	2175	4599	4690	1479	6169		0.7	No
SLD 12	ini.	375.05	-2679	0.58	0	2175	4599	4690	1479	6169		2.3	Si
SLD 12	fin.	-1618.6	-6735	0.58	0	2175	4599	4690	1479	6169		0.92	No
SLD 11	ini.	382.96	-2762	0.58	0	2175	4599	4690	1479	6169		2.23	Si
SLD 11	fin.	-1654.76	-6863	0.58	0	2175	4599	4690	1479	6169		0.9	No
SLV 12	ini.	480.96	-3895	0.58	0	2175	4599	4690	1479	6169		1.58	Si
SLV 12	fin.	-2133.73	-8546	0.58	0	2175	4599	4690	1479	6169		0.72	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.551	SLV 7	No
V_SLV	0.687	SLV 7	No
PF_SLU	0.925	SLU 83	No
V_SLU	0.724	SLU 83	No

Trave di accoppiamento 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.498	-3.284	-1.95	0.05	2	-6.503	-3.284	-1.95	0.05	2	0.995	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	1223.84	-15923	-0.0001274	0.0001872	0.0035	2		10722.86	10722.86	No	8.76	Si
SLU 77	fin.	-449.44	-7792	-0.0000452	0.0001872	0.0035	2		10737.13	10737.13	No	23.89	Si
SLU 84	ini.	1179.8	-16518	-0.0001226	0.0001872	0.0035	2		10722.86	10722.86	No	9.09	Si
SLU 84	fin.	-358.77	-8248	-0.000036	0.0001872	0.0035	2		10737.13	10737.13	No	29.93	Si
SLU 56	ini.	1177	-14320	-0.0001223	0.0001872	0.0035	2		10722.86	10722.86	No	9.11	Si
SLU 56	fin.	-499.98	-6855	-0.0000504	0.0001872	0.0035	2		10737.13	10737.13	No	21.48	Si
SLU 58	ini.	1182.81	-14245	-0.0001229	0.0001872	0.0035	2		10722.86	10722.86	No	9.07	Si
SLU 58	fin.	-506.49	-6807	-0.0000511	0.0001872	0.0035	2		10737.13	10737.13	No	21.2	Si
SLU 81	ini.	1253.43	-16277	-0.0001307	0.0001872	0.0035	2		10722.86	10722.86	No	8.55	Si
SLU 81	fin.	-415.56	-8045	-0.0000417	0.0001872	0.0035	2		10737.13	10737.13	No	25.84	Si
SLU 79	ini.	1229.65	-15848	-0.0001281	0.0001872	0.0035	2		10722.86	10722.86	No	8.72	Si
SLU 79	fin.	-455.95	-7744	-0.0000459	0.0001872	0.0035	2		10737.13	10737.13	No	23.55	Si
SLU 62	ini.	1237	-14795	-0.0001289	0.0001872	0.0035	2		10722.86	10722.86	No	8.67	Si
SLU 62	fin.	-482.77	-7138	-0.0000486	0.0001872	0.0035	2		10737.13	10737.13	No	22.24	Si
SLU 60	ini.	1206.59	-14674	-0.0001255	0.0001872	0.0035	2		10722.86	10722.86	No	8.89	Si
SLU 60	fin.	-466.1	-7109	-0.0000469	0.0001872	0.0035	2		10737.13	10737.13	No	23.04	Si
SLU 74	ini.	1193.43	-15802	-0.0001241	0.0001872	0.0035	2		10722.86	10722.86	No	8.98	Si
SLU 74	fin.	-432.77	-7763	-0.0000435	0.0001872	0.0035	2		10737.13	10737.13	No	24.81	Si
SLU 83	ini.	1283.84	-16397	-0.0001341	0.0001872	0.0035	2		10722.86	10722.86	No	8.35	Si
SLU 83	fin.	-432.23	-8074	-0.0000434	0.0001872	0.0035	2		10737.13	10737.13	No	24.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	1283.84	-9575	2	0	6250	7890	13475	5100	14140	No	1.48	Si
SLU 83	fin.	-432.23	-9429	2	0	6250	7890	13475	5100	14140	No	1.5	Si
SLU 78	ini.	1119.8	-9103	2	0	6250	7890	13475	5100	14140	No	1.55	Si
SLU 78	fin.	-375.98	-8989	2	0	6250	7890	13475	5100	14140	No	1.57	Si
SLU 80	ini.	1125.61	-9088	2	0	6250	7890	13475	5100	14140	No	1.56	Si
SLU 80	fin.	-382.49	-8981	2	0	6250	7890	13475	5100	14140	No	1.57	Si
SLU 79	ini.	1229.65	-9307	2	0	6250	7890	13475	5100	14140	No	1.52	Si
SLU 79	fin.	-455.95	-9225	2	0	6250	7890	13475	5100	14140	No	1.53	Si
SLU 84	ini.	1179.8	-9356	2	0	6250	7890	13475	5100	14140	No	1.51	Si
SLU 84	fin.	-358.77	-9185	2	0	6250	7890	13475	5100	14140	No	1.54	Si
SLU 81	ini.	1253.43	-9435	2	0	6250	7890	13475	5100	14140	No	1.5	Si
SLU 81	fin.	-415.56	-9300	2	0	6250	7890	13475	5100	14140	No	1.52	Si
SLU 82	ini.	1149.38	-9216	2	0	6250	7890	13475	5100	14140	No	1.53	Si
SLU 82	fin.	-342.1	-9055	2	0	6250	7890	13475	5100	14140	No	1.56	Si
SLU 75	ini.	1089.39	-8962	2	0	6250	7890	13475	5100	14140	No	1.58	Si
SLU 75	fin.	-359.31	-8859	2	0	6250	7890	13475	5100	14140	No	1.6	Si
SLU 77	ini.	1223.84	-9322	2	0	6250	7890	13475	5100	14140	No	1.52	Si
SLU 77	fin.	-449.44	-9234	2	0	6250	7890	13475	5100	14140	No	1.53	Si
SLU 74	ini.	1193.43	-9181	2	0	6250	7890	13475	5100	14140	No	1.54	Si
SLU 74	fin.	-432.77	-9104	2	0	6250	7890	13475	5100	14140	No	1.55	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	8055.01	-13010	-0.0011117	0.0002807	0.0035	2		15635.95	15635.95		1.94	Si
SLV 15	fin.	-4239.32	68	-0.000492	0.0002807	0.0035	2		15648.46	15648.46		3.69	Si
SLV 6	ini.	-6105.04	-16957	-0.0007713	0.0002807	0.0035	2		15648.46	15648.46		2.56	Si
SLV 6	fin.	4407.58	-14397	-0.0005161	0.0002807	0.0035	2		15635.95	15635.95		3.55	Si
SLV 1	ini.	-5801.99	-8957	-0.0007232	0.0002807	0.0035	2		15648.46	15648.46		2.7	Si
SLV 1	fin.	3138.22	-9968	-0.0003466	0.0002807	0.0035	2		15635.95	15635.95		4.98	Si
SLD 15	ini.	5356.73	-12374	-0.0006551	0.0002807	0.0035	2		15635.95	15635.95		2.92	Si
SLD 15	fin.	-2775.04	-1999	-0.0003014	0.0002807	0.0035	2		15648.46	15648.46		5.64	Si
SLV 13	ini.	5024.97	-17442	-0.0006053	0.0002807	0.0035	2		15635.95	15635.95		3.11	Si
SLV 13	fin.	-1927.59	-4783	-0.0002025	0.0002807	0.0035	2		15648.46	15648.46		8.12	Si
SLV 16	ini.	7388.71	-12840	-0.0009895	0.0002807	0.0035	2		15635.95	15635.95		2.12	Si
SLV 16	fin.	-3826.51	-631	-0.0004357	0.0002807	0.0035	2		15648.46	15648.46		4.09	Si
SLV 12	ini.	7243.19	-4726	-0.0009637	0.0002807	0.0035	2		15635.95	15635.95		2.16	Si
SLV 12	fin.	-4817.95	3328	-0.0005743	0.0002807	0.0035	2		15648.46	15648.46		3.25	Si
SLV 5	ini.	-5656.48	-17071	-0.0007004	0.0002807	0.0035	2		15648.46	15648.46		2.77	Si
SLV 5	fin.	4129.66	-13927	-0.0004774	0.0002807	0.0035	2		15635.95	15635.95		3.79	Si
SLV 2	ini.	-6468.29	-8788	-0.0008305	0.0002807	0.0035	2		15648.46	15648.46		2.42	Si
SLV 2	fin.	3551.04	-10667	-0.0003996	0.0002807	0.0035	2		15635.95	15635.95		4.4	Si
SLV 11	ini.	7691.76	-4840	-0.0010442	0.0002807	0.0035	2		15635.95	15635.95		2.03	Si
SLV 11	fin.	-5095.86	3798	-0.0006152	0.0002807	0.0035	2		15648.46	15648.46		3.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	5024.97	-19244	2	0	6677	7890	20213	5100	14567		0.76	No
SLV 13	fin.	-1927.59	-18682	2	0	6677	7890	20213	5100	14567		0.78	No
SLD 11	ini.	4927.47	-14823	2	0	6677	7890	20213	5100	14567		0.98	No
SLD 11	fin.	-3177.04	-15955	2	0	6677	7890	20213	5100	14567		0.91	No
SLV 14	ini.	4358.67	-17311	2	0	6677	7890	20213	5100	14567		0.84	No
SLV 14	fin.	-1514.77	-16724	2	0	6677	7890	20213	5100	14567		0.87	No
SLV 12	ini.	7243.19	-19091	2	0	6677	7890	20213	5100	14567		0.76	No
SLV 12	fin.	-4817.95	-20956	2	0	6677	7890	20213	5100	14567		0.7	No
SLV 16	ini.	7388.71	-22723	2	0	6677	7890	20213	5100	14567		0.64	No
SLV 16	fin.	-3826.51	-23233	2	0	6677	7890	20213	5100	14567		0.63	No
SLV 15	ini.	8055.01	-24655	2	0	6677	7890	20213	5100	14567		0.59	No
SLV 15	fin.	-4239.32	-25192	2	0	6677	7890	20213	5100	14567		0.58	No
SLD 12	ini.	4655.26	-14034	2	0	6677	7890	20213	5100	14567		1.04	Si
SLD 12	fin.	-3008.38	-15155	2	0	6677	7890	20213	5100	14567		0.96	No
SLD 15	ini.	5356.73	-17909	2	0	6677	7890	20213	5100	14567		0.81	No
SLD 15	fin.	-2775.04	-18247	2	0	6677	7890	20213	5100	14567		0.8	No
SLV 11	ini.	7691.76	-20392	2	0	6677	7890	20213	5100	14567		0.71	No
SLV 11	fin.	-5095.86	-22274	2	0	6677	7890	20213	5100	14567		0.65	No
SLD 16	ini.	4934.02	-16682	2	0	6677	7890	20213	5100	14567		0.87	No
SLD 16	fin.	-2513.14	-17005	2	0	6677	7890	20213	5100	14567		0.86	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.941	SLV 15	Si
V_SLV	0.578	SLV 15	No
PF_SLU	8.352	SLU 83	Si
V_SLU	1.477	SLU 83	Si

Trave di accoppiamento 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-3.403	-3.284	-1.95	0.05	2	-2.403	-3.284	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-2451	-2891	-0.0002727	0.0001872	0.0035	2		10737.13	10737.13	No	4.38	Si
SLU 73	fin.	2111.02	-4995	-0.0002304	0.0001872	0.0035	2		10722.86	10722.86	No	5.08	Si
SLU 75	ini.	-2471.49	-2916	-0.0002754	0.0001872	0.0035	2		10737.13	10737.13	No	4.34	Si
SLU 75	fin.	2136.37	-5044	-0.0002335	0.0001872	0.0035	2		10722.86	10722.86	No	5.02	Si
SLU 77	ini.	-2464.22	-2910	-0.0002744	0.0001872	0.0035	2		10737.13	10737.13	No	4.36	Si
SLU 77	fin.	2144.41	-5041	-0.0002345	0.0001872	0.0035	2		10722.86	10722.86	No	5	Si
SLU 82	ini.	-2504.41	-2979	-0.0002796	0.0001872	0.0035	2		10737.13	10737.13	No	4.29	Si
SLU 82	fin.	2181.37	-5135	-0.0002391	0.0001872	0.0035	2		10722.86	10722.86	No	4.92	Si
SLU 81	ini.	-2474.76	-2944	-0.0002758	0.0001872	0.0035	2		10737.13	10737.13	No	4.34	Si
SLU 81	fin.	2175.14	-5086	-0.0002383	0.0001872	0.0035	2		10722.86	10722.86	No	4.93	Si
SLU 80	ini.	-2476	-2925	-0.0002759	0.0001872	0.0035	2		10737.13	10737.13	No	4.34	Si
SLU 80	fin.	2135.4	-5053	-0.0002334	0.0001872	0.0035	2		10722.86	10722.86	No	5.02	Si
SLU 84	ini.	-2526.79	-3007	-0.0002825	0.0001872	0.0035	2		10737.13	10737.13	No	4.25	Si
SLU 84	fin.	2195.63	-5181	-0.0002409	0.0001872	0.0035	2		10722.86	10722.86	No	4.88	Si
SLU 78	ini.	-2493.87	-2944	-0.0002782	0.0001872	0.0035	2		10737.13	10737.13	No	4.31	Si
SLU 78	fin.	2150.63	-5090	-0.0002353	0.0001872	0.0035	2		10722.86	10722.86	No	4.99	Si
SLU 83	ini.	-2497.14	-2973	-0.0002786	0.0001872	0.0035	2		10737.13	10737.13	No	4.3	Si
SLU 83	fin.	2189.41	-5132	-0.0002401	0.0001872	0.0035	2		10722.86	10722.86	No	4.9	Si
SLU 76	ini.	-2473.38	-2919	-0.0002756	0.0001872	0.0035	2		10737.13	10737.13	No	4.34	Si
SLU 76	fin.	2125.28	-5040	-0.0002322	0.0001872	0.0035	2		10722.86	10722.86	No	5.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-2504.41	5019	2	0	6250	7930	13475	5100	14180	No	2.82	Si
SLU 82	fin.	2181.37	9429	2	0	6250	7930	13475	5100	14180	No	1.5	Si
SLU 73	ini.	-2451	4930	2	0	6250	7930	13475	5100	14180	No	2.88	Si
SLU 73	fin.	2111.02	9145	2	0	6250	7930	13475	5100	14180	No	1.55	Si
SLU 80	ini.	-2476	4989	2	0	6250	7930	13475	5100	14180	No	2.84	Si
SLU 80	fin.	2135.4	9235	2	0	6250	7930	13475	5100	14180	No	1.54	Si
SLU 75	ini.	-2471.49	4991	2	0	6250	7930	13475	5100	14180	No	2.84	Si
SLU 75	fin.	2136.37	9226	2	0	6250	7930	13475	5100	14180	No	1.54	Si
SLU 78	ini.	-2493.87	5026	2	0	6250	7930	13475	5100	14180	No	2.82	Si
SLU 78	fin.	2150.63	9302	2	0	6250	7930	13475	5100	14180	No	1.52	Si
SLU 81	ini.	-2474.76	5001	2	0	6250	7930	13475	5100	14180	No	2.84	Si
SLU 81	fin.	2175.14	9336	2	0	6250	7930	13475	5100	14180	No	1.52	Si
SLU 83	ini.	-2497.14	5037	2	0	6250	7930	13475	5100	14180	No	2.82	Si
SLU 83	fin.	2189.41	9412	2	0	6250	7930	13475	5100	14180	No	1.51	Si
SLU 76	ini.	-2473.38	4966	2	0	6250	7930	13475	5100	14180	No	2.86	Si
SLU 76	fin.	2125.28	9221	2	0	6250	7930	13475	5100	14180	No	1.54	Si
SLU 84	ini.	-2526.79	5055	2	0	6250	7930	13475	5100	14180	No	2.8	Si
SLU 84	fin.	2195.63	9506	2	0	6250	7930	13475	5100	14180	No	1.49	Si
SLU 77	ini.	-2464.22	5008	2	0	6250	7930	13475	5100	14180	No	2.83	Si
SLU 77	fin.	2144.41	9209	2	0	6250	7930	13475	5100	14180	No	1.54	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-3723.55	-1976	-0.000422	0.0002807	0.0035	2		15648.46	15648.46		4.2	Si
SLV 1	fin.	3266.51	-6027	-0.0003628	0.0002807	0.0035	2		15635.95	15635.95		4.79	Si
SLD 5	ini.	-3741.51	-4750	-0.0004243	0.0002807	0.0035	2		15648.46	15648.46		4.18	Si
SLD 5	fin.	2347.68	-7834	-0.0002508	0.0002807	0.0035	2		15635.95	15635.95		6.66	Si
SLV 2	ini.	-4189.5	-2523	-0.0004851	0.0002807	0.0035	2		15648.46	15648.46		3.74	Si
SLV 2	fin.	3376.38	-6925	-0.0003769	0.0002807	0.0035	2		15635.95	15635.95		4.63	Si
SLV 5	ini.	-5150.82	-6749	-0.0006234	0.0002807	0.0035	2		15648.46	15648.46		3.04	Si
SLV 5	fin.	2920.25	-10915	-0.0003194	0.0002807	0.0035	2		15635.95	15635.95		5.35	Si
SLV 10	ini.	-4698.58	-7923	-0.000557	0.0002807	0.0035	2		15648.46	15648.46		3.33	Si
SLV 10	fin.	2074.52	-11072	-0.0002193	0.0002807	0.0035	2		15635.95	15635.95		7.54	Si
SLD 6	ini.	-3931.87	-4973	-0.0004499	0.0002807	0.0035	2		15648.46	15648.46		3.98	Si
SLD 6	fin.	2392.57	-8200	-0.000256	0.0002807	0.0035	2		15635.95	15635.95		6.54	Si
SLD 9	ini.	-3257.44	-5268	-0.0003613	0.0002807	0.0035	2		15648.46	15648.46		4.8	Si
SLD 9	fin.	1764.15	-7557	-0.0001844	0.0002807	0.0035	2		15635.95	15635.95		8.86	Si
SLV 6	ini.	-5464.5	-7117	-0.0006708	0.0002807	0.0035	2		15648.46	15648.46		2.86	Si
SLV 6	fin.	2994.22	-11519	-0.0003286	0.0002807	0.0035	2		15635.95	15635.95		5.22	Si
SLD 10	ini.	-3447.8	-5492	-0.0003858	0.0002807	0.0035	2		15648.46	15648.46		4.54	Si
SLD 10	fin.	1809.04	-7924	-0.0001894	0.0002807	0.0035	2		15635.95	15635.95		8.64	Si
SLV 9	ini.	-4384.89	-7555	-0.0005124	0.0002807	0.0035	2		15648.46	15648.46		3.57	Si
SLV 9	fin.	2000.55	-10468	-0.0002109	0.0002807	0.0035	2		15635.95	15635.95		7.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-5464.5	10217	2	0	6643	7930	20213	5100	14573		1.43	Si
SLV 6	fin.	2994.22	16472	2	0	6643	7930	20213	5100	14573		0.88	No
SLV 5	ini.	-5150.82	9646	2	0	6643	7930	20213	5100	14573		1.51	Si
SLV 5	fin.	2920.25	15779	2	0	6643	7930	20213	5100	14573		0.92	No
SLD 9	ini.	-3257.44	5230	2	0	6643	7930	20213	5100	14573		2.79	Si
SLD 9	fin.	1764.15	10583	2	0	6643	7930	20213	5100	14573		1.38	Si
SLD 6	ini.	-3931.87	7557	2	0	6643	7930	20213	5100	14573		1.93	Si
SLD 6	fin.	2392.57	12317	2	0	6643	7930	20213	5100	14573		1.18	Si
SLD 10	ini.	-3447.8	5576	2	0	6643	7930	20213	5100	14573		2.61	Si
SLD 10	fin.	1809.04	11004	2	0	6643	7930	20213	5100	14573		1.32	Si
SLD 5	ini.	-3741.51	7211	2	0	6643	7930	20213	5100	14573		2.02	Si
SLD 5	fin.	2347.68	11897	2	0	6643	7930	20213	5100	14573		1.22	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-3723.55	9779	2	0	6643	7930	20213	5100	14573		1.49	Si
SLV 1	fin.	3266.51	11867	2	0	6643	7930	20213	5100	14573		1.23	Si
SLV 2	ini.	-4189.5	10627	2	0	6643	7930	20213	5100	14573		1.37	Si
SLV 2	fin.	3376.38	12896	2	0	6643	7930	20213	5100	14573		1.13	Si
SLV 10	ini.	-4698.58	7105	2	0	6643	7930	20213	5100	14573		2.05	Si
SLV 10	fin.	2074.52	14411	2	0	6643	7930	20213	5100	14573		1.01	Si
SLV 9	ini.	-4384.89	6534	2	0	6643	7930	20213	5100	14573		2.23	Si
SLV 9	fin.	2000.55	13718	2	0	6643	7930	20213	5100	14573		1.06	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.864	SLV 6	Si
V_SLV	0.885	SLV 6	No
PF_SLU	4.249	SLU 84	Si
V_SLU	1.492	SLU 84	Si

Trave di accoppiamento 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.914	5.876	-1.95	0.05	2	-1.914	5.876	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-1792.79	-6601	-0.000192	0.0001872	0.0035	2		10737.13	10737.13	No	5.99	Si
SLU 83	fin.	3443.62	-9403	-0.0004064	0.0001872	0.0035	2		10722.86	10722.86	No	3.11	Si
SLU 78	ini.	-1745.75	-6439	-0.0001865	0.0001872	0.0035	2		10737.13	10737.13	No	6.15	Si
SLU 78	fin.	3373.95	-9208	-0.0003966	0.0001872	0.0035	2		10722.86	10722.86	No	3.18	Si
SLU 84	ini.	-1741.26	-6511	-0.000186	0.0001872	0.0035	2		10737.13	10737.13	No	6.17	Si
SLU 84	fin.	3409.6	-9253	-0.0004016	0.0001872	0.0035	2		10722.86	10722.86	No	3.14	Si
SLU 75	ini.	-1714.69	-6329	-0.0001829	0.0001872	0.0035	2		10737.13	10737.13	No	6.26	Si
SLU 75	fin.	3320.73	-9032	-0.0003892	0.0001872	0.0035	2		10722.86	10722.86	No	3.23	Si
SLU 74	ini.	-1766.22	-6419	-0.0001889	0.0001872	0.0035	2		10737.13	10737.13	No	6.08	Si
SLU 74	fin.	3354.75	-9182	-0.000394	0.0001872	0.0035	2		10722.86	10722.86	No	3.2	Si
SLU 79	ini.	-1785.72	-6480	-0.0001912	0.0001872	0.0035	2		10737.13	10737.13	No	6.01	Si
SLU 79	fin.	3387.81	-9292	-0.0003986	0.0001872	0.0035	2		10722.86	10722.86	No	3.17	Si
SLU 77	ini.	-1797.28	-6530	-0.0001925	0.0001872	0.0035	2		10737.13	10737.13	No	5.97	Si
SLU 77	fin.	3407.97	-9358	-0.0004014	0.0001872	0.0035	2		10722.86	10722.86	No	3.15	Si
SLU 80	ini.	-1734.19	-6389	-0.0001851	0.0001872	0.0035	2		10737.13	10737.13	No	6.19	Si
SLU 80	fin.	3353.79	-9142	-0.0003938	0.0001872	0.0035	2		10722.86	10722.86	No	3.2	Si
SLU 81	ini.	-1761.73	-6490	-0.0001884	0.0001872	0.0035	2		10737.13	10737.13	No	6.09	Si
SLU 81	fin.	3390.4	-9227	-0.0003989	0.0001872	0.0035	2		10722.86	10722.86	No	3.16	Si
SLU 82	ini.	-1710.2	-6400	-0.0001823	0.0001872	0.0035	2		10737.13	10737.13	No	6.28	Si
SLU 82	fin.	3356.38	-9077	-0.0003942	0.0001872	0.0035	2		10722.86	10722.86	No	3.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-1785.72	4955	2	0	6250	7930	13475	5100	14180	No	2.86	Si
SLU 79	fin.	3387.81	12256	2	0	6250	7930	13475	5100	14180	No	1.16	Si
SLU 74	ini.	-1766.22	4886	2	0	6250	7930	13475	5100	14180	No	2.9	Si
SLU 74	fin.	3354.75	12112	2	0	6250	7930	13475	5100	14180	No	1.17	Si
SLU 84	ini.	-1741.26	4824	2	0	6250	7930	13475	5100	14180	No	2.94	Si
SLU 84	fin.	3409.6	12224	2	0	6250	7930	13475	5100	14180	No	1.16	Si
SLU 78	ini.	-1745.75	4876	2	0	6250	7930	13475	5100	14180	No	2.91	Si
SLU 78	fin.	3373.95	12139	2	0	6250	7930	13475	5100	14180	No	1.17	Si
SLU 80	ini.	-1734.19	4852	2	0	6250	7930	13475	5100	14180	No	2.92	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	3353.79	12060	2	0	6250	7930	13475	5100	14180	No	1.18	Si
SLU 81	ini.	-1761.73	4834	2	0	6250	7930	13475	5100	14180	No	2.93	Si
SLU 81	fin.	3390.4	12196	2	0	6250	7930	13475	5100	14180	No	1.16	Si
SLU 83	ini.	-1792.79	4927	2	0	6250	7930	13475	5100	14180	No	2.88	Si
SLU 83	fin.	3443.62	12420	2	0	6250	7930	13475	5100	14180	No	1.14	Si
SLU 77	ini.	-1797.28	4979	2	0	6250	7930	13475	5100	14180	No	2.85	Si
SLU 77	fin.	3407.97	12336	2	0	6250	7930	13475	5100	14180	No	1.15	Si
SLU 82	ini.	-1710.2	4731	2	0	6250	7930	13475	5100	14180	No	3	Si
SLU 82	fin.	3356.38	12000	2	0	6250	7930	13475	5100	14180	No	1.18	Si
SLU 75	ini.	-1714.69	4783	2	0	6250	7930	13475	5100	14180	No	2.96	Si
SLU 75	fin.	3320.73	11915	2	0	6250	7930	13475	5100	14180	No	1.19	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-2582.4	-4115	-0.0002782	0.0002807	0.0035	2		15648.46	15648.46		6.06	Si
SLV 3	fin.	3822.43	-8401	-0.0004356	0.0002807	0.0035	2		15635.95	15635.95		4.09	Si
SLV 12	ini.	-4244.29	-11319	-0.0004927	0.0002807	0.0035	2		15648.46	15648.46		3.69	Si
SLV 12	fin.	4535.06	-16921	-0.0005342	0.0002807	0.0035	2		15635.95	15635.95		3.45	Si
SLD 7	ini.	-3252.69	-7694	-0.0003607	0.0002807	0.0035	2		15648.46	15648.46		4.81	Si
SLD 7	fin.	3946.04	-12377	-0.0004523	0.0002807	0.0035	2		15635.95	15635.95		3.96	Si
SLV 8	ini.	-4317.73	-9958	-0.000503	0.0002807	0.0035	2		15648.46	15648.46		3.62	Si
SLV 8	fin.	4911.42	-15966	-0.0005886	0.0002807	0.0035	2		15635.95	15635.95		3.18	Si
SLD 12	ini.	-3000.11	-8479	-0.000329	0.0002807	0.0035	2		15648.46	15648.46		5.22	Si
SLD 12	fin.	3611.11	-12544	-0.0004075	0.0002807	0.0035	2		15635.95	15635.95		4.33	Si
SLD 8	ini.	-3047.72	-7608	-0.0003349	0.0002807	0.0035	2		15648.46	15648.46		5.13	Si
SLD 8	fin.	3842.77	-11950	-0.0004383	0.0002807	0.0035	2		15635.95	15635.95		4.07	Si
SLV 4	ini.	-2080.68	-3902	-0.0002198	0.0002807	0.0035	2		15648.46	15648.46		7.52	Si
SLV 4	fin.	3569.66	-7356	-0.000402	0.0002807	0.0035	2		15635.95	15635.95		4.38	Si
SLV 11	ini.	-4582.06	-11463	-0.0005403	0.0002807	0.0035	2		15648.46	15648.46		3.42	Si
SLV 11	fin.	4705.23	-17624	-0.0005586	0.0002807	0.0035	2		15635.95	15635.95		3.32	Si
SLD 11	ini.	-3205.09	-8566	-0.0003547	0.0002807	0.0035	2		15648.46	15648.46		4.88	Si
SLD 11	fin.	3714.38	-12971	-0.0004211	0.0002807	0.0035	2		15635.95	15635.95		4.21	Si
SLV 7	ini.	-4655.5	-10101	-0.0005508	0.0002807	0.0035	2		15648.46	15648.46		3.36	Si
SLV 7	fin.	5081.59	-16669	-0.0006137	0.0002807	0.0035	2		15635.95	15635.95		3.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-4582.06	10239	2	0	6643	7930	20213	5100	14573		1.42	Si
SLV 11	fin.	4705.23	22399	2	0	6643	7930	20213	5100	14573		0.65	No
SLD 8	ini.	-3047.72	7851	2	0	6643	7930	20213	5100	14573		1.86	Si
SLD 8	fin.	3842.77	15689	2	0	6643	7930	20213	5100	14573		0.93	No
SLD 12	ini.	-3000.11	6847	2	0	6643	7930	20213	5100	14573		2.13	Si
SLD 12	fin.	3611.11	15889	2	0	6643	7930	20213	5100	14573		0.92	No
SLV 8	ini.	-4317.73	10842	2	0	6643	7930	20213	5100	14573		1.34	Si
SLV 8	fin.	4911.42	20897	2	0	6643	7930	20213	5100	14573		0.7	No
SLD 11	ini.	-3205.09	7436	2	0	6643	7930	20213	5100	14573		1.96	Si
SLD 11	fin.	3714.38	16594	2	0	6643	7930	20213	5100	14573		0.88	No
SLV 7	ini.	-4655.5	11812	2	0	6643	7930	20213	5100	14573		1.23	Si
SLV 7	fin.	5081.59	22058	2	0	6643	7930	20213	5100	14573		0.66	No
SLV 15	ini.	-2337.62	3728	2	0	6643	7930	20213	5100	14573		3.91	Si
SLV 15	fin.	2567.89	13776	2	0	6643	7930	20213	5100	14573		1.06	Si
SLD 7	ini.	-3252.69	8439	2	0	6643	7930	20213	5100	14573		1.73	Si
SLD 7	fin.	3946.04	16394	2	0	6643	7930	20213	5100	14573		0.89	No
SLV 3	ini.	-2582.4	8973	2	0	6643	7930	20213	5100	14573		1.62	Si
SLV 3	fin.	3822.43	12641	2	0	6643	7930	20213	5100	14573		1.15	Si
SLV 12	ini.	-4244.29	9269	2	0	6643	7930	20213	5100	14573		1.57	Si
SLV 12	fin.	4535.06	21237	2	0	6643	7930	20213	5100	14573		0.69	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.077	SLV 7	Si
V_SLV	0.651	SLV 11	No
PF_SLU	3.114	SLU 83	Si
V_SLU	1.142	SLU 83	Si

Trave di accoppiamento 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.828	5.951	0.73	1.63	0.9	-22.828	5.951	0.73	1.63	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	192.23	-1366	-0.0000978	0.0001872	0.0035	0.9		2959	2959	No	15.39	Si
SLU 75	fin.	804.23	-3183	-0.0004832	0.0001872	0.0035	0.9		2959	2959	No	3.68	Si
SLU 74	ini.	185.07	-1341	-0.000094	0.0001872	0.0035	0.9		2959	2959	No	15.99	Si
SLU 74	fin.	828.02	-3239	-0.0005006	0.0001872	0.0035	0.9		2959	2959	No	3.57	Si
SLU 80	ini.	195.42	-1386	-0.0000994	0.0001872	0.0035	0.9		2959	2959	No	15.14	Si
SLU 80	fin.	810.41	-3211	-0.0004877	0.0001872	0.0035	0.9		2959	2959	No	3.65	Si
SLU 69	ini.	158.54	-1193	-0.00008	0.0001872	0.0035	0.9		2959	2959	No	18.66	Si
SLU 69	fin.	807.38	-3089	-0.0004855	0.0001872	0.0035	0.9		2959	2959	No	3.66	Si
SLU 78	ini.	197.94	-1403	-0.0001008	0.0001872	0.0035	0.9		2959	2959	No	14.95	Si
SLU 78	fin.	816.59	-3237	-0.0004922	0.0001872	0.0035	0.9		2959	2959	No	3.62	Si
SLU 77	ini.	190.79	-1378	-0.000097	0.0001872	0.0035	0.9		2959	2959	No	15.51	Si
SLU 77	fin.	840.38	-3293	-0.0005097	0.0001872	0.0035	0.9		2959	2959	No	3.52	Si
SLU 81	ini.	190.66	-1366	-0.0000969	0.0001872	0.0035	0.9		2959	2959	No	15.52	Si
SLU 81	fin.	823.62	-3246	-0.0004974	0.0001872	0.0035	0.9		2959	2959	No	3.59	Si
SLU 83	ini.	196.38	-1403	-0.0001	0.0001872	0.0035	0.9		2959	2959	No	15.07	Si
SLU 83	fin.	835.98	-3300	-0.0005065	0.0001872	0.0035	0.9		2959	2959	No	3.54	Si
SLU 84	ini.	203.53	-1428	-0.0001038	0.0001872	0.0035	0.9		2959	2959	No	14.54	Si
SLU 84	fin.	812.19	-3244	-0.000489	0.0001872	0.0035	0.9		2959	2959	No	3.64	Si
SLU 79	ini.	188.27	-1361	-0.0000957	0.0001872	0.0035	0.9		2959	2959	No	15.72	Si
SLU 79	fin.	834.19	-3267	-0.0005051	0.0001872	0.0035	0.9		2959	2959	No	3.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	188.27	-259	0.9	0	1750	7137	3773	2295	6068	No	23.45	Si
SLU 79	fin.	834.19	1736	0.9	0	1750	7137	3773	2295	6068	No	3.49	Si
SLU 71	ini.	156.03	-111	0.9	0	1750	7137	3773	2295	6068	No	54.51	Si
SLU 71	fin.	801.2	1701	0.9	0	1750	7137	3773	2295	6068	No	3.57	Si
SLU 69	ini.	158.54	-121	0.9	0	1750	7137	3773	2295	6068	No	50	Si
SLU 69	fin.	807.38	1714	0.9	0	1750	7137	3773	2295	6068	No	3.54	Si
SLU 66	ini.	152.83	-99	0.9	0	1750	7137	3773	2295	6068	No	61.32	Si
SLU 66	fin.	795.03	1689	0.9	0	1750	7137	3773	2295	6068	No	3.59	Si
SLU 78	ini.	197.94	-317	0.9	0	1750	7137	3773	2295	6068	No	19.16	Si
SLU 78	fin.	816.59	1677	0.9	0	1750	7137	3773	2295	6068	No	3.62	Si
SLU 80	ini.	195.42	-307	0.9	0	1750	7137	3773	2295	6068	No	19.79	Si
SLU 80	fin.	810.41	1663	0.9	0	1750	7137	3773	2295	6068	No	3.65	Si
SLU 74	ini.	185.07	-246	0.9	0	1750	7137	3773	2295	6068	No	24.63	Si
SLU 74	fin.	828.02	1724	0.9	0	1750	7137	3773	2295	6068	No	3.52	Si
SLU 83	ini.	196.38	-300	0.9	0	1750	7137	3773	2295	6068	No	20.26	Si
SLU 83	fin.	835.98	1726	0.9	0	1750	7137	3773	2295	6068	No	3.52	Si
SLU 77	ini.	190.79	-269	0.9	0	1750	7137	3773	2295	6068	No	22.57	Si
SLU 77	fin.	840.38	1750	0.9	0	1750	7137	3773	2295	6068	No	3.47	Si
SLU 81	ini.	190.66	-277	0.9	0	1750	7137	3773	2295	6068	No	21.9	Si
SLU 81	fin.	823.62	1700	0.9	0	1750	7137	3773	2295	6068	No	3.57	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-438.11	1303	-0.0002294	0.0002807	0.0035	0.9		2995.37	2995.37		6.84	Si
SLV 11	fin.	2447.21	-6571	-0.0020972	0.0002807	0.0035	0.9		2989.59	2989.59		1.22	Si
SLV 12	ini.	-561.95	1855	-0.0003015	0.0002807	0.0035	0.9		2995.37	2995.37		5.33	Si
SLV 12	fin.	2678.01	-6961	-0.0025168	0.0002807	0.0035	0.9		2989.59	2989.59		1.12	Si
SLV 15	ini.	-647.88	2599	-0.0003541	0.0002807	0.0035	0.9		2995.37	2995.37		4.62	Si
SLV 15	fin.	1940.38	-4407	-0.0014256	0.0002807	0.0035	0.9		2989.59	2989.59		1.54	Si
SLD 16	ini.	-485.11	1856	-0.0002563	0.0002807	0.0035	0.9		2995.37	2995.37		6.17	Si
SLD 16	fin.	1643.75	-3927	-0.0011256	0.0002807	0.0035	0.9		2989.59	2989.59		1.82	Si
SLV 5	ini.	783.95	-3543	-0.0004429	0.0002807	0.0035	0.9		2989.59	2989.59		3.81	Si
SLV 5	fin.	-1492.09	2444	-0.0009853	0.0002807	0.0035	0.9		2995.37	2995.37		2.01	Si
SLV 8	ini.	-121.81	-206	-0.0000605	0.0002807	0.0035	0.9		2995.37	2995.37		24.59	Si
SLV 8	fin.	2066.18	-6245	-0.0015686	0.0002807	0.0035	0.9		2989.59	2989.59		1.45	Si
SLD 11	ini.	-222.03	463	-0.000112	0.0002807	0.0035	0.9		2995.37	2995.37		13.49	Si
SLD 11	fin.	1691.74	-4793	-0.0011712	0.0002807	0.0035	0.9		2989.59	2989.59		1.77	Si
SLV 16	ini.	-831.82	3418	-0.0004741	0.0002807	0.0035	0.9		2995.37	2995.37		3.6	Si
SLV 16	fin.	2283.21	-4987	-0.0018482	0.0002807	0.0035	0.9		2989.59	2989.59		1.31	Si
SLV 7	ini.	2.03	-758	-0.000001	0.0002807	0.0035	0.9		2989.59	2989.59		1476.01	Si
SLV 7	fin.	1835.38	-5854	-0.0013141	0.0002807	0.0035	0.9		2989.59	2989.59		1.63	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-297.18	798	-0.0001518	0.0002807	0.0035	0.9		2995.37	2995.37		10.08	Si
SLD 12	fin.	1831.8	-5030	-0.0013105	0.0002807	0.0035	0.9		2989.59	2989.59		1.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-647.88	4917	0.9	0	2577	7137	5660	2295	7955		1.62	Si
SLV 15	fin.	1940.38	5747	0.9	0	2577	7137	5660	2295	7955		1.38	Si
SLV 16	ini.	-831.82	6029	0.9	0	2577	7137	5660	2295	7955		1.32	Si
SLV 16	fin.	2283.21	6911	0.9	0	2577	7137	5660	2295	7955		1.15	Si
SLD 12	ini.	-297.18	3251	0.9	0	2577	7137	5660	2295	7955		2.45	Si
SLD 12	fin.	1831.8	5006	0.9	0	2577	7137	5660	2295	7955		1.59	Si
SLV 5	ini.	783.95	-5547	0.9	0	2577	7137	5660	2295	7955		1.43	Si
SLV 5	fin.	-1492.09	-5018	0.9	0	2577	7137	5660	2295	7955		1.59	Si
SLV 8	ini.	-121.81	2809	0.9	0	2577	7137	5660	2295	7955		2.83	Si
SLV 8	fin.	2066.18	5353	0.9	0	2577	7137	5660	2295	7955		1.49	Si
SLV 1	ini.	1053.82	-6135	0.9	0	2577	7137	5660	2295	7955		1.3	Si
SLV 1	fin.	-1097.29	-4396	0.9	0	2577	7137	5660	2295	7955		1.81	Si
SLV 11	ini.	-438.11	4692	0.9	0	2577	7137	5660	2295	7955		1.7	Si
SLV 11	fin.	2447.21	6749	0.9	0	2577	7137	5660	2295	7955		1.18	Si
SLV 2	ini.	869.88	-5024	0.9	0	2577	7137	5660	2295	7955		1.58	Si
SLV 2	fin.	-754.46	-3232	0.9	0	2577	7137	5660	2295	7955		2.46	Si
SLV 6	ini.	660.12	-4799	0.9	0	2577	7137	5660	2295	7955		1.66	Si
SLV 6	fin.	-1261.29	-4234	0.9	0	2577	7137	5660	2295	7955		1.88	Si
SLV 12	ini.	-561.95	5440	0.9	0	2577	7137	5660	2295	7955		1.46	Si
SLV 12	fin.	2678.01	7533	0.9	0	2577	7137	5660	2295	7955		1.06	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.116	SLV 12	Si
V_SLV	1.056	SLV 12	Si
PF_SLU	3.521	SLU 77	Si
V_SLU	3.468	SLU 77	Si

Trave di accoppiamento 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.828	5.951	3.53	4.4	0.87	-22.828	5.951	3.53	4.4	0.87	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-770.63	-4316	-0.0004962	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.6	Si
SLU 75	fin.	-89.52	-1212	-0.0000476	0.0001872	0.0035	0.87		2776.53	2776.53	No	31.02	Si
SLU 80	ini.	-777.29	-4354	-0.0005014	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.57	Si
SLU 80	fin.	-92.24	-1232	-0.0000491	0.0001872	0.0035	0.87		2776.53	2776.53	No	30.1	Si
SLU 79	ini.	-794.01	-4430	-0.0005146	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.5	Si
SLU 79	fin.	-83.02	-1206	-0.0000441	0.0001872	0.0035	0.87		2776.53	2776.53	No	33.44	Si
SLU 78	ini.	-783.72	-4391	-0.0005065	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.54	Si
SLU 78	fin.	-94.28	-1247	-0.0000502	0.0001872	0.0035	0.87		2776.53	2776.53	No	29.45	Si
SLU 81	ini.	-787.3	-4410	-0.0005093	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.53	Si
SLU 81	fin.	-85.98	-1216	-0.0000457	0.0001872	0.0035	0.87		2776.53	2776.53	No	32.29	Si
SLU 83	ini.	-800.38	-4485	-0.0005196	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.47	Si
SLU 83	fin.	-90.74	-1251	-0.0000482	0.0001872	0.0035	0.87		2776.53	2776.53	No	30.6	Si
SLU 77	ini.	-800.44	-4467	-0.0005197	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.47	Si
SLU 77	fin.	-85.06	-1221	-0.0000452	0.0001872	0.0035	0.87		2776.53	2776.53	No	32.64	Si
SLU 82	ini.	-770.57	-4334	-0.0004962	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.6	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	fin.	-95.2	-1242	-0.0000507	0.0001872	0.0035	0.87		2776.53	2776.53	No	29.17	Si
SLU 74	ini.	-787.36	-4392	-0.0005093	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.53	Si
SLU 74	fin.	-80.3	-1187	-0.0000426	0.0001872	0.0035	0.87		2776.53	2776.53	No	34.58	Si
SLU 84	ini.	-783.66	-4410	-0.0005064	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.54	Si
SLU 84	fin.	-99.96	-1276	-0.0000533	0.0001872	0.0035	0.87		2776.53	2776.53	No	27.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-783.72	6506	0.87	0	1692	6899	3647	2219	5866	No	0.9	No
SLU 78	fin.	-94.28	-1734	0.87	0	1692	6899	3647	2219	5866	No	3.38	Si
SLU 75	ini.	-770.63	6402	0.87	0	1692	6899	3647	2219	5866	No	0.92	No
SLU 75	fin.	-89.52	-1694	0.87	0	1692	6899	3647	2219	5866	No	3.46	Si
SLU 74	ini.	-787.36	6501	0.87	0	1692	6899	3647	2219	5866	No	0.9	No
SLU 74	fin.	-80.3	-1646	0.87	0	1692	6899	3647	2219	5866	No	3.56	Si
SLU 80	ini.	-777.29	6455	0.87	0	1692	6899	3647	2219	5866	No	0.91	No
SLU 80	fin.	-92.24	-1716	0.87	0	1692	6899	3647	2219	5866	No	3.42	Si
SLU 77	ini.	-800.44	6605	0.87	0	1692	6899	3647	2219	5866	No	0.89	No
SLU 77	fin.	-85.06	-1686	0.87	0	1692	6899	3647	2219	5866	No	3.48	Si
SLU 82	ini.	-770.57	6476	0.87	0	1692	6899	3647	2219	5866	No	0.91	No
SLU 82	fin.	-95.2	-1779	0.87	0	1692	6899	3647	2219	5866	No	3.3	Si
SLU 79	ini.	-794.01	6553	0.87	0	1692	6899	3647	2219	5866	No	0.9	No
SLU 79	fin.	-83.02	-1668	0.87	0	1692	6899	3647	2219	5866	No	3.52	Si
SLU 84	ini.	-783.66	6580	0.87	0	1692	6899	3647	2219	5866	No	0.89	No
SLU 84	fin.	-99.96	-1819	0.87	0	1692	6899	3647	2219	5866	No	3.22	Si
SLU 81	ini.	-787.3	6574	0.87	0	1692	6899	3647	2219	5866	No	0.89	No
SLU 81	fin.	-85.98	-1731	0.87	0	1692	6899	3647	2219	5866	No	3.39	Si
SLU 83	ini.	-800.38	6678	0.87	0	1692	6899	3647	2219	5866	No	0.88	No
SLU 83	fin.	-90.74	-1771	0.87	0	1692	6899	3647	2219	5866	No	3.31	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 11	ini.	-1352.55	-6688	-0.0009447	0.0002807	0.0035	0.87		2803.75	2803.75		2.07	Si
SLD 11	fin.	400.73	421	-0.0002243	0.0002807	0.0035	0.87		2798.17	2798.17		6.98	Si
SLV 7	ini.	-1534.25	-7743	-0.0011189	0.0002807	0.0035	0.87		2803.75	2803.75		1.83	Si
SLV 7	fin.	230.3	-454	-0.0001249	0.0002807	0.0035	0.87		2798.17	2798.17		12.15	Si
SLD 16	ini.	-1235.32	-5909	-0.0008394	0.0002807	0.0035	0.87		2803.75	2803.75		2.27	Si
SLD 16	fin.	622.17	1464	-0.0003656	0.0002807	0.0035	0.87		2798.17	2798.17		4.5	Si
SLD 8	ini.	-1207.07	-6129	-0.0008148	0.0002807	0.0035	0.87		2803.75	2803.75		2.32	Si
SLD 8	fin.	193.99	-319	-0.0001046	0.0002807	0.0035	0.87		2798.17	2798.17		14.42	Si
SLD 12	ini.	-1443.51	-7066	-0.0010301	0.0002807	0.0035	0.87		2803.75	2803.75		1.94	Si
SLD 12	fin.	487.67	718	-0.0002779	0.0002807	0.0035	0.87		2798.17	2798.17		5.74	Si
SLV 8	ini.	-1684.14	-8367	-0.0012745	0.0002807	0.0035	0.87		2803.75	2803.75		1.66	Si
SLV 8	fin.	373.56	35	-0.0002079	0.0002807	0.0035	0.87		2798.17	2798.17		7.49	Si
SLV 11	ini.	-1905.42	-9216	-0.0015293	0.0002807	0.0035	0.87		2803.75	2803.75		1.47	Si
SLV 11	fin.	690.01	1168	-0.0004122	0.0002807	0.0035	0.87		2798.17	2798.17		4.06	Si
SLV 16	ini.	-1655.06	-7685	-0.0012434	0.0002807	0.0035	0.87		2803.75	2803.75		1.69	Si
SLV 16	fin.	1008.13	2737	-0.0006508	0.0002807	0.0035	0.87		2798.17	2798.17		2.78	Si
SLV 12	ini.	-2055.31	-9840	-0.0017253	0.0002807	0.0035	0.87		2803.75	2803.75		1.36	Si
SLV 12	fin.	833.28	1657	-0.0005156	0.0002807	0.0035	0.87		2798.17	2798.17		3.36	Si
SLV 15	ini.	-1432.41	-6758	-0.0010195	0.0002807	0.0035	0.87		2803.75	2803.75		1.96	Si
SLV 15	fin.	795.33	2011	-0.0004875	0.0002807	0.0035	0.87		2798.17	2798.17		3.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-1684.14	11091	0.87	0	2472	6899	5471	2219	7689		0.69	No
SLV 8	fin.	373.56	1130	0.87	0	2472	6899	5471	2219	7689		6.81	Si
SLD 8	ini.	-1207.07	8297	0.87	0	2472	6899	5471	2219	7689		0.93	No
SLD 8	fin.	193.99	204	0.87	0	2472	6899	5471	2219	7689		37.77	Si
SLV 15	ini.	-1432.41	9564	0.87	0	2472	6899	5471	2219	7689		0.8	No
SLV 15	fin.	795.33	3236	0.87	0	2472	6899	5471	2219	7689		2.38	Si
SLD 12	ini.	-1443.51	9653	0.87	0	2472	6899	5471	2219	7689		0.8	No
SLD 12	fin.	487.67	1688	0.87	0	2472	6899	5471	2219	7689		4.55	Si
SLV 11	ini.	-1905.42	12377	0.87	0	2472	6899	5471	2219	7689		0.62	No
SLV 11	fin.	690.01	2731	0.87	0	2472	6899	5471	2219	7689		2.82	Si
SLV 7	ini.	-1534.25	10247	0.87	0	2472	6899	5471	2219	7689		0.75	No
SLV 7	fin.	230.3	406	0.87	0	2472	6899	5471	2219	7689		18.94	Si
SLV 16	ini.	-1655.06	10817	0.87	0	2472	6899	5471	2219	7689		0.71	No
SLV 16	fin.	1008.13	4311	0.87	0	2472	6899	5471	2219	7689		1.78	Si
SLD 16	ini.	-1235.32	8395	0.87	0	2472	6899	5471	2219	7689		0.92	No
SLD 16	fin.	622.17	2354	0.87	0	2472	6899	5471	2219	7689		3.27	Si
SLV 12	ini.	-2055.31	13221	0.87	0	2472	6899	5471	2219	7689		0.58	No
SLV 12	fin.	833.28	3454	0.87	0	2472	6899	5471	2219	7689		2.23	Si
SLD 11	ini.	-1352.55	9141	0.87	0	2472	6899	5471	2219	7689		0.84	No
SLD 11	fin.	400.73	1249	0.87	0	2472	6899	5471	2219	7689		6.16	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.364	SLV 12	Si
V_SLV	0.582	SLV 12	No
PF_SLU	3.469	SLU 77	Si
V_SLU	0.878	SLU 83	No

Trave di accoppiamento 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.528	-3.169	0.73	1.63	0.9	-22.528	-3.169	0.73	1.63	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	1026.55	-3977	-0.000652	0.0001872	0.0035	0.9		2959	2959	No	2.88	Si
SLU 74	fin.	147.77	-2372	-0.0000744	0.0001872	0.0035	0.9		2959	2959	No	20.02	Si
SLU 75	ini.	1003.93	-3955	-0.0006342	0.0001872	0.0035	0.9		2959	2959	No	2.95	Si
SLU 75	fin.	170.72	-2410	-0.0000864	0.0001872	0.0035	0.9		2959	2959	No	17.33	Si
SLU 77	ini.	1032.8	-4003	-0.000657	0.0001872	0.0035	0.9		2959	2959	No	2.87	Si
SLU 77	fin.	154.94	-2403	-0.0000782	0.0001872	0.0035	0.9		2959	2959	No	19.1	Si
SLU 82	ini.	1040.32	-4092	-0.0006629	0.0001872	0.0035	0.9		2959	2959	No	2.84	Si
SLU 82	fin.	149.36	-2425	-0.0000753	0.0001872	0.0035	0.9		2959	2959	No	19.81	Si
SLU 81	ini.	1062.95	-4114	-0.000681	0.0001872	0.0035	0.9		2959	2959	No	2.78	Si
SLU 81	fin.	126.41	-2387	-0.0000634	0.0001872	0.0035	0.9		2959	2959	No	23.41	Si
SLU 80	ini.	1000.94	-3945	-0.0006318	0.0001872	0.0035	0.9		2959	2959	No	2.96	Si
SLU 80	fin.	179.47	-2427	-0.000091	0.0001872	0.0035	0.9		2959	2959	No	16.49	Si
SLU 84	ini.	1046.57	-4119	-0.0006679	0.0001872	0.0035	0.9		2959	2959	No	2.83	Si
SLU 84	fin.	156.53	-2455	-0.000079	0.0001872	0.0035	0.9		2959	2959	No	18.9	Si
SLU 79	ini.	1023.57	-3967	-0.0006497	0.0001872	0.0035	0.9		2959	2959	No	2.89	Si
SLU 79	fin.	156.52	-2389	-0.000079	0.0001872	0.0035	0.9		2959	2959	No	18.91	Si
SLU 83	ini.	1069.19	-4141	-0.000686	0.0001872	0.0035	0.9		2959	2959	No	2.77	Si
SLU 83	fin.	133.58	-2417	-0.0000671	0.0001872	0.0035	0.9		2959	2959	No	22.15	Si
SLU 78	ini.	1010.17	-3981	-0.0006391	0.0001872	0.0035	0.9		2959	2959	No	2.93	Si
SLU 78	fin.	177.89	-2440	-0.0000902	0.0001872	0.0035	0.9		2959	2959	No	16.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	1000.94	-2856	0.9	0	1750	7137	3773	2295	6068	No	2.12	Si
SLU 80	fin.	179.47	-2000	0.9	0	1750	7137	3773	2295	6068	No	3.03	Si
SLU 77	ini.	1032.8	-2834	0.9	0	1750	7137	3773	2295	6068	No	2.14	Si
SLU 77	fin.	154.94	-2160	0.9	0	1750	7137	3773	2295	6068	No	2.81	Si
SLU 78	ini.	1010.17	-2889	0.9	0	1750	7137	3773	2295	6068	No	2.1	Si
SLU 78	fin.	177.89	-2022	0.9	0	1750	7137	3773	2295	6068	No	3	Si
SLU 84	ini.	1046.57	-3032	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 84	fin.	156.53	-2145	0.9	0	1750	7137	3773	2295	6068	No	2.83	Si
SLU 76	ini.	979.61	-2881	0.9	0	1750	7137	3773	2295	6068	No	2.11	Si
SLU 76	fin.	187.59	-1911	0.9	0	1750	7137	3773	2295	6068	No	3.18	Si
SLU 75	ini.	1003.93	-2877	0.9	0	1750	7137	3773	2295	6068	No	2.11	Si
SLU 75	fin.	170.72	-2024	0.9	0	1750	7137	3773	2295	6068	No	3	Si
SLU 73	ini.	973.37	-2869	0.9	0	1750	7137	3773	2295	6068	No	2.12	Si
SLU 73	fin.	180.42	-1913	0.9	0	1750	7137	3773	2295	6068	No	3.17	Si
SLU 82	ini.	1040.32	-3020	0.9	0	1750	7137	3773	2295	6068	No	2.01	Si
SLU 82	fin.	149.36	-2147	0.9	0	1750	7137	3773	2295	6068	No	2.83	Si
SLU 83	ini.	1069.19	-2977	0.9	0	1750	7137	3773	2295	6068	No	2.04	Si
SLU 83	fin.	133.58	-2283	0.9	0	1750	7137	3773	2295	6068	No	2.66	Si
SLU 81	ini.	1062.95	-2965	0.9	0	1750	7137	3773	2295	6068	No	2.05	Si
SLU 81	fin.	126.41	-2285	0.9	0	1750	7137	3773	2295	6068	No	2.66	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	2227.03	-7912	-0.001771	0.0002807	0.0035	0.9		2989.59	2989.59		1.34	Si
SLV 4	fin.	-2524.1	2441	-0.0022193	0.0002807	0.0035	0.9		2995.37	2995.37		1.19	Si
SLV 1	ini.	1988.69	-7114	-0.0014792	0.0002807	0.0035	0.9		2989.59	2989.59		1.5	Si
SLV 1	fin.	-1155.96	-488	-0.0007089	0.0002807	0.0035	0.9		2995.37	2995.37		2.59	Si
SLV 10	ini.	438.47	-1832	-0.00023	0.0002807	0.0035	0.9		2989.59	2989.59		6.82	Si
SLV 10	fin.	2013.65	-5791	-0.0015075	0.0002807	0.0035	0.9		2989.59	2989.59		1.48	Si
SLV 15	ini.	-895.29	2747	-0.0005177	0.0002807	0.0035	0.9		2995.37	2995.37		3.35	Si
SLV 15	fin.	1918.47	-3666	-0.0014018	0.0002807	0.0035	0.9		2989.59	2989.59		1.56	Si
SLV 2	ini.	2274.13	-8085	-0.0018355	0.0002807	0.0035	0.9		2989.59	2989.59		1.31	Si
SLV 2	fin.	-1651.28	297	-0.0011299	0.0002807	0.0035	0.9		2995.37	2995.37		1.81	Si
SLV 13	ini.	-848.19	2574	-0.0004852	0.0002807	0.0035	0.9		2995.37	2995.37		3.53	Si
SLV 13	fin.	2791.29	-5810	-0.0027569	0.0002807	0.0035	0.9		2989.59	2989.59		1.07	Si
SLV 9	ini.	246.3	-1178	-0.000125	0.0002807	0.0035	0.9		2989.59	2989.59		12.14	Si
SLV 9	fin.	2347.11	-6320	-0.0019409	0.0002807	0.0035	0.9		2989.59	2989.59		1.27	Si
SLV 3	ini.	1941.59	-6941	-0.0014269	0.0002807	0.0035	0.9		2989.59	2989.59		1.54	Si
SLV 3	fin.	-2028.78	1655	-0.0015206	0.0002807	0.0035	0.9		2995.37	2995.37		1.48	Si
SLV 8	ini.	1132.54	-4160	-0.0006925	0.0002807	0.0035	0.9		2989.59	2989.59		2.64	Si
SLV 8	fin.	-2079.91	2950	-0.0015804	0.0002807	0.0035	0.9		2995.37	2995.37		1.44	Si
SLV 14	ini.	-562.75	1603	-0.000302	0.0002807	0.0035	0.9		2995.37	2995.37		5.32	Si
SLV 14	fin.	2295.97	-5025	-0.0018663	0.0002807	0.0035	0.9		2989.59	2989.59		1.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1132.54	-6431	0.9	0	2577	7137	5660	2295	7955		1.24	Si
SLV 8	fin.	-2079.91	-7369	0.9	0	2577	7137	5660	2295	7955		1.08	Si
SLD 2	ini.	1703.7	-6363	0.9	0	2577	7137	5660	2295	7955		1.25	Si
SLD 2	fin.	-1030.35	-5694	0.9	0	2577	7137	5660	2295	7955		1.4	Si
SLV 2	ini.	2274.13	-8874	0.9	0	2577	7137	5660	2295	7955		0.9	No
SLV 2	fin.	-1651.28	-8030	0.9	0	2577	7137	5660	2295	7955		0.99	No
SLV 4	ini.	2227.03	-10091	0.9	0	2577	7137	5660	2295	7955		0.79	No
SLV 4	fin.	-2524.1	-10056	0.9	0	2577	7137	5660	2295	7955		0.79	No
SLV 13	ini.	-848.19	6455	0.9	0	2577	7137	5660	2295	7955		1.23	Si
SLV 13	fin.	2791.29	7232	0.9	0	2577	7137	5660	2295	7955		1.1	Si
SLV 3	ini.	1941.59	-8563	0.9	0	2577	7137	5660	2295	7955		0.93	No
SLV 3	fin.	-2028.78	-8498	0.9	0	2577	7137	5660	2295	7955		0.94	No
SLD 4	ini.	1672.63	-7073	0.9	0	2577	7137	5660	2295	7955		1.12	Si
SLD 4	fin.	-1542.13	-6891	0.9	0	2577	7137	5660	2295	7955		1.15	Si
SLV 1	ini.	1988.69	-7346	0.9	0	2577	7137	5660	2295	7955		1.08	Si
SLV 1	fin.	-1155.96	-6471	0.9	0	2577	7137	5660	2295	7955		1.23	Si
SLV 7	ini.	940.37	-5403	0.9	0	2577	7137	5660	2295	7955		1.47	Si
SLV 7	fin.	-1746.46	-6320	0.9	0	2577	7137	5660	2295	7955		1.26	Si
SLD 3	ini.	1491.54	-6104	0.9	0	2577	7137	5660	2295	7955		1.3	Si
SLD 3	fin.	-1227.9	-5903	0.9	0	2577	7137	5660	2295	7955		1.35	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.071	SLV 13	Si
V_SLV	0.788	SLV 4	No
PF_SLU	2.768	SLU 83	Si
V_SLU	2.001	SLU 84	Si

Trave di accoppiamento 37

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.528	-3.169	3.53	4.4	0.87	-22.528	-3.169	3.53	4.4	0.87	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-426.06	-3626	-0.0002473	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.52	Si
SLU 75	fin.	-956.14	-3629	-0.0006468	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.9	Si
SLU 81	ini.	-407.8	-3603	-0.0002354	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.81	Si
SLU 81	fin.	-1021.2	-3809	-0.0007023	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.72	Si
SLU 79	ini.	-421.85	-3591	-0.0002445	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.58	Si
SLU 79	fin.	-973.99	-3672	-0.0006619	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.85	Si
SLU 78	ini.	-434.59	-3677	-0.0002529	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.39	Si
SLU 78	fin.	-960.79	-3656	-0.0006507	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.89	Si
SLU 84	ini.	-427.86	-3717	-0.0002485	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.49	Si
SLU 84	fin.	-1002.44	-3784	-0.0006861	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.77	Si
SLU 77	ini.	-423.07	-3614	-0.0002453	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.56	Si
SLU 77	fin.	-984.2	-3707	-0.0006705	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.82	Si
SLU 80	ini.	-433.38	-3655	-0.0002521	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.41	Si
SLU 80	fin.	-950.57	-3621	-0.0006421	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.92	Si
SLU 82	ini.	-419.32	-3666	-0.0002429	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.62	Si
SLU 82	fin.	-997.79	-3757	-0.0006821	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.78	Si
SLU 74	ini.	-414.53	-3563	-0.0002398	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.7	Si
SLU 74	fin.	-979.55	-3680	-0.0006666	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.83	Si
SLU 83	ini.	-416.33	-3654	-0.0002409	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.67	Si
SLU 83	fin.	-1025.85	-3836	-0.0007063	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-434.59	4384	0.87	0	1692	6899	3647	2219	5866	No	1.34	Si
SLU 78	fin.	-960.79	-3746	0.87	0	1692	6899	3647	2219	5866	No	1.57	Si
SLU 82	ini.	-419.32	4382	0.87	0	1692	6899	3647	2219	5866	No	1.34	Si
SLU 82	fin.	-997.79	-3910	0.87	0	1692	6899	3647	2219	5866	No	1.5	Si
SLU 73	ini.	-423.99	4316	0.87	0	1692	6899	3647	2219	5866	No	1.36	Si
SLU 73	fin.	-925.66	-3629	0.87	0	1692	6899	3647	2219	5866	No	1.62	Si
SLU 80	ini.	-433.38	4358	0.87	0	1692	6899	3647	2219	5866	No	1.35	Si
SLU 80	fin.	-950.57	-3708	0.87	0	1692	6899	3647	2219	5866	No	1.58	Si
SLU 75	ini.	-426.06	4323	0.87	0	1692	6899	3647	2219	5866	No	1.36	Si
SLU 75	fin.	-956.14	-3729	0.87	0	1692	6899	3647	2219	5866	No	1.57	Si
SLU 84	ini.	-427.86	4443	0.87	0	1692	6899	3647	2219	5866	No	1.32	Si
SLU 84	fin.	-1002.44	-3927	0.87	0	1692	6899	3647	2219	5866	No	1.49	Si
SLU 83	ini.	-416.33	4323	0.87	0	1692	6899	3647	2219	5866	No	1.36	Si
SLU 83	fin.	-1025.85	-3995	0.87	0	1692	6899	3647	2219	5866	No	1.47	Si
SLU 76	ini.	-432.53	4377	0.87	0	1692	6899	3647	2219	5866	No	1.34	Si
SLU 76	fin.	-930.31	-3645	0.87	0	1692	6899	3647	2219	5866	No	1.61	Si
SLU 81	ini.	-407.8	4262	0.87	0	1692	6899	3647	2219	5866	No	1.38	Si
SLU 81	fin.	-1021.2	-3978	0.87	0	1692	6899	3647	2219	5866	No	1.47	Si
SLU 77	ini.	-423.07	4264	0.87	0	1692	6899	3647	2219	5866	No	1.38	Si
SLU 77	fin.	-984.2	-3815	0.87	0	1692	6899	3647	2219	5866	No	1.54	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	717.06	1399	-0.0004312	0.0002807	0.0035	0.87		2798.17	2798.17		3.9	Si
SLD 4	fin.	-2030.93	-5492	-0.0016918	0.0002807	0.0035	0.87		2803.75	2803.75		1.38	Si
SLV 9	ini.	-1791.66	-8603	-0.001394	0.0002807	0.0035	0.87		2803.75	2803.75		1.56	Si
SLV 9	fin.	460.95	-860	-0.0002611	0.0002807	0.0035	0.87		2798.17	2798.17		6.07	Si
SLD 2	ini.	352.79	-164	-0.0001956	0.0002807	0.0035	0.87		2798.17	2798.17		7.93	Si
SLD 2	fin.	-1880.94	-5479	-0.0014993	0.0002807	0.0035	0.87		2803.75	2803.75		1.49	Si
SLV 3	ini.	1009.01	2528	-0.0006515	0.0002807	0.0035	0.87		2798.17	2798.17		2.77	Si
SLV 3	fin.	-2423.34	-6348	-0.0023372	0.0002807	0.0035	0.87		2803.75	2803.75		1.16	Si
SLV 13	ini.	-1927.05	-8665	-0.0015562	0.0002807	0.0035	0.87		2803.75	2803.75		1.45	Si
SLV 13	fin.	1526.45	2279	-0.001114	0.0002807	0.0035	0.87		2798.17	2798.17		1.83	Si
SLV 2	ini.	697.08	1033	-0.0004171	0.0002807	0.0035	0.87		2798.17	2798.17		4.01	Si
SLV 2	fin.	-2567.48	-7184	-0.0026426	0.0002807	0.0035	0.87		2803.75	2803.75		1.09	Si
SLV 4	ini.	1318.73	3701	-0.0009161	0.0002807	0.0035	0.87		2798.17	2798.17		2.12	Si
SLV 4	fin.	-2819.07	-7196	-0.0032739	0.0002807	0.0035	0.87		2803.75	2803.75		0.99	No
SLV 1	ini.	387.36	-141	-0.0002162	0.0002807	0.0035	0.87		2798.17	2798.17		7.22	Si
SLV 1	fin.	-2171.75	-6336	-0.0018961	0.0002807	0.0035	0.87		2803.75	2803.75		1.29	Si
SLV 8	ini.	1183.33	3639	-0.0007963	0.0002807	0.0035	0.87		2798.17	2798.17		2.36	Si
SLV 8	fin.	-1753.57	-4056	-0.0013508	0.0002807	0.0035	0.87		2803.75	2803.75		1.6	Si
SLD 3	ini.	520.56	654	-0.0002988	0.0002807	0.0035	0.87		2798.17	2798.17		5.38	Si
SLD 3	fin.	-1779.87	-4954	-0.0013805	0.0002807	0.0035	0.87		2803.75	2803.75		1.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1305.41	8494	0.87	0	2472	6899	5471	2219	7689		0.91	No
SLV 15	fin.	1274.86	4947	0.87	0	2472	6899	5471	2219	7689		1.55	Si
SLV 14	ini.	-1617.33	9988	0.87	0	2472	6899	5471	2219	7689		0.77	No
SLV 14	fin.	1130.72	4555	0.87	0	2472	6899	5471	2219	7689		1.69	Si
SLD 13	ini.	-1325.38	8418	0.87	0	2472	6899	5471	2219	7689		0.91	No
SLD 13	fin.	738.31	3008	0.87	0	2472	6899	5471	2219	7689		2.56	Si
SLV 9	ini.	-1791.66	10620	0.87	0	2472	6899	5471	2219	7689		0.72	No
SLV 9	fin.	460.95	2223	0.87	0	2472	6899	5471	2219	7689		3.46	Si
SLV 10	ini.	-1583.14	9502	0.87	0	2472	6899	5471	2219	7689		0.81	No
SLV 10	fin.	194.53	1152	0.87	0	2472	6899	5471	2219	7689		6.67	Si
SLV 3	ini.	1009.01	-4181	0.87	0	2472	6899	5471	2219	7689		1.84	Si
SLV 3	fin.	-2423.34	-9516	0.87	0	2472	6899	5471	2219	7689		0.81	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1927.05	11648	0.87	0	2472	6899	5471	2219	7689		0.66	No
SLV 13	fin.	1526.45	6146	0.87	0	2472	6899	5471	2219	7689		1.25	Si
SLV 1	ini.	387.36	-1027	0.87	0	2472	6899	5471	2219	7689		7.49	Si
SLV 1	fin.	-2171.75	-8317	0.87	0	2472	6899	5471	2219	7689		0.92	No
SLV 2	ini.	697.08	-2687	0.87	0	2472	6899	5471	2219	7689		2.86	Si
SLV 2	fin.	-2567.48	-9908	0.87	0	2472	6899	5471	2219	7689		0.78	No
SLV 4	ini.	1318.73	-5841	0.87	0	2472	6899	5471	2219	7689		1.32	Si
SLV 4	fin.	-2819.07	-11107	0.87	0	2472	6899	5471	2219	7689		0.69	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.995	SLV 4	No
V_SLV	0.66	SLV 13	No
PF_SLU	2.707	SLU 83	Si
V_SLU	1.32	SLU 84	Si

Trave di accoppiamento 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	3.53	4.4	0.87	-19.293	-3.169	3.53	4.4	0.87	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-527.83	-2614	-0.0003164	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.26	Si
SLU 75	fin.	297.18	-74	-0.0001664	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.32	Si
SLU 79	ini.	-531.86	-2616	-0.0003192	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.22	Si
SLU 79	fin.	300.85	-33	-0.0001686	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.21	Si
SLU 82	ini.	-548.95	-2720	-0.0003312	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.06	Si
SLU 82	fin.	292.23	-128	-0.0001634	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.48	Si
SLU 81	ini.	-550.27	-2713	-0.0003321	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.05	Si
SLU 81	fin.	296.49	-86	-0.000166	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.35	Si
SLU 77	ini.	-534.2	-2632	-0.0003208	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.2	Si
SLU 77	fin.	303.99	-35	-0.0001705	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.12	Si
SLU 83	ini.	-555.32	-2738	-0.0003357	0.0001872	0.0035	0.87		2776.53	2776.53	No	5	Si
SLU 83	fin.	299.04	-89	-0.0001675	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.27	Si
SLU 84	ini.	-554.01	-2746	-0.0003348	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.01	Si
SLU 84	fin.	294.79	-132	-0.0001649	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.4	Si
SLU 80	ini.	-530.55	-2623	-0.0003183	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.23	Si
SLU 80	fin.	296.6	-76	-0.000166	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.34	Si
SLU 74	ini.	-529.15	-2606	-0.0003173	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.25	Si
SLU 74	fin.	301.43	-31	-0.000169	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.19	Si
SLU 78	ini.	-532.89	-2639	-0.0003199	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.21	Si
SLU 78	fin.	299.73	-78	-0.0001679	0.0001872	0.0035	0.87		2771.06	2771.06	No	9.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-534.2	7390	0.87	0	1692	3965	3647	2219	5656	No	0.77	No
SLU 77	fin.	303.99	-312	0.87	0	1692	3965	3647	2219	5656	No	18.13	Si
SLU 78	ini.	-532.89	7375	0.87	0	1692	3965	3647	2219	5656	No	0.77	No
SLU 78	fin.	299.73	-390	0.87	0	1692	3965	3647	2219	5656	No	14.52	Si
SLU 80	ini.	-530.55	7322	0.87	0	1692	3965	3647	2219	5656	No	0.77	No
SLU 80	fin.	296.6	-374	0.87	0	1692	3965	3647	2219	5656	No	15.11	Si
SLU 74	ini.	-529.15	7323	0.87	0	1692	3965	3647	2219	5656	No	0.77	No
SLU 74	fin.	301.43	-305	0.87	0	1692	3965	3647	2219	5656	No	18.53	Si
SLU 75	ini.	-527.83	7308	0.87	0	1692	3965	3647	2219	5656	No	0.77	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	fin.	297.18	-383	0.87	0	1692	3965	3647	2219	5656	No	14.78	Si
SLU 79	ini.	-531.86	7336	0.87	0	1692	3965	3647	2219	5656	No	0.77	No
SLU 79	fin.	300.85	-297	0.87	0	1692	3965	3647	2219	5656	No	19.05	Si
SLU 82	ini.	-548.95	7481	0.87	0	1692	3965	3647	2219	5656	No	0.76	No
SLU 82	fin.	292.23	-427	0.87	0	1692	3965	3647	2219	5656	No	13.25	Si
SLU 84	ini.	-554.01	7548	0.87	0	1692	3965	3647	2219	5656	No	0.75	No
SLU 84	fin.	294.79	-434	0.87	0	1692	3965	3647	2219	5656	No	13.04	Si
SLU 81	ini.	-550.27	7495	0.87	0	1692	3965	3647	2219	5656	No	0.75	No
SLU 81	fin.	296.49	-349	0.87	0	1692	3965	3647	2219	5656	No	16.19	Si
SLU 83	ini.	-555.32	7562	0.87	0	1692	3965	3647	2219	5656	No	0.75	No
SLU 83	fin.	299.04	-356	0.87	0	1692	3965	3647	2219	5656	No	15.88	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-99.55	-270	-0.0000527	0.0002807	0.0035	0.87		2803.75	2803.75		28.16	Si
SLD 13	fin.	981.36	3063	-0.0006294	0.0002807	0.0035	0.87		2798.17	2798.17		2.85	Si
SLV 4	ini.	-757.75	-4029	-0.0004592	0.0002807	0.0035	0.87		2803.75	2803.75		3.7	Si
SLV 4	fin.	-978.38	-4646	-0.0006256	0.0002807	0.0035	0.87		2803.75	2803.75		2.87	Si
SLV 14	ini.	-15.77	188	-0.0000082	0.0002807	0.0035	0.87		2803.75	2803.75		177.79	Si
SLV 14	fin.	1209.12	3939	-0.0008186	0.0002807	0.0035	0.87		2798.17	2798.17		2.31	Si
SLV 9	ini.	-203.63	-1009	-0.0001097	0.0002807	0.0035	0.87		2803.75	2803.75		13.77	Si
SLV 9	fin.	989.36	2391	-0.0006358	0.0002807	0.0035	0.87		2798.17	2798.17		2.83	Si
SLD 15	ini.	-107.55	-260	-0.0000571	0.0002807	0.0035	0.87		2803.75	2803.75		26.07	Si
SLD 15	fin.	838.62	2770	-0.0005196	0.0002807	0.0035	0.87		2798.17	2798.17		3.34	Si
SLV 13	ini.	44.88	553	-0.0000236	0.0002807	0.0035	0.87		2798.17	2798.17		62.35	Si
SLV 13	fin.	1420.23	4775	-0.0010105	0.0002807	0.0035	0.87		2798.17	2798.17		1.97	Si
SLV 10	ini.	-244.46	-1255	-0.0001326	0.0002807	0.0035	0.87		2803.75	2803.75		11.47	Si
SLV 10	fin.	847.23	1829	-0.000526	0.0002807	0.0035	0.87		2798.17	2798.17		3.3	Si
SLD 14	ini.	-138.03	-502	-0.0000736	0.0002807	0.0035	0.87		2803.75	2803.75		20.31	Si
SLD 14	fin.	847.43	2532	-0.0005261	0.0002807	0.0035	0.87		2798.17	2798.17		3.3	Si
SLV 15	ini.	30.97	571	-0.0000163	0.0002807	0.0035	0.87		2798.17	2798.17		90.35	Si
SLV 15	fin.	1176.77	4275	-0.0007906	0.0002807	0.0035	0.87		2798.17	2798.17		2.38	Si
SLV 16	ini.	-29.68	206	-0.0000156	0.0002807	0.0035	0.87		2803.75	2803.75		94.47	Si
SLV 16	fin.	965.66	3439	-0.000617	0.0002807	0.0035	0.87		2798.17	2798.17		2.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-99.55	7320	0.87	0	2538	3965	5471	2219	6502		0.89	No
SLD 13	fin.	981.36	2476	0.87	0	2538	3965	5471	2219	6502		2.63	Si
SLV 5	ini.	-422.05	7569	0.87	0	2538	3965	5471	2219	6502		0.86	No
SLV 5	fin.	406.15	-1195	0.87	0	2538	3965	5471	2219	6502		5.44	Si
SLV 14	ini.	-15.77	7995	0.87	0	2538	3965	5471	2219	6502		0.81	No
SLV 14	fin.	1209.12	3162	0.87	0	2538	3965	5471	2219	6502		2.06	Si
SLV 9	ini.	-203.63	9014	0.87	0	2538	3965	5471	2219	6502		0.72	No
SLV 9	fin.	989.36	1040	0.87	0	2538	3965	5471	2219	6502		6.25	Si
SLV 6	ini.	-462.88	7095	0.87	0	2538	3965	5471	2219	6502		0.92	No
SLV 6	fin.	264.02	-1715	0.87	0	2538	3965	5471	2219	6502		3.79	Si
SLD 10	ini.	-285.4	7116	0.87	0	2538	3965	5471	2219	6502		0.91	No
SLD 10	fin.	602.33	303	0.87	0	2538	3965	5471	2219	6502		21.46	Si
SLV 15	ini.	30.97	6886	0.87	0	2538	3965	5471	2219	6502		0.94	No
SLV 15	fin.	1176.77	4074	0.87	0	2538	3965	5471	2219	6502		1.6	Si
SLD 9	ini.	-260.62	7404	0.87	0	2538	3965	5471	2219	6502		0.88	No
SLD 9	fin.	688.58	619	0.87	0	2538	3965	5471	2219	6502		10.5	Si
SLV 10	ini.	-244.46	8540	0.87	0	2538	3965	5471	2219	6502		0.76	No
SLV 10	fin.	847.23	520	0.87	0	2538	3965	5471	2219	6502		12.51	Si
SLV 13	ini.	44.88	8700	0.87	0	2538	3965	5471	2219	6502		0.75	No
SLV 13	fin.	1420.23	3936	0.87	0	2538	3965	5471	2219	6502		1.65	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.97	SLV 13	Si
V_SLV	0.721	SLV 9	No
PF_SLU	5	SLU 83	Si
V_SLU	0.748	SLU 83	No

Trave di accoppiamento 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.263	-3.169	0.73	1.63	0.9	-18.263	-3.169	0.73	1.63	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-874.35	-1927	-0.0005337	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.39	Si
SLU 78	fin.	875.5	-3182	-0.0005358	0.0001872	0.0035	0.9		2959	2959	No	3.38	Si
SLU 77	ini.	-867.8	-1907	-0.0005288	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.42	Si
SLU 77	fin.	856.36	-3132	-0.0005215	0.0001872	0.0035	0.9		2959	2959	No	3.46	Si
SLU 76	ini.	-863.89	-1908	-0.0005259	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.43	Si
SLU 76	fin.	869.35	-3154	-0.0005312	0.0001872	0.0035	0.9		2959	2959	No	3.4	Si
SLU 79	ini.	-861.26	-1892	-0.000524	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.44	Si
SLU 79	fin.	847.68	-3104	-0.0005151	0.0001872	0.0035	0.9		2959	2959	No	3.49	Si
SLU 82	ini.	-882.64	-1948	-0.0005399	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.36	Si
SLU 82	fin.	868.89	-3183	-0.0005309	0.0001872	0.0035	0.9		2959	2959	No	3.41	Si
SLU 81	ini.	-876.09	-1928	-0.000535	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.38	Si
SLU 81	fin.	849.75	-3134	-0.0005166	0.0001872	0.0035	0.9		2959	2959	No	3.48	Si
SLU 84	ini.	-890.92	-1966	-0.0005461	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.33	Si
SLU 84	fin.	879.13	-3216	-0.0005385	0.0001872	0.0035	0.9		2959	2959	No	3.37	Si
SLU 83	ini.	-884.38	-1946	-0.0005412	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.35	Si
SLU 83	fin.	859.99	-3166	-0.0005242	0.0001872	0.0035	0.9		2959	2959	No	3.44	Si
SLU 75	ini.	-866.06	-1909	-0.0005276	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.42	Si
SLU 75	fin.	865.27	-3149	-0.0005282	0.0001872	0.0035	0.9		2959	2959	No	3.42	Si
SLU 80	ini.	-867.81	-1912	-0.0005289	0.0001872	0.0035	0.9		2964.67	2964.67	No	3.42	Si
SLU 80	fin.	866.82	-3154	-0.0005293	0.0001872	0.0035	0.9		2959	2959	No	3.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-863.89	1424	0.9	0	1750	7137	3773	2295	6068	No	4.26	Si
SLU 76	fin.	869.35	3424	0.9	0	1750	7137	3773	2295	6068	No	1.77	Si
SLU 82	ini.	-882.64	1414	0.9	0	1750	7137	3773	2295	6068	No	4.29	Si
SLU 82	fin.	868.89	3474	0.9	0	1750	7137	3773	2295	6068	No	1.75	Si
SLU 81	ini.	-876.09	1390	0.9	0	1750	7137	3773	2295	6068	No	4.37	Si
SLU 81	fin.	849.75	3430	0.9	0	1750	7137	3773	2295	6068	No	1.77	Si
SLU 80	ini.	-867.81	1422	0.9	0	1750	7137	3773	2295	6068	No	4.27	Si
SLU 80	fin.	866.82	3435	0.9	0	1750	7137	3773	2295	6068	No	1.77	Si
SLU 83	ini.	-884.38	1405	0.9	0	1750	7137	3773	2295	6068	No	4.32	Si
SLU 83	fin.	859.99	3470	0.9	0	1750	7137	3773	2295	6068	No	1.75	Si
SLU 84	ini.	-890.92	1429	0.9	0	1750	7137	3773	2295	6068	No	4.25	Si
SLU 84	fin.	879.13	3514	0.9	0	1750	7137	3773	2295	6068	No	1.73	Si
SLU 79	ini.	-861.26	1398	0.9	0	1750	7137	3773	2295	6068	No	4.34	Si
SLU 79	fin.	847.68	3391	0.9	0	1750	7137	3773	2295	6068	No	1.79	Si
SLU 78	ini.	-874.35	1434	0.9	0	1750	7137	3773	2295	6068	No	4.23	Si
SLU 78	fin.	875.5	3467	0.9	0	1750	7137	3773	2295	6068	No	1.75	Si
SLU 75	ini.	-866.06	1419	0.9	0	1750	7137	3773	2295	6068	No	4.28	Si
SLU 75	fin.	865.27	3427	0.9	0	1750	7137	3773	2295	6068	No	1.77	Si
SLU 77	ini.	-867.8	1409	0.9	0	1750	7137	3773	2295	6068	No	4.31	Si
SLU 77	fin.	856.36	3423	0.9	0	1750	7137	3773	2295	6068	No	1.77	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-1310.46	-3068	-0.0008315	0.0002807	0.0035	0.9		2995.37	2995.37		2.29	Si
SLV 10	fin.	2370.17	-6898	-0.0019756	0.0002807	0.0035	0.9		2989.59	2989.59		1.26	Si
SLD 9	ini.	-1053.31	-2456	-0.0006313	0.0002807	0.0035	0.9		2995.37	2995.37		2.84	Si
SLD 9	fin.	1794.75	-5330	-0.0012727	0.0002807	0.0035	0.9		2989.59	2989.59		1.67	Si
SLV 13	ini.	-1168.92	-2829	-0.0007189	0.0002807	0.0035	0.9		2995.37	2995.37		2.56	Si
SLV 13	fin.	2695.75	-7301	-0.0025528	0.0002807	0.0035	0.9		2989.59	2989.59		1.11	Si
SLV 14	ini.	-1082.58	-2570	-0.0006531	0.0002807	0.0035	0.9		2995.37	2995.37		2.77	Si
SLV 14	fin.	2352.98	-6457	-0.0019497	0.0002807	0.0035	0.9		2989.59	2989.59		1.27	Si
SLD 13	ini.	-949.59	-2254	-0.000556	0.0002807	0.0035	0.9		2995.37	2995.37		3.15	Si
SLD 13	fin.	1913.13	-5382	-0.001396	0.0002807	0.0035	0.9		2989.59	2989.59		1.56	Si
SLD 10	ini.	-1018.03	-2350	-0.0006053	0.0002807	0.0035	0.9		2995.37	2995.37		2.94	Si
SLD 10	fin.	1654.71	-4985	-0.001136	0.0002807	0.0035	0.9		2989.59	2989.59		1.81	Si
SLV 9	ini.	-1368.59	-3243	-0.0008795	0.0002807	0.0035	0.9		2995.37	2995.37		2.19	Si
SLV 9	fin.	2600.93	-7466	-0.0023668	0.0002807	0.0035	0.9		2989.59	2989.59		1.15	Si
SLV 15	ini.	-782.35	-1883	-0.0004409	0.0002807	0.0035	0.9		2995.37	2995.37		3.83	Si
SLV 15	fin.	1828.26	-4920	-0.0013068	0.0002807	0.0035	0.9		2989.59	2989.59		1.64	Si
SLV 5	ini.	-1165.25	-2687	-0.000716	0.0002807	0.0035	0.9		2995.37	2995.37		2.57	Si
SLV 5	fin.	1700.17	-5345	-0.0011793	0.0002807	0.0035	0.9		2989.59	2989.59		1.76	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-894.81	-2089	-0.0005174	0.0002807	0.0035	0.9		2995.37	2995.37		3.35	Si
SLD 14	fin.	1695.68	-4847	-0.001175	0.0002807	0.0035	0.9		2989.59	2989.59		1.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-1165.25	2579	0.9	0	2577	7137	5660	2295	7955		3.08	Si
SLV 5	fin.	1700.17	5733	0.9	0	2577	7137	5660	2295	7955		1.39	Si
SLD 9	ini.	-1053.31	2917	0.9	0	2577	7137	5660	2295	7955		2.73	Si
SLD 9	fin.	1794.75	5403	0.9	0	2577	7137	5660	2295	7955		1.47	Si
SLD 14	ini.	-894.81	2915	0.9	0	2577	7137	5660	2295	7955		2.73	Si
SLD 14	fin.	1695.68	4677	0.9	0	2577	7137	5660	2295	7955		1.7	Si
SLD 10	ini.	-1018.03	2677	0.9	0	2577	7137	5660	2295	7955		2.97	Si
SLD 10	fin.	1654.71	5103	0.9	0	2577	7137	5660	2295	7955		1.56	Si
SLV 13	ini.	-1168.92	4631	0.9	0	2577	7137	5660	2295	7955		1.72	Si
SLV 13	fin.	2695.75	6835	0.9	0	2577	7137	5660	2295	7955		1.16	Si
SLV 6	ini.	-1107.13	2184	0.9	0	2577	7137	5660	2295	7955		3.64	Si
SLV 6	fin.	1469.41	5238	0.9	0	2577	7137	5660	2295	7955		1.52	Si
SLV 9	ini.	-1368.59	4188	0.9	0	2577	7137	5660	2295	7955		1.9	Si
SLV 9	fin.	2600.93	7492	0.9	0	2577	7137	5660	2295	7955		1.06	Si
SLV 14	ini.	-1082.58	4045	0.9	0	2577	7137	5660	2295	7955		1.97	Si
SLV 14	fin.	2352.98	6099	0.9	0	2577	7137	5660	2295	7955		1.3	Si
SLV 10	ini.	-1310.46	3794	0.9	0	2577	7137	5660	2295	7955		2.1	Si
SLV 10	fin.	2370.17	6997	0.9	0	2577	7137	5660	2295	7955		1.14	Si
SLD 13	ini.	-949.59	3287	0.9	0	2577	7137	5660	2295	7955		2.42	Si
SLD 13	fin.	1913.13	5143	0.9	0	2577	7137	5660	2295	7955		1.55	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.109	SLV 13	Si
V_SLV	1.062	SLV 9	Si
PF_SLU	3.328	SLU 84	Si
V_SLU	1.727	SLU 84	Si

Trave di accoppiamento 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.263	-3.169	3.53	4.4	0.87	-18.263	-3.169	3.53	4.4	0.87	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	79.21	-617	-0.0000421	0.0001872	0.0035	0.87		2771.06	2771.06	No	34.99	Si
SLU 83	fin.	-89.1	-2054	-0.0000474	0.0001872	0.0035	0.87		2776.53	2776.53	No	31.16	Si
SLU 40	ini.	84.57	-503	-0.000045	0.0001872	0.0035	0.87		2771.06	2771.06	No	32.77	Si
SLU 40	fin.	-93.69	-1818	-0.0000498	0.0001872	0.0035	0.87		2776.53	2776.53	No	29.64	Si
SLU 19	ini.	57.05	-467	-0.0000302	0.0001872	0.0035	0.87		2771.06	2771.06	No	48.57	Si
SLU 19	fin.	-79.29	-1564	-0.0000421	0.0001872	0.0035	0.87		2776.53	2776.53	No	35.02	Si
SLU 21	ini.	54.25	-483	-0.0000287	0.0001872	0.0035	0.87		2771.06	2771.06	No	51.08	Si
SLU 21	fin.	-80.12	-1584	-0.0000425	0.0001872	0.0035	0.87		2776.53	2776.53	No	34.66	Si
SLU 84	ini.	75.24	-626	-0.0000399	0.0001872	0.0035	0.87		2771.06	2771.06	No	36.83	Si
SLU 84	fin.	-91.95	-2073	-0.0000489	0.0001872	0.0035	0.87		2776.53	2776.53	No	30.2	Si
SLU 81	ini.	82	-600	-0.0000436	0.0001872	0.0035	0.87		2771.06	2771.06	No	33.79	Si
SLU 81	fin.	-88.27	-2034	-0.0000469	0.0001872	0.0035	0.87		2776.53	2776.53	No	31.46	Si
SLU 41	ini.	85.74	-509	-0.0000456	0.0001872	0.0035	0.87		2771.06	2771.06	No	32.32	Si
SLU 41	fin.	-91.67	-1819	-0.0000487	0.0001872	0.0035	0.87		2776.53	2776.53	No	30.29	Si
SLU 82	ini.	78.04	-610	-0.0000415	0.0001872	0.0035	0.87		2771.06	2771.06	No	35.51	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	fin.	-91.12	-2053	-0.0000484	0.0001872	0.0035	0.87		2776.53	2776.53	No	30.47	Si
SLU 42	ini.	81.77	-519	-0.0000435	0.0001872	0.0035	0.87		2771.06	2771.06	No	33.89	Si
SLU 42	fin.	-94.52	-1838	-0.0000503	0.0001872	0.0035	0.87		2776.53	2776.53	No	29.38	Si
SLU 39	ini.	88.54	-493	-0.0000471	0.0001872	0.0035	0.87		2771.06	2771.06	No	31.3	Si
SLU 39	fin.	-90.84	-1799	-0.0000483	0.0001872	0.0035	0.87		2776.53	2776.53	No	30.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	79.21	2267	0.87	0	1692	6899	3647	2219	5866	No	2.59	Si
SLU 83	fin.	-89.1	-5156	0.87	0	1692	6899	3647	2219	5866	No	1.14	Si
SLU 75	ini.	59.52	2239	0.87	0	1692	6899	3647	2219	5866	No	2.62	Si
SLU 75	fin.	-70.18	-4917	0.87	0	1692	6899	3647	2219	5866	No	1.19	Si
SLU 84	ini.	75.24	2278	0.87	0	1692	6899	3647	2219	5866	No	2.57	Si
SLU 84	fin.	-91.95	-5185	0.87	0	1692	6899	3647	2219	5866	No	1.13	Si
SLU 80	ini.	57.04	2245	0.87	0	1692	6899	3647	2219	5866	No	2.61	Si
SLU 80	fin.	-72.22	-4924	0.87	0	1692	6899	3647	2219	5866	No	1.19	Si
SLU 77	ini.	60.69	2254	0.87	0	1692	6899	3647	2219	5866	No	2.6	Si
SLU 77	fin.	-68.16	-4929	0.87	0	1692	6899	3647	2219	5866	No	1.19	Si
SLU 82	ini.	78.04	2252	0.87	0	1692	6899	3647	2219	5866	No	2.6	Si
SLU 82	fin.	-91.12	-5145	0.87	0	1692	6899	3647	2219	5866	No	1.14	Si
SLU 81	ini.	82	2240	0.87	0	1692	6899	3647	2219	5866	No	2.62	Si
SLU 81	fin.	-88.27	-5116	0.87	0	1692	6899	3647	2219	5866	No	1.15	Si
SLU 79	ini.	61.01	2233	0.87	0	1692	6899	3647	2219	5866	No	2.63	Si
SLU 79	fin.	-69.37	-4895	0.87	0	1692	6899	3647	2219	5866	No	1.2	Si
SLU 78	ini.	56.72	2266	0.87	0	1692	6899	3647	2219	5866	No	2.59	Si
SLU 78	fin.	-71.01	-4958	0.87	0	1692	6899	3647	2219	5866	No	1.18	Si
SLU 76	ini.	57.19	2227	0.87	0	1692	6899	3647	2219	5866	No	2.63	Si
SLU 76	fin.	-73.28	-4903	0.87	0	1692	6899	3647	2219	5866	No	1.2	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-366.41	207	-0.0002033	0.0002807	0.0035	0.87		2803.75	2803.75		7.65	Si
SLV 15	fin.	1385.26	3193	-0.0009775	0.0002807	0.0035	0.87		2798.17	2798.17		2.02	Si
SLD 13	ini.	-391.1	-362	-0.000218	0.0002807	0.0035	0.87		2803.75	2803.75		7.17	Si
SLD 13	fin.	1060.94	1845	-0.0006935	0.0002807	0.0035	0.87		2798.17	2798.17		2.64	Si
SLV 3	ini.	583.24	-472	-0.0003396	0.0002807	0.0035	0.87		2798.17	2798.17		4.8	Si
SLV 3	fin.	-1440.78	-5249	-0.0010275	0.0002807	0.0035	0.87		2803.75	2803.75		1.95	Si
SLV 2	ini.	422.02	-1047	-0.0002372	0.0002807	0.0035	0.87		2798.17	2798.17		6.63	Si
SLV 2	fin.	-1436.68	-5674	-0.0010236	0.0002807	0.0035	0.87		2803.75	2803.75		1.95	Si
SLV 16	ini.	-255.7	191	-0.000139	0.0002807	0.0035	0.87		2803.75	2803.75		10.97	Si
SLV 16	fin.	1088.79	2360	-0.0007165	0.0002807	0.0035	0.87		2798.17	2798.17		2.57	Si
SLV 4	ini.	693.96	-487	-0.0004149	0.0002807	0.0035	0.87		2798.17	2798.17		4.03	Si
SLV 4	fin.	-1737.25	-6082	-0.0013326	0.0002807	0.0035	0.87		2803.75	2803.75		1.61	Si
SLV 14	ini.	-527.63	-368	-0.0003026	0.0002807	0.0035	0.87		2803.75	2803.75		5.31	Si
SLV 14	fin.	1389.36	2768	-0.0009813	0.0002807	0.0035	0.87		2798.17	2798.17		2.01	Si
SLV 1	ini.	311.31	-1031	-0.0001713	0.0002807	0.0035	0.87		2798.17	2798.17		8.99	Si
SLV 1	fin.	-1140.21	-4841	-0.0007576	0.0002807	0.0035	0.87		2803.75	2803.75		2.46	Si
SLV 13	ini.	-638.35	-353	-0.0003757	0.0002807	0.0035	0.87		2803.75	2803.75		4.39	Si
SLV 13	fin.	1685.83	3601	-0.0012797	0.0002807	0.0035	0.87		2798.17	2798.17		1.66	Si
SLD 4	ini.	446.71	-478	-0.0002523	0.0002807	0.0035	0.87		2798.17	2798.17		6.26	Si
SLD 4	fin.	-1112.36	-4326	-0.0007343	0.0002807	0.0035	0.87		2803.75	2803.75		2.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	422.02	43	0.87	0	2472	6899	5471	2219	7689		180.41	Si
SLV 2	fin.	-1436.68	-8932	0.87	0	2472	6899	5471	2219	7689		0.86	No
SLD 1	ini.	216.9	873	0.87	0	2472	6899	5471	2219	7689		8.8	Si
SLD 1	fin.	-748.45	-6241	0.87	0	2472	6899	5471	2219	7689		1.23	Si
SLV 4	ini.	693.96	-1436	0.87	0	2472	6899	5471	2219	7689		5.35	Si
SLV 4	fin.	-1737.25	-8980	0.87	0	2472	6899	5471	2219	7689		0.86	No
SLD 2	ini.	287.14	549	0.87	0	2472	6899	5471	2219	7689		14	Si
SLD 2	fin.	-936.53	-6874	0.87	0	2472	6899	5471	2219	7689		1.12	Si
SLV 6	ini.	-245.7	3253	0.87	0	2472	6899	5471	2219	7689		2.36	Si
SLV 6	fin.	-48.46	-5045	0.87	0	2472	6899	5471	2219	7689		1.52	Si
SLV 8	ini.	660.75	-1678	0.87	0	2472	6899	5471	2219	7689		4.58	Si
SLV 8	fin.	-1050.37	-5203	0.87	0	2472	6899	5471	2219	7689		1.48	Si
SLV 3	ini.	583.24	-925	0.87	0	2472	6899	5471	2219	7689		8.31	Si
SLV 3	fin.	-1440.78	-7982	0.87	0	2472	6899	5471	2219	7689		0.96	No
SLV 1	ini.	311.31	554	0.87	0	2472	6899	5471	2219	7689		13.89	Si
SLV 1	fin.	-1140.21	-7934	0.87	0	2472	6899	5471	2219	7689		0.97	No
SLD 4	ini.	446.71	-316	0.87	0	2472	6899	5471	2219	7689		24.31	Si
SLD 4	fin.	-1112.36	-6901	0.87	0	2472	6899	5471	2219	7689		1.11	Si
SLD 3	ini.	376.47	8	0.87	0	2472	6899	5471	2219	7689		969.32	Si
SLD 3	fin.	-924.28	-6267	0.87	0	2472	6899	5471	2219	7689		1.23	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.614	SLV 4	Si
V_SLV	0.856	SLV 4	No
PF_SLU	29.375	SLU 42	Si
V_SLU	1.131	SLU 84	Si

Trave di accoppiamento 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	2.83	4.4	1.57	-18.498	0.841	2.83	4.4	1.57	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	2754.01	1076	-0.0005416	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.38	Si
SLU 80	fin.	91.95	-239	-0.0000148	0.0002246	0.0035	1.57		9309.62	9309.62	No	101.24	Si
SLU 81	ini.	2820.94	1123	-0.0005577	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.3	Si
SLU 81	fin.	85.71	-230	-0.0000138	0.0002246	0.0035	1.57		9309.62	9309.62	No	108.61	Si
SLU 74	ini.	2816.14	1168	-0.0005565	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.31	Si
SLU 74	fin.	74.82	-188	-0.0000121	0.0002246	0.0035	1.57		9309.62	9309.62	No	124.43	Si
SLU 78	ini.	2778.79	1088	-0.0005475	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.35	Si
SLU 78	fin.	92.8	-239	-0.000015	0.0002246	0.0035	1.57		9309.62	9309.62	No	100.31	Si
SLU 75	ini.	2753.24	1090	-0.0005414	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.38	Si
SLU 75	fin.	85.65	-228	-0.0000138	0.0002246	0.0035	1.57		9309.62	9309.62	No	108.69	Si
SLU 79	ini.	2816.91	1154	-0.0005567	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.3	Si
SLU 79	fin.	81.12	-199	-0.0000131	0.0002246	0.0035	1.57		9309.62	9309.62	No	114.77	Si
SLU 84	ini.	2783.59	1042	-0.0005487	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.34	Si
SLU 84	fin.	103.7	-281	-0.0000167	0.0002246	0.0035	1.57		9309.62	9309.62	No	89.78	Si
SLU 82	ini.	2758.04	1045	-0.0005425	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.38	Si
SLU 82	fin.	96.55	-269	-0.0000156	0.0002246	0.0035	1.57		9309.62	9309.62	No	96.43	Si
SLU 77	ini.	2841.69	1165	-0.0005627	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.28	Si
SLU 77	fin.	81.97	-200	-0.0000132	0.0002246	0.0035	1.57		9309.62	9309.62	No	113.57	Si
SLU 83	ini.	2846.49	1120	-0.0005639	0.0002246	0.0035	1.57		9309.62	9309.62	No	3.27	Si
SLU 83	fin.	92.87	-241	-0.000015	0.0002246	0.0035	1.57		9309.62	9309.62	No	100.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	2816.91	-4521	1.57	10833	1832	6344	3950	4004	7953	No	1.76	Si
SLU 79	fin.	81.12	-4970	1.57	0	1832	6344	3950	4004	7953	No	1.6	Si
SLU 74	ini.	2816.14	-4531	1.57	10833	1832	6344	3950	4004	7953	No	1.76	Si
SLU 74	fin.	74.82	-4980	1.57	0	1832	6344	3950	4004	7953	No	1.6	Si
SLU 77	ini.	2841.69	-4562	1.57	10833	1832	6344	3950	4004	7953	No	1.74	Si
SLU 77	fin.	81.97	-5011	1.57	0	1832	6344	3950	4004	7953	No	1.59	Si
SLU 75	ini.	2753.24	-4401	1.57	10833	1832	6344	3950	4004	7953	No	1.81	Si
SLU 75	fin.	85.65	-4850	1.57	0	1832	6344	3950	4004	7953	No	1.64	Si
SLU 69	ini.	2713.06	-4419	1.57	10833	1832	6344	3950	4004	7953	No	1.8	Si
SLU 69	fin.	37.87	-4868	1.57	0	1832	6344	3950	4004	7953	No	1.63	Si
SLU 81	ini.	2820.94	-4519	1.57	10833	1832	6344	3950	4004	7953	No	1.76	Si
SLU 81	fin.	85.71	-4968	1.57	0	1832	6344	3950	4004	7953	No	1.6	Si
SLU 80	ini.	2754.01	-4391	1.57	10833	1832	6344	3950	4004	7953	No	1.81	Si
SLU 80	fin.	91.95	-4840	1.57	0	1832	6344	3950	4004	7953	No	1.64	Si
SLU 84	ini.	2783.59	-4421	1.57	10833	1832	6344	3950	4004	7953	No	1.8	Si
SLU 84	fin.	103.7	-4870	1.57	0	1832	6344	3950	4004	7953	No	1.63	Si
SLU 83	ini.	2846.49	-4551	1.57	10833	1832	6344	3950	4004	7953	No	1.75	Si
SLU 83	fin.	92.87	-5000	1.57	0	1832	6344	3950	4004	7953	No	1.59	Si
SLU 78	ini.	2778.79	-4432	1.57	10833	1832	6344	3950	4004	7953	No	1.79	Si
SLU 78	fin.	92.8	-4881	1.57	0	1832	6344	3950	4004	7953	No	1.63	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	4328.48	4027	-0.0008975	0.0003369	0.0035	1.57		9563.67	9563.67		2.21	Si
SLD 8	fin.	-215.93	1654	-0.0000349	0.0003369	0.0035	1.57		9573.81	9573.81		44.34	Si
SLV 12	ini.	6170.09	6446	-0.0014679	0.0003369	0.0035	1.57		9563.67	9563.67		1.55	Si
SLV 12	fin.	-625.43	2776	-0.0001029	0.0003369	0.0035	1.57		9573.81	9573.81		15.31	Si
SLD 12	ini.	4451.71	4168	-0.0009311	0.0003369	0.0035	1.57		9563.67	9563.67		2.15	Si
SLD 12	fin.	-359.97	1609	-0.0000586	0.0003369	0.0035	1.57		9573.81	9573.81		26.6	Si
SLV 7	ini.	5946.69	6169	-0.0013892	0.0003369	0.0035	1.57		9563.67	9563.67		1.61	Si
SLV 7	fin.	-397.31	2819	-0.0000647	0.0003369	0.0035	1.57		9573.81	9573.81		24.1	Si
SLD 7	ini.	4315.19	3998	-0.0008939	0.0003369	0.0035	1.57		9563.67	9563.67		2.22	Si
SLD 7	fin.	-215.51	1632	-0.0000348	0.0003369	0.0035	1.57		9573.81	9573.81		44.42	Si
SLV 15	ini.	3546.74	2895	-0.0006964	0.0003369	0.0035	1.57		9563.67	9563.67		2.7	Si
SLV 15	fin.	-516.52	645	-0.0000846	0.0003369	0.0035	1.57		9573.81	9573.81		18.54	Si
SLV 8	ini.	5968.59	6216	-0.0013967	0.0003369	0.0035	1.57		9563.67	9563.67		1.6	Si
SLV 8	fin.	-397.99	2854	-0.0000648	0.0003369	0.0035	1.57		9573.81	9573.81		24.06	Si
SLV 11	ini.	6148.2	6399	-0.00146	0.0003369	0.0035	1.57		9563.67	9563.67		1.56	Si
SLV 11	fin.	-624.74	2740	-0.0001028	0.0003369	0.0035	1.57		9573.81	9573.81		15.32	Si
SLD 11	ini.	4438.43	4139	-0.0009274	0.0003369	0.0035	1.57		9563.67	9563.67		2.15	Si
SLD 11	fin.	-359.55	1588	-0.0000585	0.0003369	0.0035	1.57		9573.81	9573.81		26.63	Si
SLV 16	ini.	3579.26	2965	-0.0007044	0.0003369	0.0035	1.57		9563.67	9563.67		2.67	Si
SLV 16	fin.	-517.54	698	-0.0000848	0.0003369	0.0035	1.57		9573.81	9573.81		18.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	4328.48	-7915	1.57	16250	2748	6344	5924	4004	9091		1.15	Si
SLD 8	fin.	-215.93	-8258	1.57	0	2748	6344	5924	4004	9091		1.1	Si
SLV 7	ini.	5946.69	-11172	1.57	16250	2748	6344	5924	4004	9091		0.81	No
SLV 7	fin.	-397.31	-11519	1.57	0	2748	6344	5924	4004	9091		0.79	No
SLD 12	ini.	4451.71	-8351	1.57	16250	2748	6344	5924	4004	9091		1.09	Si
SLD 12	fin.	-359.97	-8677	1.57	0	2748	6344	5924	4004	9091		1.05	Si
SLV 16	ini.	3579.26	-6954	1.57	16250	2748	6344	5924	4004	9091		1.31	Si
SLV 16	fin.	-517.54	-7236	1.57	0	2748	6344	5924	4004	9091		1.26	Si
SLV 12	ini.	6170.09	-11909	1.57	16250	2748	6344	5924	4004	9091		0.76	No
SLV 12	fin.	-625.43	-12223	1.57	0	2748	6344	5924	4004	9091		0.74	No
SLV 8	ini.	5968.59	-11212	1.57	16250	2748	6344	5924	4004	9091		0.81	No
SLV 8	fin.	-397.99	-11559	1.57	0	2748	6344	5924	4004	9091		0.79	No
SLV 15	ini.	3546.74	-6894	1.57	16250	2748	6344	5924	4004	9091		1.32	Si
SLV 15	fin.	-516.52	-7177	1.57	0	2748	6344	5924	4004	9091		1.27	Si
SLD 7	ini.	4315.19	-7890	1.57	16250	2748	6344	5924	4004	9091		1.15	Si
SLD 7	fin.	-215.51	-8234	1.57	0	2748	6344	5924	4004	9091		1.1	Si
SLV 11	ini.	6148.2	-11869	1.57	16250	2748	6344	5924	4004	9091		0.77	No
SLV 11	fin.	-624.74	-12183	1.57	0	2748	6344	5924	4004	9091		0.75	No
SLD 11	ini.	4438.43	-8327	1.57	16250	2748	6344	5924	4004	9091		1.09	Si
SLD 11	fin.	-359.55	-8653	1.57	0	2748	6344	5924	4004	9091		1.05	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.55	SLV 12	Si
V_SLV	0.744	SLV 12	No
PF_SLU	3.271	SLU 83	Si
V_SLU	1.587	SLU 77	Si

Trave di accoppiamento 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.343	-3.169	2.83	4.4	1.57	-16.243	-3.169	2.83	4.4	1.57	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-1112.35	-3702	-0.0001933	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.07	Si
SLU 83	fin.	898.67	-1574	-0.0001535	0.0001872	0.0035	1.57		8966.59	8966.59	No	9.98	Si
SLU 81	ini.	-1107.86	-3677	-0.0001924	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.1	Si
SLU 81	fin.	891.67	-1550	-0.0001522	0.0001872	0.0035	1.57		8966.59	8966.59	No	10.06	Si
SLU 82	ini.	-1109.19	-3691	-0.0001927	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.09	Si
SLU 82	fin.	895.44	-1566	-0.0001529	0.0001872	0.0035	1.57		8966.59	8966.59	No	10.01	Si
SLU 75	ini.	-1091.63	-3619	-0.0001893	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.22	Si
SLU 75	fin.	883.89	-1577	-0.0001508	0.0001872	0.0035	1.57		8966.59	8966.59	No	10.14	Si
SLU 78	ini.	-1096.12	-3644	-0.0001902	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.19	Si
SLU 78	fin.	890.88	-1601	-0.0001521	0.0001872	0.0035	1.57		8966.59	8966.59	No	10.06	Si
SLU 77	ini.	-1094.8	-3630	-0.0001899	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.2	Si
SLU 77	fin.	887.11	-1584	-0.0001514	0.0001872	0.0035	1.57		8966.59	8966.59	No	10.11	Si
SLU 74	ini.	-1090.31	-3605	-0.0001891	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.23	Si
SLU 74	fin.	880.12	-1560	-0.0001501	0.0001872	0.0035	1.57		8966.59	8966.59	No	10.19	Si
SLU 80	ini.	-1086.35	-3611	-0.0001883	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.26	Si
SLU 80	fin.	881.17	-1582	-0.0001503	0.0001872	0.0035	1.57		8966.59	8966.59	No	10.18	Si
SLU 84	ini.	-1113.67	-3717	-0.0001935	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.06	Si
SLU 84	fin.	902.44	-1590	-0.0001542	0.0001872	0.0035	1.57		8966.59	8966.59	No	9.94	Si
SLU 79	ini.	-1085.03	-3596	-0.0001881	0.0001872	0.0035	1.57		8976.47	8976.47	No	8.27	Si
SLU 79	fin.	877.4	-1566	-0.0001496	0.0001872	0.0035	1.57		8966.59	8966.59	No	10.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-1090.31	6594	1.57	0	3053	7137	6582	4004	10189	No	1.55	Si
SLU 74	fin.	880.12	2978	1.57	0	3053	7137	6582	4004	10189	No	3.42	Si
SLU 82	ini.	-1109.19	6833	1.57	0	3053	7137	6582	4004	10189	No	1.49	Si
SLU 82	fin.	895.44	3022	1.57	0	3053	7137	6582	4004	10189	No	3.37	Si
SLU 75	ini.	-1091.63	6610	1.57	0	3053	7137	6582	4004	10189	No	1.54	Si
SLU 75	fin.	883.89	2982	1.57	0	3053	7137	6582	4004	10189	No	3.42	Si
SLU 83	ini.	-1112.35	6867	1.57	0	3053	7137	6582	4004	10189	No	1.48	Si
SLU 83	fin.	898.67	3031	1.57	0	3053	7137	6582	4004	10189	No	3.36	Si
SLU 81	ini.	-1107.86	6817	1.57	0	3053	7137	6582	4004	10189	No	1.49	Si
SLU 81	fin.	891.67	3018	1.57	0	3053	7137	6582	4004	10189	No	3.38	Si
SLU 80	ini.	-1086.35	6612	1.57	0	3053	7137	6582	4004	10189	No	1.54	Si
SLU 80	fin.	881.17	2960	1.57	0	3053	7137	6582	4004	10189	No	3.44	Si
SLU 77	ini.	-1094.8	6643	1.57	0	3053	7137	6582	4004	10189	No	1.53	Si
SLU 77	fin.	887.11	2991	1.57	0	3053	7137	6582	4004	10189	No	3.41	Si
SLU 78	ini.	-1096.12	6659	1.57	0	3053	7137	6582	4004	10189	No	1.53	Si
SLU 78	fin.	890.88	2995	1.57	0	3053	7137	6582	4004	10189	No	3.4	Si
SLU 79	ini.	-1085.03	6596	1.57	0	3053	7137	6582	4004	10189	No	1.54	Si
SLU 79	fin.	877.4	2957	1.57	0	3053	7137	6582	4004	10189	No	3.45	Si
SLU 84	ini.	-1113.67	6882	1.57	0	3053	7137	6582	4004	10189	No	1.48	Si
SLU 84	fin.	902.44	3035	1.57	0	3053	7137	6582	4004	10189	No	3.36	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1922.53	-6491	-0.0003436	0.0002807	0.0035	1.57		8902.47	8902.47		4.63	Si
SLV 9	fin.	1588.65	-3964	-0.0002777	0.0002807	0.0035	1.57		8892.13	8892.13		5.6	Si
SLD 14	ini.	-2052.34	-5968	-0.0003703	0.0002807	0.0035	1.57		8902.47	8902.47		4.34	Si
SLD 14	fin.	1478.59	-2887	-0.0002567	0.0002807	0.0035	1.57		8892.13	8892.13		6.01	Si
SLV 15	ini.	-2948.97	-7815	-0.000569	0.0002807	0.0035	1.57		8902.47	8902.47		3.02	Si
SLV 15	fin.	1955.19	-3326	-0.0003507	0.0002807	0.0035	1.57		8892.13	8892.13		4.55	Si
SLD 16	ini.	-1912.86	-5252	-0.0003416	0.0002807	0.0035	1.57		8902.47	8902.47		4.65	Si
SLD 16	fin.	1308.23	-2211	-0.0002247	0.0002807	0.0035	1.57		8892.13	8892.13		6.8	Si
SLD 13	ini.	-2305.59	-6640	-0.0004239	0.0002807	0.0035	1.57		8902.47	8902.47		3.86	Si
SLD 13	fin.	1644.51	-3235	-0.0002886	0.0002807	0.0035	1.57		8892.13	8892.13		5.41	Si
SLV 16	ini.	-2549.78	-6756	-0.0004775	0.0002807	0.0035	1.57		8902.47	8902.47		3.49	Si
SLV 16	fin.	1693.66	-2778	-0.0002982	0.0002807	0.0035	1.57		8892.13	8892.13		5.25	Si
SLD 15	ini.	-2166.1	-5924	-0.0003941	0.0002807	0.0035	1.57		8902.47	8902.47		4.11	Si
SLD 15	fin.	1474.15	-2559	-0.0002558	0.0002807	0.0035	1.57		8892.13	8892.13		6.03	Si
SLV 13	ini.	-3186.86	-9036	-0.0006258	0.0002807	0.0035	1.57		8902.47	8902.47		2.79	Si
SLV 13	fin.	2246.22	-4480	-0.0004117	0.0002807	0.0035	1.57		8892.13	8892.13		3.96	Si
SLV 4	ini.	1669.17	4092	-0.0002934	0.0002807	0.0035	1.57		8892.13	8892.13		5.33	Si
SLV 4	fin.	-1033.13	2287	-0.0001744	0.0002807	0.0035	1.57		8902.47	8902.47		8.62	Si
SLV 14	ini.	-2787.67	-7977	-0.0005315	0.0002807	0.0035	1.57		8902.47	8902.47		3.19	Si
SLV 14	fin.	1984.69	-3932	-0.0003567	0.0002807	0.0035	1.57		8892.13	8892.13		4.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-2166.1	7142	1.57	0	4579	7137	9873	4004	11716		1.64	Si
SLD 15	fin.	1474.15	6284	1.57	0	4579	7137	9873	4004	11716		1.86	Si
SLV 10	ini.	-1653.79	7530	1.57	0	4579	7137	9873	4004	11716		1.56	Si
SLV 10	fin.	1412.58	4623	1.57	0	4579	7137	9873	4004	11716		2.53	Si
SLD 9	ini.	-1477.97	6655	1.57	0	4579	7137	9873	4004	11716		1.76	Si
SLD 9	fin.	1204.86	4144	1.57	0	4579	7137	9873	4004	11716		2.83	Si
SLD 14	ini.	-2052.34	7333	1.57	0	4579	7137	9873	4004	11716		1.6	Si
SLD 14	fin.	1478.59	5904	1.57	0	4579	7137	9873	4004	11716		1.98	Si
SLV 15	ini.	-2948.97	8616	1.57	0	4579	7137	9873	4004	11716		1.36	Si
SLV 15	fin.	1955.19	8633	1.57	0	4579	7137	9873	4004	11716		1.36	Si
SLD 13	ini.	-2305.59	7870	1.57	0	4579	7137	9873	4004	11716		1.49	Si
SLD 13	fin.	1644.51	6661	1.57	0	4579	7137	9873	4004	11716		1.76	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-2787.67	9013	1.57	0	4579	7137	9873	4004	11716		1.3	Si
SLV 14	fin.	1984.69	8084	1.57	0	4579	7137	9873	4004	11716		1.45	Si
SLV 13	ini.	-3186.86	9860	1.57	0	4579	7137	9873	4004	11716		1.19	Si
SLV 13	fin.	2246.22	9278	1.57	0	4579	7137	9873	4004	11716		1.26	Si
SLV 16	ini.	-2549.78	7769	1.57	0	4579	7137	9873	4004	11716		1.51	Si
SLV 16	fin.	1693.66	7440	1.57	0	4579	7137	9873	4004	11716		1.57	Si
SLV 9	ini.	-1922.53	8100	1.57	0	4579	7137	9873	4004	11716		1.45	Si
SLV 9	fin.	1588.65	5426	1.57	0	4579	7137	9873	4004	11716		2.16	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.793	SLV 13	Si
V_SLV	1.188	SLV 13	Si
PF_SLU	8.06	SLU 84	Si
V_SLU	1.48	SLU 84	Si

Trave di accoppiamento 46

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	2.83	4.4	1.57	-15.058	2.206	2.83	4.4	1.57	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	591.87	-805	-0.0000982	0.0002246	0.0035	1.57		9309.62	9309.62	No	15.73	Si
SLU 78	fin.	-640.13	-1243	-0.0001064	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.56	Si
SLU 75	ini.	581.77	-789	-0.0000965	0.0002246	0.0035	1.57		9309.62	9309.62	No	16	Si
SLU 75	fin.	-633.42	-1222	-0.0001053	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.71	Si
SLU 81	ini.	597.26	-822	-0.0000991	0.0002246	0.0035	1.57		9309.62	9309.62	No	15.59	Si
SLU 81	fin.	-644.29	-1260	-0.0001071	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.46	Si
SLU 82	ini.	588.52	-806	-0.0000976	0.0002246	0.0035	1.57		9309.62	9309.62	No	15.82	Si
SLU 82	fin.	-641.51	-1241	-0.0001067	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.53	Si
SLU 84	ini.	598.63	-821	-0.0000994	0.0002246	0.0035	1.57		9309.62	9309.62	No	15.55	Si
SLU 84	fin.	-648.23	-1262	-0.0001078	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.38	Si
SLU 79	ini.	596.05	-814	-0.0000989	0.0002246	0.0035	1.57		9309.62	9309.62	No	15.62	Si
SLU 79	fin.	-639.51	-1253	-0.0001063	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.57	Si
SLU 83	ini.	607.37	-838	-0.0001009	0.0002246	0.0035	1.57		9309.62	9309.62	No	15.33	Si
SLU 83	fin.	-651	-1281	-0.0001083	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.32	Si
SLU 74	ini.	590.51	-805	-0.000098	0.0002246	0.0035	1.57		9309.62	9309.62	No	15.77	Si
SLU 74	fin.	-636.19	-1241	-0.0001057	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.65	Si
SLU 80	ini.	587.3	-798	-0.0000974	0.0002246	0.0035	1.57		9309.62	9309.62	No	15.85	Si
SLU 80	fin.	-636.74	-1234	-0.0001058	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.64	Si
SLU 77	ini.	600.62	-821	-0.0000997	0.0002246	0.0035	1.57		9309.62	9309.62	No	15.5	Si
SLU 77	fin.	-642.91	-1262	-0.0001069	0.0002246	0.0035	1.57		9319.32	9319.32	No	14.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	597.26	-1767	1.57	0	1832	6344	3950	4004	7953	No	4.5	Si
SLU 81	fin.	-644.29	-2209	1.57	0	1832	6344	3950	4004	7953	No	3.6	Si
SLU 79	ini.	596.05	-1760	1.57	0	1832	6344	3950	4004	7953	No	4.52	Si
SLU 79	fin.	-639.51	-2201	1.57	0	1832	6344	3950	4004	7953	No	3.61	Si
SLU 74	ini.	590.51	-1746	1.57	0	1832	6344	3950	4004	7953	No	4.55	Si
SLU 74	fin.	-636.19	-2188	1.57	0	1832	6344	3950	4004	7953	No	3.63	Si
SLU 83	ini.	607.37	-1794	1.57	0	1832	6344	3950	4004	7953	No	4.43	Si
SLU 83	fin.	-651	-2235	1.57	0	1832	6344	3950	4004	7953	No	3.56	Si
SLU 80	ini.	587.3	-1742	1.57	0	1832	6344	3950	4004	7953	No	4.56	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-636.74	-2184	1.57	0	1832	6344	3950	4004	7953	No	3.64	Si
SLU 77	ini.	600.62	-1772	1.57	0	1832	6344	3950	4004	7953	No	4.49	Si
SLU 77	fin.	-642.91	-2214	1.57	0	1832	6344	3950	4004	7953	No	3.59	Si
SLU 82	ini.	588.52	-1750	1.57	0	1832	6344	3950	4004	7953	No	4.54	Si
SLU 82	fin.	-641.51	-2192	1.57	0	1832	6344	3950	4004	7953	No	3.63	Si
SLU 78	ini.	591.87	-1755	1.57	0	1832	6344	3950	4004	7953	No	4.53	Si
SLU 78	fin.	-640.13	-2197	1.57	0	1832	6344	3950	4004	7953	No	3.62	Si
SLU 75	ini.	581.77	-1729	1.57	0	1832	6344	3950	4004	7953	No	4.6	Si
SLU 75	fin.	-633.42	-2171	1.57	0	1832	6344	3950	4004	7953	No	3.66	Si
SLU 84	ini.	598.63	-1776	1.57	0	1832	6344	3950	4004	7953	No	4.48	Si
SLU 84	fin.	-648.23	-2218	1.57	0	1832	6344	3950	4004	7953	No	3.59	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	610.98	-976	-0.0001006	0.0003369	0.0035	1.57		9563.67	9563.67		15.65	Si
SLV 15	fin.	-561.6	-1466	-0.0000921	0.0003369	0.0035	1.57		9573.81	9573.81		17.05	Si
SLV 8	ini.	589.45	-1887	-0.0000969	0.0003369	0.0035	1.57		9563.67	9563.67		16.22	Si
SLV 8	fin.	-725.49	-2303	-0.0001199	0.0003369	0.0035	1.57		9573.81	9573.81		13.2	Si
SLV 11	ini.	670.53	-1901	-0.0001107	0.0003369	0.0035	1.57		9563.67	9563.67		14.26	Si
SLV 11	fin.	-741.41	-2399	-0.0001226	0.0003369	0.0035	1.57		9573.81	9573.81		12.91	Si
SLV 7	ini.	584.88	-1879	-0.0000962	0.0003369	0.0035	1.57		9563.67	9563.67		16.35	Si
SLV 7	fin.	-723.38	-2294	-0.0001196	0.0003369	0.0035	1.57		9573.81	9573.81		13.23	Si
SLD 11	ini.	551.57	-1351	-0.0000906	0.0003369	0.0035	1.57		9563.67	9563.67		17.34	Si
SLD 11	fin.	-622.16	-1763	-0.0001024	0.0003369	0.0035	1.57		9573.81	9573.81		15.39	Si
SLD 8	ini.	499.66	-1341	-0.0000819	0.0003369	0.0035	1.57		9563.67	9563.67		19.14	Si
SLD 8	fin.	-611.9	-1701	-0.0001006	0.0003369	0.0035	1.57		9573.81	9573.81		15.65	Si
SLD 7	ini.	496.89	-1337	-0.0000814	0.0003369	0.0035	1.57		9563.67	9563.67		19.25	Si
SLD 7	fin.	-610.63	-1696	-0.0001004	0.0003369	0.0035	1.57		9573.81	9573.81		15.68	Si
SLV 16	ini.	617.77	-988	-0.0001017	0.0003369	0.0035	1.57		9563.67	9563.67		15.48	Si
SLV 16	fin.	-564.73	-1480	-0.0000927	0.0003369	0.0035	1.57		9573.81	9573.81		16.95	Si
SLD 12	ini.	554.34	-1356	-0.000091	0.0003369	0.0035	1.57		9563.67	9563.67		17.25	Si
SLD 12	fin.	-623.43	-1769	-0.0001026	0.0003369	0.0035	1.57		9573.81	9573.81		15.36	Si
SLV 12	ini.	675.1	-1909	-0.0001115	0.0003369	0.0035	1.57		9563.67	9563.67		14.17	Si
SLV 12	fin.	-743.51	-2409	-0.000123	0.0003369	0.0035	1.57		9573.81	9573.81		12.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	675.1	-2264	1.57	0	2748	6344	5924	4004	9091		4.02	Si
SLV 12	fin.	-743.51	-2626	1.57	0	2748	6344	5924	4004	9091		3.46	Si
SLV 15	ini.	610.98	-1546	1.57	0	2748	6344	5924	4004	9091		5.88	Si
SLV 15	fin.	-561.6	-1890	1.57	0	2748	6344	5924	4004	9091		4.81	Si
SLD 12	ini.	554.34	-1826	1.57	0	2748	6344	5924	4004	9091		4.98	Si
SLD 12	fin.	-623.43	-2176	1.57	0	2748	6344	5924	4004	9091		4.18	Si
SLD 11	ini.	551.57	-1820	1.57	0	2748	6344	5924	4004	9091		5	Si
SLD 11	fin.	-622.16	-2170	1.57	0	2748	6344	5924	4004	9091		4.19	Si
SLV 11	ini.	670.53	-2255	1.57	0	2748	6344	5924	4004	9091		4.03	Si
SLV 11	fin.	-741.41	-2616	1.57	0	2748	6344	5924	4004	9091		3.47	Si
SLV 16	ini.	617.77	-1560	1.57	0	2748	6344	5924	4004	9091		5.83	Si
SLV 16	fin.	-564.73	-1904	1.57	0	2748	6344	5924	4004	9091		4.77	Si
SLD 8	ini.	499.66	-1812	1.57	0	2748	6344	5924	4004	9091		5.02	Si
SLD 8	fin.	-611.9	-2162	1.57	0	2748	6344	5924	4004	9091		4.21	Si
SLD 7	ini.	496.89	-1807	1.57	0	2748	6344	5924	4004	9091		5.03	Si
SLD 7	fin.	-610.63	-2156	1.57	0	2748	6344	5924	4004	9091		4.22	Si
SLV 7	ini.	584.88	-2233	1.57	0	2748	6344	5924	4004	9091		4.07	Si
SLV 7	fin.	-723.38	-2594	1.57	0	2748	6344	5924	4004	9091		3.5	Si
SLV 8	ini.	589.45	-2243	1.57	0	2748	6344	5924	4004	9091		4.05	Si
SLV 8	fin.	-725.49	-2604	1.57	0	2748	6344	5924	4004	9091		3.49	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.876	SLV 12	Si
V_SLV	3.462	SLV 12	Si
PF_SLU	14.315	SLU 83	Si
V_SLU	3.558	SLU 83	Si

Trave di accoppiamento 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.793	6.661	0.73	1.63	0.9	-16.793	6.661	0.73	1.63	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	1015.53	-3631	-0.0006433	0.0001872	0.0035	0.9		2959	2959	No	2.91	Si
SLU 79	fin.	173.56	-1109	-0.0000879	0.0001872	0.0035	0.9		2959	2959	No	17.05	Si
SLU 81	ini.	1006.8	-3621	-0.0006364	0.0001872	0.0035	0.9		2959	2959	No	2.94	Si
SLU 81	fin.	178.75	-1137	-0.0000906	0.0001872	0.0035	0.9		2959	2959	No	16.55	Si
SLU 80	ini.	993.33	-3579	-0.0006259	0.0001872	0.0035	0.9		2959	2959	No	2.98	Si
SLU 80	fin.	179.31	-1130	-0.0000909	0.0001872	0.0035	0.9		2959	2959	No	16.5	Si
SLU 75	ini.	980.11	-3541	-0.0006156	0.0001872	0.0035	0.9		2959	2959	No	3.02	Si
SLU 75	fin.	179.76	-1130	-0.0000912	0.0001872	0.0035	0.9		2959	2959	No	16.46	Si
SLU 78	ini.	1001.26	-3609	-0.0006321	0.0001872	0.0035	0.9		2959	2959	No	2.96	Si
SLU 78	fin.	181.67	-1144	-0.0000922	0.0001872	0.0035	0.9		2959	2959	No	16.29	Si
SLU 77	ini.	1023.46	-3661	-0.0006496	0.0001872	0.0035	0.9		2959	2959	No	2.89	Si
SLU 77	fin.	175.92	-1122	-0.0000891	0.0001872	0.0035	0.9		2959	2959	No	16.82	Si
SLU 84	ini.	1005.74	-3637	-0.0006356	0.0001872	0.0035	0.9		2959	2959	No	2.94	Si
SLU 84	fin.	186.41	-1172	-0.0000947	0.0001872	0.0035	0.9		2959	2959	No	15.87	Si
SLU 82	ini.	984.59	-3569	-0.0006191	0.0001872	0.0035	0.9		2959	2959	No	3.01	Si
SLU 82	fin.	184.5	-1158	-0.0000937	0.0001872	0.0035	0.9		2959	2959	No	16.04	Si
SLU 83	ini.	1027.95	-3689	-0.0006531	0.0001872	0.0035	0.9		2959	2959	No	2.88	Si
SLU 83	fin.	180.66	-1151	-0.0000916	0.0001872	0.0035	0.9		2959	2959	No	16.38	Si
SLU 74	ini.	1002.31	-3592	-0.0006329	0.0001872	0.0035	0.9		2959	2959	No	2.95	Si
SLU 74	fin.	174.01	-1108	-0.0000881	0.0001872	0.0035	0.9		2959	2959	No	17.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	984.59	-2205	0.9	0	1750	7137	3773	2295	6068	No	2.75	Si
SLU 82	fin.	184.5	-147	0.9	0	1750	7137	3773	2295	6068	No	41.15	Si
SLU 78	ini.	1001.26	-2250	0.9	0	1750	7137	3773	2295	6068	No	2.7	Si
SLU 78	fin.	181.67	-190	0.9	0	1750	7137	3773	2295	6068	No	32.01	Si
SLU 77	ini.	1023.46	-2317	0.9	0	1750	7137	3773	2295	6068	No	2.62	Si
SLU 77	fin.	175.92	-236	0.9	0	1750	7137	3773	2295	6068	No	25.68	Si
SLU 80	ini.	993.33	-2231	0.9	0	1750	7137	3773	2295	6068	No	2.72	Si
SLU 80	fin.	179.31	-193	0.9	0	1750	7137	3773	2295	6068	No	31.44	Si
SLU 83	ini.	1027.95	-2327	0.9	0	1750	7137	3773	2295	6068	No	2.61	Si
SLU 83	fin.	180.66	-205	0.9	0	1750	7137	3773	2295	6068	No	29.64	Si
SLU 84	ini.	1005.74	-2261	0.9	0	1750	7137	3773	2295	6068	No	2.68	Si
SLU 84	fin.	186.41	-158	0.9	0	1750	7137	3773	2295	6068	No	38.4	Si
SLU 74	ini.	1002.31	-2260	0.9	0	1750	7137	3773	2295	6068	No	2.68	Si
SLU 74	fin.	174.01	-226	0.9	0	1750	7137	3773	2295	6068	No	26.89	Si
SLU 79	ini.	1015.53	-2298	0.9	0	1750	7137	3773	2295	6068	No	2.64	Si
SLU 79	fin.	173.56	-240	0.9	0	1750	7137	3773	2295	6068	No	25.31	Si
SLU 81	ini.	1006.8	-2271	0.9	0	1750	7137	3773	2295	6068	No	2.67	Si
SLU 81	fin.	178.75	-194	0.9	0	1750	7137	3773	2295	6068	No	31.25	Si
SLU 75	ini.	980.11	-2194	0.9	0	1750	7137	3773	2295	6068	No	2.77	Si
SLU 75	fin.	179.76	-179	0.9	0	1750	7137	3773	2295	6068	No	33.9	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 12	ini.	2180.36	-5524	-0.0017096	0.0002807	0.0035	0.9		2989.59	2989.59		1.37	Si
SLD 12	fin.	-416.53	1504	-0.0002172	0.0002807	0.0035	0.9		2995.37	2995.37		7.19	Si
SLD 15	ini.	2202.51	-4874	-0.0017385	0.0002807	0.0035	0.9		2989.59	2989.59		1.36	Si
SLD 15	fin.	-686.19	2822	-0.0003783	0.0002807	0.0035	0.9		2995.37	2995.37		4.37	Si
SLV 13	ini.	2054.94	-3896	-0.0015554	0.0002807	0.0035	0.9		2989.59	2989.59		1.45	Si
SLV 13	fin.	-887.46	3851	-0.0005123	0.0002807	0.0035	0.9		2995.37	2995.37		3.38	Si
SLD 16	ini.	2440.58	-5245	-0.0020864	0.0002807	0.0035	0.9		2989.59	2989.59		1.22	Si
SLD 16	fin.	-814.74	3397	-0.0004625	0.0002807	0.0035	0.9		2995.37	2995.37		3.68	Si
SLV 12	ini.	3175.07	-7608	-0.0036681	0.0002807	0.0035	0.9		2989.59	2989.59		0.94	No
SLV 12	fin.	-755.91	2913	-0.0004234	0.0002807	0.0035	0.9		2995.37	2995.37		3.96	Si
SLV 1	ini.	-2097.87	2017	-0.0016019	0.0002807	0.0035	0.9		2995.37	2995.37		1.43	Si
SLV 1	fin.	1574.41	-7209	-0.0010614	0.0002807	0.0035	0.9		2989.59	2989.59		1.9	Si
SLV 16	ini.	3473.13	-6923	-0.0043001	0.0002807	0.0035	0.9		2989.59	2989.59		0.86	No
SLV 16	fin.	-1348.81	5762	-0.000863	0.0002807	0.0035	0.9		2995.37	2995.37		2.22	Si
SLV 11	ini.	2922.44	-7214	-0.003066	0.0002807	0.0035	0.9		2989.59	2989.59		1.02	Si
SLV 11	fin.	-619.5	2303	-0.0003365	0.0002807	0.0035	0.9		2995.37	2995.37		4.84	Si
SLV 14	ini.	2430.21	-4481	-0.0020697	0.0002807	0.0035	0.9		2989.59	2989.59		1.23	Si
SLV 14	fin.	-1090.08	4758	-0.0006587	0.0002807	0.0035	0.9		2995.37	2995.37		2.75	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	3097.87	-6338	-0.0034911	0.0002807	0.0035	0.9		2989.59	2989.59		0.97	No
SLV 15	fin.	-1146.2	4855	-0.0007014	0.0002807	0.0035	0.9		2995.37	2995.37		2.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	2922.44	-8375	0.9	0	2577	7137	5660	2295	7955		0.95	No
SLV 11	fin.	-619.5	-5924	0.9	0	2577	7137	5660	2295	7955		1.34	Si
SLV 16	ini.	3473.13	-10714	0.9	0	2577	7137	5660	2295	7955		0.74	No
SLV 16	fin.	-1348.81	-9329	0.9	0	2577	7137	5660	2295	7955		0.85	No
SLD 16	ini.	2440.58	-7316	0.9	0	2577	7137	5660	2295	7955		1.09	Si
SLD 16	fin.	-814.74	-5985	0.9	0	2577	7137	5660	2295	7955		1.33	Si
SLV 15	ini.	3097.87	-9475	0.9	0	2577	7137	5660	2295	7955		0.84	No
SLV 15	fin.	-1146.2	-8073	0.9	0	2577	7137	5660	2295	7955		0.99	No
SLD 15	ini.	2202.51	-6530	0.9	0	2577	7137	5660	2295	7955		1.22	Si
SLD 15	fin.	-686.19	-5188	0.9	0	2577	7137	5660	2295	7955		1.53	Si
SLV 1	ini.	-2097.87	7658	0.9	0	2577	7137	5660	2295	7955		1.04	Si
SLV 1	fin.	1574.41	8900	0.9	0	2577	7137	5660	2295	7955		0.89	No
SLV 3	ini.	-1054.95	4563	0.9	0	2577	7137	5660	2295	7955		1.74	Si
SLV 3	fin.	1315.68	6535	0.9	0	2577	7137	5660	2295	7955		1.22	Si
SLV 12	ini.	3175.07	-9209	0.9	0	2577	7137	5660	2295	7955		0.86	No
SLV 12	fin.	-755.91	-6770	0.9	0	2577	7137	5660	2295	7955		1.17	Si
SLV 2	ini.	-1722.61	6419	0.9	0	2577	7137	5660	2295	7955		1.24	Si
SLV 2	fin.	1371.8	7644	0.9	0	2577	7137	5660	2295	7955		1.04	Si
SLV 14	ini.	2430.21	-7618	0.9	0	2577	7137	5660	2295	7955		1.04	Si
SLV 14	fin.	-1090.08	-6964	0.9	0	2577	7137	5660	2295	7955		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.861	SLV 16	No
V_SLV	0.742	SLV 16	No
PF_SLU	2.879	SLU 83	Si
V_SLU	2.607	SLU 83	Si

Trave di accoppiamento 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.793	6.661	3.53	4.4	0.87	-16.793	6.661	3.53	4.4	0.87	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-183.52	-1737	-0.0000996	0.0001872	0.0035	0.87		2776.53	2776.53	No	15.13	Si
SLU 77	fin.	-703.48	-5187	-0.0004445	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.95	Si
SLU 81	ini.	-185.88	-1727	-0.000101	0.0001872	0.0035	0.87		2776.53	2776.53	No	14.94	Si
SLU 81	fin.	-694.55	-5153	-0.0004377	0.0001872	0.0035	0.87		2776.53	2776.53	No	4	Si
SLU 79	ini.	-180.48	-1716	-0.0000979	0.0001872	0.0035	0.87		2776.53	2776.53	No	15.38	Si
SLU 79	fin.	-697.45	-5140	-0.0004399	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.98	Si
SLU 75	ini.	-189.09	-1716	-0.0001028	0.0001872	0.0035	0.87		2776.53	2776.53	No	14.68	Si
SLU 75	fin.	-677.56	-5028	-0.0004249	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.1	Si
SLU 82	ini.	-194.28	-1740	-0.0001057	0.0001872	0.0035	0.87		2776.53	2776.53	No	14.29	Si
SLU 82	fin.	-683.05	-5097	-0.000429	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.06	Si
SLU 84	ini.	-197.12	-1774	-0.0001074	0.0001872	0.0035	0.87		2776.53	2776.53	No	14.09	Si
SLU 84	fin.	-697.46	-5199	-0.0004399	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.98	Si
SLU 83	ini.	-188.71	-1761	-0.0001026	0.0001872	0.0035	0.87		2776.53	2776.53	No	14.71	Si
SLU 83	fin.	-708.96	-5255	-0.0004486	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.92	Si
SLU 74	ini.	-180.69	-1703	-0.000098	0.0001872	0.0035	0.87		2776.53	2776.53	No	15.37	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-689.06	-5085	-0.0004336	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.03	Si
SLU 80	ini.	-188.88	-1729	-0.0001027	0.0001872	0.0035	0.87		2776.53	2776.53	No	14.7	Si
SLU 80	fin.	-685.95	-5084	-0.0004312	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.05	Si
SLU 78	ini.	-191.93	-1749	-0.0001044	0.0001872	0.0035	0.87		2776.53	2776.53	No	14.47	Si
SLU 78	fin.	-691.97	-5131	-0.0004358	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-185.88	2066	0.87	0	1692	6899	3647	2219	5866	No	2.84	Si
SLU 81	fin.	-694.55	-8225	0.87	0	1692	6899	3647	2219	5866	No	0.71	No
SLU 74	ini.	-180.69	2002	0.87	0	1692	6899	3647	2219	5866	No	2.93	Si
SLU 74	fin.	-689.06	-8075	0.87	0	1692	6899	3647	2219	5866	No	0.73	No
SLU 84	ini.	-197.12	2136	0.87	0	1692	6899	3647	2219	5866	No	2.75	Si
SLU 84	fin.	-697.46	-8313	0.87	0	1692	6899	3647	2219	5866	No	0.71	No
SLU 83	ini.	-188.71	2095	0.87	0	1692	6899	3647	2219	5866	No	2.8	Si
SLU 83	fin.	-708.96	-8382	0.87	0	1692	6899	3647	2219	5866	No	0.7	No
SLU 75	ini.	-189.09	2043	0.87	0	1692	6899	3647	2219	5866	No	2.87	Si
SLU 75	fin.	-677.56	-8007	0.87	0	1692	6899	3647	2219	5866	No	0.73	No
SLU 80	ini.	-188.88	2050	0.87	0	1692	6899	3647	2219	5866	No	2.86	Si
SLU 80	fin.	-685.95	-8091	0.87	0	1692	6899	3647	2219	5866	No	0.72	No
SLU 79	ini.	-180.48	2010	0.87	0	1692	6899	3647	2219	5866	No	2.92	Si
SLU 79	fin.	-697.45	-8160	0.87	0	1692	6899	3647	2219	5866	No	0.72	No
SLU 82	ini.	-194.28	2107	0.87	0	1692	6899	3647	2219	5866	No	2.78	Si
SLU 82	fin.	-683.05	-8156	0.87	0	1692	6899	3647	2219	5866	No	0.72	No
SLU 78	ini.	-191.93	2072	0.87	0	1692	6899	3647	2219	5866	No	2.83	Si
SLU 78	fin.	-691.97	-8164	0.87	0	1692	6899	3647	2219	5866	No	0.72	No
SLU 77	ini.	-183.52	2031	0.87	0	1692	6899	3647	2219	5866	No	2.89	Si
SLU 77	fin.	-703.48	-8232	0.87	0	1692	6899	3647	2219	5866	No	0.71	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	913.77	757	-0.0005766	0.0002807	0.0035	0.87		2798.17	2798.17		3.06	Si
SLV 11	fin.	-1633.59	-8982	-0.0012207	0.0002807	0.0035	0.87		2803.75	2803.75		1.72	Si
SLV 14	ini.	1476.12	3065	-0.0010644	0.0002807	0.0035	0.87		2798.17	2798.17		1.9	Si
SLV 14	fin.	-1373.79	-7139	-0.0009644	0.0002807	0.0035	0.87		2803.75	2803.75		2.04	Si
SLV 16	ini.	1853.28	3591	-0.0014702	0.0002807	0.0035	0.87		2798.17	2798.17		1.51	Si
SLV 16	fin.	-1917.85	-9812	-0.0015447	0.0002807	0.0035	0.87		2803.75	2803.75		1.46	Si
SLV 1	ini.	-2078.18	-5828	-0.0017574	0.0002807	0.0035	0.87		2803.75	2803.75		1.35	Si
SLV 1	fin.	982.95	3000	-0.0006307	0.0002807	0.0035	0.87		2798.17	2798.17		2.85	Si
SLV 4	ini.	-1422.49	-4613	-0.0010101	0.0002807	0.0035	0.87		2803.75	2803.75		1.97	Si
SLV 4	fin.	245.47	-494	-0.0001335	0.0002807	0.0035	0.87		2798.17	2798.17		11.4	Si
SLV 2	ini.	-1799.65	-5139	-0.0014032	0.0002807	0.0035	0.87		2803.75	2803.75		1.56	Si
SLV 2	fin.	789.52	2179	-0.0004833	0.0002807	0.0035	0.87		2798.17	2798.17		3.54	Si
SLD 16	ini.	1134.51	1880	-0.0007547	0.0002807	0.0035	0.87		2798.17	2798.17		2.47	Si
SLD 16	fin.	-1380	-7428	-0.0009701	0.0002807	0.0035	0.87		2803.75	2803.75		2.03	Si
SLV 15	ini.	1574.75	2902	-0.0011629	0.0002807	0.0035	0.87		2798.17	2798.17		1.78	Si
SLV 15	fin.	-1724.41	-8991	-0.0013184	0.0002807	0.0035	0.87		2803.75	2803.75		1.63	Si
SLV 12	ini.	1101.28	1221	-0.0007268	0.0002807	0.0035	0.87		2798.17	2798.17		2.54	Si
SLV 12	fin.	-1763.81	-9534	-0.0013623	0.0002807	0.0035	0.87		2803.75	2803.75		1.59	Si
SLV 3	ini.	-1701.01	-5302	-0.0012928	0.0002807	0.0035	0.87		2803.75	2803.75		1.65	Si
SLV 3	fin.	438.9	328	-0.0002475	0.0002807	0.0035	0.87		2798.17	2798.17		6.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	1101.28	-4385	0.87	0	2472	6899	5471	2219	7689		1.75	Si
SLV 12	fin.	-1763.81	-12849	0.87	0	2472	6899	5471	2219	7689		0.6	No
SLV 16	ini.	1853.28	-7415	0.87	0	2472	6899	5471	2219	7689		1.04	Si
SLV 16	fin.	-1917.85	-13484	0.87	0	2472	6899	5471	2219	7689		0.57	No
SLD 11	ini.	513.25	-1643	0.87	0	2472	6899	5471	2219	7689		4.68	Si
SLD 11	fin.	-1166.57	-9447	0.87	0	2472	6899	5471	2219	7689		0.81	No
SLV 15	ini.	1574.75	-6150	0.87	0	2472	6899	5471	2219	7689		1.25	Si
SLV 15	fin.	-1724.41	-12498	0.87	0	2472	6899	5471	2219	7689		0.62	No
SLV 14	ini.	1476.12	-5550	0.87	0	2472	6899	5471	2219	7689		1.39	Si
SLV 14	fin.	-1373.79	-10276	0.87	0	2472	6899	5471	2219	7689		0.75	No
SLD 16	ini.	1134.51	-4227	0.87	0	2472	6899	5471	2219	7689		1.82	Si
SLD 16	fin.	-1380	-10464	0.87	0	2472	6899	5471	2219	7689		0.73	No
SLD 15	ini.	957.81	-3425	0.87	0	2472	6899	5471	2219	7689		2.25	Si
SLD 15	fin.	-1257.28	-9838	0.87	0	2472	6899	5471	2219	7689		0.78	No
SLV 11	ini.	913.77	-3533	0.87	0	2472	6899	5471	2219	7689		2.18	Si
SLV 11	fin.	-1633.59	-12186	0.87	0	2472	6899	5471	2219	7689		0.63	No
SLD 12	ini.	627.04	-2160	0.87	0	2472	6899	5471	2219	7689		3.56	Si
SLD 12	fin.	-1245.6	-9850	0.87	0	2472	6899	5471	2219	7689		0.78	No
SLV 1	ini.	-2078.18	9997	0.87	0	2472	6899	5471	2219	7689		0.77	No
SLV 1	fin.	982.95	2759	0.87	0	2472	6899	5471	2219	7689		2.79	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.349	SLV 1	Si
V_SLV	0.57	SLV 16	No
PF_SLU	3.916	SLU 83	Si
V_SLU	0.7	SLU 83	No

Trave di accoppiamento 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	6.661	0.73	1.63	0.9	-11.868	6.661	0.73	1.63	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	267.28	-3107	-0.0001383	0.0001872	0.0035	0.9		2959	2959	No	11.07	Si
SLU 84	fin.	788.28	-3905	-0.0004717	0.0001872	0.0035	0.9		2959	2959	No	3.75	Si
SLU 80	ini.	257.98	-3026	-0.0001332	0.0001872	0.0035	0.9		2959	2959	No	11.47	Si
SLU 80	fin.	769.3	-3816	-0.000458	0.0001872	0.0035	0.9		2959	2959	No	3.85	Si
SLU 79	ini.	257.86	-3042	-0.0001331	0.0001872	0.0035	0.9		2959	2959	No	11.48	Si
SLU 79	fin.	774.69	-3850	-0.0004619	0.0001872	0.0035	0.9		2959	2959	No	3.82	Si
SLU 77	ini.	258.55	-3067	-0.0001335	0.0001872	0.0035	0.9		2959	2959	No	11.44	Si
SLU 77	fin.	782.68	-3890	-0.0004676	0.0001872	0.0035	0.9		2959	2959	No	3.78	Si
SLU 74	ini.	254.03	-3018	-0.000131	0.0001872	0.0035	0.9		2959	2959	No	11.65	Si
SLU 74	fin.	770.08	-3825	-0.0004586	0.0001872	0.0035	0.9		2959	2959	No	3.84	Si
SLU 78	ini.	258.66	-3050	-0.0001336	0.0001872	0.0035	0.9		2959	2959	No	11.44	Si
SLU 78	fin.	777.29	-3857	-0.0004637	0.0001872	0.0035	0.9		2959	2959	No	3.81	Si
SLU 81	ini.	262.66	-3075	-0.0001357	0.0001872	0.0035	0.9		2959	2959	No	11.27	Si
SLU 81	fin.	781.07	-3873	-0.0004665	0.0001872	0.0035	0.9		2959	2959	No	3.79	Si
SLU 75	ini.	254.15	-3001	-0.0001311	0.0001872	0.0035	0.9		2959	2959	No	11.64	Si
SLU 75	fin.	764.69	-3791	-0.0004547	0.0001872	0.0035	0.9		2959	2959	No	3.87	Si
SLU 83	ini.	267.17	-3124	-0.0001382	0.0001872	0.0035	0.9		2959	2959	No	11.08	Si
SLU 83	fin.	793.67	-3938	-0.0004756	0.0001872	0.0035	0.9		2959	2959	No	3.73	Si
SLU 82	ini.	262.77	-3058	-0.0001358	0.0001872	0.0035	0.9		2959	2959	No	11.26	Si
SLU 82	fin.	775.68	-3839	-0.0004626	0.0001872	0.0035	0.9		2959	2959	No	3.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	254.15	410	0.9	0	1750	7137	3773	2295	6068	No	14.81	Si
SLU 75	fin.	764.69	2971	0.9	0	1750	7137	3773	2295	6068	No	2.04	Si
SLU 82	ini.	262.77	402	0.9	0	1750	7137	3773	2295	6068	No	15.09	Si
SLU 82	fin.	775.68	3000	0.9	0	1750	7137	3773	2295	6068	No	2.02	Si
SLU 78	ini.	258.66	411	0.9	0	1750	7137	3773	2295	6068	No	14.76	Si
SLU 78	fin.	777.29	3028	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 84	ini.	267.28	403	0.9	0	1750	7137	3773	2295	6068	No	15.04	Si
SLU 84	fin.	788.28	3058	0.9	0	1750	7137	3773	2295	6068	No	1.98	Si
SLU 79	ini.	257.86	411	0.9	0	1750	7137	3773	2295	6068	No	14.78	Si
SLU 79	fin.	774.69	3024	0.9	0	1750	7137	3773	2295	6068	No	2.01	Si
SLU 81	ini.	262.66	409	0.9	0	1750	7137	3773	2295	6068	No	14.84	Si
SLU 81	fin.	781.07	3033	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 74	ini.	254.03	417	0.9	0	1750	7137	3773	2295	6068	No	14.57	Si
SLU 74	fin.	770.08	3003	0.9	0	1750	7137	3773	2295	6068	No	2.02	Si
SLU 77	ini.	258.55	418	0.9	0	1750	7137	3773	2295	6068	No	14.52	Si
SLU 77	fin.	782.68	3061	0.9	0	1750	7137	3773	2295	6068	No	1.98	Si
SLU 83	ini.	267.17	410	0.9	0	1750	7137	3773	2295	6068	No	14.79	Si
SLU 83	fin.	793.67	3090	0.9	0	1750	7137	3773	2295	6068	No	1.96	Si
SLU 80	ini.	257.98	404	0.9	0	1750	7137	3773	2295	6068	No	15.03	Si
SLU 80	fin.	769.3	2991	0.9	0	1750	7137	3773	2295	6068	No	2.03	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	1763.87	-4740	-0.0012417	0.0002807	0.0035	0.9		2989.59	2989.59		1.69	Si
SLD 16	fin.	-215.71	1161	-0.0001087	0.0002807	0.0035	0.9		2995.37	2995.37		13.89	Si
SLV 16	ini.	2664.34	-6301	-0.0024894	0.0002807	0.0035	0.9		2989.59	2989.59		1.12	Si
SLV 16	fin.	-619.11	3208	-0.0003363	0.0002807	0.0035	0.9		2995.37	2995.37		4.84	Si
SLV 1	ini.	-2326.65	2239	-0.0019044	0.0002807	0.0035	0.9		2995.37	2995.37		1.29	Si
SLV 1	fin.	1654.98	-8352	-0.0011362	0.0002807	0.0035	0.9		2989.59	2989.59		1.81	Si
SLV 15	ini.	2351.71	-5819	-0.0019478	0.0002807	0.0035	0.9		2989.59	2989.59		1.27	Si
SLV 15	fin.	-461.06	2376	-0.0002424	0.0002807	0.0035	0.9		2995.37	2995.37		6.5	Si
SLV 2	ini.	-2014.02	1757	-0.0015037	0.0002807	0.0035	0.9		2995.37	2995.37		1.49	Si
SLV 2	fin.	1496.93	-7521	-0.000992	0.0002807	0.0035	0.9		2989.59	2989.59		2	Si
SLD 14	ini.	1731.45	-4242	-0.0012097	0.0002807	0.0035	0.9		2989.59	2989.59		1.73	Si
SLD 14	fin.	-338.54	2037	-0.0001741	0.0002807	0.0035	0.9		2995.37	2995.37		8.85	Si
SLV 3	ini.	-2271.87	1392	-0.0018266	0.0002807	0.0035	0.9		2995.37	2995.37		1.32	Si
SLV 3	fin.	1866.93	-9834	-0.001347	0.0002807	0.0035	0.9		2989.59	2989.59		1.6	Si
SLV 4	ini.	-1959.24	910	-0.0014424	0.0002807	0.0035	0.9		2995.37	2995.37		1.53	Si
SLV 4	fin.	1708.88	-9002	-0.0011878	0.0002807	0.0035	0.9		2989.59	2989.59		1.75	Si
SLV 14	ini.	2609.56	-5454	-0.0023831	0.0002807	0.0035	0.9		2989.59	2989.59		1.15	Si
SLV 14	fin.	-831.06	4689	-0.0004736	0.0002807	0.0035	0.9		2995.37	2995.37		3.6	Si
SLV 13	ini.	2296.93	-4972	-0.0018677	0.0002807	0.0035	0.9		2989.59	2989.59		1.3	Si
SLV 13	fin.	-673.01	3858	-0.0003699	0.0002807	0.0035	0.9		2995.37	2995.37		4.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-1393.77	5621	0.9	0	2577	7137	5660	2295	7955		1.42	Si
SLD 3	fin.	1374.41	7722	0.9	0	2577	7137	5660	2295	7955		1.03	Si
SLV 15	ini.	2351.71	-7008	0.9	0	2577	7137	5660	2295	7955		1.14	Si
SLV 15	fin.	-461.06	-4561	0.9	0	2577	7137	5660	2295	7955		1.74	Si
SLV 16	ini.	2664.34	-8068	0.9	0	2577	7137	5660	2295	7955		0.99	No
SLV 16	fin.	-619.11	-5630	0.9	0	2577	7137	5660	2295	7955		1.41	Si
SLV 1	ini.	-2326.65	8676	0.9	0	2577	7137	5660	2295	7955		0.92	No
SLV 1	fin.	1654.98	9632	0.9	0	2577	7137	5660	2295	7955		0.83	No
SLV 3	ini.	-2271.87	8625	0.9	0	2577	7137	5660	2295	7955		0.92	No
SLV 3	fin.	1866.93	10989	0.9	0	2577	7137	5660	2295	7955		0.72	No
SLV 14	ini.	2609.56	-8016	0.9	0	2577	7137	5660	2295	7955		0.99	No
SLV 14	fin.	-831.06	-6988	0.9	0	2577	7137	5660	2295	7955		1.14	Si
SLD 4	ini.	-1195.43	4948	0.9	0	2577	7137	5660	2295	7955		1.61	Si
SLD 4	fin.	1274.14	7044	0.9	0	2577	7137	5660	2295	7955		1.13	Si
SLV 13	ini.	2296.93	-6956	0.9	0	2577	7137	5660	2295	7955		1.14	Si
SLV 13	fin.	-673.01	-5918	0.9	0	2577	7137	5660	2295	7955		1.34	Si
SLV 2	ini.	-2014.02	7616	0.9	0	2577	7137	5660	2295	7955		1.04	Si
SLV 2	fin.	1496.93	8562	0.9	0	2577	7137	5660	2295	7955		0.93	No
SLV 4	ini.	-1959.24	7565	0.9	0	2577	7137	5660	2295	7955		1.05	Si
SLV 4	fin.	1708.88	9920	0.9	0	2577	7137	5660	2295	7955		0.8	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.122	SLV 16	Si
V_SLV	0.724	SLV 3	No
PF_SLU	3.728	SLU 83	Si
V_SLU	1.964	SLU 83	Si

Trave di accoppiamento 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	6.661	3.53	4.4	0.87	-11.868	6.661	3.53	4.4	0.87	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-1004.1	-4292	-0.0006876	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.77	Si
SLU 79	fin.	-627.77	-2887	-0.0003879	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.42	Si
SLU 75	ini.	-991.44	-4239	-0.0006767	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.8	Si
SLU 75	fin.	-622.26	-2856	-0.0003839	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.46	Si
SLU 74	ini.	-998.04	-4262	-0.0006824	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.78	Si
SLU 74	fin.	-622.88	-2866	-0.0003844	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.46	Si
SLU 82	ini.	-1005.95	-4311	-0.0006891	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.76	Si
SLU 82	fin.	-641.39	-2924	-0.000398	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.33	Si
SLU 80	ini.	-997.5	-4268	-0.0006819	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.78	Si
SLU 80	fin.	-627.15	-2878	-0.0003875	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.43	Si
SLU 77	ini.	-1015.37	-4338	-0.0006973	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.73	Si
SLU 77	fin.	-633.02	-2915	-0.0003918	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.39	Si
SLU 83	ini.	-1029.88	-4410	-0.0007098	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.7	Si
SLU 83	fin.	-652.15	-2982	-0.0004059	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.26	Si
SLU 78	ini.	-1008.77	-4314	-0.0006916	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.75	Si
SLU 78	fin.	-632.4	-2905	-0.0003913	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.39	Si
SLU 81	ini.	-1012.56	-4334	-0.0006948	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.74	Si
SLU 81	fin.	-642.01	-2934	-0.0003984	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.32	Si
SLU 84	ini.	-1023.28	-4386	-0.0007041	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.71	Si
SLU 84	fin.	-651.53	-2973	-0.0004055	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-1008.77	5301	0.87	0	1692	6899	3647	2219	5866	No	1.11	Si
SLU 78	fin.	-632.4	-3029	0.87	0	1692	6899	3647	2219	5866	No	1.94	Si
SLU 79	ini.	-1004.1	5271	0.87	0	1692	6899	3647	2219	5866	No	1.11	Si
SLU 79	fin.	-627.77	-3005	0.87	0	1692	6899	3647	2219	5866	No	1.95	Si
SLU 74	ini.	-998.04	5240	0.87	0	1692	6899	3647	2219	5866	No	1.12	Si
SLU 74	fin.	-622.88	-2987	0.87	0	1692	6899	3647	2219	5866	No	1.96	Si
SLU 81	ini.	-1012.56	5336	0.87	0	1692	6899	3647	2219	5866	No	1.1	Si
SLU 81	fin.	-642.01	-3079	0.87	0	1692	6899	3647	2219	5866	No	1.91	Si
SLU 82	ini.	-1005.95	5309	0.87	0	1692	6899	3647	2219	5866	No	1.1	Si
SLU 82	fin.	-641.39	-3079	0.87	0	1692	6899	3647	2219	5866	No	1.91	Si
SLU 77	ini.	-1015.37	5327	0.87	0	1692	6899	3647	2219	5866	No	1.1	Si
SLU 77	fin.	-633.02	-3029	0.87	0	1692	6899	3647	2219	5866	No	1.94	Si
SLU 83	ini.	-1029.88	5423	0.87	0	1692	6899	3647	2219	5866	No	1.08	Si
SLU 83	fin.	-652.15	-3122	0.87	0	1692	6899	3647	2219	5866	No	1.88	Si
SLU 84	ini.	-1023.28	5397	0.87	0	1692	6899	3647	2219	5866	No	1.09	Si
SLU 84	fin.	-651.53	-3121	0.87	0	1692	6899	3647	2219	5866	No	1.88	Si
SLU 80	ini.	-997.5	5245	0.87	0	1692	6899	3647	2219	5866	No	1.12	Si
SLU 80	fin.	-627.15	-3005	0.87	0	1692	6899	3647	2219	5866	No	1.95	Si
SLU 75	ini.	-991.44	5214	0.87	0	1692	6899	3647	2219	5866	No	1.13	Si
SLU 75	fin.	-622.26	-2986	0.87	0	1692	6899	3647	2219	5866	No	1.96	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-2997.96	-7824	-0.0037194	0.0002807	0.0035	0.87		2803.75	2803.75		0.94	No
SLV 3	fin.	1723.81	2180	-0.0013213	0.0002807	0.0035	0.87		2798.17	2798.17		1.62	Si
SLV 2	ini.	-2418.63	-6208	-0.0023279	0.0002807	0.0035	0.87		2803.75	2803.75		1.16	Si
SLV 2	fin.	1516.24	2190	-0.0011039	0.0002807	0.0035	0.87		2798.17	2798.17		1.85	Si
SLV 16	ini.	1383.75	1148	-0.0009761	0.0002807	0.0035	0.87		2798.17	2798.17		2.02	Si
SLV 16	fin.	-2627	-6564	-0.0027816	0.0002807	0.0035	0.87		2803.75	2803.75		1.07	Si
SLV 15	ini.	1087.85	546	-0.0007157	0.0002807	0.0035	0.87		2798.17	2798.17		2.57	Si
SLV 15	fin.	-2332.96	-5975	-0.0021662	0.0002807	0.0035	0.87		2803.75	2803.75		1.2	Si
SLV 13	ini.	1371.27	1560	-0.0009644	0.0002807	0.0035	0.87		2798.17	2798.17		2.04	Si
SLV 13	fin.	-2246.49	-5376	-0.0020161	0.0002807	0.0035	0.87		2803.75	2803.75		1.25	Si
SLV 1	ini.	-2714.54	-6810	-0.0030007	0.0002807	0.0035	0.87		2803.75	2803.75		1.03	Si
SLV 1	fin.	1810.28	2779	-0.0014194	0.0002807	0.0035	0.87		2798.17	2798.17		1.55	Si
SLV 4	ini.	-2702.06	-7222	-0.0029685	0.0002807	0.0035	0.87		2803.75	2803.75		1.04	Si
SLV 4	fin.	1429.77	1591	-0.0010196	0.0002807	0.0035	0.87		2798.17	2798.17		1.96	Si
SLD 1	ini.	-1983.7	-5405	-0.0016288	0.0002807	0.0035	0.87		2803.75	2803.75		1.41	Si
SLD 1	fin.	1008.7	1081	-0.0006512	0.0002807	0.0035	0.87		2798.17	2798.17		2.77	Si
SLD 3	ini.	-2150.5	-5998	-0.0018635	0.0002807	0.0035	0.87		2803.75	2803.75		1.3	Si
SLD 3	fin.	958.11	729	-0.0006111	0.0002807	0.0035	0.87		2798.17	2798.17		2.92	Si
SLV 14	ini.	1667.18	2162	-0.0012596	0.0002807	0.0035	0.87		2798.17	2798.17		1.68	Si
SLV 14	fin.	-2540.53	-5965	-0.0025822	0.0002807	0.0035	0.87		2803.75	2803.75		1.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-2702.06	11278	0.87	0	2472	6899	5471	2219	7689		0.68	No
SLV 4	fin.	1429.77	4867	0.87	0	2472	6899	5471	2219	7689		1.58	Si
SLD 1	ini.	-1983.7	8537	0.87	0	2472	6899	5471	2219	7689		0.9	No
SLD 1	fin.	1008.7	3243	0.87	0	2472	6899	5471	2219	7689		2.37	Si
SLD 3	ini.	-2150.5	9159	0.87	0	2472	6899	5471	2219	7689		0.84	No
SLD 3	fin.	958.11	3103	0.87	0	2472	6899	5471	2219	7689		2.48	Si
SLV 15	ini.	1087.85	-3251	0.87	0	2472	6899	5471	2219	7689		2.37	Si
SLV 15	fin.	-2332.96	-9055	0.87	0	2472	6899	5471	2219	7689		0.85	No
SLV 2	ini.	-2418.63	10218	0.87	0	2472	6899	5471	2219	7689		0.75	No
SLV 2	fin.	1516.24	5106	0.87	0	2472	6899	5471	2219	7689		1.51	Si
SLV 14	ini.	1667.18	-5432	0.87	0	2472	6899	5471	2219	7689		1.42	Si
SLV 14	fin.	-2540.53	-9903	0.87	0	2472	6899	5471	2219	7689		0.78	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	1371.27	-4311	0.87	0	2472	6899	5471	2219	7689		1.78	Si
SLV 13	fin.	-2246.49	-8817	0.87	0	2472	6899	5471	2219	7689		0.87	No
SLV 1	ini.	-2714.54	11340	0.87	0	2472	6899	5471	2219	7689		0.68	No
SLV 1	fin.	1810.28	6192	0.87	0	2472	6899	5471	2219	7689		1.24	Si
SLV 3	ini.	-2997.96	12399	0.87	0	2472	6899	5471	2219	7689		0.62	No
SLV 3	fin.	1723.81	5953	0.87	0	2472	6899	5471	2219	7689		1.29	Si
SLV 16	ini.	1383.75	-4373	0.87	0	2472	6899	5471	2219	7689		1.76	Si
SLV 16	fin.	-2627	-10141	0.87	0	2472	6899	5471	2219	7689		0.76	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.935	SLV 3	No
V_SLV	0.62	SLV 3	No
PF_SLU	2.696	SLU 83	Si
V_SLU	1.082	SLU 83	Si

Trave di accoppiamento 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.661	0.73	1.63	0.9	-6.963	6.661	0.73	1.63	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-141.77	-1703	-0.0000712	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.91	Si
SLU 77	fin.	703.09	-2723	-0.0004111	0.0001872	0.0035	0.9		2959	2959	No	4.21	Si
SLU 84	ini.	-128.6	-1724	-0.0000644	0.0001872	0.0035	0.9		2964.67	2964.67	No	23.05	Si
SLU 84	fin.	689.23	-2707	-0.0004015	0.0001872	0.0035	0.9		2959	2959	No	4.29	Si
SLU 83	ini.	-135.49	-1728	-0.0000679	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.88	Si
SLU 83	fin.	699.95	-2733	-0.0004089	0.0001872	0.0035	0.9		2959	2959	No	4.23	Si
SLU 80	ini.	-137.97	-1676	-0.0000692	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.49	Si
SLU 80	fin.	689.1	-2675	-0.0004014	0.0001872	0.0035	0.9		2959	2959	No	4.29	Si
SLU 79	ini.	-144.86	-1680	-0.0000728	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.47	Si
SLU 79	fin.	699.82	-2701	-0.0004089	0.0001872	0.0035	0.9		2959	2959	No	4.23	Si
SLU 74	ini.	-137.54	-1674	-0.000069	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.55	Si
SLU 74	fin.	686.8	-2669	-0.0003998	0.0001872	0.0035	0.9		2959	2959	No	4.31	Si
SLU 81	ini.	-131.26	-1699	-0.0000658	0.0001872	0.0035	0.9		2964.67	2964.67	No	22.59	Si
SLU 81	fin.	683.65	-2679	-0.0003976	0.0001872	0.0035	0.9		2959	2959	No	4.33	Si
SLU 82	ini.	-124.36	-1696	-0.0000622	0.0001872	0.0035	0.9		2964.67	2964.67	No	23.84	Si
SLU 82	fin.	672.94	-2653	-0.0003902	0.0001872	0.0035	0.9		2959	2959	No	4.4	Si
SLU 78	ini.	-134.88	-1699	-0.0000676	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.98	Si
SLU 78	fin.	692.38	-2697	-0.0004037	0.0001872	0.0035	0.9		2959	2959	No	4.27	Si
SLU 75	ini.	-130.64	-1671	-0.0000654	0.0001872	0.0035	0.9		2964.67	2964.67	No	22.69	Si
SLU 75	fin.	676.08	-2643	-0.0003924	0.0001872	0.0035	0.9		2959	2959	No	4.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-124.36	798	0.9	0	1750	7137	3773	2295	6068	No	7.61	Si
SLU 82	fin.	672.94	1510	0.9	0	1750	7137	3773	2295	6068	No	4.02	Si
SLU 83	ini.	-135.49	839	0.9	0	1750	7137	3773	2295	6068	No	7.23	Si
SLU 83	fin.	699.95	1585	0.9	0	1750	7137	3773	2295	6068	No	3.83	Si
SLU 77	ini.	-141.77	869	0.9	0	1750	7137	3773	2295	6068	No	6.98	Si
SLU 77	fin.	703.09	1592	0.9	0	1750	7137	3773	2295	6068	No	3.81	Si
SLU 78	ini.	-134.88	847	0.9	0	1750	7137	3773	2295	6068	No	7.16	Si
SLU 78	fin.	692.38	1559	0.9	0	1750	7137	3773	2295	6068	No	3.89	Si
SLU 84	ini.	-128.6	817	0.9	0	1750	7137	3773	2295	6068	No	7.42	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	689.23	1552	0.9	0	1750	7137	3773	2295	6068	No	3.91	Si
SLU 81	ini.	-131.26	820	0.9	0	1750	7137	3773	2295	6068	No	7.4	Si
SLU 81	fin.	683.65	1544	0.9	0	1750	7137	3773	2295	6068	No	3.93	Si
SLU 80	ini.	-137.97	855	0.9	0	1750	7137	3773	2295	6068	No	7.1	Si
SLU 80	fin.	689.1	1554	0.9	0	1750	7137	3773	2295	6068	No	3.9	Si
SLU 75	ini.	-130.64	828	0.9	0	1750	7137	3773	2295	6068	No	7.33	Si
SLU 75	fin.	676.08	1517	0.9	0	1750	7137	3773	2295	6068	No	4	Si
SLU 79	ini.	-144.86	877	0.9	0	1750	7137	3773	2295	6068	No	6.92	Si
SLU 79	fin.	699.82	1587	0.9	0	1750	7137	3773	2295	6068	No	3.82	Si
SLU 74	ini.	-137.54	850	0.9	0	1750	7137	3773	2295	6068	No	7.14	Si
SLU 74	fin.	686.8	1550	0.9	0	1750	7137	3773	2295	6068	No	3.91	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-2605.84	2487	-0.0023671	0.0002807	0.0035	0.9		2995.37	2995.37		1.15	Si
SLV 3	fin.	2825.82	-4807	-0.0028352	0.0002807	0.0035	0.9		2989.59	2989.59		1.06	Si
SLV 13	ini.	2020.24	-4160	-0.0015151	0.0002807	0.0035	0.9		2989.59	2989.59		1.48	Si
SLV 13	fin.	-1541.22	763	-0.0010289	0.0002807	0.0035	0.9		2995.37	2995.37		1.94	Si
SLV 1	ini.	-2411.96	2800	-0.0020336	0.0002807	0.0035	0.9		2995.37	2995.37		1.24	Si
SLV 1	fin.	2377.79	-3599	-0.0019873	0.0002807	0.0035	0.9		2989.59	2989.59		1.26	Si
SLD 3	ini.	-1700.67	1198	-0.0011768	0.0002807	0.0035	0.9		2995.37	2995.37		1.76	Si
SLD 3	fin.	1967.52	-3702	-0.0014555	0.0002807	0.0035	0.9		2989.59	2989.59		1.52	Si
SLV 7	ini.	-1221.05	-403	-0.0007596	0.0002807	0.0035	0.9		2995.37	2995.37		2.45	Si
SLV 7	fin.	1923.26	-4626	-0.001407	0.0002807	0.0035	0.9		2989.59	2989.59		1.55	Si
SLV 4	ini.	-2240.42	1934	-0.0017836	0.0002807	0.0035	0.9		2995.37	2995.37		1.34	Si
SLV 4	fin.	2497.69	-4424	-0.0021817	0.0002807	0.0035	0.9		2989.59	2989.59		1.2	Si
SLV 2	ini.	-2046.55	2246	-0.0015412	0.0002807	0.0035	0.9		2995.37	2995.37		1.46	Si
SLV 2	fin.	2049.66	-3216	-0.0015492	0.0002807	0.0035	0.9		2989.59	2989.59		1.46	Si
SLV 14	ini.	2385.65	-4714	-0.0019994	0.0002807	0.0035	0.9		2989.59	2989.59		1.25	Si
SLV 14	fin.	-1869.35	1145	-0.0013459	0.0002807	0.0035	0.9		2995.37	2995.37		1.6	Si
SLV 16	ini.	2191.78	-5026	-0.0017244	0.0002807	0.0035	0.9		2989.59	2989.59		1.36	Si
SLV 16	fin.	-1421.32	-62	-0.000924	0.0002807	0.0035	0.9		2995.37	2995.37		2.11	Si
SLV 15	ini.	1826.37	-4472	-0.0013049	0.0002807	0.0035	0.9		2989.59	2989.59		1.64	Si
SLV 15	fin.	-1093.19	-445	-0.0006611	0.0002807	0.0035	0.9		2995.37	2995.37		2.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-2046.55	6439	0.9	0	2577	7137	5660	2295	7955		1.24	Si
SLV 2	fin.	2049.66	6384	0.9	0	2577	7137	5660	2295	7955		1.25	Si
SLV 16	ini.	2191.78	-6263	0.9	0	2577	7137	5660	2295	7955		1.27	Si
SLV 16	fin.	-1421.32	-5336	0.9	0	2577	7137	5660	2295	7955		1.49	Si
SLV 1	ini.	-2411.96	7582	0.9	0	2577	7137	5660	2295	7955		1.05	Si
SLV 1	fin.	2377.79	7475	0.9	0	2577	7137	5660	2295	7955		1.06	Si
SLV 14	ini.	2385.65	-7479	0.9	0	2577	7137	5660	2295	7955		1.06	Si
SLV 14	fin.	-1869.35	-6551	0.9	0	2577	7137	5660	2295	7955		1.21	Si
SLV 3	ini.	-2605.84	8799	0.9	0	2577	7137	5660	2295	7955		0.9	No
SLV 3	fin.	2825.82	8690	0.9	0	2577	7137	5660	2295	7955		0.92	No
SLV 13	ini.	2020.24	-6336	0.9	0	2577	7137	5660	2295	7955		1.26	Si
SLV 13	fin.	-1541.22	-5459	0.9	0	2577	7137	5660	2295	7955		1.46	Si
SLD 3	ini.	-1700.67	5838	0.9	0	2577	7137	5660	2295	7955		1.36	Si
SLD 3	fin.	1967.52	5908	0.9	0	2577	7137	5660	2295	7955		1.35	Si
SLD 4	ini.	-1468.85	5113	0.9	0	2577	7137	5660	2295	7955		1.56	Si
SLD 4	fin.	1759.35	5216	0.9	0	2577	7137	5660	2295	7955		1.53	Si
SLV 4	ini.	-2240.42	7656	0.9	0	2577	7137	5660	2295	7955		1.04	Si
SLV 4	fin.	2497.69	7599	0.9	0	2577	7137	5660	2295	7955		1.05	Si
SLV 7	ini.	-1221.05	5160	0.9	0	2577	7137	5660	2295	7955		1.54	Si
SLV 7	fin.	1923.26	5402	0.9	0	2577	7137	5660	2295	7955		1.47	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.058	SLV 3	Si
V_SLV	0.904	SLV 3	No
PF_SLU	4.209	SLU 77	Si
V_SLU	3.812	SLU 77	Si

Trave di accoppiamento 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.661	3.53	4.4	0.87	-6.963	6.661	3.53	4.4	0.87	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1283.46	-3327	-0.0009412	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.16	Si
SLU 81	fin.	136.29	-1402	-0.0000733	0.0001872	0.0035	0.87		2771.06	2771.06	No	20.33	Si
SLU 82	ini.	-1272.52	-3302	-0.0009307	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.18	Si
SLU 82	fin.	128.7	-1407	-0.0000691	0.0001872	0.0035	0.87		2771.06	2771.06	No	21.53	Si
SLU 77	ini.	-1280.41	-3343	-0.0009383	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.17	Si
SLU 77	fin.	137.27	-1413	-0.0000739	0.0001872	0.0035	0.87		2771.06	2771.06	No	20.19	Si
SLU 80	ini.	-1258.96	-3287	-0.0009178	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.21	Si
SLU 80	fin.	132.08	-1394	-0.000071	0.0001872	0.0035	0.87		2771.06	2771.06	No	20.98	Si
SLU 75	ini.	-1251	-3260	-0.0009102	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.22	Si
SLU 75	fin.	128.27	-1388	-0.0000689	0.0001872	0.0035	0.87		2771.06	2771.06	No	21.6	Si
SLU 83	ini.	-1301.92	-3385	-0.000959	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.13	Si
SLU 83	fin.	137.7	-1431	-0.0000741	0.0001872	0.0035	0.87		2771.06	2771.06	No	20.12	Si
SLU 74	ini.	-1261.94	-3285	-0.0009206	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.2	Si
SLU 74	fin.	135.86	-1384	-0.0000731	0.0001872	0.0035	0.87		2771.06	2771.06	No	20.4	Si
SLU 78	ini.	-1269.47	-3318	-0.0009278	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.19	Si
SLU 78	fin.	129.68	-1417	-0.0000697	0.0001872	0.0035	0.87		2771.06	2771.06	No	21.37	Si
SLU 84	ini.	-1290.99	-3360	-0.0009484	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.15	Si
SLU 84	fin.	130.11	-1436	-0.0000699	0.0001872	0.0035	0.87		2771.06	2771.06	No	21.3	Si
SLU 79	ini.	-1269.89	-3311	-0.0009282	0.0001872	0.0035	0.87		2776.53	2776.53	No	2.19	Si
SLU 79	fin.	139.67	-1390	-0.0000752	0.0001872	0.0035	0.87		2771.06	2771.06	No	19.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-1269.47	5177	0.87	0	1692	6899	3647	2219	5866	No	1.13	Si
SLU 78	fin.	129.68	-911	0.87	0	1692	6899	3647	2219	5866	No	6.44	Si
SLU 84	ini.	-1290.99	5295	0.87	0	1692	6899	3647	2219	5866	No	1.11	Si
SLU 84	fin.	130.11	-975	0.87	0	1692	6899	3647	2219	5866	No	6.02	Si
SLU 83	ini.	-1301.92	5330	0.87	0	1692	6899	3647	2219	5866	No	1.1	Si
SLU 83	fin.	137.7	-947	0.87	0	1692	6899	3647	2219	5866	No	6.19	Si
SLU 77	ini.	-1280.41	5211	0.87	0	1692	6899	3647	2219	5866	No	1.13	Si
SLU 77	fin.	137.27	-884	0.87	0	1692	6899	3647	2219	5866	No	6.64	Si
SLU 80	ini.	-1258.96	5133	0.87	0	1692	6899	3647	2219	5866	No	1.14	Si
SLU 80	fin.	132.08	-887	0.87	0	1692	6899	3647	2219	5866	No	6.61	Si
SLU 74	ini.	-1261.94	5150	0.87	0	1692	6899	3647	2219	5866	No	1.14	Si
SLU 74	fin.	135.86	-886	0.87	0	1692	6899	3647	2219	5866	No	6.62	Si
SLU 75	ini.	-1251	5115	0.87	0	1692	6899	3647	2219	5866	No	1.15	Si
SLU 75	fin.	128.27	-914	0.87	0	1692	6899	3647	2219	5866	No	6.42	Si
SLU 81	ini.	-1283.46	5269	0.87	0	1692	6899	3647	2219	5866	No	1.11	Si
SLU 81	fin.	136.29	-950	0.87	0	1692	6899	3647	2219	5866	No	6.18	Si
SLU 79	ini.	-1269.89	5167	0.87	0	1692	6899	3647	2219	5866	No	1.14	Si
SLU 79	fin.	139.67	-860	0.87	0	1692	6899	3647	2219	5866	No	6.82	Si
SLU 82	ini.	-1272.52	5234	0.87	0	1692	6899	3647	2219	5866	No	1.12	Si
SLU 82	fin.	128.7	-977	0.87	0	1692	6899	3647	2219	5866	No	6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-2212.97	-5046	-0.0019612	0.0002807	0.0035	0.87		2803.75	2803.75		1.27	Si
SLV 7	fin.	1211.3	236	-0.0008205	0.0002807	0.0035	0.87		2798.17	2798.17		2.31	Si
SLV 14	ini.	1254.4	1275	-0.0008583	0.0002807	0.0035	0.87		2798.17	2798.17		2.23	Si
SLV 14	fin.	-2162.09	-4613	-0.0018812	0.0002807	0.0035	0.87		2803.75	2803.75		1.3	Si
SLV 2	ini.	-2232.21	-4119	-0.0019925	0.0002807	0.0035	0.87		2803.75	2803.75		1.26	Si
SLV 2	fin.	1792.85	2294	-0.0013992	0.0002807	0.0035	0.87		2798.17	2798.17		1.56	Si
SLV 3	ini.	-2963.73	-5699	-0.0036375	0.0002807	0.0035	0.87		2803.75	2803.75		0.95	No
SLV 3	fin.	2368.97	2814	-0.002241	0.0002807	0.0035	0.87		2798.17	2798.17		1.18	Si
SLD 4	ini.	-2008.24	-4122	-0.0016612	0.0002807	0.0035	0.87		2803.75	2803.75		1.4	Si
SLD 4	fin.	1333.72	1113	-0.0009298	0.0002807	0.0035	0.87		2798.17	2798.17		2.1	Si
SLD 1	ini.	-1931.18	-3754	-0.0015614	0.0002807	0.0035	0.87		2803.75	2803.75		1.45	Si
SLD 1	fin.	1404.01	1509	-0.0009951	0.0002807	0.0035	0.87		2798.17	2798.17		1.99	Si
SLV 8	ini.	-2018.66	-4738	-0.0016752	0.0002807	0.0035	0.87		2803.75	2803.75		1.39	Si
SLV 8	fin.	985.76	-152	-0.0006329	0.0002807	0.0035	0.87		2798.17	2798.17		2.84	Si
SLV 1	ini.	-2520.84	-4577	-0.0025391	0.0002807	0.0035	0.87		2803.75	2803.75		1.11	Si
SLV 1	fin.	2127.87	2870	-0.0018355	0.0002807	0.0035	0.87		2798.17	2798.17		1.32	Si
SLD 3	ini.	-2191.35	-4412	-0.0019267	0.0002807	0.0035	0.87		2803.75	2803.75		1.28	Si
SLD 3	fin.	1546.26	1478	-0.0011339	0.0002807	0.0035	0.87		2798.17	2798.17		1.81	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-2675.1	-5242	-0.0028999	0.0002807	0.0035	0.87		2803.75	2803.75		1.05	Si
SLV 4	fin.	2033.96	2238	-0.0017012	0.0002807	0.0035	0.87		2798.17	2798.17		1.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	965.77	-2421	0.87	0	2472	6899	5471	2219	7689		3.18	Si
SLV 13	fin.	-1827.08	-7495	0.87	0	2472	6899	5471	2219	7689		1.03	Si
SLV 3	ini.	-2963.73	10279	0.87	0	2472	6899	5471	2219	7689		0.75	No
SLV 3	fin.	2368.97	7686	0.87	0	2472	6899	5471	2219	7689		1	Si
SLD 3	ini.	-2191.35	7787	0.87	0	2472	6899	5471	2219	7689		0.99	No
SLD 3	fin.	1546.26	4705	0.87	0	2472	6899	5471	2219	7689		1.63	Si
SLV 2	ini.	-2232.21	7998	0.87	0	2472	6899	5471	2219	7689		0.96	No
SLV 2	fin.	1792.85	5538	0.87	0	2472	6899	5471	2219	7689		1.39	Si
SLV 4	ini.	-2675.1	9369	0.87	0	2472	6899	5471	2219	7689		0.82	No
SLV 4	fin.	2033.96	6436	0.87	0	2472	6899	5471	2219	7689		1.19	Si
SLV 14	ini.	1254.4	-3330	0.87	0	2472	6899	5471	2219	7689		2.31	Si
SLV 14	fin.	-2162.09	-8746	0.87	0	2472	6899	5471	2219	7689		0.88	No
SLV 16	ini.	811.51	-1958	0.87	0	2472	6899	5471	2219	7689		3.93	Si
SLV 16	fin.	-1920.99	-7847	0.87	0	2472	6899	5471	2219	7689		0.98	No
SLD 4	ini.	-2008.24	7211	0.87	0	2472	6899	5471	2219	7689		1.07	Si
SLD 4	fin.	1333.72	3912	0.87	0	2472	6899	5471	2219	7689		1.97	Si
SLV 1	ini.	-2520.84	8907	0.87	0	2472	6899	5471	2219	7689		0.86	No
SLV 1	fin.	2127.87	6788	0.87	0	2472	6899	5471	2219	7689		1.13	Si
SLV 7	ini.	-2212.97	7766	0.87	0	2472	6899	5471	2219	7689		0.99	No
SLV 7	fin.	1211.3	3531	0.87	0	2472	6899	5471	2219	7689		2.18	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.946	SLV 3	No
V_SLV	0.748	SLV 3	No
PF_SLU	2.133	SLU 83	Si
V_SLU	1.101	SLU 83	Si

Trave di accoppiamento 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.623	1.141	2.83	4.4	1.57	-19.423	1.141	2.83	4.4	1.57	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-1436.79	-9755	-0.0002527	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.43	Si
SLU 67	fin.	28.12	-9133	-0.0000045	0.0002246	0.0035	1.57		9224.6	9224.6	No	328.08	Si
SLU 73	ini.	-1516.18	-10578	-0.0002684	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.09	Si
SLU 73	fin.	-24.83	-9950	-0.000004	0.0002246	0.0035	1.57		9234.44	9234.44	No	371.96	Si
SLU 65	ini.	-1478.35	-9525	-0.0002609	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.25	Si
SLU 65	fin.	103.61	-8843	-0.0000167	0.0002246	0.0035	1.57		9224.6	9224.6	No	89.03	Si
SLU 68	ini.	-1470.93	-9683	-0.0002594	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.28	Si
SLU 68	fin.	75.6	-9020	-0.0000122	0.0002246	0.0035	1.57		9224.6	9224.6	No	122.01	Si
SLU 75	ini.	-1474.62	-10808	-0.0002602	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.26	Si
SLU 75	fin.	-100.32	-10240	-0.0000162	0.0002246	0.0035	1.57		9234.44	9234.44	No	92.05	Si
SLU 78	ini.	-1467.2	-10966	-0.0002587	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.29	Si
SLU 78	fin.	-128.33	-10417	-0.0000207	0.0002246	0.0035	1.57		9234.44	9234.44	No	71.96	Si
SLU 84	ini.	-1484.94	-11174	-0.0002622	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.22	Si
SLU 84	fin.	-151.29	-10630	-0.0000244	0.0002246	0.0035	1.57		9234.44	9234.44	No	61.04	Si
SLU 76	ini.	-1508.76	-10735	-0.0002669	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.12	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	fin.	-52.84	-10127	-0.0000085	0.0002246	0.0035	1.57		9234.44	9234.44	No	174.77	Si
SLU 82	ini.	-1492.36	-11017	-0.0002637	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.19	Si
SLU 82	fin.	-123.28	-10453	-0.0000199	0.0002246	0.0035	1.57		9234.44	9234.44	No	74.91	Si
SLU 80	ini.	-1461.31	-10881	-0.0002575	0.0002246	0.0035	1.57		9234.44	9234.44	No	6.32	Si
SLU 80	fin.	-124.25	-10332	-0.00002	0.0002246	0.0035	1.57		9234.44	9234.44	No	74.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 65	ini.	-1478.35	3614	1.57	0	3663	6344	7899	4004	10007	No	2.77	Si
SLU 65	fin.	103.61	1752	1.57	0	3663	6344	7899	4004	10007	No	5.71	Si
SLU 52	ini.	-1424.42	3466	1.57	0	3663	6344	7899	4004	10007	No	2.89	Si
SLU 52	fin.	75.46	1623	1.57	0	3663	6344	7899	4004	10007	No	6.16	Si
SLU 67	ini.	-1436.79	3409	1.57	0	3663	6344	7899	4004	10007	No	2.94	Si
SLU 67	fin.	28.12	1548	1.57	0	3663	6344	7899	4004	10007	No	6.47	Si
SLU 73	ini.	-1516.18	3654	1.57	0	3663	6344	7899	4004	10007	No	2.74	Si
SLU 73	fin.	-24.83	1380	1.57	0	3663	6344	7899	4004	10007	No	7.25	Si
SLU 44	ini.	-1386.59	3425	1.57	0	3663	6344	7899	4004	10007	No	2.92	Si
SLU 44	fin.	203.9	1996	1.57	0	3663	6344	7899	4004	10007	No	5.01	Si
SLU 84	ini.	-1484.94	3464	1.57	0	3663	6344	7899	4004	10007	No	2.89	Si
SLU 84	fin.	-151.29	1013	1.57	0	3663	6344	7899	4004	10007	No	9.88	Si
SLU 68	ini.	-1470.93	3551	1.57	0	3663	6344	7899	4004	10007	No	2.82	Si
SLU 68	fin.	75.6	1690	1.57	0	3663	6344	7899	4004	10007	No	5.92	Si
SLU 75	ini.	-1474.62	3450	1.57	0	3663	6344	7899	4004	10007	No	2.9	Si
SLU 75	fin.	-100.32	1175	1.57	0	3663	6344	7899	4004	10007	No	8.51	Si
SLU 82	ini.	-1492.36	3527	1.57	0	3663	6344	7899	4004	10007	No	2.84	Si
SLU 82	fin.	-123.28	1076	1.57	0	3663	6344	7899	4004	10007	No	9.3	Si
SLU 76	ini.	-1508.76	3591	1.57	0	3663	6344	7899	4004	10007	No	2.79	Si
SLU 76	fin.	-52.84	1317	1.57	0	3663	6344	7899	4004	10007	No	7.6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-4954.69	-8307	-0.0010724	0.0003369	0.0035	1.57		8819.95	8819.95		1.78	Si
SLD 13	fin.	4097.95	-3981	-0.0008361	0.0003369	0.0035	1.57		8809.37	8809.37		2.15	Si
SLV 7	ini.	4267.63	-5692	-0.0008811	0.0003369	0.0035	1.57		8809.37	8809.37		2.06	Si
SLV 7	fin.	-5775.6	-10687	-0.001329	0.0003369	0.0035	1.57		8819.95	8819.95		1.53	Si
SLV 8	ini.	4474.39	-5582	-0.0009373	0.0003369	0.0035	1.57		8809.37	8809.37		1.97	Si
SLV 8	fin.	-5980.02	-10767	-0.0013985	0.0003369	0.0035	1.57		8819.95	8819.95		1.47	Si
SLV 13	ini.	-7248.56	-8903	-0.0019062	0.0003369	0.0035	1.57		8819.95	8819.95		1.22	Si
SLV 13	fin.	6519.8	-2287	-0.0015985	0.0003369	0.0035	1.57		8809.37	8809.37		1.35	Si
SLV 10	ini.	-6369.33	-8937	-0.0015386	0.0003369	0.0035	1.57		8819.95	8819.95		1.38	Si
SLV 10	fin.	5738.74	-3074	-0.0013188	0.0003369	0.0035	1.57		8809.37	8809.37		1.54	Si
SLV 9	ini.	-6576.09	-9047	-0.0016178	0.0003369	0.0035	1.57		8819.95	8819.95		1.34	Si
SLV 9	fin.	5943.16	-2994	-0.001388	0.0003369	0.0035	1.57		8809.37	8809.37		1.48	Si
SLV 4	ini.	5146.87	-5727	-0.0011313	0.0003369	0.0035	1.57		8809.37	8809.37		1.71	Si
SLV 4	fin.	-6556.66	-11475	-0.0016102	0.0003369	0.0035	1.57		8819.95	8819.95		1.35	Si
SLV 3	ini.	4839.75	-5891	-0.0010405	0.0003369	0.0035	1.57		8809.37	8809.37		1.82	Si
SLV 3	fin.	-6253.02	-11356	-0.0014956	0.0003369	0.0035	1.57		8819.95	8819.95		1.41	Si
SLV 15	ini.	-4869.26	-8095	-0.0010475	0.0003369	0.0035	1.57		8819.95	8819.95		1.81	Si
SLV 15	fin.	3919.71	-3926	-0.0007899	0.0003369	0.0035	1.57		8809.37	8809.37		2.25	Si
SLV 14	ini.	-6941.44	-8739	-0.001768	0.0003369	0.0035	1.57		8819.95	8819.95		1.27	Si
SLV 14	fin.	6216.15	-2406	-0.0014845	0.0003369	0.0035	1.57		8809.37	8809.37		1.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	4474.39	-17384	1.57	0	5495	6344	11849	4004	11839		0.68	No
SLV 8	fin.	-5980.02	-18839	1.57	0	5495	6344	11849	4004	11839		0.63	No
SLV 10	ini.	-6369.33	21628	1.57	0	5495	6344	11849	4004	11839		0.55	No
SLV 10	fin.	5738.74	20173	1.57	0	5495	6344	11849	4004	11839		0.59	No
SLV 15	ini.	-4869.26	15780	1.57	0	5495	6344	11849	4004	11839		0.75	No
SLV 15	fin.	3919.71	14313	1.57	0	5495	6344	11849	4004	11839		0.83	No
SLV 3	ini.	4839.75	-18420	1.57	0	5495	6344	11849	4004	11839		0.64	No
SLV 3	fin.	-6253.02	-19865	1.57	0	5495	6344	11849	4004	11839		0.6	No
SLV 14	ini.	-6941.44	23365	1.57	0	5495	6344	11849	4004	11839		0.51	No
SLV 14	fin.	6216.15	21900	1.57	0	5495	6344	11849	4004	11839		0.54	No
SLV 9	ini.	-6576.09	22329	1.57	0	5495	6344	11849	4004	11839		0.53	No
SLV 9	fin.	5943.16	20874	1.57	0	5495	6344	11849	4004	11839		0.57	No
SLV 4	ini.	5146.87	-19461	1.57	0	5495	6344	11849	4004	11839		0.61	No
SLV 4	fin.	-6556.66	-20906	1.57	0	5495	6344	11849	4004	11839		0.57	No
SLV 7	ini.	4267.63	-16684	1.57	0	5495	6344	11849	4004	11839		0.71	No
SLV 7	fin.	-5775.6	-18139	1.57	0	5495	6344	11849	4004	11839		0.65	No
SLV 13	ini.	-7248.56	24405	1.57	0	5495	6344	11849	4004	11839		0.49	No
SLV 13	fin.	6519.8	22941	1.57	0	5495	6344	11849	4004	11839		0.52	No
SLD 13	ini.	-4954.69	16282	1.57	0	5495	6344	11849	4004	11839		0.73	No
SLD 13	fin.	4097.95	14822	1.57	0	5495	6344	11849	4004	11839		0.8	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.217	SLV 13	Si
V_SLV	0.485	SLV 13	No
PF_SLU	6.091	SLU 73	Si
V_SLU	2.739	SLU 73	Si

Trave di accoppiamento 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	3.23	4.4	1.17	-12.263	1.141	3.23	4.4	1.17	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-286.9	-2693	-0.0000852	0.0002246	0.0035	1.17		5124.93	5124.93	No	17.86	Si
SLU 80	fin.	984.37	-1000	-0.000321	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.2	Si
SLU 83	ini.	-292.33	-2764	-0.0000869	0.0002246	0.0035	1.17		5124.93	5124.93	No	17.53	Si
SLU 83	fin.	996.12	-1034	-0.0003254	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.14	Si
SLU 81	ini.	-285.58	-2721	-0.0000848	0.0002246	0.0035	1.17		5124.93	5124.93	No	17.95	Si
SLU 81	fin.	964.2	-1037	-0.0003135	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.31	Si
SLU 79	ini.	-289.19	-2698	-0.0000859	0.0002246	0.0035	1.17		5124.93	5124.93	No	17.72	Si
SLU 79	fin.	988.91	-995	-0.0003227	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.18	Si
SLU 78	ini.	-290.41	-2714	-0.0000863	0.0002246	0.0035	1.17		5124.93	5124.93	No	17.65	Si
SLU 78	fin.	999.07	-999	-0.0003265	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.12	Si
SLU 84	ini.	-290.04	-2759	-0.0000862	0.0002246	0.0035	1.17		5124.93	5124.93	No	17.67	Si
SLU 84	fin.	991.58	-1038	-0.0003237	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.16	Si
SLU 82	ini.	-283.3	-2716	-0.0000841	0.0002246	0.0035	1.17		5124.93	5124.93	No	18.09	Si
SLU 82	fin.	959.66	-1042	-0.0003118	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.33	Si
SLU 75	ini.	-283.67	-2670	-0.0000842	0.0002246	0.0035	1.17		5124.93	5124.93	No	18.07	Si
SLU 75	fin.	967.15	-1002	-0.0003146	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.29	Si
SLU 74	ini.	-285.95	-2676	-0.0000849	0.0002246	0.0035	1.17		5124.93	5124.93	No	17.92	Si
SLU 74	fin.	971.69	-998	-0.0003163	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.27	Si
SLU 77	ini.	-292.7	-2719	-0.000087	0.0002246	0.0035	1.17		5124.93	5124.93	No	17.51	Si
SLU 77	fin.	1003.61	-994	-0.0003283	0.0002246	0.0035	1.17		5117.68	5117.68	No	5.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-292.33	3735	1.17	0	2730	8881	5887	2984	8870	No	2.38	Si
SLU 83	fin.	996.12	442	1.17	0	2730	8881	5887	2984	8870	No	20.06	Si
SLU 82	ini.	-283.3	3665	1.17	0	2730	8881	5887	2984	8870	No	2.42	Si
SLU 82	fin.	959.66	372	1.17	0	2730	8881	5887	2984	8870	No	23.84	Si
SLU 74	ini.	-285.95	3528	1.17	0	2730	8881	5887	2984	8870	No	2.51	Si
SLU 74	fin.	971.69	531	1.17	0	2730	8881	5887	2984	8870	No	16.71	Si
SLU 84	ini.	-290.04	3724	1.17	0	2730	8881	5887	2984	8870	No	2.38	Si
SLU 84	fin.	991.58	431	1.17	0	2730	8881	5887	2984	8870	No	20.58	Si
SLU 80	ini.	-286.9	3548	1.17	0	2730	8881	5887	2984	8870	No	2.5	Si
SLU 80	fin.	984.37	551	1.17	0	2730	8881	5887	2984	8870	No	16.1	Si
SLU 79	ini.	-289.19	3559	1.17	0	2730	8881	5887	2984	8870	No	2.49	Si
SLU 79	fin.	988.91	562	1.17	0	2730	8881	5887	2984	8870	No	15.78	Si
SLU 78	ini.	-290.41	3576	1.17	0	2730	8881	5887	2984	8870	No	2.48	Si
SLU 78	fin.	999.07	579	1.17	0	2730	8881	5887	2984	8870	No	15.33	Si
SLU 75	ini.	-283.67	3517	1.17	0	2730	8881	5887	2984	8870	No	2.52	Si
SLU 75	fin.	967.15	520	1.17	0	2730	8881	5887	2984	8870	No	17.07	Si
SLU 81	ini.	-285.58	3676	1.17	0	2730	8881	5887	2984	8870	No	2.41	Si
SLU 81	fin.	964.2	383	1.17	0	2730	8881	5887	2984	8870	No	23.14	Si
SLU 77	ini.	-292.7	3587	1.17	0	2730	8881	5887	2984	8870	No	2.47	Si
SLU 77	fin.	1003.61	590	1.17	0	2730	8881	5887	2984	8870	No	15.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1430.98	-1116	-0.0004723	0.0003369	0.0035	1.17		5006.08	5006.08		3.5	Si
SLV 15	fin.	5047.69	7211	-0.0030529	0.0003369	0.0035	1.17		4998.09	4998.09		0.99	No
SLV 1	ini.	1009.98	-2507	-0.0003182	0.0003369	0.0035	1.17		4998.09	4998.09		4.95	Si
SLV 1	fin.	-3666.87	-8451	-0.0016271	0.0003369	0.0035	1.17		5006.08	5006.08		1.37	Si
SLD 16	ini.	-956.32	-1370	-0.0002992	0.0003369	0.0035	1.17		5006.08	5006.08		5.23	Si
SLD 16	fin.	3376.19	4214	-0.0014353	0.0003369	0.0035	1.17		4998.09	4998.09		1.48	Si
SLV 3	ini.	895.3	-2709	-0.0002788	0.0003369	0.0035	1.17		4998.09	4998.09		5.58	Si
SLV 3	fin.	-3374.52	-8133	-0.0014312	0.0003369	0.0035	1.17		5006.08	5006.08		1.48	Si
SLV 4	ini.	935.75	-2721	-0.0002926	0.0003369	0.0035	1.17		4998.09	4998.09		5.34	Si
SLV 4	fin.	-3493.97	-8347	-0.0015086	0.0003369	0.0035	1.17		5006.08	5006.08		1.43	Si
SLV 14	ini.	-1275.85	-926	-0.0004134	0.0003369	0.0035	1.17		5006.08	5006.08		3.92	Si
SLV 14	fin.	4635.88	6679	-0.0025196	0.0003369	0.0035	1.17		4998.09	4998.09		1.08	Si
SLV 13	ini.	-1316.3	-914	-0.0004285	0.0003369	0.0035	1.17		5006.08	5006.08		3.8	Si
SLV 13	fin.	4755.34	6893	-0.0026634	0.0003369	0.0035	1.17		4998.09	4998.09		1.05	Si
SLV 16	ini.	-1390.53	-1128	-0.0004567	0.0003369	0.0035	1.17		5006.08	5006.08		3.6	Si
SLV 16	fin.	4928.23	6997	-0.0028878	0.0003369	0.0035	1.17		4998.09	4998.09		1.01	Si
SLD 15	ini.	-981.98	-1363	-0.000308	0.0003369	0.0035	1.17		5006.08	5006.08		5.1	Si
SLD 15	fin.	3451.98	4349	-0.0014842	0.0003369	0.0035	1.17		4998.09	4998.09		1.45	Si
SLV 2	ini.	1050.43	-2519	-0.0003324	0.0003369	0.0035	1.17		4998.09	4998.09		4.76	Si
SLV 2	fin.	-3786.32	-8665	-0.0017143	0.0003369	0.0035	1.17		5006.08	5006.08		1.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-1275.85	10096	1.17	0	3230	8881	8830	2984	11813		1.17	Si
SLV 14	fin.	4635.88	8336	1.17	0	3230	8881	8830	2984	11813		1.42	Si
SLD 16	ini.	-956.32	7664	1.17	0	3230	8881	8830	2984	11813		1.54	Si
SLD 16	fin.	3376.19	5893	1.17	0	3230	8881	8830	2984	11813		2	Si
SLV 1	ini.	1009.98	-6240	1.17	0	3230	8881	8830	2984	11813		1.89	Si
SLV 1	fin.	-3666.87	-8223	1.17	0	3230	8881	8830	2984	11813		1.44	Si
SLV 15	ini.	-1430.98	10976	1.17	0	3230	8881	8830	2984	11813		1.08	Si
SLV 15	fin.	5047.69	9260	1.17	0	3230	8881	8830	2984	11813		1.28	Si
SLV 16	ini.	-1390.53	10728	1.17	0	3230	8881	8830	2984	11813		1.1	Si
SLV 16	fin.	4928.23	9012	1.17	0	3230	8881	8830	2984	11813		1.31	Si
SLV 13	ini.	-1316.3	10345	1.17	0	3230	8881	8830	2984	11813		1.14	Si
SLV 13	fin.	4755.34	8584	1.17	0	3230	8881	8830	2984	11813		1.38	Si
SLV 2	ini.	1050.43	-6488	1.17	0	3230	8881	8830	2984	11813		1.82	Si
SLV 2	fin.	-3786.32	-8471	1.17	0	3230	8881	8830	2984	11813		1.39	Si
SLV 3	ini.	895.3	-5608	1.17	0	3230	8881	8830	2984	11813		2.11	Si
SLV 3	fin.	-3374.52	-7546	1.17	0	3230	8881	8830	2984	11813		1.57	Si
SLD 15	ini.	-981.98	7821	1.17	0	3230	8881	8830	2984	11813		1.51	Si
SLD 15	fin.	3451.98	6051	1.17	0	3230	8881	8830	2984	11813		1.95	Si
SLV 4	ini.	935.75	-5856	1.17	0	3230	8881	8830	2984	11813		2.02	Si
SLV 4	fin.	-3493.97	-7794	1.17	0	3230	8881	8830	2984	11813		1.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.99	SLV 15	No
V_SLV	1.076	SLV 15	Si
PF_SLU	5.099	SLU 77	Si
V_SLU	2.375	SLU 83	Si

Trave di accoppiamento 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	2.83	4.4	1.57	-4.893	1.141	2.83	4.4	1.57	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-289.92	-3293	-0.0000472	0.0002246	0.0035	1.57		9234.44	9234.44	No	31.85	Si
SLU 81	fin.	-209.4	-3191	-0.0000339	0.0002246	0.0035	1.57		9234.44	9234.44	No	44.1	Si
SLU 84	ini.	-292.8	-3379	-0.0000477	0.0002246	0.0035	1.57		9234.44	9234.44	No	31.54	Si
SLU 84	fin.	-192.01	-3265	-0.0000311	0.0002246	0.0035	1.57		9234.44	9234.44	No	48.09	Si
SLU 39	ini.	-310.64	-2898	-0.0000506	0.0002246	0.0035	1.57		9234.44	9234.44	No	29.73	Si
SLU 39	fin.	-174.7	-2768	-0.0000283	0.0002246	0.0035	1.57		9234.44	9234.44	No	52.86	Si
SLU 42	ini.	-313.52	-2984	-0.0000511	0.0002246	0.0035	1.57		9234.44	9234.44	No	29.45	Si
SLU 42	fin.	-157.32	-2841	-0.0000254	0.0002246	0.0035	1.57		9234.44	9234.44	No	58.7	Si
SLU 83	ini.	-296.38	-3371	-0.0000483	0.0002246	0.0035	1.57		9234.44	9234.44	No	31.16	Si
SLU 83	fin.	-200.25	-3260	-0.0000324	0.0002246	0.0035	1.57		9234.44	9234.44	No	46.11	Si
SLU 82	ini.	-286.34	-3302	-0.0000466	0.0002246	0.0035	1.57		9234.44	9234.44	No	32.25	Si
SLU 82	fin.	-201.16	-3195	-0.0000326	0.0002246	0.0035	1.57		9234.44	9234.44	No	45.91	Si
SLU 37	ini.	-274.76	-2884	-0.0000447	0.0002246	0.0035	1.57		9234.44	9234.44	No	33.61	Si
SLU 37	fin.	-149.95	-2767	-0.0000242	0.0002246	0.0035	1.57		9234.44	9234.44	No	61.58	Si
SLU 41	ini.	-317.1	-2976	-0.0000517	0.0002246	0.0035	1.57		9234.44	9234.44	No	29.12	Si
SLU 41	fin.	-165.56	-2837	-0.0000268	0.0002246	0.0035	1.57		9234.44	9234.44	No	55.78	Si
SLU 40	ini.	-307.06	-2907	-0.00005	0.0002246	0.0035	1.57		9234.44	9234.44	No	30.07	Si
SLU 40	fin.	-166.46	-2772	-0.0000269	0.0002246	0.0035	1.57		9234.44	9234.44	No	55.47	Si
SLU 35	ini.	-275.04	-2914	-0.0000447	0.0002246	0.0035	1.57		9234.44	9234.44	No	33.57	Si
SLU 35	fin.	-149.29	-2797	-0.0000241	0.0002246	0.0035	1.57		9234.44	9234.44	No	61.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-289.92	1389	1.57	0	3663	6344	7899	4004	10007	No	7.21	Si
SLU 81	fin.	-209.4	-948	1.57	0	3663	6344	7899	4004	10007	No	10.56	Si
SLU 39	ini.	-310.64	1372	1.57	0	3663	6344	7899	4004	10007	No	7.3	Si
SLU 39	fin.	-174.7	-749	1.57	0	3663	6344	7899	4004	10007	No	13.36	Si
SLU 84	ini.	-292.8	1427	1.57	0	3663	6344	7899	4004	10007	No	7.01	Si
SLU 84	fin.	-192.01	-910	1.57	0	3663	6344	7899	4004	10007	No	10.99	Si
SLU 42	ini.	-313.52	1409	1.57	0	3663	6344	7899	4004	10007	No	7.1	Si
SLU 42	fin.	-157.32	-711	1.57	0	3663	6344	7899	4004	10007	No	14.07	Si
SLU 40	ini.	-307.06	1382	1.57	0	3663	6344	7899	4004	10007	No	7.24	Si
SLU 40	fin.	-166.46	-739	1.57	0	3663	6344	7899	4004	10007	No	13.54	Si
SLU 80	ini.	-250.45	1290	1.57	0	3663	6344	7899	4004	10007	No	7.76	Si
SLU 80	fin.	-176.41	-883	1.57	0	3663	6344	7899	4004	10007	No	11.33	Si
SLU 82	ini.	-286.34	1399	1.57	0	3663	6344	7899	4004	10007	No	7.15	Si
SLU 82	fin.	-201.16	-938	1.57	0	3663	6344	7899	4004	10007	No	10.67	Si
SLU 78	ini.	-250.74	1291	1.57	0	3663	6344	7899	4004	10007	No	7.75	Si
SLU 78	fin.	-175.74	-881	1.57	0	3663	6344	7899	4004	10007	No	11.35	Si
SLU 41	ini.	-317.1	1399	1.57	0	3663	6344	7899	4004	10007	No	7.15	Si
SLU 41	fin.	-165.56	-721	1.57	0	3663	6344	7899	4004	10007	No	13.87	Si
SLU 83	ini.	-296.38	1416	1.57	0	3663	6344	7899	4004	10007	No	7.06	Si
SLU 83	fin.	-200.25	-920	1.57	0	3663	6344	7899	4004	10007	No	10.87	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-2878.83	-9372	-0.000539	0.0003369	0.0035	1.57		8819.95	8819.95		3.06	Si
SLV 14	fin.	-20.31	-7872	-0.0000033	0.0003369	0.0035	1.57		8819.95	8819.95		434.18	Si
SLV 1	ini.	2841.99	4927	-0.0005314	0.0003369	0.0035	1.57		8809.37	8809.37		3.1	Si
SLV 1	fin.	78.11	3625	-0.0000126	0.0003369	0.0035	1.57		8809.37	8809.37		112.78	Si
SLV 4	ini.	2733.44	5278	-0.0005073	0.0003369	0.0035	1.57		8809.37	8809.37		3.22	Si
SLV 4	fin.	-285.48	3763	-0.0000463	0.0003369	0.0035	1.57		8819.95	8819.95		30.89	Si
SLV 13	ini.	-2949.76	-9493	-0.000555	0.0003369	0.0035	1.57		8819.95	8819.95		2.99	Si
SLV 13	fin.	-4.47	-7962	-0.0000007	0.0003369	0.0035	1.57		8819.95	8819.95		1971.31	Si
SLV 2	ini.	2912.92	5048	-0.0005474	0.0003369	0.0035	1.57		8809.37	8809.37		3.02	Si
SLV 2	fin.	62.27	3715	-0.00001	0.0003369	0.0035	1.57		8809.37	8809.37		141.46	Si
SLD 15	ini.	-2033.33	-6691	-0.00036	0.0003369	0.0035	1.57		8819.95	8819.95		4.34	Si
SLD 15	fin.	-264.52	-5817	-0.0000429	0.0003369	0.0035	1.57		8819.95	8819.95		33.34	Si
SLV 15	ini.	-3129.24	-9263	-0.0005961	0.0003369	0.0035	1.57		8819.95	8819.95		2.82	Si
SLV 15	fin.	-352.23	-7914	-0.0000573	0.0003369	0.0035	1.57		8819.95	8819.95		25.04	Si
SLV 3	ini.	2662.51	5157	-0.0004918	0.0003369	0.0035	1.57		8809.37	8809.37		3.31	Si
SLV 3	fin.	-269.64	3673	-0.0000437	0.0003369	0.0035	1.57		8819.95	8819.95		32.71	Si
SLD 16	ini.	-1988.34	-6615	-0.000351	0.0003369	0.0035	1.57		8819.95	8819.95		4.44	Si
SLD 16	fin.	-274.57	-5760	-0.0000445	0.0003369	0.0035	1.57		8819.95	8819.95		32.12	Si
SLV 16	ini.	-3058.31	-9142	-0.0005797	0.0003369	0.0035	1.57		8819.95	8819.95		2.88	Si
SLV 16	fin.	-368.07	-7824	-0.0000599	0.0003369	0.0035	1.57		8819.95	8819.95		23.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-3058.31	5833	1.57	0	5495	6344	11849	4004	11839		2.03	Si
SLV 16	fin.	-368.07	4575	1.57	0	5495	6344	11849	4004	11839		2.59	Si
SLV 4	ini.	2733.44	-4977	1.57	0	5495	6344	11849	4004	11839		2.38	Si
SLV 4	fin.	-285.48	-6502	1.57	0	5495	6344	11849	4004	11839		1.82	Si
SLV 13	ini.	-2949.76	6332	1.57	0	5495	6344	11849	4004	11839		1.87	Si
SLV 13	fin.	-4.47	5059	1.57	0	5495	6344	11849	4004	11839		2.34	Si
SLV 15	ini.	-3129.24	5972	1.57	0	5495	6344	11849	4004	11839		1.98	Si
SLV 15	fin.	-352.23	4715	1.57	0	5495	6344	11849	4004	11839		2.51	Si
SLV 14	ini.	-2878.83	6192	1.57	0	5495	6344	11849	4004	11839		1.91	Si
SLV 14	fin.	-20.31	4920	1.57	0	5495	6344	11849	4004	11839		2.41	Si
SLD 4	ini.	1711.51	-2928	1.57	0	5495	6344	11849	4004	11839		4.04	Si
SLD 4	fin.	-230.11	-4412	1.57	0	5495	6344	11849	4004	11839		2.68	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	2912.92	-4617	1.57	0	5495	6344	11849	4004	11839		2.56	Si
SLV 2	fin.	62.27	-6157	1.57	0	5495	6344	11849	4004	11839		1.92	Si
SLV 3	ini.	2662.51	-4838	1.57	0	5495	6344	11849	4004	11839		2.45	Si
SLV 3	fin.	-269.64	-6363	1.57	0	5495	6344	11849	4004	11839		1.86	Si
SLD 3	ini.	1666.51	-2840	1.57	0	5495	6344	11849	4004	11839		4.17	Si
SLD 3	fin.	-220.06	-4323	1.57	0	5495	6344	11849	4004	11839		2.74	Si
SLV 1	ini.	2841.99	-4478	1.57	0	5495	6344	11849	4004	11839		2.64	Si
SLV 1	fin.	78.11	-6018	1.57	0	5495	6344	11849	4004	11839		1.97	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.819	SLV 15	Si
V_SLV	1.821	SLV 4	Si
PF_SLU	29.122	SLU 41	Si
V_SLU	7.015	SLU 84	Si

Trave di accoppiamento 57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	2.83	4.4	1.57	-9.443	-3.169	2.83	4.4	1.57	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-1580.61	-2860	-0.0002871	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.68	Si
SLU 79	fin.	274.16	-1088	-0.0000447	0.0001872	0.0035	1.57		8966.59	8966.59	No	32.71	Si
SLU 82	ini.	-1596.45	-2870	-0.0002904	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.62	Si
SLU 82	fin.	308.83	-1059	-0.0000505	0.0001872	0.0035	1.57		8966.59	8966.59	No	29.03	Si
SLU 75	ini.	-1551.51	-2848	-0.000281	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.79	Si
SLU 75	fin.	268.56	-1094	-0.0000438	0.0001872	0.0035	1.57		8966.59	8966.59	No	33.39	Si
SLU 84	ini.	-1619.33	-2911	-0.0002952	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.54	Si
SLU 84	fin.	306.37	-1078	-0.0000501	0.0001872	0.0035	1.57		8966.59	8966.59	No	29.27	Si
SLU 77	ini.	-1583.01	-2879	-0.0002876	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.67	Si
SLU 77	fin.	271.88	-1101	-0.0000444	0.0001872	0.0035	1.57		8966.59	8966.59	No	32.98	Si
SLU 78	ini.	-1574.38	-2889	-0.0002858	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.7	Si
SLU 78	fin.	266.1	-1113	-0.0000434	0.0001872	0.0035	1.57		8966.59	8966.59	No	33.7	Si
SLU 81	ini.	-1605.08	-2860	-0.0002922	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.59	Si
SLU 81	fin.	314.61	-1047	-0.0000515	0.0001872	0.0035	1.57		8966.59	8966.59	No	28.5	Si
SLU 80	ini.	-1571.98	-2870	-0.0002853	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.71	Si
SLU 80	fin.	268.38	-1099	-0.0000438	0.0001872	0.0035	1.57		8966.59	8966.59	No	33.41	Si
SLU 83	ini.	-1627.96	-2901	-0.000297	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.51	Si
SLU 83	fin.	312.15	-1066	-0.0000511	0.0001872	0.0035	1.57		8966.59	8966.59	No	28.73	Si
SLU 74	ini.	-1560.13	-2838	-0.0002828	0.0001872	0.0035	1.57		8976.47	8976.47	No	5.75	Si
SLU 74	fin.	274.34	-1082	-0.0000448	0.0001872	0.0035	1.57		8966.59	8966.59	No	32.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1596.45	4951	1.57	0	3053	7137	6582	4004	10189	No	2.06	Si
SLU 82	fin.	308.83	2289	1.57	0	3053	7137	6582	4004	10189	No	4.45	Si
SLU 80	ini.	-1571.98	4765	1.57	0	3053	7137	6582	4004	10189	No	2.14	Si
SLU 80	fin.	268.38	2260	1.57	0	3053	7137	6582	4004	10189	No	4.51	Si
SLU 83	ini.	-1627.96	5010	1.57	0	3053	7137	6582	4004	10189	No	2.03	Si
SLU 83	fin.	312.15	2348	1.57	0	3053	7137	6582	4004	10189	No	4.34	Si
SLU 77	ini.	-1583.01	4787	1.57	0	3053	7137	6582	4004	10189	No	2.13	Si
SLU 77	fin.	271.88	2282	1.57	0	3053	7137	6582	4004	10189	No	4.47	Si
SLU 75	ini.	-1551.51	4728	1.57	0	3053	7137	6582	4004	10189	No	2.16	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	fin.	268.56	2223	1.57	0	3053	7137	6582	4004	10189	No	4.58	Si
SLU 78	ini.	-1574.38	4770	1.57	0	3053	7137	6582	4004	10189	No	2.14	Si
SLU 78	fin.	266.1	2265	1.57	0	3053	7137	6582	4004	10189	No	4.5	Si
SLU 84	ini.	-1619.33	4993	1.57	0	3053	7137	6582	4004	10189	No	2.04	Si
SLU 84	fin.	306.37	2331	1.57	0	3053	7137	6582	4004	10189	No	4.37	Si
SLU 81	ini.	-1605.08	4968	1.57	0	3053	7137	6582	4004	10189	No	2.05	Si
SLU 81	fin.	314.61	2306	1.57	0	3053	7137	6582	4004	10189	No	4.42	Si
SLU 74	ini.	-1560.13	4745	1.57	0	3053	7137	6582	4004	10189	No	2.15	Si
SLU 74	fin.	274.34	2240	1.57	0	3053	7137	6582	4004	10189	No	4.55	Si
SLU 79	ini.	-1580.61	4782	1.57	0	3053	7137	6582	4004	10189	No	2.13	Si
SLU 79	fin.	274.16	2277	1.57	0	3053	7137	6582	4004	10189	No	4.48	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-4893.19	-5453	-0.0010877	0.0002807	0.0035	1.57		8902.47	8902.47		1.82	Si
SLV 15	fin.	-576.12	-2367	-0.0000949	0.0002807	0.0035	1.57		8902.47	8902.47		15.45	Si
SLV 13	ini.	-4438.73	-6064	-0.0009545	0.0002807	0.0035	1.57		8902.47	8902.47		2.01	Si
SLV 13	fin.	-883.08	-2994	-0.0001478	0.0002807	0.0035	1.57		8902.47	8902.47		10.08	Si
SLD 16	ini.	-3192.66	-3952	-0.0006273	0.0002807	0.0035	1.57		8902.47	8902.47		2.79	Si
SLD 16	fin.	-253.33	-1695	-0.0000411	0.0002807	0.0035	1.57		8902.47	8902.47		35.14	Si
SLV 16	ini.	-4405.98	-5040	-0.0009452	0.0002807	0.0035	1.57		8902.47	8902.47		2.02	Si
SLV 16	fin.	-488.28	-2196	-0.0000801	0.0002807	0.0035	1.57		8902.47	8902.47		18.23	Si
SLD 13	ini.	-3235.4	-4572	-0.0006376	0.0002807	0.0035	1.57		8902.47	8902.47		2.75	Si
SLD 13	fin.	-488.49	-2171	-0.0000801	0.0002807	0.0035	1.57		8902.47	8902.47		18.22	Si
SLV 11	ini.	-2997.52	-2173	-0.0005805	0.0002807	0.0035	1.57		8902.47	8902.47		2.97	Si
SLV 11	fin.	394.65	-338	-0.0000645	0.0002807	0.0035	1.57		8892.13	8892.13		22.53	Si
SLV 2	ini.	2752.12	1491	-0.0005239	0.0002807	0.0035	1.57		8892.13	8892.13		3.23	Si
SLV 2	fin.	914.19	805	-0.0001535	0.0002807	0.0035	1.57		8892.13	8892.13		9.73	Si
SLD 15	ini.	-3501.76	-4214	-0.0007037	0.0002807	0.0035	1.57		8902.47	8902.47		2.54	Si
SLD 15	fin.	-309.06	-1804	-0.0000502	0.0002807	0.0035	1.57		8902.47	8902.47		28.81	Si
SLD 14	ini.	-2926.3	-4311	-0.0005637	0.0002807	0.0035	1.57		8902.47	8902.47		3.04	Si
SLD 14	fin.	-432.76	-2062	-0.0000708	0.0002807	0.0035	1.57		8902.47	8902.47		20.57	Si
SLV 14	ini.	-3951.52	-5651	-0.0008204	0.0002807	0.0035	1.57		8902.47	8902.47		2.25	Si
SLV 14	fin.	-795.24	-2823	-0.0001325	0.0002807	0.0035	1.57		8902.47	8902.47		11.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-4893.19	8346	1.57	0	4579	7137	9873	4004	11716		1.4	Si
SLV 15	fin.	-576.12	6722	1.57	0	4579	7137	9873	4004	11716		1.74	Si
SLV 12	ini.	-2669.52	5772	1.57	0	4579	7137	9873	4004	11716		2.03	Si
SLV 12	fin.	453.78	4077	1.57	0	4579	7137	9873	4004	11716		2.87	Si
SLV 16	ini.	-4405.98	7692	1.57	0	4579	7137	9873	4004	11716		1.52	Si
SLV 16	fin.	-488.28	6067	1.57	0	4579	7137	9873	4004	11716		1.93	Si
SLD 14	ini.	-2926.3	5536	1.57	0	4579	7137	9873	4004	11716		2.12	Si
SLD 14	fin.	-432.76	3911	1.57	0	4579	7137	9873	4004	11716		3	Si
SLD 16	ini.	-3192.66	6057	1.57	0	4579	7137	9873	4004	11716		1.93	Si
SLD 16	fin.	-253.33	4415	1.57	0	4579	7137	9873	4004	11716		2.65	Si
SLD 13	ini.	-3235.4	5951	1.57	0	4579	7137	9873	4004	11716		1.97	Si
SLD 13	fin.	-488.49	4326	1.57	0	4579	7137	9873	4004	11716		2.71	Si
SLD 15	ini.	-3501.76	6472	1.57	0	4579	7137	9873	4004	11716		1.81	Si
SLD 15	fin.	-309.06	4830	1.57	0	4579	7137	9873	4004	11716		2.43	Si
SLV 13	ini.	-4438.73	7457	1.57	0	4579	7137	9873	4004	11716		1.57	Si
SLV 13	fin.	-883.08	5860	1.57	0	4579	7137	9873	4004	11716		2	Si
SLV 11	ini.	-2997.52	6212	1.57	0	4579	7137	9873	4004	11716		1.89	Si
SLV 11	fin.	394.65	4517	1.57	0	4579	7137	9873	4004	11716		2.59	Si
SLV 14	ini.	-3951.52	6803	1.57	0	4579	7137	9873	4004	11716		1.72	Si
SLV 14	fin.	-795.24	5206	1.57	0	4579	7137	9873	4004	11716		2.25	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.819	SLV 15	Si
V_SLV	1.404	SLV 15	Si
PF_SLU	5.514	SLU 83	Si
V_SLU	2.034	SLU 83	Si

Trave di accoppiamento 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.453	-3.169	0.73	1.63	0.9	-7.453	-3.169	0.73	1.63	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-222.01	2481	-0.0001134	0.0001872	0.0035	0.9		2964.67	2964.67	No	13.35	Si
SLU 81	fin.	355.14	-1859	-0.0001879	0.0001872	0.0035	0.9		2959	2959	No	8.33	Si
SLU 80	ini.	-197.2	2348	-0.0001002	0.0001872	0.0035	0.9		2964.67	2964.67	No	15.03	Si
SLU 80	fin.	336.47	-1785	-0.0001771	0.0001872	0.0035	0.9		2959	2959	No	8.79	Si
SLU 84	ini.	-210.95	2449	-0.0001075	0.0001872	0.0035	0.9		2964.67	2964.67	No	14.05	Si
SLU 84	fin.	353.8	-1865	-0.0001871	0.0001872	0.0035	0.9		2959	2959	No	8.36	Si
SLU 77	ini.	-210.42	2412	-0.0001072	0.0001872	0.0035	0.9		2964.67	2964.67	No	14.09	Si
SLU 77	fin.	342.43	-1804	-0.0001805	0.0001872	0.0035	0.9		2959	2959	No	8.64	Si
SLU 78	ini.	-195.83	2353	-0.0000995	0.0001872	0.0035	0.9		2964.67	2964.67	No	15.14	Si
SLU 78	fin.	335.27	-1785	-0.0001764	0.0001872	0.0035	0.9		2959	2959	No	8.83	Si
SLU 83	ini.	-225.54	2507	-0.0001153	0.0001872	0.0035	0.9		2964.67	2964.67	No	13.14	Si
SLU 83	fin.	360.96	-1884	-0.0001913	0.0001872	0.0035	0.9		2959	2959	No	8.2	Si
SLU 62	ini.	-210.08	2277	-0.0001071	0.0001872	0.0035	0.9		2964.67	2964.67	No	14.11	Si
SLU 62	fin.	330.09	-1707	-0.0001735	0.0001872	0.0035	0.9		2959	2959	No	8.96	Si
SLU 82	ini.	-207.42	2422	-0.0001056	0.0001872	0.0035	0.9		2964.67	2964.67	No	14.29	Si
SLU 82	fin.	347.97	-1840	-0.0001837	0.0001872	0.0035	0.9		2959	2959	No	8.5	Si
SLU 79	ini.	-211.79	2407	-0.000108	0.0001872	0.0035	0.9		2964.67	2964.67	No	14	Si
SLU 79	fin.	343.64	-1804	-0.0001812	0.0001872	0.0035	0.9		2959	2959	No	8.61	Si
SLU 74	ini.	-206.89	2385	-0.0001054	0.0001872	0.0035	0.9		2964.67	2964.67	No	14.33	Si
SLU 74	fin.	336.61	-1779	-0.0001772	0.0001872	0.0035	0.9		2959	2959	No	8.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-195.83	-754	0.9	0	1750	7137	3773	2295	6068	No	8.05	Si
SLU 78	fin.	335.27	5115	0.9	0	1750	7137	3773	2295	6068	No	1.19	Si
SLU 80	ini.	-197.2	-728	0.9	0	1750	7137	3773	2295	6068	No	8.33	Si
SLU 80	fin.	336.47	5093	0.9	0	1750	7137	3773	2295	6068	No	1.19	Si
SLU 77	ini.	-210.42	-691	0.9	0	1750	7137	3773	2295	6068	No	8.78	Si
SLU 77	fin.	342.43	5143	0.9	0	1750	7137	3773	2295	6068	No	1.18	Si
SLU 81	ini.	-222.01	-655	0.9	0	1750	7137	3773	2295	6068	No	9.27	Si
SLU 81	fin.	355.14	5272	0.9	0	1750	7137	3773	2295	6068	No	1.15	Si
SLU 74	ini.	-206.89	-696	0.9	0	1750	7137	3773	2295	6068	No	8.72	Si
SLU 74	fin.	336.61	5090	0.9	0	1750	7137	3773	2295	6068	No	1.19	Si
SLU 84	ini.	-210.95	-713	0.9	0	1750	7137	3773	2295	6068	No	8.52	Si
SLU 84	fin.	353.8	5297	0.9	0	1750	7137	3773	2295	6068	No	1.15	Si
SLU 75	ini.	-192.3	-758	0.9	0	1750	7137	3773	2295	6068	No	8	Si
SLU 75	fin.	329.44	5062	0.9	0	1750	7137	3773	2295	6068	No	1.2	Si
SLU 79	ini.	-211.79	-666	0.9	0	1750	7137	3773	2295	6068	No	9.11	Si
SLU 79	fin.	343.64	5121	0.9	0	1750	7137	3773	2295	6068	No	1.19	Si
SLU 82	ini.	-207.42	-717	0.9	0	1750	7137	3773	2295	6068	No	8.46	Si
SLU 82	fin.	347.97	5244	0.9	0	1750	7137	3773	2295	6068	No	1.16	Si
SLU 83	ini.	-225.54	-650	0.9	0	1750	7137	3773	2295	6068	No	9.34	Si
SLU 83	fin.	360.96	5325	0.9	0	1750	7137	3773	2295	6068	No	1.14	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-795.43	4307	-0.0004496	0.0002807	0.0035	0.9		2995.37	2995.37		3.77	Si
SLV 14	fin.	1197.06	-4738	-0.0007425	0.0002807	0.0035	0.9		2989.59	2989.59		2.5	Si
SLV 1	ini.	1058.23	-2744	-0.0006364	0.0002807	0.0035	0.9		2989.59	2989.59		2.83	Si
SLV 1	fin.	-1254.24	3926	-0.000786	0.0002807	0.0035	0.9		2995.37	2995.37		2.39	Si
SLD 16	ini.	-884.02	4364	-0.0005099	0.0002807	0.0035	0.9		2995.37	2995.37		3.39	Si
SLD 16	fin.	1154.62	-4427	-0.0007095	0.0002807	0.0035	0.9		2989.59	2989.59		2.59	Si
SLV 15	ini.	-1503.52	6613	-0.0009953	0.0002807	0.0035	0.9		2995.37	2995.37		1.99	Si
SLV 15	fin.	1922.48	-7079	-0.0014061	0.0002807	0.0035	0.9		2989.59	2989.59		1.56	Si
SLV 12	ini.	-1266.43	5336	-0.0007958	0.0002807	0.0035	0.9		2995.37	2995.37		2.37	Si
SLV 12	fin.	1385.34	-4967	-0.0008957	0.0002807	0.0035	0.9		2989.59	2989.59		2.16	Si
SLV 16	ini.	-1327.42	5976	-0.0008454	0.0002807	0.0035	0.9		2995.37	2995.37		2.26	Si
SLV 16	fin.	1699.17	-6309	-0.0011784	0.0002807	0.0035	0.9		2989.59	2989.59		1.76	Si
SLV 2	ini.	1234.33	-3381	-0.000772	0.0002807	0.0035	0.9		2989.59	2989.59		2.42	Si
SLV 2	fin.	-1477.55	4696	-0.0009725	0.0002807	0.0035	0.9		2995.37	2995.37		2.03	Si
SLV 13	ini.	-971.53	4944	-0.0005717	0.0002807	0.0035	0.9		2995.37	2995.37		3.08	Si
SLV 13	fin.	1420.37	-5507	-0.0009254	0.0002807	0.0035	0.9		2989.59	2989.59		2.1	Si
SLV 11	ini.	-1384.98	5765	-0.0008932	0.0002807	0.0035	0.9		2995.37	2995.37		2.16	Si
SLV 11	fin.	1535.67	-5485	-0.0010264	0.0002807	0.0035	0.9		2989.59	2989.59		1.95	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-995.74	4768	-0.0005891	0.0002807	0.0035	0.9		2995.37	2995.37		3.01	Si
SLD 15	fin.	1296.29	-4915	-0.0008219	0.0002807	0.0035	0.9		2989.59	2989.59		2.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1503.52	8063	0.9	0	2577	7137	5660	2295	7955		0.99	No
SLV 15	fin.	1922.48	10031	0.9	0	2577	7137	5660	2295	7955		0.79	No
SLV 11	ini.	-1384.98	7874	0.9	0	2577	7137	5660	2295	7955		1.01	Si
SLV 11	fin.	1535.67	7285	0.9	0	2577	7137	5660	2295	7955		1.09	Si
SLV 14	ini.	-795.43	3248	0.9	0	2577	7137	5660	2295	7955		2.45	Si
SLV 14	fin.	1197.06	8059	0.9	0	2577	7137	5660	2295	7955		0.99	No
SLD 15	ini.	-995.74	4868	0.9	0	2577	7137	5660	2295	7955		1.63	Si
SLD 15	fin.	1296.29	7629	0.9	0	2577	7137	5660	2295	7955		1.04	Si
SLV 5	ini.	997.24	-8155	0.9	0	2577	7137	5660	2295	7955		0.98	No
SLV 5	fin.	-940.41	175	0.9	0	2577	7137	5660	2295	7955		45.47	Si
SLV 2	ini.	1234.33	-9095	0.9	0	2577	7137	5660	2295	7955		0.87	No
SLV 2	fin.	-1477.55	-3143	0.9	0	2577	7137	5660	2295	7955		2.53	Si
SLV 13	ini.	-971.53	4365	0.9	0	2577	7137	5660	2295	7955		1.82	Si
SLV 13	fin.	1420.37	8907	0.9	0	2577	7137	5660	2295	7955		0.89	No
SLV 16	ini.	-1327.42	6946	0.9	0	2577	7137	5660	2295	7955		1.15	Si
SLV 16	fin.	1699.17	9183	0.9	0	2577	7137	5660	2295	7955		0.87	No
SLV 6	ini.	1115.79	-8907	0.9	0	2577	7137	5660	2295	7955		0.89	No
SLV 6	fin.	-1090.75	-396	0.9	0	2577	7137	5660	2295	7955		20.09	Si
SLV 1	ini.	1058.23	-7979	0.9	0	2577	7137	5660	2295	7955		1	No
SLV 1	fin.	-1254.24	-2295	0.9	0	2577	7137	5660	2295	7955		3.47	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.555	SLV 15	Si
V_SLV	0.793	SLV 15	No
PF_SLU	8.197	SLU 83	Si
V_SLU	1.14	SLU 83	Si

Trave di accoppiamento 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.453	-3.169	3.53	4.4	0.87	-7.453	-3.169	3.53	4.4	0.87	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-383.8	-2330	-0.0002199	0.0001872	0.0035	0.87		2776.53	2776.53	No	7.23	Si
SLU 75	fin.	25.26	-1108	-0.0000133	0.0001872	0.0035	0.87		2771.06	2771.06	No	109.71	Si
SLU 84	ini.	-411.87	-2470	-0.000238	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.74	Si
SLU 84	fin.	38.95	-1102	-0.0000205	0.0001872	0.0035	0.87		2771.06	2771.06	No	71.15	Si
SLU 74	ini.	-387.67	-2348	-0.0002224	0.0001872	0.0035	0.87		2776.53	2776.53	No	7.16	Si
SLU 74	fin.	31.23	-1083	-0.0000164	0.0001872	0.0035	0.87		2771.06	2771.06	No	88.74	Si
SLU 78	ini.	-388.19	-2351	-0.0002227	0.0001872	0.0035	0.87		2776.53	2776.53	No	7.15	Si
SLU 78	fin.	25.6	-1120	-0.0000135	0.0001872	0.0035	0.87		2771.06	2771.06	No	108.23	Si
SLU 80	ini.	-387.6	-2342	-0.0002223	0.0001872	0.0035	0.87		2776.53	2776.53	No	7.16	Si
SLU 80	fin.	26.8	-1105	-0.0000141	0.0001872	0.0035	0.87		2771.06	2771.06	No	103.41	Si
SLU 83	ini.	-415.73	-2487	-0.0002405	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.68	Si
SLU 83	fin.	44.91	-1077	-0.0000237	0.0001872	0.0035	0.87		2771.06	2771.06	No	61.7	Si
SLU 82	ini.	-407.48	-2449	-0.0002352	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.81	Si
SLU 82	fin.	38.6	-1091	-0.0000203	0.0001872	0.0035	0.87		2771.06	2771.06	No	71.79	Si
SLU 79	ini.	-391.47	-2359	-0.0002248	0.0001872	0.0035	0.87		2776.53	2776.53	No	7.09	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	fin.	32.76	-1080	-0.0000172	0.0001872	0.0035	0.87		2771.06	2771.06	No	84.57	Si
SLU 81	ini.	-411.35	-2467	-0.0002377	0.0001872	0.0035	0.87		2776.53	2776.53	No	6.75	Si
SLU 81	fin.	44.57	-1065	-0.0000235	0.0001872	0.0035	0.87		2771.06	2771.06	No	62.18	Si
SLU 77	ini.	-392.05	-2368	-0.0002252	0.0001872	0.0035	0.87		2776.53	2776.53	No	7.08	Si
SLU 77	fin.	31.57	-1095	-0.0000166	0.0001872	0.0035	0.87		2771.06	2771.06	No	87.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-392.05	5438	0.87	0	1692	6899	3647	2219	5866	No	1.08	Si
SLU 77	fin.	31.57	-3833	0.87	0	1692	6899	3647	2219	5866	No	1.53	Si
SLU 78	ini.	-388.19	5432	0.87	0	1692	6899	3647	2219	5866	No	1.08	Si
SLU 78	fin.	25.6	-3884	0.87	0	1692	6899	3647	2219	5866	No	1.51	Si
SLU 74	ini.	-387.67	5391	0.87	0	1692	6899	3647	2219	5866	No	1.09	Si
SLU 74	fin.	31.23	-3800	0.87	0	1692	6899	3647	2219	5866	No	1.54	Si
SLU 79	ini.	-391.47	5406	0.87	0	1692	6899	3647	2219	5866	No	1.09	Si
SLU 79	fin.	32.76	-3793	0.87	0	1692	6899	3647	2219	5866	No	1.55	Si
SLU 84	ini.	-411.87	5661	0.87	0	1692	6899	3647	2219	5866	No	1.04	Si
SLU 84	fin.	38.95	-3937	0.87	0	1692	6899	3647	2219	5866	No	1.49	Si
SLU 81	ini.	-411.35	5620	0.87	0	1692	6899	3647	2219	5866	No	1.04	Si
SLU 81	fin.	44.57	-3854	0.87	0	1692	6899	3647	2219	5866	No	1.52	Si
SLU 82	ini.	-407.48	5614	0.87	0	1692	6899	3647	2219	5866	No	1.04	Si
SLU 82	fin.	38.6	-3904	0.87	0	1692	6899	3647	2219	5866	No	1.5	Si
SLU 75	ini.	-383.8	5385	0.87	0	1692	6899	3647	2219	5866	No	1.09	Si
SLU 75	fin.	25.26	-3850	0.87	0	1692	6899	3647	2219	5866	No	1.52	Si
SLU 83	ini.	-415.73	5667	0.87	0	1692	6899	3647	2219	5866	No	1.03	Si
SLU 83	fin.	44.91	-3887	0.87	0	1692	6899	3647	2219	5866	No	1.51	Si
SLU 80	ini.	-387.6	5399	0.87	0	1692	6899	3647	2219	5866	No	1.09	Si
SLU 80	fin.	26.8	-3843	0.87	0	1692	6899	3647	2219	5866	No	1.53	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1124.85	-4739	-0.0007447	0.0002807	0.0035	0.87		2803.75	2803.75		2.49	Si
SLV 13	fin.	330.84	-409	-0.0001827	0.0002807	0.0035	0.87		2798.17	2798.17		8.46	Si
SLV 11	ini.	-1329.87	-5559	-0.0009239	0.0002807	0.0035	0.87		2803.75	2803.75		2.11	Si
SLV 11	fin.	785.71	2417	-0.0004805	0.0002807	0.0035	0.87		2798.17	2798.17		3.56	Si
SLV 12	ini.	-1215.5	-5164	-0.0008221	0.0002807	0.0035	0.87		2803.75	2803.75		2.31	Si
SLV 12	fin.	719.59	2210	-0.000433	0.0002807	0.0035	0.87		2798.17	2798.17		3.89	Si
SLV 16	ini.	-1386.77	-5771	-0.0009764	0.0002807	0.0035	0.87		2803.75	2803.75		2.02	Si
SLV 16	fin.	596.93	946	-0.0003487	0.0002807	0.0035	0.87		2798.17	2798.17		4.69	Si
SLV 2	ini.	1052.99	3251	-0.0006871	0.0002807	0.0035	0.87		2798.17	2798.17		2.66	Si
SLV 2	fin.	-677.13	-2802	-0.0004023	0.0002807	0.0035	0.87		2803.75	2803.75		4.14	Si
SLV 14	ini.	-954.97	-4152	-0.0006072	0.0002807	0.0035	0.87		2803.75	2803.75		2.94	Si
SLV 14	fin.	232.63	-718	-0.0001262	0.0002807	0.0035	0.87		2798.17	2798.17		12.03	Si
SLD 15	ini.	-1074.9	-4584	-0.0007033	0.0002807	0.0035	0.87		2803.75	2803.75		2.61	Si
SLD 15	fin.	438.31	479	-0.0002472	0.0002807	0.0035	0.87		2798.17	2798.17		6.38	Si
SLD 16	ini.	-967.12	-4212	-0.0006167	0.0002807	0.0035	0.87		2803.75	2803.75		2.9	Si
SLD 16	fin.	376	283	-0.0002094	0.0002807	0.0035	0.87		2798.17	2798.17		7.44	Si
SLV 15	ini.	-1556.65	-6358	-0.0011414	0.0002807	0.0035	0.87		2803.75	2803.75		1.8	Si
SLV 15	fin.	695.15	1255	-0.0004158	0.0002807	0.0035	0.87		2798.17	2798.17		4.03	Si
SLD 11	ini.	-900.5	-3963	-0.0005651	0.0002807	0.0035	0.87		2803.75	2803.75		3.11	Si
SLD 11	fin.	472.08	1114	-0.0002681	0.0002807	0.0035	0.87		2798.17	2798.17		5.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1124.85	7764	0.87	0	2472	6899	5471	2219	7689		0.99	No
SLV 13	fin.	330.84	-1612	0.87	0	2472	6899	5471	2219	7689		4.77	Si
SLV 11	ini.	-1329.87	7386	0.87	0	2472	6899	5471	2219	7689		1.04	Si
SLV 11	fin.	785.71	3672	0.87	0	2472	6899	5471	2219	7689		2.09	Si
SLV 5	ini.	711.85	266	0.87	0	2472	6899	5471	2219	7689		28.87	Si
SLV 5	fin.	-701.57	-8511	0.87	0	2472	6899	5471	2219	7689		0.9	No
SLV 9	ini.	109.46	2959	0.87	0	2472	6899	5471	2219	7689		2.6	Si
SLV 9	fin.	-428.65	-7114	0.87	0	2472	6899	5471	2219	7689		1.08	Si
SLV 6	ini.	826.22	-206	0.87	0	2472	6899	5471	2219	7689		37.3	Si
SLV 6	fin.	-767.69	-8908	0.87	0	2472	6899	5471	2219	7689		0.86	No
SLD 15	ini.	-1074.9	7075	0.87	0	2472	6899	5471	2219	7689		1.09	Si
SLD 15	fin.	438.31	6	0.87	0	2472	6899	5471	2219	7689		1206.4	Si
SLV 10	ini.	223.83	2486	0.87	0	2472	6899	5471	2219	7689		3.09	Si
SLV 10	fin.	-494.77	-7511	0.87	0	2472	6899	5471	2219	7689		1.02	Si
SLV 16	ini.	-1386.77	8391	0.87	0	2472	6899	5471	2219	7689		0.92	No
SLV 16	fin.	596.93	1034	0.87	0	2472	6899	5471	2219	7689		7.44	Si
SLV 14	ini.	-954.97	7063	0.87	0	2472	6899	5471	2219	7689		1.09	Si
SLV 14	fin.	232.63	-2202	0.87	0	2472	6899	5471	2219	7689		3.49	Si
SLV 15	ini.	-1556.65	9093	0.87	0	2472	6899	5471	2219	7689		0.85	No
SLV 15	fin.	695.15	1624	0.87	0	2472	6899	5471	2219	7689		4.74	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.801	SLV 15	Si
V_SLV	0.846	SLV 15	No
PF_SLU	6.679	SLU 83	Si
V_SLU	1.035	SLU 83	Si

Trave di accoppiamento 64

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	3.53	4.4	0.87	-5.938	-3.169	3.53	4.4	0.87	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	395.12	-112	-0.0002276	0.0001872	0.0035	0.87		2771.06	2771.06	No	7.01	Si
SLU 78	fin.	-571.99	-2929	-0.0003475	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.85	Si
SLU 83	ini.	394.62	-139	-0.0002273	0.0001872	0.0035	0.87		2771.06	2771.06	No	7.02	Si
SLU 83	fin.	-597.82	-3081	-0.0003661	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.64	Si
SLU 74	ini.	395.77	-72	-0.0002281	0.0001872	0.0035	0.87		2771.06	2771.06	No	7	Si
SLU 74	fin.	-573.59	-2933	-0.0003487	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.84	Si
SLU 82	ini.	394.68	-147	-0.0002274	0.0001872	0.0035	0.87		2771.06	2771.06	No	7.02	Si
SLU 82	fin.	-590.17	-3038	-0.0003606	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.7	Si
SLU 79	ini.	390.2	-93	-0.0002245	0.0001872	0.0035	0.87		2771.06	2771.06	No	7.1	Si
SLU 79	fin.	-573.4	-2938	-0.0003486	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.84	Si
SLU 75	ini.	395.47	-96	-0.0002279	0.0001872	0.0035	0.87		2771.06	2771.06	No	7.01	Si
SLU 75	fin.	-568.97	-2910	-0.0003454	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.88	Si
SLU 80	ini.	389.91	-117	-0.0002243	0.0001872	0.0035	0.87		2771.06	2771.06	No	7.11	Si
SLU 80	fin.	-568.77	-2914	-0.0003453	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.88	Si
SLU 77	ini.	395.42	-88	-0.0002278	0.0001872	0.0035	0.87		2771.06	2771.06	No	7.01	Si
SLU 77	fin.	-576.61	-2953	-0.0003509	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.82	Si
SLU 84	ini.	394.32	-163	-0.0002271	0.0001872	0.0035	0.87		2771.06	2771.06	No	7.03	Si
SLU 84	fin.	-593.19	-3058	-0.0003628	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.68	Si
SLU 81	ini.	394.98	-123	-0.0002275	0.0001872	0.0035	0.87		2771.06	2771.06	No	7.02	Si
SLU 81	fin.	-594.8	-3062	-0.0003639	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	394.62	-524	0.87	0	1692	3965	3647	2219	5656	No	10.79	Si
SLU 83	fin.	-597.82	-8277	0.87	0	1692	3965	3647	2219	5656	No	0.68	No
SLU 74	ini.	395.77	-553	0.87	0	1692	3965	3647	2219	5656	No	10.22	Si
SLU 74	fin.	-573.59	-8025	0.87	0	1692	3965	3647	2219	5656	No	0.7	No
SLU 78	ini.	395.12	-445	0.87	0	1692	3965	3647	2219	5656	No	12.7	Si
SLU 78	fin.	-571.99	-8043	0.87	0	1692	3965	3647	2219	5656	No	0.7	No
SLU 81	ini.	394.98	-549	0.87	0	1692	3965	3647	2219	5656	No	10.3	Si
SLU 81	fin.	-594.8	-8237	0.87	0	1692	3965	3647	2219	5656	No	0.69	No
SLU 77	ini.	395.42	-528	0.87	0	1692	3965	3647	2219	5656	No	10.7	Si
SLU 77	fin.	-576.61	-8065	0.87	0	1692	3965	3647	2219	5656	No	0.7	No
SLU 80	ini.	389.91	-448	0.87	0	1692	3965	3647	2219	5656	No	12.64	Si
SLU 80	fin.	-568.77	-7976	0.87	0	1692	3965	3647	2219	5656	No	0.71	No
SLU 79	ini.	390.2	-531	0.87	0	1692	3965	3647	2219	5656	No	10.66	Si
SLU 79	fin.	-573.4	-7998	0.87	0	1692	3965	3647	2219	5656	No	0.71	No
SLU 75	ini.	395.47	-470	0.87	0	1692	3965	3647	2219	5656	No	12.03	Si
SLU 75	fin.	-568.97	-8003	0.87	0	1692	3965	3647	2219	5656	No	0.71	No
SLU 84	ini.	394.32	-441	0.87	0	1692	3965	3647	2219	5656	No	12.82	Si
SLU 84	fin.	-593.19	-8255	0.87	0	1692	3965	3647	2219	5656	No	0.69	No
SLU 82	ini.	394.68	-466	0.87	0	1692	3965	3647	2219	5656	No	12.14	Si
SLU 82	fin.	-590.17	-8215	0.87	0	1692	3965	3647	2219	5656	No	0.69	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1609.25	5071	-0.0011984	0.0002807	0.0035	0.87		2798.17	2798.17		1.74	Si
SLV 2	fin.	-204.83	1440	-0.0001104	0.0002807	0.0035	0.87		2803.75	2803.75		13.69	Si
SLV 15	ini.	-1034.09	-4998	-0.0006701	0.0002807	0.0035	0.87		2803.75	2803.75		2.71	Si
SLV 15	fin.	-578.8	-5382	-0.0003359	0.0002807	0.0035	0.87		2803.75	2803.75		4.84	Si
SLV 5	ini.	1298.69	3131	-0.0008979	0.0002807	0.0035	0.87		2798.17	2798.17		2.15	Si
SLV 5	fin.	-161.92	706	-0.0000866	0.0002807	0.0035	0.87		2803.75	2803.75		17.32	Si
SLV 6	ini.	1428.16	3626	-0.0010181	0.0002807	0.0035	0.87		2798.17	2798.17		1.96	Si
SLV 6	fin.	-156.91	941	-0.0000839	0.0002807	0.0035	0.87		2803.75	2803.75		17.87	Si
SLV 1	ini.	1416.93	4336	-0.0010074	0.0002807	0.0035	0.87		2798.17	2798.17		1.97	Si
SLV 1	fin.	-212.27	1091	-0.0001145	0.0002807	0.0035	0.87		2803.75	2803.75		13.21	Si
SLD 1	ini.	998.35	2755	-0.000643	0.0002807	0.0035	0.87		2798.17	2798.17		2.8	Si
SLD 1	fin.	-277.49	-48	-0.0001514	0.0002807	0.0035	0.87		2803.75	2803.75		10.1	Si
SLV 3	ini.	949.99	3056	-0.0006047	0.0002807	0.0035	0.87		2798.17	2798.17		2.95	Si
SLV 3	fin.	-329.26	-111	-0.0001814	0.0002807	0.0035	0.87		2803.75	2803.75		8.52	Si
SLD 6	ini.	973.87	2205	-0.0006235	0.0002807	0.0035	0.87		2798.17	2798.17		2.87	Si
SLD 6	fin.	-250.95	-222	-0.0001363	0.0002807	0.0035	0.87		2803.75	2803.75		11.17	Si
SLV 4	ini.	1142.31	3791	-0.0007613	0.0002807	0.0035	0.87		2798.17	2798.17		2.45	Si
SLV 4	fin.	-321.81	237	-0.000177	0.0002807	0.0035	0.87		2803.75	2803.75		8.71	Si
SLD 2	ini.	1120.36	3221	-0.0007428	0.0002807	0.0035	0.87		2798.17	2798.17		2.5	Si
SLD 2	fin.	-272.77	173	-0.0001487	0.0002807	0.0035	0.87		2803.75	2803.75		10.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	703.46	1202	0.87	0	2538	3965	5471	2219	6502		5.41	Si
SLV 9	fin.	-236.79	-7293	0.87	0	2538	3965	5471	2219	6502		0.89	No
SLV 6	ini.	1428.16	-1547	0.87	0	2538	3965	5471	2219	6502		4.2	Si
SLV 6	fin.	-156.91	-9163	0.87	0	2538	3965	5471	2219	6502		0.71	No
SLV 2	ini.	1609.25	-4518	0.87	0	2538	3965	5471	2219	6502		1.44	Si
SLV 2	fin.	-204.83	-9039	0.87	0	2538	3965	5471	2219	6502		0.72	No
SLV 4	ini.	1142.31	-4710	0.87	0	2538	3965	5471	2219	6502		1.38	Si
SLV 4	fin.	-321.81	-7421	0.87	0	2538	3965	5471	2219	6502		0.88	No
SLV 1	ini.	1416.93	-3779	0.87	0	2538	3965	5471	2219	6502		1.72	Si
SLV 1	fin.	-212.27	-8366	0.87	0	2538	3965	5471	2219	6502		0.78	No
SLV 10	ini.	832.93	704	0.87	0	2538	3965	5471	2219	6502		9.23	Si
SLV 10	fin.	-231.77	-7746	0.87	0	2538	3965	5471	2219	6502		0.84	No
SLD 6	ini.	973.87	-1160	0.87	0	2538	3965	5471	2219	6502		5.6	Si
SLD 6	fin.	-250.95	-7694	0.87	0	2538	3965	5471	2219	6502		0.85	No
SLD 5	ini.	895.3	-858	0.87	0	2538	3965	5471	2219	6502		7.58	Si
SLD 5	fin.	-253.99	-7419	0.87	0	2538	3965	5471	2219	6502		0.88	No
SLD 2	ini.	1120.36	-3061	0.87	0	2538	3965	5471	2219	6502		2.12	Si
SLD 2	fin.	-272.77	-7716	0.87	0	2538	3965	5471	2219	6502		0.84	No
SLV 5	ini.	1298.69	-1049	0.87	0	2538	3965	5471	2219	6502		6.2	Si
SLV 5	fin.	-161.92	-8710	0.87	0	2538	3965	5471	2219	6502		0.75	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.739	SLV 2	Si
V_SLV	0.71	SLV 6	No
PF_SLU	4.644	SLU 83	Si
V_SLU	0.683	SLU 83	No

Trave di accoppiamento 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.163	-3.169	0.73	1.63	0.9	-3.163	-3.169	0.73	1.63	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	239.12	-1990	-0.0001229	0.0001872	0.0035	0.9		2959	2959	No	12.37	Si
SLU 77	fin.	744.31	-3410	-0.0004402	0.0001872	0.0035	0.9		2959	2959	No	3.98	Si
SLU 74	ini.	240.38	-1981	-0.0001236	0.0001872	0.0035	0.9		2959	2959	No	12.31	Si
SLU 74	fin.	735.91	-3375	-0.0004342	0.0001872	0.0035	0.9		2959	2959	No	4.02	Si
SLU 82	ini.	255.75	-2044	-0.000132	0.0001872	0.0035	0.9		2959	2959	No	11.57	Si
SLU 82	fin.	745.78	-3455	-0.0004412	0.0001872	0.0035	0.9		2959	2959	No	3.97	Si
SLU 84	ini.	254.49	-2053	-0.0001313	0.0001872	0.0035	0.9		2959	2959	No	11.63	Si
SLU 84	fin.	754.18	-3490	-0.0004472	0.0001872	0.0035	0.9		2959	2959	No	3.92	Si
SLU 78	ini.	263.47	-2047	-0.0001362	0.0001872	0.0035	0.9		2959	2959	No	11.23	Si
SLU 78	fin.	727.69	-3381	-0.0004284	0.0001872	0.0035	0.9		2959	2959	No	4.07	Si
SLU 81	ini.	231.41	-1987	-0.0001187	0.0001872	0.0035	0.9		2959	2959	No	12.79	Si
SLU 81	fin.	762.4	-3483	-0.0004531	0.0001872	0.0035	0.9		2959	2959	No	3.88	Si
SLU 83	ini.	230.15	-1996	-0.000118	0.0001872	0.0035	0.9		2959	2959	No	12.86	Si
SLU 83	fin.	770.8	-3518	-0.0004591	0.0001872	0.0035	0.9		2959	2959	No	3.84	Si
SLU 79	ini.	237.26	-1974	-0.0001219	0.0001872	0.0035	0.9		2959	2959	No	12.47	Si
SLU 79	fin.	738.3	-3383	-0.0004359	0.0001872	0.0035	0.9		2959	2959	No	4.01	Si
SLU 80	ini.	261.6	-2032	-0.0001352	0.0001872	0.0035	0.9		2959	2959	No	11.31	Si
SLU 80	fin.	721.68	-3354	-0.0004242	0.0001872	0.0035	0.9		2959	2959	No	4.1	Si
SLU 75	ini.	264.73	-2038	-0.0001369	0.0001872	0.0035	0.9		2959	2959	No	11.18	Si
SLU 75	fin.	719.29	-3346	-0.0004225	0.0001872	0.0035	0.9		2959	2959	No	4.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	230.15	1249	0.9	0	1750	7137	3773	2295	6068	No	4.86	Si
SLU 83	fin.	770.8	1735	0.9	0	1750	7137	3773	2295	6068	No	3.5	Si
SLU 78	ini.	263.47	1005	0.9	0	1750	7137	3773	2295	6068	No	6.04	Si
SLU 78	fin.	727.69	1671	0.9	0	1750	7137	3773	2295	6068	No	3.63	Si
SLU 76	ini.	279.08	869	0.9	0	1750	7137	3773	2295	6068	No	6.98	Si
SLU 76	fin.	702.2	1644	0.9	0	1750	7137	3773	2295	6068	No	3.69	Si
SLU 80	ini.	261.6	998	0.9	0	1750	7137	3773	2295	6068	No	6.08	Si
SLU 80	fin.	721.68	1654	0.9	0	1750	7137	3773	2295	6068	No	3.67	Si
SLU 82	ini.	255.75	1065	0.9	0	1750	7137	3773	2295	6068	No	5.7	Si
SLU 82	fin.	745.78	1734	0.9	0	1750	7137	3773	2295	6068	No	3.5	Si
SLU 84	ini.	254.49	1083	0.9	0	1750	7137	3773	2295	6068	No	5.6	Si
SLU 84	fin.	754.18	1762	0.9	0	1750	7137	3773	2295	6068	No	3.44	Si
SLU 81	ini.	231.41	1230	0.9	0	1750	7137	3773	2295	6068	No	4.93	Si
SLU 81	fin.	762.4	1706	0.9	0	1750	7137	3773	2295	6068	No	3.56	Si
SLU 75	ini.	264.73	986	0.9	0	1750	7137	3773	2295	6068	No	6.15	Si
SLU 75	fin.	719.29	1642	0.9	0	1750	7137	3773	2295	6068	No	3.7	Si
SLU 79	ini.	237.26	1164	0.9	0	1750	7137	3773	2295	6068	No	5.21	Si
SLU 79	fin.	738.3	1626	0.9	0	1750	7137	3773	2295	6068	No	3.73	Si
SLU 77	ini.	239.12	1170	0.9	0	1750	7137	3773	2295	6068	No	5.19	Si
SLU 77	fin.	744.31	1643	0.9	0	1750	7137	3773	2295	6068	No	3.69	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-896.22	749	-0.0005184	0.0002807	0.0035	0.9		2995.37	2995.37		3.34	Si
SLV 14	fin.	1578.52	-6057	-0.0010652	0.0002807	0.0035	0.9		2989.59	2989.59		1.89	Si
SLV 15	ini.	-1983.05	3913	-0.0014688	0.0002807	0.0035	0.9		2995.37	2995.37		1.51	Si
SLV 15	fin.	2043.99	-7107	-0.0015425	0.0002807	0.0035	0.9		2989.59	2989.59		1.46	Si
SLV 16	ini.	-1619.22	3019	-0.0010999	0.0002807	0.0035	0.9		2995.37	2995.37		1.85	Si
SLV 16	fin.	1785.79	-6293	-0.0012636	0.0002807	0.0035	0.9		2989.59	2989.59		1.67	Si
SLV 2	ini.	2370.83	-6793	-0.0019766	0.0002807	0.0035	0.9		2989.59	2989.59		1.26	Si
SLV 2	fin.	-1069.35	2584	-0.0006432	0.0002807	0.0035	0.9		2995.37	2995.37		2.8	Si
SLV 11	ini.	-1623.64	3776	-0.001104	0.0002807	0.0035	0.9		2995.37	2995.37		1.84	Si
SLV 11	fin.	1316.86	-4225	-0.0008387	0.0002807	0.0035	0.9		2989.59	2989.59		2.27	Si
SLV 5	ini.	1766.48	-6054	-0.0012443	0.0002807	0.0035	0.9		2989.59	2989.59		1.69	Si
SLV 5	fin.	-168.39	-845	-0.0000843	0.0002807	0.0035	0.9		2995.37	2995.37		17.79	Si
SLV 4	ini.	1647.83	-4522	-0.0011295	0.0002807	0.0035	0.9		2989.59	2989.59		1.81	Si
SLV 4	fin.	-862.09	2347	-0.0004948	0.0002807	0.0035	0.9		2995.37	2995.37		3.47	Si
SLV 6	ini.	2011.42	-6656	-0.001505	0.0002807	0.0035	0.9		2989.59	2989.59		1.49	Si
SLV 6	fin.	-342.22	-298	-0.0001761	0.0002807	0.0035	0.9		2995.37	2995.37		8.75	Si
SLV 13	ini.	-1260.05	1643	-0.0007907	0.0002807	0.0035	0.9		2995.37	2995.37		2.38	Si
SLV 13	fin.	1836.72	-6870	-0.0013155	0.0002807	0.0035	0.9		2989.59	2989.59		1.63	Si
SLV 1	ini.	2007	-5898	-0.0014999	0.0002807	0.0035	0.9		2989.59	2989.59		1.49	Si
SLV 1	fin.	-811.15	1771	-0.0004601	0.0002807	0.0035	0.9		2995.37	2995.37		3.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	2370.83	-7726	0.9	0	2577	7137	5660	2295	7955		1.03	Si
SLV 2	fin.	-1069.35	-7262	0.9	0	2577	7137	5660	2295	7955		1.1	Si
SLV 1	ini.	2007	-6322	0.9	0	2577	7137	5660	2295	7955		1.26	Si
SLV 1	fin.	-811.15	-5890	0.9	0	2577	7137	5660	2295	7955		1.35	Si
SLV 12	ini.	-1378.7	6079	0.9	0	2577	7137	5660	2295	7955		1.31	Si
SLV 12	fin.	1143.03	5503	0.9	0	2577	7137	5660	2295	7955		1.45	Si
SLV 16	ini.	-1619.22	7730	0.9	0	2577	7137	5660	2295	7955		1.03	Si
SLV 16	fin.	1785.79	7865	0.9	0	2577	7137	5660	2295	7955		1.01	Si
SLV 15	ini.	-1983.05	9134	0.9	0	2577	7137	5660	2295	7955		0.87	No
SLV 15	fin.	2043.99	9237	0.9	0	2577	7137	5660	2295	7955		0.86	No
SLV 11	ini.	-1623.64	7024	0.9	0	2577	7137	5660	2295	7955		1.13	Si
SLV 11	fin.	1316.86	6426	0.9	0	2577	7137	5660	2295	7955		1.24	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-1178.05	6036	0.9	0	2577	7137	5660	2295	7955		1.32	Si
SLD 15	fin.	1477.81	6217	0.9	0	2577	7137	5660	2295	7955		1.28	Si
SLV 6	ini.	2011.42	-5615	0.9	0	2577	7137	5660	2295	7955		1.42	Si
SLV 6	fin.	-342.22	-4452	0.9	0	2577	7137	5660	2295	7955		1.79	Si
SLV 14	ini.	-896.22	5404	0.9	0	2577	7137	5660	2295	7955		1.47	Si
SLV 14	fin.	1578.52	6080	0.9	0	2577	7137	5660	2295	7955		1.31	Si
SLV 13	ini.	-1260.05	6808	0.9	0	2577	7137	5660	2295	7955		1.17	Si
SLV 13	fin.	1836.72	7451	0.9	0	2577	7137	5660	2295	7955		1.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.261	SLV 2	Si
V_SLV	0.861	SLV 15	No
PF_SLU	3.839	SLU 83	Si
V_SLU	3.443	SLU 84	Si

Trave di accoppiamento 66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.163	-3.169	3.53	4.4	0.87	-3.163	-3.169	3.53	4.4	0.87	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-633.94	-2761	-0.0003925	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.38	Si
SLU 84	fin.	-694.75	-3283	-0.0004379	0.0001872	0.0035	0.87		2776.53	2776.53	No	4	Si
SLU 82	ini.	-625.12	-2732	-0.000386	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.44	Si
SLU 82	fin.	-693.87	-3265	-0.0004372	0.0001872	0.0035	0.87		2776.53	2776.53	No	4	Si
SLU 65	ini.	-463.94	-2243	-0.0002725	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.98	Si
SLU 65	fin.	-678.45	-2968	-0.0004256	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.09	Si
SLU 83	ini.	-657.96	-2803	-0.0004103	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.22	Si
SLU 83	fin.	-669.62	-3233	-0.000419	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.15	Si
SLU 80	ini.	-599.21	-2652	-0.0003671	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.63	Si
SLU 80	fin.	-685.98	-3201	-0.0004312	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.05	Si
SLU 68	ini.	-472.76	-2272	-0.0002785	0.0001872	0.0035	0.87		2776.53	2776.53	No	5.87	Si
SLU 68	fin.	-679.33	-2986	-0.0004262	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.09	Si
SLU 76	ini.	-574.38	-2595	-0.0003493	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.83	Si
SLU 76	fin.	-701.85	-3217	-0.0004432	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.96	Si
SLU 75	ini.	-595.88	-2647	-0.0003647	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.66	Si
SLU 75	fin.	-690.53	-3211	-0.0004347	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.02	Si
SLU 78	ini.	-604.7	-2676	-0.0003711	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.59	Si
SLU 78	fin.	-691.42	-3229	-0.0004353	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.02	Si
SLU 73	ini.	-565.56	-2566	-0.000343	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.91	Si
SLU 73	fin.	-700.97	-3200	-0.0004426	0.0001872	0.0035	0.87		2776.53	2776.53	No	3.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-628.72	2243	0.87	0	1692	6899	3647	2219	5866	No	2.62	Si
SLU 77	fin.	-666.29	-2926	0.87	0	1692	6899	3647	2219	5866	No	2	Si
SLU 76	ini.	-574.38	2077	0.87	0	1692	6899	3647	2219	5866	No	2.82	Si
SLU 76	fin.	-701.85	-3080	0.87	0	1692	6899	3647	2219	5866	No	1.9	Si
SLU 78	ini.	-604.7	2171	0.87	0	1692	6899	3647	2219	5866	No	2.7	Si
SLU 78	fin.	-691.42	-3035	0.87	0	1692	6899	3647	2219	5866	No	1.93	Si
SLU 82	ini.	-625.12	2256	0.87	0	1692	6899	3647	2219	5866	No	2.6	Si
SLU 82	fin.	-693.87	-3075	0.87	0	1692	6899	3647	2219	5866	No	1.91	Si
SLU 80	ini.	-599.21	2152	0.87	0	1692	6899	3647	2219	5866	No	2.73	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-685.98	-3011	0.87	0	1692	6899	3647	2219	5866	No	1.95	Si
SLU 73	ini.	-565.56	2050	0.87	0	1692	6899	3647	2219	5866	No	2.86	Si
SLU 73	fin.	-700.97	-3076	0.87	0	1692	6899	3647	2219	5866	No	1.91	Si
SLU 83	ini.	-657.96	2355	0.87	0	1692	6899	3647	2219	5866	No	2.49	Si
SLU 83	fin.	-669.62	-2970	0.87	0	1692	6899	3647	2219	5866	No	1.98	Si
SLU 81	ini.	-649.14	2328	0.87	0	1692	6899	3647	2219	5866	No	2.52	Si
SLU 81	fin.	-668.74	-2966	0.87	0	1692	6899	3647	2219	5866	No	1.98	Si
SLU 75	ini.	-595.88	2144	0.87	0	1692	6899	3647	2219	5866	No	2.74	Si
SLU 75	fin.	-690.53	-3031	0.87	0	1692	6899	3647	2219	5866	No	1.93	Si
SLU 84	ini.	-633.94	2283	0.87	0	1692	6899	3647	2219	5866	No	2.57	Si
SLU 84	fin.	-694.75	-3079	0.87	0	1692	6899	3647	2219	5866	No	1.91	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-2266.29	-5297	-0.0020494	0.0002807	0.0035	0.87		2803.75	2803.75		1.24	Si
SLV 13	fin.	1168.72	448	-0.0007837	0.0002807	0.0035	0.87		2798.17	2798.17		2.39	Si
SLV 5	ini.	810.39	-794	-0.0004986	0.0002807	0.0035	0.87		2798.17	2798.17		3.45	Si
SLV 5	fin.	-2402.82	-6889	-0.0022971	0.0002807	0.0035	0.87		2803.75	2803.75		1.17	Si
SLV 4	ini.	1474.51	1706	-0.0010628	0.0002807	0.0035	0.87		2798.17	2798.17		1.9	Si
SLV 4	fin.	-2137.07	-4874	-0.0018433	0.0002807	0.0035	0.87		2803.75	2803.75		1.31	Si
SLD 15	ini.	-1875.19	-4121	-0.0014923	0.0002807	0.0035	0.87		2803.75	2803.75		1.5	Si
SLD 15	fin.	1123.39	935	-0.0007453	0.0002807	0.0035	0.87		2798.17	2798.17		2.49	Si
SLV 6	ini.	1076.01	-384	-0.0007059	0.0002807	0.0035	0.87		2798.17	2798.17		2.6	Si
SLV 6	fin.	-2694.28	-7464	-0.0029486	0.0002807	0.0035	0.87		2803.75	2803.75		1.04	Si
SLD 2	ini.	1083.42	530	-0.000712	0.0002807	0.0035	0.87		2798.17	2798.17		2.58	Si
SLD 2	fin.	-2091.74	-5361	-0.0017768	0.0002807	0.0035	0.87		2803.75	2803.75		1.34	Si
SLV 15	ini.	-2727.11	-5434	-0.0030333	0.0002807	0.0035	0.87		2803.75	2803.75		1.03	Si
SLV 15	fin.	2067.87	2811	-0.0017484	0.0002807	0.0035	0.87		2798.17	2798.17		1.35	Si
SLV 16	ini.	-2332.56	-4825	-0.0021655	0.0002807	0.0035	0.87		2803.75	2803.75		1.2	Si
SLV 16	fin.	1634.93	1959	-0.0012253	0.0002807	0.0035	0.87		2798.17	2798.17		1.71	Si
SLV 1	ini.	1540.78	1234	-0.0011284	0.0002807	0.0035	0.87		2798.17	2798.17		1.82	Si
SLV 1	fin.	-2603.28	-6384	-0.0027253	0.0002807	0.0035	0.87		2803.75	2803.75		1.08	Si
SLV 2	ini.	1935.33	1842	-0.0015712	0.0002807	0.0035	0.87		2798.17	2798.17		1.45	Si
SLV 2	fin.	-3036.22	-7237	-0.0038094	0.0002807	0.0035	0.87		2803.75	2803.75		0.92	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1540.78	-5450	0.87	0	2472	6899	5471	2219	7689		1.41	Si
SLV 1	fin.	-2603.28	-9576	0.87	0	2472	6899	5471	2219	7689		0.8	No
SLV 13	ini.	-2266.29	7853	0.87	0	2472	6899	5471	2219	7689		0.98	No
SLV 13	fin.	1168.72	3861	0.87	0	2472	6899	5471	2219	7689		1.99	Si
SLV 15	ini.	-2727.11	9675	0.87	0	2472	6899	5471	2219	7689		0.79	No
SLV 15	fin.	2067.87	6940	0.87	0	2472	6899	5471	2219	7689		1.11	Si
SLV 4	ini.	1474.51	-5021	0.87	0	2472	6899	5471	2219	7689		1.53	Si
SLV 4	fin.	-2137.07	-8027	0.87	0	2472	6899	5471	2219	7689		0.96	No
SLD 2	ini.	1083.42	-3818	0.87	0	2472	6899	5471	2219	7689		2.01	Si
SLD 2	fin.	-2091.74	-7769	0.87	0	2472	6899	5471	2219	7689		0.99	No
SLV 6	ini.	1076.01	-4085	0.87	0	2472	6899	5471	2219	7689		1.88	Si
SLV 6	fin.	-2694.28	-9746	0.87	0	2472	6899	5471	2219	7689		0.79	No
SLV 2	ini.	1935.33	-6843	0.87	0	2472	6899	5471	2219	7689		1.12	Si
SLV 2	fin.	-3036.22	-11107	0.87	0	2472	6899	5471	2219	7689		0.69	No
SLV 11	ini.	-1867.79	6917	0.87	0	2472	6899	5471	2219	7689		1.11	Si
SLV 11	fin.	1725.93	5580	0.87	0	2472	6899	5471	2219	7689		1.38	Si
SLV 16	ini.	-2332.56	8281	0.87	0	2472	6899	5471	2219	7689		0.93	No
SLV 16	fin.	1634.93	5409	0.87	0	2472	6899	5471	2219	7689		1.42	Si
SLV 5	ini.	810.39	-3147	0.87	0	2472	6899	5471	2219	7689		2.44	Si
SLV 5	fin.	-2402.82	-8716	0.87	0	2472	6899	5471	2219	7689		0.88	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.923	SLV 2	No
V_SLV	0.692	SLV 2	No
PF_SLU	3.956	SLU 76	Si
V_SLU	1.904	SLU 76	Si

Trave di accoppiamento 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.903	5.951	0.73	1.63	0.9	-2.903	5.951	0.73	1.63	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	667.88	-3155	-0.0003867	0.0001872	0.0035	0.9		2959	2959	No	4.43	Si
SLU 81	fin.	79.64	-2130	-0.0000396	0.0001872	0.0035	0.9		2959	2959	No	37.15	Si
SLU 77	ini.	685.53	-3247	-0.0003989	0.0001872	0.0035	0.9		2959	2959	No	4.32	Si
SLU 77	fin.	74.83	-2157	-0.0000371	0.0001872	0.0035	0.9		2959	2959	No	39.54	Si
SLU 69	ini.	657.82	-3119	-0.0003798	0.0001872	0.0035	0.9		2959	2959	No	4.5	Si
SLU 69	fin.	29.9	-1937	-0.0000147	0.0001872	0.0035	0.9		2959	2959	No	98.98	Si
SLU 80	ini.	668.69	-3159	-0.0003873	0.0001872	0.0035	0.9		2959	2959	No	4.43	Si
SLU 80	fin.	82.61	-2134	-0.0000411	0.0001872	0.0035	0.9		2959	2959	No	35.82	Si
SLU 78	ini.	672.68	-3179	-0.00039	0.0001872	0.0035	0.9		2959	2959	No	4.4	Si
SLU 78	fin.	85.58	-2153	-0.0000426	0.0001872	0.0035	0.9		2959	2959	No	34.57	Si
SLU 75	ini.	659.91	-3117	-0.0003812	0.0001872	0.0035	0.9		2959	2959	No	4.48	Si
SLU 75	fin.	79.85	-2103	-0.0000397	0.0001872	0.0035	0.9		2959	2959	No	37.06	Si
SLU 79	ini.	681.54	-3226	-0.0003962	0.0001872	0.0035	0.9		2959	2959	No	4.34	Si
SLU 79	fin.	71.86	-2137	-0.0000356	0.0001872	0.0035	0.9		2959	2959	No	41.18	Si
SLU 84	ini.	667.8	-3151	-0.0003867	0.0001872	0.0035	0.9		2959	2959	No	4.43	Si
SLU 84	fin.	96.13	-2177	-0.0000479	0.0001872	0.0035	0.9		2959	2959	No	30.78	Si
SLU 83	ini.	680.65	-3218	-0.0003956	0.0001872	0.0035	0.9		2959	2959	No	4.35	Si
SLU 83	fin.	85.38	-2180	-0.0000425	0.0001872	0.0035	0.9		2959	2959	No	34.66	Si
SLU 74	ini.	672.76	-3184	-0.0003901	0.0001872	0.0035	0.9		2959	2959	No	4.4	Si
SLU 74	fin.	69.1	-2106	-0.0000343	0.0001872	0.0035	0.9		2959	2959	No	42.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	685.53	-2020	0.9	0	1750	7137	3773	2295	6068	No	3	Si
SLU 77	fin.	74.83	-653	0.9	0	1750	7137	3773	2295	6068	No	9.29	Si
SLU 80	ini.	668.69	-1941	0.9	0	1750	7137	3773	2295	6068	No	3.13	Si
SLU 80	fin.	82.61	-614	0.9	0	1750	7137	3773	2295	6068	No	9.89	Si
SLU 81	ini.	667.88	-1935	0.9	0	1750	7137	3773	2295	6068	No	3.14	Si
SLU 81	fin.	79.64	-623	0.9	0	1750	7137	3773	2295	6068	No	9.73	Si
SLU 78	ini.	672.68	-1953	0.9	0	1750	7137	3773	2295	6068	No	3.11	Si
SLU 78	fin.	85.58	-609	0.9	0	1750	7137	3773	2295	6068	No	9.97	Si
SLU 69	ini.	657.82	-1998	0.9	0	1750	7137	3773	2295	6068	No	3.04	Si
SLU 69	fin.	29.9	-753	0.9	0	1750	7137	3773	2295	6068	No	8.06	Si
SLU 74	ini.	672.76	-1979	0.9	0	1750	7137	3773	2295	6068	No	3.07	Si
SLU 74	fin.	69.1	-657	0.9	0	1750	7137	3773	2295	6068	No	9.23	Si
SLU 71	ini.	653.83	-1986	0.9	0	1750	7137	3773	2295	6068	No	3.06	Si
SLU 71	fin.	26.92	-758	0.9	0	1750	7137	3773	2295	6068	No	8.01	Si
SLU 66	ini.	645.05	-1957	0.9	0	1750	7137	3773	2295	6068	No	3.1	Si
SLU 66	fin.	24.16	-757	0.9	0	1750	7137	3773	2295	6068	No	8.02	Si
SLU 79	ini.	681.54	-2008	0.9	0	1750	7137	3773	2295	6068	No	3.02	Si
SLU 79	fin.	71.86	-658	0.9	0	1750	7137	3773	2295	6068	No	9.23	Si
SLU 83	ini.	680.65	-1976	0.9	0	1750	7137	3773	2295	6068	No	3.07	Si
SLU 83	fin.	85.38	-619	0.9	0	1750	7137	3773	2295	6068	No	9.8	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-465.55	1981	-0.000245	0.0002807	0.0035	0.9		2995.37	2995.37		6.43	Si
SLV 14	fin.	1567.53	-3581	-0.0010552	0.0002807	0.0035	0.9		2989.59	2989.59		1.91	Si
SLV 16	ini.	85.65	-728	-0.0000424	0.0002807	0.0035	0.9		2989.59	2989.59		34.9	Si
SLV 16	fin.	1242.69	-4083	-0.0007786	0.0002807	0.0035	0.9		2989.59	2989.59		2.41	Si
SLV 13	ini.	-279.08	1079	-0.0001421	0.0002807	0.0035	0.9		2995.37	2995.37		10.73	Si
SLV 13	fin.	1263.39	-3170	-0.0007952	0.0002807	0.0035	0.9		2989.59	2989.59		2.37	Si
SLV 7	ini.	1633.07	-7815	-0.0011156	0.0002807	0.0035	0.9		2989.59	2989.59		1.83	Si
SLV 7	fin.	-1000.66	-1423	-0.0005927	0.0002807	0.0035	0.9		2995.37	2995.37		2.99	Si
SLV 3	ini.	1423.43	-6510	-0.0009281	0.0002807	0.0035	0.9		2989.59	2989.59		2.1	Si
SLV 3	fin.	-1538.24	792	-0.0010262	0.0002807	0.0035	0.9		2995.37	2995.37		1.95	Si
SLD 7	ini.	1164.65	-5558	-0.0007173	0.0002807	0.0035	0.9		2989.59	2989.59		2.57	Si
SLD 7	fin.	-603.33	-1369	-0.0003266	0.0002807	0.0035	0.9		2995.37	2995.37		4.96	Si
SLV 1	ini.	872.23	-3801	-0.0005029	0.0002807	0.0035	0.9		2989.59	2989.59		3.43	Si
SLV 1	fin.	-1213.4	1294	-0.0007536	0.0002807	0.0035	0.9		2995.37	2995.37		2.47	Si
SLV 8	ini.	1507.54	-7208	-0.0010013	0.0002807	0.0035	0.9		2989.59	2989.59		1.98	Si
SLV 8	fin.	-795.9	-1700	-0.0004499	0.0002807	0.0035	0.9		2995.37	2995.37		3.76	Si
SLV 4	ini.	1236.97	-5608	-0.0007741	0.0002807	0.0035	0.9		2989.59	2989.59		2.42	Si
SLV 4	fin.	-1234.1	381	-0.00077	0.0002807	0.0035	0.9		2995.37	2995.37		2.43	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	1287.68	-6351	-0.0008149	0.0002807	0.0035	0.9		2989.59	2989.59		2.32	Si
SLV 11	fin.	-257.62	-2762	-0.0001307	0.0002807	0.0035	0.9		2995.37	2995.37		11.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1423.43	-6714	0.9	0	2577	7137	5660	2295	7954		1.18	Si
SLV 3	fin.	-1538.24	-6053	0.9	0	2577	7137	5660	2295	7954		1.31	Si
SLD 3	ini.	1066.41	-4750	0.9	0	2577	7137	5660	2295	7954		1.67	Si
SLD 3	fin.	-968.5	-4028	0.9	0	2577	7137	5660	2295	7954		1.97	Si
SLV 11	ini.	1287.68	-4532	0.9	0	2577	7137	5660	2295	7954		1.76	Si
SLV 11	fin.	-257.62	-2440	0.9	0	2577	7137	5660	2295	7954		3.26	Si
SLV 8	ini.	1507.54	-5914	0.9	0	2577	7137	5660	2295	7954		1.35	Si
SLV 8	fin.	-795.9	-4204	0.9	0	2577	7137	5660	2295	7954		1.89	Si
SLV 14	ini.	-465.55	3831	0.9	0	2577	7137	5660	2295	7954		2.08	Si
SLV 14	fin.	1567.53	4900	0.9	0	2577	7137	5660	2295	7954		1.62	Si
SLV 1	ini.	872.23	-4445	0.9	0	2577	7137	5660	2295	7954		1.79	Si
SLV 1	fin.	-1213.4	-4406	0.9	0	2577	7137	5660	2295	7954		1.81	Si
SLV 7	ini.	1633.07	-6676	0.9	0	2577	7137	5660	2295	7954		1.19	Si
SLV 7	fin.	-1000.66	-4915	0.9	0	2577	7137	5660	2295	7954		1.62	Si
SLD 8	ini.	1088.47	-4124	0.9	0	2577	7137	5660	2295	7954		1.93	Si
SLD 8	fin.	-479.07	-2759	0.9	0	2577	7137	5660	2295	7954		2.88	Si
SLD 7	ini.	1164.65	-4586	0.9	0	2577	7137	5660	2295	7954		1.73	Si
SLD 7	fin.	-603.33	-3190	0.9	0	2577	7137	5660	2295	7954		2.49	Si
SLV 4	ini.	1236.97	-5582	0.9	0	2577	7137	5660	2295	7954		1.42	Si
SLV 4	fin.	-1234.1	-4997	0.9	0	2577	7137	5660	2295	7954		1.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.831	SLV 7	Si
V_SLV	1.185	SLV 3	Si
PF_SLU	4.316	SLU 77	Si
V_SLU	3.003	SLU 77	Si

Trave di accoppiamento 68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.903	5.951	3.53	4.4	0.87	-2.903	5.951	3.53	4.4	0.87	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-188.87	-1397	-0.0001027	0.0001872	0.0035	0.87		2776.53	2776.53	No	14.7	Si
SLU 71	fin.	-593.29	-3898	-0.0003628	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.68	Si
SLU 84	ini.	-257.54	-1693	-0.0001424	0.0001872	0.0035	0.87		2776.53	2776.53	No	10.78	Si
SLU 84	fin.	-596.97	-4062	-0.0003655	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.65	Si
SLU 74	ini.	-233.79	-1599	-0.0001285	0.0001872	0.0035	0.87		2776.53	2776.53	No	11.88	Si
SLU 74	fin.	-604.4	-4054	-0.0003709	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.59	Si
SLU 79	ini.	-239.48	-1631	-0.0001318	0.0001872	0.0035	0.87		2776.53	2776.53	No	11.59	Si
SLU 79	fin.	-612.88	-4117	-0.0003771	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.53	Si
SLU 69	ini.	-192.44	-1415	-0.0001047	0.0001872	0.0035	0.87		2776.53	2776.53	No	14.43	Si
SLU 69	fin.	-596.83	-3923	-0.0003654	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.65	Si
SLU 78	ini.	-248.68	-1662	-0.0001372	0.0001872	0.0035	0.87		2776.53	2776.53	No	11.16	Si
SLU 78	fin.	-604.13	-4080	-0.0003707	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.6	Si
SLU 83	ini.	-251.91	-1681	-0.0001391	0.0001872	0.0035	0.87		2776.53	2776.53	No	11.02	Si
SLU 83	fin.	-609.26	-4123	-0.0003744	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.56	Si
SLU 81	ini.	-242.65	-1630	-0.0001336	0.0001872	0.0035	0.87		2776.53	2776.53	No	11.44	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-597.24	-4036	-0.0003657	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.65	Si
SLU 80	ini.	-245.11	-1644	-0.0001351	0.0001872	0.0035	0.87		2776.53	2776.53	No	11.33	Si
SLU 80	fin.	-600.59	-4055	-0.0003681	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.62	Si
SLU 77	ini.	-243.05	-1649	-0.0001339	0.0001872	0.0035	0.87		2776.53	2776.53	No	11.42	Si
SLU 77	fin.	-616.42	-4142	-0.0003796	0.0001872	0.0035	0.87		2776.53	2776.53	No	4.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-248.68	2277	0.87	0	1692	6899	3647	2219	5866	No	2.58	Si
SLU 78	fin.	-604.13	-6129	0.87	0	1692	6899	3647	2219	5866	No	0.96	No
SLU 79	ini.	-239.48	2226	0.87	0	1692	6899	3647	2219	5866	No	2.63	Si
SLU 79	fin.	-612.88	-6173	0.87	0	1692	6899	3647	2219	5866	No	0.95	No
SLU 74	ini.	-233.79	2183	0.87	0	1692	6899	3647	2219	5866	No	2.69	Si
SLU 74	fin.	-604.4	-6078	0.87	0	1692	6899	3647	2219	5866	No	0.97	No
SLU 83	ini.	-251.91	2334	0.87	0	1692	6899	3647	2219	5866	No	2.51	Si
SLU 83	fin.	-609.26	-6225	0.87	0	1692	6899	3647	2219	5866	No	0.94	No
SLU 84	ini.	-257.54	2363	0.87	0	1692	6899	3647	2219	5866	No	2.48	Si
SLU 84	fin.	-596.97	-6147	0.87	0	1692	6899	3647	2219	5866	No	0.95	No
SLU 81	ini.	-242.65	2269	0.87	0	1692	6899	3647	2219	5866	No	2.59	Si
SLU 81	fin.	-597.24	-6095	0.87	0	1692	6899	3647	2219	5866	No	0.96	No
SLU 82	ini.	-248.28	2298	0.87	0	1692	6899	3647	2219	5866	No	2.55	Si
SLU 82	fin.	-584.95	-6017	0.87	0	1692	6899	3647	2219	5866	No	0.97	No
SLU 75	ini.	-239.42	2212	0.87	0	1692	6899	3647	2219	5866	No	2.65	Si
SLU 75	fin.	-592.11	-6000	0.87	0	1692	6899	3647	2219	5866	No	0.98	No
SLU 77	ini.	-243.05	2248	0.87	0	1692	6899	3647	2219	5866	No	2.61	Si
SLU 77	fin.	-616.42	-6208	0.87	0	1692	6899	3647	2219	5866	No	0.94	No
SLU 80	ini.	-245.11	2256	0.87	0	1692	6899	3647	2219	5866	No	2.6	Si
SLU 80	fin.	-600.59	-6095	0.87	0	1692	6899	3647	2219	5866	No	0.96	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-1023.92	-4064	-0.0006619	0.0002807	0.0035	0.87		2803.75	2803.75		2.74	Si
SLV 16	fin.	48.56	-930	-0.0000256	0.0002807	0.0035	0.87		2798.17	2798.17		57.63	Si
SLV 12	ini.	-284.77	-1880	-0.0001556	0.0002807	0.0035	0.87		2803.75	2803.75		9.85	Si
SLV 12	fin.	-1026.08	-6119	-0.0006636	0.0002807	0.0035	0.87		2803.75	2803.75		2.73	Si
SLD 7	ini.	170.38	-222	-0.0000915	0.0002807	0.0035	0.87		2798.17	2798.17		16.42	Si
SLD 7	fin.	-1095.83	-6154	-0.0007206	0.0002807	0.0035	0.87		2803.75	2803.75		2.56	Si
SLV 8	ini.	218.53	-207	-0.0001183	0.0002807	0.0035	0.87		2798.17	2798.17		12.8	Si
SLV 8	fin.	-1407.12	-7781	-0.0009956	0.0002807	0.0035	0.87		2803.75	2803.75		1.99	Si
SLV 4	ini.	653.73	1514	-0.0003871	0.0002807	0.0035	0.87		2798.17	2798.17		4.28	Si
SLV 4	fin.	-1221.58	-6469	-0.0008274	0.0002807	0.0035	0.87		2803.75	2803.75		2.3	Si
SLV 14	ini.	-1125.3	-4171	-0.0007451	0.0002807	0.0035	0.87		2803.75	2803.75		2.49	Si
SLV 14	fin.	559.96	1724	-0.0003243	0.0002807	0.0035	0.87		2798.17	2798.17		5	Si
SLV 11	ini.	-145.9	-1436	-0.0000779	0.0002807	0.0035	0.87		2803.75	2803.75		19.22	Si
SLV 11	fin.	-1163.92	-6750	-0.0007777	0.0002807	0.0035	0.87		2803.75	2803.75		2.41	Si
SLV 3	ini.	860	2173	-0.0005356	0.0002807	0.0035	0.87		2798.17	2798.17		3.25	Si
SLV 3	fin.	-1426.32	-7406	-0.0010137	0.0002807	0.0035	0.87		2803.75	2803.75		1.97	Si
SLD 3	ini.	498.8	1025	-0.0002849	0.0002807	0.0035	0.87		2798.17	2798.17		5.61	Si
SLD 3	fin.	-1053.38	-5684	-0.0006857	0.0002807	0.0035	0.87		2803.75	2803.75		2.66	Si
SLV 7	ini.	357.39	237	-0.0001983	0.0002807	0.0035	0.87		2798.17	2798.17		7.83	Si
SLV 7	fin.	-1544.96	-8412	-0.0011297	0.0002807	0.0035	0.87		2803.75	2803.75		1.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	218.53	-430	0.87	0	2472	6899	5471	2219	7689		17.87	Si
SLV 8	fin.	-1407.12	-10340	0.87	0	2472	6899	5471	2219	7689		0.74	No
SLV 11	ini.	-145.9	1354	0.87	0	2472	6899	5471	2219	7689		5.68	Si
SLV 11	fin.	-1163.92	-8849	0.87	0	2472	6899	5471	2219	7689		0.87	No
SLV 12	ini.	-284.77	2038	0.87	0	2472	6899	5471	2219	7689		3.77	Si
SLV 12	fin.	-1026.08	-8012	0.87	0	2472	6899	5471	2219	7689		0.96	No
SLD 3	ini.	498.8	-1787	0.87	0	2472	6899	5471	2219	7689		4.3	Si
SLD 3	fin.	-1053.38	-8019	0.87	0	2472	6899	5471	2219	7689		0.96	No
SLV 4	ini.	653.73	-2547	0.87	0	2472	6899	5471	2219	7689		3.02	Si
SLV 4	fin.	-1221.58	-9075	0.87	0	2472	6899	5471	2219	7689		0.85	No
SLV 3	ini.	860	-3563	0.87	0	2472	6899	5471	2219	7689		2.16	Si
SLV 3	fin.	-1426.32	-10319	0.87	0	2472	6899	5471	2219	7689		0.75	No
SLD 8	ini.	86.11	232	0.87	0	2472	6899	5471	2219	7689		33.22	Si
SLD 8	fin.	-1012.18	-7850	0.87	0	2472	6899	5471	2219	7689		0.98	No
SLD 4	ini.	367.93	-1142	0.87	0	2472	6899	5471	2219	7689		6.73	Si
SLD 4	fin.	-923.48	-7230	0.87	0	2472	6899	5471	2219	7689		1.06	Si
SLD 7	ini.	170.38	-184	0.87	0	2472	6899	5471	2219	7689		41.9	Si
SLD 7	fin.	-1095.83	-8358	0.87	0	2472	6899	5471	2219	7689		0.92	No
SLV 7	ini.	357.39	-1114	0.87	0	2472	6899	5471	2219	7689		6.9	Si
SLV 7	fin.	-1544.96	-11178	0.87	0	2472	6899	5471	2219	7689		0.69	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.815	SLV 7	Si
V_SLV	0.688	SLV 7	No
PF_SLU	4.504	SLU 77	Si
V_SLU	0.942	SLU 83	No

Trave di accoppiamento 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	4.4	5.3	0.9	-22.778	5.951	4.4	5.3	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	1.92	-882	-0.0000009	0.0001872	0.0035	0.9		2959	2959	No	1544.35	Si
SLU 80	fin.	354.17	-1895	-0.0001873	0.0001872	0.0035	0.9		2959	2959	No	8.35	Si
SLU 81	ini.	-7.52	-812	-0.0000037	0.0001872	0.0035	0.9		2964.67	2964.67	No	394.25	Si
SLU 81	fin.	359.27	-1894	-0.0001903	0.0001872	0.0035	0.9		2959	2959	No	8.24	Si
SLU 69	ini.	-21.97	-765	-0.0000108	0.0001872	0.0035	0.9		2964.67	2964.67	No	134.93	Si
SLU 69	fin.	356.78	-1898	-0.0001888	0.0001872	0.0035	0.9		2959	2959	No	8.29	Si
SLU 78	ini.	2.33	-895	-0.0000011	0.0001872	0.0035	0.9		2959	2959	No	1270.88	Si
SLU 78	fin.	356.89	-1913	-0.0001889	0.0001872	0.0035	0.9		2959	2959	No	8.29	Si
SLU 79	ini.	-6.32	-858	-0.0000031	0.0001872	0.0035	0.9		2964.67	2964.67	No	469.03	Si
SLU 79	fin.	365.16	-1943	-0.0001937	0.0001872	0.0035	0.9		2959	2959	No	8.1	Si
SLU 77	ini.	-5.91	-871	-0.0000029	0.0001872	0.0035	0.9		2964.67	2964.67	No	501.76	Si
SLU 77	fin.	367.87	-1961	-0.0001953	0.0001872	0.0035	0.9		2959	2959	No	8.04	Si
SLU 83	ini.	-3.48	-857	-0.0000017	0.0001872	0.0035	0.9		2964.67	2964.67	No	852.33	Si
SLU 83	fin.	364.59	-1932	-0.0001934	0.0001872	0.0035	0.9		2959	2959	No	8.12	Si
SLU 84	ini.	4.76	-882	-0.0000023	0.0001872	0.0035	0.9		2959	2959	No	621.83	Si
SLU 84	fin.	353.61	-1884	-0.000187	0.0001872	0.0035	0.9		2959	2959	No	8.37	Si
SLU 71	ini.	-22.38	-752	-0.000011	0.0001872	0.0035	0.9		2964.67	2964.67	No	132.45	Si
SLU 71	fin.	354.06	-1881	-0.0001873	0.0001872	0.0035	0.9		2959	2959	No	8.36	Si
SLU 74	ini.	-9.95	-825	-0.0000049	0.0001872	0.0035	0.9		2964.67	2964.67	No	297.96	Si
SLU 74	fin.	362.55	-1923	-0.0001922	0.0001872	0.0035	0.9		2959	2959	No	8.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-22.38	-1700	0.9	0	1750	7137	3773	2295	6068	No	3.57	Si
SLU 71	fin.	354.06	3097	0.9	0	1750	7137	3773	2295	6068	No	1.96	Si
SLU 79	ini.	-6.32	-1875	0.9	0	1750	7137	3773	2295	6068	No	3.24	Si
SLU 79	fin.	365.16	3174	0.9	0	1750	7137	3773	2295	6068	No	1.91	Si
SLU 77	ini.	-5.91	-1908	0.9	0	1750	7137	3773	2295	6068	No	3.18	Si
SLU 77	fin.	367.87	3210	0.9	0	1750	7137	3773	2295	6068	No	1.89	Si
SLU 83	ini.	-3.48	-1869	0.9	0	1750	7137	3773	2295	6068	No	3.25	Si
SLU 83	fin.	364.59	3144	0.9	0	1750	7137	3773	2295	6068	No	1.93	Si
SLU 69	ini.	-21.97	-1733	0.9	0	1750	7137	3773	2295	6068	No	3.5	Si
SLU 69	fin.	356.78	3134	0.9	0	1750	7137	3773	2295	6068	No	1.94	Si
SLU 80	ini.	1.92	-1904	0.9	0	1750	7137	3773	2295	6068	No	3.19	Si
SLU 80	fin.	354.17	3095	0.9	0	1750	7137	3773	2295	6068	No	1.96	Si
SLU 81	ini.	-7.52	-1788	0.9	0	1750	7137	3773	2295	6068	No	3.39	Si
SLU 81	fin.	359.27	3081	0.9	0	1750	7137	3773	2295	6068	No	1.97	Si
SLU 66	ini.	-26.01	-1652	0.9	0	1750	7137	3773	2295	6068	No	3.67	Si
SLU 66	fin.	351.46	3071	0.9	0	1750	7137	3773	2295	6068	No	1.98	Si
SLU 78	ini.	2.33	-1937	0.9	0	1750	7137	3773	2295	6068	No	3.13	Si
SLU 78	fin.	356.89	3131	0.9	0	1750	7137	3773	2295	6068	No	1.94	Si
SLU 74	ini.	-9.95	-1827	0.9	0	1750	7137	3773	2295	6068	No	3.32	Si
SLU 74	fin.	362.55	3147	0.9	0	1750	7137	3773	2295	6068	No	1.93	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-715.95	2328	-0.0003974	0.0002807	0.0035	0.9		2995.37	2995.37		4.18	Si
SLV 16	fin.	1133.67	-4809	-0.0006934	0.0002807	0.0035	0.9		2989.59	2989.59		2.64	Si
SLV 8	ini.	-522.11	727	-0.0002778	0.0002807	0.0035	0.9		2995.37	2995.37		5.74	Si
SLV 8	fin.	1017.63	-4834	-0.0006064	0.0002807	0.0035	0.9		2989.59	2989.59		2.94	Si
SLV 12	ini.	-780.76	1911	-0.0004398	0.0002807	0.0035	0.9		2995.37	2995.37		3.84	Si
SLV 12	fin.	1327.57	-5981	-0.0008475	0.0002807	0.0035	0.9		2989.59	2989.59		2.25	Si
SLV 7	ini.	-398.42	206	-0.0002071	0.0002807	0.0035	0.9		2995.37	2995.37		7.52	Si
SLV 7	fin.	879.79	-4307	-0.0005081	0.0002807	0.0035	0.9		2989.59	2989.59		3.4	Si
SLV 15	ini.	-532.23	1554	-0.0002838	0.0002807	0.0035	0.9		2995.37	2995.37		5.63	Si
SLV 15	fin.	928.93	-4027	-0.0005425	0.0002807	0.0035	0.9		2989.59	2989.59		3.22	Si
SLV 5	ini.	734.68	-2914	-0.0004104	0.0002807	0.0035	0.9		2989.59	2989.59		4.07	Si
SLV 5	fin.	-802.96	3231	-0.0004546	0.0002807	0.0035	0.9		2995.37	2995.37		3.73	Si
SLV 11	ini.	-657.07	1391	-0.0003599	0.0002807	0.0035	0.9		2995.37	2995.37		4.56	Si
SLV 11	fin.	1189.74	-5455	-0.0007368	0.0002807	0.0035	0.9		2989.59	2989.59		2.51	Si
SLD 16	ini.	-456.28	1280	-0.0002397	0.0002807	0.0035	0.9		2995.37	2995.37		6.56	Si
SLD 16	fin.	805.14	-3507	-0.0004571	0.0002807	0.0035	0.9		2989.59	2989.59		3.71	Si
SLD 11	ini.	-399.94	632	-0.0002079	0.0002807	0.0035	0.9		2995.37	2995.37		7.49	Si
SLD 11	fin.	812.16	-3789	-0.0004618	0.0002807	0.0035	0.9		2989.59	2989.59		3.68	Si
SLD 12	ini.	-475	948	-0.0002504	0.0002807	0.0035	0.9		2995.37	2995.37		6.31	Si
SLD 12	fin.	895.8	-4108	-0.0005192	0.0002807	0.0035	0.9		2989.59	2989.59		3.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-398.42	-761	0.9	0	2625	7137	5660	2295	7954		10.45	Si
SLV 7	fin.	879.79	7227	0.9	0	2625	7137	5660	2295	7954		1.1	Si
SLV 16	ini.	-715.95	2941	0.9	0	2625	7137	5660	2295	7954		2.7	Si
SLV 16	fin.	1133.67	7546	0.9	0	2625	7137	5660	2295	7954		1.05	Si
SLV 12	ini.	-780.76	1812	0.9	0	2625	7137	5660	2295	7954		4.39	Si
SLV 12	fin.	1327.57	9757	0.9	0	2625	7137	5660	2295	7954		0.82	No
SLD 11	ini.	-399.94	183	0.9	0	2625	7137	5660	2295	7954		43.47	Si
SLD 11	fin.	812.16	6177	0.9	0	2625	7137	5660	2295	7954		1.29	Si
SLD 16	ini.	-456.28	1431	0.9	0	2625	7137	5660	2295	7954		5.56	Si
SLD 16	fin.	805.14	5534	0.9	0	2625	7137	5660	2295	7954		1.44	Si
SLV 11	ini.	-657.07	1066	0.9	0	2625	7137	5660	2295	7954		7.47	Si
SLV 11	fin.	1189.74	8890	0.9	0	2625	7137	5660	2295	7954		0.89	No
SLD 12	ini.	-475	636	0.9	0	2625	7137	5660	2295	7954		12.5	Si
SLD 12	fin.	895.8	6703	0.9	0	2625	7137	5660	2295	7954		1.19	Si
SLD 8	ini.	-309.74	-532	0.9	0	2625	7137	5660	2295	7954		14.94	Si
SLD 8	fin.	697.74	5641	0.9	0	2625	7137	5660	2295	7954		1.41	Si
SLV 8	ini.	-522.11	-14	0.9	0	2625	7137	5660	2295	7954		552.83	Si
SLV 8	fin.	1017.63	8094	0.9	0	2625	7137	5660	2295	7954		0.98	No
SLV 15	ini.	-532.23	1832	0.9	0	2625	7137	5660	2295	7954		4.34	Si
SLV 15	fin.	928.93	6258	0.9	0	2625	7137	5660	2295	7954		1.27	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.252	SLV 12	Si
V_SLV	0.815	SLV 12	No
PF_SLU	8.044	SLU 77	Si
V_SLU	1.89	SLU 77	Si

Trave di accoppiamento 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	7.1	7.95	0.85	-22.778	5.951	7.1	7.95	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-214.78	-1922	-0.0001233	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.37	Si
SLU 70	fin.	3.55	-499	-0.0000019	0.0001872	0.0035	0.85		2650.49	2650.49	No	745.78	Si
SLU 74	ini.	-216.95	-2033	-0.0001246	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.24	Si
SLU 74	fin.	-2.34	-575	-0.0000013	0.0001872	0.0035	0.85		2655.83	2655.83	No	1136.35	Si
SLU 69	ini.	-223.5	-1966	-0.0001286	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.88	Si
SLU 69	fin.	11.28	-467	-0.0000062	0.0001872	0.0035	0.85		2650.49	2650.49	No	235.07	Si
SLU 79	ini.	-220.96	-2056	-0.000127	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.02	Si
SLU 79	fin.	-4.44	-591	-0.0000024	0.0001872	0.0035	0.85		2655.83	2655.83	No	598.31	Si
SLU 48	ini.	-215.57	-1781	-0.0001237	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.32	Si
SLU 48	fin.	32.42	-294	-0.0000179	0.0001872	0.0035	0.85		2650.49	2650.49	No	81.76	Si
SLU 83	ini.	-215.06	-2060	-0.0001234	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.35	Si
SLU 83	fin.	-8.21	-621	-0.0000045	0.0001872	0.0035	0.85		2655.83	2655.83	No	323.55	Si
SLU 66	ini.	-218.09	-1924	-0.0001253	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.18	Si
SLU 66	fin.	14.89	-438	-0.0000082	0.0001872	0.0035	0.85		2650.49	2650.49	No	178.03	Si
SLU 71	ini.	-222.09	-1947	-0.0001277	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.96	Si
SLU 71	fin.	12.79	-454	-0.000007	0.0001872	0.0035	0.85		2650.49	2650.49	No	207.29	Si
SLU 77	ini.	-222.37	-2075	-0.0001279	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.94	Si
SLU 77	fin.	-5.95	-603	-0.0000033	0.0001872	0.0035	0.85		2655.83	2655.83	No	446.37	Si
SLU 56	ini.	-214.44	-1890	-0.0001231	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.39	Si
SLU 56	fin.	15.19	-430	-0.0000083	0.0001872	0.0035	0.85		2650.49	2650.49	No	174.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-215.06	4446	0.85	0	1653	6740	3563	2168	5731	No	1.29	Si
SLU 83	fin.	-8.21	-2059	0.85	0	1653	6740	3563	2168	5731	No	2.78	Si
SLU 75	ini.	-208.23	4282	0.85	0	1653	6740	3563	2168	5731	No	1.34	Si
SLU 75	fin.	-10.06	-1991	0.85	0	1653	6740	3563	2168	5731	No	2.88	Si
SLU 79	ini.	-220.96	4377	0.85	0	1653	6740	3563	2168	5731	No	1.31	Si
SLU 79	fin.	-4.44	-1965	0.85	0	1653	6740	3563	2168	5731	No	2.92	Si
SLU 82	ini.	-200.92	4305	0.85	0	1653	6740	3563	2168	5731	No	1.33	Si
SLU 82	fin.	-12.32	-2055	0.85	0	1653	6740	3563	2168	5731	No	2.79	Si
SLU 77	ini.	-222.37	4422	0.85	0	1653	6740	3563	2168	5731	No	1.3	Si
SLU 77	fin.	-5.95	-1995	0.85	0	1653	6740	3563	2168	5731	No	2.87	Si
SLU 81	ini.	-209.64	4373	0.85	0	1653	6740	3563	2168	5731	No	1.31	Si
SLU 81	fin.	-4.6	-2008	0.85	0	1653	6740	3563	2168	5731	No	2.85	Si
SLU 84	ini.	-206.34	4378	0.85	0	1653	6740	3563	2168	5731	No	1.31	Si
SLU 84	fin.	-15.93	-2106	0.85	0	1653	6740	3563	2168	5731	No	2.72	Si
SLU 78	ini.	-213.65	4354	0.85	0	1653	6740	3563	2168	5731	No	1.32	Si
SLU 78	fin.	-13.67	-2042	0.85	0	1653	6740	3563	2168	5731	No	2.81	Si
SLU 74	ini.	-216.95	4349	0.85	0	1653	6740	3563	2168	5731	No	1.32	Si
SLU 74	fin.	-2.34	-1944	0.85	0	1653	6740	3563	2168	5731	No	2.95	Si
SLU 80	ini.	-212.24	4309	0.85	0	1653	6740	3563	2168	5731	No	1.33	Si
SLU 80	fin.	-12.16	-2012	0.85	0	1653	6740	3563	2168	5731	No	2.85	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-689.61	-4212	-0.0004335	0.0002807	0.0035	0.85		2680.73	2680.73		3.89	Si
SLV 7	fin.	406.83	1269	-0.0002395	0.0002807	0.0035	0.85		2675.27	2675.27		6.58	Si
SLV 5	ini.	705.47	3011	-0.0004463	0.0002807	0.0035	0.85		2675.27	2675.27		3.79	Si
SLV 5	fin.	-713.38	-3237	-0.0004512	0.0002807	0.0035	0.85		2680.73	2680.73		3.76	Si
SLV 8	ini.	-803.22	-4783	-0.0005199	0.0002807	0.0035	0.85		2680.73	2680.73		3.34	Si
SLV 8	fin.	526.91	1772	-0.0003187	0.0002807	0.0035	0.85		2675.27	2675.27		5.08	Si
SLD 12	ini.	-674.6	-4054	-0.0004225	0.0002807	0.0035	0.85		2680.73	2680.73		3.97	Si
SLD 12	fin.	448.7	1437	-0.0002666	0.0002807	0.0035	0.85		2675.27	2675.27		5.96	Si
SLV 11	ini.	-912.75	-5285	-0.0006074	0.0002807	0.0035	0.85		2680.73	2680.73		2.94	Si
SLV 11	fin.	623.54	2121	-0.0003863	0.0002807	0.0035	0.85		2675.27	2675.27		4.29	Si
SLV 12	ini.	-1026.36	-5857	-0.0007027	0.0002807	0.0035	0.85		2680.73	2680.73		2.61	Si
SLV 12	fin.	743.62	2624	-0.0004751	0.0002807	0.0035	0.85		2675.27	2675.27		3.6	Si
SLV 1	ini.	505.09	1874	-0.0003039	0.0002807	0.0035	0.85		2675.27	2675.27		5.3	Si
SLV 1	fin.	-603.28	-2776	-0.000371	0.0002807	0.0035	0.85		2680.73	2680.73		4.44	Si
SLV 15	ini.	-657.23	-3871	-0.0004098	0.0002807	0.0035	0.85		2680.73	2680.73		4.08	Si
SLV 15	fin.	455.15	1416	-0.0002708	0.0002807	0.0035	0.85		2675.27	2675.27		5.88	Si
SLV 16	ini.	-825.98	-4720	-0.0005377	0.0002807	0.0035	0.85		2680.73	2680.73		3.25	Si
SLV 16	fin.	633.52	2162	-0.0003935	0.0002807	0.0035	0.85		2675.27	2675.27		4.22	Si
SLD 11	ini.	-605.66	-3707	-0.0003727	0.0002807	0.0035	0.85		2680.73	2680.73		4.43	Si
SLD 11	fin.	375.83	1132	-0.0002198	0.0002807	0.0035	0.85		2675.27	2675.27		7.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-689.61	7287	0.85	0	2479	6740	5345	2168	7513		1.03	Si
SLV 7	fin.	406.83	1014	0.85	0	2479	6740	5345	2168	7513		7.41	Si
SLV 8	ini.	-803.22	8137	0.85	0	2479	6740	5345	2168	7513		0.92	No
SLV 8	fin.	526.91	1749	0.85	0	2479	6740	5345	2168	7513		4.3	Si
SLV 15	ini.	-657.23	6521	0.85	0	2479	6740	5345	2168	7513		1.15	Si
SLV 15	fin.	455.15	1569	0.85	0	2479	6740	5345	2168	7513		4.79	Si
SLV 16	ini.	-825.98	7784	0.85	0	2479	6740	5345	2168	7513		0.97	No
SLV 16	fin.	633.52	2661	0.85	0	2479	6740	5345	2168	7513		2.82	Si
SLD 11	ini.	-605.66	6422	0.85	0	2479	6740	5345	2168	7513		1.17	Si
SLD 11	fin.	375.83	948	0.85	0	2479	6740	5345	2168	7513		7.92	Si
SLD 8	ini.	-532.17	5975	0.85	0	2479	6740	5345	2168	7513		1.26	Si
SLD 8	fin.	310.47	508	0.85	0	2479	6740	5345	2168	7513		14.77	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-1026.36	9649	0.85	0	2479	6740	5345	2168	7513		0.78	No
SLV 12	fin.	743.62	3138	0.85	0	2479	6740	5345	2168	7513		2.39	Si
SLD 16	ini.	-573.89	5959	0.85	0	2479	6740	5345	2168	7513		1.26	Si
SLD 16	fin.	400.5	1219	0.85	0	2479	6740	5345	2168	7513		6.16	Si
SLV 11	ini.	-912.75	8798	0.85	0	2479	6740	5345	2168	7513		0.85	No
SLV 11	fin.	623.54	2403	0.85	0	2479	6740	5345	2168	7513		3.13	Si
SLD 12	ini.	-674.6	6938	0.85	0	2479	6740	5345	2168	7513		1.08	Si
SLD 12	fin.	448.7	1394	0.85	0	2479	6740	5345	2168	7513		5.39	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.612	SLV 12	Si
V_SLV	0.779	SLV 12	No
PF_SLU	11.883	SLU 69	Si
V_SLU	1.289	SLU 83	Si

Trave di accoppiamento 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	4.4	5.3	0.9	-22.478	-3.169	4.4	5.3	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	658.55	-2184	-0.0003803	0.0001872	0.0035	0.9		2959	2959	No	4.49	Si
SLU 82	fin.	9.25	-870	-0.0000045	0.0001872	0.0035	0.9		2959	2959	No	320	Si
SLU 80	ini.	617.35	-2122	-0.0003524	0.0001872	0.0035	0.9		2959	2959	No	4.79	Si
SLU 80	fin.	35.53	-941	-0.0000175	0.0001872	0.0035	0.9		2959	2959	No	83.29	Si
SLU 77	ini.	643.87	-2161	-0.0003703	0.0001872	0.0035	0.9		2959	2959	No	4.6	Si
SLU 77	fin.	20.03	-900	-0.0000098	0.0001872	0.0035	0.9		2959	2959	No	147.71	Si
SLU 79	ini.	633.77	-2134	-0.0003634	0.0001872	0.0035	0.9		2959	2959	No	4.67	Si
SLU 79	fin.	21.79	-896	-0.0000107	0.0001872	0.0035	0.9		2959	2959	No	135.79	Si
SLU 84	ini.	659.07	-2202	-0.0003807	0.0001872	0.0035	0.9		2959	2959	No	4.49	Si
SLU 84	fin.	15.44	-899	-0.0000076	0.0001872	0.0035	0.9		2959	2959	No	191.64	Si
SLU 74	ini.	643.34	-2143	-0.0003699	0.0001872	0.0035	0.9		2959	2959	No	4.6	Si
SLU 74	fin.	13.84	-871	-0.0000068	0.0001872	0.0035	0.9		2959	2959	No	213.81	Si
SLU 75	ini.	626.92	-2131	-0.0003588	0.0001872	0.0035	0.9		2959	2959	No	4.72	Si
SLU 75	fin.	27.58	-916	-0.0000136	0.0001872	0.0035	0.9		2959	2959	No	107.3	Si
SLU 83	ini.	675.5	-2213	-0.000392	0.0001872	0.0035	0.9		2959	2959	No	4.38	Si
SLU 83	fin.	1.7	-854	-0.0000008	0.0001872	0.0035	0.9		2959	2959	No	1737.37	Si
SLU 81	ini.	674.97	-2195	-0.0003916	0.0001872	0.0035	0.9		2959	2959	No	4.38	Si
SLU 81	fin.	-4.49	-824	-0.0000022	0.0001872	0.0035	0.9		2964.67	2964.67	No	660.27	Si
SLU 78	ini.	627.45	-2149	-0.0003592	0.0001872	0.0035	0.9		2959	2959	No	4.72	Si
SLU 78	fin.	33.77	-945	-0.0000166	0.0001872	0.0035	0.9		2959	2959	No	87.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	643.87	-2405	0.9	0	1750	7137	3773	2295	6068	No	2.52	Si
SLU 77	fin.	20.03	529	0.9	0	1750	7137	3773	2295	6068	No	11.48	Si
SLU 74	ini.	643.34	-2397	0.9	0	1750	7137	3773	2295	6068	No	2.53	Si
SLU 74	fin.	13.84	486	0.9	0	1750	7137	3773	2295	6068	No	12.49	Si
SLU 82	ini.	658.55	-2450	0.9	0	1750	7137	3773	2295	6068	No	2.48	Si
SLU 82	fin.	9.25	456	0.9	0	1750	7137	3773	2295	6068	No	13.3	Si
SLU 83	ini.	675.5	-2508	0.9	0	1750	7137	3773	2295	6068	No	2.42	Si
SLU 83	fin.	1.7	421	0.9	0	1750	7137	3773	2295	6068	No	14.41	Si
SLU 80	ini.	617.35	-2315	0.9	0	1750	7137	3773	2295	6068	No	2.62	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	35.53	608	0.9	0	1750	7137	3773	2295	6068	No	9.98	Si
SLU 75	ini.	626.92	-2347	0.9	0	1750	7137	3773	2295	6068	No	2.59	Si
SLU 75	fin.	27.58	564	0.9	0	1750	7137	3773	2295	6068	No	10.76	Si
SLU 79	ini.	633.77	-2365	0.9	0	1750	7137	3773	2295	6068	No	2.57	Si
SLU 79	fin.	21.79	530	0.9	0	1750	7137	3773	2295	6068	No	11.46	Si
SLU 84	ini.	659.07	-2458	0.9	0	1750	7137	3773	2295	6068	No	2.47	Si
SLU 84	fin.	15.44	499	0.9	0	1750	7137	3773	2295	6068	No	12.15	Si
SLU 81	ini.	674.97	-2500	0.9	0	1750	7137	3773	2295	6068	No	2.43	Si
SLU 81	fin.	-4.49	378	0.9	0	1750	7137	3773	2295	6068	No	16.05	Si
SLU 78	ini.	627.45	-2355	0.9	0	1750	7137	3773	2295	6068	No	2.58	Si
SLU 78	fin.	33.77	607	0.9	0	1750	7137	3773	2295	6068	No	10	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1382.46	-2881	-0.0008933	0.0002807	0.0035	0.9		2989.59	2989.59		2.16	Si
SLV 1	fin.	-558.1	791	-0.0002992	0.0002807	0.0035	0.9		2995.37	2995.37		5.37	Si
SLV 4	ini.	2214.08	-3525	-0.0017537	0.0002807	0.0035	0.9		2989.59	2989.59		1.35	Si
SLV 4	fin.	-1290.45	3173	-0.0008152	0.0002807	0.0035	0.9		2995.37	2995.37		2.32	Si
SLV 7	ini.	1503.34	-2219	-0.0009976	0.0002807	0.0035	0.9		2989.59	2989.59		1.99	Si
SLV 7	fin.	-952.82	2578	-0.0005583	0.0002807	0.0035	0.9		2995.37	2995.37		3.14	Si
SLV 2	ini.	1738.03	-3293	-0.0012162	0.0002807	0.0035	0.9		2989.59	2989.59		1.72	Si
SLV 2	fin.	-819.9	1552	-0.000466	0.0002807	0.0035	0.9		2995.37	2995.37		3.65	Si
SLD 3	ini.	1327.97	-2508	-0.0008478	0.0002807	0.0035	0.9		2989.59	2989.59		2.25	Si
SLD 3	fin.	-636.5	1267	-0.000347	0.0002807	0.0035	0.9		2995.37	2995.37		4.71	Si
SLV 3	ini.	1858.51	-3113	-0.0013381	0.0002807	0.0035	0.9		2989.59	2989.59		1.61	Si
SLV 3	fin.	-1028.65	2412	-0.0006131	0.0002807	0.0035	0.9		2995.37	2995.37		2.91	Si
SLV 13	ini.	-1385.1	641	-0.0008933	0.0002807	0.0035	0.9		2995.37	2995.37		2.16	Si
SLV 13	fin.	1349.29	-4491	-0.0008655	0.0002807	0.0035	0.9		2989.59	2989.59		2.22	Si
SLD 2	ini.	1274.1	-2633	-0.0008039	0.0002807	0.0035	0.9		2989.59	2989.59		2.35	Si
SLD 2	fin.	-526.57	799	-0.0002805	0.0002807	0.0035	0.9		2995.37	2995.37		5.69	Si
SLV 8	ini.	1742.72	-2497	-0.0012208	0.0002807	0.0035	0.9		2989.59	2989.59		1.72	Si
SLV 8	fin.	-1129.07	3090	-0.0006883	0.0002807	0.0035	0.9		2995.37	2995.37		2.65	Si
SLD 4	ini.	1553.55	-2769	-0.0010425	0.0002807	0.0035	0.9		2989.59	2989.59		1.92	Si
SLD 4	fin.	-802.59	1750	-0.0004544	0.0002807	0.0035	0.9		2995.37	2995.37		3.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1738.03	-6417	0.9	0	2625	7137	5660	2295	7954		1.24	Si
SLV 2	fin.	-819.9	-3128	0.9	0	2625	7137	5660	2295	7954		2.54	Si
SLV 9	ini.	-913.74	2836	0.9	0	2625	7137	5660	2295	7954		2.8	Si
SLV 9	fin.	1187.91	6673	0.9	0	2625	7137	5660	2295	7954		1.19	Si
SLV 3	ini.	1858.51	-6648	0.9	0	2625	7137	5660	2295	7954		1.2	Si
SLV 3	fin.	-1028.65	-4576	0.9	0	2625	7137	5660	2295	7954		1.74	Si
SLV 4	ini.	2214.08	-7897	0.9	0	2625	7137	5660	2295	7954		1.01	Si
SLV 4	fin.	-1290.45	-5838	0.9	0	2625	7137	5660	2295	7954		1.36	Si
SLV 13	ini.	-1385.1	4804	0.9	0	2625	7137	5660	2295	7954		1.66	Si
SLV 13	fin.	1349.29	6725	0.9	0	2625	7137	5660	2295	7954		1.18	Si
SLD 4	ini.	1553.55	-5572	0.9	0	2625	7137	5660	2295	7954		1.43	Si
SLD 4	fin.	-802.59	-3503	0.9	0	2625	7137	5660	2295	7954		2.27	Si
SLV 14	ini.	-1029.53	3556	0.9	0	2625	7137	5660	2295	7954		2.24	Si
SLV 14	fin.	1087.49	5463	0.9	0	2625	7137	5660	2295	7954		1.46	Si
SLV 1	ini.	1382.46	-5168	0.9	0	2625	7137	5660	2295	7954		1.54	Si
SLV 1	fin.	-558.1	-1866	0.9	0	2625	7137	5660	2295	7954		4.26	Si
SLV 10	ini.	-674.36	1996	0.9	0	2625	7137	5660	2295	7954		3.99	Si
SLV 10	fin.	1011.66	5824	0.9	0	2625	7137	5660	2295	7954		1.37	Si
SLV 8	ini.	1742.72	-5929	0.9	0	2625	7137	5660	2295	7954		1.34	Si
SLV 8	fin.	-1129.07	-5786	0.9	0	2625	7137	5660	2295	7954		1.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.35	SLV 4	Si
V_SLV	1.007	SLV 4	Si
PF_SLU	4.38	SLU 83	Si
V_SLU	2.419	SLU 83	Si

Trave di accoppiamento 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	7.1	7.95	0.85	-22.478	-3.169	7.1	7.95	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	18.34	-1125	-0.0000101	0.0001872	0.0035	0.85		2650.49	2650.49	No	144.55	Si
SLU 81	fin.	-449.85	-2150	-0.0002772	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.9	Si
SLU 78	ini.	-37.1	-1198	-0.0000204	0.0001872	0.0035	0.85		2655.83	2655.83	No	71.58	Si
SLU 78	fin.	-417.01	-2039	-0.0002542	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.37	Si
SLU 79	ini.	-22.51	-1161	-0.0000124	0.0001872	0.0035	0.85		2655.83	2655.83	No	118.01	Si
SLU 79	fin.	-419.75	-2042	-0.0002561	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.33	Si
SLU 75	ini.	-26.26	-1167	-0.0000144	0.0001872	0.0035	0.85		2655.83	2655.83	No	101.13	Si
SLU 75	fin.	-417.18	-2029	-0.0002543	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.37	Si
SLU 83	ini.	7.49	-1156	-0.0000041	0.0001872	0.0035	0.85		2650.49	2650.49	No	353.68	Si
SLU 83	fin.	-449.69	-2160	-0.000277	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.91	Si
SLU 77	ini.	-19.15	-1173	-0.0000105	0.0001872	0.0035	0.85		2655.83	2655.83	No	138.71	Si
SLU 77	fin.	-427.12	-2074	-0.0002612	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.22	Si
SLU 80	ini.	-40.46	-1186	-0.0000223	0.0001872	0.0035	0.85		2655.83	2655.83	No	65.64	Si
SLU 80	fin.	-409.64	-2007	-0.0002491	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.48	Si
SLU 82	ini.	0.38	-1150	-0.0000002	0.0001872	0.0035	0.85		2650.49	2650.49	No	6999.91	Si
SLU 82	fin.	-439.74	-2115	-0.00027	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.04	Si
SLU 84	ini.	-10.46	-1181	-0.0000057	0.0001872	0.0035	0.85		2655.83	2655.83	No	253.82	Si
SLU 84	fin.	-439.57	-2125	-0.0002699	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.04	Si
SLU 74	ini.	-8.31	-1142	-0.0000045	0.0001872	0.0035	0.85		2655.83	2655.83	No	319.78	Si
SLU 74	fin.	-427.29	-2064	-0.0002613	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-26.26	803	0.85	0	1653	6740	3563	2168	5731	No	7.13	Si
SLU 75	fin.	-417.18	-3290	0.85	0	1653	6740	3563	2168	5731	No	1.74	Si
SLU 81	ini.	18.34	667	0.85	0	1653	6740	3563	2168	5731	No	8.59	Si
SLU 81	fin.	-449.85	-3492	0.85	0	1653	6740	3563	2168	5731	No	1.64	Si
SLU 74	ini.	-8.31	739	0.85	0	1653	6740	3563	2168	5731	No	7.76	Si
SLU 74	fin.	-427.29	-3342	0.85	0	1653	6740	3563	2168	5731	No	1.72	Si
SLU 82	ini.	0.38	731	0.85	0	1653	6740	3563	2168	5731	No	7.84	Si
SLU 82	fin.	-439.74	-3440	0.85	0	1653	6740	3563	2168	5731	No	1.67	Si
SLU 77	ini.	-19.15	783	0.85	0	1653	6740	3563	2168	5731	No	7.32	Si
SLU 77	fin.	-427.12	-3357	0.85	0	1653	6740	3563	2168	5731	No	1.71	Si
SLU 78	ini.	-37.1	847	0.85	0	1653	6740	3563	2168	5731	No	6.77	Si
SLU 78	fin.	-417.01	-3306	0.85	0	1653	6740	3563	2168	5731	No	1.73	Si
SLU 80	ini.	-40.46	851	0.85	0	1653	6740	3563	2168	5731	No	6.73	Si
SLU 80	fin.	-409.64	-3257	0.85	0	1653	6740	3563	2168	5731	No	1.76	Si
SLU 84	ini.	-10.46	775	0.85	0	1653	6740	3563	2168	5731	No	7.39	Si
SLU 84	fin.	-439.57	-3456	0.85	0	1653	6740	3563	2168	5731	No	1.66	Si
SLU 83	ini.	7.49	711	0.85	0	1653	6740	3563	2168	5731	No	8.07	Si
SLU 83	fin.	-449.69	-3508	0.85	0	1653	6740	3563	2168	5731	No	1.63	Si
SLU 79	ini.	-22.51	787	0.85	0	1653	6740	3563	2168	5731	No	7.29	Si
SLU 79	fin.	-419.75	-3309	0.85	0	1653	6740	3563	2168	5731	No	1.73	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-1110.06	-2141	-0.0007759	0.0002807	0.0035	0.85		2680.73	2680.73		2.41	Si
SLD 13	fin.	375.76	886	-0.0002198	0.0002807	0.0035	0.85		2675.27	2675.27		7.12	Si
SLV 15	ini.	-1067.87	-1886	-0.0007387	0.0002807	0.0035	0.85		2680.73	2680.73		2.51	Si
SLV 15	fin.	424.92	1123	-0.0002511	0.0002807	0.0035	0.85		2675.27	2675.27		6.3	Si
SLV 3	ini.	1325.88	908	-0.0009798	0.0002807	0.0035	0.85		2675.27	2675.27		2.02	Si
SLV 3	fin.	-1084.77	-4108	-0.0007535	0.0002807	0.0035	0.85		2680.73	2680.73		2.47	Si
SLV 14	ini.	-1387.84	-2499	-0.0010388	0.0002807	0.0035	0.85		2680.73	2680.73		1.93	Si
SLV 14	fin.	539.82	1443	-0.0003275	0.0002807	0.0035	0.85		2675.27	2675.27		4.96	Si
SLV 10	ini.	-1401.02	-2828	-0.0010521	0.0002807	0.0035	0.85		2680.73	2680.73		1.91	Si
SLV 10	fin.	431.8	968	-0.0002556	0.0002807	0.0035	0.85		2675.27	2675.27		6.2	Si
SLV 8	ini.	1580.86	1538	-0.0012462	0.0002807	0.0035	0.85		2675.27	2675.27		1.69	Si
SLV 8	fin.	-1121.69	-4132	-0.0007863	0.0002807	0.0035	0.85		2680.73	2680.73		2.39	Si
SLV 9	ini.	-1642.82	-3128	-0.0013128	0.0002807	0.0035	0.85		2680.73	2680.73		1.63	Si
SLV 9	fin.	576.74	1466	-0.0003531	0.0002807	0.0035	0.85		2675.27	2675.27		4.64	Si
SLV 4	ini.	1685.05	1354	-0.0013659	0.0002807	0.0035	0.85		2675.27	2675.27		1.59	Si
SLV 4	fin.	-1300.05	-4848	-0.0009522	0.0002807	0.0035	0.85		2680.73	2680.73		2.06	Si
SLV 7	ini.	1339.07	1238	-0.0009928	0.0002807	0.0035	0.85		2675.27	2675.27		2	Si
SLV 7	fin.	-976.76	-3634	-0.0006606	0.0002807	0.0035	0.85		2680.73	2680.73		2.74	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1747	-2944	-0.0014366	0.0002807	0.0035	0.85		2680.73	2680.73		1.53	Si
SLV 13	fin.	755.1	2182	-0.0004839	0.0002807	0.0035	0.85		2675.27	2675.27		3.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1005.92	-2785	0.85	0	2479	6740	5345	2168	7513		2.7	Si
SLV 2	fin.	-969.88	-6122	0.85	0	2479	6740	5345	2168	7513		1.23	Si
SLV 10	ini.	-1401.02	5298	0.85	0	2479	6740	5345	2168	7513		1.42	Si
SLV 10	fin.	431.8	1641	0.85	0	2479	6740	5345	2168	7513		4.58	Si
SLD 4	ini.	1048.11	-3015	0.85	0	2479	6740	5345	2168	7513		2.49	Si
SLD 4	fin.	-920.72	-5766	0.85	0	2479	6740	5345	2168	7513		1.3	Si
SLV 3	ini.	1325.88	-3945	0.85	0	2479	6740	5345	2168	7513		1.9	Si
SLV 3	fin.	-1084.77	-6679	0.85	0	2479	6740	5345	2168	7513		1.12	Si
SLV 14	ini.	-1387.84	5114	0.85	0	2479	6740	5345	2168	7513		1.47	Si
SLV 14	fin.	539.82	2373	0.85	0	2479	6740	5345	2168	7513		3.17	Si
SLV 7	ini.	1339.07	-4129	0.85	0	2479	6740	5345	2168	7513		1.82	Si
SLV 7	fin.	-976.76	-5947	0.85	0	2479	6740	5345	2168	7513		1.26	Si
SLV 8	ini.	1580.86	-4937	0.85	0	2479	6740	5345	2168	7513		1.52	Si
SLV 8	fin.	-1121.69	-6753	0.85	0	2479	6740	5345	2168	7513		1.11	Si
SLV 13	ini.	-1747	6313	0.85	0	2479	6740	5345	2168	7513		1.19	Si
SLV 13	fin.	755.1	3570	0.85	0	2479	6740	5345	2168	7513		2.1	Si
SLV 4	ini.	1685.05	-5144	0.85	0	2479	6740	5345	2168	7513		1.46	Si
SLV 4	fin.	-1300.05	-7876	0.85	0	2479	6740	5345	2168	7513		0.95	No
SLV 9	ini.	-1642.82	6105	0.85	0	2479	6740	5345	2168	7513		1.23	Si
SLV 9	fin.	576.74	2447	0.85	0	2479	6740	5345	2168	7513		3.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.534	SLV 13	Si
V_SLV	0.954	SLV 4	No
PF_SLU	5.904	SLU 81	Si
V_SLU	1.634	SLU 83	Si

Trave di accoppiamento 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	4.4	6.4	2	-19.293	-3.169	4.4	6.4	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 41	ini.	215.08	-1826	-0.0000215	0.0001872	0.0035	2		14344.28	14344.28	No	66.69	Si
SLU 41	fin.	-48.83	-3120	-0.0000048	0.0001872	0.0035	2		14357.01	14357.01	No	294.04	Si
SLU 35	ini.	176.14	-1868	-0.0000175	0.0001872	0.0035	2		14344.28	14344.28	No	81.44	Si
SLU 35	fin.	-46.12	-3125	-0.0000046	0.0001872	0.0035	2		14357.01	14357.01	No	311.32	Si
SLU 81	ini.	212.6	-2151	-0.0000212	0.0001872	0.0035	2		14344.28	14344.28	No	67.47	Si
SLU 81	fin.	-48.94	-3671	-0.0000048	0.0001872	0.0035	2		14357.01	14357.01	No	293.35	Si
SLU 82	ini.	202.95	-2183	-0.0000202	0.0001872	0.0035	2		14344.28	14344.28	No	70.68	Si
SLU 82	fin.	-54.85	-3690	-0.0000054	0.0001872	0.0035	2		14357.01	14357.01	No	261.75	Si
SLU 42	ini.	205.43	-1858	-0.0000205	0.0001872	0.0035	2		14344.28	14344.28	No	69.83	Si
SLU 42	fin.	-54.73	-3139	-0.0000054	0.0001872	0.0035	2		14357.01	14357.01	No	262.3	Si
SLU 39	ini.	214.22	-1789	-0.0000214	0.0001872	0.0035	2		14344.28	14344.28	No	66.96	Si
SLU 39	fin.	-48.99	-3072	-0.0000049	0.0001872	0.0035	2		14357.01	14357.01	No	293.08	Si
SLU 84	ini.	203.8	-2221	-0.0000203	0.0001872	0.0035	2		14344.28	14344.28	No	70.38	Si
SLU 84	fin.	-54.69	-3739	-0.0000054	0.0001872	0.0035	2		14357.01	14357.01	No	262.52	Si
SLU 83	ini.	213.46	-2189	-0.0000213	0.0001872	0.0035	2		14344.28	14344.28	No	67.2	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	-48.78	-3720	-0.0000048	0.0001872	0.0035	2		14357.01	14357.01	No	294.31	Si
SLU 40	ini.	204.57	-1821	-0.0000204	0.0001872	0.0035	2		14344.28	14344.28	No	70.12	Si
SLU 40	fin.	-54.89	-3091	-0.0000054	0.0001872	0.0035	2		14357.01	14357.01	No	261.54	Si
SLU 37	ini.	177.31	-1832	-0.0000177	0.0001872	0.0035	2		14344.28	14344.28	No	80.9	Si
SLU 37	fin.	-43.54	-3080	-0.0000043	0.0001872	0.0035	2		14357.01	14357.01	No	329.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	202.95	32	2	0	3889	3965	8384	5100	7854	No	243.42	Si
SLU 82	fin.	-54.85	5574	2	0	3889	3965	8384	5100	7854	No	1.41	Si
SLU 84	ini.	203.8	19	2	0	3889	3965	8384	5100	7854	No	405.75	Si
SLU 84	fin.	-54.69	5635	2	0	3889	3965	8384	5100	7854	No	1.39	Si
SLU 80	ini.	166.04	69	2	0	3889	3965	8384	5100	7854	No	113.32	Si
SLU 80	fin.	-49.4	5558	2	0	3889	3965	8384	5100	7854	No	1.41	Si
SLU 78	ini.	164.87	53	2	0	3889	3965	8384	5100	7854	No	147.63	Si
SLU 78	fin.	-51.98	5610	2	0	3889	3965	8384	5100	7854	No	1.4	Si
SLU 81	ini.	212.6	78	2	0	3889	3965	8384	5100	7854	No	101.04	Si
SLU 81	fin.	-48.94	5557	2	0	3889	3965	8384	5100	7854	No	1.41	Si
SLU 83	ini.	213.46	65	2	0	3889	3965	8384	5100	7854	No	121.17	Si
SLU 83	fin.	-48.78	5618	2	0	3889	3965	8384	5100	7854	No	1.4	Si
SLU 77	ini.	174.52	99	2	0	3889	3965	8384	5100	7854	No	79.61	Si
SLU 77	fin.	-46.07	5593	2	0	3889	3965	8384	5100	7854	No	1.4	Si
SLU 74	ini.	173.66	112	2	0	3889	3965	8384	5100	7854	No	70.39	Si
SLU 74	fin.	-46.23	5532	2	0	3889	3965	8384	5100	7854	No	1.42	Si
SLU 79	ini.	175.69	115	2	0	3889	3965	8384	5100	7854	No	68.43	Si
SLU 79	fin.	-43.49	5540	2	0	3889	3965	8384	5100	7854	No	1.42	Si
SLU 75	ini.	164.01	66	2	0	3889	3965	8384	5100	7854	No	118.81	Si
SLU 75	fin.	-52.14	5549	2	0	3889	3965	8384	5100	7854	No	1.42	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1730.25	-3104	-0.0001805	0.0002807	0.0035	2		14215.41	14215.41		8.22	Si
SLV 15	fin.	916.28	-5161	-0.0000931	0.0002807	0.0035	2		14202.07	14202.07		15.5	Si
SLV 4	ini.	2421.39	1668	-0.0002594	0.0002807	0.0035	2		14202.07	14202.07		5.87	Si
SLV 4	fin.	-994.65	1670	-0.0001013	0.0002807	0.0035	2		14215.41	14215.41		14.29	Si
SLD 4	ini.	1563.32	467	-0.0001623	0.0002807	0.0035	2		14202.07	14202.07		9.08	Si
SLD 4	fin.	-644.65	96	-0.0000649	0.0002807	0.0035	2		14215.41	14215.41		22.05	Si
SLV 9	ini.	-1502.3	-5120	-0.0001555	0.0002807	0.0035	2		14215.41	14215.41		9.46	Si
SLV 9	fin.	349.09	-6520	-0.0000349	0.0002807	0.0035	2		14202.07	14202.07		40.68	Si
SLV 14	ini.	-1839.29	-4210	-0.0001926	0.0002807	0.0035	2		14215.41	14215.41		7.73	Si
SLV 14	fin.	738.67	-6020	-0.0000747	0.0002807	0.0035	2		14202.07	14202.07		19.23	Si
SLV 2	ini.	1892.15	14	-0.0001987	0.0002807	0.0035	2		14202.07	14202.07		7.51	Si
SLV 2	fin.	-965.54	9	-0.0000982	0.0002807	0.0035	2		14215.41	14215.41		14.72	Si
SLV 8	ini.	1664.19	2030	-0.0001734	0.0002807	0.0035	2		14202.07	14202.07		8.53	Si
SLV 8	fin.	-398.35	1368	-0.0000398	0.0002807	0.0035	2		14215.41	14215.41		35.69	Si
SLV 3	ini.	2001.19	1120	-0.000211	0.0002807	0.0035	2		14202.07	14202.07		7.1	Si
SLV 3	fin.	-787.94	868	-0.0000797	0.0002807	0.0035	2		14215.41	14215.41		18.04	Si
SLV 1	ini.	1471.94	-534	-0.0001523	0.0002807	0.0035	2		14202.07	14202.07		9.65	Si
SLV 1	fin.	-758.83	-794	-0.0000767	0.0002807	0.0035	2		14215.41	14215.41		18.73	Si
SLV 13	ini.	-2259.5	-4758	-0.0002403	0.0002807	0.0035	2		14215.41	14215.41		6.29	Si
SLV 13	fin.	945.38	-6823	-0.0000962	0.0002807	0.0035	2		14202.07	14202.07		15.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-1401.42	5932	2	0	5833	3965	12577	5100	9798		1.65	Si
SLD 13	fin.	595.39	9277	2	0	5833	3965	12577	5100	9798		1.06	Si
SLD 14	ini.	-1134.84	4810	2	0	5833	3965	12577	5100	9798		2.04	Si
SLD 14	fin.	464.25	8199	2	0	5833	3965	12577	5100	9798		1.2	Si
SLV 2	ini.	1892.15	-8588	2	0	5833	3965	12577	5100	9798		1.14	Si
SLV 2	fin.	-965.54	-2492	2	0	5833	3965	12577	5100	9798		3.93	Si
SLV 4	ini.	2421.39	-8789	2	0	5833	3965	12577	5100	9798		1.11	Si
SLV 4	fin.	-994.65	-4607	2	0	5833	3965	12577	5100	9798		2.13	Si
SLV 16	ini.	-1310.04	7217	2	0	5833	3965	12577	5100	9798		1.36	Si
SLV 16	fin.	709.57	8594	2	0	5833	3965	12577	5100	9798		1.14	Si
SLV 14	ini.	-1839.29	7417	2	0	5833	3965	12577	5100	9798		1.32	Si
SLV 14	fin.	738.67	10709	2	0	5833	3965	12577	5100	9798		0.91	No
SLV 9	ini.	-1502.3	3529	2	0	5833	3965	12577	5100	9798		2.78	Si
SLV 9	fin.	349.09	9978	2	0	5833	3965	12577	5100	9798		0.98	No
SLV 13	ini.	-2259.5	9186	2	0	5833	3965	12577	5100	9798		1.07	Si
SLV 13	fin.	945.38	12409	2	0	5833	3965	12577	5100	9798		0.79	No
SLV 15	ini.	-1730.25	8986	2	0	5833	3965	12577	5100	9798		1.09	Si
SLV 15	fin.	916.28	10294	2	0	5833	3965	12577	5100	9798		0.95	No
SLV 10	ini.	-1219.4	2338	2	0	5833	3965	12577	5100	9798		4.19	Si
SLV 10	fin.	209.93	8833	2	0	5833	3965	12577	5100	9798		1.11	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.865	SLV 4	Si
V_SLV	0.79	SLV 13	No
PF_SLU	66.694	SLU 41	Si
V_SLU	1.394	SLU 84	Si

Trave di accoppiamento 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	7.2	7.95	0.75	-19.293	-3.169	7.2	7.95	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-166.33	-1519	-0.0001224	0.0001872	0.0035	0.75		2074.44	2074.44	No	12.47	Si
SLU 84	fin.	32.79	-1283	-0.0000232	0.0001872	0.0035	0.75		2069.77	2069.77	No	63.13	Si
SLU 77	ini.	-158.97	-1452	-0.0001167	0.0001872	0.0035	0.75		2074.44	2074.44	No	13.05	Si
SLU 77	fin.	38.96	-1220	-0.0000276	0.0001872	0.0035	0.75		2069.77	2069.77	No	53.13	Si
SLU 80	ini.	-157.59	-1441	-0.0001156	0.0001872	0.0035	0.75		2074.44	2074.44	No	13.16	Si
SLU 80	fin.	38.15	-1212	-0.0000271	0.0001872	0.0035	0.75		2069.77	2069.77	No	54.25	Si
SLU 78	ini.	-158.27	-1454	-0.0001162	0.0001872	0.0035	0.75		2074.44	2074.44	No	13.11	Si
SLU 78	fin.	39.2	-1229	-0.0000278	0.0001872	0.0035	0.75		2069.77	2069.77	No	52.8	Si
SLU 83	ini.	-167.04	-1518	-0.0001229	0.0001872	0.0035	0.75		2074.44	2074.44	No	12.42	Si
SLU 83	fin.	32.54	-1274	-0.0000231	0.0001872	0.0035	0.75		2069.77	2069.77	No	63.6	Si
SLU 75	ini.	-156.34	-1434	-0.0001147	0.0001872	0.0035	0.75		2074.44	2074.44	No	13.27	Si
SLU 75	fin.	39.92	-1207	-0.0000283	0.0001872	0.0035	0.75		2069.77	2069.77	No	51.85	Si
SLU 79	ini.	-158.29	-1440	-0.0001162	0.0001872	0.0035	0.75		2074.44	2074.44	No	13.11	Si
SLU 79	fin.	37.91	-1203	-0.0000269	0.0001872	0.0035	0.75		2069.77	2069.77	No	54.6	Si
SLU 81	ini.	-165.1	-1498	-0.0001214	0.0001872	0.0035	0.75		2074.44	2074.44	No	12.56	Si
SLU 81	fin.	33.26	-1252	-0.0000236	0.0001872	0.0035	0.75		2069.77	2069.77	No	62.23	Si
SLU 74	ini.	-157.04	-1433	-0.0001152	0.0001872	0.0035	0.75		2074.44	2074.44	No	13.21	Si
SLU 74	fin.	39.67	-1198	-0.0000282	0.0001872	0.0035	0.75		2069.77	2069.77	No	52.17	Si
SLU 82	ini.	-164.4	-1499	-0.0001209	0.0001872	0.0035	0.75		2074.44	2074.44	No	12.62	Si
SLU 82	fin.	33.5	-1261	-0.0000237	0.0001872	0.0035	0.75		2069.77	2069.77	No	61.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-158.97	3049	0.75	0	1458	3965	3144	1913	5057	No	1.66	Si
SLU 77	fin.	38.96	-2510	0.75	0	1458	3965	3144	1913	5057	No	2.01	Si
SLU 75	ini.	-156.34	3026	0.75	0	1458	3965	3144	1913	5057	No	1.67	Si
SLU 75	fin.	39.92	-2498	0.75	0	1458	3965	3144	1913	5057	No	2.02	Si
SLU 83	ini.	-167.04	3109	0.75	0	1458	3965	3144	1913	5057	No	1.63	Si
SLU 83	fin.	32.54	-2558	0.75	0	1458	3965	3144	1913	5057	No	1.98	Si
SLU 81	ini.	-165.1	3079	0.75	0	1458	3965	3144	1913	5057	No	1.64	Si
SLU 81	fin.	33.26	-2523	0.75	0	1458	3965	3144	1913	5057	No	2	Si
SLU 74	ini.	-157.04	3019	0.75	0	1458	3965	3144	1913	5057	No	1.67	Si
SLU 74	fin.	39.67	-2475	0.75	0	1458	3965	3144	1913	5057	No	2.04	Si
SLU 78	ini.	-158.27	3056	0.75	0	1458	3965	3144	1913	5057	No	1.65	Si
SLU 78	fin.	39.2	-2533	0.75	0	1458	3965	3144	1913	5057	No	2	Si
SLU 79	ini.	-158.29	3013	0.75	0	1458	3965	3144	1913	5057	No	1.68	Si
SLU 79	fin.	37.91	-2465	0.75	0	1458	3965	3144	1913	5057	No	2.05	Si
SLU 84	ini.	-166.33	3116	0.75	0	1458	3965	3144	1913	5057	No	1.62	Si
SLU 84	fin.	32.79	-2581	0.75	0	1458	3965	3144	1913	5057	No	1.96	Si
SLU 80	ini.	-157.59	3020	0.75	0	1458	3965	3144	1913	5057	No	1.67	Si
SLU 80	fin.	38.15	-2488	0.75	0	1458	3965	3144	1913	5057	No	2.03	Si
SLU 82	ini.	-164.4	3086	0.75	0	1458	3965	3144	1913	5057	No	1.64	Si
SLU 82	fin.	33.5	-2546	0.75	0	1458	3965	3144	1913	5057	No	1.99	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-237.77	-2765	-0.0001755	0.0002807	0.0035	0.75		2090.82	2090.82		8.79	Si
SLV 2	fin.	-534.41	-4116	-0.0004305	0.0002807	0.0035	0.75		2090.82	2090.82		3.91	Si
SLV 9	ini.	27.48	158	-0.0000194	0.0002807	0.0035	0.75		2085.94	2085.94		75.9	Si
SLV 9	fin.	436.55	764	-0.0003415	0.0002807	0.0035	0.75		2085.94	2085.94		4.78	Si
SLD 13	ini.	10.95	407	-0.0000077	0.0002807	0.0035	0.75		2085.94	2085.94		190.56	Si
SLD 13	fin.	471.63	1536	-0.0003732	0.0002807	0.0035	0.75		2085.94	2085.94		4.42	Si
SLV 3	ini.	-259.86	-2660	-0.0001929	0.0002807	0.0035	0.75		2090.82	2090.82		8.05	Si
SLV 3	fin.	-516.15	-3634	-0.0004133	0.0002807	0.0035	0.75		2090.82	2090.82		4.05	Si
SLV 14	ini.	53.92	808	-0.0000383	0.0002807	0.0035	0.75		2085.94	2085.94		38.69	Si
SLV 14	fin.	590.47	2142	-0.0004858	0.0002807	0.0035	0.75		2085.94	2085.94		3.53	Si
SLV 4	ini.	-284.76	-3020	-0.0002127	0.0002807	0.0035	0.75		2090.82	2090.82		7.34	Si
SLV 4	fin.	-646.48	-4320	-0.0005403	0.0002807	0.0035	0.75		2090.82	2090.82		3.23	Si
SLD 15	ini.	-16.55	258	-0.0000116	0.0002807	0.0035	0.75		2090.82	2090.82		126.3	Si
SLD 15	fin.	405.97	1416	-0.0003146	0.0002807	0.0035	0.75		2085.94	2085.94		5.14	Si
SLV 15	ini.	31.84	912	-0.0000225	0.0002807	0.0035	0.75		2085.94	2085.94		65.52	Si
SLV 15	fin.	608.74	2625	-0.0005038	0.0002807	0.0035	0.75		2085.94	2085.94		3.43	Si
SLV 13	ini.	78.82	1168	-0.0000562	0.0002807	0.0035	0.75		2085.94	2085.94		26.46	Si
SLV 13	fin.	720.8	2829	-0.0006188	0.0002807	0.0035	0.75		2085.94	2085.94		2.89	Si
SLV 16	ini.	6.93	552	-0.0000049	0.0002807	0.0035	0.75		2085.94	2085.94		300.97	Si
SLV 16	fin.	478.4	1938	-0.0003793	0.0002807	0.0035	0.75		2085.94	2085.94		4.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-173.58	1571	0.75	0	2188	3965	4716	1913	6152		3.92	Si
SLD 1	fin.	-248.96	-3312	0.75	0	2188	3965	4716	1913	6152		1.86	Si
SLV 3	ini.	-259.86	858	0.75	0	2188	3965	4716	1913	6152		7.17	Si
SLV 3	fin.	-516.15	-3852	0.75	0	2188	3965	4716	1913	6152		1.6	Si
SLV 4	ini.	-284.76	473	0.75	0	2188	3965	4716	1913	6152		13	Si
SLV 4	fin.	-646.48	-4434	0.75	0	2188	3965	4716	1913	6152		1.39	Si
SLV 6	ini.	-76.79	2363	0.75	0	2188	3965	4716	1913	6152		2.6	Si
SLV 6	fin.	11.34	-3341	0.75	0	2188	3965	4716	1913	6152		1.84	Si
SLD 2	ini.	-189.38	1327	0.75	0	2188	3965	4716	1913	6152		4.64	Si
SLD 2	fin.	-331.64	-3681	0.75	0	2188	3965	4716	1913	6152		1.67	Si
SLV 9	ini.	27.48	3312	0.75	0	2188	3965	4716	1913	6152		1.86	Si
SLV 9	fin.	436.55	-1306	0.75	0	2188	3965	4716	1913	6152		4.71	Si
SLV 1	ini.	-212.87	1330	0.75	0	2188	3965	4716	1913	6152		4.63	Si
SLV 1	fin.	-404.08	-4277	0.75	0	2188	3965	4716	1913	6152		1.44	Si
SLV 2	ini.	-237.77	945	0.75	0	2188	3965	4716	1913	6152		6.51	Si
SLV 2	fin.	-534.41	-4859	0.75	0	2188	3965	4716	1913	6152		1.27	Si
SLV 13	ini.	78.82	3629	0.75	0	2188	3965	4716	1913	6152		1.7	Si
SLV 13	fin.	720.8	1202	0.75	0	2188	3965	4716	1913	6152		5.12	Si
SLD 4	ini.	-216.88	1051	0.75	0	2188	3965	4716	1913	6152		5.86	Si
SLD 4	fin.	-397.31	-3432	0.75	0	2188	3965	4716	1913	6152		1.79	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.894	SLV 13	Si
V_SLV	1.266	SLV 2	Si
PF_SLU	12.419	SLU 83	Si
V_SLU	1.623	SLU 84	Si

Trave di accoppiamento 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	4.4	5.3	0.9	-18.213	-3.169	4.4	5.3	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	151.06	-828	-0.0000761	0.0001872	0.0035	0.9		2959	2959	No	19.59	Si
SLU 79	fin.	14.21	-1138	-0.000007	0.0001872	0.0035	0.9		2959	2959	No	208.19	Si
SLU 42	ini.	154.47	-727	-0.0000779	0.0001872	0.0035	0.9		2959	2959	No	19.16	Si
SLU 42	fin.	-11.64	-885	-0.0000057	0.0001872	0.0035	0.9		2964.67	2964.67	No	254.6	Si
SLU 41	ini.	155.64	-722	-0.0000785	0.0001872	0.0035	0.9		2959	2959	No	19.01	Si
SLU 41	fin.	-15.3	-857	-0.0000075	0.0001872	0.0035	0.9		2964.67	2964.67	No	193.79	Si
SLU 82	ini.	162.98	-831	-0.0000824	0.0001872	0.0035	0.9		2959	2959	No	18.16	Si
SLU 82	fin.	-1.18	-1088	-0.0000006	0.0001872	0.0035	0.9		2964.67	2964.67	No	2504.22	Si
SLU 83	ini.	168.56	-846	-0.0000853	0.0001872	0.0035	0.9		2959	2959	No	17.55	Si
SLU 83	fin.	-2.92	-1084	-0.0000014	0.0001872	0.0035	0.9		2964.67	2964.67	No	1016.15	Si
SLU 84	ini.	167.4	-852	-0.0000847	0.0001872	0.0035	0.9		2959	2959	No	17.68	Si
SLU 84	fin.	0.74	-1113	-0.0000004	0.0001872	0.0035	0.9		2959	2959	No	4018.63	Si
SLU 81	ini.	164.15	-825	-0.000083	0.0001872	0.0035	0.9		2959	2959	No	18.03	Si
SLU 81	fin.	-4.84	-1060	-0.0000024	0.0001872	0.0035	0.9		2964.67	2964.67	No	612.82	Si
SLU 39	ini.	151.22	-701	-0.0000762	0.0001872	0.0035	0.9		2959	2959	No	19.57	Si
SLU 39	fin.	-17.22	-833	-0.0000084	0.0001872	0.0035	0.9		2964.67	2964.67	No	172.18	Si
SLU 62	ini.	152.19	-772	-0.0000767	0.0001872	0.0035	0.9		2959	2959	No	19.44	Si
SLU 62	fin.	0.72	-1002	-0.0000004	0.0001872	0.0035	0.9		2959	2959	No	4132.32	Si
SLU 63	ini.	151.03	-777	-0.0000761	0.0001872	0.0035	0.9		2959	2959	No	19.59	Si
SLU 63	fin.	4.37	-1030	-0.0000021	0.0001872	0.0035	0.9		2959	2959	No	677.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	167.4	-1666	0.9	0	1750	7137	3773	2295	6068	No	3.64	Si
SLU 84	fin.	0.74	2767	0.9	0	1750	7137	3773	2295	6068	No	2.19	Si
SLU 74	ini.	146.27	-1536	0.9	0	1750	7137	3773	2295	6068	No	3.95	Si
SLU 74	fin.	15.07	2749	0.9	0	1750	7137	3773	2295	6068	No	2.21	Si
SLU 80	ini.	149.9	-1551	0.9	0	1750	7137	3773	2295	6068	No	3.91	Si
SLU 80	fin.	17.87	2787	0.9	0	1750	7137	3773	2295	6068	No	2.18	Si
SLU 70	ini.	98.39	-1230	0.9	0	1750	7137	3773	2295	6068	No	4.93	Si
SLU 70	fin.	56.14	2786	0.9	0	1750	7137	3773	2295	6068	No	2.18	Si
SLU 78	ini.	149.52	-1560	0.9	0	1750	7137	3773	2295	6068	No	3.89	Si
SLU 78	fin.	20.65	2832	0.9	0	1750	7137	3773	2295	6068	No	2.14	Si
SLU 75	ini.	145.11	-1533	0.9	0	1750	7137	3773	2295	6068	No	3.96	Si
SLU 75	fin.	18.73	2792	0.9	0	1750	7137	3773	2295	6068	No	2.17	Si
SLU 79	ini.	151.06	-1553	0.9	0	1750	7137	3773	2295	6068	No	3.91	Si
SLU 79	fin.	14.21	2744	0.9	0	1750	7137	3773	2295	6068	No	2.21	Si
SLU 67	ini.	93.97	-1203	0.9	0	1750	7137	3773	2295	6068	No	5.04	Si
SLU 67	fin.	54.22	2745	0.9	0	1750	7137	3773	2295	6068	No	2.21	Si
SLU 77	ini.	150.69	-1563	0.9	0	1750	7137	3773	2295	6068	No	3.88	Si
SLU 77	fin.	16.99	2789	0.9	0	1750	7137	3773	2295	6068	No	2.18	Si
SLU 76	ini.	144.71	-1522	0.9	0	1750	7137	3773	2295	6068	No	3.99	Si
SLU 76	fin.	18.38	2775	0.9	0	1750	7137	3773	2295	6068	No	2.19	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1063.33	-1723	-0.0006402	0.0002807	0.0035	0.9		2989.59	2989.59		2.81	Si
SLV 1	fin.	-747.57	1797	-0.0004179	0.0002807	0.0035	0.9		2995.37	2995.37		4.01	Si
SLV 8	ini.	940.61	-1056	-0.0005508	0.0002807	0.0035	0.9		2989.59	2989.59		3.18	Si
SLV 8	fin.	-884.71	3487	-0.0005104	0.0002807	0.0035	0.9		2995.37	2995.37		3.39	Si
SLV 4	ini.	1575.89	-2041	-0.0010628	0.0002807	0.0035	0.9		2989.59	2989.59		1.9	Si
SLV 4	fin.	-1287.78	4420	-0.000813	0.0002807	0.0035	0.9		2995.37	2995.37		2.33	Si
SLV 14	ini.	-1138.32	633	-0.0006953	0.0002807	0.0035	0.9		2995.37	2995.37		2.63	Si
SLV 14	fin.	1112	-5213	-0.0006769	0.0002807	0.0035	0.9		2989.59	2989.59		2.69	Si
SLV 3	ini.	1300.49	-1725	-0.0008253	0.0002807	0.0035	0.9		2989.59	2989.59		2.3	Si
SLV 3	fin.	-1060.13	3504	-0.0006364	0.0002807	0.0035	0.9		2995.37	2995.37		2.83	Si
SLV 15	ini.	-1176.56	947	-0.0007248	0.0002807	0.0035	0.9		2995.37	2995.37		2.55	Si
SLV 15	fin.	1027.09	-4422	-0.0006134	0.0002807	0.0035	0.9		2989.59	2989.59		2.91	Si
SLV 2	ini.	1338.73	-2039	-0.0008567	0.0002807	0.0035	0.9		2989.59	2989.59		2.23	Si
SLV 2	fin.	-975.22	2713	-0.0005743	0.0002807	0.0035	0.9		2995.37	2995.37		3.07	Si
SLV 9	ini.	-778.44	-35	-0.0004383	0.0002807	0.0035	0.9		2995.37	2995.37		3.85	Si
SLV 9	fin.	936.59	-5196	-0.000548	0.0002807	0.0035	0.9		2989.59	2989.59		3.19	Si
SLV 13	ini.	-1413.72	949	-0.0009175	0.0002807	0.0035	0.9		2995.37	2995.37		2.12	Si
SLV 13	fin.	1339.65	-6129	-0.0008575	0.0002807	0.0035	0.9		2989.59	2989.59		2.23	Si
SLD 4	ini.	1030.47	-1501	-0.0006158	0.0002807	0.0035	0.9		2989.59	2989.59		2.9	Si
SLD 4	fin.	-806.4	2475	-0.0004569	0.0002807	0.0035	0.9		2995.37	2995.37		3.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1413.72	6993	0.9	0	2625	7137	5660	2295	7954		1.14	Si
SLV 13	fin.	1339.65	7173	0.9	0	2625	7137	5660	2295	7954		1.11	Si
SLV 9	ini.	-778.44	3278	0.9	0	2625	7137	5660	2295	7954		2.43	Si
SLV 9	fin.	936.59	7321	0.9	0	2625	7137	5660	2295	7954		1.09	Si
SLD 4	ini.	1030.47	-6015	0.9	0	2625	7137	5660	2295	7954		1.32	Si
SLD 4	fin.	-806.4	-1287	0.9	0	2625	7137	5660	2295	7954		6.18	Si
SLV 4	ini.	1575.89	-8902	0.9	0	2625	7137	5660	2295	7954		0.89	No
SLV 4	fin.	-1287.78	-3226	0.9	0	2625	7137	5660	2295	7954		2.47	Si
SLV 2	ini.	1338.73	-7859	0.9	0	2625	7137	5660	2295	7954		1.01	Si
SLV 2	fin.	-975.22	-844	0.9	0	2625	7137	5660	2295	7954		9.42	Si
SLV 15	ini.	-1176.56	5951	0.9	0	2625	7137	5660	2295	7954		1.34	Si
SLV 15	fin.	1027.09	4791	0.9	0	2625	7137	5660	2295	7954		1.66	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1300.49	-7475	0.9	0	2625	7137	5660	2295	7954		1.06	Si
SLV 3	fin.	-1060.13	-2286	0.9	0	2625	7137	5660	2295	7954		3.48	Si
SLV 10	ini.	-593.03	2317	0.9	0	2625	7137	5660	2295	7954		3.43	Si
SLV 10	fin.	783.33	6688	0.9	0	2625	7137	5660	2295	7954		1.19	Si
SLV 14	ini.	-1138.32	5566	0.9	0	2625	7137	5660	2295	7954		1.43	Si
SLV 14	fin.	1112	6232	0.9	0	2625	7137	5660	2295	7954		1.28	Si
SLV 1	ini.	1063.33	-6432	0.9	0	2625	7137	5660	2295	7954		1.24	Si
SLV 1	fin.	-747.57	96	0.9	0	2625	7137	5660	2295	7954		82.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.897	SLV 4	Si
V_SLV	0.894	SLV 4	No
PF_SLU	17.554	SLU 83	Si
V_SLU	2.143	SLU 78	Si

Trave di accoppiamento 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	7.1	7.95	0.85	-18.213	-3.169	7.1	7.95	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	8.22	-442	-0.0000045	0.0001872	0.0035	0.85		2650.49	2650.49	No	322.53	Si
SLU 74	fin.	-178.15	-1605	-0.0001013	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.91	Si
SLU 77	ini.	3.91	-464	-0.0000021	0.0001872	0.0035	0.85		2650.49	2650.49	No	677.34	Si
SLU 77	fin.	-181.56	-1630	-0.0001033	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.63	Si
SLU 84	ini.	23.19	-430	-0.0000128	0.0001872	0.0035	0.85		2650.49	2650.49	No	114.31	Si
SLU 84	fin.	-195.13	-1718	-0.0001114	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.61	Si
SLU 78	ini.	-0.03	-474	0	0.0001872	0.0035	0.85		2655.83	2655.83	No	86913.62	Si
SLU 78	fin.	-181.52	-1634	-0.0001033	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.63	Si
SLU 79	ini.	5.82	-453	-0.0000032	0.0001872	0.0035	0.85		2650.49	2650.49	No	455.54	Si
SLU 79	fin.	-180.25	-1615	-0.0001025	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.73	Si
SLU 75	ini.	4.27	-452	-0.0000023	0.0001872	0.0035	0.85		2650.49	2650.49	No	620.11	Si
SLU 75	fin.	-178.11	-1609	-0.0001013	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.91	Si
SLU 81	ini.	31.43	-398	-0.0000173	0.0001872	0.0035	0.85		2650.49	2650.49	No	84.32	Si
SLU 81	fin.	-191.75	-1690	-0.0001094	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.85	Si
SLU 82	ini.	27.49	-408	-0.0000151	0.0001872	0.0035	0.85		2650.49	2650.49	No	96.41	Si
SLU 82	fin.	-191.72	-1694	-0.0001094	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.85	Si
SLU 83	ini.	27.13	-420	-0.0000149	0.0001872	0.0035	0.85		2650.49	2650.49	No	97.7	Si
SLU 83	fin.	-195.17	-1715	-0.0001114	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.61	Si
SLU 80	ini.	1.87	-463	-0.000001	0.0001872	0.0035	0.85		2650.49	2650.49	No	1413.8	Si
SLU 80	fin.	-180.21	-1618	-0.0001025	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	27.13	1128	0.85	0	1653	6740	3563	2168	5731	No	5.08	Si
SLU 83	fin.	-195.17	-4032	0.85	0	1653	6740	3563	2168	5731	No	1.42	Si
SLU 77	ini.	3.91	1195	0.85	0	1653	6740	3563	2168	5731	No	4.8	Si
SLU 77	fin.	-181.56	-3865	0.85	0	1653	6740	3563	2168	5731	No	1.48	Si
SLU 78	ini.	-0.03	1210	0.85	0	1653	6740	3563	2168	5731	No	4.74	Si
SLU 78	fin.	-181.52	-3873	0.85	0	1653	6740	3563	2168	5731	No	1.48	Si
SLU 75	ini.	4.27	1187	0.85	0	1653	6740	3563	2168	5731	No	4.83	Si
SLU 75	fin.	-178.11	-3833	0.85	0	1653	6740	3563	2168	5731	No	1.5	Si
SLU 74	ini.	8.22	1172	0.85	0	1653	6740	3563	2168	5731	No	4.89	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-178.15	-3825	0.85	0	1653	6740	3563	2168	5731	No	1.5	Si
SLU 84	ini.	23.19	1143	0.85	0	1653	6740	3563	2168	5731	No	5.01	Si
SLU 84	fin.	-195.13	-4040	0.85	0	1653	6740	3563	2168	5731	No	1.42	Si
SLU 81	ini.	31.43	1105	0.85	0	1653	6740	3563	2168	5731	No	5.19	Si
SLU 81	fin.	-191.75	-3992	0.85	0	1653	6740	3563	2168	5731	No	1.44	Si
SLU 82	ini.	27.49	1120	0.85	0	1653	6740	3563	2168	5731	No	5.12	Si
SLU 82	fin.	-191.72	-4000	0.85	0	1653	6740	3563	2168	5731	No	1.43	Si
SLU 79	ini.	5.82	1171	0.85	0	1653	6740	3563	2168	5731	No	4.89	Si
SLU 79	fin.	-180.25	-3823	0.85	0	1653	6740	3563	2168	5731	No	1.5	Si
SLU 80	ini.	1.87	1187	0.85	0	1653	6740	3563	2168	5731	No	4.83	Si
SLU 80	fin.	-180.21	-3831	0.85	0	1653	6740	3563	2168	5731	No	1.5	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	415.06	33	-0.0002448	0.0002807	0.0035	0.85		2675.27	2675.27		6.45	Si
SLV 1	fin.	-772.46	-3872	-0.0004961	0.0002807	0.0035	0.85		2680.73	2680.73		3.47	Si
SLV 9	ini.	-804.92	-2046	-0.0005212	0.0002807	0.0035	0.85		2680.73	2680.73		3.33	Si
SLV 9	fin.	416.7	1093	-0.0002458	0.0002807	0.0035	0.85		2675.27	2675.27		6.42	Si
SLV 3	ini.	734.58	842	-0.0004683	0.0002807	0.0035	0.85		2675.27	2675.27		3.64	Si
SLV 3	fin.	-902.77	-4359	-0.0005993	0.0002807	0.0035	0.85		2680.73	2680.73		2.97	Si
SLV 14	ini.	-757.78	-1491	-0.0004848	0.0002807	0.0035	0.85		2680.73	2680.73		3.54	Si
SLV 14	fin.	687.55	2329	-0.000433	0.0002807	0.0035	0.85		2675.27	2675.27		3.89	Si
SLV 15	ini.	-612.63	-981	-0.0003777	0.0002807	0.0035	0.85		2680.73	2680.73		4.38	Si
SLV 15	fin.	738.34	2596	-0.0004711	0.0002807	0.0035	0.85		2675.27	2675.27		3.62	Si
SLD 4	ini.	568.86	590	-0.0003476	0.0002807	0.0035	0.85		2675.27	2675.27		4.7	Si
SLD 4	fin.	-729	-3625	-0.000463	0.0002807	0.0035	0.85		2680.73	2680.73		3.68	Si
SLV 2	ini.	589.43	332	-0.0003621	0.0002807	0.0035	0.85		2675.27	2675.27		4.54	Si
SLV 2	fin.	-953.57	-4626	-0.0006411	0.0002807	0.0035	0.85		2680.73	2680.73		2.81	Si
SLV 8	ini.	781.72	1397	-0.0005044	0.0002807	0.0035	0.85		2675.27	2675.27		3.42	Si
SLV 8	fin.	-631.92	-3123	-0.0003915	0.0002807	0.0035	0.85		2680.73	2680.73		4.24	Si
SLV 4	ini.	908.96	1140	-0.0006058	0.0002807	0.0035	0.85		2675.27	2675.27		2.94	Si
SLV 4	fin.	-1083.88	-5113	-0.0007527	0.0002807	0.0035	0.85		2680.73	2680.73		2.47	Si
SLV 13	ini.	-932.16	-1789	-0.0006234	0.0002807	0.0035	0.85		2680.73	2680.73		2.88	Si
SLV 13	fin.	868.65	3083	-0.000573	0.0002807	0.0035	0.85		2675.27	2675.27		3.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	908.96	-3671	0.85	0	2479	6740	5345	2168	7513		2.05	Si
SLV 4	fin.	-1083.88	-7873	0.85	0	2479	6740	5345	2168	7513		0.95	No
SLD 4	ini.	568.86	-1997	0.85	0	2479	6740	5345	2168	7513		3.76	Si
SLD 4	fin.	-729	-5916	0.85	0	2479	6740	5345	2168	7513		1.27	Si
SLV 3	ini.	734.58	-2821	0.85	0	2479	6740	5345	2168	7513		2.66	Si
SLV 3	fin.	-902.77	-6857	0.85	0	2479	6740	5345	2168	7513		1.1	Si
SLV 2	ini.	589.43	-2210	0.85	0	2479	6740	5345	2168	7513		3.4	Si
SLV 2	fin.	-953.57	-7292	0.85	0	2479	6740	5345	2168	7513		1.03	Si
SLV 1	ini.	415.06	-1360	0.85	0	2479	6740	5345	2168	7513		5.52	Si
SLV 1	fin.	-772.46	-6276	0.85	0	2479	6740	5345	2168	7513		1.2	Si
SLD 3	ini.	458.23	-1457	0.85	0	2479	6740	5345	2168	7513		5.16	Si
SLD 3	fin.	-614.1	-5272	0.85	0	2479	6740	5345	2168	7513		1.43	Si
SLV 13	ini.	-932.16	5405	0.85	0	2479	6740	5345	2168	7513		1.39	Si
SLV 13	fin.	868.65	2916	0.85	0	2479	6740	5345	2168	7513		2.58	Si
SLD 2	ini.	381.95	-1142	0.85	0	2479	6740	5345	2168	7513		6.58	Si
SLD 2	fin.	-652.71	-5576	0.85	0	2479	6740	5345	2168	7513		1.35	Si
SLV 8	ini.	781.72	-2869	0.85	0	2479	6740	5345	2168	7513		2.62	Si
SLV 8	fin.	-631.92	-5169	0.85	0	2479	6740	5345	2168	7513		1.45	Si
SLD 1	ini.	271.32	-602	0.85	0	2479	6740	5345	2168	7513		12.48	Si
SLD 1	fin.	-537.82	-4931	0.85	0	2479	6740	5345	2168	7513		1.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.473	SLV 4	Si
V_SLV	0.954	SLV 4	No
PF_SLU	13.608	SLU 83	Si
V_SLU	1.419	SLU 84	Si

Trave di accoppiamento 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	6.5	7.95	1.45	-18.498	0.841	6.5	7.95	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	1088.85	364	-0.0002222	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.3	Si
SLU 67	fin.	104.55	-209	-0.0000198	0.0002246	0.0035	1.45		7949.58	7949.58	No	76.04	Si
SLU 71	ini.	1112.6	386	-0.0002276	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.15	Si
SLU 71	fin.	107.73	-198	-0.0000204	0.0002246	0.0035	1.45		7949.58	7949.58	No	73.79	Si
SLU 48	ini.	1093.31	502	-0.0002232	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.27	Si
SLU 48	fin.	60.31	-95	-0.0000114	0.0002246	0.0035	1.45		7949.58	7949.58	No	131.81	Si
SLU 77	ini.	1092.88	224	-0.0002231	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.27	Si
SLU 77	fin.	164.11	-319	-0.0000312	0.0002246	0.0035	1.45		7949.58	7949.58	No	48.44	Si
SLU 66	ini.	1132.43	426	-0.000232	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.02	Si
SLU 66	fin.	94.66	-179	-0.0000179	0.0002246	0.0035	1.45		7949.58	7949.58	No	83.98	Si
SLU 69	ini.	1124.27	386	-0.0002302	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.07	Si
SLU 69	fin.	110.34	-203	-0.0000209	0.0002246	0.0035	1.45		7949.58	7949.58	No	72.04	Si
SLU 45	ini.	1101.47	542	-0.000225	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.22	Si
SLU 45	fin.	44.63	-70	-0.0000084	0.0002246	0.0035	1.45		7949.58	7949.58	No	178.13	Si
SLU 74	ini.	1101.04	264	-0.000225	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.22	Si
SLU 74	fin.	148.43	-295	-0.0000282	0.0002246	0.0035	1.45		7949.58	7949.58	No	53.56	Si
SLU 43	ini.	1097.96	582	-0.0002243	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.24	Si
SLU 43	fin.	26.33	-40	-0.000005	0.0002246	0.0035	1.45		7949.58	7949.58	No	301.91	Si
SLU 64	ini.	1128.93	466	-0.0002312	0.0002246	0.0035	1.45		7949.58	7949.58	No	7.04	Si
SLU 64	fin.	76.36	-149	-0.0000144	0.0002246	0.0035	1.45		7949.58	7949.58	No	104.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 66	ini.	1132.43	-1641	1.45	0	1692	6344	3648	3698	7345	No	4.48	Si
SLU 66	fin.	94.66	-2041	1.45	0	1692	6344	3648	3698	7345	No	3.6	Si
SLU 46	ini.	1057.89	-1587	1.45	0	1692	6344	3648	3698	7345	No	4.63	Si
SLU 46	fin.	54.52	-1963	1.45	0	1692	6344	3648	3698	7345	No	3.74	Si
SLU 43	ini.	1097.96	-1710	1.45	0	1692	6344	3648	3698	7345	No	4.3	Si
SLU 43	fin.	26.33	-2086	1.45	0	1692	6344	3648	3698	7345	No	3.52	Si
SLU 50	ini.	1081.64	-1622	1.45	0	1692	6344	3648	3698	7345	No	4.53	Si
SLU 50	fin.	57.7	-1999	1.45	0	1692	6344	3648	3698	7345	No	3.67	Si
SLU 64	ini.	1128.93	-1668	1.45	0	1692	6344	3648	3698	7345	No	4.4	Si
SLU 64	fin.	76.36	-2069	1.45	0	1692	6344	3648	3698	7345	No	3.55	Si
SLU 71	ini.	1112.6	-1581	1.45	0	1692	6344	3648	3698	7345	No	4.65	Si
SLU 71	fin.	107.73	-1982	1.45	0	1692	6344	3648	3698	7345	No	3.71	Si
SLU 45	ini.	1101.47	-1682	1.45	0	1692	6344	3648	3698	7345	No	4.37	Si
SLU 45	fin.	44.63	-2058	1.45	0	1692	6344	3648	3698	7345	No	3.57	Si
SLU 69	ini.	1124.27	-1597	1.45	0	1692	6344	3648	3698	7345	No	4.6	Si
SLU 69	fin.	110.34	-1998	1.45	0	1692	6344	3648	3698	7345	No	3.68	Si
SLU 48	ini.	1093.31	-1638	1.45	0	1692	6344	3648	3698	7345	No	4.48	Si
SLU 48	fin.	60.31	-2015	1.45	0	1692	6344	3648	3698	7345	No	3.65	Si
SLU 67	ini.	1088.85	-1546	1.45	0	1692	6344	3648	3698	7345	No	4.75	Si
SLU 67	fin.	104.55	-1947	1.45	0	1692	6344	3648	3698	7345	No	3.77	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-2355.25	-4422	-0.0005134	0.0003369	0.0035	1.45		8151.83	8151.83		3.46	Si
SLV 6	fin.	650.58	-2575	-0.0001266	0.0003369	0.0035	1.45		8142.56	8142.56		12.52	Si
SLD 11	ini.	2739.68	3136	-0.000617	0.0003369	0.0035	1.45		8142.56	8142.56		2.97	Si
SLD 11	fin.	-285.51	1316	-0.0000544	0.0003369	0.0035	1.45		8151.83	8151.83		28.55	Si
SLD 7	ini.	2552.03	2911	-0.000566	0.0003369	0.0035	1.45		8142.56	8142.56		3.19	Si
SLD 7	fin.	-160.02	1263	-0.0000303	0.0003369	0.0035	1.45		8151.83	8151.83		50.94	Si
SLV 11	ini.	4060.51	5097	-0.0010191	0.0003369	0.0035	1.45		8142.56	8142.56		2.01	Si
SLV 11	fin.	-524.36	2327	-0.0001012	0.0003369	0.0035	1.45		8151.83	8151.83		15.55	Si
SLD 8	ini.	2546.69	2909	-0.0005646	0.0003369	0.0035	1.45		8142.56	8142.56		3.2	Si
SLD 8	fin.	-159.32	1267	-0.0000302	0.0003369	0.0035	1.45		8151.83	8151.83		51.17	Si
SLV 8	ini.	3757.33	4742	-0.0009196	0.0003369	0.0035	1.45		8142.56	8142.56		2.17	Si
SLV 8	fin.	-326.99	2251	-0.0000625	0.0003369	0.0035	1.45		8151.83	8151.83		24.93	Si
SLD 12	ini.	2734.34	3134	-0.0006155	0.0003369	0.0035	1.45		8142.56	8142.56		2.98	Si
SLD 12	fin.	-284.81	1320	-0.0000543	0.0003369	0.0035	1.45		8151.83	8151.83		28.62	Si
SLV 7	ini.	3766.13	4745	-0.0009224	0.0003369	0.0035	1.45		8142.56	8142.56		2.16	Si
SLV 7	fin.	-328.15	2244	-0.0000627	0.0003369	0.0035	1.45		8151.83	8151.83		24.84	Si
SLV 12	ini.	4051.71	5094	-0.0010161	0.0003369	0.0035	1.45		8142.56	8142.56		2.01	Si
SLV 12	fin.	-523.21	2334	-0.000101	0.0003369	0.0035	1.45		8151.83	8151.83		15.58	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-2346.45	-4419	-0.0005112	0.0003369	0.0035	1.45		8151.83	8151.83		3.47	Si
SLV 5	fin.	649.42	-2582	-0.0001263	0.0003369	0.0035	1.45		8142.56	8142.56		12.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	3757.33	-7215	1.45	16250	2538	6344	5471	3698	8881		1.23	Si
SLV 8	fin.	-326.99	-7484	1.45	0	2538	6344	5471	3698	8881		1.19	Si
SLD 12	ini.	2734.34	-5267	1.45	16250	2538	6344	5471	3698	8881		1.69	Si
SLD 12	fin.	-284.81	-5562	1.45	0	2538	6344	5471	3698	8881		1.6	Si
SLD 11	ini.	2739.68	-5280	1.45	16250	2538	6344	5471	3698	8881		1.68	Si
SLD 11	fin.	-285.51	-5574	1.45	0	2538	6344	5471	3698	8881		1.59	Si
SLV 7	ini.	3766.13	-7236	1.45	16250	2538	6344	5471	3698	8881		1.23	Si
SLV 7	fin.	-328.15	-7505	1.45	0	2538	6344	5471	3698	8881		1.18	Si
SLD 7	ini.	2552.03	-4734	1.45	0	2538	6344	5471	3698	8881		1.88	Si
SLD 7	fin.	-160.02	-5018	1.45	0	2538	6344	5471	3698	8881		1.77	Si
SLV 11	ini.	4060.51	-8090	1.45	16250	2538	6344	5471	3698	8881		1.1	Si
SLV 11	fin.	-524.36	-8379	1.45	0	2538	6344	5471	3698	8881		1.06	Si
SLV 12	ini.	4051.71	-8069	1.45	16250	2538	6344	5471	3698	8881		1.1	Si
SLV 12	fin.	-523.21	-8358	1.45	0	2538	6344	5471	3698	8881		1.06	Si
SLV 5	ini.	-2346.45	5569	1.45	0	2538	6344	5471	3698	8881		1.59	Si
SLV 5	fin.	649.42	5252	1.45	0	2538	6344	5471	3698	8881		1.69	Si
SLV 6	ini.	-2355.25	5590	1.45	0	2538	6344	5471	3698	8881		1.59	Si
SLV 6	fin.	650.58	5273	1.45	0	2538	6344	5471	3698	8881		1.68	Si
SLD 8	ini.	2546.69	-4721	1.45	0	2538	6344	5471	3698	8881		1.88	Si
SLD 8	fin.	-159.32	-5005	1.45	0	2538	6344	5471	3698	8881		1.77	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.005	SLV 11	Si
V_SLV	1.06	SLV 11	Si
PF_SLU	7.02	SLU 66	Si
V_SLU	3.521	SLU 43	Si

Trave di accoppiamento 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.363	-3.169	6.5	7.95	1.45	-16.263	-3.169	6.5	7.95	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-1520.06	-3535	-0.0003304	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.05	Si
SLU 73	fin.	771.93	-2356	-0.0001548	0.0001872	0.0035	1.45		7660.24	7660.24	No	9.92	Si
SLU 77	ini.	-1517.16	-3633	-0.0003297	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.06	Si
SLU 77	fin.	764.73	-2459	-0.0001533	0.0001872	0.0035	1.45		7660.24	7660.24	No	10.02	Si
SLU 81	ini.	-1564	-3600	-0.0003416	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.9	Si
SLU 81	fin.	779.55	-2402	-0.0001565	0.0001872	0.0035	1.45		7660.24	7660.24	No	9.83	Si
SLU 76	ini.	-1511.36	-3571	-0.0003282	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.07	Si
SLU 76	fin.	761.17	-2404	-0.0001525	0.0001872	0.0035	1.45		7660.24	7660.24	No	10.06	Si
SLU 83	ini.	-1555.3	-3637	-0.0003394	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.93	Si
SLU 83	fin.	768.79	-2450	-0.0001542	0.0001872	0.0035	1.45		7660.24	7660.24	No	9.96	Si
SLU 74	ini.	-1525.86	-3596	-0.0003319	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.03	Si
SLU 74	fin.	775.49	-2411	-0.0001556	0.0001872	0.0035	1.45		7660.24	7660.24	No	9.88	Si
SLU 82	ini.	-1566.4	-3616	-0.0003422	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.9	Si
SLU 82	fin.	779.87	-2418	-0.0001566	0.0001872	0.0035	1.45		7660.24	7660.24	No	9.82	Si
SLU 84	ini.	-1557.7	-3652	-0.00034	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.92	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	fin.	769.11	-2466	-0.0001542	0.0001872	0.0035	1.45		7660.24	7660.24	No	9.96	Si
SLU 78	ini.	-1519.56	-3648	-0.0003303	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.05	Si
SLU 78	fin.	765.06	-2475	-0.0001534	0.0001872	0.0035	1.45		7660.24	7660.24	No	10.01	Si
SLU 75	ini.	-1528.26	-3612	-0.0003325	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.02	Si
SLU 75	fin.	775.81	-2427	-0.0001557	0.0001872	0.0035	1.45		7660.24	7660.24	No	9.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-1525.86	4427	1.45	0	2819	7137	6079	3698	9776	No	2.21	Si
SLU 74	fin.	775.49	2639	1.45	0	2819	7137	6079	3698	9776	No	3.7	Si
SLU 77	ini.	-1517.16	4396	1.45	0	2819	7137	6079	3698	9776	No	2.22	Si
SLU 77	fin.	764.73	2608	1.45	0	2819	7137	6079	3698	9776	No	3.75	Si
SLU 83	ini.	-1555.3	4512	1.45	0	2819	7137	6079	3698	9776	No	2.17	Si
SLU 83	fin.	768.79	2606	1.45	0	2819	7137	6079	3698	9776	No	3.75	Si
SLU 84	ini.	-1557.7	4516	1.45	0	2819	7137	6079	3698	9776	No	2.16	Si
SLU 84	fin.	769.11	2610	1.45	0	2819	7137	6079	3698	9776	No	3.75	Si
SLU 78	ini.	-1519.56	4399	1.45	0	2819	7137	6079	3698	9776	No	2.22	Si
SLU 78	fin.	765.06	2611	1.45	0	2819	7137	6079	3698	9776	No	3.74	Si
SLU 75	ini.	-1528.26	4430	1.45	0	2819	7137	6079	3698	9776	No	2.21	Si
SLU 75	fin.	775.81	2642	1.45	0	2819	7137	6079	3698	9776	No	3.7	Si
SLU 76	ini.	-1511.36	4381	1.45	0	2819	7137	6079	3698	9776	No	2.23	Si
SLU 76	fin.	761.17	2593	1.45	0	2819	7137	6079	3698	9776	No	3.77	Si
SLU 73	ini.	-1520.06	4411	1.45	0	2819	7137	6079	3698	9776	No	2.22	Si
SLU 73	fin.	771.93	2623	1.45	0	2819	7137	6079	3698	9776	No	3.73	Si
SLU 81	ini.	-1564	4543	1.45	0	2819	7137	6079	3698	9776	No	2.15	Si
SLU 81	fin.	779.55	2637	1.45	0	2819	7137	6079	3698	9776	No	3.71	Si
SLU 82	ini.	-1566.4	4546	1.45	0	2819	7137	6079	3698	9776	No	2.15	Si
SLU 82	fin.	779.87	2640	1.45	0	2819	7137	6079	3698	9776	No	3.7	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-2873.23	-3606	-0.0006712	0.0002807	0.0035	1.45		7655.81	7655.81		2.66	Si
SLD 14	fin.	2716.56	-1031	-0.000627	0.0002807	0.0035	1.45		7646.28	7646.28		2.81	Si
SLD 15	ini.	-3149.54	-3307	-0.0007533	0.0002807	0.0035	1.45		7655.81	7655.81		2.43	Si
SLD 15	fin.	2985.01	-507	-0.0007051	0.0002807	0.0035	1.45		7646.28	7646.28		2.56	Si
SLV 13	ini.	-4616.92	-4784	-0.0012528	0.0002807	0.0035	1.45		7655.81	7655.81		1.66	Si
SLV 13	fin.	4685.88	-605	-0.0012816	0.0002807	0.0035	1.45		7646.28	7646.28		1.63	Si
SLV 4	ini.	2495.06	-211	-0.0005649	0.0002807	0.0035	1.45		7646.28	7646.28		3.06	Si
SLV 4	fin.	-3582.76	-2711	-0.000889	0.0002807	0.0035	1.45		7655.81	7655.81		2.14	Si
SLV 3	ini.	1780.37	-719	-0.0003785	0.0002807	0.0035	1.45		7646.28	7646.28		4.29	Si
SLV 3	fin.	-2838.67	-2600	-0.0006612	0.0002807	0.0035	1.45		7655.81	7655.81		2.7	Si
SLV 2	ini.	2191.5	-1271	-0.0004831	0.0002807	0.0035	1.45		7646.28	7646.28		3.49	Si
SLV 2	fin.	-3235.5	-3486	-0.0007796	0.0002807	0.0035	1.45		7655.81	7655.81		2.37	Si
SLV 14	ini.	-3902.23	-4277	-0.0009948	0.0002807	0.0035	1.45		7655.81	7655.81		1.96	Si
SLV 14	fin.	3941.79	-715	-0.0010099	0.0002807	0.0035	1.45		7646.28	7646.28		1.94	Si
SLV 15	ini.	-4313.36	-3725	-0.0011393	0.0002807	0.0035	1.45		7655.81	7655.81		1.77	Si
SLV 15	fin.	4338.63	170	-0.0011503	0.0002807	0.0035	1.45		7646.28	7646.28		1.76	Si
SLV 16	ini.	-3598.68	-3217	-0.0008941	0.0002807	0.0035	1.45		7655.81	7655.81		2.13	Si
SLV 16	fin.	3594.54	60	-0.0008941	0.0002807	0.0035	1.45		7646.28	7646.28		2.13	Si
SLD 13	ini.	-3326.64	-3928	-0.0008077	0.0002807	0.0035	1.45		7655.81	7655.81		2.3	Si
SLD 13	fin.	3188.62	-960	-0.0007664	0.0002807	0.0035	1.45		7646.28	7646.28		2.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-3598.68	11152	1.45	0	4229	7137	9118	3698	11366		1.02	Si
SLV 16	fin.	3594.54	10021	1.45	0	4229	7137	9118	3698	11366		1.13	Si
SLV 14	ini.	-3902.23	12032	1.45	0	4229	7137	9118	3698	11366		0.94	No
SLV 14	fin.	3941.79	10877	1.45	0	4229	7137	9118	3698	11366		1.04	Si
SLV 13	ini.	-4616.92	14150	1.45	0	4229	7137	9118	3698	11366		0.8	No
SLV 13	fin.	4685.88	12996	1.45	0	4229	7137	9118	3698	11366		0.87	No
SLV 15	ini.	-4313.36	13271	1.45	0	4229	7137	9118	3698	11366		0.86	No
SLV 15	fin.	4338.63	12140	1.45	0	4229	7137	9118	3698	11366		0.94	No
SLV 4	ini.	2495.06	-8001	1.45	0	4229	7137	9118	3698	11366		1.42	Si
SLV 4	fin.	-3582.76	-9206	1.45	0	4229	7137	9118	3698	11366		1.23	Si
SLD 15	ini.	-3149.54	9625	1.45	0	4229	7137	9118	3698	11366		1.18	Si
SLD 15	fin.	2985.01	8473	1.45	0	4229	7137	9118	3698	11366		1.34	Si
SLV 2	ini.	2191.5	-7122	1.45	0	4229	7137	9118	3698	11366		1.6	Si
SLV 2	fin.	-3235.5	-8350	1.45	0	4229	7137	9118	3698	11366		1.36	Si
SLD 13	ini.	-3326.64	10139	1.45	0	4229	7137	9118	3698	11366		1.12	Si
SLD 13	fin.	3188.62	8973	1.45	0	4229	7137	9118	3698	11366		1.27	Si
SLD 14	ini.	-2873.23	8795	1.45	0	4229	7137	9118	3698	11366		1.29	Si
SLD 14	fin.	2716.56	7629	1.45	0	4229	7137	9118	3698	11366		1.49	Si
SLD 16	ini.	-2696.14	8281	1.45	0	4229	7137	9118	3698	11366		1.37	Si
SLD 16	fin.	2512.95	7129	1.45	0	4229	7137	9118	3698	11366		1.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.632	SLV 13	Si
V_SLV	0.803	SLV 13	No
PF_SLU	4.896	SLU 82	Si
V_SLU	2.15	SLU 82	Si

Trave di accoppiamento 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	6.5	7.95	1.45	-15.058	2.206	6.5	7.95	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	265.83	-447	-0.0000509	0.0002246	0.0035	1.45		7949.58	7949.58	No	29.91	Si
SLU 80	fin.	157.47	-478	-0.0000299	0.0002246	0.0035	1.45		7949.58	7949.58	No	50.48	Si
SLU 83	ini.	277.53	-469	-0.0000532	0.0002246	0.0035	1.45		7949.58	7949.58	No	28.64	Si
SLU 83	fin.	162.25	-496	-0.0000309	0.0002246	0.0035	1.45		7949.58	7949.58	No	48.99	Si
SLU 82	ini.	263.13	-444	-0.0000504	0.0002246	0.0035	1.45		7949.58	7949.58	No	30.21	Si
SLU 82	fin.	165.65	-470	-0.0000315	0.0002246	0.0035	1.45		7949.58	7949.58	No	47.99	Si
SLU 78	ini.	268.54	-451	-0.0000514	0.0002246	0.0035	1.45		7949.58	7949.58	No	29.6	Si
SLU 78	fin.	158.56	-483	-0.0000302	0.0002246	0.0035	1.45		7949.58	7949.58	No	50.14	Si
SLU 74	ini.	268.05	-450	-0.0000514	0.0002246	0.0035	1.45		7949.58	7949.58	No	29.66	Si
SLU 74	fin.	156.04	-482	-0.0000297	0.0002246	0.0035	1.45		7949.58	7949.58	No	50.94	Si
SLU 77	ini.	275.5	-463	-0.0000528	0.0002246	0.0035	1.45		7949.58	7949.58	No	28.86	Si
SLU 77	fin.	155.6	-496	-0.0000296	0.0002246	0.0035	1.45		7949.58	7949.58	No	51.09	Si
SLU 81	ini.	270.09	-456	-0.0000517	0.0002246	0.0035	1.45		7949.58	7949.58	No	29.43	Si
SLU 81	fin.	162.69	-483	-0.000031	0.0002246	0.0035	1.45		7949.58	7949.58	No	48.86	Si
SLU 79	ini.	272.78	-458	-0.0000523	0.0002246	0.0035	1.45		7949.58	7949.58	No	29.14	Si
SLU 79	fin.	154.52	-491	-0.0000294	0.0002246	0.0035	1.45		7949.58	7949.58	No	51.45	Si
SLU 75	ini.	261.09	-439	-0.00005	0.0002246	0.0035	1.45		7949.58	7949.58	No	30.45	Si
SLU 75	fin.	159	-470	-0.0000302	0.0002246	0.0035	1.45		7949.58	7949.58	No	50	Si
SLU 84	ini.	270.58	-457	-0.0000518	0.0002246	0.0035	1.45		7949.58	7949.58	No	29.38	Si
SLU 84	fin.	165.21	-483	-0.0000314	0.0002246	0.0035	1.45		7949.58	7949.58	No	48.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	272.78	29	1.45	0	1692	6344	3648	3698	7345	No	249.31	Si
SLU 79	fin.	154.52	-383	1.45	0	1692	6344	3648	3698	7345	No	19.2	Si
SLU 83	ini.	277.53	38	1.45	0	1692	6344	3648	3698	7345	No	192.87	Si
SLU 83	fin.	162.25	-374	1.45	0	1692	6344	3648	3698	7345	No	19.64	Si
SLU 70	ini.	240.08	45	1.45	0	1692	6344	3648	3698	7345	No	163.94	Si
SLU 70	fin.	141.54	-367	1.45	0	1692	6344	3648	3698	7345	No	20	Si
SLU 66	ini.	239.58	42	1.45	0	1692	6344	3648	3698	7345	No	175.54	Si
SLU 66	fin.	139.02	-370	1.45	0	1692	6344	3648	3698	7345	No	19.84	Si
SLU 77	ini.	275.5	27	1.45	0	1692	6344	3648	3698	7345	No	267.44	Si
SLU 77	fin.	155.6	-385	1.45	0	1692	6344	3648	3698	7345	No	19.1	Si
SLU 80	ini.	265.83	43	1.45	0	1692	6344	3648	3698	7345	No	171.73	Si
SLU 80	fin.	157.47	-369	1.45	0	1692	6344	3648	3698	7345	No	19.89	Si
SLU 71	ini.	244.32	33	1.45	0	1692	6344	3648	3698	7345	No	219.31	Si
SLU 71	fin.	137.49	-379	1.45	0	1692	6344	3648	3698	7345	No	19.4	Si
SLU 78	ini.	268.54	41	1.45	0	1692	6344	3648	3698	7345	No	180.14	Si
SLU 78	fin.	158.56	-371	1.45	0	1692	6344	3648	3698	7345	No	19.78	Si
SLU 69	ini.	247.03	31	1.45	0	1692	6344	3648	3698	7345	No	233.22	Si
SLU 69	fin.	138.58	-381	1.45	0	1692	6344	3648	3698	7345	No	19.3	Si
SLU 74	ini.	268.05	38	1.45	0	1692	6344	3648	3698	7345	No	194.25	Si
SLU 74	fin.	156.04	-374	1.45	0	1692	6344	3648	3698	7345	No	19.63	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	439.71	-574	-0.0000846	0.0003369	0.0035	1.45		8142.56	8142.56		18.52	Si
SLV 16	fin.	-130.9	-825	-0.0000248	0.0003369	0.0035	1.45		8151.83	8151.83		62.27	Si
SLV 15	ini.	434.69	-567	-0.0000836	0.0003369	0.0035	1.45		8142.56	8142.56		18.73	Si
SLV 15	fin.	-129.13	-816	-0.0000244	0.0003369	0.0035	1.45		8151.83	8151.83		63.13	Si
SLV 10	ini.	55.96	809	-0.0000106	0.0003369	0.0035	1.45		8142.56	8142.56		145.5	Si
SLV 10	fin.	583.45	947	-0.0001131	0.0003369	0.0035	1.45		8142.56	8142.56		13.96	Si
SLD 5	ini.	31.09	338	-0.0000059	0.0003369	0.0035	1.45		8142.56	8142.56		261.93	Si
SLD 5	fin.	418.67	462	-0.0000805	0.0003369	0.0035	1.45		8142.56	8142.56		19.45	Si
SLV 9	ini.	52.59	815	-0.0000099	0.0003369	0.0035	1.45		8142.56	8142.56		154.84	Si
SLV 9	fin.	584.65	953	-0.0001133	0.0003369	0.0035	1.45		8142.56	8142.56		13.93	Si
SLV 5	ini.	-70.29	784	-0.0000133	0.0003369	0.0035	1.45		8151.83	8151.83		115.98	Si
SLV 5	fin.	636.63	1016	-0.0001238	0.0003369	0.0035	1.45		8142.56	8142.56		12.79	Si
SLD 6	ini.	33.14	334	-0.0000062	0.0003369	0.0035	1.45		8142.56	8142.56		245.74	Si
SLD 6	fin.	417.94	458	-0.0000803	0.0003369	0.0035	1.45		8142.56	8142.56		19.48	Si
SLV 6	ini.	-66.91	779	-0.0000126	0.0003369	0.0035	1.45		8151.83	8151.83		121.83	Si
SLV 6	fin.	635.43	1010	-0.0001235	0.0003369	0.0035	1.45		8142.56	8142.56		12.81	Si
SLV 11	ini.	421.16	-1367	-0.000081	0.0003369	0.0035	1.45		8142.56	8142.56		19.33	Si
SLV 11	fin.	-420.62	-1658	-0.0000808	0.0003369	0.0035	1.45		8151.83	8151.83		19.38	Si
SLV 12	ini.	424.54	-1372	-0.0000816	0.0003369	0.0035	1.45		8142.56	8142.56		19.18	Si
SLV 12	fin.	-421.82	-1664	-0.000081	0.0003369	0.0035	1.45		8151.83	8151.83		19.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	298.29	-951	1.45	0	2538	6344	5471	3698	8881		9.34	Si
SLV 7	fin.	-368.64	-1446	1.45	0	2538	6344	5471	3698	8881		6.14	Si
SLV 11	ini.	421.16	-1040	1.45	0	2538	6344	5471	3698	8881		8.54	Si
SLV 11	fin.	-420.62	-1552	1.45	0	2538	6344	5471	3698	8881		5.72	Si
SLV 8	ini.	301.67	-957	1.45	0	2538	6344	5471	3698	8881		9.28	Si
SLV 8	fin.	-369.84	-1453	1.45	0	2538	6344	5471	3698	8881		6.11	Si
SLD 12	ini.	323.16	-598	1.45	0	2538	6344	5471	3698	8881		14.85	Si
SLD 12	fin.	-203.86	-1024	1.45	0	2538	6344	5471	3698	8881		8.67	Si
SLV 6	ini.	-66.91	1122	1.45	0	2538	6344	5471	3698	8881		7.92	Si
SLV 6	fin.	635.43	1012	1.45	0	2538	6344	5471	3698	8881		8.77	Si
SLV 10	ini.	55.96	1033	1.45	0	2538	6344	5471	3698	8881		8.6	Si
SLV 10	fin.	583.45	907	1.45	0	2538	6344	5471	3698	8881		9.79	Si
SLV 12	ini.	424.54	-1046	1.45	0	2538	6344	5471	3698	8881		8.49	Si
SLV 12	fin.	-421.82	-1558	1.45	0	2538	6344	5471	3698	8881		5.7	Si
SLV 9	ini.	52.59	1039	1.45	0	2538	6344	5471	3698	8881		8.55	Si
SLV 9	fin.	584.65	914	1.45	0	2538	6344	5471	3698	8881		9.72	Si
SLD 11	ini.	321.12	-594	1.45	0	2538	6344	5471	3698	8881		14.95	Si
SLD 11	fin.	-203.13	-1020	1.45	0	2538	6344	5471	3698	8881		8.7	Si
SLV 5	ini.	-70.29	1128	1.45	0	2538	6344	5471	3698	8881		7.87	Si
SLV 5	fin.	636.63	1019	1.45	0	2538	6344	5471	3698	8881		8.72	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.79	SLV 5	Si
V_SLV	5.701	SLV 12	Si
PF_SLU	28.644	SLU 83	Si
V_SLU	19.098	SLU 77	Si

Trave di accoppiamento 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	4.4	5.3	0.9	-16.843	6.661	4.4	5.3	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	595.78	-2612	-0.000338	0.0001872	0.0035	0.9		2959	2959	No	4.97	Si
SLU 75	fin.	39.42	-2088	-0.0000194	0.0001872	0.0035	0.9		2959	2959	No	75.07	Si
SLU 80	ini.	603.13	-2643	-0.0003428	0.0001872	0.0035	0.9		2959	2959	No	4.91	Si
SLU 80	fin.	39.28	-2111	-0.0000194	0.0001872	0.0035	0.9		2959	2959	No	75.34	Si
SLU 79	ini.	612.39	-2664	-0.000349	0.0001872	0.0035	0.9		2959	2959	No	4.83	Si
SLU 79	fin.	25.63	-2096	-0.0000126	0.0001872	0.0035	0.9		2959	2959	No	115.45	Si
SLU 77	ini.	618.56	-2693	-0.0003532	0.0001872	0.0035	0.9		2959	2959	No	4.78	Si
SLU 77	fin.	28.61	-2125	-0.0000141	0.0001872	0.0035	0.9		2959	2959	No	103.41	Si
SLU 81	ini.	608.11	-2647	-0.0003462	0.0001872	0.0035	0.9		2959	2959	No	4.87	Si
SLU 81	fin.	23.45	-2082	-0.0000115	0.0001872	0.0035	0.9		2959	2959	No	126.2	Si
SLU 84	ini.	612.36	-2685	-0.000349	0.0001872	0.0035	0.9		2959	2959	No	4.83	Si
SLU 84	fin.	39.94	-2146	-0.0000197	0.0001872	0.0035	0.9		2959	2959	No	74.09	Si
SLU 74	ini.	605.04	-2633	-0.0003441	0.0001872	0.0035	0.9		2959	2959	No	4.89	Si
SLU 74	fin.	25.77	-2074	-0.0000127	0.0001872	0.0035	0.9		2959	2959	No	114.82	Si
SLU 82	ini.	598.84	-2625	-0.00034	0.0001872	0.0035	0.9		2959	2959	No	4.94	Si
SLU 82	fin.	37.1	-2096	-0.0000183	0.0001872	0.0035	0.9		2959	2959	No	79.77	Si
SLU 83	ini.	621.63	-2706	-0.0003552	0.0001872	0.0035	0.9		2959	2959	No	4.76	Si
SLU 83	fin.	26.29	-2132	-0.0000129	0.0001872	0.0035	0.9		2959	2959	No	112.55	Si
SLU 78	ini.	609.3	-2672	-0.000347	0.0001872	0.0035	0.9		2959	2959	No	4.86	Si
SLU 78	fin.	42.26	-2139	-0.0000208	0.0001872	0.0035	0.9		2959	2959	No	70.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	603.13	-3214	0.9	0	1750	7137	3773	2295	6068	No	1.89	Si
SLU 80	fin.	39.28	599	0.9	0	1750	7137	3773	2295	6068	No	10.13	Si
SLU 81	ini.	608.11	-3199	0.9	0	1750	7137	3773	2295	6068	No	1.9	Si
SLU 81	fin.	23.45	523	0.9	0	1750	7137	3773	2295	6068	No	11.6	Si
SLU 77	ini.	618.56	-3303	0.9	0	1750	7137	3773	2295	6068	No	1.84	Si
SLU 77	fin.	28.61	582	0.9	0	1750	7137	3773	2295	6068	No	10.43	Si
SLU 75	ini.	595.78	-3168	0.9	0	1750	7137	3773	2295	6068	No	1.92	Si
SLU 75	fin.	39.42	589	0.9	0	1750	7137	3773	2295	6068	No	10.31	Si
SLU 79	ini.	612.39	-3265	0.9	0	1750	7137	3773	2295	6068	No	1.86	Si
SLU 79	fin.	25.63	562	0.9	0	1750	7137	3773	2295	6068	No	10.8	Si
SLU 78	ini.	609.3	-3252	0.9	0	1750	7137	3773	2295	6068	No	1.87	Si
SLU 78	fin.	42.26	618	0.9	0	1750	7137	3773	2295	6068	No	9.81	Si
SLU 84	ini.	612.36	-3232	0.9	0	1750	7137	3773	2295	6068	No	1.88	Si
SLU 84	fin.	39.94	590	0.9	0	1750	7137	3773	2295	6068	No	10.29	Si
SLU 82	ini.	598.84	-3148	0.9	0	1750	7137	3773	2295	6068	No	1.93	Si
SLU 82	fin.	37.1	560	0.9	0	1750	7137	3773	2295	6068	No	10.84	Si
SLU 74	ini.	605.04	-3219	0.9	0	1750	7137	3773	2295	6068	No	1.88	Si
SLU 74	fin.	25.77	552	0.9	0	1750	7137	3773	2295	6068	No	11	Si
SLU 83	ini.	621.63	-3283	0.9	0	1750	7137	3773	2295	6068	No	1.85	Si
SLU 83	fin.	26.29	553	0.9	0	1750	7137	3773	2295	6068	No	10.98	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1408.08	-3818	-0.000915	0.0002807	0.0035	0.9		2989.59	2989.59		2.12	Si
SLV 14	fin.	-1782.31	1138	-0.0012569	0.0002807	0.0035	0.9		2995.37	2995.37		1.68	Si
SLV 1	ini.	-1042.23	1325	-0.0006231	0.0002807	0.0035	0.9		2995.37	2995.37		2.87	Si
SLV 1	fin.	2449.99	-4549	-0.0021018	0.0002807	0.0035	0.9		2989.59	2989.59		1.22	Si
SLV 6	ini.	-606.88	538	-0.0003287	0.0002807	0.0035	0.9		2995.37	2995.37		4.94	Si
SLV 6	fin.	1542.43	-3063	-0.0010325	0.0002807	0.0035	0.9		2989.59	2989.59		1.94	Si
SLD 1	ini.	-506.6	180	-0.0002687	0.0002807	0.0035	0.9		2995.37	2995.37		5.91	Si
SLD 1	fin.	1551.52	-3386	-0.0010407	0.0002807	0.0035	0.9		2989.59	2989.59		1.93	Si
SLV 15	ini.	1641.5	-4433	-0.0011235	0.0002807	0.0035	0.9		2989.59	2989.59		1.82	Si
SLV 15	fin.	-2044.5	1245	-0.0015388	0.0002807	0.0035	0.9		2995.37	2995.37		1.47	Si
SLV 3	ini.	-588.32	275	-0.0003174	0.0002807	0.0035	0.9		2995.37	2995.37		5.09	Si
SLV 3	fin.	1793.92	-3882	-0.0012718	0.0002807	0.0035	0.9		2989.59	2989.59		1.67	Si
SLV 2	ini.	-821.74	889	-0.0004673	0.0002807	0.0035	0.9		2995.37	2995.37		3.65	Si
SLV 2	fin.	2056.1	-3989	-0.0015567	0.0002807	0.0035	0.9		2989.59	2989.59		1.45	Si
SLV 5	ini.	-755.32	831	-0.000423	0.0002807	0.0035	0.9		2995.37	2995.37		3.97	Si
SLV 5	fin.	1807.61	-3440	-0.0012857	0.0002807	0.0035	0.9		2989.59	2989.59		1.65	Si
SLV 12	ini.	1575.08	-4375	-0.0010621	0.0002807	0.0035	0.9		2989.59	2989.59		1.9	Si
SLV 12	fin.	-1796	696	-0.0012706	0.0002807	0.0035	0.9		2995.37	2995.37		1.67	Si
SLV 16	ini.	1861.99	-4868	-0.0013418	0.0002807	0.0035	0.9		2989.59	2989.59		1.61	Si
SLV 16	fin.	-2438.39	1804	-0.0020757	0.0002807	0.0035	0.9		2995.37	2995.37		1.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-588.32	2262	0.9	0	2625	7137	5660	2295	7954		3.52	Si
SLV 3	fin.	1793.92	6333	0.9	0	2625	7137	5660	2295	7954		1.26	Si
SLV 16	ini.	1861.99	-9167	0.9	0	2625	7137	5660	2295	7954		0.87	No
SLV 16	fin.	-2438.39	-7448	0.9	0	2625	7137	5660	2295	7954		1.07	Si
SLV 15	ini.	1641.5	-8122	0.9	0	2625	7137	5660	2295	7954		0.98	No
SLV 15	fin.	-2044.5	-6186	0.9	0	2625	7137	5660	2295	7954		1.29	Si
SLD 15	ini.	1186.47	-5923	0.9	0	2625	7137	5660	2295	7954		1.34	Si
SLD 15	fin.	-1290.03	-3794	0.9	0	2625	7137	5660	2295	7954		2.1	Si
SLV 12	ini.	1575.08	-8299	0.9	0	2625	7137	5660	2295	7954		0.96	No
SLV 12	fin.	-1796	-4937	0.9	0	2625	7137	5660	2295	7954		1.61	Si
SLV 11	ini.	1426.64	-7596	0.9	0	2625	7137	5660	2295	7954		1.05	Si
SLV 11	fin.	-1530.83	-4088	0.9	0	2625	7137	5660	2295	7954		1.95	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1408.08	-6649	0.9	0	2625	7137	5660	2295	7954		1.2	Si
SLV 14	fin.	-1782.31	-5668	0.9	0	2625	7137	5660	2295	7954		1.4	Si
SLD 16	ini.	1326.35	-6586	0.9	0	2625	7137	5660	2295	7954		1.21	Si
SLD 16	fin.	-1539.91	-4595	0.9	0	2625	7137	5660	2295	7954		1.73	Si
SLV 2	ini.	-821.74	3735	0.9	0	2625	7137	5660	2295	7954		2.13	Si
SLV 2	fin.	2056.1	6852	0.9	0	2625	7137	5660	2295	7954		1.16	Si
SLV 1	ini.	-1042.23	4780	0.9	0	2625	7137	5660	2295	7954		1.66	Si
SLV 1	fin.	2449.99	8114	0.9	0	2625	7137	5660	2295	7954		0.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.22	SLV 1	Si
V_SLV	0.868	SLV 16	No
PF_SLU	4.76	SLU 83	Si
V_SLU	1.837	SLU 77	Si

Trave di accoppiamento 83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	7.1	7.95	0.85	-16.843	6.661	7.1	7.95	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-77.05	-1132	-0.0000428	0.0001872	0.0035	0.85		2655.83	2655.83	No	34.47	Si
SLU 77	fin.	-331.62	-3267	-0.0001967	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.01	Si
SLU 74	ini.	-72.27	-1091	-0.0000401	0.0001872	0.0035	0.85		2655.83	2655.83	No	36.75	Si
SLU 74	fin.	-324.19	-3187	-0.0001918	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.19	Si
SLU 78	ini.	-84.56	-1153	-0.000047	0.0001872	0.0035	0.85		2655.83	2655.83	No	31.41	Si
SLU 78	fin.	-325.59	-3236	-0.0001927	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.16	Si
SLU 75	ini.	-79.78	-1112	-0.0000443	0.0001872	0.0035	0.85		2655.83	2655.83	No	33.29	Si
SLU 75	fin.	-318.15	-3156	-0.0001879	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.35	Si
SLU 83	ini.	-75.36	-1128	-0.0000418	0.0001872	0.0035	0.85		2655.83	2655.83	No	35.24	Si
SLU 83	fin.	-331.84	-3284	-0.0001968	0.0001872	0.0035	0.85		2655.83	2655.83	No	8	Si
SLU 79	ini.	-74.72	-1112	-0.0000415	0.0001872	0.0035	0.85		2655.83	2655.83	No	35.54	Si
SLU 79	fin.	-327.69	-3225	-0.0001941	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.1	Si
SLU 84	ini.	-82.88	-1149	-0.0000461	0.0001872	0.0035	0.85		2655.83	2655.83	No	32.05	Si
SLU 84	fin.	-325.8	-3253	-0.0001929	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.15	Si
SLU 80	ini.	-82.24	-1133	-0.0000457	0.0001872	0.0035	0.85		2655.83	2655.83	No	32.29	Si
SLU 80	fin.	-321.65	-3194	-0.0001902	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.26	Si
SLU 81	ini.	-70.58	-1087	-0.0000391	0.0001872	0.0035	0.85		2655.83	2655.83	No	37.63	Si
SLU 81	fin.	-324.4	-3204	-0.000192	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.19	Si
SLU 82	ini.	-78.1	-1109	-0.0000434	0.0001872	0.0035	0.85		2655.83	2655.83	No	34.01	Si
SLU 82	fin.	-318.36	-3172	-0.0001881	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-77.05	1935	0.85	0	1653	6740	3563	2168	5731	No	2.96	Si
SLU 77	fin.	-331.62	-6098	0.85	0	1653	6740	3563	2168	5731	No	0.94	No
SLU 75	ini.	-79.78	1912	0.85	0	1653	6740	3563	2168	5731	No	3	Si
SLU 75	fin.	-318.15	-5900	0.85	0	1653	6740	3563	2168	5731	No	0.97	No
SLU 82	ini.	-78.1	1931	0.85	0	1653	6740	3563	2168	5731	No	2.97	Si
SLU 82	fin.	-318.36	-5949	0.85	0	1653	6740	3563	2168	5731	No	0.96	No
SLU 80	ini.	-82.24	1942	0.85	0	1653	6740	3563	2168	5731	No	2.95	Si
SLU 80	fin.	-321.65	-5974	0.85	0	1653	6740	3563	2168	5731	No	0.96	No
SLU 84	ini.	-82.88	1992	0.85	0	1653	6740	3563	2168	5731	No	2.88	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-325.8	-6098	0.85	0	1653	6740	3563	2168	5731	No	0.94	No
SLU 78	ini.	-84.56	1972	0.85	0	1653	6740	3563	2168	5731	No	2.91	Si
SLU 78	fin.	-325.59	-6050	0.85	0	1653	6740	3563	2168	5731	No	0.95	No
SLU 83	ini.	-75.36	1954	0.85	0	1653	6740	3563	2168	5731	No	2.93	Si
SLU 83	fin.	-331.84	-6146	0.85	0	1653	6740	3563	2168	5731	No	0.93	No
SLU 79	ini.	-74.72	1905	0.85	0	1653	6740	3563	2168	5731	No	3.01	Si
SLU 79	fin.	-327.69	-6022	0.85	0	1653	6740	3563	2168	5731	No	0.95	No
SLU 81	ini.	-70.58	1894	0.85	0	1653	6740	3563	2168	5731	No	3.03	Si
SLU 81	fin.	-324.4	-5997	0.85	0	1653	6740	3563	2168	5731	No	0.96	No
SLU 74	ini.	-72.27	1875	0.85	0	1653	6740	3563	2168	5731	No	3.06	Si
SLU 74	fin.	-324.19	-5949	0.85	0	1653	6740	3563	2168	5731	No	0.96	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1103.26	-3841	-0.0007699	0.0002807	0.0035	0.85		2680.73	2680.73		2.43	Si
SLV 2	fin.	532.54	1536	-0.0003226	0.0002807	0.0035	0.85		2675.27	2675.27		5.02	Si
SLV 12	ini.	944.38	2146	-0.000635	0.0002807	0.0035	0.85		2675.27	2675.27		2.83	Si
SLV 12	fin.	-976.46	-5911	-0.0006603	0.0002807	0.0035	0.85		2680.73	2680.73		2.75	Si
SLV 6	ini.	-868.25	-3033	-0.0005714	0.0002807	0.0035	0.85		2680.73	2680.73		3.09	Si
SLV 6	fin.	436.95	1236	-0.0002589	0.0002807	0.0035	0.85		2675.27	2675.27		6.12	Si
SLV 16	ini.	1253.7	3186	-0.0009101	0.0002807	0.0035	0.85		2675.27	2675.27		2.13	Si
SLV 16	fin.	-1120.56	-6435	-0.0007853	0.0002807	0.0035	0.85		2680.73	2680.73		2.39	Si
SLV 3	ini.	-966.21	-3536	-0.0006517	0.0002807	0.0035	0.85		2680.73	2680.73		2.77	Si
SLV 3	fin.	378.54	656	-0.0002215	0.0002807	0.0035	0.85		2675.27	2675.27		7.07	Si
SLV 11	ini.	791.28	1670	-0.0005118	0.0002807	0.0035	0.85		2675.27	2675.27		3.38	Si
SLV 11	fin.	-876.51	-5448	-0.000578	0.0002807	0.0035	0.85		2680.73	2680.73		3.06	Si
SLV 14	ini.	889.24	2173	-0.0005897	0.0002807	0.0035	0.85		2675.27	2675.27		3.01	Si
SLV 14	fin.	-818.1	-4868	-0.0005315	0.0002807	0.0035	0.85		2680.73	2680.73		3.28	Si
SLV 15	ini.	1026.29	2478	-0.0007044	0.0002807	0.0035	0.85		2675.27	2675.27		2.61	Si
SLV 15	fin.	-972.09	-5748	-0.0006566	0.0002807	0.0035	0.85		2680.73	2680.73		2.76	Si
SLV 5	ini.	-1021.35	-3509	-0.0006984	0.0002807	0.0035	0.85		2680.73	2680.73		2.62	Si
SLV 5	fin.	536.91	1699	-0.0003256	0.0002807	0.0035	0.85		2675.27	2675.27		4.98	Si
SLV 1	ini.	-1330.68	-4549	-0.000982	0.0002807	0.0035	0.85		2680.73	2680.73		2.01	Si
SLV 1	fin.	681.01	2223	-0.0004282	0.0002807	0.0035	0.85		2675.27	2675.27		3.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	461.93	-1343	0.85	0	2479	6740	5345	2168	7513		5.59	Si
SLD 11	fin.	-614.25	-6909	0.85	0	2479	6740	5345	2168	7513		1.09	Si
SLD 16	ini.	777.86	-3088	0.85	0	2479	6740	5345	2168	7513		2.43	Si
SLD 16	fin.	-787.63	-7834	0.85	0	2479	6740	5345	2168	7513		0.96	No
SLV 16	ini.	1253.7	-5563	0.85	0	2479	6740	5345	2168	7513		1.35	Si
SLV 16	fin.	-1120.56	-10146	0.85	0	2479	6740	5345	2168	7513		0.74	No
SLD 15	ini.	633.59	-2323	0.85	0	2479	6740	5345	2168	7513		3.23	Si
SLD 15	fin.	-693.44	-7220	0.85	0	2479	6740	5345	2168	7513		1.04	Si
SLV 11	ini.	791.28	-2989	0.85	0	2479	6740	5345	2168	7513		2.51	Si
SLV 11	fin.	-876.51	-8916	0.85	0	2479	6740	5345	2168	7513		0.84	No
SLD 12	ini.	554.84	-1835	0.85	0	2479	6740	5345	2168	7513		4.09	Si
SLD 12	fin.	-674.91	-7303	0.85	0	2479	6740	5345	2168	7513		1.03	Si
SLV 15	ini.	1026.29	-4358	0.85	0	2479	6740	5345	2168	7513		1.72	Si
SLV 15	fin.	-972.09	-9179	0.85	0	2479	6740	5345	2168	7513		0.82	No
SLV 14	ini.	889.24	-3768	0.85	0	2479	6740	5345	2168	7513		1.99	Si
SLV 14	fin.	-818.1	-7769	0.85	0	2479	6740	5345	2168	7513		0.97	No
SLV 1	ini.	-1330.68	7895	0.85	0	2479	6740	5345	2168	7513		0.95	No
SLV 1	fin.	681.01	2324	0.85	0	2479	6740	5345	2168	7513		3.23	Si
SLV 12	ini.	944.38	-3800	0.85	0	2479	6740	5345	2168	7513		1.98	Si
SLV 12	fin.	-976.46	-9567	0.85	0	2479	6740	5345	2168	7513		0.79	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.015	SLV 1	Si
V_SLV	0.74	SLV 16	No
PF_SLU	8.003	SLU 83	Si
V_SLU	0.932	SLU 83	No

Trave di accoppiamento 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	4.4	5.3	0.9	-11.918	6.661	4.4	5.3	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	397.59	-2720	-0.0002128	0.0001872	0.0035	0.9		2959	2959	No	7.44	Si
SLU 82	fin.	782.43	-3624	-0.0004674	0.0001872	0.0035	0.9		2959	2959	No	3.78	Si
SLU 81	ini.	396.12	-2721	-0.0002119	0.0001872	0.0035	0.9		2959	2959	No	7.47	Si
SLU 81	fin.	787.03	-3638	-0.0004708	0.0001872	0.0035	0.9		2959	2959	No	3.76	Si
SLU 74	ini.	393.05	-2704	-0.0002101	0.0001872	0.0035	0.9		2959	2959	No	7.53	Si
SLU 74	fin.	783.75	-3616	-0.0004684	0.0001872	0.0035	0.9		2959	2959	No	3.78	Si
SLU 84	ini.	407.78	-2780	-0.0002189	0.0001872	0.0035	0.9		2959	2959	No	7.26	Si
SLU 84	fin.	796.57	-3693	-0.0004777	0.0001872	0.0035	0.9		2959	2959	No	3.71	Si
SLU 83	ini.	406.31	-2782	-0.000218	0.0001872	0.0035	0.9		2959	2959	No	7.28	Si
SLU 83	fin.	801.16	-3706	-0.000481	0.0001872	0.0035	0.9		2959	2959	No	3.69	Si
SLU 75	ini.	394.51	-2702	-0.000211	0.0001872	0.0035	0.9		2959	2959	No	7.5	Si
SLU 75	fin.	779.16	-3602	-0.0004651	0.0001872	0.0035	0.9		2959	2959	No	3.8	Si
SLU 78	ini.	404.71	-2763	-0.0002171	0.0001872	0.0035	0.9		2959	2959	No	7.31	Si
SLU 78	fin.	793.29	-3671	-0.0004753	0.0001872	0.0035	0.9		2959	2959	No	3.73	Si
SLU 80	ini.	399.68	-2727	-0.0002141	0.0001872	0.0035	0.9		2959	2959	No	7.4	Si
SLU 80	fin.	781.73	-3620	-0.0004669	0.0001872	0.0035	0.9		2959	2959	No	3.79	Si
SLU 77	ini.	403.24	-2764	-0.0002162	0.0001872	0.0035	0.9		2959	2959	No	7.34	Si
SLU 77	fin.	797.88	-3684	-0.0004786	0.0001872	0.0035	0.9		2959	2959	No	3.71	Si
SLU 79	ini.	398.21	-2729	-0.0002132	0.0001872	0.0035	0.9		2959	2959	No	7.43	Si
SLU 79	fin.	786.33	-3634	-0.0004702	0.0001872	0.0035	0.9		2959	2959	No	3.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	407.78	-1987	0.9	0	1750	7137	3773	2295	6068	No	3.05	Si
SLU 84	fin.	796.57	3321	0.9	0	1750	7137	3773	2295	6068	No	1.83	Si
SLU 74	ini.	393.05	-1944	0.9	0	1750	7137	3773	2295	6068	No	3.12	Si
SLU 74	fin.	783.75	3287	0.9	0	1750	7137	3773	2295	6068	No	1.85	Si
SLU 75	ini.	394.51	-1942	0.9	0	1750	7137	3773	2295	6068	No	3.12	Si
SLU 75	fin.	779.16	3262	0.9	0	1750	7137	3773	2295	6068	No	1.86	Si
SLU 80	ini.	399.68	-1976	0.9	0	1750	7137	3773	2295	6068	No	3.07	Si
SLU 80	fin.	781.73	3278	0.9	0	1750	7137	3773	2295	6068	No	1.85	Si
SLU 81	ini.	396.12	-1928	0.9	0	1750	7137	3773	2295	6068	No	3.15	Si
SLU 81	fin.	787.03	3277	0.9	0	1750	7137	3773	2295	6068	No	1.85	Si
SLU 82	ini.	397.59	-1926	0.9	0	1750	7137	3773	2295	6068	No	3.15	Si
SLU 82	fin.	782.43	3251	0.9	0	1750	7137	3773	2295	6068	No	1.87	Si
SLU 83	ini.	406.31	-1988	0.9	0	1750	7137	3773	2295	6068	No	3.05	Si
SLU 83	fin.	801.16	3346	0.9	0	1750	7137	3773	2295	6068	No	1.81	Si
SLU 78	ini.	404.71	-2003	0.9	0	1750	7137	3773	2295	6068	No	3.03	Si
SLU 78	fin.	793.29	3331	0.9	0	1750	7137	3773	2295	6068	No	1.82	Si
SLU 77	ini.	403.24	-2004	0.9	0	1750	7137	3773	2295	6068	No	3.03	Si
SLU 77	fin.	797.88	3356	0.9	0	1750	7137	3773	2295	6068	No	1.81	Si
SLU 79	ini.	398.21	-1977	0.9	0	1750	7137	3773	2295	6068	No	3.07	Si
SLU 79	fin.	786.33	3303	0.9	0	1750	7137	3773	2295	6068	No	1.84	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1210.92	1387	-0.0007517	0.0002807	0.0035	0.9		2995.37	2995.37		2.47	Si
SLV 4	fin.	2176.27	-5610	-0.0017044	0.0002807	0.0035	0.9		2989.59	2989.59		1.37	Si
SLV 14	ini.	2006.49	-5613	-0.0014993	0.0002807	0.0035	0.9		2989.59	2989.59		1.49	Si
SLV 14	fin.	-1416.16	1301	-0.0009196	0.0002807	0.0035	0.9		2995.37	2995.37		2.12	Si
SLV 15	ini.	1680.14	-5102	-0.0011601	0.0002807	0.0035	0.9		2989.59	2989.59		1.78	Si
SLV 15	fin.	-947.75	173	-0.0005547	0.0002807	0.0035	0.9		2995.37	2995.37		3.16	Si
SLV 16	ini.	1957.23	-5728	-0.0014441	0.0002807	0.0035	0.9		2989.59	2989.59		1.53	Si
SLV 16	fin.	-1241.29	713	-0.0007757	0.0002807	0.0035	0.9		2995.37	2995.37		2.41	Si
SLV 2	ini.	-1161.66	1502	-0.0007133	0.0002807	0.0035	0.9		2995.37	2995.37		2.58	Si
SLV 2	fin.	2001.4	-5022	-0.0014936	0.0002807	0.0035	0.9		2989.59	2989.59		1.49	Si
SLV 3	ini.	-1488.01	2012	-0.0009817	0.0002807	0.0035	0.9		2995.37	2995.37		2.01	Si
SLV 3	fin.	2469.81	-6150	-0.0021346	0.0002807	0.0035	0.9		2989.59	2989.59		1.21	Si
SLD 3	ini.	-858.46	644	-0.0004923	0.0002807	0.0035	0.9		2995.37	2995.37		3.49	Si
SLD 3	fin.	1766.02	-4793	-0.0012439	0.0002807	0.0035	0.9		2989.59	2989.59		1.69	Si
SLV 13	ini.	1729.4	-4988	-0.0012077	0.0002807	0.0035	0.9		2989.59	2989.59		1.73	Si
SLV 13	fin.	-1122.62	762	-0.0006833	0.0002807	0.0035	0.9		2995.37	2995.37		2.67	Si
SLV 1	ini.	-1438.75	2127	-0.000939	0.0002807	0.0035	0.9		2995.37	2995.37		2.08	Si
SLV 1	fin.	2294.94	-5561	-0.0018648	0.0002807	0.0035	0.9		2989.59	2989.59		1.3	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-828.18	709	-0.0004716	0.0002807	0.0035	0.9		2995.37	2995.37		3.62	Si
SLD 1	fin.	1662.81	-4448	-0.0011436	0.0002807	0.0035	0.9		2989.59	2989.59		1.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1210.92	4811	0.9	0	2625	7137	5660	2295	7954		1.65	Si
SLV 4	fin.	2176.27	9274	0.9	0	2625	7137	5660	2295	7954		0.86	No
SLV 1	ini.	-1438.75	6338	0.9	0	2625	7137	5660	2295	7954		1.25	Si
SLV 1	fin.	2294.94	9538	0.9	0	2625	7137	5660	2295	7954		0.83	No
SLV 16	ini.	1957.23	-8932	0.9	0	2625	7137	5660	2295	7954		0.89	No
SLV 16	fin.	-1241.29	-5118	0.9	0	2625	7137	5660	2295	7954		1.55	Si
SLV 15	ini.	1680.14	-7728	0.9	0	2625	7137	5660	2295	7954		1.03	Si
SLV 15	fin.	-947.75	-3878	0.9	0	2625	7137	5660	2295	7954		2.05	Si
SLD 1	ini.	-828.18	3581	0.9	0	2625	7137	5660	2295	7954		2.22	Si
SLD 1	fin.	1662.81	6925	0.9	0	2625	7137	5660	2295	7954		1.15	Si
SLV 14	ini.	2006.49	-8609	0.9	0	2625	7137	5660	2295	7954		0.92	No
SLV 14	fin.	-1416.16	-6093	0.9	0	2625	7137	5660	2295	7954		1.31	Si
SLV 2	ini.	-1161.66	5135	0.9	0	2625	7137	5660	2295	7954		1.55	Si
SLV 2	fin.	2001.4	8298	0.9	0	2625	7137	5660	2295	7954		0.96	No
SLV 3	ini.	-1488.01	6015	0.9	0	2625	7137	5660	2295	7954		1.32	Si
SLV 3	fin.	2469.81	10513	0.9	0	2625	7137	5660	2295	7954		0.76	No
SLD 3	ini.	-858.46	3391	0.9	0	2625	7137	5660	2295	7954		2.35	Si
SLD 3	fin.	1766.02	7498	0.9	0	2625	7137	5660	2295	7954		1.06	Si
SLV 13	ini.	1729.4	-7405	0.9	0	2625	7137	5660	2295	7954		1.07	Si
SLV 13	fin.	-1122.62	-4854	0.9	0	2625	7137	5660	2295	7954		1.64	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.21	SLV 3	Si
V_SLV	0.757	SLV 3	No
PF_SLU	3.693	SLU 83	Si
V_SLU	1.808	SLU 77	Si

Trave di accoppiamento 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	7.1	7.95	0.85	-11.918	6.661	7.1	7.95	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-746.61	-3025	-0.0005047	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.56	Si
SLU 74	fin.	-296.43	-2223	-0.000174	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.96	Si
SLU 80	ini.	-747.17	-3033	-0.0005051	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.55	Si
SLU 80	fin.	-302.24	-2243	-0.0001777	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.79	Si
SLU 84	ini.	-762.5	-3095	-0.0005177	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.48	Si
SLU 84	fin.	-311.98	-2300	-0.0001839	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.51	Si
SLU 78	ini.	-758.6	-3080	-0.0005145	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.5	Si
SLU 78	fin.	-306.93	-2279	-0.0001807	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.65	Si
SLU 77	ini.	-762.32	-3093	-0.0005176	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.48	Si
SLU 77	fin.	-304.81	-2278	-0.0001793	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.71	Si
SLU 83	ini.	-766.23	-3108	-0.0005208	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.47	Si
SLU 83	fin.	-309.87	-2299	-0.0001826	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.57	Si
SLU 79	ini.	-750.9	-3046	-0.0005082	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.54	Si
SLU 79	fin.	-300.12	-2242	-0.0001763	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.85	Si
SLU 75	ini.	-742.89	-3013	-0.0005016	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.58	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	fin.	-298.55	-2224	-0.0001753	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.9	Si
SLU 81	ini.	-750.51	-3040	-0.0005079	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.54	Si
SLU 81	fin.	-301.48	-2244	-0.0001772	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.81	Si
SLU 82	ini.	-746.79	-3028	-0.0005048	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.56	Si
SLU 82	fin.	-303.6	-2245	-0.0001785	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-766.23	4344	0.85	0	1653	6740	3563	2168	5731	No	1.32	Si
SLU 83	fin.	-309.87	-2341	0.85	0	1653	6740	3563	2168	5731	No	2.45	Si
SLU 79	ini.	-750.9	4247	0.85	0	1653	6740	3563	2168	5731	No	1.35	Si
SLU 79	fin.	-300.12	-2268	0.85	0	1653	6740	3563	2168	5731	No	2.53	Si
SLU 84	ini.	-762.5	4325	0.85	0	1653	6740	3563	2168	5731	No	1.33	Si
SLU 84	fin.	-311.98	-2349	0.85	0	1653	6740	3563	2168	5731	No	2.44	Si
SLU 82	ini.	-746.79	4235	0.85	0	1653	6740	3563	2168	5731	No	1.35	Si
SLU 82	fin.	-303.6	-2296	0.85	0	1653	6740	3563	2168	5731	No	2.5	Si
SLU 78	ini.	-758.6	4290	0.85	0	1653	6740	3563	2168	5731	No	1.34	Si
SLU 78	fin.	-306.93	-2308	0.85	0	1653	6740	3563	2168	5731	No	2.48	Si
SLU 74	ini.	-746.61	4219	0.85	0	1653	6740	3563	2168	5731	No	1.36	Si
SLU 74	fin.	-296.43	-2248	0.85	0	1653	6740	3563	2168	5731	No	2.55	Si
SLU 80	ini.	-747.17	4228	0.85	0	1653	6740	3563	2168	5731	No	1.36	Si
SLU 80	fin.	-302.24	-2276	0.85	0	1653	6740	3563	2168	5731	No	2.52	Si
SLU 77	ini.	-762.32	4309	0.85	0	1653	6740	3563	2168	5731	No	1.33	Si
SLU 77	fin.	-304.81	-2301	0.85	0	1653	6740	3563	2168	5731	No	2.49	Si
SLU 81	ini.	-750.51	4254	0.85	0	1653	6740	3563	2168	5731	No	1.35	Si
SLU 81	fin.	-301.48	-2288	0.85	0	1653	6740	3563	2168	5731	No	2.5	Si
SLU 75	ini.	-742.89	4200	0.85	0	1653	6740	3563	2168	5731	No	1.36	Si
SLU 75	fin.	-298.55	-2255	0.85	0	1653	6740	3563	2168	5731	No	2.54	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1847.04	-5583	-0.0015638	0.0002807	0.0035	0.85		2680.73	2680.73		1.45	Si
SLV 1	fin.	1492.49	1969	-0.00115	0.0002807	0.0035	0.85		2675.27	2675.27		1.79	Si
SLV 15	ini.	608.86	923	-0.0003758	0.0002807	0.0035	0.85		2675.27	2675.27		4.39	Si
SLV 15	fin.	-1564.68	-4244	-0.0012249	0.0002807	0.0035	0.85		2680.73	2680.73		1.71	Si
SLV 14	ini.	995.74	2085	-0.0006782	0.0002807	0.0035	0.85		2675.27	2675.27		2.69	Si
SLV 14	fin.	-1911.42	-4816	-0.0016509	0.0002807	0.0035	0.85		2680.73	2680.73		1.4	Si
SLV 3	ini.	-1984.08	-6073	-0.0017551	0.0002807	0.0035	0.85		2680.73	2680.73		1.35	Si
SLV 3	fin.	1536.04	1933	-0.0011968	0.0002807	0.0035	0.85		2675.27	2675.27		1.74	Si
SLD 1	ini.	-1363.07	-4303	-0.001014	0.0002807	0.0035	0.85		2680.73	2680.73		1.97	Si
SLD 1	fin.	887.68	738	-0.0005884	0.0002807	0.0035	0.85		2675.27	2675.27		3.01	Si
SLD 3	ini.	-1443.72	-4590	-0.0010958	0.0002807	0.0035	0.85		2680.73	2680.73		1.86	Si
SLD 3	fin.	914.45	720	-0.0006103	0.0002807	0.0035	0.85		2675.27	2675.27		2.93	Si
SLV 2	ini.	-1597.2	-4910	-0.001261	0.0002807	0.0035	0.85		2680.73	2680.73		1.68	Si
SLV 2	fin.	1189.29	1362	-0.0008498	0.0002807	0.0035	0.85		2675.27	2675.27		2.25	Si
SLV 16	ini.	858.7	1596	-0.000565	0.0002807	0.0035	0.85		2675.27	2675.27		3.12	Si
SLV 16	fin.	-1867.88	-4852	-0.0015915	0.0002807	0.0035	0.85		2680.73	2680.73		1.44	Si
SLV 4	ini.	-1734.24	-5399	-0.001421	0.0002807	0.0035	0.85		2680.73	2680.73		1.55	Si
SLV 4	fin.	1232.84	1326	-0.0008904	0.0002807	0.0035	0.85		2675.27	2675.27		2.17	Si
SLV 13	ini.	745.9	1412	-0.0004769	0.0002807	0.0035	0.85		2675.27	2675.27		3.59	Si
SLV 13	fin.	-1608.22	-4208	-0.0012734	0.0002807	0.0035	0.85		2680.73	2680.73		1.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	745.9	-3146	0.85	0	2479	6740	5345	2168	7513		2.39	Si
SLV 13	fin.	-1608.22	-7428	0.85	0	2479	6740	5345	2168	7513		1.01	Si
SLV 2	ini.	-1597.2	8026	0.85	0	2479	6740	5345	2168	7513		0.94	No
SLV 2	fin.	1189.29	4074	0.85	0	2479	6740	5345	2168	7513		1.84	Si
SLD 3	ini.	-1443.72	7308	0.85	0	2479	6740	5345	2168	7513		1.03	Si
SLD 3	fin.	914.45	3157	0.85	0	2479	6740	5345	2168	7513		2.38	Si
SLV 3	ini.	-1984.08	9887	0.85	0	2479	6740	5345	2168	7513		0.76	No
SLV 3	fin.	1536.04	5770	0.85	0	2479	6740	5345	2168	7513		1.3	Si
SLV 16	ini.	858.7	-3659	0.85	0	2479	6740	5345	2168	7513		2.05	Si
SLV 16	fin.	-1867.88	-8213	0.85	0	2479	6740	5345	2168	7513		0.91	No
SLV 1	ini.	-1847.04	9213	0.85	0	2479	6740	5345	2168	7513		0.82	No
SLV 1	fin.	1492.49	5315	0.85	0	2479	6740	5345	2168	7513		1.41	Si
SLD 1	ini.	-1363.07	6911	0.85	0	2479	6740	5345	2168	7513		1.09	Si
SLD 1	fin.	887.68	2888	0.85	0	2479	6740	5345	2168	7513		2.6	Si
SLV 14	ini.	995.74	-4333	0.85	0	2479	6740	5345	2168	7513		1.73	Si
SLV 14	fin.	-1911.42	-8668	0.85	0	2479	6740	5345	2168	7513		0.87	No
SLV 4	ini.	-1734.24	8700	0.85	0	2479	6740	5345	2168	7513		0.86	No
SLV 4	fin.	1232.84	4529	0.85	0	2479	6740	5345	2168	7513		1.66	Si
SLV 15	ini.	608.86	-2472	0.85	0	2479	6740	5345	2168	7513		3.04	Si
SLV 15	fin.	-1564.68	-6973	0.85	0	2479	6740	5345	2168	7513		1.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.351	SLV 3	Si
V_SLV	0.76	SLV 3	No
PF_SLU	3.466	SLU 83	Si
V_SLU	1.319	SLU 83	Si

Trave di accoppiamento 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	4.4	5.3	0.9	-7.013	6.661	4.4	5.3	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	56.05	-1859	-0.0000277	0.0001872	0.0035	0.9		2959	2959	No	52.79	Si
SLU 80	fin.	609.19	-2466	-0.0003469	0.0001872	0.0035	0.9		2959	2959	No	4.86	Si
SLU 79	ini.	50.21	-1849	-0.0000248	0.0001872	0.0035	0.9		2959	2959	No	58.93	Si
SLU 79	fin.	613.5	-2471	-0.0003498	0.0001872	0.0035	0.9		2959	2959	No	4.82	Si
SLU 77	ini.	55.3	-1884	-0.0000273	0.0001872	0.0035	0.9		2959	2959	No	53.51	Si
SLU 77	fin.	620.63	-2506	-0.0003546	0.0001872	0.0035	0.9		2959	2959	No	4.77	Si
SLU 78	ini.	61.14	-1894	-0.0000303	0.0001872	0.0035	0.9		2959	2959	No	48.4	Si
SLU 78	fin.	616.32	-2502	-0.0003517	0.0001872	0.0035	0.9		2959	2959	No	4.8	Si
SLU 75	ini.	57.28	-1869	-0.0000283	0.0001872	0.0035	0.9		2959	2959	No	51.66	Si
SLU 75	fin.	613.07	-2484	-0.0003495	0.0001872	0.0035	0.9		2959	2959	No	4.83	Si
SLU 84	ini.	61.71	-1929	-0.0000305	0.0001872	0.0035	0.9		2959	2959	No	47.95	Si
SLU 84	fin.	628.14	-2553	-0.0003596	0.0001872	0.0035	0.9		2959	2959	No	4.71	Si
SLU 74	ini.	51.44	-1859	-0.0000254	0.0001872	0.0035	0.9		2959	2959	No	57.53	Si
SLU 74	fin.	617.38	-2489	-0.0003524	0.0001872	0.0035	0.9		2959	2959	No	4.79	Si
SLU 82	ini.	57.85	-1904	-0.0000286	0.0001872	0.0035	0.9		2959	2959	No	51.15	Si
SLU 82	fin.	624.88	-2536	-0.0003574	0.0001872	0.0035	0.9		2959	2959	No	4.74	Si
SLU 83	ini.	55.87	-1919	-0.0000276	0.0001872	0.0035	0.9		2959	2959	No	52.96	Si
SLU 83	fin.	632.45	-2558	-0.0003625	0.0001872	0.0035	0.9		2959	2959	No	4.68	Si
SLU 81	ini.	52.01	-1894	-0.0000257	0.0001872	0.0035	0.9		2959	2959	No	56.9	Si
SLU 81	fin.	629.19	-2541	-0.0003603	0.0001872	0.0035	0.9		2959	2959	No	4.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	50.21	-623	0.9	0	1750	7137	3773	2295	6068	No	9.74	Si
SLU 79	fin.	613.5	2706	0.9	0	1750	7137	3773	2295	6068	No	2.24	Si
SLU 74	ini.	51.44	-619	0.9	0	1750	7137	3773	2295	6068	No	9.8	Si
SLU 74	fin.	617.38	2719	0.9	0	1750	7137	3773	2295	6068	No	2.23	Si
SLU 75	ini.	57.28	-635	0.9	0	1750	7137	3773	2295	6068	No	9.56	Si
SLU 75	fin.	613.07	2696	0.9	0	1750	7137	3773	2295	6068	No	2.25	Si
SLU 84	ini.	61.71	-645	0.9	0	1750	7137	3773	2295	6068	No	9.4	Si
SLU 84	fin.	628.14	2744	0.9	0	1750	7137	3773	2295	6068	No	2.21	Si
SLU 83	ini.	55.87	-630	0.9	0	1750	7137	3773	2295	6068	No	9.63	Si
SLU 83	fin.	632.45	2766	0.9	0	1750	7137	3773	2295	6068	No	2.19	Si
SLU 78	ini.	61.14	-668	0.9	0	1750	7137	3773	2295	6068	No	9.09	Si
SLU 78	fin.	616.32	2722	0.9	0	1750	7137	3773	2295	6068	No	2.23	Si
SLU 82	ini.	57.85	-612	0.9	0	1750	7137	3773	2295	6068	No	9.91	Si
SLU 82	fin.	624.88	2718	0.9	0	1750	7137	3773	2295	6068	No	2.23	Si
SLU 81	ini.	52.01	-597	0.9	0	1750	7137	3773	2295	6068	No	10.16	Si
SLU 81	fin.	629.19	2740	0.9	0	1750	7137	3773	2295	6068	No	2.21	Si
SLU 80	ini.	56.05	-638	0.9	0	1750	7137	3773	2295	6068	No	9.51	Si
SLU 80	fin.	609.19	2684	0.9	0	1750	7137	3773	2295	6068	No	2.26	Si
SLU 77	ini.	55.3	-653	0.9	0	1750	7137	3773	2295	6068	No	9.3	Si
SLU 77	fin.	620.63	2745	0.9	0	1750	7137	3773	2295	6068	No	2.21	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1710.87	-4375	-0.0011897	0.0002807	0.0035	0.9		2989.59	2989.59		1.75	Si
SLV 16	fin.	-823.04	-126	-0.0004681	0.0002807	0.0035	0.9		2995.37	2995.37		3.64	Si
SLV 15	ini.	1390.04	-3742	-0.0008997	0.0002807	0.0035	0.9		2989.59	2989.59		2.15	Si
SLV 15	fin.	-602.8	-355	-0.0003262	0.0002807	0.0035	0.9		2995.37	2995.37		4.97	Si
SLD 3	ini.	-1181.33	989	-0.0007285	0.0002807	0.0035	0.9		2995.37	2995.37		2.54	Si
SLD 3	fin.	1314.92	-2803	-0.0008371	0.0002807	0.0035	0.9		2989.59	2989.59		2.27	Si
SLV 1	ini.	-1674.14	1940	-0.0011515	0.0002807	0.0035	0.9		2995.37	2995.37		1.79	Si
SLV 1	fin.	1672.45	-3241	-0.0011528	0.0002807	0.0035	0.9		2989.59	2989.59		1.79	Si
SLV 3	ini.	-1864.06	2241	-0.0013404	0.0002807	0.0035	0.9		2995.37	2995.37		1.61	Si
SLV 3	fin.	1822.27	-3442	-0.0013007	0.0002807	0.0035	0.9		2989.59	2989.59		1.64	Si
SLV 13	ini.	1579.96	-4044	-0.0010665	0.0002807	0.0035	0.9		2989.59	2989.59		1.89	Si
SLV 13	fin.	-752.62	-154	-0.0004212	0.0002807	0.0035	0.9		2995.37	2995.37		3.98	Si
SLD 1	ini.	-1069.1	810	-0.000643	0.0002807	0.0035	0.9		2995.37	2995.37		2.8	Si
SLD 1	fin.	1226.49	-2684	-0.0007657	0.0002807	0.0035	0.9		2989.59	2989.59		2.44	Si
SLV 14	ini.	1900.79	-4677	-0.0013828	0.0002807	0.0035	0.9		2989.59	2989.59		1.57	Si
SLV 14	fin.	-972.87	75	-0.0005726	0.0002807	0.0035	0.9		2995.37	2995.37		3.08	Si
SLV 2	ini.	-1353.31	1306	-0.0008668	0.0002807	0.0035	0.9		2995.37	2995.37		2.21	Si
SLV 2	fin.	1452.2	-3012	-0.0009529	0.0002807	0.0035	0.9		2989.59	2989.59		2.06	Si
SLV 4	ini.	-1543.23	1608	-0.0010307	0.0002807	0.0035	0.9		2995.37	2995.37		1.94	Si
SLV 4	fin.	1602.03	-3213	-0.0010868	0.0002807	0.0035	0.9		2989.59	2989.59		1.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1900.79	-7436	0.9	0	2625	7137	5660	2295	7954		1.07	Si
SLV 14	fin.	-972.87	-3652	0.9	0	2625	7137	5660	2295	7954		2.18	Si
SLV 2	ini.	-1353.31	4932	0.9	0	2625	7137	5660	2295	7954		1.61	Si
SLV 2	fin.	1452.2	5649	0.9	0	2625	7137	5660	2295	7954		1.41	Si
SLV 3	ini.	-1864.06	6719	0.9	0	2625	7137	5660	2295	7954		1.18	Si
SLV 3	fin.	1822.27	7397	0.9	0	2625	7137	5660	2295	7954		1.08	Si
SLV 13	ini.	1579.96	-6241	0.9	0	2625	7137	5660	2295	7954		1.27	Si
SLV 13	fin.	-752.62	-2797	0.9	0	2625	7137	5660	2295	7954		2.84	Si
SLV 15	ini.	1390.04	-5649	0.9	0	2625	7137	5660	2295	7954		1.41	Si
SLV 15	fin.	-602.8	-1904	0.9	0	2625	7137	5660	2295	7954		4.18	Si
SLV 7	ini.	-894.28	2885	0.9	0	2625	7137	5660	2295	7954		2.76	Si
SLV 7	fin.	1112.3	5045	0.9	0	2625	7137	5660	2295	7954		1.58	Si
SLV 1	ini.	-1674.14	6128	0.9	0	2625	7137	5660	2295	7954		1.3	Si
SLV 1	fin.	1672.45	6504	0.9	0	2625	7137	5660	2295	7954		1.22	Si
SLV 4	ini.	-1543.23	5524	0.9	0	2625	7137	5660	2295	7954		1.44	Si
SLV 4	fin.	1602.03	6543	0.9	0	2625	7137	5660	2295	7954		1.22	Si
SLD 3	ini.	-1181.33	4153	0.9	0	2625	7137	5660	2295	7954		1.92	Si
SLD 3	fin.	1314.92	5384	0.9	0	2625	7137	5660	2295	7954		1.48	Si
SLV 16	ini.	1710.87	-6845	0.9	0	2625	7137	5660	2295	7954		1.16	Si
SLV 16	fin.	-823.04	-2758	0.9	0	2625	7137	5660	2295	7954		2.88	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.573	SLV 14	Si
V_SLV	1.07	SLV 14	Si
PF_SLU	4.679	SLU 83	Si
V_SLU	2.194	SLU 83	Si

Trave di accoppiamento 87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	7.1	7.95	0.85	-7.013	6.661	7.1	7.95	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-749.66	-2243	-0.0005072	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.54	Si
SLU 84	fin.	-44.13	-758	-0.0000243	0.0001872	0.0035	0.85		2655.83	2655.83	No	60.18	Si
SLU 83	ini.	-755.07	-2249	-0.0005116	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.52	Si
SLU 83	fin.	-40.21	-746	-0.0000222	0.0001872	0.0035	0.85		2655.83	2655.83	No	66.04	Si
SLU 80	ini.	-725.88	-2165	-0.0004877	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.66	Si
SLU 80	fin.	-38.6	-714	-0.0000213	0.0001872	0.0035	0.85		2655.83	2655.83	No	68.8	Si
SLU 75	ini.	-731.99	-2181	-0.0004927	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.63	Si
SLU 75	fin.	-38.78	-723	-0.0000214	0.0001872	0.0035	0.85		2655.83	2655.83	No	68.49	Si
SLU 81	ini.	-751.33	-2227	-0.0005085	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.53	Si
SLU 81	fin.	-36.98	-731	-0.0000204	0.0001872	0.0035	0.85		2655.83	2655.83	No	71.81	Si
SLU 79	ini.	-731.29	-2171	-0.0004921	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.63	Si
SLU 79	fin.	-34.68	-702	-0.0000191	0.0001872	0.0035	0.85		2655.83	2655.83	No	76.57	Si
SLU 74	ini.	-737.4	-2187	-0.0004971	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.6	Si
SLU 74	fin.	-34.86	-711	-0.0000192	0.0001872	0.0035	0.85		2655.83	2655.83	No	76.19	Si
SLU 77	ini.	-741.14	-2209	-0.0005002	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.58	Si
SLU 77	fin.	-38.09	-726	-0.000021	0.0001872	0.0035	0.85		2655.83	2655.83	No	69.73	Si
SLU 78	ini.	-735.73	-2203	-0.0004957	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.61	Si
SLU 78	fin.	-42.01	-738	-0.0000231	0.0001872	0.0035	0.85		2655.83	2655.83	No	63.22	Si
SLU 82	ini.	-745.92	-2221	-0.0005041	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.56	Si
SLU 82	fin.	-40.9	-743	-0.0000225	0.0001872	0.0035	0.85		2655.83	2655.83	No	64.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-751.33	3504	0.85	0	1653	6740	3563	2168	5731	No	1.64	Si
SLU 81	fin.	-36.98	-1370	0.85	0	1653	6740	3563	2168	5731	No	4.18	Si
SLU 84	ini.	-749.66	3509	0.85	0	1653	6740	3563	2168	5731	No	1.63	Si
SLU 84	fin.	-44.13	-1412	0.85	0	1653	6740	3563	2168	5731	No	4.06	Si
SLU 77	ini.	-741.14	3459	0.85	0	1653	6740	3563	2168	5731	No	1.66	Si
SLU 77	fin.	-38.09	-1341	0.85	0	1653	6740	3563	2168	5731	No	4.27	Si
SLU 78	ini.	-735.73	3440	0.85	0	1653	6740	3563	2168	5731	No	1.67	Si
SLU 78	fin.	-42.01	-1360	0.85	0	1653	6740	3563	2168	5731	No	4.21	Si
SLU 83	ini.	-755.07	3528	0.85	0	1653	6740	3563	2168	5731	No	1.62	Si
SLU 83	fin.	-40.21	-1393	0.85	0	1653	6740	3563	2168	5731	No	4.12	Si
SLU 80	ini.	-725.88	3394	0.85	0	1653	6740	3563	2168	5731	No	1.69	Si
SLU 80	fin.	-38.6	-1325	0.85	0	1653	6740	3563	2168	5731	No	4.33	Si
SLU 74	ini.	-737.4	3435	0.85	0	1653	6740	3563	2168	5731	No	1.67	Si
SLU 74	fin.	-34.86	-1319	0.85	0	1653	6740	3563	2168	5731	No	4.34	Si
SLU 82	ini.	-745.92	3485	0.85	0	1653	6740	3563	2168	5731	No	1.64	Si
SLU 82	fin.	-40.9	-1390	0.85	0	1653	6740	3563	2168	5731	No	4.12	Si
SLU 79	ini.	-731.29	3413	0.85	0	1653	6740	3563	2168	5731	No	1.68	Si
SLU 79	fin.	-34.68	-1305	0.85	0	1653	6740	3563	2168	5731	No	4.39	Si
SLU 75	ini.	-731.99	3416	0.85	0	1653	6740	3563	2168	5731	No	1.68	Si
SLU 75	fin.	-38.78	-1338	0.85	0	1653	6740	3563	2168	5731	No	4.28	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-1345.25	-2205	-0.0009963	0.0002807	0.0035	0.85		2680.73	2680.73		1.99	Si
SLD 1	fin.	635.14	1540	-0.0003947	0.0002807	0.0035	0.85		2675.27	2675.27		4.21	Si
SLV 3	ini.	-2015.4	-2886	-0.0018022	0.0002807	0.0035	0.85		2680.73	2680.73		1.33	Si
SLV 3	fin.	1126.1	3015	-0.0007922	0.0002807	0.0035	0.85		2675.27	2675.27		2.38	Si
SLV 14	ini.	1006.83	-13	-0.0006877	0.0002807	0.0035	0.85		2675.27	2675.27		2.66	Si
SLV 14	fin.	-1142.54	-3852	-0.000805	0.0002807	0.0035	0.85		2680.73	2680.73		2.35	Si
SLV 1	ini.	-1810.93	-2620	-0.0015168	0.0002807	0.0035	0.85		2680.73	2680.73		1.48	Si
SLV 1	fin.	992.48	2629	-0.0006755	0.0002807	0.0035	0.85		2675.27	2675.27		2.7	Si
SLD 4	ini.	-1298.37	-2232	-0.0009505	0.0002807	0.0035	0.85		2680.73	2680.73		2.06	Si
SLD 4	fin.	579.58	1346	-0.0003551	0.0002807	0.0035	0.85		2675.27	2675.27		4.62	Si
SLD 2	ini.	-1178	-2076	-0.0008373	0.0002807	0.0035	0.85		2680.73	2680.73		2.28	Si
SLD 2	fin.	500.85	1119	-0.0003011	0.0002807	0.0035	0.85		2675.27	2675.27		5.34	Si
SLV 2	ini.	-1547.3	-2415	-0.0012058	0.0002807	0.0035	0.85		2680.73	2680.73		1.73	Si
SLV 2	fin.	780.81	1965	-0.0005037	0.0002807	0.0035	0.85		2675.27	2675.27		3.43	Si
SLV 4	ini.	-1751.77	-2682	-0.0014425	0.0002807	0.0035	0.85		2680.73	2680.73		1.53	Si
SLV 4	fin.	914.43	2351	-0.0006103	0.0002807	0.0035	0.85		2675.27	2675.27		2.93	Si
SLV 7	ini.	-1316.92	-2323	-0.0009685	0.0002807	0.0035	0.85		2680.73	2680.73		2.04	Si
SLV 7	fin.	574.24	1322	-0.0003514	0.0002807	0.0035	0.85		2675.27	2675.27		4.66	Si
SLD 3	ini.	-1465.62	-2362	-0.0011186	0.0002807	0.0035	0.85		2680.73	2680.73		1.83	Si
SLD 3	fin.	713.86	1767	-0.0004526	0.0002807	0.0035	0.85		2675.27	2675.27		3.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-2015.4	7285	0.85	0	2479	6740	5345	2168	7513		1.03	Si
SLV 3	fin.	1126.1	4964	0.85	0	2479	6740	5345	2168	7513		1.51	Si
SLD 1	ini.	-1345.25	5021	0.85	0	2479	6740	5345	2168	7513		1.5	Si
SLD 1	fin.	635.14	2502	0.85	0	2479	6740	5345	2168	7513		3	Si
SLV 14	ini.	1006.83	-2628	0.85	0	2479	6740	5345	2168	7513		2.86	Si
SLV 14	fin.	-1142.54	-6539	0.85	0	2479	6740	5345	2168	7513		1.15	Si
SLV 2	ini.	-1547.3	5660	0.85	0	2479	6740	5345	2168	7513		1.33	Si
SLV 2	fin.	780.81	3248	0.85	0	2479	6740	5345	2168	7513		2.31	Si
SLV 7	ini.	-1316.92	5148	0.85	0	2479	6740	5345	2168	7513		1.46	Si
SLV 7	fin.	574.24	2100	0.85	0	2479	6740	5345	2168	7513		3.58	Si
SLV 1	ini.	-1810.93	6510	0.85	0	2479	6740	5345	2168	7513		1.15	Si
SLV 1	fin.	992.48	4332	0.85	0	2479	6740	5345	2168	7513		1.73	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1751.77	6435	0.85	0	2479	6740	5345	2168	7513		1.17	Si
SLV 4	fin.	914.43	3881	0.85	0	2479	6740	5345	2168	7513		1.94	Si
SLV 13	ini.	743.2	-1778	0.85	0	2479	6740	5345	2168	7513		4.23	Si
SLV 13	fin.	-930.87	-5456	0.85	0	2479	6740	5345	2168	7513		1.38	Si
SLV 16	ini.	802.37	-1854	0.85	0	2479	6740	5345	2168	7513		4.05	Si
SLV 16	fin.	-1008.91	-5907	0.85	0	2479	6740	5345	2168	7513		1.27	Si
SLD 3	ini.	-1465.62	5477	0.85	0	2479	6740	5345	2168	7513		1.37	Si
SLD 3	fin.	713.86	2875	0.85	0	2479	6740	5345	2168	7513		2.61	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.33	SLV 3	Si
V_SLV	1.031	SLV 3	Si
PF_SLU	3.517	SLU 83	Si
V_SLU	1.624	SLU 83	Si

Trave di accoppiamento 88

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.623	1.141	6.5	7.95	1.45	-19.423	1.141	6.5	7.95	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 65	ini.	-682.11	-5805	-0.0001344	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.53	Si
SLU 65	fin.	-264.66	-5573	-0.0000506	0.0002246	0.0035	1.45		7864.45	7864.45	No	29.72	Si
SLU 83	ini.	-455.84	-6648	-0.0000884	0.0002246	0.0035	1.45		7864.45	7864.45	No	17.25	Si
SLU 83	fin.	-654.55	-6742	-0.0001287	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.02	Si
SLU 44	ini.	-706.67	-5038	-0.0001395	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.13	Si
SLU 44	fin.	-107.46	-4713	-0.0000203	0.0002246	0.0035	1.45		7864.45	7864.45	No	73.18	Si
SLU 68	ini.	-647.88	-5936	-0.0001274	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.14	Si
SLU 68	fin.	-315.51	-5750	-0.0000606	0.0002246	0.0035	1.45		7864.45	7864.45	No	24.93	Si
SLU 52	ini.	-633.05	-5567	-0.0001243	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.42	Si
SLU 52	fin.	-285.82	-5373	-0.0000548	0.0002246	0.0035	1.45		7864.45	7864.45	No	27.52	Si
SLU 46	ini.	-641.26	-5229	-0.000126	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.26	Si
SLU 46	fin.	-197.67	-4988	-0.0000376	0.0002246	0.0035	1.45		7864.45	7864.45	No	39.79	Si
SLU 41	ini.	-306.34	-5698	-0.0000588	0.0002246	0.0035	1.45		7864.45	7864.45	No	25.67	Si
SLU 41	fin.	-651.77	-5869	-0.0001282	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.07	Si
SLU 35	ini.	-307.24	-5680	-0.0000589	0.0002246	0.0035	1.45		7864.45	7864.45	No	25.6	Si
SLU 35	fin.	-631.84	-5842	-0.0001241	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.45	Si
SLU 77	ini.	-456.74	-6630	-0.0000885	0.0002246	0.0035	1.45		7864.45	7864.45	No	17.22	Si
SLU 77	fin.	-634.62	-6714	-0.0001246	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.39	Si
SLU 47	ini.	-672.43	-5169	-0.0001324	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.7	Si
SLU 47	fin.	-158.31	-4890	-0.0000301	0.0002246	0.0035	1.45		7864.45	7864.45	No	49.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 52	ini.	-633.05	1535	1.45	0	3383	6344	7295	3698	9727	No	6.34	Si
SLU 52	fin.	-285.82	-246	1.45	0	3383	6344	7295	3697	9727	No	39.55	Si
SLU 41	ini.	-306.34	531	1.45	0	3383	6344	7295	3698	9727	No	18.31	Si
SLU 41	fin.	-651.77	-1654	1.45	0	3383	6344	7295	3697	9727	No	5.88	Si
SLU 65	ini.	-682.11	1665	1.45	0	3383	6344	7295	3698	9727	No	5.84	Si
SLU 65	fin.	-264.66	-133	1.45	0	3383	6344	7295	3697	9727	No	73.18	Si
SLU 44	ini.	-706.67	1762	1.45	0	3383	6344	7295	3698	9727	No	5.52	Si
SLU 44	fin.	-107.46	394	1.45	0	3383	6344	7295	3697	9727	No	24.67	Si
SLU 83	ini.	-455.84	895	1.45	0	3383	6344	7295	3698	9727	No	10.87	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	-654.55	-1493	1.45	0	3383	6344	7295	3697	9727	No	6.52	Si
SLU 68	ini.	-647.88	1517	1.45	0	3383	6344	7295	3698	9727	No	6.41	Si
SLU 68	fin.	-315.51	-281	1.45	0	3383	6344	7295	3697	9727	No	34.64	Si
SLU 47	ini.	-672.43	1615	1.45	0	3383	6344	7295	3698	9727	No	6.02	Si
SLU 47	fin.	-158.31	246	1.45	0	3383	6344	7295	3697	9727	No	39.48	Si
SLU 37	ini.	-303.66	481	1.45	0	3383	6344	7295	3698	9727	No	20.24	Si
SLU 37	fin.	-626.18	-1528	1.45	0	3383	6344	7295	3697	9727	No	6.37	Si
SLU 39	ini.	-340.57	679	1.45	0	3383	6344	7295	3698	9727	No	14.32	Si
SLU 39	fin.	-600.92	-1506	1.45	0	3383	6344	7295	3697	9727	No	6.46	Si
SLU 35	ini.	-307.24	477	1.45	0	3383	6344	7295	3698	9727	No	20.38	Si
SLU 35	fin.	-631.84	-1531	1.45	0	3383	6344	7295	3697	9727	No	6.35	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-5029.43	-6578	-0.0013718	0.0003369	0.0035	1.45		7587.09	7587.09		1.51	Si
SLV 10	fin.	4256.32	-1586	-0.001086	0.0003369	0.0035	1.45		7577.35	7577.35		1.78	Si
SLV 13	ini.	-4786.94	-6025	-0.001277	0.0003369	0.0035	1.45		7587.09	7587.09		1.58	Si
SLV 13	fin.	4138.58	-1293	-0.0010455	0.0003369	0.0035	1.45		7577.35	7577.35		1.83	Si
SLV 4	ini.	3902.47	-2805	-0.0009666	0.0003369	0.0035	1.45		7577.35	7577.35		1.94	Si
SLV 4	fin.	-4708.17	-7356	-0.0012472	0.0003369	0.0035	1.45		7587.09	7587.09		1.61	Si
SLV 8	ini.	4221.07	-2209	-0.0010738	0.0003369	0.0035	1.45		7577.35	7577.35		1.8	Si
SLV 8	fin.	-4897.51	-7092	-0.0013197	0.0003369	0.0035	1.45		7587.09	7587.09		1.55	Si
SLV 9	ini.	-5105.54	-6621	-0.0014025	0.0003369	0.0035	1.45		7587.09	7587.09		1.49	Si
SLV 9	fin.	4327.91	-1557	-0.001111	0.0003369	0.0035	1.45		7577.35	7577.35		1.75	Si
SLV 7	ini.	4144.96	-2252	-0.0010477	0.0003369	0.0035	1.45		7577.35	7577.35		1.83	Si
SLV 7	fin.	-4825.91	-7063	-0.001292	0.0003369	0.0035	1.45		7587.09	7587.09		1.57	Si
SLV 14	ini.	-4673.88	-5962	-0.0012344	0.0003369	0.0035	1.45		7587.09	7587.09		1.62	Si
SLV 14	fin.	4032.23	-1336	-0.0010096	0.0003369	0.0035	1.45		7577.35	7577.35		1.88	Si
SLD 9	ini.	-3227.86	-5724	-0.0007553	0.0003369	0.0035	1.45		7587.09	7587.09		2.35	Si
SLD 9	fin.	2473.03	-2662	-0.000545	0.0003369	0.0035	1.45		7577.35	7577.35		3.06	Si
SLV 3	ini.	3789.41	-2868	-0.0009299	0.0003369	0.0035	1.45		7577.35	7577.35		2	Si
SLV 3	fin.	-4601.83	-7313	-0.0012077	0.0003369	0.0035	1.45		7587.09	7587.09		1.65	Si
SLV 5	ini.	-3193.06	-6012	-0.0007451	0.0003369	0.0035	1.45		7587.09	7587.09		2.38	Si
SLV 5	fin.	2351.78	-2997	-0.0005132	0.0003369	0.0035	1.45		7577.35	7577.35		3.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-5105.54	17091	1.45	0	5075	6344	10943	3698	11419		0.67	No
SLV 9	fin.	4327.91	15689	1.45	0	5075	6344	10943	3697	11419		0.73	No
SLV 4	ini.	3902.47	-14085	1.45	0	5075	6344	10943	3698	11419		0.81	No
SLV 4	fin.	-4708.17	-15499	1.45	0	5075	6344	10943	3697	11419		0.74	No
SLV 3	ini.	3789.41	-13715	1.45	0	5075	6344	10943	3698	11419		0.83	No
SLV 3	fin.	-4601.83	-15129	1.45	0	5075	6344	10943	3697	11419		0.75	No
SLV 14	ini.	-4673.88	15732	1.45	0	5075	6344	10943	3698	11419		0.73	No
SLV 14	fin.	4032.23	14333	1.45	0	5075	6344	10943	3697	11419		0.8	No
SLD 10	ini.	-3181.67	10466	1.45	0	5075	6344	10943	3698	11419		1.09	Si
SLD 10	fin.	2429.58	9062	1.45	0	5075	6344	10943	3697	11419		1.26	Si
SLV 10	ini.	-5029.43	16841	1.45	0	5075	6344	10943	3698	11419		0.68	No
SLV 10	fin.	4256.32	15440	1.45	0	5075	6344	10943	3697	11419		0.74	No
SLV 7	ini.	4144.96	-14824	1.45	0	5075	6344	10943	3698	11419		0.77	No
SLV 7	fin.	-4825.91	-16236	1.45	0	5075	6344	10943	3697	11419		0.7	No
SLV 8	ini.	4221.07	-15073	1.45	0	5075	6344	10943	3698	11419		0.76	No
SLV 8	fin.	-4897.51	-16485	1.45	0	5075	6344	10943	3697	11419		0.69	No
SLV 13	ini.	-4786.94	16102	1.45	0	5075	6344	10943	3698	11419		0.71	No
SLV 13	fin.	4138.58	14703	1.45	0	5075	6344	10943	3697	11419		0.78	No
SLD 9	ini.	-3227.86	10617	1.45	0	5075	6344	10943	3698	11419		1.08	Si
SLD 9	fin.	2473.03	9213	1.45	0	5075	6344	10943	3697	11419		1.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.486	SLV 9	Si
V_SLV	0.668	SLV 9	No
PF_SLU	11.129	SLU 44	Si
V_SLU	5.519	SLU 44	Si

Trave di accoppiamento 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	6.9	7.95	1.05	-12.263	1.141	6.9	7.95	1.05	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-481.62	-3386	-0.0001844	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.58	Si
SLU 83	fin.	-389.77	-3137	-0.0001472	0.0002246	0.0035	1.05		4132.15	4132.15	No	10.6	Si
SLU 79	ini.	-481.75	-3375	-0.0001845	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.58	Si
SLU 79	fin.	-350.51	-3084	-0.0001316	0.0002246	0.0035	1.05		4132.15	4132.15	No	11.79	Si
SLU 77	ini.	-487.36	-3414	-0.0001868	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.48	Si
SLU 77	fin.	-347.38	-3110	-0.0001304	0.0002246	0.0035	1.05		4132.15	4132.15	No	11.9	Si
SLU 74	ini.	-474.5	-3318	-0.0001815	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.71	Si
SLU 74	fin.	-348.8	-3035	-0.0001309	0.0002246	0.0035	1.05		4132.15	4132.15	No	11.85	Si
SLU 84	ini.	-473.3	-3368	-0.000181	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.73	Si
SLU 84	fin.	-394.27	-3139	-0.000149	0.0002246	0.0035	1.05		4132.15	4132.15	No	10.48	Si
SLU 81	ini.	-468.76	-3290	-0.0001792	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.82	Si
SLU 81	fin.	-391.19	-3062	-0.0001477	0.0002246	0.0035	1.05		4132.15	4132.15	No	10.56	Si
SLU 75	ini.	-466.18	-3300	-0.0001781	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.86	Si
SLU 75	fin.	-353.3	-3036	-0.0001327	0.0002246	0.0035	1.05		4132.15	4132.15	No	11.7	Si
SLU 82	ini.	-460.44	-3272	-0.0001757	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.97	Si
SLU 82	fin.	-395.69	-3063	-0.0001495	0.0002246	0.0035	1.05		4132.15	4132.15	No	10.44	Si
SLU 78	ini.	-479.04	-3396	-0.0001834	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.63	Si
SLU 78	fin.	-351.88	-3112	-0.0001321	0.0002246	0.0035	1.05		4132.15	4132.15	No	11.74	Si
SLU 80	ini.	-473.43	-3357	-0.0001811	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.73	Si
SLU 80	fin.	-355.01	-3085	-0.0001334	0.0002246	0.0035	1.05		4132.15	4132.15	No	11.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-468.76	1811	1.05	0	2450	8326	5283	2678	7960	No	4.4	Si
SLU 81	fin.	-391.19	-1390	1.05	0	2450	8326	5283	2678	7960	No	5.73	Si
SLU 80	ini.	-473.43	1716	1.05	0	2450	8326	5283	2678	7960	No	4.64	Si
SLU 80	fin.	-355.01	-1189	1.05	0	2450	8326	5283	2678	7960	No	6.7	Si
SLU 75	ini.	-466.18	1707	1.05	0	2450	8326	5283	2678	7960	No	4.66	Si
SLU 75	fin.	-353.3	-1198	1.05	0	2450	8326	5283	2678	7960	No	6.64	Si
SLU 74	ini.	-474.5	1727	1.05	0	2450	8326	5283	2678	7960	No	4.61	Si
SLU 74	fin.	-348.8	-1177	1.05	0	2450	8326	5283	2678	7960	No	6.76	Si
SLU 83	ini.	-481.62	1833	1.05	0	2450	8326	5283	2678	7960	No	4.34	Si
SLU 83	fin.	-389.77	-1367	1.05	0	2450	8326	5283	2678	7960	No	5.82	Si
SLU 77	ini.	-487.36	1750	1.05	0	2450	8326	5283	2678	7960	No	4.55	Si
SLU 77	fin.	-347.38	-1155	1.05	0	2450	8326	5283	2678	7960	No	6.89	Si
SLU 84	ini.	-473.3	1813	1.05	0	2450	8326	5283	2678	7960	No	4.39	Si
SLU 84	fin.	-394.27	-1388	1.05	0	2450	8326	5283	2678	7960	No	5.74	Si
SLU 78	ini.	-479.04	1729	1.05	0	2450	8326	5283	2678	7960	No	4.6	Si
SLU 78	fin.	-351.88	-1176	1.05	0	2450	8326	5283	2678	7960	No	6.77	Si
SLU 79	ini.	-481.75	1736	1.05	0	2450	8326	5283	2678	7960	No	4.58	Si
SLU 79	fin.	-350.51	-1168	1.05	0	2450	8326	5283	2678	7960	No	6.81	Si
SLU 82	ini.	-460.44	1790	1.05	0	2450	8326	5283	2678	7960	No	4.45	Si
SLU 82	fin.	-395.69	-1410	1.05	0	2450	8326	5283	2678	7960	No	5.65	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-291.03	139	-0.0001073	0.0003369	0.0035	1.05		4086.9	4086.9		14.04	Si
SLV 14	fin.	1547.22	2971	-0.0006763	0.0003369	0.0035	1.05		4079.77	4079.77		2.64	Si
SLD 2	ini.	-97.25	-3293	-0.0000352	0.0003369	0.0035	1.05		4086.9	4086.9		42.02	Si
SLD 2	fin.	-1522.37	-5371	-0.0006615	0.0003369	0.0035	1.05		4086.9	4086.9		2.68	Si
SLV 2	ini.	46.24	-3860	-0.0000167	0.0003369	0.0035	1.05		4079.77	4079.77		88.23	Si
SLV 2	fin.	-2268.63	-7262	-0.0011085	0.0003369	0.0035	1.05		4086.9	4086.9		1.8	Si
SLV 4	ini.	-338.64	-4588	-0.0001254	0.0003369	0.0035	1.05		4086.9	4086.9		12.07	Si
SLV 4	fin.	-2004.48	-7066	-0.000939	0.0003369	0.0035	1.05		4086.9	4086.9		2.04	Si
SLD 1	ini.	-108.87	-3298	-0.0000394	0.0003369	0.0035	1.05		4086.9	4086.9		37.54	Si
SLD 1	fin.	-1503.88	-5332	-0.0006516	0.0003369	0.0035	1.05		4086.9	4086.9		2.72	Si
SLV 3	ini.	-356.95	-4595	-0.0001325	0.0003369	0.0035	1.05		4086.9	4086.9		11.45	Si
SLV 3	fin.	-1975.33	-7005	-0.0009212	0.0003369	0.0035	1.05		4086.9	4086.9		2.07	Si
SLV 1	ini.	27.93	-3868	-0.0000101	0.0003369	0.0035	1.05		4079.77	4079.77		146.05	Si
SLV 1	fin.	-2239.49	-7201	-0.0010891	0.0003369	0.0035	1.05		4086.9	4086.9		1.82	Si
SLV 16	ini.	-675.92	-589	-0.0002599	0.0003369	0.0035	1.05		4086.9	4086.9		6.05	Si
SLV 16	fin.	1811.38	3167	-0.000825	0.0003369	0.0035	1.05		4079.77	4079.77		2.25	Si
SLV 15	ini.	-694.22	-597	-0.0002675	0.0003369	0.0035	1.05		4086.9	4086.9		5.89	Si
SLV 15	fin.	1840.52	3228	-0.0008421	0.0003369	0.0035	1.05		4079.77	4079.77		2.22	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-309.34	131	-0.0001142	0.0003369	0.0035	1.05		4086.9	4086.9		13.21	Si
SLV 13	fin.	1576.37	3032	-0.0006921	0.0003369	0.0035	1.05		4079.77	4079.77		2.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-291.03	3999	1.05	0	2855	8326	7924	2678	10602		2.65	Si
SLV 14	fin.	1547.22	2207	1.05	0	2855	8326	7924	2678	10602		4.8	Si
SLV 4	ini.	-338.64	-1867	1.05	0	2855	8326	7924	2678	10602		5.68	Si
SLV 4	fin.	-2004.48	-3633	1.05	0	2855	8326	7924	2678	10602		2.92	Si
SLV 13	ini.	-309.34	4074	1.05	0	2855	8326	7924	2678	10602		2.6	Si
SLV 13	fin.	1576.37	2282	1.05	0	2855	8326	7924	2678	10602		4.65	Si
SLV 16	ini.	-675.92	5008	1.05	0	2855	8326	7924	2678	10602		2.12	Si
SLV 16	fin.	1811.38	3259	1.05	0	2855	8326	7924	2678	10602		3.25	Si
SLD 15	ini.	-550.73	3623	1.05	0	2855	8326	7924	2678	10602		2.93	Si
SLD 15	fin.	1094.26	1855	1.05	0	2855	8326	7924	2678	10602		5.72	Si
SLV 1	ini.	27.93	-2802	1.05	0	2855	8326	7924	2678	10602		3.78	Si
SLV 1	fin.	-2239.49	-4610	1.05	0	2855	8326	7924	2678	10602		2.3	Si
SLV 2	ini.	46.24	-2877	1.05	0	2855	8326	7924	2678	10602		3.69	Si
SLV 2	fin.	-2268.63	-4685	1.05	0	2855	8326	7924	2678	10602		2.26	Si
SLV 15	ini.	-694.22	5083	1.05	0	2855	8326	7924	2678	10602		2.09	Si
SLV 15	fin.	1840.52	3334	1.05	0	2855	8326	7924	2678	10602		3.18	Si
SLV 11	ini.	-1022.21	3842	1.05	0	2855	8326	7924	2678	10602		2.76	Si
SLV 11	fin.	808.39	2137	1.05	0	2855	8326	7924	2678	10602		4.96	Si
SLV 12	ini.	-1009.89	3792	1.05	0	2855	8326	7924	2678	10602		2.8	Si
SLV 12	fin.	788.77	2087	1.05	0	2855	8326	7924	2678	10602		5.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.801	SLV 2	Si
V_SLV	2.086	SLV 15	Si
PF_SLU	8.479	SLU 77	Si
V_SLU	4.343	SLU 83	Si

Trave di accoppiamento 90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	6.9	7.95	1.05	-10.466	1.141	6.9	7.95	1.05	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-64.74	-3978	-0.0000234	0.0002246	0.0035	1.05		4132.15	4132.15	No	63.83	Si
SLU 84	fin.	-491.55	-3513	-0.0001885	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.41	Si
SLU 75	ini.	-93.13	-3847	-0.0000338	0.0002246	0.0035	1.05		4132.15	4132.15	No	44.37	Si
SLU 75	fin.	-491.86	-3424	-0.0001887	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.4	Si
SLU 70	ini.	-138.78	-3534	-0.0000506	0.0002246	0.0035	1.05		4132.15	4132.15	No	29.78	Si
SLU 70	fin.	-491.25	-3224	-0.0001884	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.41	Si
SLU 83	ini.	-39.87	-3996	-0.0000144	0.0002246	0.0035	1.05		4132.15	4132.15	No	103.64	Si
SLU 83	fin.	-491.63	-3548	-0.0001886	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.4	Si
SLU 77	ini.	-49.99	-3944	-0.000018	0.0002246	0.0035	1.05		4132.15	4132.15	No	82.65	Si
SLU 77	fin.	-505.95	-3558	-0.0001945	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.17	Si
SLU 69	ini.	-113.91	-3552	-0.0000414	0.0002246	0.0035	1.05		4132.15	4132.15	No	36.28	Si
SLU 69	fin.	-491.33	-3259	-0.0001885	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.41	Si
SLU 80	ini.	-73.86	-3889	-0.0000267	0.0002246	0.0035	1.05		4132.15	4132.15	No	55.94	Si
SLU 80	fin.	-499.29	-3483	-0.0001918	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.28	Si
SLU 79	ini.	-48.99	-3907	-0.0000177	0.0002246	0.0035	1.05		4132.15	4132.15	No	84.34	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-499.37	-3519	-0.0001918	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.27	Si
SLU 78	ini.	-74.86	-3926	-0.0000271	0.0002246	0.0035	1.05		4132.15	4132.15	No	55.2	Si
SLU 78	fin.	-505.87	-3523	-0.0001945	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.17	Si
SLU 74	ini.	-68.26	-3865	-0.0000247	0.0002246	0.0035	1.05		4132.15	4132.15	No	60.53	Si
SLU 74	fin.	-491.94	-3459	-0.0001887	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 32	ini.	6.77	-2069	1.05	0	2450	8326	5283	2678	7960	No	3.85	Si
SLU 32	fin.	-414.79	-185	1.05	0	2450	8326	5283	2678	7960	No	43.01	Si
SLU 37	ini.	26.04	-2194	1.05	0	2450	8326	5283	2678	7960	No	3.63	Si
SLU 37	fin.	-422.22	-175	1.05	0	2450	8326	5283	2678	7960	No	45.41	Si
SLU 77	ini.	-49.99	-2124	1.05	0	2450	8326	5283	2678	7960	No	3.75	Si
SLU 77	fin.	-505.95	-285	1.05	0	2450	8326	5283	2678	7960	No	27.92	Si
SLU 79	ini.	-48.99	-2107	1.05	0	2450	8326	5283	2678	7960	No	3.78	Si
SLU 79	fin.	-499.37	-282	1.05	0	2450	8326	5283	2678	7960	No	28.21	Si
SLU 42	ini.	10.29	-2146	1.05	0	2450	8326	5283	2678	7960	No	3.71	Si
SLU 42	fin.	-414.39	-175	1.05	0	2450	8326	5283	2678	7960	No	45.4	Si
SLU 83	ini.	-39.87	-2220	1.05	0	2450	8326	5283	2678	7960	No	3.58	Si
SLU 83	fin.	-491.63	-249	1.05	0	2450	8326	5283	2678	7960	No	31.95	Si
SLU 81	ini.	-58.14	-2079	1.05	0	2450	8326	5283	2678	7960	No	3.83	Si
SLU 81	fin.	-477.63	-256	1.05	0	2450	8326	5283	2678	7960	No	31.1	Si
SLU 41	ini.	35.16	-2307	1.05	0	2450	8326	5283	2678	7960	No	3.45	Si
SLU 41	fin.	-414.47	-142	1.05	0	2450	8326	5283	2678	7960	No	55.94	Si
SLU 39	ini.	16.89	-2166	1.05	0	2450	8326	5283	2678	7960	No	3.68	Si
SLU 39	fin.	-400.47	-149	1.05	0	2450	8326	5283	2678	7960	No	53.38	Si
SLU 35	ini.	25.04	-2211	1.05	0	2450	8326	5283	2678	7960	No	3.6	Si
SLU 35	fin.	-428.79	-178	1.05	0	2450	8326	5283	2678	7960	No	44.66	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	2009	-1358	-0.0009438	0.0003369	0.0035	1.05		4079.77	4079.77		2.03	Si
SLV 4	fin.	-577.35	-3478	-0.0002194	0.0003369	0.0035	1.05		4086.9	4086.9		7.08	Si
SLV 3	ini.	2046.23	-1403	-0.000967	0.0003369	0.0035	1.05		4079.77	4079.77		1.99	Si
SLV 3	fin.	-572.13	-3538	-0.0002173	0.0003369	0.0035	1.05		4086.9	4086.9		7.14	Si
SLV 8	ini.	2077.06	-3443	-0.0009863	0.0003369	0.0035	1.05		4079.77	4079.77		1.96	Si
SLV 8	fin.	-438.82	-4972	-0.0001642	0.0003369	0.0035	1.05		4086.9	4086.9		9.31	Si
SLV 7	ini.	2102.13	-3474	-0.0010022	0.0003369	0.0035	1.05		4079.77	4079.77		1.94	Si
SLV 7	fin.	-435.3	-5013	-0.0001629	0.0003369	0.0035	1.05		4086.9	4086.9		9.39	Si
SLV 10	ini.	-2331.56	-1689	-0.0011511	0.0003369	0.0035	1.05		4086.9	4086.9		1.75	Si
SLV 10	fin.	-250.63	396	-0.000092	0.0003369	0.0035	1.05		4086.9	4086.9		16.31	Si
SLD 13	ini.	-1445.74	-3386	-0.0006208	0.0003369	0.0035	1.05		4086.9	4086.9		2.83	Si
SLD 13	fin.	-193.91	-1601	-0.0000708	0.0003369	0.0035	1.05		4086.9	4086.9		21.08	Si
SLD 14	ini.	-1469.36	-3358	-0.0006333	0.0003369	0.0035	1.05		4086.9	4086.9		2.78	Si
SLD 14	fin.	-197.22	-1563	-0.000072	0.0003369	0.0035	1.05		4086.9	4086.9		20.72	Si
SLV 9	ini.	-2306.49	-1720	-0.001134	0.0003369	0.0035	1.05		4086.9	4086.9		1.77	Si
SLV 9	fin.	-247.12	356	-0.0000907	0.0003369	0.0035	1.05		4086.9	4086.9		16.54	Si
SLV 13	ini.	-2238.43	-3805	-0.0010885	0.0003369	0.0035	1.05		4086.9	4086.9		1.83	Si
SLV 13	fin.	-108.59	-1139	-0.0000393	0.0003369	0.0035	1.05		4086.9	4086.9		37.64	Si
SLV 14	ini.	-2275.67	-3760	-0.0011133	0.0003369	0.0035	1.05		4086.9	4086.9		1.8	Si
SLV 14	fin.	-113.81	-1078	-0.0000412	0.0003369	0.0035	1.05		4086.9	4086.9		35.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	1125.62	-10500	1.05	0	2961	8326	7924	2678	10602		1.01	Si
SLV 11	fin.	-301.1	2359	1.05	0	2961	8326	7924	2678	10602		4.49	Si
SLV 4	ini.	2009	-10399	1.05	0	2961	8326	7924	2678	10602		1.02	Si
SLV 4	fin.	-577.35	-455	1.05	0	2961	8326	7924	2678	10602		23.29	Si
SLV 9	ini.	-2306.49	12127	1.05	0	2961	8326	7924	2678	10602		0.87	No
SLV 9	fin.	-247.12	-2359	1.05	0	2961	8326	7924	2678	10602		4.49	Si
SLD 7	ini.	1211.18	-8824	1.05	0	2961	8326	7924	2678	10602		1.2	Si
SLD 7	fin.	-400.57	957	1.05	0	2961	8326	7924	2678	10602		11.08	Si
SLV 3	ini.	2046.23	-10671	1.05	0	2961	8326	7924	2678	10602		0.99	No
SLV 3	fin.	-572.13	-372	1.05	0	2961	8326	7924	2678	10602		28.46	Si
SLV 10	ini.	-2331.56	12309	1.05	0	2961	8326	7924	2678	10602		0.86	No
SLV 10	fin.	-250.63	-2414	1.05	0	2961	8326	7924	2678	10602		4.39	Si
SLV 14	ini.	-2275.67	8767	1.05	0	2961	8326	7924	2678	10602		1.21	Si
SLV 14	fin.	-113.81	-188	1.05	0	2961	8326	7924	2678	10602		56.44	Si
SLV 8	ini.	2077.06	-14031	1.05	0	2961	8326	7924	2678	10602		0.76	No
SLV 8	fin.	-438.82	1798	1.05	0	2961	8326	7924	2678	10602		5.9	Si
SLV 7	ini.	2102.13	-14214	1.05	0	2961	8326	7924	2678	10602		0.75	No
SLV 7	fin.	-435.3	1854	1.05	0	2961	8326	7924	2678	10602		5.72	Si
SLV 12	ini.	1100.55	-10318	1.05	0	2961	8326	7924	2678	10602		1.03	Si
SLV 12	fin.	-304.61	2303	1.05	0	2961	8326	7924	2678	10602		4.6	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.753	SLV 10	Si
V_SLV	0.746	SLV 7	No
PF_SLU	8.167	SLU 77	Si
V_SLU	3.451	SLU 41	Si

Trave di accoppiamento 91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	6.5	7.95	1.45	-7.443	1.141	6.5	7.95	1.45	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	359.57	-4638	-0.0000693	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.85	Si
SLU 78	fin.	-1501.66	-6305	-0.0003185	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.24	Si
SLU 79	ini.	368.5	-4570	-0.0000711	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.32	Si
SLU 79	fin.	-1501.96	-6243	-0.0003186	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.24	Si
SLU 69	ini.	449.38	-4142	-0.0000872	0.0002246	0.0035	1.45		7855.43	7855.43	No	17.48	Si
SLU 69	fin.	-1517.56	-5939	-0.0003224	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.18	Si
SLU 70	ini.	442.2	-4156	-0.0000857	0.0002246	0.0035	1.45		7855.43	7855.43	No	17.76	Si
SLU 70	fin.	-1510.97	-5943	-0.0003208	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.2	Si
SLU 77	ini.	366.74	-4624	-0.0000707	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.42	Si
SLU 77	fin.	-1508.25	-6301	-0.0003201	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.21	Si
SLU 67	ini.	436.31	-4056	-0.0000846	0.0002246	0.0035	1.45		7855.43	7855.43	No	18	Si
SLU 67	fin.	-1499.3	-5826	-0.0003179	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.25	Si
SLU 72	ini.	443.97	-4102	-0.0000861	0.0002246	0.0035	1.45		7855.43	7855.43	No	17.69	Si
SLU 72	fin.	-1504.68	-5885	-0.0003193	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.23	Si
SLU 74	ini.	360.85	-4523	-0.0000696	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.77	Si
SLU 74	fin.	-1496.59	-6185	-0.0003173	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.25	Si
SLU 66	ini.	443.49	-4041	-0.000086	0.0002246	0.0035	1.45		7855.43	7855.43	No	17.71	Si
SLU 66	fin.	-1505.89	-5822	-0.0003196	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.22	Si
SLU 71	ini.	451.14	-4088	-0.0000875	0.0002246	0.0035	1.45		7855.43	7855.43	No	17.41	Si
SLU 71	fin.	-1511.27	-5881	-0.0003209	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	366.74	-1258	1.45	0	3383	7930	7295	3698	10993	No	8.74	Si
SLU 77	fin.	-1508.25	-4927	1.45	0	3383	7930	7295	3698	10993	No	2.23	Si
SLU 79	ini.	368.5	-1251	1.45	0	3383	7930	7295	3698	10993	No	8.79	Si
SLU 79	fin.	-1501.96	-4919	1.45	0	3383	7930	7295	3698	10993	No	2.23	Si
SLU 74	ini.	360.85	-1229	1.45	0	3383	7930	7295	3698	10993	No	8.95	Si
SLU 74	fin.	-1496.59	-4898	1.45	0	3383	7930	7295	3698	10993	No	2.24	Si
SLU 75	ini.	353.67	-1208	1.45	0	3383	7930	7295	3698	10993	No	9.1	Si
SLU 75	fin.	-1489.99	-4876	1.45	0	3383	7930	7295	3698	10993	No	2.25	Si
SLU 82	ini.	314.13	-929	1.45	0	3383	7930	7295	3698	10993	No	11.84	Si
SLU 82	fin.	-1468.04	-4929	1.45	0	3383	7930	7295	3698	10993	No	2.23	Si
SLU 84	ini.	320.02	-958	1.45	0	3383	7930	7295	3698	10993	No	11.48	Si
SLU 84	fin.	-1479.71	-4958	1.45	0	3383	7930	7295	3698	10993	No	2.22	Si
SLU 80	ini.	361.33	-1229	1.45	0	3383	7930	7295	3698	10993	No	8.94	Si
SLU 80	fin.	-1495.37	-4898	1.45	0	3383	7930	7295	3698	10993	No	2.24	Si
SLU 81	ini.	321.3	-950	1.45	0	3383	7930	7295	3698	10993	No	11.57	Si
SLU 81	fin.	-1474.63	-4950	1.45	0	3383	7930	7295	3698	10993	No	2.22	Si
SLU 83	ini.	327.2	-979	1.45	0	3383	7930	7295	3698	10993	No	11.23	Si
SLU 83	fin.	-1486.3	-4980	1.45	0	3383	7930	7295	3698	10993	No	2.21	Si
SLU 78	ini.	359.57	-1237	1.45	0	3383	7930	7295	3698	10993	No	8.89	Si
SLU 78	fin.	-1501.66	-4906	1.45	0	3383	7930	7295	3698	10993	No	2.24	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	3920.51	1038	-0.0009726	0.0003369	0.0035	1.45		7577.35	7577.35		1.93	Si
SLV 2	fin.	-4433.49	-6513	-0.0011466	0.0003369	0.0035	1.45		7587.09	7587.09		1.71	Si
SLV 3	ini.	4158.54	1710	-0.0010523	0.0003369	0.0035	1.45		7577.35	7577.35		1.82	Si
SLV 3	fin.	-4587.74	-6185	-0.0012025	0.0003369	0.0035	1.45		7587.09	7587.09		1.65	Si
SLV 13	ini.	-3590.2	-7779	-0.0008654	0.0003369	0.0035	1.45		7587.09	7587.09		2.11	Si
SLV 13	fin.	2390.41	-2411	-0.0005233	0.0003369	0.0035	1.45		7577.35	7577.35		3.17	Si
SLV 15	ini.	-3287.61	-7039	-0.0007731	0.0003369	0.0035	1.45		7587.09	7587.09		2.31	Si
SLV 15	fin.	2191.44	-2108	-0.0004721	0.0003369	0.0035	1.45		7577.35	7577.35		3.46	Si
SLV 4	ini.	4223.11	1778	-0.0010745	0.0003369	0.0035	1.45		7577.35	7577.35		1.79	Si
SLV 4	fin.	-4632.46	-6210	-0.001219	0.0003369	0.0035	1.45		7587.09	7587.09		1.64	Si
SLD 3	ini.	2770.67	-1	-0.0006255	0.0003369	0.0035	1.45		7577.35	7577.35		2.73	Si
SLD 3	fin.	-3337.69	-5520	-0.0007881	0.0003369	0.0035	1.45		7587.09	7587.09		2.27	Si
SLV 1	ini.	3855.94	971	-0.0009514	0.0003369	0.0035	1.45		7577.35	7577.35		1.97	Si
SLV 1	fin.	-4388.78	-6487	-0.0011307	0.0003369	0.0035	1.45		7587.09	7587.09		1.73	Si
SLD 2	ini.	2633.66	-392	-0.000588	0.0003369	0.0035	1.45		7577.35	7577.35		2.88	Si
SLD 2	fin.	-3247.84	-5712	-0.0007613	0.0003369	0.0035	1.45		7587.09	7587.09		2.34	Si
SLD 4	ini.	2811.64	42	-0.0006369	0.0003369	0.0035	1.45		7577.35	7577.35		2.69	Si
SLD 4	fin.	-3366.06	-5536	-0.0007966	0.0003369	0.0035	1.45		7587.09	7587.09		2.25	Si
SLV 14	ini.	-3525.64	-7711	-0.0008453	0.0003369	0.0035	1.45		7587.09	7587.09		2.15	Si
SLV 14	fin.	2345.69	-2436	-0.0005116	0.0003369	0.0035	1.45		7577.35	7577.35		3.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	2633.66	-8569	1.45	0	4598	7930	10943	3698	12527		1.46	Si
SLD 2	fin.	-3247.84	-10814	1.45	0	4598	7930	10943	3698	12527		1.16	Si
SLV 2	ini.	3920.51	-12645	1.45	0	4598	7930	10943	3698	12527		0.99	No
SLV 2	fin.	-4433.49	-14869	1.45	0	4598	7930	10943	3698	12527		0.84	No
SLD 3	ini.	2770.67	-8905	1.45	0	4598	7930	10943	3698	12527		1.41	Si
SLD 3	fin.	-3337.69	-11195	1.45	0	4598	7930	10943	3698	12527		1.12	Si
SLV 14	ini.	-3525.64	10725	1.45	0	4598	7930	10943	3698	12527		1.17	Si
SLV 14	fin.	2345.69	8478	1.45	0	4598	7930	10943	3698	12527		1.48	Si
SLV 4	ini.	4223.11	-13404	1.45	0	4598	7930	10943	3698	12527		0.93	No
SLV 4	fin.	-4632.46	-15705	1.45	0	4598	7930	10943	3698	12527		0.8	No
SLV 1	ini.	3855.94	-12469	1.45	0	4598	7930	10943	3698	12527		1	Si
SLV 1	fin.	-4388.78	-14693	1.45	0	4598	7930	10943	3698	12527		0.85	No
SLD 1	ini.	2592.69	-8457	1.45	0	4598	7930	10943	3698	12527		1.48	Si
SLD 1	fin.	-3219.47	-10702	1.45	0	4598	7930	10943	3698	12527		1.17	Si
SLD 4	ini.	2811.64	-9017	1.45	0	4598	7930	10943	3698	12527		1.39	Si
SLD 4	fin.	-3366.06	-11307	1.45	0	4598	7930	10943	3698	12527		1.11	Si
SLV 13	ini.	-3590.2	10901	1.45	0	4598	7930	10943	3698	12527		1.15	Si
SLV 13	fin.	2390.41	8655	1.45	0	4598	7930	10943	3698	12527		1.45	Si
SLV 3	ini.	4158.54	-13228	1.45	0	4598	7930	10943	3698	12527		0.95	No
SLV 3	fin.	-4587.74	-15528	1.45	0	4598	7930	10943	3698	12527		0.81	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.638	SLV 4	Si
V_SLV	0.798	SLV 4	No
PF_SLU	5.182	SLU 69	Si
V_SLU	2.208	SLU 83	Si

Trave di accoppiamento 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	6.5	7.95	1.45	-4.893	1.141	6.5	7.95	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	749.27	-3809	-0.0001486	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.48	Si
SLU 76	fin.	-805.78	-4546	-0.0001604	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.76	Si
SLU 73	ini.	752.65	-3689	-0.0001493	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.44	Si
SLU 73	fin.	-814.24	-4432	-0.0001621	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.66	Si
SLU 75	ini.	754.6	-3837	-0.0001497	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.41	Si
SLU 75	fin.	-795.32	-4570	-0.0001581	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.89	Si
SLU 82	ini.	761.3	-3864	-0.0001511	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.32	Si
SLU 82	fin.	-838.79	-4622	-0.0001674	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.38	Si
SLU 78	ini.	751.21	-3957	-0.000149	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.46	Si
SLU 78	fin.	-786.86	-4684	-0.0001563	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.99	Si
SLU 83	ini.	764.67	-3952	-0.0001519	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.27	Si
SLU 83	fin.	-813.47	-4698	-0.000162	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.67	Si
SLU 74	ini.	761.36	-3804	-0.0001512	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.32	Si
SLU 74	fin.	-778.45	-4532	-0.0001546	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.1	Si
SLU 81	ini.	768.06	-3832	-0.0001526	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.23	Si
SLU 81	fin.	-821.93	-4584	-0.0001638	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.57	Si
SLU 80	ini.	750.39	-3908	-0.0001489	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.47	Si
SLU 80	fin.	-786.09	-4634	-0.0001562	0.0002246	0.0035	1.45		7864.45	7864.45	No	10	Si
SLU 84	ini.	757.91	-3985	-0.0001504	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.36	Si
SLU 84	fin.	-830.33	-4737	-0.0001656	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	761.36	-1511	1.45	0	3383	6344	7295	3698	9727	No	6.44	Si
SLU 74	fin.	-778.45	-3621	1.45	0	3383	6344	7295	3698	9727	No	2.69	Si
SLU 75	ini.	754.6	-1529	1.45	0	3383	6344	7295	3698	9727	No	6.36	Si
SLU 75	fin.	-795.32	-3638	1.45	0	3383	6344	7295	3698	9727	No	2.67	Si
SLU 84	ini.	757.91	-1512	1.45	0	3383	6344	7295	3698	9727	No	6.43	Si
SLU 84	fin.	-830.33	-3785	1.45	0	3383	6344	7295	3698	9727	No	2.57	Si
SLU 83	ini.	764.67	-1494	1.45	0	3383	6344	7295	3698	9727	No	6.51	Si
SLU 83	fin.	-813.47	-3767	1.45	0	3383	6344	7295	3698	9727	No	2.58	Si
SLU 80	ini.	750.39	-1507	1.45	0	3383	6344	7295	3698	9727	No	6.46	Si
SLU 80	fin.	-786.09	-3616	1.45	0	3383	6344	7295	3698	9727	No	2.69	Si
SLU 78	ini.	751.21	-1509	1.45	0	3383	6344	7295	3698	9727	No	6.45	Si
SLU 78	fin.	-786.86	-3618	1.45	0	3383	6344	7295	3698	9727	No	2.69	Si
SLU 82	ini.	761.3	-1532	1.45	0	3383	6344	7295	3698	9727	No	6.35	Si
SLU 82	fin.	-838.79	-3806	1.45	0	3383	6344	7295	3698	9727	No	2.56	Si
SLU 73	ini.	752.65	-1559	1.45	0	3383	6344	7295	3698	9727	No	6.24	Si
SLU 73	fin.	-814.24	-3668	1.45	0	3383	6344	7295	3698	9727	No	2.65	Si
SLU 76	ini.	749.27	-1539	1.45	0	3383	6344	7295	3698	9727	No	6.32	Si
SLU 76	fin.	-805.78	-3648	1.45	0	3383	6344	7295	3698	9727	No	2.67	Si
SLU 81	ini.	768.06	-1515	1.45	0	3383	6344	7295	3698	9727	No	6.42	Si
SLU 81	fin.	-821.93	-3788	1.45	0	3383	6344	7295	3698	9727	No	2.57	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	3790.56	2077	-0.0009303	0.0003369	0.0035	1.45		7577.35	7577.35		2	Si
SLV 1	fin.	-2556.12	-953	-0.0005663	0.0003369	0.0035	1.45		7587.09	7587.09		2.97	Si
SLV 4	ini.	4007.67	3384	-0.0010014	0.0003369	0.0035	1.45		7577.35	7577.35		1.89	Si
SLV 4	fin.	-1916.03	551	-0.0004035	0.0003369	0.0035	1.45		7587.09	7587.09		3.96	Si
SLD 3	ini.	2767.37	1262	-0.0006246	0.0003369	0.0035	1.45		7577.35	7577.35		2.74	Si
SLD 3	fin.	-1420.2	-744	-0.0002888	0.0003369	0.0035	1.45		7587.09	7587.09		5.34	Si
SLV 16	ini.	-2647.64	-6983	-0.000591	0.0003369	0.0035	1.45		7587.09	7587.09		2.87	Si
SLV 16	fin.	1466.23	-5011	-0.0002994	0.0003369	0.0035	1.45		7577.35	7577.35		5.17	Si
SLV 3	ini.	4011.91	3402	-0.0010028	0.0003369	0.0035	1.45		7577.35	7577.35		1.89	Si
SLV 3	fin.	-1885.91	568	-0.0003963	0.0003369	0.0035	1.45		7587.09	7587.09		4.02	Si
SLV 2	ini.	3786.33	2058	-0.0009289	0.0003369	0.0035	1.45		7577.35	7577.35		2	Si
SLV 2	fin.	-2586.24	-970	-0.0005744	0.0003369	0.0035	1.45		7587.09	7587.09		2.93	Si
SLD 4	ini.	2764.69	1250	-0.0006239	0.0003369	0.0035	1.45		7577.35	7577.35		2.74	Si
SLD 4	fin.	-1439.31	-755	-0.000293	0.0003369	0.0035	1.45		7587.09	7587.09		5.27	Si
SLV 15	ini.	-2643.41	-6964	-0.0005898	0.0003369	0.0035	1.45		7587.09	7587.09		2.87	Si
SLV 15	fin.	1496.35	-4994	-0.0003062	0.0003369	0.0035	1.45		7577.35	7577.35		5.06	Si
SLV 13	ini.	-2864.76	-8290	-0.0006508	0.0003369	0.0035	1.45		7587.09	7587.09		2.65	Si
SLV 13	fin.	826.14	-6515	-0.0001623	0.0003369	0.0035	1.45		7577.35	7577.35		9.17	Si
SLV 14	ini.	-2868.99	-8308	-0.000652	0.0003369	0.0035	1.45		7587.09	7587.09		2.64	Si
SLV 14	fin.	796.02	-6532	-0.0001561	0.0003369	0.0035	1.45		7577.35	7577.35		9.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	3790.56	-9910	1.45	0	5075	6344	10943	3698	11419		1.15	Si
SLV 1	fin.	-2556.12	-11270	1.45	0	5075	6344	10943	3698	11419		1.01	Si
SLD 3	ini.	2767.37	-6326	1.45	0	5075	6344	10943	3698	11419		1.81	Si
SLD 3	fin.	-1420.2	-7628	1.45	0	5075	6344	10943	3698	11419		1.5	Si
SLD 4	ini.	2764.69	-6345	1.45	0	5075	6344	10943	3698	11419		1.8	Si
SLD 4	fin.	-1439.31	-7648	1.45	0	5075	6344	10943	3698	11419		1.49	Si
SLV 15	ini.	-2643.41	7571	1.45	0	5075	6344	10943	3698	11419		1.51	Si
SLV 15	fin.	1496.35	6230	1.45	0	5075	6344	10943	3698	11419		1.83	Si
SLD 1	ini.	2636.79	-6743	1.45	0	5075	6344	10943	3698	11419		1.69	Si
SLD 1	fin.	-1813.05	-8101	1.45	0	5075	6344	10943	3698	11419		1.41	Si
SLV 4	ini.	4007.67	-9228	1.45	0	5075	6344	10943	3698	11419		1.24	Si
SLV 4	fin.	-1916.03	-10494	1.45	0	5075	6344	10943	3698	11419		1.09	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	4011.91	-9197	1.45	0	5075	6344	10943	3698	11419		1.24	Si
SLV 3	fin.	-1885.91	-10463	1.45	0	5075	6344	10943	3698	11419		1.09	Si
SLV 2	ini.	3786.33	-9941	1.45	0	5075	6344	10943	3698	11419		1.15	Si
SLV 2	fin.	-2586.24	-11301	1.45	0	5075	6344	10943	3698	11419		1.01	Si
SLD 2	ini.	2634.1	-6762	1.45	0	5075	6344	10943	3698	11419		1.69	Si
SLD 2	fin.	-1832.16	-8121	1.45	0	5075	6344	10943	3698	11419		1.41	Si
SLV 16	ini.	-2647.64	7540	1.45	0	5075	6344	10943	3698	11419		1.51	Si
SLV 16	fin.	1466.23	6200	1.45	0	5075	6344	10943	3698	11419		1.84	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.889	SLV 3	Si
V_SLV	1.01	SLV 2	Si
PF_SLU	9.376	SLU 82	Si
V_SLU	2.556	SLU 82	Si

Trave di accoppiamento 94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	6.5	7.95	1.45	-9.443	-3.169	6.5	7.95	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	159.69	538	-0.0000304	0.0001872	0.0035	1.45		7660.24	7660.24	No	47.97	Si
SLU 81	fin.	-428.05	611	-0.0000832	0.0001872	0.0035	1.45		7669.58	7669.58	No	17.92	Si
SLU 40	ini.	177.28	580	-0.0000338	0.0001872	0.0035	1.45		7660.24	7660.24	No	43.21	Si
SLU 40	fin.	-439.97	630	-0.0000856	0.0001872	0.0035	1.45		7669.58	7669.58	No	17.43	Si
SLU 84	ini.	169.73	534	-0.0000324	0.0001872	0.0035	1.45		7660.24	7660.24	No	45.13	Si
SLU 84	fin.	-426.87	606	-0.0000829	0.0001872	0.0035	1.45		7669.58	7669.58	No	17.97	Si
SLU 73	ini.	206.98	555	-0.0000396	0.0001872	0.0035	1.45		7660.24	7660.24	No	37.01	Si
SLU 73	fin.	-403.98	550	-0.0000783	0.0001872	0.0035	1.45		7669.58	7669.58	No	18.99	Si
SLU 31	ini.	202.47	567	-0.0000387	0.0001872	0.0035	1.45		7660.24	7660.24	No	37.83	Si
SLU 31	fin.	-402.73	555	-0.0000781	0.0001872	0.0035	1.45		7669.58	7669.58	No	19.04	Si
SLU 42	ini.	165.21	547	-0.0000315	0.0001872	0.0035	1.45		7660.24	7660.24	No	46.37	Si
SLU 42	fin.	-425.63	611	-0.0000827	0.0001872	0.0035	1.45		7669.58	7669.58	No	18.02	Si
SLU 83	ini.	147.63	505	-0.0000281	0.0001872	0.0035	1.45		7660.24	7660.24	No	51.89	Si
SLU 83	fin.	-413.71	592	-0.0000803	0.0001872	0.0035	1.45		7669.58	7669.58	No	18.54	Si
SLU 41	ini.	143.11	518	-0.0000272	0.0001872	0.0035	1.45		7660.24	7660.24	No	53.53	Si
SLU 41	fin.	-412.47	597	-0.0000801	0.0001872	0.0035	1.45		7669.58	7669.58	No	18.59	Si
SLU 82	ini.	181.8	567	-0.0000347	0.0001872	0.0035	1.45		7660.24	7660.24	No	42.14	Si
SLU 82	fin.	-441.21	625	-0.0000858	0.0001872	0.0035	1.45		7669.58	7669.58	No	17.38	Si
SLU 39	ini.	155.17	551	-0.0000296	0.0001872	0.0035	1.45		7660.24	7660.24	No	49.37	Si
SLU 39	fin.	-426.81	616	-0.0000829	0.0001872	0.0035	1.45		7669.58	7669.58	No	17.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	169.73	361	1.45	0	2819	7137	6079	3698	9776	No	27.11	Si
SLU 84	fin.	-426.87	-1542	1.45	0	2819	7137	6079	3698	9776	No	6.34	Si
SLU 76	ini.	194.92	265	1.45	0	2819	7137	6079	3698	9776	No	36.92	Si
SLU 76	fin.	-389.63	-1520	1.45	0	2819	7137	6079	3698	9776	No	6.43	Si
SLU 83	ini.	147.63	412	1.45	0	2819	7137	6079	3698	9776	No	23.74	Si
SLU 83	fin.	-413.71	-1491	1.45	0	2819	7137	6079	3698	9776	No	6.56	Si
SLU 74	ini.	174.25	315	1.45	0	2819	7137	6079	3698	9776	No	30.99	Si
SLU 74	fin.	-374.45	-1469	1.45	0	2819	7137	6079	3698	9776	No	6.65	Si
SLU 78	ini.	184.29	305	1.45	0	2819	7137	6079	3698	9776	No	32.05	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-373.27	-1480	1.45	0	2819	7137	6079	3698	9776	No	6.61	Si
SLU 75	ini.	196.35	264	1.45	0	2819	7137	6079	3698	9776	No	37	Si
SLU 75	fin.	-387.61	-1520	1.45	0	2819	7137	6079	3698	9776	No	6.43	Si
SLU 82	ini.	181.8	320	1.45	0	2819	7137	6079	3698	9776	No	30.57	Si
SLU 82	fin.	-441.21	-1583	1.45	0	2819	7137	6079	3698	9776	No	6.18	Si
SLU 81	ini.	159.69	371	1.45	0	2819	7137	6079	3698	9776	No	26.35	Si
SLU 81	fin.	-428.05	-1532	1.45	0	2819	7137	6079	3698	9776	No	6.38	Si
SLU 73	ini.	206.98	224	1.45	0	2819	7137	6079	3698	9776	No	43.65	Si
SLU 73	fin.	-403.98	-1561	1.45	0	2819	7137	6079	3698	9776	No	6.26	Si
SLU 40	ini.	177.28	212	1.45	0	2819	7137	6079	3698	9776	No	46.04	Si
SLU 40	fin.	-439.97	-1483	1.45	0	2819	7137	6079	3698	9776	No	6.59	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	2408.54	4711	-0.0005412	0.0002807	0.0035	1.45		7646.28	7646.28		3.17	Si
SLV 4	fin.	-1923.98	2817	-0.0004136	0.0002807	0.0035	1.45		7655.81	7655.81		3.98	Si
SLV 11	ini.	-2729.7	-3883	-0.0006299	0.0002807	0.0035	1.45		7655.81	7655.81		2.8	Si
SLV 11	fin.	1618.06	-1932	-0.0003392	0.0002807	0.0035	1.45		7646.28	7646.28		4.73	Si
SLV 16	ini.	-2869.85	-4884	-0.0006702	0.0002807	0.0035	1.45		7655.81	7655.81		2.67	Si
SLV 16	fin.	1883.51	-2631	-0.000404	0.0002807	0.0035	1.45		7646.28	7646.28		4.06	Si
SLD 2	ini.	2290.58	4047	-0.0005093	0.0002807	0.0035	1.45		7646.28	7646.28		3.34	Si
SLD 2	fin.	-1734.66	2365	-0.0003668	0.0002807	0.0035	1.45		7655.81	7655.81		4.41	Si
SLV 2	ini.	3557.61	6213	-0.0008822	0.0002807	0.0035	1.45		7646.28	7646.28		2.15	Si
SLV 2	fin.	-2618.83	3572	-0.0005985	0.0002807	0.0035	1.45		7655.81	7655.81		2.92	Si
SLV 6	ini.	2979.14	4490	-0.0007033	0.0002807	0.0035	1.45		7646.28	7646.28		2.57	Si
SLV 6	fin.	-2046.77	2481	-0.0004448	0.0002807	0.0035	1.45		7655.81	7655.81		3.74	Si
SLV 1	ini.	3119.29	5491	-0.0007453	0.0002807	0.0035	1.45		7646.28	7646.28		2.45	Si
SLV 1	fin.	-2312.22	3180	-0.0005144	0.0002807	0.0035	1.45		7655.81	7655.81		3.31	Si
SLV 12	ini.	-2434.61	-3396	-0.0005475	0.0002807	0.0035	1.45		7655.81	7655.81		3.14	Si
SLV 12	fin.	1411.65	-1668	-0.000291	0.0002807	0.0035	1.45		7646.28	7646.28		5.42	Si
SLV 15	ini.	-3308.17	-5606	-0.000802	0.0002807	0.0035	1.45		7655.81	7655.81		2.31	Si
SLV 15	fin.	2190.12	-3023	-0.0004827	0.0002807	0.0035	1.45		7646.28	7646.28		3.49	Si
SLV 5	ini.	2684.05	4004	-0.0006178	0.0002807	0.0035	1.45		7646.28	7646.28		2.85	Si
SLV 5	fin.	-1840.35	2217	-0.0003928	0.0002807	0.0035	1.45		7655.81	7655.81		4.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	2684.05	-5889	1.45	0	4229	7137	9118	3698	11366		1.93	Si
SLV 5	fin.	-1840.35	-7025	1.45	0	4229	7137	9118	3698	11366		1.62	Si
SLV 1	ini.	3119.29	-7364	1.45	0	4229	7137	9118	3698	11366		1.54	Si
SLV 1	fin.	-2312.22	-8441	1.45	0	4229	7137	9118	3698	11366		1.35	Si
SLV 11	ini.	-2729.7	7023	1.45	0	4229	7137	9118	3698	11366		1.62	Si
SLV 11	fin.	1618.06	5806	1.45	0	4229	7137	9118	3698	11366		1.96	Si
SLV 16	ini.	-2869.85	7762	1.45	0	4229	7137	9118	3698	11366		1.46	Si
SLV 16	fin.	1883.51	6486	1.45	0	4229	7137	9118	3698	11366		1.75	Si
SLV 2	ini.	3557.61	-8457	1.45	0	4229	7137	9118	3698	11366		1.34	Si
SLV 2	fin.	-2618.83	-9535	1.45	0	4229	7137	9118	3698	11366		1.19	Si
SLV 6	ini.	2979.14	-6625	1.45	0	4229	7137	9118	3698	11366		1.72	Si
SLV 6	fin.	-2046.77	-7761	1.45	0	4229	7137	9118	3698	11366		1.46	Si
SLD 2	ini.	2290.58	-5262	1.45	0	4229	7137	9118	3698	11366		2.16	Si
SLD 2	fin.	-1734.66	-6382	1.45	0	4229	7137	9118	3698	11366		1.78	Si
SLV 4	ini.	2408.54	-5804	1.45	0	4229	7137	9118	3698	11366		1.96	Si
SLV 4	fin.	-1923.98	-6889	1.45	0	4229	7137	9118	3698	11366		1.65	Si
SLV 15	ini.	-3308.17	8855	1.45	0	4229	7137	9118	3698	11366		1.28	Si
SLV 15	fin.	2190.12	7579	1.45	0	4229	7137	9118	3698	11366		1.5	Si
SLV 12	ini.	-2434.61	6287	1.45	0	4229	7137	9118	3698	11366		1.81	Si
SLV 12	fin.	1411.65	5070	1.45	0	4229	7137	9118	3698	11366		2.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.149	SLV 2	Si
V_SLV	1.192	SLV 2	Si
PF_SLU	17.383	SLU 82	Si
V_SLU	6.176	SLU 82	Si

Trave di accoppiamento 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	4.4	6.4	2	-5.158	6.521	4.4	6.4	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	107.7	-921	-0.0000107	0.0001872	0.0035	2		14344.28	14344.28	No	133.18	Si
SLU 69	fin.	-328.23	-332	-0.0000329	0.0001872	0.0035	2		14357.01	14357.01	No	43.74	Si
SLU 49	ini.	80.93	-854	-0.000008	0.0001872	0.0035	2		14344.28	14344.28	No	177.25	Si
SLU 49	fin.	-326.13	-331	-0.0000326	0.0001872	0.0035	2		14357.01	14357.01	No	44.02	Si
SLU 51	ini.	77.8	-869	-0.0000077	0.0001872	0.0035	2		14344.28	14344.28	No	184.37	Si
SLU 51	fin.	-339.19	-346	-0.000034	0.0001872	0.0035	2		14357.01	14357.01	No	42.33	Si
SLU 72	ini.	105.84	-894	-0.0000105	0.0001872	0.0035	2		14344.28	14344.28	No	135.52	Si
SLU 72	fin.	-315.15	-318	-0.0000315	0.0001872	0.0035	2		14357.01	14357.01	No	45.56	Si
SLU 45	ini.	75.15	-804	-0.0000075	0.0001872	0.0035	2		14344.28	14344.28	No	190.87	Si
SLU 45	fin.	-298.07	-302	-0.0000298	0.0001872	0.0035	2		14357.01	14357.01	No	48.17	Si
SLU 71	ini.	104.58	-936	-0.0000104	0.0001872	0.0035	2		14344.28	14344.28	No	137.16	Si
SLU 71	fin.	-341.29	-346	-0.0000342	0.0001872	0.0035	2		14357.01	14357.01	No	42.07	Si
SLU 70	ini.	108.97	-878	-0.0000108	0.0001872	0.0035	2		14344.28	14344.28	No	131.64	Si
SLU 70	fin.	-302.09	-304	-0.0000302	0.0001872	0.0035	2		14357.01	14357.01	No	47.53	Si
SLU 8	ini.	68.35	-751	-0.0000068	0.0001872	0.0035	2		14344.28	14344.28	No	209.86	Si
SLU 8	fin.	-299.7	-307	-0.00003	0.0001872	0.0035	2		14357.01	14357.01	No	47.9	Si
SLU 48	ini.	79.66	-897	-0.0000079	0.0001872	0.0035	2		14344.28	14344.28	No	180.06	Si
SLU 48	fin.	-352.27	-359	-0.0000353	0.0001872	0.0035	2		14357.01	14357.01	No	40.76	Si
SLU 50	ini.	76.54	-912	-0.0000076	0.0001872	0.0035	2		14344.28	14344.28	No	187.41	Si
SLU 50	fin.	-365.33	-374	-0.0000366	0.0001872	0.0035	2		14357.01	14357.01	No	39.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	128.94	-3918	2	0	3889	3964	8384	5100	7853	No	2	Si
SLU 80	fin.	-236.27	-1157	2	0	3889	3964	8384	5100	7853	No	6.79	Si
SLU 78	ini.	132.06	-3901	2	0	3889	3964	8384	5100	7853	No	2.01	Si
SLU 78	fin.	-223.21	-1132	2	0	3889	3964	8384	5100	7853	No	6.93	Si
SLU 83	ini.	133.06	-3744	2	0	3889	3964	8384	5100	7853	No	2.1	Si
SLU 83	fin.	-174.4	-1016	2	0	3889	3964	8384	5100	7853	No	7.73	Si
SLU 69	ini.	107.7	-4017	2	0	3889	3964	8384	5100	7853	No	1.96	Si
SLU 69	fin.	-328.23	-1342	2	0	3889	3964	8384	5100	7853	No	5.85	Si
SLU 66	ini.	103.2	-3729	2	0	3889	3964	8384	5100	7853	No	2.11	Si
SLU 66	fin.	-274.03	-1199	2	0	3889	3964	8384	5100	7853	No	6.55	Si
SLU 72	ini.	105.84	-3919	2	0	3889	3964	8384	5100	7853	No	2	Si
SLU 72	fin.	-315.15	-1302	2	0	3889	3964	8384	5100	7853	No	6.03	Si
SLU 79	ini.	127.68	-4032	2	0	3889	3964	8384	5100	7853	No	1.95	Si
SLU 79	fin.	-262.41	-1221	2	0	3889	3964	8384	5100	7853	No	6.43	Si
SLU 70	ini.	108.97	-3902	2	0	3889	3964	8384	5100	7853	No	2.01	Si
SLU 70	fin.	-302.09	-1278	2	0	3889	3964	8384	5100	7853	No	6.15	Si
SLU 77	ini.	130.8	-4016	2	0	3889	3964	8384	5100	7853	No	1.96	Si
SLU 77	fin.	-249.35	-1197	2	0	3889	3964	8384	5100	7853	No	6.56	Si
SLU 71	ini.	104.58	-4033	2	0	3889	3964	8384	5100	7853	No	1.95	Si
SLU 71	fin.	-341.29	-1367	2	0	3889	3964	8384	5100	7853	No	5.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	303.99	3403	-0.0000303	0.0002807	0.0035	2		14202.07	14202.07		46.72	Si
SLV 14	fin.	2432.58	2611	-0.0002607	0.0002807	0.0035	2		14202.07	14202.07		5.84	Si
SLV 3	ini.	-156.1	-4504	-0.0000155	0.0002807	0.0035	2		14215.41	14215.41		91.06	Si
SLV 3	fin.	-2756.37	-2930	-0.0002991	0.0002807	0.0035	2		14215.41	14215.41		5.16	Si
SLD 3	ini.	-71.55	-3028	-0.0000071	0.0002807	0.0035	2		14215.41	14215.41		198.69	Si
SLD 3	fin.	-1790.55	-1899	-0.0001872	0.0002807	0.0035	2		14215.41	14215.41		7.94	Si
SLV 4	ini.	-125.57	-3773	-0.0000125	0.0002807	0.0035	2		14215.41	14215.41		113.2	Si
SLV 4	fin.	-2273.92	-2412	-0.000242	0.0002807	0.0035	2		14215.41	14215.41		6.25	Si
SLD 7	ini.	-15.96	-3053	-0.0000016	0.0002807	0.0035	2		14215.41	14215.41		890.42	Si
SLD 7	fin.	-1729.18	-1811	-0.0001804	0.0002807	0.0035	2		14215.41	14215.41		8.22	Si
SLV 10	ini.	222	3640	-0.0000221	0.0002807	0.0035	2		14202.07	14202.07		63.97	Si
SLV 10	fin.	2457.73	2599	-0.0002637	0.0002807	0.0035	2		14202.07	14202.07		5.78	Si
SLV 7	ini.	-74.11	-4741	-0.0000073	0.0002807	0.0035	2		14215.41	14215.41		191.81	Si
SLV 7	fin.	-2781.52	-2918	-0.0003022	0.0002807	0.0035	2		14215.41	14215.41		5.11	Si
SLV 9	ini.	201.45	3149	-0.00002	0.0002807	0.0035	2		14202.07	14202.07		70.5	Si
SLV 9	fin.	2132.94	2251	-0.000226	0.0002807	0.0035	2		14202.07	14202.07		6.66	Si
SLV 8	ini.	-53.56	-4249	-0.0000053	0.0002807	0.0035	2		14215.41	14215.41		265.42	Si
SLV 8	fin.	-2456.72	-2569	-0.0002633	0.0002807	0.0035	2		14215.41	14215.41		5.79	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	273.46	2673	-0.0000273	0.0002807	0.0035	2		14202.07	14202.07		51.93	Si
SLV 13	fin.	1950.13	2093	-0.0002052	0.0002807	0.0035	2		14202.07	14202.07		7.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-3.49	-8528	2	0	5833	3964	12577	5100	9797		1.15	Si
SLD 8	fin.	-1532.08	-4201	2	0	5833	3964	12577	5100	9797		2.33	Si
SLV 4	ini.	-125.57	-10360	2	0	5833	3964	12577	5100	9797		0.95	No
SLV 4	fin.	-2273.92	-5768	2	0	5833	3964	12577	5100	9797		1.7	Si
SLV 10	ini.	222	8628	2	0	5833	3964	12577	5100	9797		1.14	Si
SLV 10	fin.	2457.73	5697	2	0	5833	3964	12577	5100	9797		1.72	Si
SLV 8	ini.	-53.56	-12581	2	0	5833	3964	12577	5100	9797		0.78	No
SLV 8	fin.	-2456.72	-6513	2	0	5833	3964	12577	5100	9797		1.5	Si
SLV 3	ini.	-156.1	-12173	2	0	5833	3964	12577	5100	9797		0.8	No
SLV 3	fin.	-2756.37	-6899	2	0	5833	3964	12577	5100	9797		1.42	Si
SLD 3	ini.	-71.55	-8579	2	0	5833	3964	12577	5100	9797		1.14	Si
SLD 3	fin.	-1790.55	-4619	2	0	5833	3964	12577	5100	9797		2.12	Si
SLD 7	ini.	-15.96	-9269	2	0	5833	3964	12577	5100	9797		1.06	Si
SLD 7	fin.	-1729.18	-4663	2	0	5833	3964	12577	5100	9797		2.1	Si
SLV 12	ini.	60.8	-8956	2	0	5833	3964	12577	5100	9797		1.09	Si
SLV 12	fin.	-1391.17	-4065	2	0	5833	3964	12577	5100	9797		2.41	Si
SLV 7	ini.	-74.11	-13801	2	0	5833	3964	12577	5100	9797		0.71	No
SLV 7	fin.	-2781.52	-7274	2	0	5833	3964	12577	5100	9797		1.35	Si
SLV 11	ini.	40.25	-10176	2	0	5833	3964	12577	5100	9797		0.96	No
SLV 11	fin.	-1715.97	-4826	2	0	5833	3964	12577	5100	9797		2.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.111	SLV 7	Si
V_SLV	0.71	SLV 7	No
PF_SLU	39.299	SLU 50	Si
V_SLU	1.947	SLU 71	Si

Trave di accoppiamento 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	7.2	7.95	0.75	-5.158	6.521	7.2	7.95	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-346.8	-1567	-0.0002736	0.0001872	0.0035	0.75		2074.44	2074.44	No	5.98	Si
SLU 70	fin.	212.26	-619	-0.0001591	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.75	Si
SLU 84	ini.	-346.4	-1535	-0.0002733	0.0001872	0.0035	0.75		2074.44	2074.44	No	5.99	Si
SLU 84	fin.	212.92	-623	-0.0001596	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.72	Si
SLU 77	ini.	-363.04	-1629	-0.0002884	0.0001872	0.0035	0.75		2074.44	2074.44	No	5.71	Si
SLU 77	fin.	223.05	-651	-0.0001678	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.28	Si
SLU 72	ini.	-344.76	-1562	-0.0002718	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.02	Si
SLU 72	fin.	211.1	-615	-0.0001581	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.8	Si
SLU 71	ini.	-345.59	-1567	-0.0002725	0.0001872	0.0035	0.75		2074.44	2074.44	No	6	Si
SLU 71	fin.	211.6	-616	-0.0001585	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.78	Si
SLU 83	ini.	-347.24	-1540	-0.000274	0.0001872	0.0035	0.75		2074.44	2074.44	No	5.97	Si
SLU 83	fin.	213.42	-624	-0.00016	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.7	Si
SLU 78	ini.	-362.21	-1624	-0.0002876	0.0001872	0.0035	0.75		2074.44	2074.44	No	5.73	Si
SLU 78	fin.	222.55	-650	-0.0001674	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.3	Si
SLU 69	ini.	-347.63	-1572	-0.0002744	0.0001872	0.0035	0.75		2074.44	2074.44	No	5.97	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	fin.	212.76	-620	-0.0001595	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.73	Si
SLU 80	ini.	-360.17	-1619	-0.0002858	0.0001872	0.0035	0.75		2074.44	2074.44	No	5.76	Si
SLU 80	fin.	221.39	-646	-0.0001665	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.35	Si
SLU 79	ini.	-361	-1624	-0.0002865	0.0001872	0.0035	0.75		2074.44	2074.44	No	5.75	Si
SLU 79	fin.	221.89	-647	-0.0001669	0.0001872	0.0035	0.75		2069.77	2069.77	No	9.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-347.63	3154	0.75	0	1458	3964	3144	1913	5057	No	1.6	Si
SLU 69	fin.	212.76	1138	0.75	0	1458	3964	3144	1913	5057	No	4.44	Si
SLU 70	ini.	-346.8	3141	0.75	0	1458	3964	3144	1913	5057	No	1.61	Si
SLU 70	fin.	212.26	1136	0.75	0	1458	3964	3144	1913	5057	No	4.45	Si
SLU 83	ini.	-347.24	3077	0.75	0	1458	3964	3144	1913	5057	No	1.64	Si
SLU 83	fin.	213.42	1134	0.75	0	1458	3964	3144	1913	5057	No	4.46	Si
SLU 84	ini.	-346.4	3063	0.75	0	1458	3964	3144	1913	5057	No	1.65	Si
SLU 84	fin.	212.92	1132	0.75	0	1458	3964	3144	1913	5057	No	4.47	Si
SLU 79	ini.	-361	3251	0.75	0	1458	3964	3144	1913	5057	No	1.56	Si
SLU 79	fin.	221.89	1185	0.75	0	1458	3964	3144	1913	5057	No	4.27	Si
SLU 72	ini.	-344.76	3130	0.75	0	1458	3964	3144	1913	5057	No	1.62	Si
SLU 72	fin.	211.1	1130	0.75	0	1458	3964	3144	1913	5057	No	4.48	Si
SLU 78	ini.	-362.21	3249	0.75	0	1458	3964	3144	1913	5057	No	1.56	Si
SLU 78	fin.	222.55	1189	0.75	0	1458	3964	3144	1913	5057	No	4.25	Si
SLU 77	ini.	-363.04	3262	0.75	0	1458	3964	3144	1913	5057	No	1.55	Si
SLU 77	fin.	223.05	1191	0.75	0	1458	3964	3144	1913	5057	No	4.25	Si
SLU 71	ini.	-345.59	3143	0.75	0	1458	3964	3144	1913	5057	No	1.61	Si
SLU 71	fin.	211.6	1132	0.75	0	1458	3964	3144	1913	5057	No	4.47	Si
SLU 80	ini.	-360.17	3238	0.75	0	1458	3964	3144	1913	5057	No	1.56	Si
SLU 80	fin.	221.39	1183	0.75	0	1458	3964	3144	1913	5057	No	4.27	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-326.65	-1491	-0.0002468	0.0002807	0.0035	0.75		2090.82	2090.82		6.4	Si
SLV 15	fin.	195.37	-562	-0.0001431	0.0002807	0.0035	0.75		2085.94	2085.94		10.68	Si
SLD 7	ini.	-311.32	-1342	-0.0002342	0.0002807	0.0035	0.75		2090.82	2090.82		6.72	Si
SLD 7	fin.	181.59	-515	-0.0001325	0.0002807	0.0035	0.75		2085.94	2085.94		11.49	Si
SLV 12	ini.	-415.62	-1889	-0.0003222	0.0002807	0.0035	0.75		2090.82	2090.82		5.03	Si
SLV 12	fin.	241.63	-676	-0.0001789	0.0002807	0.0035	0.75		2085.94	2085.94		8.63	Si
SLV 11	ini.	-404.08	-1784	-0.0003122	0.0002807	0.0035	0.75		2090.82	2090.82		5.17	Si
SLV 11	fin.	232.97	-652	-0.0001722	0.0002807	0.0035	0.75		2085.94	2085.94		8.95	Si
SLV 16	ini.	-343.79	-1647	-0.000261	0.0002807	0.0035	0.75		2090.82	2090.82		6.08	Si
SLV 16	fin.	208.23	-597	-0.000153	0.0002807	0.0035	0.75		2085.94	2085.94		10.02	Si
SLD 11	ini.	-332.78	-1471	-0.0002518	0.0002807	0.0035	0.75		2090.82	2090.82		6.28	Si
SLD 11	fin.	195.39	-554	-0.0001431	0.0002807	0.0035	0.75		2085.94	2085.94		10.68	Si
SLD 8	ini.	-318.32	-1406	-0.0002399	0.0002807	0.0035	0.75		2090.82	2090.82		6.57	Si
SLD 8	fin.	186.84	-530	-0.0001366	0.0002807	0.0035	0.75		2085.94	2085.94		11.16	Si
SLV 7	ini.	-370.6	-1583	-0.0002835	0.0002807	0.0035	0.75		2090.82	2090.82		5.64	Si
SLV 7	fin.	211.78	-591	-0.0001557	0.0002807	0.0035	0.75		2085.94	2085.94		9.85	Si
SLD 12	ini.	-339.79	-1534	-0.0002576	0.0002807	0.0035	0.75		2090.82	2090.82		6.15	Si
SLD 12	fin.	200.64	-568	-0.0001471	0.0002807	0.0035	0.75		2085.94	2085.94		10.4	Si
SLV 8	ini.	-382.14	-1688	-0.0002933	0.0002807	0.0035	0.75		2090.82	2090.82		5.47	Si
SLV 8	fin.	220.44	-615	-0.0001624	0.0002807	0.0035	0.75		2085.94	2085.94		9.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-339.79	3281	0.75	0	2188	3964	4716	1913	6152		1.87	Si
SLD 12	fin.	200.64	1078	0.75	0	2188	3964	4716	1913	6152		5.71	Si
SLV 8	ini.	-382.14	3743	0.75	0	2188	3964	4716	1913	6152		1.64	Si
SLV 8	fin.	220.44	1171	0.75	0	2188	3964	4716	1913	6152		5.26	Si
SLD 7	ini.	-311.32	2921	0.75	0	2188	3964	4716	1913	6152		2.11	Si
SLD 7	fin.	181.59	953	0.75	0	2188	3964	4716	1913	6152		6.46	Si
SLD 11	ini.	-332.78	3174	0.75	0	2188	3964	4716	1913	6152		1.94	Si
SLD 11	fin.	195.39	1040	0.75	0	2188	3964	4716	1913	6152		5.91	Si
SLV 15	ini.	-326.65	3116	0.75	0	2188	3964	4716	1913	6152		1.97	Si
SLV 15	fin.	195.37	1064	0.75	0	2188	3964	4716	1913	6152		5.78	Si
SLV 11	ini.	-404.08	3965	0.75	0	2188	3964	4716	1913	6152		1.55	Si
SLV 11	fin.	232.97	1245	0.75	0	2188	3964	4716	1913	6152		4.94	Si
SLV 16	ini.	-343.79	3378	0.75	0	2188	3964	4716	1913	6152		1.82	Si
SLV 16	fin.	208.23	1157	0.75	0	2188	3964	4716	1913	6152		5.32	Si
SLD 8	ini.	-318.32	3028	0.75	0	2188	3964	4716	1913	6152		2.03	Si
SLD 8	fin.	186.84	990	0.75	0	2188	3964	4716	1913	6152		6.21	Si
SLV 12	ini.	-415.62	4142	0.75	0	2188	3964	4716	1913	6152		1.49	Si
SLV 12	fin.	241.63	1307	0.75	0	2188	3964	4716	1913	6152		4.71	Si
SLV 7	ini.	-370.6	3566	0.75	0	2188	3964	4716	1913	6152		1.72	Si
SLV 7	fin.	211.78	1108	0.75	0	2188	3964	4716	1913	6152		5.55	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.031	SLV 12	Si
V_SLV	1.485	SLV 12	Si
PF_SLU	5.714	SLU 77	Si
V_SLU	1.55	SLU 77	Si

Trave di accoppiamento 98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	4.4	5.3	0.9	-7.403	-3.169	4.4	5.3	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 60	ini.	-30.86	-1004	-0.0000152	0.0001872	0.0035	0.9		2964.67	2964.67	No	96.06	Si
SLU 60	fin.	170.61	-965	-0.0000863	0.0001872	0.0035	0.9		2959	2959	No	17.34	Si
SLU 81	ini.	-30.75	-1118	-0.0000151	0.0001872	0.0035	0.9		2964.67	2964.67	No	96.4	Si
SLU 81	fin.	167.58	-1013	-0.0000848	0.0001872	0.0035	0.9		2959	2959	No	17.66	Si
SLU 62	ini.	-30.82	-1018	-0.0000151	0.0001872	0.0035	0.9		2964.67	2964.67	No	96.19	Si
SLU 62	fin.	176.68	-987	-0.0000895	0.0001872	0.0035	0.9		2959	2959	No	16.75	Si
SLU 84	ini.	-20.67	-1187	-0.0000101	0.0001872	0.0035	0.9		2964.67	2964.67	No	143.41	Si
SLU 84	fin.	158.44	-1017	-0.00008	0.0001872	0.0035	0.9		2959	2959	No	18.68	Si
SLU 61	ini.	-20.82	-1058	-0.0000102	0.0001872	0.0035	0.9		2964.67	2964.67	No	142.39	Si
SLU 61	fin.	155.38	-947	-0.0000784	0.0001872	0.0035	0.9		2959	2959	No	19.04	Si
SLU 20	ini.	-33.27	-803	-0.0000163	0.0001872	0.0035	0.9		2964.67	2964.67	No	89.11	Si
SLU 20	fin.	156.29	-826	-0.0000789	0.0001872	0.0035	0.9		2959	2959	No	18.93	Si
SLU 58	ini.	-18.3	-1048	-0.000009	0.0001872	0.0035	0.9		2964.67	2964.67	No	161.99	Si
SLU 58	fin.	157.05	-944	-0.0000793	0.0001872	0.0035	0.9		2959	2959	No	18.84	Si
SLU 79	ini.	-18.19	-1163	-0.0000089	0.0001872	0.0035	0.9		2964.67	2964.67	No	162.94	Si
SLU 79	fin.	154.03	-992	-0.0000777	0.0001872	0.0035	0.9		2959	2959	No	19.21	Si
SLU 83	ini.	-30.71	-1132	-0.0000151	0.0001872	0.0035	0.9		2964.67	2964.67	No	96.52	Si
SLU 83	fin.	173.66	-1035	-0.000088	0.0001872	0.0035	0.9		2959	2959	No	17.04	Si
SLU 63	ini.	-20.78	-1072	-0.0000102	0.0001872	0.0035	0.9		2964.67	2964.67	No	142.67	Si
SLU 63	fin.	161.46	-969	-0.0000816	0.0001872	0.0035	0.9		2959	2959	No	18.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	27.62	-2995	0.9	0	1750	7137	3773	2295	6068	No	2.03	Si
SLU 68	fin.	62.58	971	0.9	0	1750	7137	3773	2295	6068	No	6.25	Si
SLU 84	ini.	-20.67	-2969	0.9	0	1750	7137	3773	2295	6068	No	2.04	Si
SLU 84	fin.	158.44	1416	0.9	0	1750	7137	3773	2295	6068	No	4.29	Si
SLU 78	ini.	-4.66	-3049	0.9	0	1750	7137	3773	2295	6068	No	1.99	Si
SLU 78	fin.	133.56	1316	0.9	0	1750	7137	3773	2295	6068	No	4.61	Si
SLU 73	ini.	-1.54	-2989	0.9	0	1750	7137	3773	2295	6068	No	2.03	Si
SLU 73	fin.	116.5	1228	0.9	0	1750	7137	3773	2295	6068	No	4.94	Si
SLU 67	ini.	24.41	-2998	0.9	0	1750	7137	3773	2295	6068	No	2.02	Si
SLU 67	fin.	67.48	998	0.9	0	1750	7137	3773	2295	6068	No	6.08	Si
SLU 75	ini.	-4.71	-3020	0.9	0	1750	7137	3773	2295	6068	No	2.01	Si
SLU 75	fin.	127.48	1286	0.9	0	1750	7137	3773	2295	6068	No	4.72	Si
SLU 65	ini.	27.58	-2967	0.9	0	1750	7137	3773	2295	6068	No	2.05	Si
SLU 65	fin.	56.5	940	0.9	0	1750	7137	3773	2295	6068	No	6.45	Si
SLU 80	ini.	-8.15	-2987	0.9	0	1750	7137	3773	2295	6068	No	2.03	Si
SLU 80	fin.	138.8	1323	0.9	0	1750	7137	3773	2295	6068	No	4.59	Si
SLU 70	ini.	24.45	-3026	0.9	0	1750	7137	3773	2295	6068	No	2.01	Si
SLU 70	fin.	73.56	1029	0.9	0	1750	7137	3773	2295	6068	No	5.9	Si
SLU 76	ini.	-1.5	-3017	0.9	0	1750	7137	3773	2295	6068	No	2.01	Si
SLU 76	fin.	122.57	1258	0.9	0	1750	7137	3773	2295	6068	No	4.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-479.97	741	-0.0002533	0.0002807	0.0035	0.9		2995.37	2995.37		6.24	Si
SLV 13	fin.	1495.88	-3688	-0.000991	0.0002807	0.0035	0.9		2989.59	2989.59		2	Si
SLV 6	ini.	1128.61	-6248	-0.0006895	0.0002807	0.0035	0.9		2989.59	2989.59		2.65	Si
SLV 6	fin.	-2041.71	2662	-0.0015355	0.0002807	0.0035	0.9		2995.37	2995.37		1.47	Si
SLV 11	ini.	-1128.62	4514	-0.0006879	0.0002807	0.0035	0.9		2995.37	2995.37		2.65	Si
SLV 11	fin.	2203.28	-3953	-0.0017395	0.0002807	0.0035	0.9		2989.59	2989.59		1.36	Si
SLV 5	ini.	1041.64	-5874	-0.0006241	0.0002807	0.0035	0.9		2989.59	2989.59		2.87	Si
SLV 5	fin.	-1837.92	2282	-0.0013133	0.0002807	0.0035	0.9		2995.37	2995.37		1.63	Si
SLV 12	ini.	-1041.64	4141	-0.0006227	0.0002807	0.0035	0.9		2995.37	2995.37		2.88	Si
SLV 12	fin.	1999.5	-3574	-0.0014914	0.0002807	0.0035	0.9		2989.59	2989.59		1.5	Si
SLD 15	ini.	-631.26	1779	-0.0003438	0.0002807	0.0035	0.9		2995.37	2995.37		4.75	Si
SLD 15	fin.	1540.11	-3365	-0.0010304	0.0002807	0.0035	0.9		2989.59	2989.59		1.94	Si
SLV 1	ini.	879.5	-4559	-0.0005079	0.0002807	0.0035	0.9		2989.59	2989.59		3.4	Si
SLV 1	fin.	-1935.17	3093	-0.0014161	0.0002807	0.0035	0.9		2995.37	2995.37		1.55	Si
SLV 2	ini.	1008.69	-5114	-0.0005999	0.0002807	0.0035	0.9		2989.59	2989.59		2.96	Si
SLV 2	fin.	-2237.87	3657	-0.0017801	0.0002807	0.0035	0.9		2995.37	2995.37		1.34	Si
SLV 16	ini.	-879.5	2825	-0.0005068	0.0002807	0.0035	0.9		2995.37	2995.37		3.41	Si
SLV 16	fin.	2096.75	-4385	-0.0016052	0.0002807	0.0035	0.9		2989.59	2989.59		1.43	Si
SLV 15	ini.	-1008.7	3380	-0.0005985	0.0002807	0.0035	0.9		2995.37	2995.37		2.97	Si
SLV 15	fin.	2399.44	-4949	-0.0020208	0.0002807	0.0035	0.9		2989.59	2989.59		1.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	673.07	-7622	0.9	0	2625	7137	5660	2295	7954		1.04	Si
SLD 6	fin.	-1192.34	-3528	0.9	0	2625	7137	5660	2295	7954		2.25	Si
SLV 2	ini.	1008.69	-9597	0.9	0	2625	7137	5660	2295	7954		0.83	No
SLV 2	fin.	-2237.87	-7423	0.9	0	2625	7137	5660	2295	7954		1.07	Si
SLV 15	ini.	-1008.7	5382	0.9	0	2625	7137	5660	2295	7954		1.48	Si
SLV 15	fin.	2399.44	9131	0.9	0	2625	7137	5660	2295	7954		0.87	No
SLV 5	ini.	1041.64	-10710	0.9	0	2625	7137	5660	2295	7954		0.74	No
SLV 5	fin.	-1837.92	-5722	0.9	0	2625	7137	5660	2295	7954		1.39	Si
SLV 11	ini.	-1128.62	7166	0.9	0	2625	7137	5660	2295	7954		1.11	Si
SLV 11	fin.	2203.28	8149	0.9	0	2625	7137	5660	2295	7954		0.98	No
SLV 16	ini.	-879.5	4386	0.9	0	2625	7137	5660	2295	7954		1.81	Si
SLV 16	fin.	2096.75	8064	0.9	0	2625	7137	5660	2295	7954		0.99	No
SLV 6	ini.	1128.61	-11381	0.9	0	2625	7137	5660	2295	7954		0.7	No
SLV 6	fin.	-2041.71	-6441	0.9	0	2625	7137	5660	2295	7954		1.23	Si
SLV 10	ini.	720.77	-8539	0.9	0	2625	7137	5660	2295	7954		0.93	No
SLV 10	fin.	-1012.39	-2708	0.9	0	2625	7137	5660	2295	7954		2.94	Si
SLV 9	ini.	633.79	-7868	0.9	0	2625	7137	5660	2295	7954		1.01	Si
SLV 9	fin.	-808.61	-1989	0.9	0	2625	7137	5660	2295	7954		4	Si
SLV 1	ini.	879.5	-8601	0.9	0	2625	7137	5660	2295	7954		0.92	No
SLV 1	fin.	-1935.17	-6355	0.9	0	2625	7137	5660	2295	7954		1.25	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.246	SLV 15	Si
V_SLV	0.699	SLV 6	No
PF_SLU	16.747	SLU 62	Si
V_SLU	1.99	SLU 78	Si

Trave di accoppiamento 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	7.1	7.95	0.85	-7.403	-3.169	7.1	7.95	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 60	ini.	-153.89	-1506	-0.000087	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.26	Si
SLU 60	fin.	92.37	-237	-0.0000516	0.0001872	0.0035	0.85		2650.49	2650.49	No	28.69	Si
SLU 74	ini.	-148.46	-1567	-0.0000838	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.89	Si
SLU 74	fin.	89.13	-257	-0.0000497	0.0001872	0.0035	0.85		2650.49	2650.49	No	29.74	Si
SLU 83	ini.	-165.56	-1675	-0.0000938	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.04	Si
SLU 83	fin.	109.88	-244	-0.0000616	0.0001872	0.0035	0.85		2650.49	2650.49	No	24.12	Si
SLU 63	ini.	-150.73	-1495	-0.0000851	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.62	Si
SLU 63	fin.	83.24	-257	-0.0000464	0.0001872	0.0035	0.85		2650.49	2650.49	No	31.84	Si
SLU 79	ini.	-152.73	-1578	-0.0000863	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.39	Si
SLU 79	fin.	89.37	-263	-0.0000499	0.0001872	0.0035	0.85		2650.49	2650.49	No	29.66	Si
SLU 77	ini.	-151.83	-1585	-0.0000858	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.49	Si
SLU 77	fin.	87.97	-269	-0.0000491	0.0001872	0.0035	0.85		2650.49	2650.49	No	30.13	Si
SLU 62	ini.	-157.25	-1525	-0.000089	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.89	Si
SLU 62	fin.	91.21	-249	-0.0000509	0.0001872	0.0035	0.85		2650.49	2650.49	No	29.06	Si
SLU 81	ini.	-162.19	-1656	-0.0000919	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.37	Si
SLU 81	fin.	111.04	-232	-0.0000623	0.0001872	0.0035	0.85		2650.49	2650.49	No	23.87	Si
SLU 82	ini.	-155.67	-1626	-0.000088	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.06	Si
SLU 82	fin.	103.08	-240	-0.0000577	0.0001872	0.0035	0.85		2650.49	2650.49	No	25.71	Si
SLU 84	ini.	-159.03	-1645	-0.00009	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.7	Si
SLU 84	fin.	101.91	-252	-0.000057	0.0001872	0.0035	0.85		2650.49	2650.49	No	26.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-141.94	3740	0.85	0	1653	6740	3563	2168	5731	No	1.53	Si
SLU 75	fin.	81.17	-662	0.85	0	1653	6740	3563	2168	5731	No	8.66	Si
SLU 81	ini.	-162.19	3922	0.85	0	1653	6740	3563	2168	5731	No	1.46	Si
SLU 81	fin.	111.04	-563	0.85	0	1653	6740	3563	2168	5731	No	10.17	Si
SLU 84	ini.	-159.03	3937	0.85	0	1653	6740	3563	2168	5731	No	1.46	Si
SLU 84	fin.	101.91	-611	0.85	0	1653	6740	3563	2168	5731	No	9.37	Si
SLU 82	ini.	-155.67	3896	0.85	0	1653	6740	3563	2168	5731	No	1.47	Si
SLU 82	fin.	103.08	-599	0.85	0	1653	6740	3563	2168	5731	No	9.57	Si
SLU 79	ini.	-152.73	3771	0.85	0	1653	6740	3563	2168	5731	No	1.52	Si
SLU 79	fin.	89.37	-620	0.85	0	1653	6740	3563	2168	5731	No	9.25	Si
SLU 74	ini.	-148.46	3766	0.85	0	1653	6740	3563	2168	5731	No	1.52	Si
SLU 74	fin.	89.13	-626	0.85	0	1653	6740	3563	2168	5731	No	9.15	Si
SLU 77	ini.	-151.83	3807	0.85	0	1653	6740	3563	2168	5731	No	1.51	Si
SLU 77	fin.	87.97	-639	0.85	0	1653	6740	3563	2168	5731	No	8.97	Si
SLU 80	ini.	-146.21	3745	0.85	0	1653	6740	3563	2168	5731	No	1.53	Si
SLU 80	fin.	81.4	-656	0.85	0	1653	6740	3563	2168	5731	No	8.74	Si
SLU 78	ini.	-145.31	3780	0.85	0	1653	6740	3563	2168	5731	No	1.52	Si
SLU 78	fin.	80	-674	0.85	0	1653	6740	3563	2168	5731	No	8.5	Si
SLU 83	ini.	-165.56	3963	0.85	0	1653	6740	3563	2168	5731	No	1.45	Si
SLU 83	fin.	109.88	-576	0.85	0	1653	6740	3563	2168	5731	No	9.95	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1200.85	-5879	-0.0008583	0.0002807	0.0035	0.85		2680.73	2680.73		2.23	Si
SLV 15	fin.	901.93	-123	-0.0006	0.0002807	0.0035	0.85		2675.27	2675.27		2.97	Si
SLV 12	ini.	-992.15	-5087	-0.0006735	0.0002807	0.0035	0.85		2680.73	2680.73		2.7	Si
SLV 12	fin.	1008.87	597	-0.0006894	0.0002807	0.0035	0.85		2675.27	2675.27		2.65	Si
SLV 6	ini.	906.63	3447	-0.0006039	0.0002807	0.0035	0.85		2675.27	2675.27		2.95	Si
SLV 6	fin.	-1003.3	-1019	-0.000683	0.0002807	0.0035	0.85		2680.73	2680.73		2.67	Si
SLV 11	ini.	-1091.07	-5492	-0.0007591	0.0002807	0.0035	0.85		2680.73	2680.73		2.46	Si
SLV 11	fin.	1092.52	633	-0.0007622	0.0002807	0.0035	0.85		2675.27	2675.27		2.45	Si
SLV 13	ini.	-779.64	-3967	-0.0005016	0.0002807	0.0035	0.85		2680.73	2680.73		3.44	Si
SLV 13	fin.	395.87	-647	-0.0002325	0.0002807	0.0035	0.85		2675.27	2675.27		6.76	Si
SLV 5	ini.	807.71	3042	-0.0005246	0.0002807	0.0035	0.85		2675.27	2675.27		3.31	Si
SLV 5	fin.	-919.66	-983	-0.0006131	0.0002807	0.0035	0.85		2680.73	2680.73		2.91	Si
SLV 16	ini.	-1053.92	-5278	-0.0007265	0.0002807	0.0035	0.85		2680.73	2680.73		2.54	Si
SLV 16	fin.	777.68	-176	-0.0005012	0.0002807	0.0035	0.85		2675.27	2675.27		3.44	Si
SLV 2	ini.	1016.41	3834	-0.0006959	0.0002807	0.0035	0.85		2675.27	2675.27		2.63	Si
SLV 2	fin.	-812.72	-263	-0.0005273	0.0002807	0.0035	0.85		2680.73	2680.73		3.3	Si
SLD 15	ini.	-790.33	-4079	-0.0005099	0.0002807	0.0035	0.85		2680.73	2680.73		3.39	Si
SLD 15	fin.	578.95	-165	-0.0003547	0.0002807	0.0035	0.85		2675.27	2675.27		4.62	Si
SLV 1	ini.	869.49	3233	-0.0005737	0.0002807	0.0035	0.85		2675.27	2675.27		3.08	Si
SLV 1	fin.	-688.47	-210	-0.0004327	0.0002807	0.0035	0.85		2680.73	2680.73		3.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-779.64	6242	0.85	0	2479	6740	5345	2168	7513		1.2	Si
SLV 13	fin.	395.87	899	0.85	0	2479	6740	5345	2168	7513		8.35	Si
SLD 12	ini.	-631.59	5224	0.85	0	2479	6740	5345	2168	7513		1.44	Si
SLD 12	fin.	617.12	1991	0.85	0	2479	6740	5345	2168	7513		3.77	Si
SLV 11	ini.	-1091.07	7579	0.85	0	2479	6740	5345	2168	7513		0.99	No
SLV 11	fin.	1092.52	4019	0.85	0	2479	6740	5345	2168	7513		1.87	Si
SLV 15	ini.	-1200.85	8349	0.85	0	2479	6740	5345	2168	7513		0.9	No
SLV 15	fin.	901.93	3097	0.85	0	2479	6740	5345	2168	7513		2.43	Si
SLV 12	ini.	-992.15	7055	0.85	0	2479	6740	5345	2168	7513		1.06	Si
SLV 12	fin.	1008.87	3684	0.85	0	2479	6740	5345	2168	7513		2.04	Si
SLD 11	ini.	-691.62	5542	0.85	0	2479	6740	5345	2168	7513		1.36	Si
SLD 11	fin.	667.89	2194	0.85	0	2479	6740	5345	2168	7513		3.42	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-790.33	6180	0.85	0	2479	6740	5345	2168	7513		1.22	Si
SLD 15	fin.	578.95	1747	0.85	0	2479	6740	5345	2168	7513		4.3	Si
SLV 14	ini.	-632.71	5464	0.85	0	2479	6740	5345	2168	7513		1.37	Si
SLV 14	fin.	271.62	401	0.85	0	2479	6740	5345	2168	7513		18.72	Si
SLD 16	ini.	-697.12	5686	0.85	0	2479	6740	5345	2168	7513		1.32	Si
SLD 16	fin.	500.13	1431	0.85	0	2479	6740	5345	2168	7513		5.25	Si
SLV 16	ini.	-1053.92	7571	0.85	0	2479	6740	5345	2168	7513		0.99	No
SLV 16	fin.	777.68	2599	0.85	0	2479	6740	5345	2168	7513		2.89	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.232	SLV 15	Si
V_SLV	0.9	SLV 15	No
PF_SLU	16.042	SLU 83	Si
V_SLU	1.446	SLU 83	Si

Trave di accoppiamento 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	4.4	6.4	2	-5.938	-3.169	4.4	6.4	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 60	ini.	197.26	-3614	-0.0000197	0.0001872	0.0035	2		14344.28	14344.28	No	72.72	Si
SLU 60	fin.	127.97	-1848	-0.0000127	0.0001872	0.0035	2		14344.28	14344.28	No	112.09	Si
SLU 73	ini.	194.68	-3993	-0.0000194	0.0001872	0.0035	2		14344.28	14344.28	No	73.68	Si
SLU 73	fin.	74.91	-2126	-0.0000074	0.0001872	0.0035	2		14344.28	14344.28	No	191.49	Si
SLU 75	ini.	193.45	-4050	-0.0000193	0.0001872	0.0035	2		14344.28	14344.28	No	74.15	Si
SLU 75	fin.	87.63	-2159	-0.0000087	0.0001872	0.0035	2		14344.28	14344.28	No	163.69	Si
SLU 82	ini.	203.23	-4070	-0.0000203	0.0001872	0.0035	2		14344.28	14344.28	No	70.58	Si
SLU 82	fin.	119.64	-2121	-0.0000119	0.0001872	0.0035	2		14344.28	14344.28	No	119.9	Si
SLU 66	ini.	195.64	-3785	-0.0000195	0.0001872	0.0035	2		14344.28	14344.28	No	73.32	Si
SLU 66	fin.	37.17	-2031	-0.0000037	0.0001872	0.0035	2		14344.28	14344.28	No	385.87	Si
SLU 81	ini.	211.89	-4035	-0.0000211	0.0001872	0.0035	2		14344.28	14344.28	No	67.7	Si
SLU 81	fin.	140.73	-2067	-0.000014	0.0001872	0.0035	2		14344.28	14344.28	No	101.93	Si
SLU 84	ini.	194.21	-4090	-0.0000194	0.0001872	0.0035	2		14344.28	14344.28	No	73.86	Si
SLU 84	fin.	122.62	-2151	-0.0000122	0.0001872	0.0035	2		14344.28	14344.28	No	116.99	Si
SLU 74	ini.	202.11	-4016	-0.0000201	0.0001872	0.0035	2		14344.28	14344.28	No	70.97	Si
SLU 74	fin.	108.73	-2105	-0.0000108	0.0001872	0.0035	2		14344.28	14344.28	No	131.93	Si
SLU 83	ini.	202.87	-4056	-0.0000202	0.0001872	0.0035	2		14344.28	14344.28	No	70.71	Si
SLU 83	fin.	143.71	-2097	-0.0000143	0.0001872	0.0035	2		14344.28	14344.28	No	99.81	Si
SLU 64	ini.	202.64	-3705	-0.0000202	0.0001872	0.0035	2		14344.28	14344.28	No	70.79	Si
SLU 64	fin.	38.52	-1962	-0.0000038	0.0001872	0.0035	2		14344.28	14344.28	No	372.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	202.11	-6764	2	0	3889	3965	8384	5100	7854	No	1.16	Si
SLU 74	fin.	108.73	-1410	2	0	3889	3965	8384	5100	7854	No	5.57	Si
SLU 82	ini.	203.23	-6884	2	0	3889	3965	8384	5100	7854	No	1.14	Si
SLU 82	fin.	119.64	-1407	2	0	3889	3965	8384	5100	7854	No	5.58	Si
SLU 75	ini.	193.45	-6782	2	0	3889	3965	8384	5100	7854	No	1.16	Si
SLU 75	fin.	87.63	-1367	2	0	3889	3965	8384	5100	7854	No	5.75	Si
SLU 78	ini.	184.43	-6774	2	0	3889	3965	8384	5100	7854	No	1.16	Si
SLU 78	fin.	90.61	-1294	2	0	3889	3965	8384	5100	7854	No	6.07	Si
SLU 73	ini.	194.68	-6716	2	0	3889	3965	8384	5100	7854	No	1.17	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	fin.	74.91	-1394	2	0	3889	3965	8384	5100	7854	No	5.64	Si
SLU 83	ini.	202.87	-6858	2	0	3889	3965	8384	5100	7854	No	1.15	Si
SLU 83	fin.	143.71	-1377	2	0	3889	3965	8384	5100	7854	No	5.7	Si
SLU 84	ini.	194.21	-6876	2	0	3889	3965	8384	5100	7854	No	1.14	Si
SLU 84	fin.	122.62	-1334	2	0	3889	3965	8384	5100	7854	No	5.89	Si
SLU 76	ini.	185.66	-6707	2	0	3889	3965	8384	5100	7854	No	1.17	Si
SLU 76	fin.	77.89	-1321	2	0	3889	3965	8384	5100	7854	No	5.95	Si
SLU 77	ini.	193.09	-6756	2	0	3889	3965	8384	5100	7854	No	1.16	Si
SLU 77	fin.	111.7	-1337	2	0	3889	3965	8384	5100	7854	No	5.87	Si
SLU 81	ini.	211.89	-6866	2	0	3889	3965	8384	5100	7854	No	1.14	Si
SLU 81	fin.	140.73	-1450	2	0	3889	3965	8384	5100	7854	No	5.41	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	328.68	-7418	-0.0000328	0.0002807	0.0035	2		14202.07	14202.07		43.21	Si
SLV 5	fin.	-1900.39	-5981	-0.0001994	0.0002807	0.0035	2		14215.41	14215.41		7.48	Si
SLV 6	ini.	468.22	-7877	-0.0000469	0.0002807	0.0035	2		14202.07	14202.07		30.33	Si
SLV 6	fin.	-2088.77	-6215	-0.0002207	0.0002807	0.0035	2		14215.41	14215.41		6.81	Si
SLV 12	ini.	-19.65	1772	-0.0000019	0.0002807	0.0035	2		14215.41	14215.41		723.27	Si
SLV 12	fin.	1994.92	3017	-0.0002103	0.0002807	0.0035	2		14202.07	14202.07		7.12	Si
SLV 15	ini.	-810.05	1483	-0.000082	0.0002807	0.0035	2		14215.41	14215.41		17.55	Si
SLV 15	fin.	2144.42	1386	-0.0002273	0.0002807	0.0035	2		14202.07	14202.07		6.62	Si
SLD 15	ini.	-462.92	-133	-0.0000464	0.0002807	0.0035	2		14215.41	14215.41		30.71	Si
SLD 15	fin.	1361.51	283	-0.0001404	0.0002807	0.0035	2		14202.07	14202.07		10.43	Si
SLV 1	ini.	911.79	-6449	-0.0000927	0.0002807	0.0035	2		14202.07	14202.07		15.58	Si
SLV 1	fin.	-1770.06	-4003	-0.0001849	0.0002807	0.0035	2		14215.41	14215.41		8.03	Si
SLV 2	ini.	1119.07	-7130	-0.0001145	0.0002807	0.0035	2		14202.07	14202.07		12.69	Si
SLV 2	fin.	-2049.88	-4350	-0.0002163	0.0002807	0.0035	2		14215.41	14215.41		6.93	Si
SLV 16	ini.	-602.77	802	-0.0000606	0.0002807	0.0035	2		14215.41	14215.41		23.58	Si
SLV 16	fin.	1864.6	1038	-0.0001956	0.0002807	0.0035	2		14202.07	14202.07		7.62	Si
SLD 11	ini.	-44.5	187	-0.0000044	0.0002807	0.0035	2		14215.41	14215.41		319.43	Si
SLD 11	fin.	1323.97	1316	-0.0001363	0.0002807	0.0035	2		14202.07	14202.07		10.73	Si
SLV 11	ini.	-159.2	2231	-0.0000158	0.0002807	0.0035	2		14215.41	14215.41		89.29	Si
SLV 11	fin.	2183.3	3251	-0.0002318	0.0002807	0.0035	2		14202.07	14202.07		6.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	921.25	-9530	2	0	5833	3965	12577	5100	9798		1.03	Si
SLV 3	fin.	-810.94	-8155	2	0	5833	3965	12577	5100	9798		1.2	Si
SLD 6	ini.	353.52	-8890	2	0	5833	3965	12577	5100	9798		1.1	Si
SLD 6	fin.	-1229.44	-3834	2	0	5833	3965	12577	5100	9798		2.56	Si
SLD 2	ini.	771.94	-10395	2	0	5833	3965	12577	5100	9798		0.94	No
SLD 2	fin.	-1266.98	-7180	2	0	5833	3965	12577	5100	9798		1.36	Si
SLD 1	ini.	640.44	-9375	2	0	5833	3965	12577	5100	9798		1.05	Si
SLD 1	fin.	-1089.45	-6118	2	0	5833	3965	12577	5100	9798		1.6	Si
SLD 4	ini.	777.76	-8913	2	0	5833	3965	12577	5100	9798		1.1	Si
SLD 4	fin.	-705.28	-6709	2	0	5833	3965	12577	5100	9798		1.46	Si
SLV 6	ini.	468.22	-11595	2	0	5833	3965	12577	5100	9798		0.85	No
SLV 6	fin.	-2088.77	-5515	2	0	5833	3965	12577	5100	9798		1.78	Si
SLV 5	ini.	328.68	-10512	2	0	5833	3965	12577	5100	9798		0.93	No
SLV 5	fin.	-1900.39	-4388	2	0	5833	3965	12577	5100	9798		2.23	Si
SLV 4	ini.	1128.52	-11138	2	0	5833	3965	12577	5100	9798		0.88	No
SLV 4	fin.	-1090.76	-9829	2	0	5833	3965	12577	5100	9798		1	No
SLV 1	ini.	911.79	-12065	2	0	5833	3965	12577	5100	9798		0.81	No
SLV 1	fin.	-1770.06	-8965	2	0	5833	3965	12577	5100	9798		1.09	Si
SLV 2	ini.	1119.07	-13673	2	0	5833	3965	12577	5100	9798		0.72	No
SLV 2	fin.	-2049.88	-10640	2	0	5833	3965	12577	5100	9798		0.92	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.505	SLV 11	Si
V_SLV	0.717	SLV 2	No
PF_SLU	67.696	SLU 81	Si
V_SLU	1.141	SLU 82	Si

Trave di accoppiamento 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	7.2	7.95	0.75	-5.938	-3.169	7.2	7.95	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	186.44	-1116	-0.0001384	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.1	Si
SLU 74	fin.	-231.29	-1524	-0.0001741	0.0001872	0.0035	0.75		2074.44	2074.44	No	8.97	Si
SLU 78	ini.	180.31	-1121	-0.0001336	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.48	Si
SLU 78	fin.	-227.03	-1507	-0.0001706	0.0001872	0.0035	0.75		2074.44	2074.44	No	9.14	Si
SLU 79	ini.	177.66	-1127	-0.0001315	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.65	Si
SLU 79	fin.	-229.71	-1521	-0.0001728	0.0001872	0.0035	0.75		2074.44	2074.44	No	9.03	Si
SLU 81	ini.	188.55	-1173	-0.0001401	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.98	Si
SLU 81	fin.	-242.81	-1601	-0.0001836	0.0001872	0.0035	0.75		2074.44	2074.44	No	8.54	Si
SLU 77	ini.	180.71	-1135	-0.0001339	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.45	Si
SLU 77	fin.	-231.13	-1532	-0.000174	0.0001872	0.0035	0.75		2074.44	2074.44	No	8.98	Si
SLU 75	ini.	186.04	-1102	-0.0001381	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.13	Si
SLU 75	fin.	-227.19	-1499	-0.0001708	0.0001872	0.0035	0.75		2074.44	2074.44	No	9.13	Si
SLU 82	ini.	188.15	-1159	-0.0001398	0.0001872	0.0035	0.75		2069.77	2069.77	No	11	Si
SLU 82	fin.	-238.72	-1577	-0.0001802	0.0001872	0.0035	0.75		2074.44	2074.44	No	8.69	Si
SLU 80	ini.	177.26	-1113	-0.0001312	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.68	Si
SLU 80	fin.	-225.62	-1497	-0.0001695	0.0001872	0.0035	0.75		2074.44	2074.44	No	9.19	Si
SLU 84	ini.	182.43	-1178	-0.0001353	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.35	Si
SLU 84	fin.	-238.56	-1585	-0.0001801	0.0001872	0.0035	0.75		2074.44	2074.44	No	8.7	Si
SLU 83	ini.	182.83	-1192	-0.0001356	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.32	Si
SLU 83	fin.	-242.65	-1609	-0.0001835	0.0001872	0.0035	0.75		2074.44	2074.44	No	8.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	188.15	-453	0.75	0	1458	3965	3144	1913	5057	No	11.17	Si
SLU 82	fin.	-238.72	-3518	0.75	0	1458	3965	3144	1913	5057	No	1.44	Si
SLU 78	ini.	180.31	-396	0.75	0	1458	3965	3144	1913	5057	No	12.78	Si
SLU 78	fin.	-227.03	-3434	0.75	0	1458	3965	3144	1913	5057	No	1.47	Si
SLU 81	ini.	188.55	-472	0.75	0	1458	3965	3144	1913	5057	No	10.71	Si
SLU 81	fin.	-242.81	-3525	0.75	0	1458	3965	3144	1913	5057	No	1.43	Si
SLU 74	ini.	186.44	-442	0.75	0	1458	3965	3144	1913	5057	No	11.45	Si
SLU 74	fin.	-231.29	-3437	0.75	0	1458	3965	3144	1913	5057	No	1.47	Si
SLU 80	ini.	177.26	-394	0.75	0	1458	3965	3144	1913	5057	No	12.83	Si
SLU 80	fin.	-225.62	-3389	0.75	0	1458	3965	3144	1913	5057	No	1.49	Si
SLU 75	ini.	186.04	-422	0.75	0	1458	3965	3144	1913	5057	No	11.98	Si
SLU 75	fin.	-227.19	-3430	0.75	0	1458	3965	3144	1913	5057	No	1.47	Si
SLU 83	ini.	182.83	-446	0.75	0	1458	3965	3144	1913	5057	No	11.35	Si
SLU 83	fin.	-242.65	-3529	0.75	0	1458	3965	3144	1913	5057	No	1.43	Si
SLU 77	ini.	180.71	-415	0.75	0	1458	3965	3144	1913	5057	No	12.18	Si
SLU 77	fin.	-231.13	-3441	0.75	0	1458	3965	3144	1913	5057	No	1.47	Si
SLU 84	ini.	182.43	-426	0.75	0	1458	3965	3144	1913	5057	No	11.87	Si
SLU 84	fin.	-238.56	-3522	0.75	0	1458	3965	3144	1913	5057	No	1.44	Si
SLU 79	ini.	177.66	-414	0.75	0	1458	3965	3144	1913	5057	No	12.23	Si
SLU 79	fin.	-229.71	-3396	0.75	0	1458	3965	3144	1913	5057	No	1.49	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	706.21	1442	-0.0006034	0.0002807	0.0035	0.75		2085.94	2085.94		2.95	Si
SLD 2	fin.	-14.87	737	-0.0000104	0.0002807	0.0035	0.75		2090.82	2090.82		140.63	Si
SLV 4	ini.	882.35	1601	-0.0007976	0.0002807	0.0035	0.75		2085.94	2085.94		2.36	Si
SLV 4	fin.	-102.53	431	-0.0000734	0.0002807	0.0035	0.75		2090.82	2090.82		20.39	Si
SLV 13	ini.	-598.38	-3034	-0.0004923	0.0002807	0.0035	0.75		2090.82	2090.82		3.49	Si
SLV 13	fin.	-212.94	-2463	-0.0001562	0.0002807	0.0035	0.75		2090.82	2090.82		9.82	Si
SLV 2	ini.	1030.97	2703	-0.0009767	0.0002807	0.0035	0.75		2085.94	2085.94		2.02	Si
SLV 2	fin.	73.29	1783	-0.0000522	0.0002807	0.0035	0.75		2085.94	2085.94		28.46	Si
SLD 1	ini.	606.96	1153	-0.0005021	0.0002807	0.0035	0.75		2085.94	2085.94		3.44	Si
SLD 1	fin.	-21.63	560	-0.0000152	0.0002807	0.0035	0.75		2090.82	2090.82		96.68	Si
SLV 3	ini.	725.91	1147	-0.0006242	0.0002807	0.0035	0.75		2085.94	2085.94		2.87	Si
SLV 3	fin.	-113.18	152	-0.0000812	0.0002807	0.0035	0.75		2090.82	2090.82		18.47	Si
SLV 1	ini.	874.54	2249	-0.0007886	0.0002807	0.0035	0.75		2085.94	2085.94		2.39	Si
SLV 1	fin.	62.63	1504	-0.0000445	0.0002807	0.0035	0.75		2085.94	2085.94		33.3	Si
SLV 15	ini.	-747.01	-4136	-0.000645	0.0002807	0.0035	0.75		2090.82	2090.82		2.8	Si
SLV 15	fin.	-388.75	-3816	-0.000299	0.0002807	0.0035	0.75		2090.82	2090.82		5.38	Si
SLV 6	ini.	663.29	2066	-0.0005589	0.0002807	0.0035	0.75		2085.94	2085.94		3.14	Si
SLV 6	fin.	180.21	1927	-0.0001315	0.0002807	0.0035	0.75		2085.94	2085.94		11.58	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	619.33	797	-0.0005144	0.0002807	0.0035	0.75		2085.94	2085.94		3.37	Si
SLD 4	fin.	-117.88	-55	-0.0000846	0.0002807	0.0035	0.75		2090.82	2090.82		17.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	874.54	-1807	0.75	0	2188	3965	4716	1913	6152		3.41	Si
SLV 1	fin.	62.63	-3249	0.75	0	2188	3965	4716	1913	6152		1.89	Si
SLD 4	ini.	619.33	-1769	0.75	0	2188	3965	4716	1913	6152		3.48	Si
SLD 4	fin.	-117.88	-3134	0.75	0	2188	3965	4716	1913	6152		1.96	Si
SLV 2	ini.	1030.97	-2245	0.75	0	2188	3965	4716	1913	6152		2.74	Si
SLV 2	fin.	73.29	-3612	0.75	0	2188	3965	4716	1913	6152		1.7	Si
SLV 3	ini.	725.91	-2143	0.75	0	2188	3965	4716	1913	6152		2.87	Si
SLV 3	fin.	-113.18	-3202	0.75	0	2188	3965	4716	1913	6152		1.92	Si
SLD 1	ini.	606.96	-1292	0.75	0	2188	3965	4716	1913	6152		4.76	Si
SLD 1	fin.	-21.63	-2930	0.75	0	2188	3965	4716	1913	6152		2.1	Si
SLV 8	ini.	167.86	-1610	0.75	0	2188	3965	4716	1913	6152		3.82	Si
SLV 8	fin.	-405.83	-2721	0.75	0	2188	3965	4716	1913	6152		2.26	Si
SLV 4	ini.	882.35	-2582	0.75	0	2188	3965	4716	1913	6152		2.38	Si
SLV 4	fin.	-102.53	-3565	0.75	0	2188	3965	4716	1913	6152		1.73	Si
SLV 6	ini.	663.29	-489	0.75	0	2188	3965	4716	1913	6152		12.58	Si
SLV 6	fin.	180.21	-2878	0.75	0	2188	3965	4716	1913	6152		2.14	Si
SLD 3	ini.	520.09	-1491	0.75	0	2188	3965	4716	1913	6152		4.13	Si
SLD 3	fin.	-124.64	-2903	0.75	0	2188	3965	4716	1913	6152		2.12	Si
SLD 2	ini.	706.21	-1571	0.75	0	2188	3965	4716	1913	6152		3.92	Si
SLD 2	fin.	-14.87	-3161	0.75	0	2188	3965	4716	1913	6152		1.95	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.023	SLV 2	Si
V_SLV	1.703	SLV 2	Si
PF_SLU	8.543	SLU 81	Si
V_SLU	1.433	SLU 83	Si

Trave di accoppiamento 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	4.4	5.3	0.9	-3.113	-3.169	4.4	5.3	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	89.01	-1344	-0.0000443	0.0001872	0.0035	0.9		2959	2959	No	33.24	Si
SLU 80	fin.	446.96	-2000	-0.0002427	0.0001872	0.0035	0.9		2959	2959	No	6.62	Si
SLU 82	ini.	77.62	-1345	-0.0000385	0.0001872	0.0035	0.9		2959	2959	No	38.12	Si
SLU 82	fin.	465.07	-2054	-0.0002539	0.0001872	0.0035	0.9		2959	2959	No	6.36	Si
SLU 79	ini.	69.91	-1305	-0.0000347	0.0001872	0.0035	0.9		2959	2959	No	42.33	Si
SLU 79	fin.	461.36	-2022	-0.0002516	0.0001872	0.0035	0.9		2959	2959	No	6.41	Si
SLU 78	ini.	89.93	-1360	-0.0000448	0.0001872	0.0035	0.9		2959	2959	No	32.9	Si
SLU 78	fin.	453	-2025	-0.0002464	0.0001872	0.0035	0.9		2959	2959	No	6.53	Si
SLU 74	ini.	73.65	-1316	-0.0000365	0.0001872	0.0035	0.9		2959	2959	No	40.18	Si
SLU 74	fin.	460.03	-2023	-0.0002507	0.0001872	0.0035	0.9		2959	2959	No	6.43	Si
SLU 83	ini.	55.71	-1312	-0.0000275	0.0001872	0.0035	0.9		2959	2959	No	53.12	Si
SLU 83	fin.	486.85	-2101	-0.0002675	0.0001872	0.0035	0.9		2959	2959	No	6.08	Si
SLU 75	ini.	92.75	-1354	-0.0000462	0.0001872	0.0035	0.9		2959	2959	No	31.9	Si
SLU 75	fin.	445.63	-2001	-0.0002419	0.0001872	0.0035	0.9		2959	2959	No	6.64	Si
SLU 77	ini.	70.83	-1321	-0.0000351	0.0001872	0.0035	0.9		2959	2959	No	41.77	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	467.4	-2047	-0.0002553	0.0001872	0.0035	0.9		2959	2959	No	6.33	Si
SLU 84	ini.	74.8	-1351	-0.0000371	0.0001872	0.0035	0.9		2959	2959	No	39.56	Si
SLU 84	fin.	472.45	-2078	-0.0002584	0.0001872	0.0035	0.9		2959	2959	No	6.26	Si
SLU 81	ini.	58.52	-1307	-0.0000289	0.0001872	0.0035	0.9		2959	2959	No	50.56	Si
SLU 81	fin.	479.47	-2076	-0.0002628	0.0001872	0.0035	0.9		2959	2959	No	6.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	69.91	-426	0.9	0	1750	7137	3773	2295	6068	No	14.24	Si
SLU 79	fin.	461.36	2242	0.9	0	1750	7137	3773	2295	6068	No	2.71	Si
SLU 74	ini.	73.65	-442	0.9	0	1750	7137	3773	2295	6068	No	13.73	Si
SLU 74	fin.	460.03	2238	0.9	0	1750	7137	3773	2295	6068	No	2.71	Si
SLU 83	ini.	55.71	-366	0.9	0	1750	7137	3773	2295	6068	No	16.6	Si
SLU 83	fin.	486.85	2347	0.9	0	1750	7137	3773	2295	6068	No	2.59	Si
SLU 80	ini.	89.01	-511	0.9	0	1750	7137	3773	2295	6068	No	11.88	Si
SLU 80	fin.	446.96	2194	0.9	0	1750	7137	3773	2295	6068	No	2.77	Si
SLU 77	ini.	70.83	-435	0.9	0	1750	7137	3773	2295	6068	No	13.93	Si
SLU 77	fin.	467.4	2275	0.9	0	1750	7137	3773	2295	6068	No	2.67	Si
SLU 82	ini.	77.62	-457	0.9	0	1750	7137	3773	2295	6068	No	13.28	Si
SLU 82	fin.	465.07	2261	0.9	0	1750	7137	3773	2295	6068	No	2.68	Si
SLU 81	ini.	58.52	-372	0.9	0	1750	7137	3773	2295	6068	No	16.31	Si
SLU 81	fin.	479.47	2309	0.9	0	1750	7137	3773	2295	6068	No	2.63	Si
SLU 84	ini.	74.8	-450	0.9	0	1750	7137	3773	2295	6068	No	13.48	Si
SLU 84	fin.	472.45	2299	0.9	0	1750	7137	3773	2295	6068	No	2.64	Si
SLU 75	ini.	92.75	-527	0.9	0	1750	7137	3773	2295	6068	No	11.52	Si
SLU 75	fin.	445.63	2190	0.9	0	1750	7137	3773	2295	6068	No	2.77	Si
SLU 78	ini.	89.93	-520	0.9	0	1750	7137	3773	2295	6068	No	11.67	Si
SLU 78	fin.	453	2228	0.9	0	1750	7137	3773	2295	6068	No	2.72	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-1335.84	1914	-0.0008523	0.0002807	0.0035	0.9		2995.37	2995.37		2.24	Si
SLV 12	fin.	1318.6	-2911	-0.0008401	0.0002807	0.0035	0.9		2989.59	2989.59		2.27	Si
SLV 11	ini.	-1567.22	2314	-0.0010523	0.0002807	0.0035	0.9		2995.37	2995.37		1.91	Si
SLV 11	fin.	1515.6	-3299	-0.0010085	0.0002807	0.0035	0.9		2989.59	2989.59		1.97	Si
SLV 16	ini.	-1503.26	1747	-0.0009951	0.0002807	0.0035	0.9		2995.37	2995.37		1.99	Si
SLV 16	fin.	1646.54	-4003	-0.0011283	0.0002807	0.0035	0.9		2989.59	2989.59		1.82	Si
SLV 1	ini.	1666.39	-3672	-0.001147	0.0002807	0.0035	0.9		2989.59	2989.59		1.79	Si
SLV 1	fin.	-1065.23	1316	-0.0006402	0.0002807	0.0035	0.9		2995.37	2995.37		2.81	Si
SLV 5	ini.	1498.97	-3838	-0.0009938	0.0002807	0.0035	0.9		2989.59	2989.59		1.99	Si
SLV 5	fin.	-737.29	223	-0.0004112	0.0002807	0.0035	0.9		2995.37	2995.37		4.06	Si
SLV 13	ini.	-1183.6	908	-0.0007303	0.0002807	0.0035	0.9		2995.37	2995.37		2.53	Si
SLV 13	fin.	1493.59	-4001	-0.000989	0.0002807	0.0035	0.9		2989.59	2989.59		2	Si
SLV 15	ini.	-1846.95	2341	-0.0013226	0.0002807	0.0035	0.9		2995.37	2995.37		1.62	Si
SLV 15	fin.	1939.17	-4580	-0.0014243	0.0002807	0.0035	0.9		2989.59	2989.59		1.54	Si
SLV 4	ini.	1346.73	-2833	-0.0008634	0.0002807	0.0035	0.9		2989.59	2989.59		2.22	Si
SLV 4	fin.	-912.28	1314	-0.0005296	0.0002807	0.0035	0.9		2995.37	2995.37		3.28	Si
SLV 2	ini.	2010.09	-4266	-0.0015034	0.0002807	0.0035	0.9		2989.59	2989.59		1.49	Si
SLV 2	fin.	-1357.86	1892	-0.0008705	0.0002807	0.0035	0.9		2995.37	2995.37		2.21	Si
SLV 6	ini.	1730.36	-4238	-0.0012087	0.0002807	0.0035	0.9		2989.59	2989.59		1.73	Si
SLV 6	fin.	-934.29	611	-0.0005451	0.0002807	0.0035	0.9		2995.37	2995.37		3.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1730.36	-7345	0.9	0	2625	7137	5660	2295	7954		1.08	Si
SLV 6	fin.	-934.29	-3292	0.9	0	2625	7137	5660	2295	7954		2.42	Si
SLV 15	ini.	-1846.95	7224	0.9	0	2625	7137	5660	2295	7954		1.1	Si
SLV 15	fin.	1939.17	8364	0.9	0	2625	7137	5660	2295	7954		0.95	No
SLV 5	ini.	1498.97	-6427	0.9	0	2625	7137	5660	2295	7954		1.24	Si
SLV 5	fin.	-737.29	-2467	0.9	0	2625	7137	5660	2295	7954		3.22	Si
SLV 1	ini.	1666.39	-6719	0.9	0	2625	7137	5660	2295	7954		1.18	Si
SLV 1	fin.	-1065.23	-4270	0.9	0	2625	7137	5660	2295	7954		1.86	Si
SLV 12	ini.	-1335.84	5569	0.9	0	2625	7137	5660	2295	7954		1.43	Si
SLV 12	fin.	1318.6	5336	0.9	0	2625	7137	5660	2295	7954		1.49	Si
SLV 11	ini.	-1567.22	6487	0.9	0	2625	7137	5660	2295	7954		1.23	Si
SLV 11	fin.	1515.6	6161	0.9	0	2625	7137	5660	2295	7954		1.29	Si
SLV 16	ini.	-1503.26	5861	0.9	0	2625	7137	5660	2295	7954		1.36	Si
SLV 16	fin.	1646.54	7139	0.9	0	2625	7137	5660	2295	7954		1.11	Si
SLV 2	ini.	2010.09	-8082	0.9	0	2625	7137	5660	2295	7954		0.98	No
SLV 2	fin.	-1357.86	-5495	0.9	0	2625	7137	5660	2295	7954		1.45	Si
SLV 13	ini.	-1183.6	4345	0.9	0	2625	7137	5660	2295	7954		1.83	Si
SLV 13	fin.	1493.59	6769	0.9	0	2625	7137	5660	2295	7954		1.18	Si
SLD 15	ini.	-1134.43	4390	0.9	0	2625	7137	5660	2295	7954		1.81	Si
SLD 15	fin.	1333.21	5821	0.9	0	2625	7137	5660	2295	7954		1.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.487	SLV 2	Si
V_SLV	0.951	SLV 15	No
PF_SLU	6.078	SLU 83	Si
V_SLU	2.586	SLU 83	Si

Trave di accoppiamento 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	7.1	7.95	0.85	-3.113	-3.169	7.1	7.95	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-327.45	-1529	-0.000194	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.11	Si
SLU 84	fin.	-238.52	-1631	-0.0001377	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.13	Si
SLU 41	ini.	-329.14	-1383	-0.000195	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.07	Si
SLU 41	fin.	-177.99	-1304	-0.0001012	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.92	Si
SLU 83	ini.	-346.28	-1553	-0.0002063	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.67	Si
SLU 83	fin.	-227.03	-1585	-0.0001307	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.7	Si
SLU 74	ini.	-316.04	-1483	-0.0001866	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.4	Si
SLU 74	fin.	-233.06	-1586	-0.0001344	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.4	Si
SLU 82	ini.	-321.31	-1512	-0.00019	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.27	Si
SLU 82	fin.	-238.68	-1626	-0.0001378	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.13	Si
SLU 39	ini.	-323	-1366	-0.0001911	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.22	Si
SLU 39	fin.	-178.15	-1299	-0.0001013	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.91	Si
SLU 79	ini.	-317.51	-1478	-0.0001875	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.36	Si
SLU 79	fin.	-229.64	-1568	-0.0001323	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.56	Si
SLU 42	ini.	-310.31	-1359	-0.0001829	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.56	Si
SLU 42	fin.	-189.47	-1349	-0.000108	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.02	Si
SLU 77	ini.	-322.18	-1500	-0.0001905	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.24	Si
SLU 77	fin.	-232.9	-1591	-0.0001343	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.4	Si
SLU 81	ini.	-340.14	-1536	-0.0002022	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.81	Si
SLU 81	fin.	-227.19	-1580	-0.0001308	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-346.28	1890	0.85	0	1653	6740	3563	2168	5731	No	3.03	Si
SLU 83	fin.	-227.03	-2650	0.85	0	1653	6740	3563	2168	5731	No	2.16	Si
SLU 77	ini.	-322.18	1786	0.85	0	1653	6740	3563	2168	5731	No	3.21	Si
SLU 77	fin.	-232.9	-2641	0.85	0	1653	6740	3563	2168	5731	No	2.17	Si
SLU 84	ini.	-327.45	1828	0.85	0	1653	6740	3563	2168	5731	No	3.13	Si
SLU 84	fin.	-238.52	-2726	0.85	0	1653	6740	3563	2168	5731	No	2.1	Si
SLU 73	ini.	-273.85	1614	0.85	0	1653	6740	3563	2168	5731	No	3.55	Si
SLU 73	fin.	-249.11	-2722	0.85	0	1653	6740	3563	2168	5731	No	2.11	Si
SLU 82	ini.	-321.31	1805	0.85	0	1653	6740	3563	2168	5731	No	3.17	Si
SLU 82	fin.	-238.68	-2722	0.85	0	1653	6740	3563	2168	5731	No	2.11	Si
SLU 76	ini.	-280	1637	0.85	0	1653	6740	3563	2168	5731	No	3.5	Si
SLU 76	fin.	-248.95	-2727	0.85	0	1653	6740	3563	2168	5731	No	2.1	Si
SLU 75	ini.	-297.22	1701	0.85	0	1653	6740	3563	2168	5731	No	3.37	Si
SLU 75	fin.	-244.55	-2712	0.85	0	1653	6740	3563	2168	5731	No	2.11	Si
SLU 78	ini.	-303.36	1724	0.85	0	1653	6740	3563	2168	5731	No	3.32	Si
SLU 78	fin.	-244.38	-2717	0.85	0	1653	6740	3563	2168	5731	No	2.11	Si
SLU 80	ini.	-298.69	1701	0.85	0	1653	6740	3563	2168	5731	No	3.37	Si
SLU 80	fin.	-241.13	-2680	0.85	0	1653	6740	3563	2168	5731	No	2.14	Si
SLU 81	ini.	-340.14	1866	0.85	0	1653	6740	3563	2168	5731	No	3.07	Si
SLU 81	fin.	-227.19	-2645	0.85	0	1653	6740	3563	2168	5731	No	2.17	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-1678.97	-2936	-0.0013549	0.0002807	0.0035	0.85		2680.73	2680.73		1.6	Si
SLV 16	fin.	725.89	2298	-0.0004617	0.0002807	0.0035	0.85		2675.27	2675.27		3.69	Si
SLV 12	ini.	-1534.23	-2463	-0.0011916	0.0002807	0.0035	0.85		2680.73	2680.73		1.75	Si
SLV 12	fin.	737.11	2514	-0.0004702	0.0002807	0.0035	0.85		2675.27	2675.27		3.63	Si
SLV 1	ini.	1318.83	1026	-0.0009729	0.0002807	0.0035	0.85		2675.27	2675.27		2.03	Si
SLV 1	fin.	-1081.05	-4587	-0.0007502	0.0002807	0.0035	0.85		2680.73	2680.73		2.48	Si
SLV 13	ini.	-1387.35	-2735	-0.0010383	0.0002807	0.0035	0.85		2680.73	2680.73		1.93	Si
SLV 13	fin.	483.78	1264	-0.0002897	0.0002807	0.0035	0.85		2675.27	2675.27		5.53	Si
SLD 15	ini.	-1343.56	-2497	-0.0009946	0.0002807	0.0035	0.85		2680.73	2680.73		2	Si
SLD 15	fin.	521.07	1516	-0.0003147	0.0002807	0.0035	0.85		2675.27	2675.27		5.13	Si
SLV 2	ini.	1666.32	1484	-0.0013438	0.0002807	0.0035	0.85		2675.27	2675.27		1.61	Si
SLV 2	fin.	-1288.9	-5382	-0.0009414	0.0002807	0.0035	0.85		2680.73	2680.73		2.08	Si
SLV 6	ini.	1408.03	862	-0.001062	0.0002807	0.0035	0.85		2675.27	2675.27		1.9	Si
SLV 6	fin.	-1232.2	-5339	-0.0008875	0.0002807	0.0035	0.85		2680.73	2680.73		2.18	Si
SLV 5	ini.	1174.08	553	-0.0008358	0.0002807	0.0035	0.85		2675.27	2675.27		2.28	Si
SLV 5	fin.	-1092.27	-4803	-0.0007601	0.0002807	0.0035	0.85		2680.73	2680.73		2.45	Si
SLV 11	ini.	-1768.17	-2771	-0.0014628	0.0002807	0.0035	0.85		2680.73	2680.73		1.52	Si
SLV 11	fin.	877.04	3049	-0.0005798	0.0002807	0.0035	0.85		2675.27	2675.27		3.05	Si
SLV 15	ini.	-2026.47	-3394	-0.0018192	0.0002807	0.0035	0.85		2680.73	2680.73		1.32	Si
SLV 15	fin.	933.74	3093	-0.0006262	0.0002807	0.0035	0.85		2675.27	2675.27		2.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1318.83	-4128	0.85	0	2479	6740	5345	2168	7513		1.82	Si
SLV 1	fin.	-1081.05	-7107	0.85	0	2479	6740	5345	2168	7513		1.06	Si
SLV 6	ini.	1408.03	-4359	0.85	0	2479	6740	5345	2168	7513		1.72	Si
SLV 6	fin.	-1232.2	-8229	0.85	0	2479	6740	5345	2168	7513		0.91	No
SLV 15	ini.	-2026.47	7492	0.85	0	2479	6740	5345	2168	7513		1	Si
SLV 15	fin.	933.74	4556	0.85	0	2479	6740	5345	2168	7513		1.65	Si
SLV 11	ini.	-1768.17	6516	0.85	0	2479	6740	5345	2168	7513		1.15	Si
SLV 11	fin.	877.04	4463	0.85	0	2479	6740	5345	2168	7513		1.68	Si
SLD 6	ini.	774.84	-2192	0.85	0	2479	6740	5345	2168	7513		3.43	Si
SLD 6	fin.	-809.71	-5684	0.85	0	2479	6740	5345	2168	7513		1.32	Si
SLD 2	ini.	983.41	-2963	0.85	0	2479	6740	5345	2168	7513		2.54	Si
SLD 2	fin.	-876.22	-5931	0.85	0	2479	6740	5345	2168	7513		1.27	Si
SLV 2	ini.	1666.32	-5335	0.85	0	2479	6740	5345	2168	7513		1.41	Si
SLV 2	fin.	-1288.9	-8322	0.85	0	2479	6740	5345	2168	7513		0.9	No
SLV 16	ini.	-1678.97	6286	0.85	0	2479	6740	5345	2168	7513		1.2	Si
SLV 16	fin.	725.89	3341	0.85	0	2479	6740	5345	2168	7513		2.25	Si
SLV 12	ini.	-1534.23	5704	0.85	0	2479	6740	5345	2168	7513		1.32	Si
SLV 12	fin.	737.11	3645	0.85	0	2479	6740	5345	2168	7513		2.06	Si
SLV 5	ini.	1174.08	-3546	0.85	0	2479	6740	5345	2168	7513		2.12	Si
SLV 5	fin.	-1092.27	-7411	0.85	0	2479	6740	5345	2168	7513		1.01	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.323	SLV 15	Si
V_SLV	0.903	SLV 2	No
PF_SLU	7.67	SLU 83	Si
V_SLU	2.102	SLU 76	Si

Trave di accoppiamento 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	4.4	5.3	0.9	-2.853	5.951	4.4	5.3	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 66	ini.	309.19	-1647	-0.0001616	0.0001872	0.0035	0.9		2959	2959	No	9.57	Si
SLU 66	fin.	7.44	-963	-0.0000036	0.0001872	0.0035	0.9		2959	2959	No	397.98	Si
SLU 64	ini.	301.44	-1590	-0.0001573	0.0001872	0.0035	0.9		2959	2959	No	9.82	Si
SLU 64	fin.	0.65	-880	-0.0000003	0.0001872	0.0035	0.9		2959	2959	No	4554.1	Si
SLU 79	ini.	307.63	-1684	-0.0001608	0.0001872	0.0035	0.9		2959	2959	No	9.62	Si
SLU 79	fin.	38.15	-1159	-0.0000188	0.0001872	0.0035	0.9		2959	2959	No	77.57	Si
SLU 72	ini.	306.66	-1652	-0.0001602	0.0001872	0.0035	0.9		2959	2959	No	9.65	Si
SLU 72	fin.	19.32	-1039	-0.0000095	0.0001872	0.0035	0.9		2959	2959	No	153.13	Si
SLU 50	ini.	306.61	-1597	-0.0001602	0.0001872	0.0035	0.9		2959	2959	No	9.65	Si
SLU 50	fin.	-12.06	-825	-0.0000059	0.0001872	0.0035	0.9		2964.67	2964.67	No	245.74	Si
SLU 77	ini.	308.13	-1692	-0.000161	0.0001872	0.0035	0.9		2959	2959	No	9.6	Si
SLU 77	fin.	38.73	-1171	-0.0000191	0.0001872	0.0035	0.9		2959	2959	No	76.41	Si
SLU 71	ini.	315.96	-1689	-0.0001655	0.0001872	0.0035	0.9		2959	2959	No	9.37	Si
SLU 71	fin.	13.07	-1023	-0.0000064	0.0001872	0.0035	0.9		2959	2959	No	226.47	Si
SLU 48	ini.	307.1	-1605	-0.0001605	0.0001872	0.0035	0.9		2959	2959	No	9.64	Si
SLU 48	fin.	-11.49	-837	-0.0000056	0.0001872	0.0035	0.9		2964.67	2964.67	No	258.09	Si
SLU 70	ini.	307.16	-1659	-0.0001605	0.0001872	0.0035	0.9		2959	2959	No	9.63	Si
SLU 70	fin.	19.9	-1051	-0.0000098	0.0001872	0.0035	0.9		2959	2959	No	148.69	Si
SLU 69	ini.	316.46	-1697	-0.0001657	0.0001872	0.0035	0.9		2959	2959	No	9.35	Si
SLU 69	fin.	13.64	-1035	-0.0000067	0.0001872	0.0035	0.9		2959	2959	No	216.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	308.13	-2755	0.9	0	1750	7137	3773	2295	6068	No	2.2	Si
SLU 77	fin.	38.73	2575	0.9	0	1750	7137	3773	2295	6068	No	2.36	Si
SLU 72	ini.	306.66	-2695	0.9	0	1750	7137	3773	2295	6068	No	2.25	Si
SLU 72	fin.	19.32	2317	0.9	0	1750	7137	3773	2295	6068	No	2.62	Si
SLU 71	ini.	315.96	-2759	0.9	0	1750	7137	3773	2295	6068	No	2.2	Si
SLU 71	fin.	13.07	2302	0.9	0	1750	7137	3773	2295	6068	No	2.64	Si
SLU 74	ini.	300.86	-2682	0.9	0	1750	7137	3773	2295	6068	No	2.26	Si
SLU 74	fin.	32.52	2451	0.9	0	1750	7137	3773	2295	6068	No	2.48	Si
SLU 78	ini.	298.83	-2691	0.9	0	1750	7137	3773	2295	6068	No	2.26	Si
SLU 78	fin.	44.98	2590	0.9	0	1750	7137	3773	2295	6068	No	2.34	Si
SLU 80	ini.	298.33	-2669	0.9	0	1750	7137	3773	2295	6068	No	2.27	Si
SLU 80	fin.	44.41	2555	0.9	0	1750	7137	3773	2295	6068	No	2.37	Si
SLU 70	ini.	307.16	-2717	0.9	0	1750	7137	3773	2295	6068	No	2.23	Si
SLU 70	fin.	19.9	2351	0.9	0	1750	7137	3773	2295	6068	No	2.58	Si
SLU 79	ini.	307.63	-2733	0.9	0	1750	7137	3773	2295	6068	No	2.22	Si
SLU 79	fin.	38.15	2540	0.9	0	1750	7137	3773	2295	6068	No	2.39	Si
SLU 69	ini.	316.46	-2781	0.9	0	1750	7137	3773	2295	6068	No	2.18	Si
SLU 69	fin.	13.64	2336	0.9	0	1750	7137	3773	2295	6068	No	2.6	Si
SLU 66	ini.	309.19	-2708	0.9	0	1750	7137	3773	2295	6068	No	2.24	Si
SLU 66	fin.	7.44	2212	0.9	0	1750	7137	3773	2295	6068	No	2.74	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-662.49	2001	-0.0003633	0.0002807	0.0035	0.9		2995.37	2995.37		4.52	Si
SLV 14	fin.	609.66	-3228	-0.0003311	0.0002807	0.0035	0.9		2989.59	2989.59		4.9	Si
SLD 8	ini.	663.24	-3018	-0.0003645	0.0002807	0.0035	0.9		2989.59	2989.59		4.51	Si
SLD 8	fin.	-249.29	-42	-0.0001263	0.0002807	0.0035	0.9		2995.37	2995.37		12.02	Si
SLD 3	ini.	786.26	-3205	-0.0004444	0.0002807	0.0035	0.9		2989.59	2989.59		3.8	Si
SLD 3	fin.	-380.36	950	-0.0001971	0.0002807	0.0035	0.9		2995.37	2995.37		7.88	Si
SLV 11	ini.	742.55	-3540	-0.0004155	0.0002807	0.0035	0.9		2989.59	2989.59		4.03	Si
SLV 11	fin.	-273.04	-383	-0.0001389	0.0002807	0.0035	0.9		2995.37	2995.37		10.97	Si
SLV 7	ini.	1100.52	-4754	-0.0006682	0.0002807	0.0035	0.9		2989.59	2989.59		2.72	Si
SLV 7	fin.	-526.34	824	-0.0002803	0.0002807	0.0035	0.9		2995.37	2995.37		5.69	Si
SLV 4	ini.	904.14	-3663	-0.0005251	0.0002807	0.0035	0.9		2989.59	2989.59		3.31	Si
SLV 4	fin.	-443.01	1189	-0.0002321	0.0002807	0.0035	0.9		2995.37	2995.37		6.76	Si
SLV 1	ini.	743.98	-2787	-0.0004165	0.0002807	0.0035	0.9		2989.59	2989.59		4.02	Si
SLV 1	fin.	-397.06	1488	-0.0002063	0.0002807	0.0035	0.9		2995.37	2995.37		7.54	Si
SLV 3	ini.	1117.37	-4404	-0.0006809	0.0002807	0.0035	0.9		2989.59	2989.59		2.68	Si
SLV 3	fin.	-605.37	1883	-0.0003278	0.0002807	0.0035	0.9		2995.37	2995.37		4.95	Si
SLD 7	ini.	750.35	-3321	-0.0004206	0.0002807	0.0035	0.9		2989.59	2989.59		3.98	Si
SLD 7	fin.	-315.62	242	-0.0001617	0.0002807	0.0035	0.9		2995.37	2995.37		9.49	Si
SLV 8	ini.	956.96	-4254	-0.0005625	0.0002807	0.0035	0.9		2989.59	2989.59		3.12	Si
SLV 8	fin.	-417.04	357	-0.0002175	0.0002807	0.0035	0.9		2995.37	2995.37		7.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-662.49	2985	0.9	0	2625	7137	5660	2295	7954		2.66	Si
SLV 14	fin.	609.66	5298	0.9	0	2625	7137	5660	2295	7954		1.5	Si
SLV 7	ini.	1100.52	-7873	0.9	0	2625	7137	5660	2295	7954		1.01	Si
SLV 7	fin.	-526.34	15	0.9	0	2625	7137	5660	2295	7954		538.54	Si
SLV 4	ini.	904.14	-5704	0.9	0	2625	7137	5660	2295	7954		1.39	Si
SLV 4	fin.	-443.01	-1177	0.9	0	2625	7137	5660	2295	7954		6.76	Si
SLV 3	ini.	1117.37	-6931	0.9	0	2625	7137	5660	2295	7954		1.15	Si
SLV 3	fin.	-605.37	-2164	0.9	0	2625	7137	5660	2295	7954		3.68	Si
SLV 8	ini.	956.96	-7047	0.9	0	2625	7137	5660	2295	7954		1.13	Si
SLV 8	fin.	-417.04	679	0.9	0	2625	7137	5660	2295	7954		11.71	Si
SLD 3	ini.	786.26	-5068	0.9	0	2625	7137	5660	2295	7954		1.57	Si
SLD 3	fin.	-380.36	-813	0.9	0	2625	7137	5660	2295	7954		9.78	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-289.11	226	0.9	0	2625	7137	5660	2295	7954		35.12	Si
SLV 16	fin.	401.35	5134	0.9	0	2625	7137	5660	2295	7954		1.55	Si
SLD 7	ini.	750.35	-5487	0.9	0	2625	7137	5660	2295	7954		1.45	Si
SLD 7	fin.	-315.62	598	0.9	0	2625	7137	5660	2295	7954		13.3	Si
SLV 11	ini.	742.55	-6094	0.9	0	2625	7137	5660	2295	7954		1.31	Si
SLV 11	fin.	-273.04	1908	0.9	0	2625	7137	5660	2295	7954		4.17	Si
SLV 12	ini.	598.99	-5268	0.9	0	2625	7137	5660	2295	7954		1.51	Si
SLV 12	fin.	-163.73	2573	0.9	0	2625	7137	5660	2295	7954		3.09	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.676	SLV 3	Si
V_SLV	1.01	SLV 7	Si
PF_SLU	9.35	SLU 69	Si
V_SLU	2.182	SLU 69	Si

Trave di accoppiamento 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	7.1	7.95	0.85	-2.853	5.951	7.1	7.95	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-68.05	-840	-0.0000377	0.0001872	0.0035	0.85		2655.83	2655.83	No	39.03	Si
SLU 71	fin.	-142.59	-1950	-0.0000804	0.0001872	0.0035	0.85		2655.83	2655.83	No	18.63	Si
SLU 72	ini.	-74.5	-863	-0.0000413	0.0001872	0.0035	0.85		2655.83	2655.83	No	35.65	Si
SLU 72	fin.	-135.86	-1912	-0.0000765	0.0001872	0.0035	0.85		2655.83	2655.83	No	19.55	Si
SLU 51	ini.	-38.71	-641	-0.0000213	0.0001872	0.0035	0.85		2655.83	2655.83	No	68.62	Si
SLU 51	fin.	-143.83	-1763	-0.0000811	0.0001872	0.0035	0.85		2655.83	2655.83	No	18.47	Si
SLU 46	ini.	-33.78	-607	-0.0000186	0.0001872	0.0035	0.85		2655.83	2655.83	No	78.62	Si
SLU 46	fin.	-136.79	-1699	-0.000077	0.0001872	0.0035	0.85		2655.83	2655.83	No	19.42	Si
SLU 43	ini.	-17.2	-520	-0.0000094	0.0001872	0.0035	0.85		2655.83	2655.83	No	154.43	Si
SLU 43	fin.	-138.4	-1659	-0.0000779	0.0001872	0.0035	0.85		2655.83	2655.83	No	19.19	Si
SLU 50	ini.	-32.25	-617	-0.0000177	0.0001872	0.0035	0.85		2655.83	2655.83	No	82.36	Si
SLU 50	fin.	-150.56	-1801	-0.000085	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.64	Si
SLU 45	ini.	-27.32	-584	-0.000015	0.0001872	0.0035	0.85		2655.83	2655.83	No	97.2	Si
SLU 45	fin.	-143.52	-1737	-0.0000809	0.0001872	0.0035	0.85		2655.83	2655.83	No	18.5	Si
SLU 69	ini.	-70.65	-855	-0.0000392	0.0001872	0.0035	0.85		2655.83	2655.83	No	37.59	Si
SLU 69	fin.	-141.63	-1958	-0.0000798	0.0001872	0.0035	0.85		2655.83	2655.83	No	18.75	Si
SLU 48	ini.	-34.85	-632	-0.0000192	0.0001872	0.0035	0.85		2655.83	2655.83	No	76.21	Si
SLU 48	fin.	-149.6	-1808	-0.0000845	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.75	Si
SLU 49	ini.	-41.31	-656	-0.0000228	0.0001872	0.0035	0.85		2655.83	2655.83	No	64.3	Si
SLU 49	fin.	-142.87	-1770	-0.0000805	0.0001872	0.0035	0.85		2655.83	2655.83	No	18.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-103.49	2379	0.85	0	1653	6740	3563	2168	5731	No	2.41	Si
SLU 77	fin.	-121.62	-4334	0.85	0	1653	6740	3563	2168	5731	No	1.32	Si
SLU 75	ini.	-102.43	2347	0.85	0	1653	6740	3563	2168	5731	No	2.44	Si
SLU 75	fin.	-108.81	-4160	0.85	0	1653	6740	3563	2168	5731	No	1.38	Si
SLU 80	ini.	-107.35	2384	0.85	0	1653	6740	3563	2168	5731	No	2.4	Si
SLU 80	fin.	-115.85	-4248	0.85	0	1653	6740	3563	2168	5731	No	1.35	Si
SLU 78	ini.	-109.95	2417	0.85	0	1653	6740	3563	2168	5731	No	2.37	Si
SLU 78	fin.	-114.89	-4277	0.85	0	1653	6740	3563	2168	5731	No	1.34	Si
SLU 84	ini.	-113.9	2489	0.85	0	1653	6740	3563	2168	5731	No	2.3	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-101.19	-4233	0.85	0	1653	6740	3563	2168	5731	No	1.35	Si
SLU 83	ini.	-107.45	2451	0.85	0	1653	6740	3563	2168	5731	No	2.34	Si
SLU 83	fin.	-107.92	-4290	0.85	0	1653	6740	3563	2168	5731	No	1.34	Si
SLU 81	ini.	-99.92	2381	0.85	0	1653	6740	3563	2168	5731	No	2.41	Si
SLU 81	fin.	-101.84	-4174	0.85	0	1653	6740	3563	2168	5731	No	1.37	Si
SLU 82	ini.	-106.38	2419	0.85	0	1653	6740	3563	2168	5731	No	2.37	Si
SLU 82	fin.	-95.11	-4117	0.85	0	1653	6740	3563	2168	5731	No	1.39	Si
SLU 74	ini.	-95.97	2309	0.85	0	1653	6740	3563	2168	5731	No	2.48	Si
SLU 74	fin.	-115.54	-4217	0.85	0	1653	6740	3563	2168	5731	No	1.36	Si
SLU 79	ini.	-100.89	2346	0.85	0	1653	6740	3563	2168	5731	No	2.44	Si
SLU 79	fin.	-122.58	-4305	0.85	0	1653	6740	3563	2168	5731	No	1.33	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	286.39	547	-0.0001646	0.0002807	0.0035	0.85		2675.27	2675.27		9.34	Si
SLV 11	fin.	-503.68	-3771	-0.0003023	0.0002807	0.0035	0.85		2680.73	2680.73		5.32	Si
SLD 7	ini.	302.01	598	-0.0001741	0.0002807	0.0035	0.85		2675.27	2675.27		8.86	Si
SLD 7	fin.	-482.79	-3558	-0.0002884	0.0002807	0.0035	0.85		2680.73	2680.73		5.55	Si
SLV 9	ini.	-497.3	-2095	-0.0002981	0.0002807	0.0035	0.85		2680.73	2680.73		5.39	Si
SLV 9	fin.	444.62	1714	-0.0002639	0.0002807	0.0035	0.85		2675.27	2675.27		6.02	Si
SLV 7	ini.	531.96	1381	-0.0003222	0.0002807	0.0035	0.85		2675.27	2675.27		5.03	Si
SLV 7	fin.	-742.93	-5036	-0.0004735	0.0002807	0.0035	0.85		2680.73	2680.73		3.61	Si
SLV 8	ini.	412.73	945	-0.0002433	0.0002807	0.0035	0.85		2675.27	2675.27		6.48	Si
SLV 8	fin.	-637.35	-4452	-0.0003954	0.0002807	0.0035	0.85		2680.73	2680.73		4.21	Si
SLV 3	ini.	573.12	1534	-0.0003506	0.0002807	0.0035	0.85		2675.27	2675.27		4.67	Si
SLV 3	fin.	-715.79	-4734	-0.000453	0.0002807	0.0035	0.85		2680.73	2680.73		3.75	Si
SLV 10	ini.	-616.53	-2531	-0.0003804	0.0002807	0.0035	0.85		2680.73	2680.73		4.35	Si
SLV 10	fin.	550.21	2298	-0.0003347	0.0002807	0.0035	0.85		2675.27	2675.27		4.86	Si
SLV 14	ini.	-657.68	-2685	-0.0004101	0.0002807	0.0035	0.85		2680.73	2680.73		4.08	Si
SLV 14	fin.	523.06	1996	-0.0003161	0.0002807	0.0035	0.85		2675.27	2675.27		5.11	Si
SLD 3	ini.	344.24	750	-0.0002	0.0002807	0.0035	0.85		2675.27	2675.27		7.77	Si
SLD 3	fin.	-484.42	-3474	-0.0002895	0.0002807	0.0035	0.85		2680.73	2680.73		5.53	Si
SLV 4	ini.	396.01	887	-0.0002326	0.0002807	0.0035	0.85		2675.27	2675.27		6.76	Si
SLV 4	fin.	-558.95	-3867	-0.00034	0.0002807	0.0035	0.85		2680.73	2680.73		4.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	229.65	-223	0.85	0	2479	6740	5345	2168	7513		33.71	Si
SLD 8	fin.	-418.72	-5608	0.85	0	2479	6740	5345	2168	7513		1.34	Si
SLD 7	ini.	302.01	-654	0.85	0	2479	6740	5345	2168	7513		11.49	Si
SLD 7	fin.	-482.79	-6118	0.85	0	2479	6740	5345	2168	7513		1.23	Si
SLD 3	ini.	344.24	-962	0.85	0	2479	6740	5345	2168	7513		7.81	Si
SLD 3	fin.	-484.42	-5861	0.85	0	2479	6740	5345	2168	7513		1.28	Si
SLV 12	ini.	167.15	208	0.85	0	2479	6740	5345	2168	7513		36.18	Si
SLV 12	fin.	-398.09	-5728	0.85	0	2479	6740	5345	2168	7513		1.31	Si
SLV 4	ini.	396.01	-1301	0.85	0	2479	6740	5345	2168	7513		5.77	Si
SLV 4	fin.	-558.95	-6380	0.85	0	2479	6740	5345	2168	7513		1.18	Si
SLV 11	ini.	286.39	-502	0.85	0	2479	6740	5345	2168	7513		14.96	Si
SLV 11	fin.	-503.68	-6568	0.85	0	2479	6740	5345	2168	7513		1.14	Si
SLV 8	ini.	412.73	-1312	0.85	0	2479	6740	5345	2168	7513		5.73	Si
SLV 8	fin.	-637.35	-7442	0.85	0	2479	6740	5345	2168	7513		1.01	Si
SLV 1	ini.	338.01	-975	0.85	0	2479	6740	5345	2168	7513		7.71	Si
SLV 1	fin.	-431.3	-5178	0.85	0	2479	6740	5345	2168	7513		1.45	Si
SLV 7	ini.	531.96	-2022	0.85	0	2479	6740	5345	2168	7513		3.72	Si
SLV 7	fin.	-742.93	-8282	0.85	0	2479	6740	5345	2168	7513		0.91	No
SLV 3	ini.	573.12	-2356	0.85	0	2479	6740	5345	2168	7513		3.19	Si
SLV 3	fin.	-715.79	-7628	0.85	0	2479	6740	5345	2168	7513		0.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.608	SLV 7	Si
V_SLV	0.907	SLV 7	No
PF_SLU	17.64	SLU 50	Si
V_SLU	1.322	SLU 77	Si

Trave di accoppiamento 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	7.95	8.85	0.9	-22.778	5.951	7.95	8.85	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	76.96	-985	-0.0000382	0.0001872	0.0035	0.9		2959	2959	No	38.45	Si
SLU 83	fin.	195.69	-1114	-0.0000996	0.0001872	0.0035	0.9		2959	2959	No	15.12	Si
SLU 69	ini.	43.15	-843	-0.0000213	0.0001872	0.0035	0.9		2959	2959	No	68.57	Si
SLU 69	fin.	202.38	-1159	-0.0001031	0.0001872	0.0035	0.9		2959	2959	No	14.62	Si
SLU 79	ini.	66.03	-945	-0.0000327	0.0001872	0.0035	0.9		2959	2959	No	44.82	Si
SLU 79	fin.	198.98	-1140	-0.0001013	0.0001872	0.0035	0.9		2959	2959	No	14.87	Si
SLU 77	ini.	68.71	-971	-0.0000341	0.0001872	0.0035	0.9		2959	2959	No	43.06	Si
SLU 77	fin.	200	-1152	-0.0001019	0.0001872	0.0035	0.9		2959	2959	No	14.79	Si
SLU 50	ini.	13.87	-647	-0.0000068	0.0001872	0.0035	0.9		2959	2959	No	213.35	Si
SLU 50	fin.	196.77	-1101	-0.0001002	0.0001872	0.0035	0.9		2959	2959	No	15.04	Si
SLU 64	ini.	40.43	-787	-0.0000199	0.0001872	0.0035	0.9		2959	2959	No	73.19	Si
SLU 64	fin.	196.81	-1101	-0.0001002	0.0001872	0.0035	0.9		2959	2959	No	15.03	Si
SLU 71	ini.	40.47	-817	-0.0000199	0.0001872	0.0035	0.9		2959	2959	No	73.12	Si
SLU 71	fin.	201.35	-1147	-0.0001026	0.0001872	0.0035	0.9		2959	2959	No	14.7	Si
SLU 74	ini.	68.69	-956	-0.000034	0.0001872	0.0035	0.9		2959	2959	No	43.07	Si
SLU 74	fin.	197.73	-1129	-0.0001007	0.0001872	0.0035	0.9		2959	2959	No	14.96	Si
SLU 66	ini.	43.14	-828	-0.0000213	0.0001872	0.0035	0.9		2959	2959	No	68.6	Si
SLU 66	fin.	200.11	-1136	-0.0001019	0.0001872	0.0035	0.9		2959	2959	No	14.79	Si
SLU 48	ini.	16.56	-672	-0.0000081	0.0001872	0.0035	0.9		2959	2959	No	178.71	Si
SLU 48	fin.	197.8	-1113	-0.0001007	0.0001872	0.0035	0.9		2959	2959	No	14.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 48	ini.	16.56	-1235	0.9	0	1750	7137	3773	2295	6068	No	4.91	Si
SLU 48	fin.	197.8	1717	0.9	0	1750	7137	3773	2295	6068	No	3.53	Si
SLU 71	ini.	40.47	-1431	0.9	0	1750	7137	3773	2295	6068	No	4.24	Si
SLU 71	fin.	201.35	1721	0.9	0	1750	7137	3773	2295	6068	No	3.53	Si
SLU 50	ini.	13.87	-1184	0.9	0	1750	7137	3773	2295	6068	No	5.13	Si
SLU 50	fin.	196.77	1692	0.9	0	1750	7137	3773	2295	6068	No	3.59	Si
SLU 78	ini.	75.54	-1651	0.9	0	1750	7137	3773	2295	6068	No	3.67	Si
SLU 78	fin.	192.99	1609	0.9	0	1750	7137	3773	2295	6068	No	3.77	Si
SLU 49	ini.	23.38	-1263	0.9	0	1750	7137	3773	2295	6068	No	4.8	Si
SLU 49	fin.	190.78	1667	0.9	0	1750	7137	3773	2295	6068	No	3.64	Si
SLU 69	ini.	43.15	-1482	0.9	0	1750	7137	3773	2295	6068	No	4.09	Si
SLU 69	fin.	202.38	1745	0.9	0	1750	7137	3773	2295	6068	No	3.48	Si
SLU 70	ini.	49.98	-1511	0.9	0	1750	7137	3773	2295	6068	No	4.02	Si
SLU 70	fin.	195.36	1696	0.9	0	1750	7137	3773	2295	6068	No	3.58	Si
SLU 72	ini.	47.29	-1460	0.9	0	1750	7137	3773	2295	6068	No	4.16	Si
SLU 72	fin.	194.34	1671	0.9	0	1750	7137	3773	2295	6068	No	3.63	Si
SLU 77	ini.	68.71	-1623	0.9	0	1750	7137	3773	2295	6068	No	3.74	Si
SLU 77	fin.	200	1658	0.9	0	1750	7137	3773	2295	6068	No	3.66	Si
SLU 66	ini.	43.14	-1425	0.9	0	1750	7137	3773	2295	6068	No	4.26	Si
SLU 66	fin.	200.11	1678	0.9	0	1750	7137	3773	2295	6068	No	3.62	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	585.92	-2561	-0.0003166	0.0002807	0.0035	0.9		2989.59	2989.59		5.1	Si
SLV 6	fin.	-444.42	1710	-0.000233	0.0002807	0.0035	0.9		2995.37	2995.37		6.74	Si
SLV 9	ini.	548.03	-2365	-0.0002938	0.0002807	0.0035	0.9		2989.59	2989.59		5.46	Si
SLV 9	fin.	-398.89	1508	-0.0002073	0.0002807	0.0035	0.9		2995.37	2995.37		7.51	Si
SLV 16	ini.	-421.65	1137	-0.0002201	0.0002807	0.0035	0.9		2995.37	2995.37		7.1	Si
SLV 16	fin.	683.93	-3000	-0.0003776	0.0002807	0.0035	0.9		2989.59	2989.59		4.37	Si
SLV 11	ini.	-520.8	1351	-0.0002771	0.0002807	0.0035	0.9		2995.37	2995.37		5.75	Si
SLV 11	fin.	743.84	-3379	-0.0004164	0.0002807	0.0035	0.9		2989.59	2989.59		4.02	Si
SLD 12	ini.	-351.65	766	-0.0001813	0.0002807	0.0035	0.9		2995.37	2995.37		8.52	Si
SLD 12	fin.	572.59	-2612	-0.0003085	0.0002807	0.0035	0.9		2989.59	2989.59		5.22	Si
SLV 7	ini.	-387.15	799	-0.0002008	0.0002807	0.0035	0.9		2995.37	2995.37		7.74	Si
SLV 7	fin.	579.22	-2722	-0.0003125	0.0002807	0.0035	0.9		2989.59	2989.59		5.16	Si
SLV 5	ini.	681.69	-2917	-0.0003762	0.0002807	0.0035	0.9		2989.59	2989.59		4.39	Si
SLV 5	fin.	-563.51	2165	-0.0003024	0.0002807	0.0035	0.9		2995.37	2995.37		5.32	Si
SLV 12	ini.	-616.57	1707	-0.0003347	0.0002807	0.0035	0.9		2995.37	2995.37		4.86	Si
SLV 12	fin.	862.93	-3834	-0.0004964	0.0002807	0.0035	0.9		2989.59	2989.59		3.46	Si
SLV 8	ini.	-482.92	1155	-0.000255	0.0002807	0.0035	0.9		2995.37	2995.37		6.2	Si
SLV 8	fin.	698.31	-3177	-0.0003868	0.0002807	0.0035	0.9		2989.59	2989.59		4.28	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-279.4	608	-0.0001423	0.0002807	0.0035	0.9		2995.37	2995.37		10.72	Si
SLV 15	fin.	507.04	-2324	-0.0002695	0.0002807	0.0035	0.9		2989.59	2989.59		5.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-267.2	58	0.9	0	2625	7137	5660	2295	7955		136.15	Si
SLD 8	fin.	468.53	3561	0.9	0	2625	7137	5660	2295	7955		2.23	Si
SLV 16	ini.	-421.65	1470	0.9	0	2625	7137	5660	2295	7955		5.41	Si
SLV 16	fin.	683.93	4553	0.9	0	2625	7137	5660	2295	7955		1.75	Si
SLV 8	ini.	-482.92	829	0.9	0	2625	7137	5660	2295	7955		9.6	Si
SLV 8	fin.	698.31	5264	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLV 11	ini.	-520.8	1142	0.9	0	2625	7137	5660	2295	7955		6.97	Si
SLV 11	fin.	743.84	5546	0.9	0	2625	7137	5660	2295	7955		1.43	Si
SLD 12	ini.	-351.65	609	0.9	0	2625	7137	5660	2295	7955		13.07	Si
SLD 12	fin.	572.59	4167	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLV 5	ini.	681.69	-3699	0.9	0	2625	7137	5660	2295	7955		2.15	Si
SLV 5	fin.	-563.51	-3843	0.9	0	2625	7137	5660	2295	7955		2.07	Si
SLD 11	ini.	-293.53	268	0.9	0	2625	7137	5660	2295	7955		29.65	Si
SLD 11	fin.	500.32	3757	0.9	0	2625	7137	5660	2295	7955		2.12	Si
SLV 12	ini.	-616.57	1703	0.9	0	2625	7137	5660	2295	7955		4.67	Si
SLV 12	fin.	862.93	6222	0.9	0	2625	7137	5660	2295	7955		1.28	Si
SLV 15	ini.	-279.4	636	0.9	0	2625	7137	5660	2295	7955		12.5	Si
SLV 15	fin.	507.04	3549	0.9	0	2625	7137	5660	2295	7955		2.24	Si
SLV 7	ini.	-387.15	268	0.9	0	2625	7137	5660	2295	7955		29.69	Si
SLV 7	fin.	579.22	4588	0.9	0	2625	7137	5660	2295	7955		1.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.464	SLV 12	Si
V_SLV	1.278	SLV 12	Si
PF_SLU	14.621	SLU 69	Si
V_SLU	3.478	SLU 69	Si

Trave di accoppiamento 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	10.65	11.5	0.85	-22.778	5.951	10.65	11.5	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 50	ini.	-105.75	-892	-0.0000591	0.0001872	0.0035	0.85		2655.83	2655.83	No	25.11	Si
SLU 50	fin.	4.77	-256	-0.0000026	0.0001872	0.0035	0.85		2650.49	2650.49	No	555.1	Si
SLU 43	ini.	-102.07	-853	-0.000057	0.0001872	0.0035	0.85		2655.83	2655.83	No	26.02	Si
SLU 43	fin.	6.75	-218	-0.0000037	0.0001872	0.0035	0.85		2650.49	2650.49	No	392.39	Si
SLU 71	ini.	-100.55	-967	-0.0000561	0.0001872	0.0035	0.85		2655.83	2655.83	No	26.41	Si
SLU 71	fin.	-19.26	-417	-0.0000106	0.0001872	0.0035	0.85		2655.83	2655.83	No	137.92	Si
SLU 51	ini.	-100.5	-867	-0.0000561	0.0001872	0.0035	0.85		2655.83	2655.83	No	26.43	Si
SLU 51	fin.	-1.29	-282	-0.0000007	0.0001872	0.0035	0.85		2655.83	2655.83	No	2058.12	Si
SLU 45	ini.	-103.58	-885	-0.0000579	0.0001872	0.0035	0.85		2655.83	2655.83	No	25.64	Si
SLU 45	fin.	1.84	-259	-0.000001	0.0001872	0.0035	0.85		2650.49	2650.49	No	1441.41	Si
SLU 48	ini.	-105.42	-905	-0.0000589	0.0001872	0.0035	0.85		2655.83	2655.83	No	25.19	Si
SLU 48	fin.	0.85	-278	-0.0000005	0.0001872	0.0035	0.85		2650.49	2650.49	No	3122.57	Si
SLU 46	ini.	-98.33	-861	-0.0000549	0.0001872	0.0035	0.85		2655.83	2655.83	No	27.01	Si
SLU 46	fin.	-4.23	-286	-0.0000023	0.0001872	0.0035	0.85		2655.83	2655.83	No	628.4	Si
SLU 49	ini.	-100.18	-880	-0.0000559	0.0001872	0.0035	0.85		2655.83	2655.83	No	26.51	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	fin.	-5.22	-305	-0.0000029	0.0001872	0.0035	0.85		2655.83	2655.83	No	509.13	Si
SLU 66	ini.	-98.39	-960	-0.0000549	0.0001872	0.0035	0.85		2655.83	2655.83	No	26.99	Si
SLU 66	fin.	-22.19	-420	-0.0000122	0.0001872	0.0035	0.85		2655.83	2655.83	No	119.68	Si
SLU 69	ini.	-100.23	-979	-0.0000559	0.0001872	0.0035	0.85		2655.83	2655.83	No	26.5	Si
SLU 69	fin.	-23.18	-439	-0.0000127	0.0001872	0.0035	0.85		2655.83	2655.83	No	114.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-86.21	2432	0.85	0	1653	6740	3563	2168	5731	No	2.36	Si
SLU 80	fin.	-46.47	-1703	0.85	0	1653	6740	3563	2168	5731	No	3.37	Si
SLU 75	ini.	-84.05	2406	0.85	0	1653	6740	3563	2168	5731	No	2.38	Si
SLU 75	fin.	-49.41	-1683	0.85	0	1653	6740	3563	2168	5731	No	3.4	Si
SLU 82	ini.	-78.64	2368	0.85	0	1653	6740	3563	2168	5731	No	2.42	Si
SLU 82	fin.	-53.56	-1698	0.85	0	1653	6740	3563	2168	5731	No	3.37	Si
SLU 74	ini.	-89.3	2445	0.85	0	1653	6740	3563	2168	5731	No	2.34	Si
SLU 74	fin.	-43.34	-1646	0.85	0	1653	6740	3563	2168	5731	No	3.48	Si
SLU 84	ini.	-80.48	2431	0.85	0	1653	6740	3563	2168	5731	No	2.36	Si
SLU 84	fin.	-54.55	-1761	0.85	0	1653	6740	3563	2168	5731	No	3.25	Si
SLU 83	ini.	-85.73	2470	0.85	0	1653	6740	3563	2168	5731	No	2.32	Si
SLU 83	fin.	-48.48	-1723	0.85	0	1653	6740	3563	2168	5731	No	3.33	Si
SLU 79	ini.	-91.46	2471	0.85	0	1653	6740	3563	2168	5731	No	2.32	Si
SLU 79	fin.	-40.41	-1665	0.85	0	1653	6740	3563	2168	5731	No	3.44	Si
SLU 78	ini.	-85.89	2469	0.85	0	1653	6740	3563	2168	5731	No	2.32	Si
SLU 78	fin.	-50.4	-1746	0.85	0	1653	6740	3563	2168	5731	No	3.28	Si
SLU 81	ini.	-83.89	2407	0.85	0	1653	6740	3563	2168	5731	No	2.38	Si
SLU 81	fin.	-47.49	-1661	0.85	0	1653	6740	3563	2168	5731	No	3.45	Si
SLU 77	ini.	-91.14	2508	0.85	0	1653	6740	3563	2168	5731	No	2.28	Si
SLU 77	fin.	-44.33	-1709	0.85	0	1653	6740	3563	2168	5731	No	3.35	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-524.93	-2847	-0.0003167	0.0002807	0.0035	0.85		2680.73	2680.73		5.11	Si
SLV 11	fin.	480.2	1828	-0.0002873	0.0002807	0.0035	0.85		2675.27	2675.27		5.57	Si
SLV 9	ini.	375.55	1441	-0.0002196	0.0002807	0.0035	0.85		2675.27	2675.27		7.12	Si
SLV 9	fin.	-510.4	-2448	-0.0003069	0.0002807	0.0035	0.85		2680.73	2680.73		5.25	Si
SLV 16	ini.	-450.83	-2451	-0.0002674	0.0002807	0.0035	0.85		2680.73	2680.73		5.95	Si
SLV 16	fin.	360.27	1271	-0.00021	0.0002807	0.0035	0.85		2675.27	2675.27		7.43	Si
SLV 5	ini.	477.28	1896	-0.0002854	0.0002807	0.0035	0.85		2675.27	2675.27		5.61	Si
SLV 5	fin.	-603.44	-2821	-0.0003711	0.0002807	0.0035	0.85		2680.73	2680.73		4.44	Si
SLV 7	ini.	-423.19	-2392	-0.0002495	0.0002807	0.0035	0.85		2680.73	2680.73		6.33	Si
SLV 7	fin.	387.16	1454	-0.000227	0.0002807	0.0035	0.85		2675.27	2675.27		6.91	Si
SLV 6	ini.	378.8	1434	-0.0002217	0.0002807	0.0035	0.85		2675.27	2675.27		7.06	Si
SLV 6	fin.	-508.3	-2416	-0.0003054	0.0002807	0.0035	0.85		2680.73	2680.73		5.27	Si
SLV 10	ini.	277.07	979	-0.0001589	0.0002807	0.0035	0.85		2675.27	2675.27		9.66	Si
SLV 10	fin.	-415.26	-2042	-0.0002444	0.0002807	0.0035	0.85		2680.73	2680.73		6.46	Si
SLV 12	ini.	-623.4	-3308	-0.0003854	0.0002807	0.0035	0.85		2680.73	2680.73		4.3	Si
SLV 12	fin.	575.34	2234	-0.0003522	0.0002807	0.0035	0.85		2675.27	2675.27		4.65	Si
SLD 12	ini.	-398.25	-2243	-0.0002335	0.0002807	0.0035	0.85		2680.73	2680.73		6.73	Si
SLD 12	fin.	333.76	1196	-0.0001936	0.0002807	0.0035	0.85		2675.27	2675.27		8.02	Si
SLV 8	ini.	-521.67	-2854	-0.0003145	0.0002807	0.0035	0.85		2680.73	2680.73		5.14	Si
SLV 8	fin.	482.3	1860	-0.0002887	0.0002807	0.0035	0.85		2675.27	2675.27		5.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-423.19	4496	0.85	0	2479	6740	5345	2168	7513		1.67	Si
SLV 7	fin.	387.16	1298	0.85	0	2479	6740	5345	2168	7513		5.79	Si
SLD 12	ini.	-398.25	4075	0.85	0	2479	6740	5345	2168	7513		1.84	Si
SLD 12	fin.	333.76	1116	0.85	0	2479	6740	5345	2168	7513		6.73	Si
SLD 11	ini.	-338.49	3692	0.85	0	2479	6740	5345	2168	7513		2.04	Si
SLD 11	fin.	276.02	721	0.85	0	2479	6740	5345	2168	7513		10.41	Si
SLV 9	ini.	375.55	-1778	0.85	0	2479	6740	5345	2168	7513		4.23	Si
SLV 9	fin.	-510.4	-3883	0.85	0	2479	6740	5345	2168	7513		1.93	Si
SLV 8	ini.	-521.67	5127	0.85	0	2479	6740	5345	2168	7513		1.47	Si
SLV 8	fin.	482.3	1948	0.85	0	2479	6740	5345	2168	7513		3.86	Si
SLV 16	ini.	-450.83	4202	0.85	0	2479	6740	5345	2168	7513		1.79	Si
SLV 16	fin.	360.27	1406	0.85	0	2479	6740	5345	2168	7513		5.34	Si
SLV 6	ini.	378.8	-1761	0.85	0	2479	6740	5345	2168	7513		4.27	Si
SLV 6	fin.	-508.3	-3844	0.85	0	2479	6740	5345	2168	7513		1.95	Si
SLV 12	ini.	-623.4	5742	0.85	0	2479	6740	5345	2168	7513		1.31	Si
SLV 12	fin.	575.34	2561	0.85	0	2479	6740	5345	2168	7513		2.93	Si
SLV 5	ini.	477.28	-2393	0.85	0	2479	6740	5345	2168	7513		3.14	Si
SLV 5	fin.	-603.44	-4495	0.85	0	2479	6740	5345	2168	7513		1.67	Si
SLV 11	ini.	-524.93	5111	0.85	0	2479	6740	5345	2168	7513		1.47	Si
SLV 11	fin.	480.2	1910	0.85	0	2479	6740	5345	2168	7513		3.93	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.3	SLV 12	Si
V_SLV	1.308	SLV 12	Si
PF_SLU	25.115	SLU 50	Si
V_SLU	2.285	SLU 77	Si

Trave di accoppiamento 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	7.95	8.85	0.9	-22.478	-3.169	7.95	8.85	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	462.97	-1531	-0.0002526	0.0001872	0.0035	0.9		2959	2959	No	6.39	Si
SLU 84	fin.	-13.37	-559	-0.0000065	0.0001872	0.0035	0.9		2964.67	2964.67	No	221.82	Si
SLU 39	ini.	443.56	-1333	-0.0002406	0.0001872	0.0035	0.9		2959	2959	No	6.67	Si
SLU 39	fin.	-54.37	-329	-0.0000268	0.0001872	0.0035	0.9		2964.67	2964.67	No	54.53	Si
SLU 83	ini.	477.5	-1548	-0.0002616	0.0001872	0.0035	0.9		2959	2959	No	6.2	Si
SLU 83	fin.	-22.91	-531	-0.0000112	0.0001872	0.0035	0.9		2964.67	2964.67	No	129.41	Si
SLU 79	ini.	436.15	-1493	-0.0002361	0.0001872	0.0035	0.9		2959	2959	No	6.78	Si
SLU 79	fin.	4.63	-611	-0.0000023	0.0001872	0.0035	0.9		2959	2959	No	638.67	Si
SLU 74	ini.	455.95	-1515	-0.0002482	0.0001872	0.0035	0.9		2959	2959	No	6.49	Si
SLU 74	fin.	-10.08	-565	-0.0000049	0.0001872	0.0035	0.9		2964.67	2964.67	No	294.12	Si
SLU 81	ini.	484.01	-1537	-0.0002657	0.0001872	0.0035	0.9		2959	2959	No	6.11	Si
SLU 81	fin.	-34.04	-486	-0.0000167	0.0001872	0.0035	0.9		2964.67	2964.67	No	87.09	Si
SLU 41	ini.	437.05	-1343	-0.0002366	0.0001872	0.0035	0.9		2959	2959	No	6.77	Si
SLU 41	fin.	-43.24	-374	-0.0000213	0.0001872	0.0035	0.9		2964.67	2964.67	No	68.57	Si
SLU 77	ini.	449.44	-1525	-0.0002442	0.0001872	0.0035	0.9		2959	2959	No	6.58	Si
SLU 77	fin.	1.05	-610	-0.0000005	0.0001872	0.0035	0.9		2959	2959	No	2811.48	Si
SLU 82	ini.	469.49	-1521	-0.0002566	0.0001872	0.0035	0.9		2959	2959	No	6.3	Si
SLU 82	fin.	-24.5	-514	-0.000012	0.0001872	0.0035	0.9		2964.67	2964.67	No	121.02	Si
SLU 75	ini.	441.43	-1498	-0.0002393	0.0001872	0.0035	0.9		2959	2959	No	6.7	Si
SLU 75	fin.	-0.54	-593	-0.0000003	0.0001872	0.0035	0.9		2964.67	2964.67	No	5526.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 39	ini.	443.56	-1534	0.9	0	1750	7137	3773	2295	6068	No	3.95	Si
SLU 39	fin.	-54.37	-114	0.9	0	1750	7137	3773	2295	6068	No	53.09	Si
SLU 74	ini.	455.95	-1600	0.9	0	1750	7137	3773	2295	6068	No	3.79	Si
SLU 74	fin.	-10.08	207	0.9	0	1750	7137	3773	2295	6068	No	29.32	Si
SLU 77	ini.	449.44	-1584	0.9	0	1750	7137	3773	2295	6068	No	3.83	Si
SLU 77	fin.	1.05	282	0.9	0	1750	7137	3773	2295	6068	No	21.54	Si
SLU 75	ini.	441.43	-1556	0.9	0	1750	7137	3773	2295	6068	No	3.9	Si
SLU 75	fin.	-0.54	264	0.9	0	1750	7137	3773	2295	6068	No	23.01	Si
SLU 81	ini.	484.01	-1679	0.9	0	1750	7137	3773	2295	6068	No	3.61	Si
SLU 81	fin.	-34.04	48	0.9	0	1750	7137	3773	2295	6068	No	125.61	Si
SLU 83	ini.	477.5	-1663	0.9	0	1750	7137	3773	2295	6068	No	3.65	Si
SLU 83	fin.	-22.91	123	0.9	0	1750	7137	3773	2295	6068	No	49.31	Si
SLU 78	ini.	434.91	-1540	0.9	0	1750	7137	3773	2295	6068	No	3.94	Si
SLU 78	fin.	10.6	338	0.9	0	1750	7137	3773	2295	6068	No	17.93	Si
SLU 79	ini.	436.15	-1532	0.9	0	1750	7137	3773	2295	6068	No	3.96	Si
SLU 79	fin.	4.63	290	0.9	0	1750	7137	3773	2295	6068	No	20.93	Si
SLU 84	ini.	462.97	-1619	0.9	0	1750	7137	3773	2295	6068	No	3.75	Si
SLU 84	fin.	-13.37	180	0.9	0	1750	7137	3773	2295	6068	No	33.75	Si
SLU 82	ini.	469.49	-1635	0.9	0	1750	7137	3773	2295	6068	No	3.71	Si
SLU 82	fin.	-24.5	105	0.9	0	1750	7137	3773	2295	6068	No	57.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	1053.86	-1783	-0.0006331	0.0002807	0.0035	0.9		2989.59	2989.59		2.84	Si
SLD 8	fin.	-560.31	1294	-0.0003005	0.0002807	0.0035	0.9		2995.37	2995.37		5.35	Si
SLV 2	ini.	954.29	-1840	-0.0005606	0.0002807	0.0035	0.9		2989.59	2989.59		3.13	Si
SLV 2	fin.	-430.84	769	-0.0002253	0.0002807	0.0035	0.9		2995.37	2995.37		6.95	Si
SLV 7	ini.	1385.74	-2088	-0.000896	0.0002807	0.0035	0.9		2989.59	2989.59		2.16	Si
SLV 7	fin.	-817.63	2097	-0.0004645	0.0002807	0.0035	0.9		2995.37	2995.37		3.66	Si
SLV 8	ini.	1571.06	-2298	-0.0010584	0.0002807	0.0035	0.9		2989.59	2989.59		1.9	Si
SLV 8	fin.	-947.56	2475	-0.0005545	0.0002807	0.0035	0.9		2995.37	2995.37		3.16	Si
SLV 9	ini.	-998.14	270	-0.0005909	0.0002807	0.0035	0.9		2995.37	2995.37		3	Si
SLV 9	fin.	971.3	-3368	-0.0005728	0.0002807	0.0035	0.9		2989.59	2989.59		3.08	Si
SLD 4	ini.	1059.59	-1869	-0.0006374	0.0002807	0.0035	0.9		2989.59	2989.59		2.82	Si
SLD 4	fin.	-536.01	1153	-0.000286	0.0002807	0.0035	0.9		2995.37	2995.37		5.59	Si
SLV 3	ini.	1247.58	-2066	-0.0007825	0.0002807	0.0035	0.9		2989.59	2989.59		2.4	Si
SLV 3	fin.	-673.04	1558	-0.0003699	0.0002807	0.0035	0.9		2995.37	2995.37		4.45	Si
SLV 13	ini.	-949.94	350	-0.0005562	0.0002807	0.0035	0.9		2995.37	2995.37		3.15	Si
SLV 13	fin.	889.77	-3012	-0.000515	0.0002807	0.0035	0.9		2989.59	2989.59		3.36	Si
SLV 12	ini.	1082.37	-1735	-0.0006545	0.0002807	0.0035	0.9		2989.59	2989.59		2.76	Si
SLV 12	fin.	-609.28	1509	-0.0003302	0.0002807	0.0035	0.9		2995.37	2995.37		4.92	Si
SLV 4	ini.	1522.85	-2378	-0.001015	0.0002807	0.0035	0.9		2989.59	2989.59		1.96	Si
SLV 4	fin.	-866.04	2118	-0.0004975	0.0002807	0.0035	0.9		2995.37	2995.37		3.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-812.83	2611	0.9	0	2625	7137	5660	2295	7955		3.05	Si
SLV 10	fin.	841.36	4840	0.9	0	2625	7137	5660	2295	7955		1.64	Si
SLV 7	ini.	1385.74	-4615	0.9	0	2625	7137	5660	2295	7955		1.72	Si
SLV 7	fin.	-817.63	-4344	0.9	0	2625	7137	5660	2295	7955		1.83	Si
SLV 3	ini.	1247.58	-4359	0.9	0	2625	7137	5660	2295	7955		1.82	Si
SLV 3	fin.	-673.04	-3150	0.9	0	2625	7137	5660	2295	7955		2.53	Si
SLV 5	ini.	-509.46	1504	0.9	0	2625	7137	5660	2295	7955		5.29	Si
SLV 5	fin.	633.01	3900	0.9	0	2625	7137	5660	2295	7955		2.04	Si
SLV 9	ini.	-998.14	3254	0.9	0	2625	7137	5660	2295	7955		2.44	Si
SLV 9	fin.	971.3	5484	0.9	0	2625	7137	5660	2295	7955		1.45	Si
SLV 8	ini.	1571.06	-5259	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLV 8	fin.	-947.56	-4989	0.9	0	2625	7137	5660	2295	7955		1.59	Si
SLD 4	ini.	1059.59	-3703	0.9	0	2625	7137	5660	2295	7955		2.15	Si
SLD 4	fin.	-536.01	-2462	0.9	0	2625	7137	5660	2295	7955		3.23	Si
SLV 4	ini.	1522.85	-5315	0.9	0	2625	7137	5660	2295	7955		1.5	Si
SLV 4	fin.	-866.04	-4108	0.9	0	2625	7137	5660	2295	7955		1.94	Si
SLV 14	ini.	-674.67	2355	0.9	0	2625	7137	5660	2295	7955		3.38	Si
SLV 14	fin.	696.77	3646	0.9	0	2625	7137	5660	2295	7955		2.18	Si
SLV 13	ini.	-949.94	3310	0.9	0	2625	7137	5660	2295	7955		2.4	Si
SLV 13	fin.	889.77	4603	0.9	0	2625	7137	5660	2295	7955		1.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.903	SLV 8	Si
V_SLV	1.45	SLV 9	Si
PF_SLU	6.113	SLU 81	Si
V_SLU	3.615	SLU 81	Si

Trave di accoppiamento 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	10.65	11.5	0.85	-22.478	-3.169	10.65	11.5	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	52.78	-558	-0.0000292	0.0001872	0.0035	0.85		2650.49	2650.49	No	50.22	Si
SLU 82	fin.	-288.88	-1329	-0.0001692	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.19	Si
SLU 81	ini.	67.21	-542	-0.0000373	0.0001872	0.0035	0.85		2650.49	2650.49	No	39.44	Si
SLU 81	fin.	-298.5	-1364	-0.0001753	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.9	Si
SLU 39	ini.	90.89	-430	-0.0000507	0.0001872	0.0035	0.85		2650.49	2650.49	No	29.16	Si
SLU 39	fin.	-277.11	-1247	-0.0001617	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.58	Si
SLU 40	ini.	76.46	-445	-0.0000425	0.0001872	0.0035	0.85		2650.49	2650.49	No	34.66	Si
SLU 40	fin.	-267.49	-1212	-0.0001557	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.93	Si
SLU 74	ini.	29.18	-600	-0.0000161	0.0001872	0.0035	0.85		2650.49	2650.49	No	90.83	Si
SLU 74	fin.	-278.28	-1302	-0.0001625	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.54	Si
SLU 84	ini.	32.05	-600	-0.0000177	0.0001872	0.0035	0.85		2650.49	2650.49	No	82.7	Si
SLU 84	fin.	-282.82	-1323	-0.0001653	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.39	Si
SLU 75	ini.	14.75	-616	-0.0000081	0.0001872	0.0035	0.85		2650.49	2650.49	No	179.69	Si
SLU 75	fin.	-268.66	-1268	-0.0001564	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.89	Si
SLU 41	ini.	70.16	-473	-0.000039	0.0001872	0.0035	0.85		2650.49	2650.49	No	37.78	Si
SLU 41	fin.	-271.04	-1241	-0.0001579	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.8	Si
SLU 83	ini.	46.48	-585	-0.0000257	0.0001872	0.0035	0.85		2650.49	2650.49	No	57.02	Si
SLU 83	fin.	-292.43	-1358	-0.0001714	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.08	Si
SLU 77	ini.	8.45	-643	-0.0000046	0.0001872	0.0035	0.85		2650.49	2650.49	No	313.63	Si
SLU 77	fin.	-272.22	-1296	-0.0001587	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	67.21	339	0.85	0	1653	6740	3563	2168	5731	No	16.88	Si
SLU 81	fin.	-298.5	-2418	0.85	0	1653	6740	3563	2168	5731	No	2.37	Si
SLU 79	ini.	2	549	0.85	0	1653	6740	3563	2168	5731	No	10.43	Si
SLU 79	fin.	-262.68	-2235	0.85	0	1653	6740	3563	2168	5731	No	2.56	Si
SLU 75	ini.	14.75	515	0.85	0	1653	6740	3563	2168	5731	No	11.14	Si
SLU 75	fin.	-268.66	-2260	0.85	0	1653	6740	3563	2168	5731	No	2.54	Si
SLU 78	ini.	-5.98	591	0.85	0	1653	6740	3563	2168	5731	No	9.69	Si
SLU 78	fin.	-262.6	-2252	0.85	0	1653	6740	3563	2168	5731	No	2.54	Si
SLU 74	ini.	29.18	462	0.85	0	1653	6740	3563	2168	5731	No	12.41	Si
SLU 74	fin.	-278.28	-2306	0.85	0	1653	6740	3563	2168	5731	No	2.49	Si
SLU 83	ini.	46.48	416	0.85	0	1653	6740	3563	2168	5731	No	13.77	Si
SLU 83	fin.	-292.43	-2411	0.85	0	1653	6740	3563	2168	5731	No	2.38	Si
SLU 82	ini.	52.78	392	0.85	0	1653	6740	3563	2168	5731	No	14.6	Si
SLU 82	fin.	-288.88	-2372	0.85	0	1653	6740	3563	2168	5731	No	2.42	Si
SLU 77	ini.	8.45	538	0.85	0	1653	6740	3563	2168	5731	No	10.65	Si
SLU 77	fin.	-272.22	-2298	0.85	0	1653	6740	3563	2168	5731	No	2.49	Si
SLU 39	ini.	90.89	182	0.85	0	1653	6740	3563	2168	5731	No	31.41	Si
SLU 39	fin.	-277.11	-2209	0.85	0	1653	6740	3563	2168	5731	No	2.59	Si
SLU 84	ini.	32.05	469	0.85	0	1653	6740	3563	2168	5731	No	12.22	Si
SLU 84	fin.	-282.82	-2365	0.85	0	1653	6740	3563	2168	5731	No	2.42	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-835.6	-1497	-0.0005453	0.0002807	0.0035	0.85		2680.73	2680.73		3.21	Si
SLV 14	fin.	323.32	858	-0.0001871	0.0002807	0.0035	0.85		2675.27	2675.27		8.27	Si
SLV 10	ini.	-1180.57	-1920	-0.0008396	0.0002807	0.0035	0.85		2680.73	2680.73		2.27	Si
SLV 10	fin.	523.71	1579	-0.0003165	0.0002807	0.0035	0.85		2675.27	2675.27		5.11	Si
SLV 12	ini.	970.36	803	-0.0006568	0.0002807	0.0035	0.85		2675.27	2675.27		2.76	Si
SLV 12	fin.	-745.71	-2809	-0.0004756	0.0002807	0.0035	0.85		2680.73	2680.73		3.59	Si
SLV 13	ini.	-1107.04	-1828	-0.0007732	0.0002807	0.0035	0.85		2680.73	2680.73		2.42	Si
SLV 13	fin.	487.87	1425	-0.0002924	0.0002807	0.0035	0.85		2675.27	2675.27		5.48	Si
SLV 8	ini.	1357.97	1303	-0.0010115	0.0002807	0.0035	0.85		2675.27	2675.27		1.97	Si
SLV 8	fin.	-977.82	-3588	-0.0006614	0.0002807	0.0035	0.85		2680.73	2680.73		2.74	Si
SLV 5	ini.	-975.7	-1643	-0.0006597	0.0002807	0.0035	0.85		2680.73	2680.73		2.75	Si
SLV 5	fin.	402.38	1182	-0.0002366	0.0002807	0.0035	0.85		2675.27	2675.27		6.65	Si
SLV 4	ini.	1101.7	988	-0.0007704	0.0002807	0.0035	0.85		2675.27	2675.27		2.43	Si
SLV 4	fin.	-831.19	-3053	-0.0005418	0.0002807	0.0035	0.85		2680.73	2680.73		3.23	Si
SLV 3	ini.	830.26	656	-0.0005424	0.0002807	0.0035	0.85		2675.27	2675.27		3.22	Si
SLV 3	fin.	-666.65	-2485	-0.0004167	0.0002807	0.0035	0.85		2680.73	2680.73		4.02	Si
SLV 9	ini.	-1363.31	-2144	-0.0010142	0.0002807	0.0035	0.85		2680.73	2680.73		1.97	Si
SLV 9	fin.	634.49	1960	-0.0003942	0.0002807	0.0035	0.85		2675.27	2675.27		4.22	Si
SLV 7	ini.	1175.23	1080	-0.0008368	0.0002807	0.0035	0.85		2675.27	2675.27		2.28	Si
SLV 7	fin.	-867.04	-3206	-0.0005704	0.0002807	0.0035	0.85		2680.73	2680.73		3.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	805.64	-2381	0.85	0	2479	6740	5345	2168	7513		3.16	Si
SLD 8	fin.	-650.66	-3996	0.85	0	2479	6740	5345	2168	7513		1.88	Si
SLV 13	ini.	-1107.04	4071	0.85	0	2479	6740	5345	2168	7513		1.85	Si
SLV 13	fin.	487.87	2202	0.85	0	2479	6740	5345	2168	7513		3.41	Si
SLV 7	ini.	1175.23	-3664	0.85	0	2479	6740	5345	2168	7513		2.05	Si
SLV 7	fin.	-867.04	-5123	0.85	0	2479	6740	5345	2168	7513		1.47	Si
SLV 8	ini.	1357.97	-4274	0.85	0	2479	6740	5345	2168	7513		1.76	Si
SLV 8	fin.	-977.82	-5735	0.85	0	2479	6740	5345	2168	7513		1.31	Si
SLV 12	ini.	970.36	-3002	0.85	0	2479	6740	5345	2168	7513		2.5	Si
SLV 12	fin.	-745.71	-4419	0.85	0	2479	6740	5345	2168	7513		1.7	Si
SLV 3	ini.	830.26	-2396	0.85	0	2479	6740	5345	2168	7513		3.13	Si
SLV 3	fin.	-666.65	-4181	0.85	0	2479	6740	5345	2168	7513		1.8	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1363.31	5042	0.85	0	2479	6740	5345	2168	7513		1.49	Si
SLV 9	fin.	634.49	2846	0.85	0	2479	6740	5345	2168	7513		2.64	Si
SLV 11	ini.	787.62	-2392	0.85	0	2479	6740	5345	2168	7513		3.14	Si
SLV 11	fin.	-634.93	-3807	0.85	0	2479	6740	5345	2168	7513		1.97	Si
SLV 4	ini.	1101.7	-3303	0.85	0	2479	6740	5345	2168	7513		2.27	Si
SLV 4	fin.	-831.19	-5090	0.85	0	2479	6740	5345	2168	7513		1.48	Si
SLV 10	ini.	-1180.57	4432	0.85	0	2479	6740	5345	2168	7513		1.7	Si
SLV 10	fin.	523.71	2234	0.85	0	2479	6740	5345	2168	7513		3.36	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.966	SLV 9	Si
V_SLV	1.31	SLV 8	Si
PF_SLU	8.897	SLU 81	Si
V_SLU	2.37	SLU 81	Si

Trave di accoppiamento 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	7.95	9.95	2	-19.293	-3.169	7.95	9.95	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 47	ini.	-131.9	-1585	-0.0000131	0.0001872	0.0035	2		14357.01	14357.01	No	108.85	Si
SLU 47	fin.	-49.49	-2197	-0.0000049	0.0001872	0.0035	2		14357.01	14357.01	No	290.1	Si
SLU 45	ini.	-119.51	-1603	-0.0000119	0.0001872	0.0035	2		14357.01	14357.01	No	120.13	Si
SLU 45	fin.	-53.53	-2225	-0.0000053	0.0001872	0.0035	2		14357.01	14357.01	No	268.18	Si
SLU 67	ini.	-120.39	-1789	-0.000012	0.0001872	0.0035	2		14357.01	14357.01	No	119.26	Si
SLU 67	fin.	-69.04	-2480	-0.0000068	0.0001872	0.0035	2		14357.01	14357.01	No	207.95	Si
SLU 51	ini.	-125.44	-1611	-0.0000125	0.0001872	0.0035	2		14357.01	14357.01	No	114.45	Si
SLU 51	fin.	-50.5	-2226	-0.000005	0.0001872	0.0035	2		14357.01	14357.01	No	284.32	Si
SLU 44	ini.	-132.77	-1547	-0.0000132	0.0001872	0.0035	2		14357.01	14357.01	No	108.13	Si
SLU 44	fin.	-49.1	-2156	-0.0000049	0.0001872	0.0035	2		14357.01	14357.01	No	292.43	Si
SLU 70	ini.	-119.51	-1827	-0.0000119	0.0001872	0.0035	2		14357.01	14357.01	No	120.13	Si
SLU 70	fin.	-69.43	-2521	-0.0000069	0.0001872	0.0035	2		14357.01	14357.01	No	206.78	Si
SLU 68	ini.	-124.4	-1753	-0.0000124	0.0001872	0.0035	2		14357.01	14357.01	No	115.41	Si
SLU 68	fin.	-65.91	-2435	-0.0000065	0.0001872	0.0035	2		14357.01	14357.01	No	217.82	Si
SLU 46	ini.	-127.88	-1622	-0.0000127	0.0001872	0.0035	2		14357.01	14357.01	No	112.27	Si
SLU 46	fin.	-52.62	-2242	-0.0000052	0.0001872	0.0035	2		14357.01	14357.01	No	272.86	Si
SLU 65	ini.	-125.28	-1715	-0.0000124	0.0001872	0.0035	2		14357.01	14357.01	No	114.6	Si
SLU 65	fin.	-65.52	-2395	-0.0000065	0.0001872	0.0035	2		14357.01	14357.01	No	219.13	Si
SLU 49	ini.	-127.01	-1660	-0.0000126	0.0001872	0.0035	2		14357.01	14357.01	No	113.04	Si
SLU 49	fin.	-53.01	-2282	-0.0000053	0.0001872	0.0035	2		14357.01	14357.01	No	270.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-29.93	-144	2	0	3889	3965	8384	5100	7854	No	54.63	Si
SLU 84	fin.	-97.84	3271	2	0	3889	3965	8384	5100	7854	No	2.4	Si
SLU 70	ini.	-119.51	29	2	0	3889	3965	8384	5100	7854	No	273.98	Si
SLU 70	fin.	-69.43	3269	2	0	3889	3965	8384	5100	7854	No	2.4	Si
SLU 75	ini.	-58.16	-100	2	0	3889	3965	8384	5100	7854	No	78.61	Si
SLU 75	fin.	-90.96	3300	2	0	3889	3965	8384	5100	7854	No	2.38	Si
SLU 83	ini.	-21.56	-145	2	0	3889	3965	8384	5100	7854	No	54.26	Si
SLU 83	fin.	-98.76	3241	2	0	3889	3965	8384	5100	7854	No	2.42	Si
SLU 80	ini.	-55.73	-104	2	0	3889	3965	8384	5100	7854	No	75.52	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-88.84	3280	2	0	3889	3965	8384	5100	7854	No	2.39	Si
SLU 76	ini.	-62.18	-76	2	0	3889	3965	8384	5100	7854	No	102.69	Si
SLU 76	fin.	-87.84	3262	2	0	3889	3965	8384	5100	7854	No	2.41	Si
SLU 77	ini.	-48.92	-128	2	0	3889	3965	8384	5100	7854	No	61.47	Si
SLU 77	fin.	-92.28	3308	2	0	3889	3965	8384	5100	7854	No	2.37	Si
SLU 79	ini.	-47.36	-105	2	0	3889	3965	8384	5100	7854	No	74.8	Si
SLU 79	fin.	-89.76	3250	2	0	3889	3965	8384	5100	7854	No	2.42	Si
SLU 78	ini.	-57.29	-127	2	0	3889	3965	8384	5100	7854	No	61.96	Si
SLU 78	fin.	-91.36	3338	2	0	3889	3965	8384	5100	7854	No	2.35	Si
SLU 74	ini.	-49.79	-101	2	0	3889	3965	8384	5100	7854	No	77.83	Si
SLU 74	fin.	-91.88	3270	2	0	3889	3965	8384	5100	7854	No	2.4	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1127.39	-2558	-0.0001152	0.0002807	0.0035	2		14215.41	14215.41		12.61	Si
SLV 15	fin.	623.45	-3937	-0.0000628	0.0002807	0.0035	2		14202.07	14202.07		22.78	Si
SLV 14	ini.	-1308.82	-3283	-0.0001346	0.0002807	0.0035	2		14215.41	14215.41		10.86	Si
SLV 14	fin.	564.22	-4485	-0.0000567	0.0002807	0.0035	2		14202.07	14202.07		25.17	Si
SLV 13	ini.	-1620.75	-3753	-0.0001684	0.0002807	0.0035	2		14215.41	14215.41		8.77	Si
SLV 13	fin.	756.74	-5187	-0.0000765	0.0002807	0.0035	2		14202.07	14202.07		18.77	Si
SLV 7	ini.	992.34	1078	-0.0001011	0.0002807	0.0035	2		14202.07	14202.07		14.31	Si
SLV 7	fin.	-406	794	-0.0000406	0.0002807	0.0035	2		14215.41	14215.41		35.01	Si
SLV 3	ini.	1169.81	773	-0.0001199	0.0002807	0.0035	2		14202.07	14202.07		12.14	Si
SLV 3	fin.	-672.68	922	-0.0000678	0.0002807	0.0035	2		14215.41	14215.41		21.13	Si
SLV 10	ini.	-1131.35	-3588	-0.0001157	0.0002807	0.0035	2		14215.41	14215.41		12.57	Si
SLV 10	fin.	297.54	-4357	-0.0000297	0.0002807	0.0035	2		14202.07	14202.07		47.73	Si
SLV 9	ini.	-1341.35	-3905	-0.0001381	0.0002807	0.0035	2		14215.41	14215.41		10.6	Si
SLV 9	fin.	427.15	-4830	-0.0000428	0.0002807	0.0035	2		14202.07	14202.07		33.25	Si
SLV 8	ini.	1202.34	1394	-0.0001233	0.0002807	0.0035	2		14202.07	14202.07		11.81	Si
SLV 8	fin.	-535.61	1267	-0.0000538	0.0002807	0.0035	2		14215.41	14215.41		26.54	Si
SLV 4	ini.	1481.74	1242	-0.0001534	0.0002807	0.0035	2		14202.07	14202.07		9.58	Si
SLV 4	fin.	-865.2	1624	-0.0000877	0.0002807	0.0035	2		14215.41	14215.41		16.43	Si
SLD 13	ini.	-1045.37	-2820	-0.0001066	0.0002807	0.0035	2		14215.41	14215.41		13.6	Si
SLD 13	fin.	459.53	-3922	-0.0000461	0.0002807	0.0035	2		14202.07	14202.07		30.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-1308.82	5786	2	0	5833	3965	12577	5100	9798		1.69	Si
SLV 14	fin.	564.22	7002	2	0	5833	3965	12577	5100	9798		1.4	Si
SLV 9	ini.	-1341.35	3917	2	0	5833	3965	12577	5100	9798		2.5	Si
SLV 9	fin.	427.15	7129	2	0	5833	3965	12577	5100	9798		1.37	Si
SLV 13	ini.	-1620.75	7330	2	0	5833	3965	12577	5100	9798		1.34	Si
SLV 13	fin.	756.74	8349	2	0	5833	3965	12577	5100	9798		1.17	Si
SLV 4	ini.	1481.74	-7232	2	0	5833	3965	12577	5100	9798		1.35	Si
SLV 4	fin.	-865.2	-3660	2	0	5833	3965	12577	5100	9798		2.68	Si
SLV 3	ini.	1169.81	-5687	2	0	5833	3965	12577	5100	9798		1.72	Si
SLV 3	fin.	-672.68	-2313	2	0	5833	3965	12577	5100	9798		4.24	Si
SLV 2	ini.	988.38	-6312	2	0	5833	3965	12577	5100	9798		1.55	Si
SLV 2	fin.	-731.91	-1859	2	0	5833	3965	12577	5100	9798		5.27	Si
SLD 14	ini.	-847.47	3682	2	0	5833	3965	12577	5100	9798		2.66	Si
SLD 14	fin.	337.39	5265	2	0	5833	3965	12577	5100	9798		1.86	Si
SLV 15	ini.	-1127.39	6410	2	0	5833	3965	12577	5100	9798		1.53	Si
SLV 15	fin.	623.45	6548	2	0	5833	3965	12577	5100	9798		1.5	Si
SLD 13	ini.	-1045.37	4662	2	0	5833	3965	12577	5100	9798		2.1	Si
SLD 13	fin.	459.53	6120	2	0	5833	3965	12577	5100	9798		1.6	Si
SLV 10	ini.	-1131.35	2877	2	0	5833	3965	12577	5100	9798		3.41	Si
SLV 10	fin.	297.54	6222	2	0	5833	3965	12577	5100	9798		1.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.771	SLV 13	Si
V_SLV	1.174	SLV 13	Si
PF_SLU	108.131	SLU 44	Si
V_SLU	2.353	SLU 78	Si

Trave di accoppiamento 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	10.75	11.5	0.75	-19.293	-3.169	10.75	11.5	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-70.43	-695	-0.0000503	0.0001872	0.0035	0.75		2074.44	2074.44	No	29.46	Si
SLU 84	fin.	38.2	-630	-0.0000271	0.0001872	0.0035	0.75		2069.77	2069.77	No	54.19	Si
SLU 77	ini.	-67.59	-674	-0.0000482	0.0001872	0.0035	0.75		2074.44	2074.44	No	30.69	Si
SLU 77	fin.	41.12	-620	-0.0000292	0.0001872	0.0035	0.75		2069.77	2069.77	No	50.34	Si
SLU 78	ini.	-67.95	-676	-0.0000485	0.0001872	0.0035	0.75		2074.44	2074.44	No	30.53	Si
SLU 78	fin.	42.13	-617	-0.0000299	0.0001872	0.0035	0.75		2069.77	2069.77	No	49.13	Si
SLU 75	ini.	-66.25	-658	-0.0000473	0.0001872	0.0035	0.75		2074.44	2074.44	No	31.31	Si
SLU 75	fin.	44.5	-592	-0.0000316	0.0001872	0.0035	0.75		2069.77	2069.77	No	46.51	Si
SLU 74	ini.	-65.89	-656	-0.000047	0.0001872	0.0035	0.75		2074.44	2074.44	No	31.48	Si
SLU 74	fin.	43.49	-595	-0.0000309	0.0001872	0.0035	0.75		2069.77	2069.77	No	47.6	Si
SLU 80	ini.	-66.7	-658	-0.0000476	0.0001872	0.0035	0.75		2074.44	2074.44	No	31.1	Si
SLU 80	fin.	41.04	-597	-0.0000291	0.0001872	0.0035	0.75		2069.77	2069.77	No	50.44	Si
SLU 81	ini.	-68.37	-675	-0.0000488	0.0001872	0.0035	0.75		2074.44	2074.44	No	30.34	Si
SLU 81	fin.	39.55	-608	-0.0000281	0.0001872	0.0035	0.75		2069.77	2069.77	No	52.33	Si
SLU 79	ini.	-66.33	-656	-0.0000473	0.0001872	0.0035	0.75		2074.44	2074.44	No	31.27	Si
SLU 79	fin.	40.03	-600	-0.0000284	0.0001872	0.0035	0.75		2069.77	2069.77	No	51.71	Si
SLU 83	ini.	-70.07	-693	-0.00005	0.0001872	0.0035	0.75		2074.44	2074.44	No	29.61	Si
SLU 83	fin.	37.19	-633	-0.0000264	0.0001872	0.0035	0.75		2069.77	2069.77	No	55.66	Si
SLU 82	ini.	-68.73	-678	-0.0000491	0.0001872	0.0035	0.75		2074.44	2074.44	No	30.18	Si
SLU 82	fin.	40.56	-605	-0.0000288	0.0001872	0.0035	0.75		2069.77	2069.77	No	51.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-67.59	1656	0.75	0	1458	3965	3144	1913	5057	No	3.05	Si
SLU 77	fin.	41.12	-1504	0.75	0	1458	3965	3144	1913	5057	No	3.36	Si
SLU 80	ini.	-66.7	1622	0.75	0	1458	3965	3144	1913	5057	No	3.12	Si
SLU 80	fin.	41.04	-1449	0.75	0	1458	3965	3144	1913	5057	No	3.49	Si
SLU 76	ini.	-65.24	1618	0.75	0	1458	3965	3144	1913	5057	No	3.12	Si
SLU 76	fin.	44.08	-1419	0.75	0	1458	3965	3144	1913	5057	No	3.56	Si
SLU 83	ini.	-70.07	1658	0.75	0	1458	3965	3144	1913	5057	No	3.05	Si
SLU 83	fin.	37.19	-1501	0.75	0	1458	3965	3144	1913	5057	No	3.37	Si
SLU 82	ini.	-68.73	1658	0.75	0	1458	3965	3144	1913	5057	No	3.05	Si
SLU 82	fin.	40.56	-1470	0.75	0	1458	3965	3144	1913	5057	No	3.44	Si
SLU 78	ini.	-67.95	1666	0.75	0	1458	3965	3144	1913	5057	No	3.03	Si
SLU 78	fin.	42.13	-1500	0.75	0	1458	3965	3144	1913	5057	No	3.37	Si
SLU 84	ini.	-70.43	1668	0.75	0	1458	3965	3144	1913	5057	No	3.03	Si
SLU 84	fin.	38.2	-1497	0.75	0	1458	3965	3144	1913	5057	No	3.38	Si
SLU 74	ini.	-65.89	1646	0.75	0	1458	3965	3144	1913	5057	No	3.07	Si
SLU 74	fin.	43.49	-1477	0.75	0	1458	3965	3144	1913	5057	No	3.42	Si
SLU 81	ini.	-68.37	1648	0.75	0	1458	3965	3144	1913	5057	No	3.07	Si
SLU 81	fin.	39.55	-1474	0.75	0	1458	3965	3144	1913	5057	No	3.43	Si
SLU 75	ini.	-66.25	1656	0.75	0	1458	3965	3144	1913	5057	No	3.05	Si
SLU 75	fin.	44.5	-1473	0.75	0	1458	3965	3144	1913	5057	No	3.43	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-153.9	-1703	-0.0001114	0.0002807	0.0035	0.75		2090.82	2090.82		13.59	Si
SLV 3	fin.	-344.04	-2382	-0.0002612	0.0002807	0.0035	0.75		2090.82	2090.82		6.08	Si
SLV 9	ini.	58.91	592	-0.0000419	0.0002807	0.0035	0.75		2085.94	2085.94		35.41	Si
SLV 9	fin.	367.26	1321	-0.0002813	0.0002807	0.0035	0.75		2085.94	2085.94		5.68	Si
SLV 4	ini.	-175.08	-2004	-0.0001273	0.0002807	0.0035	0.75		2090.82	2090.82		11.94	Si
SLV 4	fin.	-451.89	-2947	-0.0003544	0.0002807	0.0035	0.75		2090.82	2090.82		4.63	Si
SLV 15	ini.	56.45	913	-0.0000401	0.0002807	0.0035	0.75		2085.94	2085.94		36.95	Si
SLV 15	fin.	425.22	1765	-0.0003315	0.0002807	0.0035	0.75		2085.94	2085.94		4.91	Si
SLD 13	ini.	42.95	619	-0.0000304	0.0002807	0.0035	0.75		2085.94	2085.94		48.56	Si
SLD 13	fin.	350.22	1313	-0.000267	0.0002807	0.0035	0.75		2085.94	2085.94		5.96	Si
SLV 13	ini.	93.16	1210	-0.0000667	0.0002807	0.0035	0.75		2085.94	2085.94		22.39	Si
SLV 13	fin.	530.87	2273	-0.0004282	0.0002807	0.0035	0.75		2085.94	2085.94		3.93	Si
SLV 16	ini.	35.27	611	-0.0000249	0.0002807	0.0035	0.75		2085.94	2085.94		59.15	Si
SLV 16	fin.	317.38	1200	-0.0002397	0.0002807	0.0035	0.75		2085.94	2085.94		6.57	Si
SLV 10	ini.	44.65	389	-0.0000316	0.0002807	0.0035	0.75		2085.94	2085.94		46.71	Si
SLV 10	fin.	294.66	941	-0.0002212	0.0002807	0.0035	0.75		2085.94	2085.94		7.08	Si
SLV 14	ini.	71.98	908	-0.0000513	0.0002807	0.0035	0.75		2085.94	2085.94		28.98	Si
SLV 14	fin.	423.03	1708	-0.0003296	0.0002807	0.0035	0.75		2085.94	2085.94		4.93	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-138.36	-1707	-0.0000998	0.0002807	0.0035	0.75		2090.82	2090.82		15.11	Si
SLV 2	fin.	-346.24	-2440	-0.000263	0.0002807	0.0035	0.75		2090.82	2090.82		6.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-138.36	445	0.75	0	2188	3965	4716	1913	6152		13.84	Si
SLV 2	fin.	-346.24	-2756	0.75	0	2188	3965	4716	1913	6152		2.23	Si
SLD 4	ini.	-124.87	449	0.75	0	2188	3965	4716	1913	6152		13.72	Si
SLD 4	fin.	-271.23	-2216	0.75	0	2188	3965	4716	1913	6152		2.78	Si
SLD 3	ini.	-111.43	649	0.75	0	2188	3965	4716	1913	6152		9.48	Si
SLD 3	fin.	-202.82	-1919	0.75	0	2188	3965	4716	1913	6152		3.21	Si
SLD 2	ini.	-103.48	677	0.75	0	2188	3965	4716	1913	6152		9.08	Si
SLD 2	fin.	-209.33	-2104	0.75	0	2188	3965	4716	1913	6152		2.92	Si
SLV 9	ini.	58.91	2085	0.75	0	2188	3965	4716	1913	6152		2.95	Si
SLV 9	fin.	367.26	40	0.75	0	2188	3965	4716	1913	6152		154.97	Si
SLV 1	ini.	-117.18	760	0.75	0	2188	3965	4716	1913	6152		8.09	Si
SLV 1	fin.	-238.4	-2288	0.75	0	2188	3965	4716	1913	6152		2.69	Si
SLV 3	ini.	-153.9	369	0.75	0	2188	3965	4716	1913	6152		16.65	Si
SLV 3	fin.	-344.04	-2480	0.75	0	2188	3965	4716	1913	6152		2.48	Si
SLV 13	ini.	93.16	2177	0.75	0	2188	3965	4716	1913	6152		2.83	Si
SLV 13	fin.	530.87	1068	0.75	0	2188	3965	4716	1913	6152		5.76	Si
SLV 8	ini.	-140.83	145	0.75	0	2188	3965	4716	1913	6152		42.34	Si
SLV 8	fin.	-288.28	-1920	0.75	0	2188	3965	4716	1913	6152		3.2	Si
SLV 4	ini.	-175.08	54	0.75	0	2188	3965	4716	1913	6152		114.19	Si
SLV 4	fin.	-451.89	-2948	0.75	0	2188	3965	4716	1913	6152		2.09	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.929	SLV 13	Si
V_SLV	2.087	SLV 4	Si
PF_SLU	29.455	SLU 84	Si
V_SLU	3.032	SLU 84	Si

Trave di accoppiamento 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	7.95	8.85	0.9	-18.213	-3.169	7.95	8.85	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 68	ini.	-43.61	-518	-0.0000215	0.0001872	0.0035	0.9		2964.67	2964.67	No	67.98	Si
SLU 68	fin.	145.31	-1268	-0.0000732	0.0001872	0.0035	0.9		2959	2959	No	20.36	Si
SLU 69	ini.	-34	-556	-0.0000167	0.0001872	0.0035	0.9		2964.67	2964.67	No	87.19	Si
SLU 69	fin.	146.76	-1291	-0.0000739	0.0001872	0.0035	0.9		2959	2959	No	20.16	Si
SLU 66	ini.	-40.5	-530	-0.0000199	0.0001872	0.0035	0.9		2964.67	2964.67	No	73.2	Si
SLU 66	fin.	144.69	-1266	-0.0000728	0.0001872	0.0035	0.9		2959	2959	No	20.45	Si
SLU 71	ini.	-32.28	-548	-0.0000159	0.0001872	0.0035	0.9		2964.67	2964.67	No	91.85	Si
SLU 71	fin.	142.75	-1259	-0.0000718	0.0001872	0.0035	0.9		2959	2959	No	20.73	Si
SLU 70	ini.	-36.9	-554	-0.0000181	0.0001872	0.0035	0.9		2964.67	2964.67	No	80.34	Si
SLU 70	fin.	149.53	-1312	-0.0000753	0.0001872	0.0035	0.9		2959	2959	No	19.79	Si
SLU 72	ini.	-35.18	-546	-0.0000173	0.0001872	0.0035	0.9		2964.67	2964.67	No	84.28	Si
SLU 72	fin.	145.53	-1279	-0.0000733	0.0001872	0.0035	0.9		2959	2959	No	20.33	Si
SLU 67	ini.	-43.4	-528	-0.0000214	0.0001872	0.0035	0.9		2964.67	2964.67	No	68.31	Si
SLU 67	fin.	147.47	-1287	-0.0000743	0.0001872	0.0035	0.9		2959	2959	No	20.07	Si
SLU 64	ini.	-45.27	-495	-0.0000223	0.0001872	0.0035	0.9		2964.67	2964.67	No	65.49	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	fin.	138.62	-1208	-0.0000697	0.0001872	0.0035	0.9		2959	2959	No	21.35	Si
SLU 49	ini.	-31.82	-504	-0.0000156	0.0001872	0.0035	0.9		2964.67	2964.67	No	93.17	Si
SLU 49	fin.	138.57	-1215	-0.0000697	0.0001872	0.0035	0.9		2959	2959	No	21.35	Si
SLU 65	ini.	-50.11	-492	-0.0000247	0.0001872	0.0035	0.9		2964.67	2964.67	No	59.17	Si
SLU 65	fin.	143.25	-1243	-0.0000721	0.0001872	0.0035	0.9		2959	2959	No	20.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 65	ini.	-50.11	-1	0.9	0	1750	7137	3773	2295	6068	No	5489.6	Si
SLU 65	fin.	143.25	2049	0.9	0	1750	7137	3773	2295	6068	No	2.96	Si
SLU 67	ini.	-43.4	-43	0.9	0	1750	7137	3773	2295	6068	No	140.75	Si
SLU 67	fin.	147.47	2120	0.9	0	1750	7137	3773	2295	6068	No	2.86	Si
SLU 77	ini.	-0.52	-253	0.9	0	1750	7137	3773	2295	6068	No	24.01	Si
SLU 77	fin.	121.82	2017	0.9	0	1750	7137	3773	2295	6068	No	3.01	Si
SLU 68	ini.	-43.61	-30	0.9	0	1750	7137	3773	2295	6068	No	200.83	Si
SLU 68	fin.	145.31	2083	0.9	0	1750	7137	3773	2295	6068	No	2.91	Si
SLU 70	ini.	-36.9	-72	0.9	0	1750	7137	3773	2295	6068	No	84.02	Si
SLU 70	fin.	149.53	2154	0.9	0	1750	7137	3773	2295	6068	No	2.82	Si
SLU 72	ini.	-35.18	-66	0.9	0	1750	7137	3773	2295	6068	No	92.16	Si
SLU 72	fin.	145.53	2095	0.9	0	1750	7137	3773	2295	6068	No	2.9	Si
SLU 78	ini.	-3.42	-243	0.9	0	1750	7137	3773	2295	6068	No	24.97	Si
SLU 78	fin.	124.59	2050	0.9	0	1750	7137	3773	2295	6068	No	2.96	Si
SLU 69	ini.	-34	-82	0.9	0	1750	7137	3773	2295	6068	No	74	Si
SLU 69	fin.	146.76	2121	0.9	0	1750	7137	3773	2295	6068	No	2.86	Si
SLU 71	ini.	-32.28	-76	0.9	0	1750	7137	3773	2295	6068	No	80.24	Si
SLU 71	fin.	142.75	2062	0.9	0	1750	7137	3773	2295	6068	No	2.94	Si
SLU 66	ini.	-40.5	-53	0.9	0	1750	7137	3773	2295	6068	No	114.73	Si
SLU 66	fin.	144.69	2087	0.9	0	1750	7137	3773	2295	6068	No	2.91	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1434.92	2194	-0.0009357	0.0002807	0.0035	0.9		2995.37	2995.37		2.09	Si
SLV 13	fin.	992.86	-4582	-0.0005883	0.0002807	0.0035	0.9		2989.59	2989.59		3.01	Si
SLV 4	ini.	1386.64	-2998	-0.0008968	0.0002807	0.0035	0.9		2989.59	2989.59		2.16	Si
SLV 4	fin.	-798.67	2813	-0.0004517	0.0002807	0.0035	0.9		2995.37	2995.37		3.75	Si
SLV 9	ini.	-950.09	1066	-0.0005563	0.0002807	0.0035	0.9		2995.37	2995.37		3.15	Si
SLV 9	fin.	789.59	-4166	-0.0004466	0.0002807	0.0035	0.9		2989.59	2989.59		3.79	Si
SLV 14	ini.	-1154.21	1667	-0.0007075	0.0002807	0.0035	0.9		2995.37	2995.37		2.6	Si
SLV 14	fin.	820.56	-3874	-0.0004675	0.0002807	0.0035	0.9		2989.59	2989.59		3.64	Si
SLV 2	ini.	1089.72	-2609	-0.00066	0.0002807	0.0035	0.9		2989.59	2989.59		2.74	Si
SLV 2	fin.	-540.46	1468	-0.0002887	0.0002807	0.0035	0.9		2995.37	2995.37		5.54	Si
SLV 8	ini.	901.81	-1870	-0.0005234	0.0002807	0.0035	0.9		2989.59	2989.59		3.32	Si
SLV 8	fin.	-595.4	2396	-0.0003217	0.0002807	0.0035	0.9		2995.37	2995.37		5.03	Si
SLV 3	ini.	1105.93	-2471	-0.0006723	0.0002807	0.0035	0.9		2989.59	2989.59		2.7	Si
SLV 3	fin.	-626.37	2105	-0.0003407	0.0002807	0.0035	0.9		2995.37	2995.37		4.78	Si
SLD 4	ini.	869.64	-2051	-0.0005011	0.0002807	0.0035	0.9		2989.59	2989.59		3.44	Si
SLD 4	fin.	-468.73	1442	-0.0002468	0.0002807	0.0035	0.9		2995.37	2995.37		6.39	Si
SLV 15	ini.	-1138	1804	-0.0006951	0.0002807	0.0035	0.9		2995.37	2995.37		2.63	Si
SLV 15	fin.	734.65	-3237	-0.0004104	0.0002807	0.0035	0.9		2989.59	2989.59		4.07	Si
SLD 13	ini.	-917.92	1247	-0.0005336	0.0002807	0.0035	0.9		2995.37	2995.37		3.26	Si
SLD 13	fin.	662.92	-3212	-0.0003643	0.0002807	0.0035	0.9		2989.59	2989.59		4.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	1386.64	-5984	0.9	0	2625	7137	5660	2295	7955		1.33	Si
SLV 4	fin.	-798.67	-3619	0.9	0	2625	7137	5660	2295	7955		2.2	Si
SLD 13	ini.	-917.92	3695	0.9	0	2625	7137	5660	2295	7955		2.15	Si
SLD 13	fin.	662.92	4664	0.9	0	2625	7137	5660	2295	7955		1.71	Si
SLV 15	ini.	-1138	4724	0.9	0	2625	7137	5660	2295	7955		1.68	Si
SLV 15	fin.	734.65	4552	0.9	0	2625	7137	5660	2295	7955		1.75	Si
SLV 14	ini.	-1154.21	4699	0.9	0	2625	7137	5660	2295	7955		1.69	Si
SLV 14	fin.	820.56	5560	0.9	0	2625	7137	5660	2295	7955		1.43	Si
SLV 9	ini.	-950.09	3657	0.9	0	2625	7137	5660	2295	7955		2.18	Si
SLV 9	fin.	789.59	6223	0.9	0	2625	7137	5660	2295	7955		1.28	Si
SLD 9	ini.	-586.4	2203	0.9	0	2625	7137	5660	2295	7955		3.61	Si
SLD 9	fin.	514.9	4317	0.9	0	2625	7137	5660	2295	7955		1.84	Si
SLV 13	ini.	-1434.92	5861	0.9	0	2625	7137	5660	2295	7955		1.36	Si
SLV 13	fin.	992.86	6557	0.9	0	2625	7137	5660	2295	7955		1.21	Si
SLV 2	ini.	1089.72	-4847	0.9	0	2625	7137	5660	2295	7955		1.64	Si
SLV 2	fin.	-540.46	-1614	0.9	0	2625	7137	5660	2295	7955		4.93	Si
SLV 10	ini.	-761.11	2875	0.9	0	2625	7137	5660	2295	7955		2.77	Si
SLV 10	fin.	673.6	5552	0.9	0	2625	7137	5660	2295	7955		1.43	Si
SLV 3	ini.	1105.93	-4821	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLV 3	fin.	-626.37	-2622	0.9	0	2625	7137	5660	2295	7955		3.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.087	SLV 13	Si
V_SLV	1.213	SLV 13	Si
PF_SLU	19.788	SLU 70	Si
V_SLU	2.817	SLU 70	Si

Trave di accoppiamento 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	10.65	11.5	0.85	-18.213	-3.169	10.65	11.5	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-67.56	-287	-0.0000374	0.0001872	0.0035	0.85		2655.83	2655.83	No	39.31	Si
SLU 72	fin.	-24.28	-532	-0.0000133	0.0001872	0.0035	0.85		2655.83	2655.83	No	109.36	Si
SLU 46	ini.	-70.9	-270	-0.0000393	0.0001872	0.0035	0.85		2655.83	2655.83	No	37.46	Si
SLU 46	fin.	-17.75	-433	-0.0000097	0.0001872	0.0035	0.85		2655.83	2655.83	No	149.62	Si
SLU 47	ini.	-71.06	-264	-0.0000394	0.0001872	0.0035	0.85		2655.83	2655.83	No	37.37	Si
SLU 47	fin.	-15.29	-412	-0.0000084	0.0001872	0.0035	0.85		2655.83	2655.83	No	173.65	Si
SLU 48	ini.	-73.1	-288	-0.0000406	0.0001872	0.0035	0.85		2655.83	2655.83	No	36.33	Si
SLU 48	fin.	-22.78	-458	-0.0000125	0.0001872	0.0035	0.85		2655.83	2655.83	No	116.6	Si
SLU 49	ini.	-75.57	-292	-0.0000419	0.0001872	0.0035	0.85		2655.83	2655.83	No	35.15	Si
SLU 49	fin.	-21.89	-458	-0.000012	0.0001872	0.0035	0.85		2655.83	2655.83	No	121.31	Si
SLU 69	ini.	-66.58	-292	-0.0000369	0.0001872	0.0035	0.85		2655.83	2655.83	No	39.89	Si
SLU 69	fin.	-27.04	-553	-0.0000149	0.0001872	0.0035	0.85		2655.83	2655.83	No	98.23	Si
SLU 70	ini.	-69.05	-296	-0.0000383	0.0001872	0.0035	0.85		2655.83	2655.83	No	38.46	Si
SLU 70	fin.	-26.15	-553	-0.0000144	0.0001872	0.0035	0.85		2655.83	2655.83	No	101.56	Si
SLU 51	ini.	-74.08	-283	-0.0000411	0.0001872	0.0035	0.85		2655.83	2655.83	No	35.85	Si
SLU 51	fin.	-20.03	-437	-0.000011	0.0001872	0.0035	0.85		2655.83	2655.83	No	132.62	Si
SLU 45	ini.	-68.43	-266	-0.0000379	0.0001872	0.0035	0.85		2655.83	2655.83	No	38.81	Si
SLU 45	fin.	-18.64	-433	-0.0000102	0.0001872	0.0035	0.85		2655.83	2655.83	No	142.51	Si
SLU 50	ini.	-71.62	-279	-0.0000397	0.0001872	0.0035	0.85		2655.83	2655.83	No	37.08	Si
SLU 50	fin.	-20.91	-437	-0.0000115	0.0001872	0.0035	0.85		2655.83	2655.83	No	127	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-32.07	1000	0.85	0	1653	6740	3563	2168	5731	No	5.73	Si
SLU 78	fin.	-50	-2124	0.85	0	1653	6740	3563	2168	5731	No	2.7	Si
SLU 80	ini.	-30.59	974	0.85	0	1653	6740	3563	2168	5731	No	5.88	Si
SLU 80	fin.	-48.14	-2069	0.85	0	1653	6740	3563	2168	5731	No	2.77	Si
SLU 77	ini.	-29.6	992	0.85	0	1653	6740	3563	2168	5731	No	5.77	Si
SLU 77	fin.	-50.89	-2126	0.85	0	1653	6740	3563	2168	5731	No	2.7	Si
SLU 81	ini.	-2.94	906	0.85	0	1653	6740	3563	2168	5731	No	6.32	Si
SLU 81	fin.	-50.96	-2175	0.85	0	1653	6740	3563	2168	5731	No	2.64	Si
SLU 79	ini.	-28.12	966	0.85	0	1653	6740	3563	2168	5731	No	5.93	Si
SLU 79	fin.	-49.02	-2071	0.85	0	1653	6740	3563	2168	5731	No	2.77	Si
SLU 83	ini.	-7.6	921	0.85	0	1653	6740	3563	2168	5731	No	6.22	Si
SLU 83	fin.	-55.1	-2201	0.85	0	1653	6740	3563	2168	5731	No	2.6	Si
SLU 82	ini.	-5.4	914	0.85	0	1653	6740	3563	2168	5731	No	6.27	Si
SLU 82	fin.	-50.08	-2173	0.85	0	1653	6740	3563	2168	5731	No	2.64	Si
SLU 74	ini.	-24.94	977	0.85	0	1653	6740	3563	2168	5731	No	5.86	Si
SLU 74	fin.	-46.75	-2099	0.85	0	1653	6740	3563	2168	5731	No	2.73	Si
SLU 75	ini.	-27.4	985	0.85	0	1653	6740	3563	2168	5731	No	5.82	Si
SLU 75	fin.	-45.86	-2097	0.85	0	1653	6740	3563	2168	5731	No	2.73	Si
SLU 84	ini.	-10.07	929	0.85	0	1653	6740	3563	2168	5731	No	6.17	Si
SLU 84	fin.	-54.22	-2199	0.85	0	1653	6740	3563	2168	5731	No	2.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-652.69	-1042	-0.0004065	0.0002807	0.0035	0.85		2680.73	2680.73		4.11	Si
SLV 13	fin.	703.61	2615	-0.0004449	0.0002807	0.0035	0.85		2675.27	2675.27		3.8	Si
SLV 2	ini.	320.74	122	-0.0001855	0.0002807	0.0035	0.85		2675.27	2675.27		8.34	Si
SLV 2	fin.	-593.93	-2835	-0.0003644	0.0002807	0.0035	0.85		2680.73	2680.73		4.51	Si
SLV 10	ini.	-553	-1216	-0.0003359	0.0002807	0.0035	0.85		2680.73	2680.73		4.85	Si
SLV 10	fin.	348.05	1073	-0.0002024	0.0002807	0.0035	0.85		2675.27	2675.27		7.69	Si
SLV 14	ini.	-514	-811	-0.0003093	0.0002807	0.0035	0.85		2680.73	2680.73		5.22	Si
SLV 14	fin.	552.76	1985	-0.0003365	0.0002807	0.0035	0.85		2675.27	2675.27		4.84	Si
SLV 8	ini.	578.85	1046	-0.0003546	0.0002807	0.0035	0.85		2675.27	2675.27		4.62	Si
SLV 8	fin.	-487.35	-2293	-0.0002914	0.0002807	0.0035	0.85		2680.73	2680.73		5.5	Si
SLV 9	ini.	-646.37	-1371	-0.0004019	0.0002807	0.0035	0.85		2680.73	2680.73		4.15	Si
SLV 9	fin.	449.61	1497	-0.0002671	0.0002807	0.0035	0.85		2675.27	2675.27		5.95	Si
SLV 3	ini.	446.48	486	-0.0002651	0.0002807	0.0035	0.85		2675.27	2675.27		5.99	Si
SLV 3	fin.	-590.5	-2780	-0.000362	0.0002807	0.0035	0.85		2680.73	2680.73		4.54	Si
SLV 4	ini.	585.17	717	-0.0003591	0.0002807	0.0035	0.85		2675.27	2675.27		4.57	Si
SLV 4	fin.	-741.35	-3411	-0.0004723	0.0002807	0.0035	0.85		2680.73	2680.73		3.62	Si
SLV 7	ini.	485.48	890	-0.0002908	0.0002807	0.0035	0.85		2675.27	2675.27		5.51	Si
SLV 7	fin.	-385.79	-1868	-0.0002256	0.0002807	0.0035	0.85		2680.73	2680.73		6.95	Si
SLV 15	ini.	-388.26	-448	-0.0002272	0.0002807	0.0035	0.85		2680.73	2680.73		6.9	Si
SLV 15	fin.	556.19	2039	-0.0003388	0.0002807	0.0035	0.85		2675.27	2675.27		4.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-646.37	3432	0.85	0	2479	6740	5345	2168	7513		2.19	Si
SLV 9	fin.	449.61	1369	0.85	0	2479	6740	5345	2168	7513		5.49	Si
SLD 3	ini.	266.1	-766	0.85	0	2479	6740	5345	2168	7513		9.81	Si
SLD 3	fin.	-380.7	-3192	0.85	0	2479	6740	5345	2168	7513		2.35	Si
SLD 4	ini.	354.09	-1191	0.85	0	2479	6740	5345	2168	7513		6.31	Si
SLD 4	fin.	-476.4	-3717	0.85	0	2479	6740	5345	2168	7513		2.02	Si
SLV 2	ini.	320.74	-1234	0.85	0	2479	6740	5345	2168	7513		6.09	Si
SLV 2	fin.	-593.93	-4210	0.85	0	2479	6740	5345	2168	7513		1.78	Si
SLV 7	ini.	485.48	-1517	0.85	0	2479	6740	5345	2168	7513		4.95	Si
SLV 7	fin.	-385.79	-3425	0.85	0	2479	6740	5345	2168	7513		2.19	Si
SLV 4	ini.	585.17	-2327	0.85	0	2479	6740	5345	2168	7513		3.23	Si
SLV 4	fin.	-741.35	-5118	0.85	0	2479	6740	5345	2168	7513		1.47	Si
SLV 13	ini.	-652.69	3791	0.85	0	2479	6740	5345	2168	7513		1.98	Si
SLV 13	fin.	703.61	2505	0.85	0	2479	6740	5345	2168	7513		3	Si
SLV 8	ini.	578.85	-1968	0.85	0	2479	6740	5345	2168	7513		3.82	Si
SLV 8	fin.	-487.35	-3981	0.85	0	2479	6740	5345	2168	7513		1.89	Si
SLV 3	ini.	446.48	-1657	0.85	0	2479	6740	5345	2168	7513		4.54	Si
SLV 3	fin.	-590.5	-4291	0.85	0	2479	6740	5345	2168	7513		1.75	Si
SLV 1	ini.	182.05	-564	0.85	0	2479	6740	5345	2168	7513		13.33	Si
SLV 1	fin.	-443.08	-3383	0.85	0	2479	6740	5345	2168	7513		2.22	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.616	SLV 4	Si
V_SLV	1.468	SLV 4	Si
PF_SLU	35.146	SLU 49	Si
V_SLU	2.604	SLU 83	Si

Trave di accoppiamento 114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	10.05	11.5	1.45	-18.498	0.841	10.05	11.5	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 46	ini.	339.04	-91	-0.0000653	0.0002246	0.0035	1.45		7949.58	7949.58	No	23.45	Si
SLU 46	fin.	117.52	-214	-0.0000223	0.0002246	0.0035	1.45		7949.58	7949.58	No	67.65	Si
SLU 45	ini.	363.98	-55	-0.0000702	0.0002246	0.0035	1.45		7949.58	7949.58	No	21.84	Si
SLU 45	fin.	111.66	-196	-0.0000212	0.0002246	0.0035	1.45		7949.58	7949.58	No	71.19	Si
SLU 65	ini.	298.22	-189	-0.0000572	0.0002246	0.0035	1.45		7949.58	7949.58	No	26.66	Si
SLU 65	fin.	140.43	-286	-0.0000267	0.0002246	0.0035	1.45		7949.58	7949.58	No	56.61	Si
SLU 44	ini.	374.72	3	-0.0000723	0.0002246	0.0035	1.45		7949.58	7949.58	No	21.21	Si
SLU 44	fin.	85.32	-165	-0.0000162	0.0002246	0.0035	1.45		7949.58	7949.58	No	93.17	Si
SLU 64	ini.	339.8	-130	-0.0000654	0.0002246	0.0035	1.45		7949.58	7949.58	No	23.4	Si
SLU 64	fin.	130.67	-256	-0.0000248	0.0002246	0.0035	1.45		7949.58	7949.58	No	60.84	Si
SLU 47	ini.	324.07	-96	-0.0000623	0.0002246	0.0035	1.45		7949.58	7949.58	No	24.53	Si
SLU 47	fin.	115.66	-214	-0.0000219	0.0002246	0.0035	1.45		7949.58	7949.58	No	68.73	Si
SLU 48	ini.	313.33	-155	-0.0000602	0.0002246	0.0035	1.45		7949.58	7949.58	No	25.37	Si
SLU 48	fin.	142	-244	-0.000027	0.0002246	0.0035	1.45		7949.58	7949.58	No	55.98	Si
SLU 1	ini.	300.05	-3	-0.0000576	0.0002246	0.0035	1.45		7949.58	7949.58	No	26.49	Si
SLU 1	fin.	72.66	-135	-0.0000137	0.0002246	0.0035	1.45		7949.58	7949.58	No	109.41	Si
SLU 43	ini.	416.3	62	-0.0000806	0.0002246	0.0035	1.45		7949.58	7949.58	No	19.1	Si
SLU 43	fin.	75.56	-134	-0.0000143	0.0002246	0.0035	1.45		7949.58	7949.58	No	105.2	Si
SLU 50	ini.	314.99	-137	-0.0000605	0.0002246	0.0035	1.45		7949.58	7949.58	No	25.24	Si
SLU 50	fin.	136.23	-232	-0.0000259	0.0002246	0.0035	1.45		7949.58	7949.58	No	58.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 35	ini.	23.26	546	1.45	0	1692	6344	3648	3697	7345	No	13.46	Si
SLU 35	fin.	242.17	226	1.45	0	1692	6344	3648	3697	7345	No	32.56	Si
SLU 1	ini.	300.05	-252	1.45	0	1692	6344	3648	3697	7345	No	29.15	Si
SLU 1	fin.	72.66	-548	1.45	0	1692	6344	3648	3697	7345	No	13.4	Si
SLU 46	ini.	339.04	-194	1.45	0	1692	6344	3648	3697	7345	No	37.77	Si
SLU 46	fin.	117.52	-571	1.45	0	1692	6344	3648	3697	7345	No	12.86	Si
SLU 47	ini.	324.07	-173	1.45	0	1692	6344	3648	3697	7345	No	42.5	Si
SLU 47	fin.	115.66	-549	1.45	0	1692	6344	3648	3697	7345	No	13.37	Si
SLU 44	ini.	374.72	-320	1.45	0	1692	6344	3648	3697	7345	No	22.96	Si
SLU 44	fin.	85.32	-696	1.45	0	1692	6344	3648	3697	7345	No	10.55	Si
SLU 64	ini.	339.8	-170	1.45	0	1692	6344	3648	3697	7345	No	43.11	Si
SLU 64	fin.	130.67	-571	1.45	0	1692	6344	3648	3697	7345	No	12.86	Si
SLU 38	ini.	-0.02	585	1.45	0	1692	6344	3648	3697	7345	No	12.55	Si
SLU 38	fin.	242.26	265	1.45	0	1692	6344	3648	3697	7345	No	27.7	Si
SLU 36	ini.	-1.69	600	1.45	0	1692	6344	3648	3697	7345	No	12.25	Si
SLU 36	fin.	248.03	279	1.45	0	1692	6344	3648	3697	7345	No	26.29	Si
SLU 43	ini.	416.3	-410	1.45	0	1692	6344	3648	3697	7345	No	17.93	Si
SLU 43	fin.	75.56	-786	1.45	0	1692	6344	3648	3697	7345	No	9.34	Si
SLU 45	ini.	363.98	-248	1.45	0	1692	6344	3648	3697	7345	No	29.59	Si
SLU 45	fin.	111.66	-625	1.45	0	1692	6344	3648	3697	7345	No	11.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	2265.42	3132	-0.000491	0.0003369	0.0035	1.45		8142.56	8142.56		3.59	Si
SLV 7	fin.	-57.56	1708	-0.0000109	0.0003369	0.0035	1.45		8151.83	8151.83		141.63	Si
SLV 12	ini.	2506.1	3390	-0.0005538	0.0003369	0.0035	1.45		8142.56	8142.56		3.25	Si
SLV 12	fin.	-189.02	1772	-0.0000359	0.0003369	0.0035	1.45		8151.83	8151.83		43.13	Si
SLV 8	ini.	2225.16	3079	-0.0004807	0.0003369	0.0035	1.45		8142.56	8142.56		3.66	Si
SLV 8	fin.	-51.17	1688	-0.0000096	0.0003369	0.0035	1.45		8151.83	8151.83		159.31	Si
SLD 12	ini.	1578.54	1947	-0.0003248	0.0003369	0.0035	1.45		8142.56	8142.56		5.16	Si
SLD 12	fin.	-71.54	957	-0.0000135	0.0003369	0.0035	1.45		8151.83	8151.83		113.94	Si
SLV 9	ini.	-1724.38	-3299	-0.000358	0.0003369	0.0035	1.45		8151.83	8151.83		4.73	Si
SLV 9	fin.	255.39	-2090	-0.0000487	0.0003369	0.0035	1.45		8142.56	8142.56		31.88	Si
SLV 5	ini.	-2005.32	-3611	-0.0004252	0.0003369	0.0035	1.45		8151.83	8151.83		4.07	Si
SLV 5	fin.	393.24	-2174	-0.0000755	0.0003369	0.0035	1.45		8142.56	8142.56		20.71	Si
SLV 6	ini.	-2045.58	-3664	-0.0004351	0.0003369	0.0035	1.45		8151.83	8151.83		3.99	Si
SLV 6	fin.	399.63	-2193	-0.0000767	0.0003369	0.0035	1.45		8142.56	8142.56		20.38	Si
SLV 10	ini.	-1764.64	-3352	-0.0003675	0.0003369	0.0035	1.45		8151.83	8151.83		4.62	Si
SLV 10	fin.	261.78	-2109	-0.0000499	0.0003369	0.0035	1.45		8142.56	8142.56		31.1	Si
SLV 11	ini.	2546.36	3443	-0.0005645	0.0003369	0.0035	1.45		8142.56	8142.56		3.2	Si
SLV 11	fin.	-195.41	1792	-0.0000371	0.0003369	0.0035	1.45		8151.83	8151.83		41.72	Si
SLD 11	ini.	1602.97	1979	-0.0003304	0.0003369	0.0035	1.45		8142.56	8142.56		5.08	Si
SLD 11	fin.	-75.42	969	-0.0000142	0.0003369	0.0035	1.45		8151.83	8151.83		108.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	2265.42	-4022	1.45	0	2538	6344	5471	3697	8881		2.21	Si
SLV 7	fin.	-57.56	-4310	1.45	0	2538	6344	5471	3697	8881		2.06	Si
SLV 6	ini.	-2045.58	4530	1.45	0	2538	6344	5471	3697	8881		1.96	Si
SLV 6	fin.	399.63	4211	1.45	0	2538	6344	5471	3697	8881		2.11	Si
SLV 10	ini.	-1764.64	3797	1.45	0	2538	6344	5471	3697	8881		2.34	Si
SLV 10	fin.	261.78	3480	1.45	0	2538	6344	5471	3697	8881		2.55	Si
SLV 9	ini.	-1724.38	3709	1.45	0	2538	6344	5471	3697	8881		2.39	Si
SLV 9	fin.	255.39	3391	1.45	0	2538	6344	5471	3697	8881		2.62	Si
SLV 5	ini.	-2005.32	4441	1.45	0	2538	6344	5471	3697	8881		2	Si
SLV 5	fin.	393.24	4122	1.45	0	2538	6344	5471	3697	8881		2.15	Si
SLV 8	ini.	2225.16	-3933	1.45	0	2538	6344	5471	3697	8881		2.26	Si
SLV 8	fin.	-51.17	-4221	1.45	0	2538	6344	5471	3697	8881		2.1	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	1578.54	-2798	1.45	0	2538	6344	5471	3697	8881		3.17	Si
SLD 12	fin.	-71.54	-3092	1.45	0	2538	6344	5471	3697	8881		2.87	Si
SLV 11	ini.	2546.36	-4754	1.45	0	2538	6344	5471	3697	8881		1.87	Si
SLV 11	fin.	-195.41	-5041	1.45	0	2538	6344	5471	3697	8881		1.76	Si
SLV 12	ini.	2506.1	-4665	1.45	0	2538	6344	5471	3697	8881		1.9	Si
SLV 12	fin.	-189.02	-4952	1.45	0	2538	6344	5471	3697	8881		1.79	Si
SLD 11	ini.	1602.97	-2852	1.45	0	2538	6344	5471	3697	8881		3.11	Si
SLD 11	fin.	-75.42	-3146	1.45	0	2538	6344	5471	3697	8881		2.82	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.198	SLV 11	Si
V_SLV	1.762	SLV 11	Si
PF_SLU	19.096	SLU 43	Si
V_SLU	9.345	SLU 43	Si

Trave di accoppiamento 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.363	-3.169	10.05	11.5	1.45	-16.263	-3.169	10.05	11.5	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-1289.93	-2799	-0.0002732	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.95	Si
SLU 84	fin.	394.6	-265	-0.0000766	0.0001872	0.0035	1.45		7660.24	7660.24	No	19.41	Si
SLU 73	ini.	-1289.25	-2780	-0.000273	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.95	Si
SLU 73	fin.	394.52	-257	-0.0000765	0.0001872	0.0035	1.45		7660.24	7660.24	No	19.42	Si
SLU 74	ini.	-1290.04	-2838	-0.0002732	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.95	Si
SLU 74	fin.	381.96	-312	-0.000074	0.0001872	0.0035	1.45		7660.24	7660.24	No	20.06	Si
SLU 77	ini.	-1273.26	-2843	-0.0002691	0.0001872	0.0035	1.45		7669.58	7669.58	No	6.02	Si
SLU 77	fin.	366.23	-359	-0.0000709	0.0001872	0.0035	1.45		7660.24	7660.24	No	20.92	Si
SLU 75	ini.	-1297.15	-2854	-0.0002749	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.91	Si
SLU 75	fin.	384.2	-315	-0.0000745	0.0001872	0.0035	1.45		7660.24	7660.24	No	19.94	Si
SLU 76	ini.	-1272.48	-2785	-0.0002689	0.0001872	0.0035	1.45		7669.58	7669.58	No	6.03	Si
SLU 76	fin.	378.79	-304	-0.0000734	0.0001872	0.0035	1.45		7660.24	7660.24	No	20.22	Si
SLU 78	ini.	-1280.37	-2858	-0.0002709	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.99	Si
SLU 78	fin.	368.47	-362	-0.0000713	0.0001872	0.0035	1.45		7660.24	7660.24	No	20.79	Si
SLU 83	ini.	-1282.82	-2784	-0.0002714	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.98	Si
SLU 83	fin.	392.36	-263	-0.0000761	0.0001872	0.0035	1.45		7660.24	7660.24	No	19.52	Si
SLU 81	ini.	-1299.59	-2779	-0.0002755	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.9	Si
SLU 81	fin.	408.08	-216	-0.0000793	0.0001872	0.0035	1.45		7660.24	7660.24	No	18.77	Si
SLU 82	ini.	-1306.71	-2795	-0.0002773	0.0001872	0.0035	1.45		7669.58	7669.58	No	5.87	Si
SLU 82	fin.	410.32	-218	-0.0000797	0.0001872	0.0035	1.45		7660.24	7660.24	No	18.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1299.59	5471	1.45	0	2819	7137	6079	3698	9776	No	1.79	Si
SLU 81	fin.	408.08	1022	1.45	0	2819	7137	6079	3698	9776	No	9.56	Si
SLU 73	ini.	-1289.25	5321	1.45	0	2819	7137	6079	3698	9776	No	1.84	Si
SLU 73	fin.	394.52	1095	1.45	0	2819	7137	6079	3698	9776	No	8.93	Si
SLU 78	ini.	-1280.37	5264	1.45	0	2819	7137	6079	3698	9776	No	1.86	Si
SLU 78	fin.	368.47	987	1.45	0	2819	7137	6079	3698	9776	No	9.91	Si
SLU 84	ini.	-1289.93	5422	1.45	0	2819	7137	6079	3698	9776	No	1.8	Si
SLU 84	fin.	394.6	969	1.45	0	2819	7137	6079	3698	9776	No	10.09	Si
SLU 76	ini.	-1272.48	5250	1.45	0	2819	7137	6079	3698	9776	No	1.86	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	fin.	378.79	1030	1.45	0	2819	7137	6079	3698	9776	No	9.49	Si
SLU 82	ini.	-1306.71	5492	1.45	0	2819	7137	6079	3698	9776	No	1.78	Si
SLU 82	fin.	410.32	1034	1.45	0	2819	7137	6079	3698	9776	No	9.46	Si
SLU 75	ini.	-1297.15	5335	1.45	0	2819	7137	6079	3698	9776	No	1.83	Si
SLU 75	fin.	384.2	1051	1.45	0	2819	7137	6079	3698	9776	No	9.3	Si
SLU 77	ini.	-1273.26	5242	1.45	0	2819	7137	6079	3698	9776	No	1.86	Si
SLU 77	fin.	366.23	975	1.45	0	2819	7137	6079	3698	9776	No	10.03	Si
SLU 83	ini.	-1282.82	5400	1.45	0	2819	7137	6079	3698	9776	No	1.81	Si
SLU 83	fin.	392.36	957	1.45	0	2819	7137	6079	3698	9776	No	10.21	Si
SLU 74	ini.	-1290.04	5313	1.45	0	2819	7137	6079	3698	9776	No	1.84	Si
SLU 74	fin.	381.96	1040	1.45	0	2819	7137	6079	3698	9776	No	9.4	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-1992.27	-3295	-0.0004309	0.0002807	0.0035	1.45		7655.81	7655.81		3.84	Si
SLD 14	fin.	1174.67	477	-0.0002378	0.0002807	0.0035	1.45		7646.28	7646.28		6.51	Si
SLV 16	ini.	-2118.11	-3008	-0.0004633	0.0002807	0.0035	1.45		7655.81	7655.81		3.61	Si
SLV 16	fin.	1499.83	1200	-0.0003114	0.0002807	0.0035	1.45		7646.28	7646.28		5.1	Si
SLV 9	ini.	-2425.48	-4555	-0.000545	0.0002807	0.0035	1.45		7655.81	7655.81		3.16	Si
SLV 9	fin.	1154.42	-318	-0.0002334	0.0002807	0.0035	1.45		7646.28	7646.28		6.62	Si
SLV 14	ini.	-2621.5	-4071	-0.0005992	0.0002807	0.0035	1.45		7655.81	7655.81		2.92	Si
SLV 14	fin.	1695.21	861	-0.0003577	0.0002807	0.0035	1.45		7646.28	7646.28		4.51	Si
SLV 15	ini.	-2604.93	-3667	-0.0005946	0.0002807	0.0035	1.45		7655.81	7655.81		2.94	Si
SLV 15	fin.	1841.43	1413	-0.0003936	0.0002807	0.0035	1.45		7646.28	7646.28		4.15	Si
SLV 13	ini.	-3108.31	-4730	-0.0007409	0.0002807	0.0035	1.45		7655.81	7655.81		2.46	Si
SLV 13	fin.	2036.81	1075	-0.0004429	0.0002807	0.0035	1.45		7646.28	7646.28		3.75	Si
SLD 9	ini.	-1829.28	-3531	-0.00039	0.0002807	0.0035	1.45		7655.81	7655.81		4.19	Si
SLD 9	fin.	811.79	-260	-0.0001603	0.0002807	0.0035	1.45		7646.28	7646.28		9.42	Si
SLD 13	ini.	-2301.11	-3713	-0.0005115	0.0002807	0.0035	1.45		7655.81	7655.81		3.33	Si
SLD 13	fin.	1391.38	612	-0.0002863	0.0002807	0.0035	1.45		7646.28	7646.28		5.5	Si
SLD 15	ini.	-2006.29	-3091	-0.0004345	0.0002807	0.0035	1.45		7655.81	7655.81		3.82	Si
SLD 15	fin.	1276.79	810	-0.0002604	0.0002807	0.0035	1.45		7646.28	7646.28		5.99	Si
SLV 10	ini.	-2097.75	-4112	-0.000458	0.0002807	0.0035	1.45		7655.81	7655.81		3.65	Si
SLV 10	fin.	924.45	-462	-0.0001839	0.0002807	0.0035	1.45		7646.28	7646.28		8.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2118.11	8239	1.45	0	4229	7137	9118	3698	11366		1.38	Si
SLV 16	fin.	1499.83	5029	1.45	0	4229	7137	9118	3698	11366		2.26	Si
SLV 14	ini.	-2621.5	9633	1.45	0	4229	7137	9118	3698	11366		1.18	Si
SLV 14	fin.	1695.21	6064	1.45	0	4229	7137	9118	3698	11366		1.87	Si
SLV 15	ini.	-2604.93	9880	1.45	0	4229	7137	9118	3698	11366		1.15	Si
SLV 15	fin.	1841.43	6437	1.45	0	4229	7137	9118	3698	11366		1.77	Si
SLV 13	ini.	-3108.31	11274	1.45	0	4229	7137	9118	3698	11366		1.01	Si
SLV 13	fin.	2036.81	7473	1.45	0	4229	7137	9118	3698	11366		1.52	Si
SLD 15	ini.	-2006.29	7670	1.45	0	4229	7137	9118	3698	11366		1.48	Si
SLD 15	fin.	1276.79	4444	1.45	0	4229	7137	9118	3698	11366		2.56	Si
SLV 10	ini.	-2097.75	7258	1.45	0	4229	7137	9118	3698	11366		1.57	Si
SLV 10	fin.	924.45	3719	1.45	0	4229	7137	9118	3698	11366		3.06	Si
SLD 14	ini.	-1992.27	7445	1.45	0	4229	7137	9118	3698	11366		1.53	Si
SLD 14	fin.	1174.67	4158	1.45	0	4229	7137	9118	3698	11366		2.73	Si
SLD 16	ini.	-1697.45	6629	1.45	0	4229	7137	9118	3698	11366		1.71	Si
SLD 16	fin.	1060.08	3551	1.45	0	4229	7137	9118	3698	11366		3.2	Si
SLD 13	ini.	-2301.11	8486	1.45	0	4229	7137	9118	3698	11366		1.34	Si
SLD 13	fin.	1391.38	5051	1.45	0	4229	7137	9118	3698	11366		2.25	Si
SLV 9	ini.	-2425.48	8363	1.45	0	4229	7137	9118	3698	11366		1.36	Si
SLV 9	fin.	1154.42	4667	1.45	0	4229	7137	9118	3698	11366		2.44	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.463	SLV 13	Si
V_SLV	1.008	SLV 13	Si
PF_SLU	5.869	SLU 82	Si
V_SLU	1.78	SLU 82	Si

Trave di accoppiamento 118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	10.05	11.5	1.45	-15.058	2.206	10.05	11.5	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	268.56	-517	-0.0000515	0.0002246	0.0035	1.45		7949.58	7949.58	No	29.6	Si
SLU 78	fin.	-22.91	-574	-0.0000043	0.0002246	0.0035	1.45		7958.5	7958.5	No	347.43	Si
SLU 79	ini.	272.2	-524	-0.0000522	0.0002246	0.0035	1.45		7949.58	7949.58	No	29.2	Si
SLU 79	fin.	-24.02	-582	-0.0000045	0.0002246	0.0035	1.45		7958.5	7958.5	No	331.39	Si
SLU 75	ini.	255.77	-492	-0.000049	0.0002246	0.0035	1.45		7949.58	7949.58	No	31.08	Si
SLU 75	fin.	-18.27	-545	-0.0000034	0.0002246	0.0035	1.45		7958.5	7958.5	No	435.63	Si
SLU 83	ini.	274.14	-528	-0.0000525	0.0002246	0.0035	1.45		7949.58	7949.58	No	29	Si
SLU 83	fin.	-17.41	-581	-0.0000033	0.0002246	0.0035	1.45		7958.5	7958.5	No	457.25	Si
SLU 77	ini.	276.34	-532	-0.000053	0.0002246	0.0035	1.45		7949.58	7949.58	No	28.77	Si
SLU 77	fin.	-24.77	-591	-0.0000047	0.0002246	0.0035	1.45		7958.5	7958.5	No	321.32	Si
SLU 82	ini.	253.56	-488	-0.0000485	0.0002246	0.0035	1.45		7949.58	7949.58	No	31.35	Si
SLU 82	fin.	-10.91	-535	-0.0000021	0.0002246	0.0035	1.45		7958.5	7958.5	No	729.72	Si
SLU 74	ini.	263.55	-507	-0.0000505	0.0002246	0.0035	1.45		7949.58	7949.58	No	30.16	Si
SLU 74	fin.	-20.13	-562	-0.0000038	0.0002246	0.0035	1.45		7958.5	7958.5	No	395.36	Si
SLU 80	ini.	264.42	-509	-0.0000506	0.0002246	0.0035	1.45		7949.58	7949.58	No	30.06	Si
SLU 80	fin.	-22.15	-565	-0.0000042	0.0002246	0.0035	1.45		7958.5	7958.5	No	359.23	Si
SLU 84	ini.	266.35	-513	-0.000051	0.0002246	0.0035	1.45		7949.58	7949.58	No	29.85	Si
SLU 84	fin.	-15.54	-564	-0.0000029	0.0002246	0.0035	1.45		7958.5	7958.5	No	511.99	Si
SLU 81	ini.	261.34	-503	-0.00005	0.0002246	0.0035	1.45		7949.58	7949.58	No	30.42	Si
SLU 81	fin.	-12.77	-552	-0.0000024	0.0002246	0.0035	1.45		7958.5	7958.5	No	623.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	255.77	-192	1.45	0	1692	6344	3648	3698	7345	No	38.21	Si
SLU 75	fin.	-18.27	-599	1.45	0	1692	6344	3648	3698	7345	No	12.26	Si
SLU 69	ini.	241.97	-197	1.45	0	1692	6344	3648	3698	7345	No	37.34	Si
SLU 69	fin.	-29.37	-603	1.45	0	1692	6344	3648	3698	7345	No	12.17	Si
SLU 77	ini.	276.34	-231	1.45	0	1692	6344	3648	3698	7345	No	31.79	Si
SLU 77	fin.	-24.77	-638	1.45	0	1692	6344	3648	3698	7345	No	11.52	Si
SLU 83	ini.	274.14	-214	1.45	0	1692	6344	3648	3698	7345	No	34.33	Si
SLU 83	fin.	-17.41	-621	1.45	0	1692	6344	3648	3698	7345	No	11.83	Si
SLU 84	ini.	266.35	-200	1.45	0	1692	6344	3648	3698	7345	No	36.69	Si
SLU 84	fin.	-15.54	-607	1.45	0	1692	6344	3648	3698	7345	No	12.1	Si
SLU 80	ini.	264.42	-211	1.45	0	1692	6344	3648	3698	7345	No	34.88	Si
SLU 80	fin.	-22.15	-617	1.45	0	1692	6344	3648	3698	7345	No	11.9	Si
SLU 79	ini.	272.2	-224	1.45	0	1692	6344	3648	3698	7345	No	32.74	Si
SLU 79	fin.	-24.02	-631	1.45	0	1692	6344	3648	3698	7345	No	11.64	Si
SLU 71	ini.	237.83	-190	1.45	0	1692	6344	3648	3698	7345	No	38.66	Si
SLU 71	fin.	-28.62	-597	1.45	0	1692	6344	3648	3698	7345	No	12.31	Si
SLU 78	ini.	268.56	-217	1.45	0	1692	6344	3648	3698	7345	No	33.8	Si
SLU 78	fin.	-22.91	-624	1.45	0	1692	6344	3648	3698	7345	No	11.77	Si
SLU 74	ini.	263.55	-206	1.45	0	1692	6344	3648	3698	7345	No	35.66	Si
SLU 74	fin.	-20.13	-613	1.45	0	1692	6344	3648	3698	7345	No	11.99	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	247.11	-1919	-0.0000471	0.0003369	0.0035	1.45		8142.56	8142.56		32.95	Si
SLV 8	fin.	-502.51	-2276	-0.0000969	0.0003369	0.0035	1.45		8151.83	8151.83		16.22	Si
SLV 6	ini.	-52.6	1291	-0.0000099	0.0003369	0.0035	1.45		8151.83	8151.83		154.97	Si
SLV 6	fin.	520.65	1704	-0.0001006	0.0003369	0.0035	1.45		8142.56	8142.56		15.64	Si
SLV 10	ini.	85.17	1284	-0.0000161	0.0003369	0.0035	1.45		8142.56	8142.56		95.6	Si
SLV 10	fin.	476.2	1562	-0.0000918	0.0003369	0.0035	1.45		8142.56	8142.56		17.1	Si
SLV 15	ini.	436.93	-803	-0.000084	0.0003369	0.0035	1.45		8142.56	8142.56		18.64	Si
SLV 15	fin.	-240.8	-1183	-0.0000458	0.0003369	0.0035	1.45		8151.83	8151.83		33.85	Si
SLV 16	ini.	441.46	-811	-0.0000849	0.0003369	0.0035	1.45		8142.56	8142.56		18.44	Si
SLV 16	fin.	-240.72	-1192	-0.0000458	0.0003369	0.0035	1.45		8151.83	8151.83		33.86	Si
SLV 11	ini.	381.83	-1920	-0.0000732	0.0003369	0.0035	1.45		8142.56	8142.56		21.33	Si
SLV 11	fin.	-547.03	-2412	-0.0001057	0.0003369	0.0035	1.45		8151.83	8151.83		14.9	Si
SLV 12	ini.	384.88	-1925	-0.0000738	0.0003369	0.0035	1.45		8142.56	8142.56		21.16	Si
SLV 12	fin.	-546.97	-2418	-0.0001057	0.0003369	0.0035	1.45		8151.83	8151.83		14.9	Si
SLV 7	ini.	244.05	-1913	-0.0000465	0.0003369	0.0035	1.45		8142.56	8142.56		33.36	Si
SLV 7	fin.	-502.57	-2271	-0.0000969	0.0003369	0.0035	1.45		8151.83	8151.83		16.22	Si
SLV 5	ini.	-55.66	1296	-0.0000105	0.0003369	0.0035	1.45		8151.83	8151.83		146.47	Si
SLV 5	fin.	520.6	1709	-0.0001006	0.0003369	0.0035	1.45		8142.56	8142.56		15.64	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	82.12	1290	-0.0000155	0.0003369	0.0035	1.45		8142.56	8142.56		99.16	Si
SLV 9	fin.	476.14	1568	-0.0000918	0.0003369	0.0035	1.45		8142.56	8142.56		17.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	244.05	-1166	1.45	0	2538	6344	5471	3698	8881		7.62	Si
SLV 7	fin.	-502.57	-1490	1.45	0	2538	6344	5471	3698	8881		5.96	Si
SLV 12	ini.	384.88	-1276	1.45	0	2538	6344	5471	3698	8881		6.96	Si
SLV 12	fin.	-546.97	-1612	1.45	0	2538	6344	5471	3698	8881		5.51	Si
SLD 11	ini.	291.84	-793	1.45	0	2538	6344	5471	3698	8881		11.2	Si
SLD 11	fin.	-326.22	-1118	1.45	0	2538	6344	5471	3698	8881		7.94	Si
SLD 7	ini.	203.67	-725	1.45	0	2538	6344	5471	3698	8881		12.25	Si
SLD 7	fin.	-297.83	-1043	1.45	0	2538	6344	5471	3698	8881		8.52	Si
SLD 12	ini.	293.69	-795	1.45	0	2538	6344	5471	3698	8881		11.16	Si
SLD 12	fin.	-326.19	-1120	1.45	0	2538	6344	5471	3698	8881		7.93	Si
SLV 11	ini.	381.83	-1272	1.45	0	2538	6344	5471	3698	8881		6.98	Si
SLV 11	fin.	-547.03	-1608	1.45	0	2538	6344	5471	3698	8881		5.52	Si
SLV 5	ini.	-55.66	1058	1.45	0	2538	6344	5471	3698	8881		8.39	Si
SLV 5	fin.	520.6	778	1.45	0	2538	6344	5471	3698	8881		11.41	Si
SLV 8	ini.	247.11	-1170	1.45	0	2538	6344	5471	3698	8881		7.59	Si
SLV 8	fin.	-502.51	-1494	1.45	0	2538	6344	5471	3698	8881		5.94	Si
SLV 6	ini.	-52.6	1054	1.45	0	2538	6344	5471	3698	8881		8.42	Si
SLV 6	fin.	520.65	774	1.45	0	2538	6344	5471	3698	8881		11.47	Si
SLD 8	ini.	205.53	-728	1.45	0	2538	6344	5471	3698	8881		12.21	Si
SLD 8	fin.	-297.79	-1045	1.45	0	2538	6344	5471	3698	8881		8.5	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	14.902	SLV 11	Si
V_SLV	5.509	SLV 12	Si
PF_SLU	28.767	SLU 77	Si
V_SLU	11.517	SLU 77	Si

Trave di accoppiamento 119

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	7.95	8.85	0.9	-16.843	6.661	7.95	8.85	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	343.92	-1889	-0.0001814	0.0001872	0.0035	0.9		2959	2959	No	8.6	Si
SLU 75	fin.	123.73	-1777	-0.000062	0.0001872	0.0035	0.9		2959	2959	No	23.91	Si
SLU 81	ini.	349.44	-1880	-0.0001846	0.0001872	0.0035	0.9		2959	2959	No	8.47	Si
SLU 81	fin.	113.28	-1685	-0.0000566	0.0001872	0.0035	0.9		2959	2959	No	26.12	Si
SLU 74	ini.	349.91	-1905	-0.0001849	0.0001872	0.0035	0.9		2959	2959	No	8.46	Si
SLU 74	fin.	118.76	-1758	-0.0000595	0.0001872	0.0035	0.9		2959	2959	No	24.92	Si
SLU 79	ini.	351.18	-1926	-0.0001856	0.0001872	0.0035	0.9		2959	2959	No	8.43	Si
SLU 79	fin.	123.82	-1805	-0.0000621	0.0001872	0.0035	0.9		2959	2959	No	23.9	Si
SLU 80	ini.	345.19	-1909	-0.0001821	0.0001872	0.0035	0.9		2959	2959	No	8.57	Si
SLU 80	fin.	128.79	-1824	-0.0000646	0.0001872	0.0035	0.9		2959	2959	No	22.98	Si
SLU 83	ini.	356.34	-1934	-0.0001886	0.0001872	0.0035	0.9		2959	2959	No	8.3	Si
SLU 83	fin.	121.69	-1773	-0.000061	0.0001872	0.0035	0.9		2959	2959	No	24.32	Si
SLU 78	ini.	350.82	-1943	-0.0001854	0.0001872	0.0035	0.9		2959	2959	No	8.43	Si
SLU 78	fin.	132.15	-1866	-0.0000663	0.0001872	0.0035	0.9		2959	2959	No	22.39	Si
SLU 82	ini.	343.45	-1864	-0.0001811	0.0001872	0.0035	0.9		2959	2959	No	8.62	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	fin.	118.25	-1704	-0.0000592	0.0001872	0.0035	0.9		2959	2959	No	25.02	Si
SLU 77	ini.	356.81	-1960	-0.0001888	0.0001872	0.0035	0.9		2959	2959	No	8.29	Si
SLU 77	fin.	127.18	-1847	-0.0000638	0.0001872	0.0035	0.9		2959	2959	No	23.27	Si
SLU 84	ini.	350.34	-1918	-0.0001851	0.0001872	0.0035	0.9		2959	2959	No	8.45	Si
SLU 84	fin.	126.66	-1792	-0.0000635	0.0001872	0.0035	0.9		2959	2959	No	23.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	356.81	-2125	0.9	0	1750	7137	3773	2295	6068	No	2.85	Si
SLU 77	fin.	127.18	2676	0.9	0	1750	7137	3773	2295	6068	No	2.27	Si
SLU 78	ini.	350.82	-2093	0.9	0	1750	7137	3773	2295	6068	No	2.9	Si
SLU 78	fin.	132.15	2697	0.9	0	1750	7137	3773	2295	6068	No	2.25	Si
SLU 69	ini.	328.69	-2021	0.9	0	1750	7137	3773	2295	6068	No	3	Si
SLU 69	fin.	112.5	2545	0.9	0	1750	7137	3773	2295	6068	No	2.38	Si
SLU 70	ini.	322.7	-1989	0.9	0	1750	7137	3773	2295	6068	No	3.05	Si
SLU 70	fin.	117.47	2566	0.9	0	1750	7137	3773	2295	6068	No	2.36	Si
SLU 74	ini.	349.91	-2062	0.9	0	1750	7137	3773	2295	6068	No	2.94	Si
SLU 74	fin.	118.76	2530	0.9	0	1750	7137	3773	2295	6068	No	2.4	Si
SLU 80	ini.	345.19	-2052	0.9	0	1750	7137	3773	2295	6068	No	2.96	Si
SLU 80	fin.	128.79	2632	0.9	0	1750	7137	3773	2295	6068	No	2.31	Si
SLU 79	ini.	351.18	-2085	0.9	0	1750	7137	3773	2295	6068	No	2.91	Si
SLU 79	fin.	123.82	2611	0.9	0	1750	7137	3773	2295	6068	No	2.32	Si
SLU 75	ini.	343.92	-2030	0.9	0	1750	7137	3773	2295	6068	No	2.99	Si
SLU 75	fin.	123.73	2551	0.9	0	1750	7137	3773	2295	6068	No	2.38	Si
SLU 83	ini.	356.34	-2066	0.9	0	1750	7137	3773	2295	6068	No	2.94	Si
SLU 83	fin.	121.69	2520	0.9	0	1750	7137	3773	2295	6068	No	2.41	Si
SLU 84	ini.	350.34	-2033	0.9	0	1750	7137	3773	2295	6068	No	2.98	Si
SLU 84	fin.	126.66	2542	0.9	0	1750	7137	3773	2295	6068	No	2.39	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	714.73	-2511	-0.0003974	0.0002807	0.0035	0.9		2989.59	2989.59		4.18	Si
SLD 15	fin.	-323.23	712	-0.0001658	0.0002807	0.0035	0.9		2995.37	2995.37		9.27	Si
SLV 14	ini.	869.29	-2830	-0.0005008	0.0002807	0.0035	0.9		2989.59	2989.59		3.44	Si
SLV 14	fin.	-459.97	1593	-0.0002418	0.0002807	0.0035	0.9		2995.37	2995.37		6.51	Si
SLV 15	ini.	996.71	-3242	-0.0005911	0.0002807	0.0035	0.9		2989.59	2989.59		3	Si
SLV 15	fin.	-555.79	1795	-0.0002978	0.0002807	0.0035	0.9		2995.37	2995.37		5.39	Si
SLV 11	ini.	897.29	-3060	-0.0005203	0.0002807	0.0035	0.9		2989.59	2989.59		3.33	Si
SLV 11	fin.	-473.6	1078	-0.0002496	0.0002807	0.0035	0.9		2995.37	2995.37		6.32	Si
SLD 16	ini.	828.59	-2783	-0.0004729	0.0002807	0.0035	0.9		2989.59	2989.59		3.61	Si
SLD 16	fin.	-423.48	1202	-0.0002211	0.0002807	0.0035	0.9		2995.37	2995.37		7.07	Si
SLV 5	ini.	-542.89	795	-0.0002901	0.0002807	0.0035	0.9		2995.37	2995.37		5.52	Si
SLV 5	fin.	718.9	-3864	-0.0004001	0.0002807	0.0035	0.9		2989.59	2989.59		4.16	Si
SLV 12	ini.	1018.11	-3348	-0.0006068	0.0002807	0.0035	0.9		2989.59	2989.59		2.94	Si
SLV 12	fin.	-579.98	1598	-0.0003124	0.0002807	0.0035	0.9		2995.37	2995.37		5.16	Si
SLV 16	ini.	1176.17	-3670	-0.0007262	0.0002807	0.0035	0.9		2989.59	2989.59		2.54	Si
SLV 16	fin.	-713.8	2567	-0.000396	0.0002807	0.0035	0.9		2995.37	2995.37		4.2	Si
SLV 1	ini.	-700.95	1117	-0.0003877	0.0002807	0.0035	0.9		2995.37	2995.37		4.27	Si
SLV 1	fin.	852.72	-4833	-0.0004894	0.0002807	0.0035	0.9		2989.59	2989.59		3.51	Si
SLD 12	ini.	706.98	-2521	-0.0003924	0.0002807	0.0035	0.9		2989.59	2989.59		4.23	Si
SLD 12	fin.	-321.06	516	-0.0001646	0.0002807	0.0035	0.9		2995.37	2995.37		9.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1176.17	-5946	0.9	0	2625	7137	5660	2295	7955		1.34	Si
SLV 16	fin.	-713.8	-3443	0.9	0	2625	7137	5660	2295	7955		2.31	Si
SLD 1	ini.	-353.37	1437	0.9	0	2625	7137	5660	2295	7955		5.54	Si
SLD 1	fin.	562.4	4859	0.9	0	2625	7137	5660	2295	7955		1.64	Si
SLV 1	ini.	-700.95	3121	0.9	0	2625	7137	5660	2295	7955		2.55	Si
SLV 1	fin.	852.72	6735	0.9	0	2625	7137	5660	2295	7955		1.18	Si
SLV 11	ini.	897.29	-4921	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLV 11	fin.	-473.6	-1034	0.9	0	2625	7137	5660	2295	7955		7.69	Si
SLV 4	ini.	-214.61	588	0.9	0	2625	7137	5660	2295	7955		13.54	Si
SLV 4	fin.	440.88	4542	0.9	0	2625	7137	5660	2295	7955		1.75	Si
SLV 2	ini.	-521.49	2276	0.9	0	2625	7137	5660	2295	7955		3.5	Si
SLV 2	fin.	694.7	5651	0.9	0	2625	7137	5660	2295	7955		1.41	Si
SLV 15	ini.	996.71	-5100	0.9	0	2625	7137	5660	2295	7955		1.56	Si
SLV 15	fin.	-555.79	-2359	0.9	0	2625	7137	5660	2295	7955		3.37	Si
SLV 12	ini.	1018.11	-5490	0.9	0	2625	7137	5660	2295	7955		1.45	Si
SLV 12	fin.	-579.98	-1764	0.9	0	2625	7137	5660	2295	7955		4.51	Si
SLV 3	ini.	-394.07	1433	0.9	0	2625	7137	5660	2295	7955		5.55	Si
SLV 3	fin.	598.89	5627	0.9	0	2625	7137	5660	2295	7955		1.41	Si
SLV 5	ini.	-542.89	2666	0.9	0	2625	7137	5660	2295	7955		2.98	Si
SLV 5	fin.	718.9	5057	0.9	0	2625	7137	5660	2295	7955		1.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.542	SLV 16	Si
V_SLV	1.181	SLV 1	Si
PF_SLU	8.293	SLU 77	Si
V_SLU	2.25	SLU 78	Si

Trave di accoppiamento 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	10.65	11.5	0.85	-16.843	6.661	10.65	11.5	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-69.49	-978	-0.0000385	0.0001872	0.0035	0.85		2655.83	2655.83	No	38.22	Si
SLU 74	fin.	-293.78	-1742	-0.0001723	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.04	Si
SLU 82	ini.	-64.55	-937	-0.0000357	0.0001872	0.0035	0.85		2655.83	2655.83	No	41.14	Si
SLU 82	fin.	-286.06	-1693	-0.0001674	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.28	Si
SLU 83	ini.	-71.45	-991	-0.0000396	0.0001872	0.0035	0.85		2655.83	2655.83	No	37.17	Si
SLU 83	fin.	-297.6	-1768	-0.0001747	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.92	Si
SLU 84	ini.	-80.63	-1001	-0.0000448	0.0001872	0.0035	0.85		2655.83	2655.83	No	32.94	Si
SLU 84	fin.	-292.4	-1747	-0.0001714	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.08	Si
SLU 75	ini.	-78.67	-988	-0.0000437	0.0001872	0.0035	0.85		2655.83	2655.83	No	33.76	Si
SLU 75	fin.	-288.57	-1721	-0.000169	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.2	Si
SLU 79	ini.	-82.74	-1013	-0.000046	0.0001872	0.0035	0.85		2655.83	2655.83	No	32.1	Si
SLU 79	fin.	-293.49	-1756	-0.0001721	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.05	Si
SLU 81	ini.	-55.37	-928	-0.0000306	0.0001872	0.0035	0.85		2655.83	2655.83	No	47.96	Si
SLU 81	fin.	-291.26	-1714	-0.0001707	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.12	Si
SLU 77	ini.	-85.56	-1041	-0.0000476	0.0001872	0.0035	0.85		2655.83	2655.83	No	31.04	Si
SLU 77	fin.	-300.11	-1796	-0.0001763	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.85	Si
SLU 80	ini.	-91.92	-1023	-0.0000512	0.0001872	0.0035	0.85		2655.83	2655.83	No	28.89	Si
SLU 80	fin.	-288.29	-1734	-0.0001688	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.21	Si
SLU 78	ini.	-94.74	-1051	-0.0000528	0.0001872	0.0035	0.85		2655.83	2655.83	No	28.03	Si
SLU 78	fin.	-294.91	-1775	-0.000173	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-94.74	922	0.85	0	1653	6740	3563	2168	5731	No	6.21	Si
SLU 78	fin.	-294.91	-3054	0.85	0	1653	6740	3563	2168	5731	No	1.88	Si
SLU 80	ini.	-91.92	905	0.85	0	1653	6740	3563	2168	5731	No	6.33	Si
SLU 80	fin.	-288.29	-2994	0.85	0	1653	6740	3563	2168	5731	No	1.91	Si
SLU 75	ini.	-78.67	850	0.85	0	1653	6740	3563	2168	5731	No	6.74	Si
SLU 75	fin.	-288.57	-2960	0.85	0	1653	6740	3563	2168	5731	No	1.94	Si
SLU 77	ini.	-85.56	894	0.85	0	1653	6740	3563	2168	5731	No	6.41	Si
SLU 77	fin.	-300.11	-3089	0.85	0	1653	6740	3563	2168	5731	No	1.86	Si
SLU 74	ini.	-69.49	822	0.85	0	1653	6740	3563	2168	5731	No	6.97	Si
SLU 74	fin.	-293.78	-2995	0.85	0	1653	6740	3563	2168	5731	No	1.91	Si
SLU 81	ini.	-55.37	772	0.85	0	1653	6740	3563	2168	5731	No	7.43	Si
SLU 81	fin.	-291.26	-2964	0.85	0	1653	6740	3563	2168	5731	No	1.93	Si
SLU 84	ini.	-80.63	872	0.85	0	1653	6740	3563	2168	5731	No	6.57	Si
SLU 84	fin.	-292.4	-3023	0.85	0	1653	6740	3563	2168	5731	No	1.9	Si
SLU 82	ini.	-64.55	800	0.85	0	1653	6740	3563	2168	5731	No	7.17	Si
SLU 82	fin.	-286.06	-2929	0.85	0	1653	6740	3563	2168	5731	No	1.96	Si
SLU 79	ini.	-82.74	877	0.85	0	1653	6740	3563	2168	5731	No	6.54	Si
SLU 79	fin.	-293.49	-3029	0.85	0	1653	6740	3563	2168	5731	No	1.89	Si
SLU 83	ini.	-71.45	844	0.85	0	1653	6740	3563	2168	5731	No	6.79	Si
SLU 83	fin.	-297.6	-3058	0.85	0	1653	6740	3563	2168	5731	No	1.87	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-1198.54	-1880	-0.0008562	0.0002807	0.0035	0.85		2680.73	2680.73		2.24	Si
SLV 5	fin.	464.57	1540	-0.000277	0.0002807	0.0035	0.85		2675.27	2675.27		5.76	Si
SLV 15	ini.	979.78	549	-0.0006647	0.0002807	0.0035	0.85		2675.27	2675.27		2.73	Si
SLV 15	fin.	-766.08	-3404	-0.0004912	0.0002807	0.0035	0.85		2680.73	2680.73		3.5	Si
SLV 2	ini.	-1035.38	-1744	-0.0007105	0.0002807	0.0035	0.85		2680.73	2680.73		2.59	Si
SLV 2	fin.	373.55	1126	-0.0002184	0.0002807	0.0035	0.85		2675.27	2675.27		7.16	Si
SLV 3	ini.	-841.63	-1592	-0.0005501	0.0002807	0.0035	0.85		2680.73	2680.73		3.19	Si
SLV 3	fin.	249.19	592	-0.0001422	0.0002807	0.0035	0.85		2675.27	2675.27		10.74	Si
SLV 16	ini.	1266.62	902	-0.0009224	0.0002807	0.0035	0.85		2675.27	2675.27		2.11	Si
SLV 16	fin.	-916.47	-3999	-0.0006105	0.0002807	0.0035	0.85		2680.73	2680.73		2.93	Si
SLV 11	ini.	949.84	447	-0.0006396	0.0002807	0.0035	0.85		2675.27	2675.27		2.82	Si
SLV 11	fin.	-755.85	-3419	-0.0004833	0.0002807	0.0035	0.85		2680.73	2680.73		3.55	Si
SLV 1	ini.	-1322.22	-2097	-0.0009737	0.0002807	0.0035	0.85		2680.73	2680.73		2.03	Si
SLV 1	fin.	523.94	1720	-0.0003167	0.0002807	0.0035	0.85		2675.27	2675.27		5.11	Si
SLV 6	ini.	-1005.43	-1642	-0.0006848	0.0002807	0.0035	0.85		2680.73	2680.73		2.67	Si
SLV 6	fin.	363.32	1140	-0.000212	0.0002807	0.0035	0.85		2675.27	2675.27		7.36	Si
SLD 1	ini.	-839.54	-1539	-0.0005485	0.0002807	0.0035	0.85		2680.73	2680.73		3.19	Si
SLD 1	fin.	255.47	653	-0.0001459	0.0002807	0.0035	0.85		2675.27	2675.27		10.47	Si
SLV 12	ini.	1142.95	685	-0.0008074	0.0002807	0.0035	0.85		2675.27	2675.27		2.34	Si
SLV 12	fin.	-857.1	-3819	-0.0005624	0.0002807	0.0035	0.85		2680.73	2680.73		3.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	949.84	-2546	0.85	0	2479	6740	5345	2168	7513		2.95	Si
SLV 11	fin.	-755.85	-5644	0.85	0	2479	6740	5345	2168	7513		1.33	Si
SLV 8	ini.	596.52	-1396	0.85	0	2479	6740	5345	2168	7513		5.38	Si
SLV 8	fin.	-552.52	-4395	0.85	0	2479	6740	5345	2168	7513		1.71	Si
SLV 16	ini.	1266.62	-3692	0.85	0	2479	6740	5345	2168	7513		2.03	Si
SLV 16	fin.	-916.47	-6451	0.85	0	2479	6740	5345	2168	7513		1.16	Si
SLV 1	ini.	-1322.22	4658	0.85	0	2479	6740	5345	2168	7513		1.61	Si
SLV 1	fin.	523.94	2542	0.85	0	2479	6740	5345	2168	7513		2.96	Si
SLD 15	ini.	601.97	-1542	0.85	0	2479	6740	5345	2168	7513		4.87	Si
SLD 15	fin.	-552.59	-4187	0.85	0	2479	6740	5345	2168	7513		1.79	Si
SLV 12	ini.	1142.95	-3178	0.85	0	2479	6740	5345	2168	7513		2.36	Si
SLV 12	fin.	-857.1	-6264	0.85	0	2479	6740	5345	2168	7513		1.2	Si
SLV 15	ini.	979.78	-2754	0.85	0	2479	6740	5345	2168	7513		2.73	Si
SLV 15	fin.	-766.08	-5530	0.85	0	2479	6740	5345	2168	7513		1.36	Si
SLD 12	ini.	673.77	-1713	0.85	0	2479	6740	5345	2168	7513		4.39	Si
SLD 12	fin.	-592.16	-4533	0.85	0	2479	6740	5345	2168	7513		1.66	Si
SLV 14	ini.	786.03	-2220	0.85	0	2479	6740	5345	2168	7513		3.38	Si
SLV 14	fin.	-641.72	-4612	0.85	0	2479	6740	5345	2168	7513		1.63	Si
SLD 16	ini.	783.95	-2137	0.85	0	2479	6740	5345	2168	7513		3.52	Si
SLD 16	fin.	-648	-4771	0.85	0	2479	6740	5345	2168	7513		1.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.027	SLV 1	Si
V_SLV	1.165	SLV 16	Si
PF_SLU	8.849	SLU 77	Si
V_SLU	1.855	SLU 77	Si

Trave di accoppiamento 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	7.95	8.85	0.9	-11.918	6.661	7.95	8.85	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	317.11	-2057	-0.0001661	0.0001872	0.0035	0.9		2959	2959	No	9.33	Si
SLU 77	fin.	527.29	-2509	-0.0002932	0.0001872	0.0035	0.9		2959	2959	No	5.61	Si
SLU 75	ini.	303.62	-1984	-0.0001585	0.0001872	0.0035	0.9		2959	2959	No	9.75	Si
SLU 75	fin.	513.7	-2439	-0.0002845	0.0001872	0.0035	0.9		2959	2959	No	5.76	Si
SLU 84	ini.	308.19	-2010	-0.0001611	0.0001872	0.0035	0.9		2959	2959	No	9.6	Si
SLU 84	fin.	517.83	-2465	-0.0002871	0.0001872	0.0035	0.9		2959	2959	No	5.71	Si
SLU 78	ini.	318.33	-2058	-0.0001668	0.0001872	0.0035	0.9		2959	2959	No	9.3	Si
SLU 78	fin.	524.67	-2501	-0.0002915	0.0001872	0.0035	0.9		2959	2959	No	5.64	Si
SLU 79	ini.	310.16	-2014	-0.0001622	0.0001872	0.0035	0.9		2959	2959	No	9.54	Si
SLU 79	fin.	515.43	-2454	-0.0002856	0.0001872	0.0035	0.9		2959	2959	No	5.74	Si
SLU 80	ini.	311.38	-2015	-0.0001629	0.0001872	0.0035	0.9		2959	2959	No	9.5	Si
SLU 80	fin.	512.8	-2447	-0.0002839	0.0001872	0.0035	0.9		2959	2959	No	5.77	Si
SLU 81	ini.	292.26	-1935	-0.0001521	0.0001872	0.0035	0.9		2959	2959	No	10.12	Si
SLU 81	fin.	509.5	-2409	-0.0002818	0.0001872	0.0035	0.9		2959	2959	No	5.81	Si
SLU 74	ini.	302.4	-1983	-0.0001578	0.0001872	0.0035	0.9		2959	2959	No	9.79	Si
SLU 74	fin.	516.33	-2446	-0.0002861	0.0001872	0.0035	0.9		2959	2959	No	5.73	Si
SLU 82	ini.	293.48	-1936	-0.0001528	0.0001872	0.0035	0.9		2959	2959	No	10.08	Si
SLU 82	fin.	506.87	-2402	-0.0002801	0.0001872	0.0035	0.9		2959	2959	No	5.84	Si
SLU 83	ini.	306.97	-2009	-0.0001604	0.0001872	0.0035	0.9		2959	2959	No	9.64	Si
SLU 83	fin.	520.46	-2472	-0.0002888	0.0001872	0.0035	0.9		2959	2959	No	5.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	302.4	-1493	0.9	0	1750	7137	3773	2295	6068	No	4.06	Si
SLU 74	fin.	516.33	2196	0.9	0	1750	7137	3773	2295	6068	No	2.76	Si
SLU 84	ini.	308.19	-1498	0.9	0	1750	7137	3773	2295	6068	No	4.05	Si
SLU 84	fin.	517.83	2184	0.9	0	1750	7137	3773	2295	6068	No	2.78	Si
SLU 80	ini.	311.38	-1543	0.9	0	1750	7137	3773	2295	6068	No	3.93	Si
SLU 80	fin.	512.8	2184	0.9	0	1750	7137	3773	2295	6068	No	2.78	Si
SLU 78	ini.	318.33	-1581	0.9	0	1750	7137	3773	2295	6068	No	3.84	Si
SLU 78	fin.	524.67	2240	0.9	0	1750	7137	3773	2295	6068	No	2.71	Si
SLU 83	ini.	306.97	-1496	0.9	0	1750	7137	3773	2295	6068	No	4.06	Si
SLU 83	fin.	520.46	2197	0.9	0	1750	7137	3773	2295	6068	No	2.76	Si
SLU 77	ini.	317.11	-1579	0.9	0	1750	7137	3773	2295	6068	No	3.84	Si
SLU 77	fin.	527.29	2253	0.9	0	1750	7137	3773	2295	6068	No	2.69	Si
SLU 79	ini.	310.16	-1541	0.9	0	1750	7137	3773	2295	6068	No	3.94	Si
SLU 79	fin.	515.43	2197	0.9	0	1750	7137	3773	2295	6068	No	2.76	Si
SLU 81	ini.	292.26	-1410	0.9	0	1750	7137	3773	2295	6068	No	4.3	Si
SLU 81	fin.	509.5	2140	0.9	0	1750	7137	3773	2295	6068	No	2.84	Si
SLU 82	ini.	293.48	-1412	0.9	0	1750	7137	3773	2295	6068	No	4.3	Si
SLU 82	fin.	506.87	2127	0.9	0	1750	7137	3773	2295	6068	No	2.85	Si
SLU 75	ini.	303.62	-1495	0.9	0	1750	7137	3773	2295	6068	No	4.06	Si
SLU 75	fin.	513.7	2183	0.9	0	1750	7137	3773	2295	6068	No	2.78	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1417.38	-4231	-0.0009229	0.0002807	0.0035	0.9		2989.59	2989.59		2.11	Si
SLV 14	fin.	-989.91	1035	-0.0005849	0.0002807	0.0035	0.9		2995.37	2995.37		3.03	Si
SLV 3	ini.	-1028.28	1632	-0.0006128	0.0002807	0.0035	0.9		2995.37	2995.37		2.91	Si
SLV 3	fin.	1682.54	-4293	-0.0011624	0.0002807	0.0035	0.9		2989.59	2989.59		1.78	Si
SLV 4	ini.	-770.52	1024	-0.000433	0.0002807	0.0035	0.9		2995.37	2995.37		3.89	Si
SLV 4	fin.	1411.28	-3764	-0.0009177	0.0002807	0.0035	0.9		2989.59	2989.59		2.12	Si
SLV 2	ini.	-758.42	877	-0.000425	0.0002807	0.0035	0.9		2995.37	2995.37		3.95	Si
SLV 2	fin.	1327.41	-3516	-0.0008474	0.0002807	0.0035	0.9		2989.59	2989.59		2.25	Si
SLV 16	ini.	1405.29	-4084	-0.0009126	0.0002807	0.0035	0.9		2989.59	2989.59		2.13	Si
SLV 16	fin.	-906.04	787	-0.0005252	0.0002807	0.0035	0.9		2995.37	2995.37		3.31	Si
SLD 3	ini.	-586.41	569	-0.0003163	0.0002807	0.0035	0.9		2995.37	2995.37		5.11	Si
SLD 3	fin.	1197.89	-3324	-0.0007432	0.0002807	0.0035	0.9		2989.59	2989.59		2.5	Si
SLV 13	ini.	1159.63	-3623	-0.0007134	0.0002807	0.0035	0.9		2989.59	2989.59		2.58	Si
SLV 13	fin.	-718.65	506	-0.0003991	0.0002807	0.0035	0.9		2995.37	2995.37		4.17	Si
SLV 15	ini.	1147.53	-3476	-0.000704	0.0002807	0.0035	0.9		2989.59	2989.59		2.61	Si
SLV 15	fin.	-634.78	257	-0.000346	0.0002807	0.0035	0.9		2995.37	2995.37		4.72	Si
SLD 1	ini.	-578.51	482	-0.0003115	0.0002807	0.0035	0.9		2995.37	2995.37		5.18	Si
SLD 1	fin.	1148.02	-3178	-0.0007044	0.0002807	0.0035	0.9		2989.59	2989.59		2.6	Si
SLV 1	ini.	-1016.18	1485	-0.000604	0.0002807	0.0035	0.9		2995.37	2995.37		2.95	Si
SLV 1	fin.	1598.67	-4045	-0.0010837	0.0002807	0.0035	0.9		2989.59	2989.59		1.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-586.41	2583	0.9	0	2625	7137	5660	2295	7955		3.08	Si
SLD 3	fin.	1197.89	5067	0.9	0	2625	7137	5660	2295	7955		1.57	Si
SLV 4	ini.	-770.52	3400	0.9	0	2625	7137	5660	2295	7955		2.34	Si
SLV 4	fin.	1411.28	5983	0.9	0	2625	7137	5660	2295	7955		1.33	Si
SLV 1	ini.	-1016.18	4751	0.9	0	2625	7137	5660	2295	7955		1.67	Si
SLV 1	fin.	1598.67	6636	0.9	0	2625	7137	5660	2295	7955		1.2	Si
SLV 2	ini.	-758.42	3562	0.9	0	2625	7137	5660	2295	7955		2.23	Si
SLV 2	fin.	1327.41	5501	0.9	0	2625	7137	5660	2295	7955		1.45	Si
SLV 14	ini.	1417.38	-6525	0.9	0	2625	7137	5660	2295	7955		1.22	Si
SLV 14	fin.	-989.91	-4168	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLV 3	ini.	-1028.28	4589	0.9	0	2625	7137	5660	2295	7955		1.73	Si
SLV 3	fin.	1682.54	7119	0.9	0	2625	7137	5660	2295	7955		1.12	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	1159.63	-5336	0.9	0	2625	7137	5660	2295	7955		1.49	Si
SLV 13	fin.	-718.65	-3032	0.9	0	2625	7137	5660	2295	7955		2.62	Si
SLD 1	ini.	-578.51	2678	0.9	0	2625	7137	5660	2295	7955		2.97	Si
SLD 1	fin.	1148.02	4783	0.9	0	2625	7137	5660	2295	7955		1.66	Si
SLV 16	ini.	1405.29	-6687	0.9	0	2625	7137	5660	2295	7955		1.19	Si
SLV 16	fin.	-906.04	-3686	0.9	0	2625	7137	5660	2295	7955		2.16	Si
SLV 15	ini.	1147.53	-5498	0.9	0	2625	7137	5660	2295	7955		1.45	Si
SLV 15	fin.	-634.78	-2550	0.9	0	2625	7137	5660	2295	7955		3.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.777	SLV 3	Si
V_SLV	1.117	SLV 3	Si
PF_SLU	5.612	SLU 77	Si
V_SLU	2.693	SLU 77	Si

Trave di accoppiamento 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	10.65	11.5	0.85	-11.918	6.661	10.65	11.5	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-437.76	-1856	-0.0002686	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.07	Si
SLU 82	fin.	-194.52	-1436	-0.0001111	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.65	Si
SLU 81	ini.	-439.83	-1862	-0.0002701	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.04	Si
SLU 81	fin.	-192.73	-1434	-0.00011	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.78	Si
SLU 79	ini.	-450.52	-1924	-0.0002776	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.9	Si
SLU 79	fin.	-204.28	-1497	-0.0001169	0.0001872	0.0035	0.85		2655.83	2655.83	No	13	Si
SLU 84	ini.	-451.32	-1923	-0.0002782	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.88	Si
SLU 84	fin.	-205.68	-1501	-0.0001178	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.91	Si
SLU 80	ini.	-448.45	-1917	-0.0002762	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.92	Si
SLU 80	fin.	-206.07	-1499	-0.000118	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.89	Si
SLU 75	ini.	-445.8	-1899	-0.0002743	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.96	Si
SLU 75	fin.	-201.06	-1478	-0.000115	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.21	Si
SLU 74	ini.	-447.87	-1906	-0.0002758	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.93	Si
SLU 74	fin.	-199.26	-1475	-0.0001139	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.33	Si
SLU 83	ini.	-453.39	-1929	-0.0002797	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.86	Si
SLU 83	fin.	-203.88	-1498	-0.0001167	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.03	Si
SLU 77	ini.	-461.43	-1973	-0.0002854	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.76	Si
SLU 77	fin.	-210.41	-1540	-0.0001206	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.62	Si
SLU 78	ini.	-459.36	-1966	-0.0002839	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.78	Si
SLU 78	fin.	-212.21	-1542	-0.0001217	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-453.39	2618	0.85	0	1653	6740	3563	2168	5731	No	2.19	Si
SLU 83	fin.	-203.88	-1583	0.85	0	1653	6740	3563	2168	5731	No	3.62	Si
SLU 78	ini.	-459.36	2648	0.85	0	1653	6740	3563	2168	5731	No	2.16	Si
SLU 78	fin.	-212.21	-1621	0.85	0	1653	6740	3563	2168	5731	No	3.54	Si
SLU 74	ini.	-447.87	2575	0.85	0	1653	6740	3563	2168	5731	No	2.23	Si
SLU 74	fin.	-199.26	-1545	0.85	0	1653	6740	3563	2168	5731	No	3.71	Si
SLU 81	ini.	-439.83	2535	0.85	0	1653	6740	3563	2168	5731	No	2.26	Si
SLU 81	fin.	-192.73	-1514	0.85	0	1653	6740	3563	2168	5731	No	3.78	Si
SLU 82	ini.	-437.76	2525	0.85	0	1653	6740	3563	2168	5731	No	2.27	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	fin.	-194.52	-1521	0.85	0	1653	6740	3563	2168	5731	No	3.77	Si
SLU 77	ini.	-461.43	2658	0.85	0	1653	6740	3563	2168	5731	No	2.16	Si
SLU 77	fin.	-210.41	-1614	0.85	0	1653	6740	3563	2168	5731	No	3.55	Si
SLU 80	ini.	-448.45	2590	0.85	0	1653	6740	3563	2168	5731	No	2.21	Si
SLU 80	fin.	-206.07	-1583	0.85	0	1653	6740	3563	2168	5731	No	3.62	Si
SLU 84	ini.	-451.32	2608	0.85	0	1653	6740	3563	2168	5731	No	2.2	Si
SLU 84	fin.	-205.68	-1590	0.85	0	1653	6740	3563	2168	5731	No	3.61	Si
SLU 79	ini.	-450.52	2600	0.85	0	1653	6740	3563	2168	5731	No	2.2	Si
SLU 79	fin.	-204.28	-1576	0.85	0	1653	6740	3563	2168	5731	No	3.64	Si
SLU 75	ini.	-445.8	2565	0.85	0	1653	6740	3563	2168	5731	No	2.23	Si
SLU 75	fin.	-201.06	-1552	0.85	0	1653	6740	3563	2168	5731	No	3.69	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-991.62	-3087	-0.0006731	0.0002807	0.0035	0.85		2680.73	2680.73		2.7	Si
SLV 2	fin.	742.94	779	-0.0004746	0.0002807	0.0035	0.85		2675.27	2675.27		3.6	Si
SLV 1	ini.	-1218.28	-3689	-0.0008745	0.0002807	0.0035	0.85		2680.73	2680.73		2.2	Si
SLV 1	fin.	1020.69	1322	-0.0006996	0.0002807	0.0035	0.85		2675.27	2675.27		2.62	Si
SLD 1	ini.	-884.06	-2803	-0.0005841	0.0002807	0.0035	0.85		2680.73	2680.73		3.03	Si
SLD 1	fin.	607.8	507	-0.0003751	0.0002807	0.0035	0.85		2675.27	2675.27		4.4	Si
SLV 4	ini.	-1055.61	-3299	-0.000728	0.0002807	0.0035	0.85		2680.73	2680.73		2.54	Si
SLV 4	fin.	791.2	833	-0.0005117	0.0002807	0.0035	0.85		2675.27	2675.27		3.38	Si
SLV 14	ini.	697.67	1440	-0.0004405	0.0002807	0.0035	0.85		2675.27	2675.27		3.83	Si
SLV 14	fin.	-1310.43	-3230	-0.0009622	0.0002807	0.0035	0.85		2680.73	2680.73		2.05	Si
SLV 15	ini.	407.02	626	-0.0002396	0.0002807	0.0035	0.85		2675.27	2675.27		6.57	Si
SLV 15	fin.	-984.42	-2634	-0.000667	0.0002807	0.0035	0.85		2680.73	2680.73		2.72	Si
SLV 3	ini.	-1282.27	-3901	-0.000935	0.0002807	0.0035	0.85		2680.73	2680.73		2.09	Si
SLV 3	fin.	1068.95	1375	-0.0007415	0.0002807	0.0035	0.85		2675.27	2675.27		2.5	Si
SLV 13	ini.	471.01	838	-0.0002812	0.0002807	0.0035	0.85		2675.27	2675.27		5.68	Si
SLV 13	fin.	-1032.67	-2687	-0.0007081	0.0002807	0.0035	0.85		2680.73	2680.73		2.6	Si
SLV 16	ini.	633.68	1228	-0.0003936	0.0002807	0.0035	0.85		2675.27	2675.27		4.22	Si
SLV 16	fin.	-1262.17	-3176	-0.0009158	0.0002807	0.0035	0.85		2680.73	2680.73		2.12	Si
SLD 3	ini.	-921.97	-2928	-0.000615	0.0002807	0.0035	0.85		2680.73	2680.73		2.91	Si
SLD 3	fin.	636.7	540	-0.0003958	0.0002807	0.0035	0.85		2675.27	2675.27		4.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	407.02	-1638	0.85	0	2479	6740	5345	2168	7513		4.59	Si
SLV 15	fin.	-984.42	-4460	0.85	0	2479	6740	5345	2168	7513		1.68	Si
SLV 1	ini.	-1218.28	6056	0.85	0	2479	6740	5345	2168	7513		1.24	Si
SLV 1	fin.	1020.69	3639	0.85	0	2479	6740	5345	2168	7513		2.06	Si
SLV 2	ini.	-991.62	4980	0.85	0	2479	6740	5345	2168	7513		1.51	Si
SLV 2	fin.	742.94	2518	0.85	0	2479	6740	5345	2168	7513		2.98	Si
SLD 1	ini.	-884.06	4474	0.85	0	2479	6740	5345	2168	7513		1.68	Si
SLD 1	fin.	607.8	1972	0.85	0	2479	6740	5345	2168	7513		3.81	Si
SLV 4	ini.	-1055.61	5297	0.85	0	2479	6740	5345	2168	7513		1.42	Si
SLV 4	fin.	791.2	2743	0.85	0	2479	6740	5345	2168	7513		2.74	Si
SLV 16	ini.	633.68	-2715	0.85	0	2479	6740	5345	2168	7513		2.77	Si
SLV 16	fin.	-1262.17	-5581	0.85	0	2479	6740	5345	2168	7513		1.35	Si
SLV 14	ini.	697.67	-3033	0.85	0	2479	6740	5345	2168	7513		2.48	Si
SLV 14	fin.	-1310.43	-5805	0.85	0	2479	6740	5345	2168	7513		1.29	Si
SLV 13	ini.	471.01	-1956	0.85	0	2479	6740	5345	2168	7513		3.84	Si
SLV 13	fin.	-1032.67	-4684	0.85	0	2479	6740	5345	2168	7513		1.6	Si
SLV 3	ini.	-1282.27	6374	0.85	0	2479	6740	5345	2168	7513		1.18	Si
SLV 3	fin.	1068.95	3863	0.85	0	2479	6740	5345	2168	7513		1.94	Si
SLD 3	ini.	-921.97	4662	0.85	0	2479	6740	5345	2168	7513		1.61	Si
SLD 3	fin.	636.7	2106	0.85	0	2479	6740	5345	2168	7513		3.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.046	SLV 14	Si
V_SLV	1.179	SLV 3	Si
PF_SLU	5.756	SLU 77	Si
V_SLU	2.156	SLU 77	Si

Trave di accoppiamento 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	7.95	8.85	0.9	-7.013	6.661	7.95	8.85	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	86.19	-1474	-0.0000429	0.0001872	0.0035	0.9		2959	2959	No	34.33	Si
SLU 84	fin.	348.72	-1756	-0.0001842	0.0001872	0.0035	0.9		2959	2959	No	8.49	Si
SLU 83	ini.	82.51	-1469	-0.000041	0.0001872	0.0035	0.9		2959	2959	No	35.86	Si
SLU 83	fin.	351.12	-1762	-0.0001856	0.0001872	0.0035	0.9		2959	2959	No	8.43	Si
SLU 82	ini.	68.16	-1425	-0.0000338	0.0001872	0.0035	0.9		2959	2959	No	43.41	Si
SLU 82	fin.	352.14	-1749	-0.0001861	0.0001872	0.0035	0.9		2959	2959	No	8.4	Si
SLU 73	ini.	64.98	-1374	-0.0000322	0.0001872	0.0035	0.9		2959	2959	No	45.54	Si
SLU 73	fin.	340.08	-1689	-0.0001792	0.0001872	0.0035	0.9		2959	2959	No	8.7	Si
SLU 77	ini.	99.61	-1502	-0.0000497	0.0001872	0.0035	0.9		2959	2959	No	29.71	Si
SLU 77	fin.	344.92	-1756	-0.000182	0.0001872	0.0035	0.9		2959	2959	No	8.58	Si
SLU 75	ini.	85.26	-1457	-0.0000424	0.0001872	0.0035	0.9		2959	2959	No	34.7	Si
SLU 75	fin.	345.94	-1742	-0.0001826	0.0001872	0.0035	0.9		2959	2959	No	8.55	Si
SLU 78	ini.	103.29	-1506	-0.0000516	0.0001872	0.0035	0.9		2959	2959	No	28.65	Si
SLU 78	fin.	342.51	-1750	-0.0001806	0.0001872	0.0035	0.9		2959	2959	No	8.64	Si
SLU 79	ini.	94.9	-1464	-0.0000473	0.0001872	0.0035	0.9		2959	2959	No	31.18	Si
SLU 79	fin.	337.24	-1714	-0.0001776	0.0001872	0.0035	0.9		2959	2959	No	8.77	Si
SLU 81	ini.	64.48	-1421	-0.0000319	0.0001872	0.0035	0.9		2959	2959	No	45.89	Si
SLU 81	fin.	354.54	-1755	-0.0001875	0.0001872	0.0035	0.9		2959	2959	No	8.35	Si
SLU 74	ini.	81.58	-1453	-0.0000405	0.0001872	0.0035	0.9		2959	2959	No	36.27	Si
SLU 74	fin.	348.34	-1749	-0.000184	0.0001872	0.0035	0.9		2959	2959	No	8.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	64.48	-321	0.9	0	1750	7137	3773	2295	6068	No	18.91	Si
SLU 81	fin.	354.54	1898	0.9	0	1750	7137	3773	2295	6068	No	3.2	Si
SLU 73	ini.	64.98	-323	0.9	0	1750	7137	3773	2295	6068	No	18.77	Si
SLU 73	fin.	340.08	1836	0.9	0	1750	7137	3773	2295	6068	No	3.31	Si
SLU 74	ini.	81.58	-395	0.9	0	1750	7137	3773	2295	6068	No	15.37	Si
SLU 74	fin.	348.34	1892	0.9	0	1750	7137	3773	2295	6068	No	3.21	Si
SLU 84	ini.	86.19	-397	0.9	0	1750	7137	3773	2295	6068	No	15.27	Si
SLU 84	fin.	348.72	1868	0.9	0	1750	7137	3773	2295	6068	No	3.25	Si
SLU 79	ini.	94.9	-433	0.9	0	1750	7137	3773	2295	6068	No	14.03	Si
SLU 79	fin.	337.24	1818	0.9	0	1750	7137	3773	2295	6068	No	3.34	Si
SLU 77	ini.	99.61	-459	0.9	0	1750	7137	3773	2295	6068	No	13.21	Si
SLU 77	fin.	344.92	1874	0.9	0	1750	7137	3773	2295	6068	No	3.24	Si
SLU 78	ini.	103.29	-471	0.9	0	1750	7137	3773	2295	6068	No	12.88	Si
SLU 78	fin.	342.51	1862	0.9	0	1750	7137	3773	2295	6068	No	3.26	Si
SLU 83	ini.	82.51	-385	0.9	0	1750	7137	3773	2295	6068	No	15.74	Si
SLU 83	fin.	351.12	1879	0.9	0	1750	7137	3773	2295	6068	No	3.23	Si
SLU 75	ini.	85.26	-407	0.9	0	1750	7137	3773	2295	6068	No	14.92	Si
SLU 75	fin.	345.94	1881	0.9	0	1750	7137	3773	2295	6068	No	3.23	Si
SLU 82	ini.	68.16	-333	0.9	0	1750	7137	3773	2295	6068	No	18.23	Si
SLU 82	fin.	352.14	1886	0.9	0	1750	7137	3773	2295	6068	No	3.22	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1042.61	445	-0.0006234	0.0002807	0.0035	0.9		2995.37	2995.37		2.87	Si
SLV 1	fin.	914.01	-2771	-0.000532	0.0002807	0.0035	0.9		2989.59	2989.59		3.27	Si
SLV 4	ini.	-913.6	209	-0.0005305	0.0002807	0.0035	0.9		2995.37	2995.37		3.28	Si
SLV 4	fin.	855.56	-2686	-0.0004914	0.0002807	0.0035	0.9		2989.59	2989.59		3.49	Si
SLV 2	ini.	-785.44	90	-0.0004429	0.0002807	0.0035	0.9		2995.37	2995.37		3.81	Si
SLV 2	fin.	757.11	-2422	-0.0004251	0.0002807	0.0035	0.9		2989.59	2989.59		3.95	Si
SLV 15	ini.	855.06	-1984	-0.000491	0.0002807	0.0035	0.9		2989.59	2989.59		3.5	Si
SLV 15	fin.	-269.56	26	-0.000137	0.0002807	0.0035	0.9		2995.37	2995.37		11.11	Si
SLD 3	ini.	-731.58	14	-0.0004075	0.0002807	0.0035	0.9		2995.37	2995.37		4.09	Si
SLD 3	fin.	732.32	-2366	-0.0004088	0.0002807	0.0035	0.9		2989.59	2989.59		4.08	Si
SLV 16	ini.	1112.23	-2339	-0.000677	0.0002807	0.0035	0.9		2989.59	2989.59		2.69	Si
SLV 16	fin.	-426.46	376	-0.0002228	0.0002807	0.0035	0.9		2995.37	2995.37		7.02	Si
SLV 13	ini.	983.23	-2103	-0.0005814	0.0002807	0.0035	0.9		2989.59	2989.59		3.04	Si
SLV 13	fin.	-368.01	291	-0.0001902	0.0002807	0.0035	0.9		2995.37	2995.37		8.14	Si
SLV 3	ini.	-1170.77	565	-0.0007203	0.0002807	0.0035	0.9		2995.37	2995.37		2.56	Si
SLV 3	fin.	1012.46	-3036	-0.0006026	0.0002807	0.0035	0.9		2989.59	2989.59		2.95	Si
SLD 14	ini.	801.2	-1908	-0.0004544	0.0002807	0.0035	0.9		2989.59	2989.59		3.73	Si
SLD 14	fin.	-244.77	-29	-0.0001239	0.0002807	0.0035	0.9		2995.37	2995.37		12.24	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1240.4	-2459	-0.0007768	0.0002807	0.0035	0.9		2989.59	2989.59		2.41	Si
SLV 14	fin.	-524.91	641	-0.0002795	0.0002807	0.0035	0.9		2995.37	2995.37		5.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-731.58	2508	0.9	0	2625	7137	5660	2295	7955		3.17	Si
SLD 3	fin.	732.32	3476	0.9	0	2625	7137	5660	2295	7955		2.29	Si
SLV 7	ini.	-569.23	1881	0.9	0	2625	7137	5660	2295	7955		4.23	Si
SLV 7	fin.	652.97	3285	0.9	0	2625	7137	5660	2295	7955		2.42	Si
SLV 4	ini.	-913.6	3161	0.9	0	2625	7137	5660	2295	7955		2.52	Si
SLV 4	fin.	855.56	4040	0.9	0	2625	7137	5660	2295	7955		1.97	Si
SLV 1	ini.	-1042.61	3645	0.9	0	2625	7137	5660	2295	7955		2.18	Si
SLV 1	fin.	914.01	4170	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLV 16	ini.	1112.23	-4039	0.9	0	2625	7137	5660	2295	7955		1.97	Si
SLV 16	fin.	-426.46	-1503	0.9	0	2625	7137	5660	2295	7955		5.29	Si
SLV 3	ini.	-1170.77	4062	0.9	0	2625	7137	5660	2295	7955		1.96	Si
SLV 3	fin.	1012.46	4708	0.9	0	2625	7137	5660	2295	7955		1.69	Si
SLV 2	ini.	-785.44	2745	0.9	0	2625	7137	5660	2295	7955		2.9	Si
SLV 2	fin.	757.11	3503	0.9	0	2625	7137	5660	2295	7955		2.27	Si
SLV 13	ini.	983.23	-3555	0.9	0	2625	7137	5660	2295	7955		2.24	Si
SLV 13	fin.	-368.01	-1373	0.9	0	2625	7137	5660	2295	7955		5.79	Si
SLV 14	ini.	1240.4	-4456	0.9	0	2625	7137	5660	2295	7955		1.79	Si
SLV 14	fin.	-524.91	-2040	0.9	0	2625	7137	5660	2295	7955		3.9	Si
SLD 1	ini.	-655.85	2261	0.9	0	2625	7137	5660	2295	7955		3.52	Si
SLD 1	fin.	674.29	3159	0.9	0	2625	7137	5660	2295	7955		2.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.41	SLV 14	Si
V_SLV	1.69	SLV 3	Si
PF_SLU	8.346	SLU 81	Si
V_SLU	3.198	SLU 81	Si

Trave di accoppiamento 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	10.65	11.5	0.85	-7.013	6.661	10.65	11.5	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-267.57	-1712	-0.0001558	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.93	Si
SLU 74	fin.	4.12	-809	-0.0000023	0.0001872	0.0035	0.85		2650.49	2650.49	No	643.38	Si
SLU 73	ini.	-259.94	-1646	-0.000151	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.22	Si
SLU 73	fin.	20.15	-739	-0.0000111	0.0001872	0.0035	0.85		2650.49	2650.49	No	131.54	Si
SLU 78	ini.	-261.75	-1703	-0.0001521	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.15	Si
SLU 78	fin.	-21.2	-858	-0.0000116	0.0001872	0.0035	0.85		2655.83	2655.83	No	125.27	Si
SLU 84	ini.	-266.29	-1717	-0.0001549	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.97	Si
SLU 84	fin.	-1.81	-819	-0.000001	0.0001872	0.0035	0.85		2655.83	2655.83	No	1469.77	Si
SLU 81	ini.	-272.12	-1726	-0.0001586	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.76	Si
SLU 81	fin.	23.51	-770	-0.0000129	0.0001872	0.0035	0.85		2650.49	2650.49	No	112.72	Si
SLU 83	ini.	-268.17	-1725	-0.0001561	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.9	Si
SLU 83	fin.	1.68	-815	-0.0000009	0.0001872	0.0035	0.85		2650.49	2650.49	No	1581.97	Si
SLU 76	ini.	-256	-1645	-0.0001485	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.37	Si
SLU 76	fin.	-1.69	-785	-0.0000009	0.0001872	0.0035	0.85		2655.83	2655.83	No	1572.14	Si
SLU 77	ini.	-263.63	-1711	-0.0001533	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.07	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-17.72	-854	-0.0000097	0.0001872	0.0035	0.85		2655.83	2655.83	No	149.89	Si
SLU 75	ini.	-265.69	-1704	-0.0001546	0.0001872	0.0035	0.85		2655.83	2655.83	No	10	Si
SLU 75	fin.	0.64	-812	-0.0000003	0.0001872	0.0035	0.85		2650.49	2650.49	No	4159.51	Si
SLU 82	ini.	-270.23	-1718	-0.0001574	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.83	Si
SLU 82	fin.	20.03	-773	-0.000011	0.0001872	0.0035	0.85		2650.49	2650.49	No	132.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-263.63	2924	0.85	0	1653	6740	3563	2168	5731	No	1.96	Si
SLU 77	fin.	-17.72	-556	0.85	0	1653	6740	3563	2168	5731	No	10.31	Si
SLU 79	ini.	-255.19	2837	0.85	0	1653	6740	3563	2168	5731	No	2.02	Si
SLU 79	fin.	-17.72	-543	0.85	0	1653	6740	3563	2168	5731	No	10.55	Si
SLU 82	ini.	-270.23	2987	0.85	0	1653	6740	3563	2168	5731	No	1.92	Si
SLU 82	fin.	20.03	-460	0.85	0	1653	6740	3563	2168	5731	No	12.46	Si
SLU 73	ini.	-259.94	2850	0.85	0	1653	6740	3563	2168	5731	No	2.01	Si
SLU 73	fin.	20.15	-435	0.85	0	1653	6740	3563	2168	5731	No	13.18	Si
SLU 83	ini.	-268.17	2982	0.85	0	1653	6740	3563	2168	5731	No	1.92	Si
SLU 83	fin.	1.68	-512	0.85	0	1653	6740	3563	2168	5731	No	11.19	Si
SLU 84	ini.	-266.29	2970	0.85	0	1653	6740	3563	2168	5731	No	1.93	Si
SLU 84	fin.	-1.81	-523	0.85	0	1653	6740	3563	2168	5731	No	10.96	Si
SLU 74	ini.	-267.57	2940	0.85	0	1653	6740	3563	2168	5731	No	1.95	Si
SLU 74	fin.	4.12	-493	0.85	0	1653	6740	3563	2168	5731	No	11.63	Si
SLU 81	ini.	-272.12	2999	0.85	0	1653	6740	3563	2168	5731	No	1.91	Si
SLU 81	fin.	23.51	-449	0.85	0	1653	6740	3563	2168	5731	No	12.77	Si
SLU 75	ini.	-265.69	2929	0.85	0	1653	6740	3563	2168	5731	No	1.96	Si
SLU 75	fin.	0.64	-504	0.85	0	1653	6740	3563	2168	5731	No	11.38	Si
SLU 78	ini.	-261.75	2912	0.85	0	1653	6740	3563	2168	5731	No	1.97	Si
SLU 78	fin.	-21.2	-567	0.85	0	1653	6740	3563	2168	5731	No	10.11	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-477.11	-2418	-0.0002846	0.0002807	0.0035	0.85		2680.73	2680.73		5.62	Si
SLV 7	fin.	547.14	-27	-0.0003326	0.0002807	0.0035	0.85		2675.27	2675.27		4.89	Si
SLV 13	ini.	198.67	468	-0.0001123	0.0002807	0.0035	0.85		2675.27	2675.27		13.47	Si
SLV 13	fin.	-657.73	-1144	-0.0004101	0.0002807	0.0035	0.85		2680.73	2680.73		4.08	Si
SLV 3	ini.	-680.55	-3238	-0.0004269	0.0002807	0.0035	0.85		2680.73	2680.73		3.94	Si
SLV 3	fin.	931.01	404	-0.0006239	0.0002807	0.0035	0.85		2675.27	2675.27		2.87	Si
SLV 1	ini.	-599.56	-2872	-0.0003684	0.0002807	0.0035	0.85		2680.73	2680.73		4.47	Si
SLV 1	fin.	793.3	304	-0.0005134	0.0002807	0.0035	0.85		2675.27	2675.27		3.37	Si
SLV 2	ini.	-486.11	-2395	-0.0002906	0.0002807	0.0035	0.85		2680.73	2680.73		5.51	Si
SLV 2	fin.	568.83	60	-0.0003476	0.0002807	0.0035	0.85		2675.27	2675.27		4.7	Si
SLV 14	ini.	312.12	945	-0.0001802	0.0002807	0.0035	0.85		2675.27	2675.27		8.57	Si
SLV 14	fin.	-882.19	-1389	-0.0005826	0.0002807	0.0035	0.85		2680.73	2680.73		3.04	Si
SLV 4	ini.	-567.1	-2761	-0.0003456	0.0002807	0.0035	0.85		2680.73	2680.73		4.73	Si
SLV 4	fin.	706.54	159	-0.0004471	0.0002807	0.0035	0.85		2675.27	2675.27		3.79	Si
SLD 14	ini.	130.15	178	-0.0000727	0.0002807	0.0035	0.85		2675.27	2675.27		20.55	Si
SLD 14	fin.	-549.35	-1060	-0.0003334	0.0002807	0.0035	0.85		2680.73	2680.73		4.88	Si
SLV 16	ini.	231.14	580	-0.0001315	0.0002807	0.0035	0.85		2675.27	2675.27		11.57	Si
SLV 16	fin.	-744.48	-1290	-0.0004747	0.0002807	0.0035	0.85		2680.73	2680.73		3.6	Si
SLD 3	ini.	-498.58	-2470	-0.0002989	0.0002807	0.0035	0.85		2680.73	2680.73		5.38	Si
SLD 3	fin.	598.16	74	-0.0003682	0.0002807	0.0035	0.85		2675.27	2675.27		4.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-400.73	3388	0.85	0	2479	6740	5345	2168	7513		2.22	Si
SLV 8	fin.	396.02	891	0.85	0	2479	6740	5345	2168	7513		8.43	Si
SLV 7	ini.	-477.11	3856	0.85	0	2479	6740	5345	2168	7513		1.95	Si
SLV 7	fin.	547.14	1379	0.85	0	2479	6740	5345	2168	7513		5.45	Si
SLD 4	ini.	-426.6	3476	0.85	0	2479	6740	5345	2168	7513		2.16	Si
SLD 4	fin.	455.76	1117	0.85	0	2479	6740	5345	2168	7513		6.72	Si
SLV 3	ini.	-680.55	5051	0.85	0	2479	6740	5345	2168	7513		1.49	Si
SLV 3	fin.	931.01	2644	0.85	0	2479	6740	5345	2168	7513		2.84	Si
SLV 1	ini.	-599.56	4500	0.85	0	2479	6740	5345	2168	7513		1.67	Si
SLV 1	fin.	793.3	2225	0.85	0	2479	6740	5345	2168	7513		3.38	Si
SLD 1	ini.	-450.87	3593	0.85	0	2479	6740	5345	2168	7513		2.09	Si
SLD 1	fin.	517.02	1330	0.85	0	2479	6740	5345	2168	7513		5.65	Si
SLV 14	ini.	312.12	-1122	0.85	0	2479	6740	5345	2168	7513		6.7	Si
SLV 14	fin.	-882.19	-3170	0.85	0	2479	6740	5345	2168	7513		2.37	Si
SLV 2	ini.	-486.11	3805	0.85	0	2479	6740	5345	2168	7513		1.97	Si
SLV 2	fin.	568.83	1501	0.85	0	2479	6740	5345	2168	7513		5.01	Si
SLD 3	ini.	-498.58	3918	0.85	0	2479	6740	5345	2168	7513		1.92	Si
SLD 3	fin.	598.16	1577	0.85	0	2479	6740	5345	2168	7513		4.76	Si
SLV 4	ini.	-567.1	4356	0.85	0	2479	6740	5345	2168	7513		1.72	Si
SLV 4	fin.	706.54	1919	0.85	0	2479	6740	5345	2168	7513		3.91	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.874	SLV 3	Si
V_SLV	1.487	SLV 3	Si
PF_SLU	9.76	SLU 81	Si
V_SLU	1.911	SLU 81	Si

Trave di accoppiamento 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.623	1.141	10.05	11.5	1.45	-19.423	1.141	10.05	11.5	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-42.84	-3736	-0.0000081	0.0002246	0.0035	1.45		7864.45	7864.45	No	183.58	Si
SLU 83	fin.	-719.62	-4088	-0.0001422	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.93	Si
SLU 84	ini.	-85.43	-3760	-0.0000162	0.0002246	0.0035	1.45		7864.45	7864.45	No	92.06	Si
SLU 84	fin.	-680.04	-4068	-0.000134	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.56	Si
SLU 79	ini.	-12.44	-3789	-0.0000023	0.0002246	0.0035	1.45		7864.45	7864.45	No	632.11	Si
SLU 79	fin.	-737.54	-4168	-0.000146	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.66	Si
SLU 78	ini.	-60.78	-3901	-0.0000115	0.0002246	0.0035	1.45		7864.45	7864.45	No	129.38	Si
SLU 78	fin.	-704	-4236	-0.000139	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.17	Si
SLU 77	ini.	-18.2	-3877	-0.0000034	0.0002246	0.0035	1.45		7864.45	7864.45	No	432.21	Si
SLU 77	fin.	-743.59	-4256	-0.0001472	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.58	Si
SLU 80	ini.	-55.03	-3813	-0.0000104	0.0002246	0.0035	1.45		7864.45	7864.45	No	142.91	Si
SLU 80	fin.	-697.95	-4148	-0.0001377	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.27	Si
SLU 37	ini.	77.2	-3221	-0.0000146	0.0002246	0.0035	1.45		7855.43	7855.43	No	101.76	Si
SLU 37	fin.	-717.68	-3637	-0.0001418	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.96	Si
SLU 35	ini.	71.44	-3310	-0.0000135	0.0002246	0.0035	1.45		7855.43	7855.43	No	109.95	Si
SLU 35	fin.	-723.73	-3725	-0.0001431	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.87	Si
SLU 41	ini.	46.8	-3169	-0.0000088	0.0002246	0.0035	1.45		7855.43	7855.43	No	167.85	Si
SLU 41	fin.	-699.76	-3557	-0.0001381	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.24	Si
SLU 36	ini.	28.85	-3333	-0.0000054	0.0002246	0.0035	1.45		7855.43	7855.43	No	272.25	Si
SLU 36	fin.	-684.14	-3705	-0.0001349	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 41	ini.	46.8	-167	1.45	0	3383	6344	7295	3698	9727	No	58.41	Si
SLU 41	fin.	-699.76	-2352	1.45	0	3383	6344	7295	3698	9727	No	4.14	Si
SLU 79	ini.	-12.44	-110	1.45	0	3383	6344	7295	3698	9727	No	88.06	Si
SLU 79	fin.	-737.54	-2321	1.45	0	3383	6344	7295	3698	9727	No	4.19	Si
SLU 42	ini.	4.21	-24	1.45	0	3383	6344	7295	3698	9727	No	405.27	Si
SLU 42	fin.	-660.18	-2209	1.45	0	3383	6344	7295	3698	9727	No	4.4	Si
SLU 84	ini.	-85.43	206	1.45	0	3383	6344	7295	3698	9727	No	47.25	Si
SLU 84	fin.	-680.04	-2182	1.45	0	3383	6344	7295	3698	9727	No	4.46	Si
SLU 38	ini.	34.61	-198	1.45	0	3383	6344	7295	3698	9727	No	49.17	Si
SLU 38	fin.	-678.09	-2206	1.45	0	3383	6344	7295	3698	9727	No	4.41	Si
SLU 77	ini.	-18.2	-111	1.45	0	3383	6344	7295	3698	9727	No	87.78	Si
SLU 77	fin.	-743.59	-2321	1.45	0	3383	6344	7295	3698	9727	No	4.19	Si
SLU 83	ini.	-42.84	63	1.45	0	3383	6344	7295	3698	9727	No	153.56	Si
SLU 83	fin.	-719.62	-2324	1.45	0	3383	6344	7295	3698	9727	No	4.18	Si
SLU 35	ini.	71.44	-341	1.45	0	3383	6344	7295	3698	9727	No	28.55	Si
SLU 35	fin.	-723.73	-2349	1.45	0	3383	6344	7295	3698	9727	No	4.14	Si
SLU 37	ini.	77.2	-340	1.45	0	3383	6344	7295	3698	9727	No	28.58	Si
SLU 37	fin.	-717.68	-2349	1.45	0	3383	6344	7295	3698	9727	No	4.14	Si
SLU 36	ini.	28.85	-198	1.45	0	3383	6344	7295	3698	9727	No	49.09	Si
SLU 36	fin.	-684.14	-2206	1.45	0	3383	6344	7295	3698	9727	No	4.41	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-2992.64	-3652	-0.000687	0.0003369	0.0035	1.45		7587.09	7587.09		2.54	Si
SLV 14	fin.	2559.26	-702	-0.0005679	0.0003369	0.0035	1.45		7577.35	7577.35		2.96	Si
SLV 5	ini.	-2874.49	-4209	-0.0006536	0.0003369	0.0035	1.45		7587.09	7587.09		2.64	Si
SLV 5	fin.	2106.5	-1518	-0.0004508	0.0003369	0.0035	1.45		7577.35	7577.35		3.6	Si
SLV 13	ini.	-2978.16	-3639	-0.0006829	0.0003369	0.0035	1.45		7587.09	7587.09		2.55	Si
SLV 13	fin.	2539.16	-712	-0.0005626	0.0003369	0.0035	1.45		7577.35	7577.35		2.98	Si
SLV 4	ini.	2604.07	-1448	-0.00058	0.0003369	0.0035	1.45		7577.35	7577.35		2.91	Si
SLV 4	fin.	-3186.97	-4513	-0.0007433	0.0003369	0.0035	1.45		7587.09	7587.09		2.38	Si
SLV 6	ini.	-2884.24	-4217	-0.0006563	0.0003369	0.0035	1.45		7587.09	7587.09		2.63	Si
SLV 6	fin.	2120.03	-1511	-0.0004542	0.0003369	0.0035	1.45		7577.35	7577.35		3.57	Si
SLV 9	ini.	-3970.27	-4540	-0.0009875	0.0003369	0.0035	1.45		7587.09	7587.09		1.91	Si
SLV 9	fin.	3285.56	-651	-0.0007736	0.0003369	0.0035	1.45		7577.35	7577.35		2.31	Si
SLV 8	ini.	3596.18	-547	-0.0008686	0.0003369	0.0035	1.45		7577.35	7577.35		2.11	Si
SLV 8	fin.	-3933.37	-4574	-0.0009753	0.0003369	0.0035	1.45		7587.09	7587.09		1.93	Si
SLV 7	ini.	3605.93	-538	-0.0008716	0.0003369	0.0035	1.45		7577.35	7577.35		2.1	Si
SLV 7	fin.	-3946.89	-4581	-0.0009797	0.0003369	0.0035	1.45		7587.09	7587.09		1.92	Si
SLV 3	ini.	2618.55	-1435	-0.0005839	0.0003369	0.0035	1.45		7577.35	7577.35		2.89	Si
SLV 3	fin.	-3207.07	-4523	-0.0007492	0.0003369	0.0035	1.45		7587.09	7587.09		2.37	Si
SLV 10	ini.	-3980.02	-4549	-0.0009907	0.0003369	0.0035	1.45		7587.09	7587.09		1.91	Si
SLV 10	fin.	3299.09	-644	-0.0007777	0.0003369	0.0035	1.45		7577.35	7577.35		2.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	2510.15	-8485	1.45	0	5075	6344	10943	3698	11419		1.35	Si
SLV 11	fin.	-2767.83	-9886	1.45	0	5075	6344	10943	3698	11419		1.16	Si
SLV 13	ini.	-2978.16	10157	1.45	0	5075	6344	10943	3698	11419		1.12	Si
SLV 13	fin.	2539.16	8766	1.45	0	5075	6344	10943	3698	11419		1.3	Si
SLV 10	ini.	-3980.02	13333	1.45	0	5075	6344	10943	3698	11419		0.86	No
SLV 10	fin.	3299.09	11931	1.45	0	5075	6344	10943	3698	11419		0.96	No
SLV 7	ini.	3605.93	-12341	1.45	0	5075	6344	10943	3698	11419		0.93	No
SLV 7	fin.	-3946.89	-13752	1.45	0	5075	6344	10943	3698	11419		0.83	No
SLV 14	ini.	-2992.64	10221	1.45	0	5075	6344	10943	3698	11419		1.12	Si
SLV 14	fin.	2559.26	8830	1.45	0	5075	6344	10943	3698	11419		1.29	Si
SLV 4	ini.	2604.07	-9165	1.45	0	5075	6344	10943	3698	11419		1.25	Si
SLV 4	fin.	-3186.97	-10587	1.45	0	5075	6344	10943	3698	11419		1.08	Si
SLV 9	ini.	-3970.27	13290	1.45	0	5075	6344	10943	3698	11419		0.86	No
SLV 9	fin.	3285.56	11888	1.45	0	5075	6344	10943	3698	11419		0.96	No
SLV 12	ini.	2500.4	-8442	1.45	0	5075	6344	10943	3698	11419		1.35	Si
SLV 12	fin.	-2754.3	-9843	1.45	0	5075	6344	10943	3698	11419		1.16	Si
SLV 8	ini.	3596.18	-12298	1.45	0	5075	6344	10943	3698	11419		0.93	No
SLV 8	fin.	-3933.37	-13709	1.45	0	5075	6344	10943	3698	11419		0.83	No
SLV 3	ini.	2618.55	-9229	1.45	0	5075	6344	10943	3698	11419		1.24	Si
SLV 3	fin.	-3207.07	-10651	1.45	0	5075	6344	10943	3698	11419		1.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.906	SLV 10	Si
V_SLV	0.83	SLV 7	No
PF_SLU	10.576	SLU 77	Si
V_SLU	4.136	SLU 41	Si

Trave di accoppiamento 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	10.45	11.5	1.05	-12.263	1.141	10.45	11.5	1.05	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-320.13	-1857	-0.0001197	0.0002246	0.0035	1.05		4132.15	4132.15	No	12.91	Si
SLU 79	fin.	-150.27	-1493	-0.0000549	0.0002246	0.0035	1.05		4132.15	4132.15	No	27.5	Si
SLU 81	ini.	-358.81	-1707	-0.0001349	0.0002246	0.0035	1.05		4132.15	4132.15	No	11.52	Si
SLU 81	fin.	-125.25	-1274	-0.0000456	0.0002246	0.0035	1.05		4132.15	4132.15	No	32.99	Si
SLU 84	ini.	-341.48	-1797	-0.000128	0.0002246	0.0035	1.05		4132.15	4132.15	No	12.1	Si
SLU 84	fin.	-153.47	-1412	-0.0000561	0.0002246	0.0035	1.05		4132.15	4132.15	No	26.93	Si
SLU 82	ini.	-347.64	-1719	-0.0001305	0.0002246	0.0035	1.05		4132.15	4132.15	No	11.89	Si
SLU 82	fin.	-141.61	-1316	-0.0000517	0.0002246	0.0035	1.05		4132.15	4132.15	No	29.18	Si
SLU 75	ini.	-316.64	-1827	-0.0001183	0.0002246	0.0035	1.05		4132.15	4132.15	No	13.05	Si
SLU 75	fin.	-152.24	-1465	-0.0000556	0.0002246	0.0035	1.05		4132.15	4132.15	No	27.14	Si
SLU 74	ini.	-327.81	-1815	-0.0001227	0.0002246	0.0035	1.05		4132.15	4132.15	No	12.61	Si
SLU 74	fin.	-135.87	-1423	-0.0000495	0.0002246	0.0035	1.05		4132.15	4132.15	No	30.41	Si
SLU 39	ini.	-316.07	-1433	-0.0001181	0.0002246	0.0035	1.05		4132.15	4132.15	No	13.07	Si
SLU 39	fin.	-110.39	-1050	-0.0000401	0.0002246	0.0035	1.05		4132.15	4132.15	No	37.43	Si
SLU 83	ini.	-352.64	-1785	-0.0001324	0.0002246	0.0035	1.05		4132.15	4132.15	No	11.72	Si
SLU 83	fin.	-137.1	-1371	-0.00005	0.0002246	0.0035	1.05		4132.15	4132.15	No	30.14	Si
SLU 60	ini.	-318.79	-1474	-0.0001191	0.0002246	0.0035	1.05		4132.15	4132.15	No	12.96	Si
SLU 60	fin.	-94.81	-1093	-0.0000344	0.0002246	0.0035	1.05		4132.15	4132.15	No	43.58	Si
SLU 77	ini.	-321.65	-1892	-0.0001203	0.0002246	0.0035	1.05		4132.15	4132.15	No	12.85	Si
SLU 77	fin.	-147.73	-1520	-0.000054	0.0002246	0.0035	1.05		4132.15	4132.15	No	27.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-352.64	1884	1.05	0	2450	8326	5283	2678	7960	No	4.22	Si
SLU 83	fin.	-137.1	-1111	1.05	0	2450	8326	5283	2678	7960	No	7.16	Si
SLU 41	ini.	-309.9	1720	1.05	0	2450	8326	5283	2678	7960	No	4.63	Si
SLU 41	fin.	-122.25	-1044	1.05	0	2450	8326	5283	2678	7960	No	7.62	Si
SLU 40	ini.	-304.9	1707	1.05	0	2450	8326	5283	2678	7960	No	4.66	Si
SLU 40	fin.	-126.75	-1057	1.05	0	2450	8326	5283	2678	7960	No	7.53	Si
SLU 77	ini.	-321.65	1692	1.05	0	2450	8326	5283	2678	7960	No	4.7	Si
SLU 77	fin.	-147.73	-1033	1.05	0	2450	8326	5283	2678	7960	No	7.71	Si
SLU 84	ini.	-341.48	1846	1.05	0	2450	8326	5283	2678	7960	No	4.31	Si
SLU 84	fin.	-153.47	-1150	1.05	0	2450	8326	5283	2678	7960	No	6.92	Si
SLU 81	ini.	-358.81	1909	1.05	0	2450	8326	5283	2678	7960	No	4.17	Si
SLU 81	fin.	-125.25	-1086	1.05	0	2450	8326	5283	2678	7960	No	7.33	Si
SLU 82	ini.	-347.64	1871	1.05	0	2450	8326	5283	2678	7960	No	4.26	Si
SLU 82	fin.	-141.61	-1124	1.05	0	2450	8326	5283	2678	7960	No	7.08	Si
SLU 39	ini.	-316.07	1745	1.05	0	2450	8326	5283	2678	7960	No	4.56	Si
SLU 39	fin.	-110.39	-1019	1.05	0	2450	8326	5283	2678	7960	No	7.81	Si
SLU 79	ini.	-320.13	1685	1.05	0	2450	8326	5283	2678	7960	No	4.72	Si
SLU 79	fin.	-150.27	-1040	1.05	0	2450	8326	5283	2678	7960	No	7.65	Si
SLU 74	ini.	-327.81	1717	1.05	0	2450	8326	5283	2678	7960	No	4.64	Si
SLU 74	fin.	-135.87	-1008	1.05	0	2450	8326	5283	2678	7960	No	7.9	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	678.17	-4148	-0.0002613	0.0003369	0.0035	1.05		4079.77	4079.77		6.02	Si
SLV 2	fin.	-2883.82	-8558	-0.0015703	0.0003369	0.0035	1.05		4086.9	4086.9		1.42	Si
SLV 15	ini.	-1112.57	1644	-0.0004539	0.0003369	0.0035	1.05		4086.9	4086.9		3.67	Si
SLV 15	fin.	2699.55	6582	-0.001423	0.0003369	0.0035	1.05		4079.77	4079.77		1.51	Si
SLV 11	ini.	-1338.4	461	-0.0005653	0.0003369	0.0035	1.05		4086.9	4086.9		3.05	Si
SLV 11	fin.	2002.57	4424	-0.0009398	0.0003369	0.0035	1.05		4079.77	4079.77		2.04	Si
SLV 16	ini.	-1086.44	1627	-0.0004416	0.0003369	0.0035	1.05		4086.9	4086.9		3.76	Si
SLV 16	fin.	2663.55	6497	-0.0013949	0.0003369	0.0035	1.05		4079.77	4079.77		1.53	Si
SLV 6	ini.	903.99	-2965	-0.0003585	0.0003369	0.0035	1.05		4079.77	4079.77		4.51	Si
SLV 6	fin.	-2186.84	-6401	-0.0010546	0.0003369	0.0035	1.05		4086.9	4086.9		1.87	Si
SLV 3	ini.	93.1	-3577	-0.0000337	0.0003369	0.0035	1.05		4079.77	4079.77		43.82	Si
SLV 3	fin.	-2023.33	-6413	-0.0009507	0.0003369	0.0035	1.05		4086.9	4086.9		2.02	Si
SLV 1	ini.	652.03	-4131	-0.0002504	0.0003369	0.0035	1.05		4079.77	4079.77		6.26	Si
SLV 1	fin.	-2847.82	-8474	-0.0015398	0.0003369	0.0035	1.05		4086.9	4086.9		1.44	Si
SLV 4	ini.	119.24	-3593	-0.0000433	0.0003369	0.0035	1.05		4079.77	4079.77		34.21	Si
SLV 4	fin.	-2059.32	-6498	-0.0009731	0.0003369	0.0035	1.05		4086.9	4086.9		1.98	Si
SLV 12	ini.	-1320.8	450	-0.0005563	0.0003369	0.0035	1.05		4086.9	4086.9		3.09	Si
SLV 12	fin.	1978.34	4367	-0.0009249	0.0003369	0.0035	1.05		4079.77	4079.77		2.06	Si
SLV 5	ini.	886.39	-2954	-0.0003507	0.0003369	0.0035	1.05		4079.77	4079.77		4.6	Si
SLV 5	fin.	-2162.61	-6344	-0.0010388	0.0003369	0.0035	1.05		4086.9	4086.9		1.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-1086.44	6393	1.05	0	2855	8326	7924	2678	10602		1.66	Si
SLV 16	fin.	2663.55	4821	1.05	0	2855	8326	7924	2678	10602		2.2	Si
SLV 1	ini.	652.03	-4243	1.05	0	2855	8326	7924	2678	10602		2.5	Si
SLV 1	fin.	-2847.82	-6029	1.05	0	2855	8326	7924	2678	10602		1.76	Si
SLV 2	ini.	678.17	-4331	1.05	0	2855	8326	7924	2678	10602		2.45	Si
SLV 2	fin.	-2883.82	-6116	1.05	0	2855	8326	7924	2678	10602		1.73	Si
SLV 12	ini.	-1320.8	5565	1.05	0	2855	8326	7924	2678	10602		1.9	Si
SLV 12	fin.	1978.34	3932	1.05	0	2855	8326	7924	2678	10602		2.7	Si
SLV 15	ini.	-1112.57	6481	1.05	0	2855	8326	7924	2678	10602		1.64	Si
SLV 15	fin.	2699.55	4908	1.05	0	2855	8326	7924	2678	10602		2.16	Si
SLD 15	ini.	-774.68	4484	1.05	0	2855	8326	7924	2678	10602		2.36	Si
SLD 15	fin.	1671.03	2868	1.05	0	2855	8326	7924	2678	10602		3.7	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1338.4	5624	1.05	0	2855	8326	7924	2678	10602		1.89	Si
SLV 11	fin.	2002.57	3991	1.05	0	2855	8326	7924	2678	10602		2.66	Si
SLV 5	ini.	886.39	-3415	1.05	0	2855	8326	7924	2678	10602		3.1	Si
SLV 5	fin.	-2162.61	-5140	1.05	0	2855	8326	7924	2678	10602		2.06	Si
SLV 6	ini.	903.99	-3474	1.05	0	2855	8326	7924	2678	10602		3.05	Si
SLV 6	fin.	-2186.84	-5199	1.05	0	2855	8326	7924	2678	10602		2.04	Si
SLV 13	ini.	-553.65	4561	1.05	0	2855	8326	7924	2678	10602		2.32	Si
SLV 13	fin.	1875.05	2980	1.05	0	2855	8326	7924	2678	10602		3.56	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.417	SLV 2	Si
V_SLV	1.636	SLV 15	Si
PF_SLU	11.516	SLU 81	Si
V_SLU	4.169	SLU 81	Si

Trave di accoppiamento 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	10.45	11.5	1.05	-10.466	1.141	10.45	11.5	1.05	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-448.91	-2128	-0.000171	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.2	Si
SLU 80	fin.	-94	-2647	-0.0000341	0.0002246	0.0035	1.05		4132.15	4132.15	No	43.96	Si
SLU 75	ini.	-445.12	-2104	-0.0001695	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.28	Si
SLU 75	fin.	-108.52	-2588	-0.0000394	0.0002246	0.0035	1.05		4132.15	4132.15	No	38.08	Si
SLU 79	ini.	-458.21	-2156	-0.0001748	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.02	Si
SLU 79	fin.	-81.77	-2684	-0.0000296	0.0002246	0.0035	1.05		4132.15	4132.15	No	50.54	Si
SLU 78	ini.	-456.13	-2162	-0.000174	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.06	Si
SLU 78	fin.	-92.75	-2691	-0.0000336	0.0002246	0.0035	1.05		4132.15	4132.15	No	44.55	Si
SLU 84	ini.	-468.1	-2171	-0.0001789	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.83	Si
SLU 84	fin.	-96.73	-2654	-0.0000351	0.0002246	0.0035	1.05		4132.15	4132.15	No	42.72	Si
SLU 74	ini.	-454.42	-2133	-0.0001733	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.09	Si
SLU 74	fin.	-96.28	-2625	-0.0000349	0.0002246	0.0035	1.05		4132.15	4132.15	No	42.92	Si
SLU 82	ini.	-457.1	-2113	-0.0001744	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.04	Si
SLU 82	fin.	-112.5	-2550	-0.0000409	0.0002246	0.0035	1.05		4132.15	4132.15	No	36.73	Si
SLU 83	ini.	-477.4	-2199	-0.0001827	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.66	Si
SLU 83	fin.	-84.5	-2691	-0.0000306	0.0002246	0.0035	1.05		4132.15	4132.15	No	48.9	Si
SLU 77	ini.	-465.43	-2191	-0.0001778	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.88	Si
SLU 77	fin.	-80.51	-2728	-0.0000292	0.0002246	0.0035	1.05		4132.15	4132.15	No	51.32	Si
SLU 81	ini.	-466.4	-2141	-0.0001782	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.86	Si
SLU 81	fin.	-100.26	-2588	-0.0000364	0.0002246	0.0035	1.05		4132.15	4132.15	No	41.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-477.4	-1047	1.05	0	2450	8326	5283	2678	7960	No	7.6	Si
SLU 83	fin.	-84.5	1092	1.05	0	2450	8326	5283	2678	7960	No	7.29	Si
SLU 42	ini.	-407.58	-1113	1.05	0	2450	8326	5283	2678	7960	No	7.15	Si
SLU 42	fin.	-69.63	967	1.05	0	2450	8326	5283	2678	7960	No	8.23	Si
SLU 41	ini.	-416.88	-1172	1.05	0	2450	8326	5283	2678	7960	No	6.79	Si
SLU 41	fin.	-57.4	1029	1.05	0	2450	8326	5283	2678	7960	No	7.74	Si
SLU 79	ini.	-458.21	-961	1.05	0	2450	8326	5283	2678	7960	No	8.29	Si
SLU 79	fin.	-81.77	1115	1.05	0	2450	8326	5283	2678	7960	No	7.14	Si
SLU 35	ini.	-404.9	-1087	1.05	0	2450	8326	5283	2678	7960	No	7.32	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 35	fin.	-53.41	1086	1.05	0	2450	8326	5283	2678	7960	No	7.33	Si
SLU 39	ini.	-405.87	-1102	1.05	0	2450	8326	5283	2678	7960	No	7.23	Si
SLU 39	fin.	-73.17	907	1.05	0	2450	8326	5283	2678	7960	No	8.77	Si
SLU 77	ini.	-465.43	-963	1.05	0	2450	8326	5283	2678	7960	No	8.27	Si
SLU 77	fin.	-80.51	1149	1.05	0	2450	8326	5283	2678	7960	No	6.93	Si
SLU 78	ini.	-456.13	-904	1.05	0	2450	8326	5283	2678	7960	No	8.8	Si
SLU 78	fin.	-92.75	1087	1.05	0	2450	8326	5283	2678	7960	No	7.33	Si
SLU 37	ini.	-397.68	-1085	1.05	0	2450	8326	5283	2678	7960	No	7.34	Si
SLU 37	fin.	-54.67	1052	1.05	0	2450	8326	5283	2678	7960	No	7.57	Si
SLU 80	ini.	-448.91	-902	1.05	0	2450	8326	5283	2678	7960	No	8.83	Si
SLU 80	fin.	-94	1053	1.05	0	2450	8326	5283	2678	7960	No	7.56	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1578.93	-5364	-0.0006922	0.0003369	0.0035	1.05		4086.9	4086.9		2.59	Si
SLV 11	fin.	1022.25	-5091	-0.0004123	0.0003369	0.0035	1.05		4079.77	4079.77		3.99	Si
SLV 14	ini.	-1671.87	-6076	-0.0007436	0.0003369	0.0035	1.05		4086.9	4086.9		2.44	Si
SLV 14	fin.	215.22	-2102	-0.0000789	0.0003369	0.0035	1.05		4079.77	4079.77		18.96	Si
SLV 12	ini.	-1564.08	-5317	-0.0006841	0.0003369	0.0035	1.05		4086.9	4086.9		2.61	Si
SLV 12	fin.	1004.94	-5029	-0.0004043	0.0003369	0.0035	1.05		4079.77	4079.77		4.06	Si
SLV 1	ini.	1565.23	4635	-0.000686	0.0003369	0.0035	1.05		4079.77	4079.77		2.61	Si
SLV 1	fin.	-972.05	470	-0.0003885	0.0003369	0.0035	1.05		4086.9	4086.9		4.2	Si
SLV 15	ini.	-2168.99	-7532	-0.001043	0.0003369	0.0035	1.05		4086.9	4086.9		1.88	Si
SLV 15	fin.	799.43	-3970	-0.0003127	0.0003369	0.0035	1.05		4079.77	4079.77		5.1	Si
SLD 15	ini.	-1479.15	-5290	-0.0006385	0.0003369	0.0035	1.05		4086.9	4086.9		2.76	Si
SLD 15	fin.	460.38	-3105	-0.000173	0.0003369	0.0035	1.05		4079.77	4079.77		8.86	Si
SLV 2	ini.	1587.29	4704	-0.0006981	0.0003369	0.0035	1.05		4079.77	4079.77		2.57	Si
SLV 2	fin.	-997.77	564	-0.0004003	0.0003369	0.0035	1.05		4086.9	4086.9		4.1	Si
SLV 16	ini.	-2146.94	-7462	-0.0010287	0.0003369	0.0035	1.05		4086.9	4086.9		1.9	Si
SLV 16	fin.	773.71	-3876	-0.0003016	0.0003369	0.0035	1.05		4079.77	4079.77		5.27	Si
SLV 13	ini.	-1693.93	-6146	-0.000756	0.0003369	0.0035	1.05		4086.9	4086.9		2.41	Si
SLV 13	fin.	240.94	-2195	-0.0000885	0.0003369	0.0035	1.05		4079.77	4079.77		16.93	Si
SLD 16	ini.	-1465.16	-5246	-0.0006311	0.0003369	0.0035	1.05		4086.9	4086.9		2.79	Si
SLD 16	fin.	444.06	-3046	-0.0001666	0.0003369	0.0035	1.05		4079.77	4079.77		9.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1578.93	-3654	1.05	0	2961	8326	7924	2678	10602		2.9	Si
SLV 11	fin.	1022.25	6356	1.05	0	2961	8326	7924	2678	10602		1.67	Si
SLV 4	ini.	1112.22	-5987	1.05	0	2961	8326	7924	2678	10602		1.77	Si
SLV 4	fin.	-439.28	-1184	1.05	0	2961	8326	7924	2678	10602		8.95	Si
SLV 12	ini.	-1564.08	-3563	1.05	0	2961	8326	7924	2678	10602		2.98	Si
SLV 12	fin.	1004.94	6263	1.05	0	2961	8326	7924	2678	10602		1.69	Si
SLV 8	ini.	-586.33	-6164	1.05	0	2961	8326	7924	2678	10602		1.72	Si
SLV 8	fin.	641.04	4406	1.05	0	2961	8326	7924	2678	10602		2.41	Si
SLV 3	ini.	1090.16	-6122	1.05	0	2961	8326	7924	2678	10602		1.73	Si
SLV 3	fin.	-413.56	-1046	1.05	0	2961	8326	7924	2678	10602		10.14	Si
SLV 9	ini.	4.62	5459	1.05	0	2961	8326	7924	2678	10602		1.94	Si
SLV 9	fin.	-839.38	-3363	1.05	0	2961	8326	7924	2678	10602		3.15	Si
SLV 6	ini.	997.22	2948	1.05	0	2961	8326	7924	2678	10602		3.6	Si
SLV 6	fin.	-1220.59	-5313	1.05	0	2961	8326	7924	2678	10602		2	Si
SLV 7	ini.	-601.18	-6255	1.05	0	2961	8326	7924	2678	10602		1.69	Si
SLV 7	fin.	658.36	4499	1.05	0	2961	8326	7924	2678	10602		2.36	Si
SLV 10	ini.	19.47	5550	1.05	0	2961	8326	7924	2678	10602		1.91	Si
SLV 10	fin.	-856.69	-3456	1.05	0	2961	8326	7924	2678	10602		3.07	Si
SLV 14	ini.	-1671.87	5417	1.05	0	2961	8326	7924	2678	10602		1.96	Si
SLV 14	fin.	215.22	2089	1.05	0	2961	8326	7924	2678	10602		5.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.884	SLV 15	Si
V_SLV	1.668	SLV 11	Si
PF_SLU	8.655	SLU 83	Si
V_SLU	6.794	SLU 41	Si

Trave di accoppiamento 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	10.05	11.5	1.45	-7.443	1.141	10.05	11.5	1.45	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 48	ini.	229.53	-2166	-0.0000439	0.0002246	0.0035	1.45		7855.43	7855.43	No	34.22	Si
SLU 48	fin.	-711.04	-3011	-0.0001404	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.06	Si
SLU 50	ini.	239.2	-2104	-0.0000457	0.0002246	0.0035	1.45		7855.43	7855.43	No	32.84	Si
SLU 50	fin.	-718.62	-2965	-0.000142	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.94	Si
SLU 43	ini.	248.68	-1844	-0.0000476	0.0002246	0.0035	1.45		7855.43	7855.43	No	31.59	Si
SLU 43	fin.	-721.31	-2720	-0.0001426	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.9	Si
SLU 64	ini.	204.3	-2181	-0.000039	0.0002246	0.0035	1.45		7855.43	7855.43	No	38.45	Si
SLU 64	fin.	-718.83	-2981	-0.0001421	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.94	Si
SLU 72	ini.	186.35	-2442	-0.0000355	0.0002246	0.0035	1.45		7855.43	7855.43	No	42.15	Si
SLU 72	fin.	-702.95	-3206	-0.0001388	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.19	Si
SLU 69	ini.	185.15	-2504	-0.0000353	0.0002246	0.0035	1.45		7855.43	7855.43	No	42.43	Si
SLU 69	fin.	-708.56	-3273	-0.0001399	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.1	Si
SLU 45	ini.	234.27	-2036	-0.0000448	0.0002246	0.0035	1.45		7855.43	7855.43	No	33.53	Si
SLU 45	fin.	-712.38	-2888	-0.0001407	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.04	Si
SLU 51	ini.	230.73	-2104	-0.0000441	0.0002246	0.0035	1.45		7855.43	7855.43	No	34.05	Si
SLU 51	fin.	-705.43	-2945	-0.0001393	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.15	Si
SLU 71	ini.	194.82	-2441	-0.0000371	0.0002246	0.0035	1.45		7855.43	7855.43	No	40.32	Si
SLU 71	fin.	-716.14	-3227	-0.0001415	0.0002246	0.0035	1.45		7864.45	7864.45	No	10.98	Si
SLU 66	ini.	189.89	-2374	-0.0000362	0.0002246	0.0035	1.45		7855.43	7855.43	No	41.37	Si
SLU 66	fin.	-709.91	-3150	-0.0001402	0.0002246	0.0035	1.45		7864.45	7864.45	No	11.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	49.81	948	1.45	0	3383	7930	7295	3698	10993	No	11.59	Si
SLU 84	fin.	-620.46	-3052	1.45	0	3383	7930	7295	3698	10993	No	3.6	Si
SLU 82	ini.	54.55	937	1.45	0	3383	7930	7295	3698	10993	No	11.73	Si
SLU 82	fin.	-621.81	-3064	1.45	0	3383	7930	7295	3698	10993	No	3.59	Si
SLU 73	ini.	91.29	675	1.45	0	3383	7930	7295	3698	10993	No	16.29	Si
SLU 73	fin.	-638.16	-2994	1.45	0	3383	7930	7295	3698	10993	No	3.67	Si
SLU 77	ini.	86.25	665	1.45	0	3383	7930	7295	3698	10993	No	16.54	Si
SLU 77	fin.	-649.88	-3004	1.45	0	3383	7930	7295	3698	10993	No	3.66	Si
SLU 83	ini.	58.27	911	1.45	0	3383	7930	7295	3698	10993	No	12.07	Si
SLU 83	fin.	-633.65	-3089	1.45	0	3383	7930	7295	3698	10993	No	3.56	Si
SLU 80	ini.	87.45	672	1.45	0	3383	7930	7295	3698	10993	No	16.35	Si
SLU 80	fin.	-644.27	-2996	1.45	0	3383	7930	7295	3698	10993	No	3.67	Si
SLU 74	ini.	90.99	653	1.45	0	3383	7930	7295	3698	10993	No	16.82	Si
SLU 74	fin.	-651.22	-3015	1.45	0	3383	7930	7295	3698	10993	No	3.65	Si
SLU 81	ini.	63.01	900	1.45	0	3383	7930	7295	3698	10993	No	12.22	Si
SLU 81	fin.	-635	-3101	1.45	0	3383	7930	7295	3698	10993	No	3.55	Si
SLU 76	ini.	86.55	686	1.45	0	3383	7930	7295	3698	10993	No	16.03	Si
SLU 76	fin.	-636.82	-2983	1.45	0	3383	7930	7295	3698	10993	No	3.69	Si
SLU 79	ini.	95.92	635	1.45	0	3383	7930	7295	3698	10993	No	17.31	Si
SLU 79	fin.	-657.46	-3034	1.45	0	3383	7930	7295	3698	10993	No	3.62	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-2680.56	-5135	-0.0005999	0.0003369	0.0035	1.45		7587.09	7587.09		2.83	Si
SLV 13	fin.	2114.82	-914	-0.0004529	0.0003369	0.0035	1.45		7577.35	7577.35		3.58	Si
SLV 14	ini.	-2678.32	-5082	-0.0005993	0.0003369	0.0035	1.45		7587.09	7587.09		2.83	Si
SLV 14	fin.	2144.33	-837	-0.0004603	0.0003369	0.0035	1.45		7577.35	7577.35		3.53	Si
SLV 2	ini.	2622.06	1722	-0.0005849	0.0003369	0.0035	1.45		7577.35	7577.35		2.89	Si
SLV 2	fin.	-2677.54	-2815	-0.0005991	0.0003369	0.0035	1.45		7587.09	7587.09		2.83	Si
SLV 16	ini.	-2342.52	-5027	-0.0005101	0.0003369	0.0035	1.45		7587.09	7587.09		3.24	Si
SLV 16	fin.	1633.61	-1632	-0.0003374	0.0003369	0.0035	1.45		7577.35	7577.35		4.64	Si
SLV 15	ini.	-2344.77	-5080	-0.0005107	0.0003369	0.0035	1.45		7587.09	7587.09		3.24	Si
SLV 15	fin.	1604.1	-1709	-0.0003307	0.0003369	0.0035	1.45		7577.35	7577.35		4.72	Si
SLD 3	ini.	1932.66	500	-0.0004081	0.0003369	0.0035	1.45		7577.35	7577.35		3.92	Si
SLD 3	fin.	-2237.84	-3149	-0.0004833	0.0003369	0.0035	1.45		7587.09	7587.09		3.39	Si
SLV 4	ini.	2957.86	1777	-0.0006781	0.0003369	0.0035	1.45		7577.35	7577.35		2.56	Si
SLV 4	fin.	-3188.27	-3609	-0.0007437	0.0003369	0.0035	1.45		7587.09	7587.09		2.38	Si
SLD 4	ini.	1934.08	533	-0.0004084	0.0003369	0.0035	1.45		7577.35	7577.35		3.92	Si
SLD 4	fin.	-2219.11	-3100	-0.0004785	0.0003369	0.0035	1.45		7587.09	7587.09		3.42	Si
SLV 1	ini.	2619.82	1670	-0.0005843	0.0003369	0.0035	1.45		7577.35	7577.35		2.89	Si
SLV 1	fin.	-2707.05	-2892	-0.0006072	0.0003369	0.0035	1.45		7587.09	7587.09		2.8	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	2955.62	1724	-0.0006774	0.0003369	0.0035	1.45		7577.35	7577.35		2.56	Si
SLV 3	fin.	-3217.78	-3686	-0.0007524	0.0003369	0.0035	1.45		7587.09	7587.09		2.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	1932.66	-5595	1.45	0	4598	7930	10943	3698	12527		2.24	Si
SLD 3	fin.	-2237.84	-7880	1.45	0	4598	7930	10943	3698	12527		1.59	Si
SLV 15	ini.	-2344.77	7407	1.45	0	4598	7930	10943	3698	12527		1.69	Si
SLV 15	fin.	1604.1	5101	1.45	0	4598	7930	10943	3698	12527		2.46	Si
SLV 4	ini.	2957.86	-8783	1.45	0	4598	7930	10943	3698	12527		1.43	Si
SLV 4	fin.	-3188.27	-11076	1.45	0	4598	7930	10943	3698	12527		1.13	Si
SLV 14	ini.	-2678.32	8903	1.45	0	4598	7930	10943	3698	12527		1.41	Si
SLV 14	fin.	2144.33	6649	1.45	0	4598	7930	10943	3698	12527		1.88	Si
SLD 4	ini.	1934.08	-5567	1.45	0	4598	7930	10943	3698	12527		2.25	Si
SLD 4	fin.	-2219.11	-7852	1.45	0	4598	7930	10943	3698	12527		1.6	Si
SLV 3	ini.	2955.62	-8828	1.45	0	4598	7930	10943	3698	12527		1.42	Si
SLV 3	fin.	-3217.78	-11121	1.45	0	4598	7930	10943	3698	12527		1.13	Si
SLV 16	ini.	-2342.52	7451	1.45	0	4598	7930	10943	3698	12527		1.68	Si
SLV 16	fin.	1633.61	5146	1.45	0	4598	7930	10943	3698	12527		2.43	Si
SLV 1	ini.	2619.82	-7375	1.45	0	4598	7930	10943	3698	12527		1.7	Si
SLV 1	fin.	-2707.05	-9617	1.45	0	4598	7930	10943	3698	12527		1.3	Si
SLV 2	ini.	2622.06	-7331	1.45	0	4598	7930	10943	3698	12527		1.71	Si
SLV 2	fin.	-2677.54	-9572	1.45	0	4598	7930	10943	3698	12527		1.31	Si
SLV 13	ini.	-2680.56	8859	1.45	0	4598	7930	10943	3698	12527		1.41	Si
SLV 13	fin.	2114.82	6605	1.45	0	4598	7930	10943	3698	12527		1.9	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.358	SLV 3	Si
V_SLV	1.126	SLV 3	Si
PF_SLU	10.903	SLU 43	Si
V_SLU	3.545	SLU 81	Si

Trave di accoppiamento 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	10.05	11.5	1.45	-4.893	1.141	10.05	11.5	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	367.55	-2373	-0.0000709	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.37	Si
SLU 73	fin.	-604.91	-2858	-0.0001185	0.0002246	0.0035	1.45		7864.45	7864.45	No	13	Si
SLU 77	ini.	375.89	-2722	-0.0000725	0.0002246	0.0035	1.45		7855.43	7855.43	No	20.9	Si
SLU 77	fin.	-603.54	-3215	-0.0001182	0.0002246	0.0035	1.45		7864.45	7864.45	No	13.03	Si
SLU 75	ini.	370.11	-2582	-0.0000714	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.22	Si
SLU 75	fin.	-605.73	-3070	-0.0001187	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.98	Si
SLU 80	ini.	377.06	-2665	-0.0000728	0.0002246	0.0035	1.45		7855.43	7855.43	No	20.83	Si
SLU 80	fin.	-606.6	-3160	-0.0001189	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.96	Si
SLU 84	ini.	357.22	-2628	-0.0000688	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.99	Si
SLU 84	fin.	-622.45	-3119	-0.0001221	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.63	Si
SLU 76	ini.	371.8	-2522	-0.0000717	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.13	Si
SLU 76	fin.	-607.27	-3012	-0.000119	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.95	Si
SLU 83	ini.	358.75	-2620	-0.0000691	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.9	Si
SLU 83	fin.	-617.89	-3110	-0.0001212	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.73	Si
SLU 81	ini.	354.51	-2471	-0.0000683	0.0002246	0.0035	1.45		7855.43	7855.43	No	22.16	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-615.53	-2955	-0.0001207	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.78	Si
SLU 82	ini.	352.97	-2479	-0.000068	0.0002246	0.0035	1.45		7855.43	7855.43	No	22.25	Si
SLU 82	fin.	-620.08	-2965	-0.0001216	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.68	Si
SLU 78	ini.	374.36	-2730	-0.0000722	0.0002246	0.0035	1.45		7855.43	7855.43	No	20.98	Si
SLU 78	fin.	-608.09	-3225	-0.0001192	0.0002246	0.0035	1.45		7864.45	7864.45	No	12.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	357.22	-515	1.45	0	3383	6344	7295	3698	9727	No	18.87	Si
SLU 84	fin.	-622.45	-2788	1.45	0	3383	6344	7295	3698	9727	No	3.49	Si
SLU 75	ini.	370.11	-590	1.45	0	3383	6344	7295	3698	9727	No	16.48	Si
SLU 75	fin.	-605.73	-2699	1.45	0	3383	6344	7295	3698	9727	No	3.6	Si
SLU 80	ini.	377.06	-606	1.45	0	3383	6344	7295	3698	9727	No	16.06	Si
SLU 80	fin.	-606.6	-2714	1.45	0	3383	6344	7295	3698	9727	No	3.58	Si
SLU 81	ini.	354.51	-497	1.45	0	3383	6344	7295	3698	9727	No	19.59	Si
SLU 81	fin.	-615.53	-2770	1.45	0	3383	6344	7295	3698	9727	No	3.51	Si
SLU 77	ini.	375.89	-598	1.45	0	3383	6344	7295	3698	9727	No	16.26	Si
SLU 77	fin.	-603.54	-2707	1.45	0	3383	6344	7295	3698	9727	No	3.59	Si
SLU 76	ini.	371.8	-596	1.45	0	3383	6344	7295	3698	9727	No	16.32	Si
SLU 76	fin.	-607.27	-2705	1.45	0	3383	6344	7295	3698	9727	No	3.6	Si
SLU 83	ini.	358.75	-510	1.45	0	3383	6344	7295	3698	9727	No	19.07	Si
SLU 83	fin.	-617.89	-2783	1.45	0	3383	6344	7295	3698	9727	No	3.5	Si
SLU 79	ini.	378.59	-600	1.45	0	3383	6344	7295	3698	9727	No	16.21	Si
SLU 79	fin.	-602.05	-2709	1.45	0	3383	6344	7295	3698	9727	No	3.59	Si
SLU 82	ini.	352.97	-502	1.45	0	3383	6344	7295	3698	9727	No	19.37	Si
SLU 82	fin.	-620.08	-2775	1.45	0	3383	6344	7295	3698	9727	No	3.51	Si
SLU 78	ini.	374.36	-604	1.45	0	3383	6344	7295	3698	9727	No	16.12	Si
SLU 78	fin.	-608.09	-2712	1.45	0	3383	6344	7295	3698	9727	No	3.59	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-1946.86	-5442	-0.000411	0.0003369	0.0035	1.45		7587.09	7587.09		3.9	Si
SLV 14	fin.	392.92	-4468	-0.0000754	0.0003369	0.0035	1.45		7577.35	7577.35		19.28	Si
SLV 16	ini.	-1886.87	-5073	-0.0003965	0.0003369	0.0035	1.45		7587.09	7587.09		4.02	Si
SLV 16	fin.	578.15	-4066	-0.000112	0.0003369	0.0035	1.45		7577.35	7577.35		13.11	Si
SLD 1	ini.	1699.69	621	-0.0003527	0.0003369	0.0035	1.45		7577.35	7577.35		4.46	Si
SLD 1	fin.	-1062.84	-620	-0.0002114	0.0003369	0.0035	1.45		7587.09	7587.09		7.14	Si
SLV 2	ini.	2431.66	1811	-0.0005341	0.0003369	0.0035	1.45		7577.35	7577.35		3.12	Si
SLV 2	fin.	-1396.81	128	-0.0002836	0.0003369	0.0035	1.45		7587.09	7587.09		5.43	Si
SLV 1	ini.	2493.39	1862	-0.0005504	0.0003369	0.0035	1.45		7577.35	7577.35		3.04	Si
SLV 1	fin.	-1432.81	130	-0.0002916	0.0003369	0.0035	1.45		7587.09	7587.09		5.3	Si
SLV 3	ini.	2553.39	2231	-0.0005664	0.0003369	0.0035	1.45		7577.35	7577.35		2.97	Si
SLV 3	fin.	-1247.58	531	-0.0002509	0.0003369	0.0035	1.45		7587.09	7587.09		6.08	Si
SLD 3	ini.	1735.5	839	-0.0003611	0.0003369	0.0035	1.45		7577.35	7577.35		4.37	Si
SLD 3	fin.	-954.22	-384	-0.0001886	0.0003369	0.0035	1.45		7587.09	7587.09		7.95	Si
SLV 13	ini.	-1885.13	-5391	-0.0003961	0.0003369	0.0035	1.45		7587.09	7587.09		4.02	Si
SLV 13	fin.	356.92	-4466	-0.0000684	0.0003369	0.0035	1.45		7577.35	7577.35		21.23	Si
SLV 15	ini.	-1825.13	-5022	-0.0003818	0.0003369	0.0035	1.45		7587.09	7587.09		4.16	Si
SLV 15	fin.	542.15	-4065	-0.0001049	0.0003369	0.0035	1.45		7577.35	7577.35		13.98	Si
SLV 4	ini.	2491.66	2180	-0.0005499	0.0003369	0.0035	1.45		7577.35	7577.35		3.04	Si
SLV 4	fin.	-1211.58	529	-0.0002431	0.0003369	0.0035	1.45		7587.09	7587.09		6.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	2491.66	-5475	1.45	0	5075	6344	10943	3698	11419		2.09	Si
SLV 4	fin.	-1211.58	-6758	1.45	0	5075	6344	10943	3698	11419		1.69	Si
SLD 2	ini.	1660.52	-3804	1.45	0	5075	6344	10943	3698	11419		3	Si
SLD 2	fin.	-1040	-5139	1.45	0	5075	6344	10943	3698	11419		2.22	Si
SLD 1	ini.	1699.69	-3910	1.45	0	5075	6344	10943	3698	11419		2.92	Si
SLD 1	fin.	-1062.84	-5245	1.45	0	5075	6344	10943	3698	11419		2.18	Si
SLV 1	ini.	2493.39	-5844	1.45	0	5075	6344	10943	3698	11419		1.95	Si
SLV 1	fin.	-1432.81	-7167	1.45	0	5075	6344	10943	3698	11419		1.59	Si
SLV 2	ini.	2431.66	-5677	1.45	0	5075	6344	10943	3698	11419		2.01	Si
SLV 2	fin.	-1396.81	-7000	1.45	0	5075	6344	10943	3698	11419		1.63	Si
SLV 3	ini.	2553.39	-5643	1.45	0	5075	6344	10943	3698	11419		2.02	Si
SLV 3	fin.	-1247.58	-6925	1.45	0	5075	6344	10943	3698	11419		1.65	Si
SLD 3	ini.	1735.5	-3792	1.45	0	5075	6344	10943	3698	11419		3.01	Si
SLD 3	fin.	-954.22	-5103	1.45	0	5075	6344	10943	3698	11419		2.24	Si
SLD 4	ini.	1696.34	-3686	1.45	0	5075	6344	10943	3698	11419		3.1	Si
SLD 4	fin.	-931.38	-4997	1.45	0	5075	6344	10943	3698	11419		2.28	Si
SLV 15	ini.	-1825.13	4572	1.45	0	5075	6344	10943	3698	11419		2.5	Si
SLV 15	fin.	542.15	3195	1.45	0	5075	6344	10943	3698	11419		3.57	Si
SLV 16	ini.	-1886.87	4740	1.45	0	5075	6344	10943	3698	11419		2.41	Si
SLV 16	fin.	578.15	3362	1.45	0	5075	6344	10943	3698	11419		3.4	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.968	SLV 3	Si
V_SLV	1.593	SLV 1	Si
PF_SLU	12.635	SLU 84	Si
V_SLU	3.488	SLU 84	Si

Trave di accoppiamento 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	10.05	11.5	1.45	-9.443	-3.169	10.05	11.5	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	1395.46	-1367	-0.0002995	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.49	Si
SLU 78	fin.	-2447.17	-3392	-0.0005852	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.13	Si
SLU 83	ini.	1388.52	-1276	-0.0002978	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.52	Si
SLU 83	fin.	-2448.2	-3310	-0.0005855	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.13	Si
SLU 84	ini.	1425.55	-1288	-0.000307	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.37	Si
SLU 84	fin.	-2497.84	-3361	-0.0006002	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.07	Si
SLU 75	ini.	1418.63	-1334	-0.0003053	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.4	Si
SLU 75	fin.	-2471.5	-3383	-0.0005924	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.1	Si
SLU 73	ini.	1426.8	-1273	-0.0003073	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.37	Si
SLU 73	fin.	-2476.92	-3324	-0.000594	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.1	Si
SLU 81	ini.	1411.69	-1244	-0.0003035	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.43	Si
SLU 81	fin.	-2472.52	-3301	-0.0005927	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.1	Si
SLU 77	ini.	1358.43	-1356	-0.0002903	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.64	Si
SLU 77	fin.	-2397.53	-3341	-0.0005707	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.2	Si
SLU 76	ini.	1403.64	-1306	-0.0003015	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.46	Si
SLU 76	fin.	-2452.6	-3333	-0.0005868	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.13	Si
SLU 82	ini.	1448.72	-1255	-0.0003128	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.29	Si
SLU 82	fin.	-2522.17	-3353	-0.0006074	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.04	Si
SLU 74	ini.	1381.6	-1323	-0.000296	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.54	Si
SLU 74	fin.	-2421.85	-3332	-0.0005778	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	1381.6	-4954	1.45	0	2819	7137	6079	3698	9776	No	1.97	Si
SLU 74	fin.	-2421.85	-6752	1.45	0	2819	7137	6079	3698	9776	No	1.45	Si
SLU 78	ini.	1395.46	-5010	1.45	0	2819	7137	6079	3698	9776	No	1.95	Si
SLU 78	fin.	-2447.17	-6808	1.45	0	2819	7137	6079	3698	9776	No	1.44	Si
SLU 84	ini.	1425.55	-5080	1.45	0	2819	7137	6079	3698	9776	No	1.92	Si
SLU 84	fin.	-2497.84	-6996	1.45	0	2819	7137	6079	3698	9776	No	1.4	Si
SLU 73	ini.	1426.8	-5099	1.45	0	2819	7137	6079	3698	9776	No	1.92	Si
SLU 73	fin.	-2476.92	-6897	1.45	0	2819	7137	6079	3698	9776	No	1.42	Si
SLU 82	ini.	1448.72	-5152	1.45	0	2819	7137	6079	3698	9776	No	1.9	Si
SLU 82	fin.	-2522.17	-7068	1.45	0	2819	7137	6079	3698	9776	No	1.38	Si
SLU 83	ini.	1388.52	-4951	1.45	0	2819	7137	6079	3698	9776	No	1.97	Si
SLU 83	fin.	-2448.2	-6868	1.45	0	2819	7137	6079	3698	9776	No	1.42	Si
SLU 81	ini.	1411.69	-5023	1.45	0	2819	7137	6079	3698	9776	No	1.95	Si
SLU 81	fin.	-2472.52	-6940	1.45	0	2819	7137	6079	3698	9776	No	1.41	Si
SLU 75	ini.	1418.63	-5082	1.45	0	2819	7137	6079	3698	9776	No	1.92	Si
SLU 75	fin.	-2471.5	-6880	1.45	0	2819	7137	6079	3698	9776	No	1.42	Si
SLU 76	ini.	1403.64	-5027	1.45	0	2819	7137	6079	3698	9776	No	1.94	Si
SLU 76	fin.	-2452.6	-6825	1.45	0	2819	7137	6079	3698	9776	No	1.43	Si
SLU 77	ini.	1358.43	-4882	1.45	0	2819	7137	6079	3698	9776	No	2	Si
SLU 77	fin.	-2397.53	-6680	1.45	0	2819	7137	6079	3698	9776	No	1.46	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	5190.43	-1885	-0.0014894	0.0002807	0.0035	1.45		7646.28	7646.28		1.47	Si
SLV 6	fin.	-7255.98	-7705	-0.0027531	0.0002807	0.0035	1.45		7655.81	7655.81		1.06	Si
SLV 5	ini.	4773.45	-1896	-0.0013161	0.0002807	0.0035	1.45		7646.28	7646.28		1.6	Si
SLV 5	fin.	-6740.22	-7295	-0.0023488	0.0002807	0.0035	1.45		7655.81	7655.81		1.14	Si
SLD 1	ini.	3570.81	-739	-0.0008864	0.0002807	0.0035	1.45		7646.28	7646.28		2.14	Si
SLD 1	fin.	-4860.55	-4800	-0.0013488	0.0002807	0.0035	1.45		7655.81	7655.81		1.58	Si
SLV 4	ini.	3968.86	43	-0.0010192	0.0002807	0.0035	1.45		7646.28	7646.28		1.93	Si
SLV 4	fin.	-5095.12	-4351	-0.0014459	0.0002807	0.0035	1.45		7655.81	7655.81		1.5	Si
SLV 10	ini.	3017.48	-2270	-0.0007147	0.0002807	0.0035	1.45		7646.28	7646.28		2.53	Si
SLV 10	fin.	-4683.77	-5885	-0.0012787	0.0002807	0.0035	1.45		7655.81	7655.81		1.63	Si
SLD 5	ini.	3234.24	-1491	-0.0007803	0.0002807	0.0035	1.45		7646.28	7646.28		2.36	Si
SLD 5	fin.	-4692.98	-5270	-0.0012823	0.0002807	0.0035	1.45		7655.81	7655.81		1.63	Si
SLD 6	ini.	3487.29	-1485	-0.0008596	0.0002807	0.0035	1.45		7646.28	7646.28		2.19	Si
SLD 6	fin.	-5005.96	-5519	-0.0014084	0.0002807	0.0035	1.45		7655.81	7655.81		1.53	Si
SLV 2	ini.	5749.42	-639	-0.0017521	0.0002807	0.0035	1.45		7646.28	7646.28		1.33	Si
SLV 2	fin.	-7535.24	-6925	-0.0030037	0.0002807	0.0035	1.45		7655.81	7655.81		1.02	Si
SLV 1	ini.	5130.04	-654	-0.0014633	0.0002807	0.0035	1.45		7646.28	7646.28		1.49	Si
SLV 1	fin.	-6769.15	-6315	-0.0023696	0.0002807	0.0035	1.45		7655.81	7655.81		1.13	Si
SLD 2	ini.	3963.75	-729	-0.0010174	0.0002807	0.0035	1.45		7646.28	7646.28		1.93	Si
SLD 2	fin.	-5346.57	-5187	-0.001556	0.0002807	0.0035	1.45		7655.81	7655.81		1.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	3963.75	-13270	1.45	0	4229	7137	9118	3698	11366		0.86	No
SLD 2	fin.	-5346.57	-14465	1.45	0	4229	7137	9118	3698	11366		0.79	No
SLV 2	ini.	5749.42	-19115	1.45	0	4229	7137	9118	3698	11366		0.59	No
SLV 2	fin.	-7535.24	-20314	1.45	0	4229	7137	9118	3698	11366		0.56	No
SLV 15	ini.	-3893.7	12391	1.45	0	4229	7137	9118	3698	11366		0.92	No
SLV 15	fin.	4244.99	11215	1.45	0	4229	7137	9118	3698	11366		1.01	Si
SLD 1	ini.	3570.81	-11974	1.45	0	4229	7137	9118	3698	11366		0.95	No
SLD 1	fin.	-4860.55	-13168	1.45	0	4229	7137	9118	3698	11366		0.86	No
SLV 1	ini.	5130.04	-17072	1.45	0	4229	7137	9118	3698	11366		0.67	No
SLV 1	fin.	-6769.15	-18271	1.45	0	4229	7137	9118	3698	11366		0.62	No
SLD 5	ini.	3234.24	-11239	1.45	0	4229	7137	9118	3698	11366		1.01	Si
SLD 5	fin.	-4692.98	-12428	1.45	0	4229	7137	9118	3698	11366		0.91	No
SLV 4	ini.	3968.86	-12903	1.45	0	4229	7137	9118	3698	11366		0.88	No
SLV 4	fin.	-5095.12	-14102	1.45	0	4229	7137	9118	3698	11366		0.81	No
SLV 6	ini.	5190.43	-17891	1.45	0	4229	7137	9118	3698	11366		0.64	No
SLV 6	fin.	-7255.98	-19080	1.45	0	4229	7137	9118	3698	11366		0.6	No
SLD 6	ini.	3487.29	-12074	1.45	0	4229	7137	9118	3698	11366		0.94	No
SLD 6	fin.	-5005.96	-13262	1.45	0	4229	7137	9118	3698	11366		0.86	No
SLV 5	ini.	4773.45	-16516	1.45	0	4229	7137	9118	3698	11366		0.69	No
SLV 5	fin.	-6740.22	-17705	1.45	0	4229	7137	9118	3698	11366		0.64	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.016	SLV 2	Si
V_SLV	0.56	SLV 2	No
PF_SLU	3.041	SLU 82	Si
V_SLU	1.383	SLU 82	Si

Trave di accoppiamento 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	7.95	9.95	2	-5.158	6.521	7.95	9.95	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-59.74	-758	-0.0000059	0.0001872	0.0035	2		14357.01	14357.01	No	240.33	Si
SLU 84	fin.	-377.36	-398	-0.0000378	0.0001872	0.0035	2		14357.01	14357.01	No	38.05	Si
SLU 74	ini.	-55.85	-746	-0.0000055	0.0001872	0.0035	2		14357.01	14357.01	No	257.06	Si
SLU 74	fin.	-371.69	-392	-0.0000373	0.0001872	0.0035	2		14357.01	14357.01	No	38.63	Si
SLU 80	ini.	-28.66	-773	-0.0000028	0.0001872	0.0035	2		14357.01	14357.01	No	500.93	Si
SLU 80	fin.	-389.66	-411	-0.0000391	0.0001872	0.0035	2		14357.01	14357.01	No	36.84	Si
SLU 70	ini.	-17.1	-728	-0.0000017	0.0001872	0.0035	2		14357.01	14357.01	No	839.81	Si
SLU 70	fin.	-371.53	-391	-0.0000373	0.0001872	0.0035	2		14357.01	14357.01	No	38.64	Si
SLU 83	ini.	-58.6	-760	-0.0000058	0.0001872	0.0035	2		14357.01	14357.01	No	245	Si
SLU 83	fin.	-377.78	-398	-0.0000379	0.0001872	0.0035	2		14357.01	14357.01	No	38	Si
SLU 77	ini.	-31.39	-782	-0.0000031	0.0001872	0.0035	2		14357.01	14357.01	No	457.44	Si
SLU 77	fin.	-393.02	-414	-0.0000394	0.0001872	0.0035	2		14357.01	14357.01	No	36.53	Si
SLU 75	ini.	-56.99	-744	-0.0000056	0.0001872	0.0035	2		14357.01	14357.01	No	251.91	Si
SLU 75	fin.	-371.27	-391	-0.0000372	0.0001872	0.0035	2		14357.01	14357.01	No	38.67	Si
SLU 69	ini.	-15.95	-730	-0.0000016	0.0001872	0.0035	2		14357.01	14357.01	No	899.86	Si
SLU 69	fin.	-371.95	-392	-0.0000373	0.0001872	0.0035	2		14357.01	14357.01	No	38.6	Si
SLU 79	ini.	-27.52	-774	-0.0000027	0.0001872	0.0035	2		14357.01	14357.01	No	521.7	Si
SLU 79	fin.	-390.08	-411	-0.0000391	0.0001872	0.0035	2		14357.01	14357.01	No	36.81	Si
SLU 78	ini.	-32.53	-781	-0.0000032	0.0001872	0.0035	2		14357.01	14357.01	No	441.4	Si
SLU 78	fin.	-392.6	-414	-0.0000394	0.0001872	0.0035	2		14357.01	14357.01	No	36.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-28.66	-2499	2	0	3889	3964	8384	5100	7853	No	3.14	Si
SLU 80	fin.	-389.66	-1168	2	0	3889	3964	8384	5100	7853	No	6.73	Si
SLU 77	ini.	-31.39	-2523	2	0	3889	3964	8384	5100	7853	No	3.11	Si
SLU 77	fin.	-393.02	-1176	2	0	3889	3964	8384	5100	7853	No	6.68	Si
SLU 70	ini.	-17.1	-2402	2	0	3889	3964	8384	5100	7853	No	3.27	Si
SLU 70	fin.	-371.53	-1121	2	0	3889	3964	8384	5100	7853	No	7.01	Si
SLU 79	ini.	-27.52	-2512	2	0	3889	3964	8384	5100	7853	No	3.13	Si
SLU 79	fin.	-390.08	-1169	2	0	3889	3964	8384	5100	7853	No	6.72	Si
SLU 72	ini.	-13.23	-2391	2	0	3889	3964	8384	5100	7853	No	3.28	Si
SLU 72	fin.	-368.59	-1114	2	0	3889	3964	8384	5100	7853	No	7.05	Si
SLU 84	ini.	-59.74	-2324	2	0	3889	3964	8384	5100	7853	No	3.38	Si
SLU 84	fin.	-377.36	-1117	2	0	3889	3964	8384	5100	7853	No	7.03	Si
SLU 69	ini.	-15.95	-2415	2	0	3889	3964	8384	5100	7853	No	3.25	Si
SLU 69	fin.	-371.95	-1122	2	0	3889	3964	8384	5100	7853	No	7	Si
SLU 71	ini.	-12.09	-2404	2	0	3889	3964	8384	5100	7853	No	3.27	Si
SLU 71	fin.	-369.01	-1116	2	0	3889	3964	8384	5100	7853	No	7.04	Si
SLU 83	ini.	-58.6	-2338	2	0	3889	3964	8384	5100	7853	No	3.36	Si
SLU 83	fin.	-377.78	-1118	2	0	3889	3964	8384	5100	7853	No	7.02	Si
SLU 78	ini.	-32.53	-2510	2	0	3889	3964	8384	5100	7853	No	3.13	Si
SLU 78	fin.	-392.6	-1174	2	0	3889	3964	8384	5100	7853	No	6.69	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	54.33	-727	-0.0000054	0.0002807	0.0035	2		14202.07	14202.07		261.41	Si
SLV 8	fin.	-378.82	-357	-0.0000379	0.0002807	0.0035	2		14215.41	14215.41		37.53	Si
SLV 15	ini.	18.72	-677	-0.0000019	0.0002807	0.0035	2		14202.07	14202.07		758.79	Si
SLV 15	fin.	-343.67	-350	-0.0000343	0.0002807	0.0035	2		14215.41	14215.41		41.36	Si
SLD 16	ini.	20.99	-625	-0.0000021	0.0002807	0.0035	2		14202.07	14202.07		676.59	Si
SLD 16	fin.	-320.97	-328	-0.000032	0.0002807	0.0035	2		14215.41	14215.41		44.29	Si
SLD 11	ini.	12.99	-664	-0.0000013	0.0002807	0.0035	2		14202.07	14202.07		1093.6	Si
SLD 11	fin.	-339.75	-333	-0.0000339	0.0002807	0.0035	2		14215.41	14215.41		41.84	Si
SLV 12	ini.	90.64	-800	-0.000009	0.0002807	0.0035	2		14202.07	14202.07		156.69	Si
SLV 12	fin.	-417.03	-397	-0.0000417	0.0002807	0.0035	2		14215.41	14215.41		34.09	Si
SLD 8	ini.	9.16	-630	-0.0000009	0.0002807	0.0035	2		14202.07	14202.07		1551.15	Si
SLD 8	fin.	-323.14	-316	-0.0000322	0.0002807	0.0035	2		14215.41	14215.41		43.99	Si
SLD 12	ini.	32.1	-676	-0.0000032	0.0002807	0.0035	2		14202.07	14202.07		442.36	Si
SLD 12	fin.	-348.25	-341	-0.0000348	0.0002807	0.0035	2		14215.41	14215.41		40.82	Si
SLV 7	ini.	22.82	-708	-0.0000023	0.0002807	0.0035	2		14202.07	14202.07		622.26	Si
SLV 7	fin.	-364.82	-343	-0.0000364	0.0002807	0.0035	2		14215.41	14215.41		38.97	Si
SLV 11	ini.	59.13	-780	-0.0000059	0.0002807	0.0035	2		14202.07	14202.07		240.16	Si
SLV 11	fin.	-403.03	-383	-0.0000403	0.0002807	0.0035	2		14215.41	14215.41		35.27	Si
SLV 16	ini.	65.51	-705	-0.0000065	0.0002807	0.0035	2		14202.07	14202.07		216.78	Si
SLV 16	fin.	-364.46	-371	-0.0000364	0.0002807	0.0035	2		14215.41	14215.41		39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	90.64	-3562	2	0	5833	3964	12577	5100	9797		2.75	Si
SLV 12	fin.	-417.03	-1297	2	0	5833	3964	12577	5100	9797		7.55	Si
SLD 11	ini.	12.99	-2600	2	0	5833	3964	12577	5100	9797		3.77	Si
SLD 11	fin.	-339.75	-1030	2	0	5833	3964	12577	5100	9797		9.51	Si
SLV 11	ini.	59.13	-3385	2	0	5833	3964	12577	5100	9797		2.89	Si
SLV 11	fin.	-403.03	-1235	2	0	5833	3964	12577	5100	9797		7.93	Si
SLV 7	ini.	22.82	-3021	2	0	5833	3964	12577	5100	9797		3.24	Si
SLV 7	fin.	-364.82	-1098	2	0	5833	3964	12577	5100	9797		8.92	Si
SLD 12	ini.	32.1	-2707	2	0	5833	3964	12577	5100	9797		3.62	Si
SLD 12	fin.	-348.25	-1068	2	0	5833	3964	12577	5100	9797		9.18	Si
SLD 7	ini.	-9.96	-2368	2	0	5833	3964	12577	5100	9797		4.14	Si
SLD 7	fin.	-314.65	-943	2	0	5833	3964	12577	5100	9797		10.39	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	54.33	-3197	2	0	5833	3964	12577	5100	9797		3.06	Si
SLV 8	fin.	-378.82	-1160	2	0	5833	3964	12577	5100	9797		8.44	Si
SLD 8	ini.	9.16	-2475	2	0	5833	3964	12577	5100	9797		3.96	Si
SLD 8	fin.	-323.14	-980	2	0	5833	3964	12577	5100	9797		9.99	Si
SLV 16	ini.	65.51	-2757	2	0	5833	3964	12577	5100	9797		3.55	Si
SLV 16	fin.	-364.46	-1147	2	0	5833	3964	12577	5100	9797		8.54	Si
SLV 15	ini.	18.72	-2494	2	0	5833	3964	12577	5100	9797		3.93	Si
SLV 15	fin.	-343.67	-1054	2	0	5833	3964	12577	5100	9797		9.29	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	34.087	SLV 12	Si
V_SLV	2.751	SLV 12	Si
PF_SLU	36.53	SLU 77	Si
V_SLU	3.112	SLU 77	Si

Trave di accoppiamento 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	10.75	11.5	0.75	-5.158	6.521	10.75	11.5	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-294.34	-1298	-0.0002272	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.05	Si
SLU 79	fin.	164.05	-468	-0.0001209	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.62	Si
SLU 72	ini.	-285.94	-1259	-0.0002199	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.25	Si
SLU 72	fin.	158.78	-452	-0.0001168	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.04	Si
SLU 83	ini.	-271.19	-1200	-0.0002073	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.65	Si
SLU 83	fin.	151.94	-434	-0.0001115	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.62	Si
SLU 77	ini.	-293.79	-1296	-0.0002267	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.06	Si
SLU 77	fin.	164.03	-468	-0.0001209	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.62	Si
SLU 80	ini.	-295.41	-1303	-0.0002281	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.02	Si
SLU 80	fin.	164.74	-470	-0.0001214	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.56	Si
SLU 78	ini.	-294.86	-1301	-0.0002276	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.04	Si
SLU 78	fin.	164.71	-470	-0.0001214	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.57	Si
SLU 84	ini.	-272.27	-1205	-0.0002082	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.62	Si
SLU 84	fin.	152.63	-436	-0.0001121	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.56	Si
SLU 69	ini.	-284.32	-1252	-0.0002185	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.3	Si
SLU 69	fin.	158.06	-450	-0.0001163	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.09	Si
SLU 71	ini.	-284.87	-1254	-0.000219	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.28	Si
SLU 71	fin.	158.09	-450	-0.0001163	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.09	Si
SLU 70	ini.	-285.39	-1257	-0.0002194	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.27	Si
SLU 70	fin.	158.75	-452	-0.0001168	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-294.86	2787	0.75	0	1458	3964	3144	1913	5057	No	1.81	Si
SLU 78	fin.	164.71	899	0.75	0	1458	3964	3144	1913	5057	No	5.62	Si
SLU 69	ini.	-284.32	2686	0.75	0	1458	3964	3144	1913	5057	No	1.88	Si
SLU 69	fin.	158.06	862	0.75	0	1458	3964	3144	1913	5057	No	5.86	Si
SLU 72	ini.	-285.94	2700	0.75	0	1458	3964	3144	1913	5057	No	1.87	Si
SLU 72	fin.	158.78	868	0.75	0	1458	3964	3144	1913	5057	No	5.83	Si
SLU 80	ini.	-295.41	2792	0.75	0	1458	3964	3144	1913	5057	No	1.81	Si
SLU 80	fin.	164.74	900	0.75	0	1458	3964	3144	1913	5057	No	5.62	Si
SLU 84	ini.	-272.27	2573	0.75	0	1458	3964	3144	1913	5057	No	1.97	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	152.63	828	0.75	0	1458	3964	3144	1913	5057	No	6.11	Si
SLU 83	ini.	-271.19	2565	0.75	0	1458	3964	3144	1913	5057	No	1.97	Si
SLU 83	fin.	151.94	823	0.75	0	1458	3964	3144	1913	5057	No	6.14	Si
SLU 79	ini.	-294.34	2784	0.75	0	1458	3964	3144	1913	5057	No	1.82	Si
SLU 79	fin.	164.05	896	0.75	0	1458	3964	3144	1913	5057	No	5.65	Si
SLU 77	ini.	-293.79	2778	0.75	0	1458	3964	3144	1913	5057	No	1.82	Si
SLU 77	fin.	164.03	895	0.75	0	1458	3964	3144	1913	5057	No	5.65	Si
SLU 71	ini.	-284.87	2691	0.75	0	1458	3964	3144	1913	5057	No	1.88	Si
SLU 71	fin.	158.09	863	0.75	0	1458	3964	3144	1913	5057	No	5.86	Si
SLU 70	ini.	-285.39	2694	0.75	0	1458	3964	3144	1913	5057	No	1.88	Si
SLU 70	fin.	158.75	867	0.75	0	1458	3964	3144	1913	5057	No	5.83	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-214.4	-1096	-0.0001574	0.0002807	0.0035	0.75		2090.82	2090.82		9.75	Si
SLD 12	fin.	125.98	-349	-0.0000908	0.0002807	0.0035	0.75		2085.94	2085.94		16.56	Si
SLV 12	ini.	-242.33	-1323	-0.0001791	0.0002807	0.0035	0.75		2090.82	2090.82		8.63	Si
SLV 12	fin.	146.04	-398	-0.0001057	0.0002807	0.0035	0.75		2085.94	2085.94		14.28	Si
SLV 11	ini.	-235.67	-1298	-0.0001739	0.0002807	0.0035	0.75		2090.82	2090.82		8.87	Si
SLV 11	fin.	142.09	-387	-0.0001028	0.0002807	0.0035	0.75		2085.94	2085.94		14.68	Si
SLV 7	ini.	-223.68	-1239	-0.0001645	0.0002807	0.0035	0.75		2090.82	2090.82		9.35	Si
SLV 7	fin.	133.91	-364	-0.0000967	0.0002807	0.0035	0.75		2085.94	2085.94		15.58	Si
SLV 8	ini.	-230.34	-1264	-0.0001697	0.0002807	0.0035	0.75		2090.82	2090.82		9.08	Si
SLV 8	fin.	137.86	-376	-0.0000996	0.0002807	0.0035	0.75		2085.94	2085.94		15.13	Si
SLD 8	ini.	-206.72	-1059	-0.0001514	0.0002807	0.0035	0.75		2090.82	2090.82		10.11	Si
SLD 8	fin.	121.02	-334	-0.0000871	0.0002807	0.0035	0.75		2085.94	2085.94		17.24	Si
SLD 11	ini.	-210.35	-1081	-0.0001542	0.0002807	0.0035	0.75		2090.82	2090.82		9.94	Si
SLD 11	fin.	123.58	-342	-0.000089	0.0002807	0.0035	0.75		2085.94	2085.94		16.88	Si
SLV 15	ini.	-206.88	-1004	-0.0001516	0.0002807	0.0035	0.75		2090.82	2090.82		10.11	Si
SLV 15	fin.	120.88	-338	-0.000087	0.0002807	0.0035	0.75		2085.94	2085.94		17.26	Si
SLD 7	ini.	-202.68	-1044	-0.0001483	0.0002807	0.0035	0.75		2090.82	2090.82		10.32	Si
SLD 7	fin.	118.62	-327	-0.0000854	0.0002807	0.0035	0.75		2085.94	2085.94		17.59	Si
SLV 16	ini.	-216.78	-1042	-0.0001592	0.0002807	0.0035	0.75		2090.82	2090.82		9.65	Si
SLV 16	fin.	126.74	-355	-0.0000914	0.0002807	0.0035	0.75		2085.94	2085.94		16.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 16	ini.	-200.43	1910	0.75	0	2188	3964	4716	1913	6152		3.22	Si
SLD 16	fin.	115.01	609	0.75	0	2188	3964	4716	1913	6152		10.11	Si
SLV 12	ini.	-242.33	2215	0.75	0	2188	3964	4716	1913	6152		2.78	Si
SLV 12	fin.	146.04	795	0.75	0	2188	3964	4716	1913	6152		7.74	Si
SLV 8	ini.	-230.34	2069	0.75	0	2188	3964	4716	1913	6152		2.97	Si
SLV 8	fin.	137.86	762	0.75	0	2188	3964	4716	1913	6152		8.07	Si
SLD 8	ini.	-206.72	1888	0.75	0	2188	3964	4716	1913	6152		3.26	Si
SLD 8	fin.	121.02	661	0.75	0	2188	3964	4716	1913	6152		9.3	Si
SLV 11	ini.	-235.67	2155	0.75	0	2188	3964	4716	1913	6152		2.85	Si
SLV 11	fin.	142.09	776	0.75	0	2188	3964	4716	1913	6152		7.93	Si
SLV 15	ini.	-206.88	1984	0.75	0	2188	3964	4716	1913	6152		3.1	Si
SLV 15	fin.	120.88	636	0.75	0	2188	3964	4716	1913	6152		9.67	Si
SLD 11	ini.	-210.35	1946	0.75	0	2188	3964	4716	1913	6152		3.16	Si
SLD 11	fin.	123.58	671	0.75	0	2188	3964	4716	1913	6152		9.17	Si
SLV 16	ini.	-216.78	2073	0.75	0	2188	3964	4716	1913	6152		2.97	Si
SLV 16	fin.	126.74	665	0.75	0	2188	3964	4716	1913	6152		9.26	Si
SLD 12	ini.	-214.4	1982	0.75	0	2188	3964	4716	1913	6152		3.1	Si
SLD 12	fin.	125.98	682	0.75	0	2188	3964	4716	1913	6152		9.02	Si
SLV 7	ini.	-223.68	2009	0.75	0	2188	3964	4716	1913	6152		3.06	Si
SLV 7	fin.	133.91	743	0.75	0	2188	3964	4716	1913	6152		8.28	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.628	SLV 12	Si
V_SLV	2.777	SLV 12	Si
PF_SLU	7.022	SLU 80	Si
V_SLU	1.811	SLU 80	Si

Trave di accoppiamento 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	7.95	8.85	0.9	-7.403	-3.169	7.95	8.85	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	38.32	-822	-0.0000189	0.0001872	0.0035	0.9		2959	2959	No	77.21	Si
SLU 73	fin.	-166.97	-95	-0.0000843	0.0001872	0.0035	0.9		2964.67	2964.67	No	17.76	Si
SLU 70	ini.	65.92	-957	-0.0000327	0.0001872	0.0035	0.9		2959	2959	No	44.88	Si
SLU 70	fin.	-179.15	-124	-0.0000907	0.0001872	0.0035	0.9		2964.67	2964.67	No	16.55	Si
SLU 68	ini.	66.46	-934	-0.0000329	0.0001872	0.0035	0.9		2959	2959	No	44.52	Si
SLU 68	fin.	-189.84	-84	-0.0000963	0.0001872	0.0035	0.9		2964.67	2964.67	No	15.62	Si
SLU 65	ini.	65.53	-916	-0.0000325	0.0001872	0.0035	0.9		2959	2959	No	45.16	Si
SLU 65	fin.	-196.45	-59	-0.0000998	0.0001872	0.0035	0.9		2964.67	2964.67	No	15.09	Si
SLU 23	ini.	58.61	-759	-0.000029	0.0001872	0.0035	0.9		2959	2959	No	50.48	Si
SLU 23	fin.	-185.4	11	-0.000094	0.0001872	0.0035	0.9		2964.67	2964.67	No	15.99	Si
SLU 72	ini.	60.97	-920	-0.0000302	0.0001872	0.0035	0.9		2959	2959	No	48.53	Si
SLU 72	fin.	-170.59	-127	-0.0000862	0.0001872	0.0035	0.9		2964.67	2964.67	No	17.38	Si
SLU 25	ini.	58.07	-783	-0.0000287	0.0001872	0.0035	0.9		2959	2959	No	50.95	Si
SLU 25	fin.	-174.71	-29	-0.0000883	0.0001872	0.0035	0.9		2964.67	2964.67	No	16.97	Si
SLU 26	ini.	59.55	-776	-0.0000295	0.0001872	0.0035	0.9		2959	2959	No	49.69	Si
SLU 26	fin.	-178.79	-14	-0.0000905	0.0001872	0.0035	0.9		2964.67	2964.67	No	16.58	Si
SLU 67	ini.	64.99	-940	-0.0000322	0.0001872	0.0035	0.9		2959	2959	No	45.53	Si
SLU 67	fin.	-185.76	-99	-0.0000942	0.0001872	0.0035	0.9		2964.67	2964.67	No	15.96	Si
SLU 28	ini.	59.01	-800	-0.0000292	0.0001872	0.0035	0.9		2959	2959	No	50.14	Si
SLU 28	fin.	-168.09	-55	-0.0000849	0.0001872	0.0035	0.9		2964.67	2964.67	No	17.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 65	ini.	65.53	-2048	0.9	0	1750	7137	3773	2295	6068	No	2.96	Si
SLU 65	fin.	-196.45	-351	0.9	0	1750	7137	3773	2295	6068	No	17.3	Si
SLU 69	ini.	56.28	-2044	0.9	0	1750	7137	3773	2295	6068	No	2.97	Si
SLU 69	fin.	-160.18	-201	0.9	0	1750	7137	3773	2295	6068	No	30.17	Si
SLU 67	ini.	64.99	-2095	0.9	0	1750	7137	3773	2295	6068	No	2.9	Si
SLU 67	fin.	-185.76	-296	0.9	0	1750	7137	3773	2295	6068	No	20.51	Si
SLU 70	ini.	65.92	-2119	0.9	0	1750	7137	3773	2295	6068	No	2.86	Si
SLU 70	fin.	-179.15	-268	0.9	0	1750	7137	3773	2295	6068	No	22.68	Si
SLU 68	ini.	66.46	-2073	0.9	0	1750	7137	3773	2295	6068	No	2.93	Si
SLU 68	fin.	-189.84	-322	0.9	0	1750	7137	3773	2295	6068	No	18.82	Si
SLU 78	ini.	38.72	-2033	0.9	0	1750	7137	3773	2295	6068	No	2.98	Si
SLU 78	fin.	-149.66	-144	0.9	0	1750	7137	3773	2295	6068	No	42.19	Si
SLU 72	ini.	60.97	-2047	0.9	0	1750	7137	3773	2295	6068	No	2.96	Si
SLU 72	fin.	-170.59	-250	0.9	0	1750	7137	3773	2295	6068	No	24.29	Si
SLU 76	ini.	39.26	-1987	0.9	0	1750	7137	3773	2295	6068	No	3.05	Si
SLU 76	fin.	-160.36	-199	0.9	0	1750	7137	3773	2295	6068	No	30.54	Si
SLU 75	ini.	37.78	-2009	0.9	0	1750	7137	3773	2295	6068	No	3.02	Si
SLU 75	fin.	-156.28	-172	0.9	0	1750	7137	3773	2295	6068	No	35.25	Si
SLU 66	ini.	55.34	-2019	0.9	0	1750	7137	3773	2295	6068	No	3.01	Si
SLU 66	fin.	-166.8	-229	0.9	0	1750	7137	3773	2295	6068	No	26.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	685.96	-3348	-0.0003789	0.0002807	0.0035	0.9		2989.59	2989.59		4.36	Si
SLD 6	fin.	-1496.42	2093	-0.0009891	0.0002807	0.0035	0.9		2995.37	2995.37		2	Si
SLV 5	ini.	1053.57	-4932	-0.0006329	0.0002807	0.0035	0.9		2989.59	2989.59		2.84	Si
SLV 5	fin.	-2223.53	3171	-0.0017609	0.0002807	0.0035	0.9		2995.37	2995.37		1.35	Si
SLV 12	ini.	-997.04	3727	-0.0005901	0.0002807	0.0035	0.9		2995.37	2995.37		3	Si
SLV 12	fin.	2010.76	-3391	-0.0015042	0.0002807	0.0035	0.9		2989.59	2989.59		1.49	Si
SLV 6	ini.	1133.12	-5228	-0.000693	0.0002807	0.0035	0.9		2989.59	2989.59		2.64	Si
SLV 6	fin.	-2429.92	3554	-0.0020621	0.0002807	0.0035	0.9		2995.37	2995.37		1.23	Si
SLV 2	ini.	964.48	-4074	-0.0005679	0.0002807	0.0035	0.9		2989.59	2989.59		3.1	Si
SLV 2	fin.	-2457.12	4184	-0.0021061	0.0002807	0.0035	0.9		2995.37	2995.37		1.22	Si
SLV 1	ini.	846.31	-3636	-0.000485	0.0002807	0.0035	0.9		2989.59	2989.59		3.53	Si
SLV 1	fin.	-2150.55	3615	-0.0016667	0.0002807	0.0035	0.9		2995.37	2995.37		1.39	Si
SLV 11	ini.	-1076.59	4023	-0.0006486	0.0002807	0.0035	0.9		2995.37	2995.37		2.78	Si
SLV 11	fin.	2217.15	-3774	-0.0017578	0.0002807	0.0035	0.9		2989.59	2989.59		1.35	Si
SLD 2	ini.	612.14	-2757	-0.0003327	0.0002807	0.0035	0.9		2989.59	2989.59		4.88	Si
SLD 2	fin.	-1581.44	2596	-0.0010652	0.0002807	0.0035	0.9		2995.37	2995.37		1.89	Si
SLV 15	ini.	-907.95	2869	-0.0005266	0.0002807	0.0035	0.9		2995.37	2995.37		3.3	Si
SLV 15	fin.	2244.35	-4404	-0.0017944	0.0002807	0.0035	0.9		2989.59	2989.59		1.33	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-789.78	2430	-0.0004458	0.0002807	0.0035	0.9		2995.37	2995.37		3.79	Si
SLV 16	fin.	1937.78	-3835	-0.0014228	0.0002807	0.0035	0.9		2989.59	2989.59		1.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	964.48	-7620	0.9	0	2625	7137	5660	2295	7955		1.04	Si
SLV 2	fin.	-2457.12	-8576	0.9	0	2625	7137	5660	2295	7955		0.93	No
SLV 15	ini.	-907.95	4812	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLV 15	fin.	2244.35	8345	0.9	0	2625	7137	5660	2295	7955		0.95	No
SLV 16	ini.	-789.78	4003	0.9	0	2625	7137	5660	2295	7955		1.99	Si
SLV 16	fin.	1937.78	7257	0.9	0	2625	7137	5660	2295	7955		1.1	Si
SLV 10	ini.	765.47	-6779	0.9	0	2625	7137	5660	2295	7955		1.17	Si
SLV 10	fin.	-1420.24	-4685	0.9	0	2625	7137	5660	2295	7955		1.7	Si
SLV 1	ini.	846.31	-6812	0.9	0	2625	7137	5660	2295	7955		1.17	Si
SLV 1	fin.	-2150.55	-7487	0.9	0	2625	7137	5660	2295	7955		1.06	Si
SLV 9	ini.	685.92	-6234	0.9	0	2625	7137	5660	2295	7955		1.28	Si
SLV 9	fin.	-1213.86	-3953	0.9	0	2625	7137	5660	2295	7955		2.01	Si
SLV 11	ini.	-1076.59	6326	0.9	0	2625	7137	5660	2295	7955		1.26	Si
SLV 11	fin.	2217.15	8118	0.9	0	2625	7137	5660	2295	7955		0.98	No
SLV 6	ini.	1133.12	-9135	0.9	0	2625	7137	5660	2295	7955		0.87	No
SLV 6	fin.	-2429.92	-8349	0.9	0	2625	7137	5660	2295	7955		0.95	No
SLV 5	ini.	1053.57	-8591	0.9	0	2625	7137	5660	2295	7955		0.93	No
SLV 5	fin.	-2223.53	-7616	0.9	0	2625	7137	5660	2295	7955		1.04	Si
SLV 12	ini.	-997.04	5782	0.9	0	2625	7137	5660	2295	7955		1.38	Si
SLV 12	fin.	2010.76	7385	0.9	0	2625	7137	5660	2295	7955		1.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.219	SLV 2	Si
V_SLV	0.871	SLV 6	No
PF_SLU	15.091	SLU 65	Si
V_SLU	2.863	SLU 70	Si

Trave di accoppiamento 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	10.65	11.5	0.85	-7.403	-3.169	10.65	11.5	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 60	ini.	-20.65	-495	-0.0000113	0.0001872	0.0035	0.85		2655.83	2655.83	No	128.59	Si
SLU 60	fin.	43.47	-32	-0.000024	0.0001872	0.0035	0.85		2650.49	2650.49	No	60.97	Si
SLU 81	ini.	-1.34	-470	-0.0000007	0.0001872	0.0035	0.85		2655.83	2655.83	No	1976.08	Si
SLU 81	fin.	46.78	-11	-0.0000259	0.0001872	0.0035	0.85		2650.49	2650.49	No	56.65	Si
SLU 41	ini.	-2.05	-398	-0.0000011	0.0001872	0.0035	0.85		2655.83	2655.83	No	1297.34	Si
SLU 41	fin.	46.8	7	-0.0000259	0.0001872	0.0035	0.85		2650.49	2650.49	No	56.63	Si
SLU 23	ini.	44.38	-162	-0.0000245	0.0001872	0.0035	0.85		2650.49	2650.49	No	59.72	Si
SLU 23	fin.	-19.95	-85	-0.0000109	0.0001872	0.0035	0.85		2655.83	2655.83	No	133.11	Si
SLU 83	ini.	-5.58	-481	-0.0000031	0.0001872	0.0035	0.85		2655.83	2655.83	No	475.89	Si
SLU 83	fin.	43.14	-28	-0.0000238	0.0001872	0.0035	0.85		2650.49	2650.49	No	61.43	Si
SLU 40	ini.	11.06	-352	-0.0000061	0.0001872	0.0035	0.85		2650.49	2650.49	No	239.71	Si
SLU 40	fin.	41.53	15	-0.0000229	0.0001872	0.0035	0.85		2650.49	2650.49	No	63.83	Si
SLU 65	ini.	40.84	-244	-0.0000225	0.0001872	0.0035	0.85		2650.49	2650.49	No	64.89	Si
SLU 65	fin.	-23.61	-120	-0.000013	0.0001872	0.0035	0.85		2655.83	2655.83	No	112.49	Si
SLU 39	ini.	2.19	-388	-0.0000012	0.0001872	0.0035	0.85		2650.49	2650.49	No	1210.48	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 39	fin.	50.44	24	-0.0000279	0.0001872	0.0035	0.85		2650.49	2650.49	No	52.55	Si
SLU 18	ini.	-17.12	-412	-0.0000094	0.0001872	0.0035	0.85		2655.83	2655.83	No	155.13	Si
SLU 18	fin.	47.13	3	-0.000026	0.0001872	0.0035	0.85		2650.49	2650.49	No	56.24	Si
SLU 20	ini.	-21.36	-423	-0.0000117	0.0001872	0.0035	0.85		2655.83	2655.83	No	124.35	Si
SLU 20	fin.	43.49	-14	-0.000024	0.0001872	0.0035	0.85		2650.49	2650.49	No	60.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-1.59	1911	0.85	0	1653	6740	3563	2168	5731	No	3	Si
SLU 79	fin.	22.84	-817	0.85	0	1653	6740	3563	2168	5731	No	7.02	Si
SLU 82	ini.	7.52	1970	0.85	0	1653	6740	3563	2168	5731	No	2.91	Si
SLU 82	fin.	37.87	-801	0.85	0	1653	6740	3563	2168	5731	No	7.15	Si
SLU 78	ini.	7.98	1912	0.85	0	1653	6740	3563	2168	5731	No	3	Si
SLU 78	fin.	11.85	-887	0.85	0	1653	6740	3563	2168	5731	No	6.46	Si
SLU 80	ini.	7.27	1869	0.85	0	1653	6740	3563	2168	5731	No	3.07	Si
SLU 80	fin.	13.93	-856	0.85	0	1653	6740	3563	2168	5731	No	6.69	Si
SLU 75	ini.	12.21	1892	0.85	0	1653	6740	3563	2168	5731	No	3.03	Si
SLU 75	fin.	15.49	-872	0.85	0	1653	6740	3563	2168	5731	No	6.57	Si
SLU 77	ini.	-0.89	1954	0.85	0	1653	6740	3563	2168	5731	No	2.93	Si
SLU 77	fin.	20.77	-848	0.85	0	1653	6740	3563	2168	5731	No	6.76	Si
SLU 74	ini.	3.35	1934	0.85	0	1653	6740	3563	2168	5731	No	2.96	Si
SLU 74	fin.	24.41	-832	0.85	0	1653	6740	3563	2168	5731	No	6.88	Si
SLU 81	ini.	-1.34	2012	0.85	0	1653	6740	3563	2168	5731	No	2.85	Si
SLU 81	fin.	46.78	-762	0.85	0	1653	6740	3563	2168	5731	No	7.53	Si
SLU 83	ini.	-5.58	2032	0.85	0	1653	6740	3563	2168	5731	No	2.82	Si
SLU 83	fin.	43.14	-777	0.85	0	1653	6740	3563	2168	5731	No	7.38	Si
SLU 84	ini.	3.29	1989	0.85	0	1653	6740	3563	2168	5731	No	2.88	Si
SLU 84	fin.	34.23	-816	0.85	0	1653	6740	3563	2168	5731	No	7.02	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1173.55	4534	-0.0008353	0.0002807	0.0035	0.85		2675.27	2675.27		2.28	Si
SLV 6	fin.	-1122.27	-1027	-0.0007868	0.0002807	0.0035	0.85		2680.73	2680.73		2.39	Si
SLV 5	ini.	1061.9	4136	-0.0007353	0.0002807	0.0035	0.85		2675.27	2675.27		2.52	Si
SLV 5	fin.	-1039.85	-990	-0.0007143	0.0002807	0.0035	0.85		2680.73	2680.73		2.58	Si
SLV 11	ini.	-1152.9	-5080	-0.0008144	0.0002807	0.0035	0.85		2680.73	2680.73		2.33	Si
SLV 11	fin.	1129.57	893	-0.0007953	0.0002807	0.0035	0.85		2675.27	2675.27		2.37	Si
SLV 15	ini.	-1194.19	-4955	-0.0008522	0.0002807	0.0035	0.85		2680.73	2680.73		2.24	Si
SLV 15	fin.	837.73	62	-0.0005483	0.0002807	0.0035	0.85		2675.27	2675.27		3.19	Si
SLV 1	ini.	1049	3818	-0.0007241	0.0002807	0.0035	0.85		2675.27	2675.27		2.55	Si
SLV 1	fin.	-708	-141	-0.0004472	0.0002807	0.0035	0.85		2680.73	2680.73		3.79	Si
SLV 7	ini.	-632.43	-3099	-0.0003918	0.0002807	0.0035	0.85		2680.73	2680.73		4.24	Si
SLV 7	fin.	834.55	1013	-0.0005458	0.0002807	0.0035	0.85		2675.27	2675.27		3.21	Si
SLV 10	ini.	653.08	2554	-0.0004077	0.0002807	0.0035	0.85		2675.27	2675.27		4.1	Si
SLV 10	fin.	-827.25	-1147	-0.0005387	0.0002807	0.0035	0.85		2680.73	2680.73		3.24	Si
SLV 12	ini.	-1041.25	-4682	-0.0007155	0.0002807	0.0035	0.85		2680.73	2680.73		2.57	Si
SLV 12	fin.	1047.14	856	-0.0007224	0.0002807	0.0035	0.85		2675.27	2675.27		2.55	Si
SLV 2	ini.	1214.84	4409	-0.0008735	0.0002807	0.0035	0.85		2675.27	2675.27		2.2	Si
SLV 2	fin.	-830.43	-197	-0.0005412	0.0002807	0.0035	0.85		2680.73	2680.73		3.23	Si
SLV 16	ini.	-1028.35	-4364	-0.0007044	0.0002807	0.0035	0.85		2680.73	2680.73		2.61	Si
SLV 16	fin.	715.29	6	-0.0004537	0.0002807	0.0035	0.85		2675.27	2675.27		3.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-632.43	4722	0.85	0	2479	6740	5345	2168	7513		1.59	Si
SLV 7	fin.	834.55	2883	0.85	0	2479	6740	5345	2168	7513		2.61	Si
SLV 2	ini.	1214.84	-4264	0.85	0	2479	6740	5345	2168	7513		1.76	Si
SLV 2	fin.	-830.43	-4478	0.85	0	2479	6740	5345	2168	7513		1.68	Si
SLV 11	ini.	-1152.9	7009	0.85	0	2479	6740	5345	2168	7513		1.07	Si
SLV 11	fin.	1129.57	4322	0.85	0	2479	6740	5345	2168	7513		1.74	Si
SLD 11	ini.	-685.93	4683	0.85	0	2479	6740	5345	2168	7513		1.6	Si
SLD 11	fin.	671.49	2322	0.85	0	2479	6740	5345	2168	7513		3.24	Si
SLD 15	ini.	-745.66	4680	0.85	0	2479	6740	5345	2168	7513		1.61	Si
SLD 15	fin.	520.34	1802	0.85	0	2479	6740	5345	2168	7513		4.17	Si
SLV 15	ini.	-1194.19	6736	0.85	0	2479	6740	5345	2168	7513		1.12	Si
SLV 15	fin.	837.73	3270	0.85	0	2479	6740	5345	2168	7513		2.3	Si
SLV 12	ini.	-1041.25	6504	0.85	0	2479	6740	5345	2168	7513		1.16	Si
SLV 12	fin.	1047.14	3960	0.85	0	2479	6740	5345	2168	7513		1.9	Si
SLV 16	ini.	-1028.35	5985	0.85	0	2479	6740	5345	2168	7513		1.26	Si
SLV 16	fin.	715.29	2732	0.85	0	2479	6740	5345	2168	7513		2.75	Si
SLV 6	ini.	1173.55	-4537	0.85	0	2479	6740	5345	2168	7513		1.66	Si
SLV 6	fin.	-1122.27	-5530	0.85	0	2479	6740	5345	2168	7513		1.36	Si
SLV 5	ini.	1061.9	-4031	0.85	0	2479	6740	5345	2168	7513		1.86	Si
SLV 5	fin.	-1039.85	-5167	0.85	0	2479	6740	5345	2168	7513		1.45	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.202	SLV 2	Si
V_SLV	1.072	SLV 11	Si
PF_SLU	52.548	SLU 39	Si
V_SLU	2.821	SLU 83	Si

Trave di accoppiamento 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	7.95	9.95	2	-5.938	-3.169	7.95	9.95	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	233.94	-1946	-0.0000234	0.0001872	0.0035	2		14344.28	14344.28	No	61.32	Si
SLU 74	fin.	-11.81	-1356	-0.0000012	0.0001872	0.0035	2		14357.01	14357.01	No	1215.71	Si
SLU 81	ini.	258.81	-1875	-0.0000259	0.0001872	0.0035	2		14344.28	14344.28	No	55.42	Si
SLU 81	fin.	15.67	-1263	-0.0000016	0.0001872	0.0035	2		14344.28	14344.28	No	915.35	Si
SLU 43	ini.	234.15	-1660	-0.0000234	0.0001872	0.0035	2		14344.28	14344.28	No	61.26	Si
SLU 43	fin.	-55.85	-1174	-0.0000055	0.0001872	0.0035	2		14357.01	14357.01	No	257.07	Si
SLU 64	ini.	245.03	-1852	-0.0000245	0.0001872	0.0035	2		14344.28	14344.28	No	58.54	Si
SLU 64	fin.	-66.8	-1303	-0.0000066	0.0001872	0.0035	2		14357.01	14357.01	No	214.92	Si
SLU 65	ini.	233.66	-1910	-0.0000233	0.0001872	0.0035	2		14344.28	14344.28	No	61.39	Si
SLU 65	fin.	-101.13	-1366	-0.00001	0.0001872	0.0035	2		14357.01	14357.01	No	141.97	Si
SLU 73	ini.	243.31	-1926	-0.0000243	0.0001872	0.0035	2		14344.28	14344.28	No	58.96	Si
SLU 73	fin.	-43.4	-1338	-0.0000043	0.0001872	0.0035	2		14357.01	14357.01	No	330.83	Si
SLU 61	ini.	241.1	-1716	-0.0000241	0.0001872	0.0035	2		14344.28	14344.28	No	59.49	Si
SLU 61	fin.	6.03	-1172	-0.0000006	0.0001872	0.0035	2		14344.28	14344.28	No	2379.61	Si
SLU 82	ini.	251.99	-1909	-0.0000252	0.0001872	0.0035	2		14344.28	14344.28	No	56.92	Si
SLU 82	fin.	-4.92	-1301	-0.0000005	0.0001872	0.0035	2		14357.01	14357.01	No	2915.33	Si
SLU 60	ini.	247.93	-1682	-0.0000248	0.0001872	0.0035	2		14344.28	14344.28	No	57.86	Si
SLU 60	fin.	26.62	-1134	-0.0000026	0.0001872	0.0035	2		14344.28	14344.28	No	538.78	Si
SLU 83	ini.	233.21	-1891	-0.0000233	0.0001872	0.0035	2		14344.28	14344.28	No	61.51	Si
SLU 83	fin.	17.58	-1293	-0.0000017	0.0001872	0.0035	2		14344.28	14344.28	No	816.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	258.81	-1819	2	0	3889	3965	8384	5100	7854	No	4.32	Si
SLU 81	fin.	15.67	-313	2	0	3889	3965	8384	5100	7854	No	25.07	Si
SLU 64	ini.	245.03	-1798	2	0	3889	3965	8384	5100	7854	No	4.37	Si
SLU 64	fin.	-66.8	-450	2	0	3889	3965	8384	5100	7854	No	17.45	Si
SLU 75	ini.	227.12	-1808	2	0	3889	3965	8384	5100	7854	No	4.34	Si
SLU 75	fin.	-32.41	-263	2	0	3889	3965	8384	5100	7854	No	29.88	Si
SLU 65	ini.	233.66	-1836	2	0	3889	3965	8384	5100	7854	No	4.28	Si
SLU 65	fin.	-101.13	-467	2	0	3889	3965	8384	5100	7854	No	16.82	Si
SLU 66	ini.	224.3	-1771	2	0	3889	3965	8384	5100	7854	No	4.44	Si
SLU 66	fin.	-69.54	-348	2	0	3889	3965	8384	5100	7854	No	22.54	Si
SLU 76	ini.	217.71	-1774	2	0	3889	3965	8384	5100	7854	No	4.43	Si
SLU 76	fin.	-41.49	-264	2	0	3889	3965	8384	5100	7854	No	29.76	Si
SLU 67	ini.	217.48	-1793	2	0	3889	3965	8384	5100	7854	No	4.38	Si
SLU 67	fin.	-90.13	-359	2	0	3889	3965	8384	5100	7854	No	21.9	Si
SLU 82	ini.	251.99	-1842	2	0	3889	3965	8384	5100	7854	No	4.26	Si
SLU 82	fin.	-4.92	-323	2	0	3889	3965	8384	5100	7854	No	24.28	Si
SLU 74	ini.	233.94	-1785	2	0	3889	3965	8384	5100	7854	No	4.4	Si
SLU 74	fin.	-11.81	-253	2	0	3889	3965	8384	5100	7854	No	31.08	Si
SLU 73	ini.	243.31	-1851	2	0	3889	3965	8384	5100	7854	No	4.24	Si
SLU 73	fin.	-43.4	-371	2	0	3889	3965	8384	5100	7854	No	21.16	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	279.13	2094	-0.0000278	0.0002807	0.0035	2		14202.07	14202.07		50.88	Si
SLV 12	fin.	1954.49	2475	-0.0002057	0.0002807	0.0035	2		14202.07	14202.07		7.27	Si
SLV 2	ini.	1172.58	-4179	-0.0001201	0.0002807	0.0035	2		14202.07	14202.07		12.11	Si
SLV 2	fin.	-2041.74	-3045	-0.0002154	0.0002807	0.0035	2		14215.41	14215.41		6.96	Si
SLV 1	ini.	917.13	-3775	-0.0000932	0.0002807	0.0035	2		14202.07	14202.07		15.49	Si
SLV 1	fin.	-1771.29	-2813	-0.000185	0.0002807	0.0035	2		14215.41	14215.41		8.03	Si
SLV 16	ini.	-539.43	1001	-0.0000542	0.0002807	0.0035	2		14215.41	14215.41		26.35	Si
SLV 16	fin.	1706.32	882	-0.000178	0.0002807	0.0035	2		14202.07	14202.07		8.32	Si
SLV 11	ini.	107.15	2366	-0.0000106	0.0002807	0.0035	2		14202.07	14202.07		132.54	Si
SLV 11	fin.	2136.57	2631	-0.0002264	0.0002807	0.0035	2		14202.07	14202.07		6.65	Si
SLV 4	ini.	1344.73	-2307	-0.0001386	0.0002807	0.0035	2		14202.07	14202.07		10.56	Si
SLV 4	fin.	-1042.31	-1113	-0.0001063	0.0002807	0.0035	2		14215.41	14215.41		13.64	Si
SLV 6	ini.	270.55	-5140	-0.000027	0.0002807	0.0035	2		14202.07	14202.07		52.49	Si
SLV 6	fin.	-2201.53	-4562	-0.0002336	0.0002807	0.0035	2		14215.41	14215.41		6.46	Si
SLV 5	ini.	98.58	-4868	-0.0000098	0.0002807	0.0035	2		14202.07	14202.07		144.07	Si
SLV 5	fin.	-2019.45	-4406	-0.0002129	0.0002807	0.0035	2		14215.41	14215.41		7.04	Si
SLV 10	ini.	-294.7	-4147	-0.0000294	0.0002807	0.0035	2		14215.41	14215.41		48.24	Si
SLV 10	fin.	-1376.94	-3964	-0.0001419	0.0002807	0.0035	2		14215.41	14215.41		10.32	Si
SLV 15	ini.	-794.88	1405	-0.0000804	0.0002807	0.0035	2		14215.41	14215.41		17.88	Si
SLV 15	fin.	1976.78	1113	-0.0002082	0.0002807	0.0035	2		14202.07	14202.07		7.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	1344.73	-7123	2	0	5833	3965	12577	5100	9798		1.38	Si
SLV 4	fin.	-1042.31	-7396	2	0	5833	3965	12577	5100	9798		1.32	Si
SLV 5	ini.	98.58	-5412	2	0	5833	3965	12577	5100	9798		1.81	Si
SLV 5	fin.	-2019.45	-3859	2	0	5833	3965	12577	5100	9798		2.54	Si
SLV 16	ini.	-539.43	4713	2	0	5833	3965	12577	5100	9798		2.08	Si
SLV 16	fin.	1706.32	6494	2	0	5833	3965	12577	5100	9798		1.51	Si
SLV 3	ini.	1089.28	-5742	2	0	5833	3965	12577	5100	9798		1.71	Si
SLV 3	fin.	-771.86	-5940	2	0	5833	3965	12577	5100	9798		1.65	Si
SLD 2	ini.	819.52	-6040	2	0	5833	3965	12577	5100	9798		1.62	Si
SLD 2	fin.	-1286.78	-5536	2	0	5833	3965	12577	5100	9798		1.77	Si
SLV 13	ini.	-967.03	4439	2	0	5833	3965	12577	5100	9798		2.21	Si
SLV 13	fin.	977.35	6777	2	0	5833	3965	12577	5100	9798		1.45	Si
SLV 2	ini.	1172.58	-8778	2	0	5833	3965	12577	5100	9798		1.12	Si
SLV 2	fin.	-2041.74	-8570	2	0	5833	3965	12577	5100	9798		1.14	Si
SLV 6	ini.	270.55	-6341	2	0	5833	3965	12577	5100	9798		1.55	Si
SLV 6	fin.	-2201.53	-4839	2	0	5833	3965	12577	5100	9798		2.02	Si
SLV 15	ini.	-794.88	6094	2	0	5833	3965	12577	5100	9798		1.61	Si
SLV 15	fin.	1976.78	7950	2	0	5833	3965	12577	5100	9798		1.23	Si
SLV 1	ini.	917.13	-7397	2	0	5833	3965	12577	5100	9798		1.32	Si
SLV 1	fin.	-1771.29	-7114	2	0	5833	3965	12577	5100	9798		1.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.457	SLV 6	Si
V_SLV	1.116	SLV 2	Si
PF_SLU	55.424	SLU 81	Si
V_SLU	4.243	SLU 73	Si

Trave di accoppiamento 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	10.75	11.5	0.75	-5.938	-3.169	10.75	11.5	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	68.67	-329	-0.0000491	0.0001872	0.0035	0.75		2069.77	2069.77	No	30.14	Si
SLU 72	fin.	-43.73	-272	-0.000031	0.0001872	0.0035	0.75		2074.44	2074.44	No	47.43	Si
SLU 23	ini.	69.97	-213	-0.0000501	0.0001872	0.0035	0.75		2069.77	2069.77	No	29.58	Si
SLU 23	fin.	-32.47	-188	-0.0000229	0.0001872	0.0035	0.75		2074.44	2074.44	No	63.88	Si
SLU 70	ini.	71.18	-341	-0.000051	0.0001872	0.0035	0.75		2069.77	2069.77	No	29.08	Si
SLU 70	fin.	-44.96	-281	-0.0000319	0.0001872	0.0035	0.75		2074.44	2074.44	No	46.14	Si
SLU 66	ini.	70.17	-332	-0.0000502	0.0001872	0.0035	0.75		2069.77	2069.77	No	29.5	Si
SLU 66	fin.	-49.8	-310	-0.0000354	0.0001872	0.0035	0.75		2074.44	2074.44	No	41.66	Si
SLU 60	ini.	44.25	-409	-0.0000314	0.0001872	0.0035	0.75		2069.77	2069.77	No	46.78	Si
SLU 60	fin.	-67	-437	-0.0000478	0.0001872	0.0035	0.75		2074.44	2074.44	No	30.96	Si
SLU 73	ini.	70.42	-371	-0.0000504	0.0001872	0.0035	0.75		2069.77	2069.77	No	29.39	Si
SLU 73	fin.	-55.54	-349	-0.0000395	0.0001872	0.0035	0.75		2074.44	2074.44	No	37.35	Si
SLU 68	ini.	75.56	-289	-0.0000542	0.0001872	0.0035	0.75		2069.77	2069.77	No	27.39	Si
SLU 68	fin.	-43.17	-259	-0.0000306	0.0001872	0.0035	0.75		2074.44	2074.44	No	48.05	Si
SLU 65	ini.	79.29	-261	-0.0000569	0.0001872	0.0035	0.75		2069.77	2069.77	No	26.1	Si
SLU 65	fin.	-44.77	-262	-0.0000317	0.0001872	0.0035	0.75		2074.44	2074.44	No	46.34	Si
SLU 64	ini.	71.39	-292	-0.0000511	0.0001872	0.0035	0.75		2069.77	2069.77	No	28.99	Si
SLU 64	fin.	-50.16	-305	-0.0000356	0.0001872	0.0035	0.75		2074.44	2074.44	No	41.35	Si
SLU 67	ini.	74.91	-313	-0.0000537	0.0001872	0.0035	0.75		2069.77	2069.77	No	27.63	Si
SLU 67	fin.	-46.56	-285	-0.000033	0.0001872	0.0035	0.75		2074.44	2074.44	No	44.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	66.69	1398	0.75	0	1458	3965	3144	1913	5057	No	3.62	Si
SLU 76	fin.	-53.94	-1475	0.75	0	1458	3965	3144	1913	5057	No	3.43	Si
SLU 77	ini.	57.56	1491	0.75	0	1458	3965	3144	1913	5057	No	3.39	Si
SLU 77	fin.	-58.97	-1505	0.75	0	1458	3965	3144	1913	5057	No	3.36	Si
SLU 75	ini.	66.04	1443	0.75	0	1458	3965	3144	1913	5057	No	3.51	Si
SLU 75	fin.	-57.33	-1522	0.75	0	1458	3965	3144	1913	5057	No	3.32	Si
SLU 81	ini.	58.71	1414	0.75	0	1458	3965	3144	1913	5057	No	3.58	Si
SLU 81	fin.	-65.55	-1549	0.75	0	1458	3965	3144	1913	5057	No	3.26	Si
SLU 83	ini.	54.97	1466	0.75	0	1458	3965	3144	1913	5057	No	3.45	Si
SLU 83	fin.	-63.95	-1530	0.75	0	1458	3965	3144	1913	5057	No	3.31	Si
SLU 74	ini.	61.29	1439	0.75	0	1458	3965	3144	1913	5057	No	3.51	Si
SLU 74	fin.	-60.57	-1525	0.75	0	1458	3965	3144	1913	5057	No	3.32	Si
SLU 84	ini.	59.72	1469	0.75	0	1458	3965	3144	1913	5057	No	3.44	Si
SLU 84	fin.	-60.72	-1527	0.75	0	1458	3965	3144	1913	5057	No	3.31	Si
SLU 82	ini.	63.45	1417	0.75	0	1458	3965	3144	1913	5057	No	3.57	Si
SLU 82	fin.	-62.31	-1546	0.75	0	1458	3965	3144	1913	5057	No	3.27	Si
SLU 78	ini.	62.31	1495	0.75	0	1458	3965	3144	1913	5057	No	3.38	Si
SLU 78	fin.	-55.73	-1502	0.75	0	1458	3965	3144	1913	5057	No	3.37	Si
SLU 73	ini.	70.42	1346	0.75	0	1458	3965	3144	1913	5057	No	3.76	Si
SLU 73	fin.	-55.54	-1494	0.75	0	1458	3965	3144	1913	5057	No	3.38	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	706.43	2600	-0.0006036	0.0002807	0.0035	0.75		2085.94	2085.94		2.95	Si
SLV 6	fin.	327.54	2956	-0.0002481	0.0002807	0.0035	0.75		2085.94	2085.94		6.37	Si
SLV 1	ini.	647.97	2616	-0.0005432	0.0002807	0.0035	0.75		2085.94	2085.94		3.22	Si
SLV 1	fin.	219.22	2264	-0.0001615	0.0002807	0.0035	0.75		2085.94	2085.94		9.52	Si
SLV 4	ini.	475.01	2009	-0.0003762	0.0002807	0.0035	0.75		2085.94	2085.94		4.39	Si
SLV 4	fin.	56.04	1033	-0.0000398	0.0002807	0.0035	0.75		2085.94	2085.94		37.22	Si
SLV 16	ini.	-549.57	-3110	-0.0004449	0.0002807	0.0035	0.75		2090.82	2090.82		3.8	Si
SLV 16	fin.	-303.19	-2786	-0.0002276	0.0002807	0.0035	0.75		2090.82	2090.82		6.9	Si
SLV 2	ini.	755.44	3149	-0.0006558	0.0002807	0.0035	0.75		2085.94	2085.94		2.76	Si
SLV 2	fin.	241.02	2560	-0.0001785	0.0002807	0.0035	0.75		2085.94	2085.94		8.65	Si
SLV 5	ini.	634.08	2241	-0.0005292	0.0002807	0.0035	0.75		2085.94	2085.94		3.29	Si
SLV 5	fin.	312.86	2757	-0.000236	0.0002807	0.0035	0.75		2085.94	2085.94		6.67	Si
SLV 11	ini.	-608.03	-3094	-0.0005018	0.0002807	0.0035	0.75		2090.82	2090.82		3.44	Si
SLV 11	fin.	-411.51	-3478	-0.0003187	0.0002807	0.0035	0.75		2090.82	2090.82		5.08	Si
SLV 12	ini.	-535.68	-2735	-0.0004317	0.0002807	0.0035	0.75		2090.82	2090.82		3.9	Si
SLV 12	fin.	-396.83	-3279	-0.0003059	0.0002807	0.0035	0.75		2090.82	2090.82		5.27	Si
SLD 2	ini.	492.93	1890	-0.0003927	0.0002807	0.0035	0.75		2085.94	2085.94		4.23	Si
SLD 2	fin.	133.93	1501	-0.0000967	0.0002807	0.0035	0.75		2085.94	2085.94		15.58	Si
SLV 15	ini.	-657.04	-3643	-0.000551	0.0002807	0.0035	0.75		2090.82	2090.82		3.18	Si
SLV 15	fin.	-324.99	-3082	-0.0002454	0.0002807	0.0035	0.75		2090.82	2090.82		6.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-269.15	2457	0.75	0	2188	3965	4716	1913	6152		2.5	Si
SLV 14	fin.	-118.21	-661	0.75	0	2188	3965	4716	1913	6152		9.3	Si
SLD 13	ini.	-230.41	2171	0.75	0	2188	3965	4716	1913	6152		2.83	Si
SLD 13	fin.	-109.57	-645	0.75	0	2188	3965	4716	1913	6152		9.54	Si
SLD 14	ini.	-162.23	1891	0.75	0	2188	3965	4716	1913	6152		3.25	Si
SLD 14	fin.	-95.74	-807	0.75	0	2188	3965	4716	1913	6152		7.62	Si
SLD 15	ini.	-394.54	2109	0.75	0	2188	3965	4716	1913	6152		2.92	Si
SLD 15	fin.	-217.9	-763	0.75	0	2188	3965	4716	1913	6152		8.06	Si
SLV 13	ini.	-376.62	2898	0.75	0	2188	3965	4716	1913	6152		2.12	Si
SLV 13	fin.	-140.01	-406	0.75	0	2188	3965	4716	1913	6152		15.17	Si
SLV 4	ini.	475.01	-1108	0.75	0	2188	3965	4716	1913	6152		5.55	Si
SLV 4	fin.	56.04	-1712	0.75	0	2188	3965	4716	1913	6152		3.59	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-549.57	2353	0.75	0	2188	3965	4716	1913	6152		2.61	Si
SLV 16	fin.	-303.19	-863	0.75	0	2188	3965	4716	1913	6152		7.13	Si
SLV 15	ini.	-657.04	2794	0.75	0	2188	3965	4716	1913	6152		2.2	Si
SLV 15	fin.	-324.99	-607	0.75	0	2188	3965	4716	1913	6152		10.14	Si
SLD 16	ini.	-326.36	1829	0.75	0	2188	3965	4716	1913	6152		3.36	Si
SLD 16	fin.	-204.06	-925	0.75	0	2188	3965	4716	1913	6152		6.65	Si
SLV 9	ini.	326.7	1737	0.75	0	2188	3965	4716	1913	6152		3.54	Si
SLV 9	fin.	205.09	-510	0.75	0	2188	3965	4716	1913	6152		12.06	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.761	SLV 2	Si
V_SLV	2.123	SLV 13	Si
PF_SLU	26.102	SLU 65	Si
V_SLU	3.264	SLU 81	Si

Trave di accoppiamento 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	7.95	8.85	0.9	-3.113	-3.169	7.95	8.85	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-73.48	-807	-0.0000364	0.0001872	0.0035	0.9		2964.67	2964.67	No	40.35	Si
SLU 82	fin.	341.69	-1638	-0.0001801	0.0001872	0.0035	0.9		2959	2959	No	8.66	Si
SLU 78	ini.	-57.09	-837	-0.0000282	0.0001872	0.0035	0.9		2964.67	2964.67	No	51.93	Si
SLU 78	fin.	334.67	-1632	-0.0001761	0.0001872	0.0035	0.9		2959	2959	No	8.84	Si
SLU 75	ini.	-53.59	-834	-0.0000264	0.0001872	0.0035	0.9		2964.67	2964.67	No	55.32	Si
SLU 75	fin.	329.78	-1610	-0.0001733	0.0001872	0.0035	0.9		2959	2959	No	8.97	Si
SLU 79	ini.	-69.75	-804	-0.0000345	0.0001872	0.0035	0.9		2964.67	2964.67	No	42.51	Si
SLU 79	fin.	336.86	-1623	-0.0001774	0.0001872	0.0035	0.9		2959	2959	No	8.78	Si
SLU 81	ini.	-87.99	-788	-0.0000437	0.0001872	0.0035	0.9		2964.67	2964.67	No	33.69	Si
SLU 81	fin.	351.45	-1666	-0.0001857	0.0001872	0.0035	0.9		2959	2959	No	8.42	Si
SLU 84	ini.	-76.98	-810	-0.0000381	0.0001872	0.0035	0.9		2964.67	2964.67	No	38.51	Si
SLU 84	fin.	346.58	-1660	-0.0001829	0.0001872	0.0035	0.9		2959	2959	No	8.54	Si
SLU 77	ini.	-71.6	-818	-0.0000354	0.0001872	0.0035	0.9		2964.67	2964.67	No	41.41	Si
SLU 77	fin.	344.44	-1660	-0.0001817	0.0001872	0.0035	0.9		2959	2959	No	8.59	Si
SLU 80	ini.	-55.24	-822	-0.0000273	0.0001872	0.0035	0.9		2964.67	2964.67	No	53.67	Si
SLU 80	fin.	327.1	-1595	-0.0001718	0.0001872	0.0035	0.9		2959	2959	No	9.05	Si
SLU 74	ini.	-68.1	-815	-0.0000337	0.0001872	0.0035	0.9		2964.67	2964.67	No	43.53	Si
SLU 74	fin.	339.55	-1638	-0.0001789	0.0001872	0.0035	0.9		2959	2959	No	8.71	Si
SLU 83	ini.	-91.49	-791	-0.0000455	0.0001872	0.0035	0.9		2964.67	2964.67	No	32.41	Si
SLU 83	fin.	356.34	-1688	-0.0001886	0.0001872	0.0035	0.9		2959	2959	No	8.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-68.1	216	0.9	0	1750	7137	3773	2295	6068	No	28.07	Si
SLU 74	fin.	339.55	2218	0.9	0	1750	7137	3773	2295	6068	No	2.74	Si
SLU 75	ini.	-53.59	161	0.9	0	1750	7137	3773	2295	6068	No	37.77	Si
SLU 75	fin.	329.78	2177	0.9	0	1750	7137	3773	2295	6068	No	2.79	Si
SLU 83	ini.	-91.49	308	0.9	0	1750	7137	3773	2295	6068	No	19.68	Si
SLU 83	fin.	356.34	2283	0.9	0	1750	7137	3773	2295	6068	No	2.66	Si
SLU 77	ini.	-71.6	225	0.9	0	1750	7137	3773	2295	6068	No	27.02	Si
SLU 77	fin.	344.44	2254	0.9	0	1750	7137	3773	2295	6068	No	2.69	Si
SLU 82	ini.	-73.48	245	0.9	0	1750	7137	3773	2295	6068	No	24.82	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	fin.	341.69	2206	0.9	0	1750	7137	3773	2295	6068	No	2.75	Si
SLU 78	ini.	-57.09	169	0.9	0	1750	7137	3773	2295	6068	No	35.89	Si
SLU 78	fin.	334.67	2214	0.9	0	1750	7137	3773	2295	6068	No	2.74	Si
SLU 80	ini.	-55.24	170	0.9	0	1750	7137	3773	2295	6068	No	35.73	Si
SLU 80	fin.	327.1	2154	0.9	0	1750	7137	3773	2295	6068	No	2.82	Si
SLU 81	ini.	-87.99	300	0.9	0	1750	7137	3773	2295	6068	No	20.23	Si
SLU 81	fin.	351.45	2246	0.9	0	1750	7137	3773	2295	6068	No	2.7	Si
SLU 84	ini.	-76.98	253	0.9	0	1750	7137	3773	2295	6068	No	23.99	Si
SLU 84	fin.	346.58	2242	0.9	0	1750	7137	3773	2295	6068	No	2.71	Si
SLU 79	ini.	-69.75	225	0.9	0	1750	7137	3773	2295	6068	No	26.93	Si
SLU 79	fin.	336.86	2195	0.9	0	1750	7137	3773	2295	6068	No	2.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	893.03	-1793	-0.0005173	0.0002807	0.0035	0.9		2989.59	2989.59		3.35	Si
SLD 2	fin.	-359.31	693	-0.0001855	0.0002807	0.0035	0.9		2995.37	2995.37		8.34	Si
SLV 15	ini.	-1448.61	1261	-0.0009474	0.0002807	0.0035	0.9		2995.37	2995.37		2.07	Si
SLV 15	fin.	1119.52	-3860	-0.0006826	0.0002807	0.0035	0.9		2989.59	2989.59		2.67	Si
SLV 1	ini.	1146.16	-2132	-0.000703	0.0002807	0.0035	0.9		2989.59	2989.59		2.61	Si
SLV 1	fin.	-514.5	1166	-0.0002734	0.0002807	0.0035	0.9		2995.37	2995.37		5.82	Si
SLV 11	ini.	-1412.35	1384	-0.0009164	0.0002807	0.0035	0.9		2995.37	2995.37		2.12	Si
SLV 11	fin.	1061.82	-3463	-0.0006391	0.0002807	0.0035	0.9		2989.59	2989.59		2.82	Si
SLV 6	ini.	1393.35	-2619	-0.0009025	0.0002807	0.0035	0.9		2989.59	2989.59		2.15	Si
SLV 6	fin.	-639.9	1332	-0.0003491	0.0002807	0.0035	0.9		2995.37	2995.37		4.68	Si
SLV 12	ini.	-1221.54	1138	-0.00076	0.0002807	0.0035	0.9		2995.37	2995.37		2.45	Si
SLV 12	fin.	938.56	-3083	-0.0005494	0.0002807	0.0035	0.9		2989.59	2989.59		3.19	Si
SLD 15	ini.	-912.03	557	-0.0005294	0.0002807	0.0035	0.9		2995.37	2995.37		3.28	Si
SLD 15	fin.	781.24	-2824	-0.0004411	0.0002807	0.0035	0.9		2989.59	2989.59		3.83	Si
SLV 5	ini.	1202.53	-2374	-0.0007468	0.0002807	0.0035	0.9		2989.59	2989.59		2.49	Si
SLV 5	fin.	-516.63	953	-0.0002746	0.0002807	0.0035	0.9		2995.37	2995.37		5.8	Si
SLV 16	ini.	-1165.17	896	-0.000716	0.0002807	0.0035	0.9		2995.37	2995.37		2.57	Si
SLV 16	fin.	936.42	-3296	-0.0005478	0.0002807	0.0035	0.9		2989.59	2989.59		3.19	Si
SLV 2	ini.	1429.6	-2497	-0.0009334	0.0002807	0.0035	0.9		2989.59	2989.59		2.09	Si
SLV 2	fin.	-697.6	1730	-0.0003856	0.0002807	0.0035	0.9		2995.37	2995.37		4.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1448.61	5025	0.9	0	2625	7137	5660	2295	7955		1.58	Si
SLV 15	fin.	1119.52	6326	0.9	0	2625	7137	5660	2295	7955		1.26	Si
SLV 2	ini.	1429.6	-4981	0.9	0	2625	7137	5660	2295	7955		1.6	Si
SLV 2	fin.	-697.6	-3489	0.9	0	2625	7137	5660	2295	7955		2.28	Si
SLD 15	ini.	-912.03	3155	0.9	0	2625	7137	5660	2295	7955		2.52	Si
SLD 15	fin.	781.24	4506	0.9	0	2625	7137	5660	2295	7955		1.77	Si
SLV 5	ini.	1202.53	-4424	0.9	0	2625	7137	5660	2295	7955		1.8	Si
SLV 5	fin.	-516.63	-2069	0.9	0	2625	7137	5660	2295	7955		3.84	Si
SLV 12	ini.	-1221.54	4467	0.9	0	2625	7137	5660	2295	7955		1.78	Si
SLV 12	fin.	938.56	4906	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLV 6	ini.	1393.35	-5087	0.9	0	2625	7137	5660	2295	7955		1.56	Si
SLV 6	fin.	-639.9	-2727	0.9	0	2625	7137	5660	2295	7955		2.92	Si
SLV 16	ini.	-1165.17	4039	0.9	0	2625	7137	5660	2295	7955		1.97	Si
SLV 16	fin.	936.42	5349	0.9	0	2625	7137	5660	2295	7955		1.49	Si
SLV 11	ini.	-1412.35	5130	0.9	0	2625	7137	5660	2295	7955		1.55	Si
SLV 11	fin.	1061.82	5564	0.9	0	2625	7137	5660	2295	7955		1.43	Si
SLV 13	ini.	-843.18	2767	0.9	0	2625	7137	5660	2295	7955		2.87	Si
SLV 13	fin.	760.76	4684	0.9	0	2625	7137	5660	2295	7955		1.7	Si
SLV 1	ini.	1146.16	-3996	0.9	0	2625	7137	5660	2295	7955		1.99	Si
SLV 1	fin.	-514.5	-2512	0.9	0	2625	7137	5660	2295	7955		3.17	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.068	SLV 15	Si
V_SLV	1.257	SLV 15	Si
PF_SLU	8.304	SLU 83	Si
V_SLU	2.658	SLU 83	Si

Trave di accoppiamento 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	10.65	11.5	0.85	-3.113	-3.169	10.65	11.5	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-266.51	-1166	-0.0001551	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.97	Si
SLU 77	fin.	-41.08	-579	-0.0000226	0.0001872	0.0035	0.85		2655.83	2655.83	No	64.65	Si
SLU 83	ini.	-280.92	-1205	-0.0001641	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.45	Si
SLU 83	fin.	-24.48	-552	-0.0000134	0.0001872	0.0035	0.85		2655.83	2655.83	No	108.5	Si
SLU 39	ini.	-262.48	-1091	-0.0001526	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.12	Si
SLU 39	fin.	6.3	-431	-0.0000035	0.0001872	0.0035	0.85		2650.49	2650.49	No	420.95	Si
SLU 74	ini.	-262.54	-1153	-0.0001526	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.12	Si
SLU 74	fin.	-43.62	-579	-0.000024	0.0001872	0.0035	0.85		2655.83	2655.83	No	60.88	Si
SLU 79	ini.	-259.45	-1133	-0.0001507	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.24	Si
SLU 79	fin.	-39.8	-561	-0.0000219	0.0001872	0.0035	0.85		2655.83	2655.83	No	66.72	Si
SLU 81	ini.	-276.96	-1192	-0.0001616	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.59	Si
SLU 81	fin.	-27.02	-551	-0.0000148	0.0001872	0.0035	0.85		2655.83	2655.83	No	98.29	Si
SLU 84	ini.	-269.99	-1175	-0.0001573	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.84	Si
SLU 84	fin.	-37.49	-570	-0.0000206	0.0001872	0.0035	0.85		2655.83	2655.83	No	70.83	Si
SLU 82	ini.	-266.03	-1162	-0.0001548	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.98	Si
SLU 82	fin.	-40.04	-569	-0.0000221	0.0001872	0.0035	0.85		2655.83	2655.83	No	66.33	Si
SLU 78	ini.	-255.57	-1136	-0.0001483	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.39	Si
SLU 78	fin.	-54.1	-597	-0.0000299	0.0001872	0.0035	0.85		2655.83	2655.83	No	49.09	Si
SLU 41	ini.	-266.44	-1105	-0.000155	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.97	Si
SLU 41	fin.	8.84	-432	-0.0000048	0.0001872	0.0035	0.85		2650.49	2650.49	No	299.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-280.92	2163	0.85	0	1653	6740	3563	2168	5731	No	2.65	Si
SLU 83	fin.	-24.48	-610	0.85	0	1653	6740	3563	2168	5731	No	9.39	Si
SLU 78	ini.	-255.57	2028	0.85	0	1653	6740	3563	2168	5731	No	2.83	Si
SLU 78	fin.	-54.1	-711	0.85	0	1653	6740	3563	2168	5731	No	8.06	Si
SLU 84	ini.	-269.99	2117	0.85	0	1653	6740	3563	2168	5731	No	2.71	Si
SLU 84	fin.	-37.49	-662	0.85	0	1653	6740	3563	2168	5731	No	8.65	Si
SLU 81	ini.	-276.96	2143	0.85	0	1653	6740	3563	2168	5731	No	2.67	Si
SLU 81	fin.	-27.02	-619	0.85	0	1653	6740	3563	2168	5731	No	9.26	Si
SLU 82	ini.	-266.03	2097	0.85	0	1653	6740	3563	2168	5731	No	2.73	Si
SLU 82	fin.	-40.04	-670	0.85	0	1653	6740	3563	2168	5731	No	8.55	Si
SLU 77	ini.	-266.51	2075	0.85	0	1653	6740	3563	2168	5731	No	2.76	Si
SLU 77	fin.	-41.08	-659	0.85	0	1653	6740	3563	2168	5731	No	8.69	Si
SLU 79	ini.	-259.45	2025	0.85	0	1653	6740	3563	2168	5731	No	2.83	Si
SLU 79	fin.	-39.8	-644	0.85	0	1653	6740	3563	2168	5731	No	8.9	Si
SLU 41	ini.	-266.44	1986	0.85	0	1653	6740	3563	2168	5731	No	2.89	Si
SLU 41	fin.	8.84	-422	0.85	0	1653	6740	3563	2168	5731	No	13.58	Si
SLU 75	ini.	-251.61	2008	0.85	0	1653	6740	3563	2168	5731	No	2.85	Si
SLU 75	fin.	-56.64	-719	0.85	0	1653	6740	3563	2168	5731	No	7.97	Si
SLU 74	ini.	-262.54	2055	0.85	0	1653	6740	3563	2168	5731	No	2.79	Si
SLU 74	fin.	-43.62	-668	0.85	0	1653	6740	3563	2168	5731	No	8.58	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	427.19	799	-0.0002526	0.0002807	0.0035	0.85		2675.27	2675.27		6.26	Si
SLV 10	fin.	-828.75	-1637	-0.0005399	0.0002807	0.0035	0.85		2680.73	2680.73		3.23	Si
SLV 15	ini.	-997.59	-2886	-0.0006781	0.0002807	0.0035	0.85		2680.73	2680.73		2.69	Si
SLV 15	fin.	1026.19	1228	-0.0007043	0.0002807	0.0035	0.85		2675.27	2675.27		2.61	Si
SLV 5	ini.	628.21	1305	-0.0003897	0.0002807	0.0035	0.85		2675.27	2675.27		4.26	Si
SLV 5	fin.	-1086.72	-2034	-0.0007552	0.0002807	0.0035	0.85		2680.73	2680.73		2.47	Si
SLV 16	ini.	-808.15	-2388	-0.0005237	0.0002807	0.0035	0.85		2680.73	2680.73		3.32	Si
SLV 16	fin.	787.16	871	-0.0005086	0.0002807	0.0035	0.85		2675.27	2675.27		3.4	Si
SLV 11	ini.	-1058.77	-3054	-0.0007307	0.0002807	0.0035	0.85		2680.73	2680.73		2.53	Si
SLV 11	fin.	1126.41	1408	-0.0007925	0.0002807	0.0035	0.85		2675.27	2675.27		2.38	Si
SLD 6	ini.	389.69	693	-0.0002286	0.0002807	0.0035	0.85		2675.27	2675.27		6.87	Si
SLD 6	fin.	-768.35	-1531	-0.0004929	0.0002807	0.0035	0.85		2680.73	2680.73		3.49	Si
SLV 12	ini.	-931.24	-2719	-0.0006226	0.0002807	0.0035	0.85		2680.73	2680.73		2.88	Si
SLV 12	fin.	965.49	1167	-0.0006527	0.0002807	0.0035	0.85		2675.27	2675.27		2.77	Si
SLV 2	ini.	694.56	1472	-0.0004382	0.0002807	0.0035	0.85		2675.27	2675.27		3.85	Si
SLV 2	fin.	-1147.42	-2095	-0.0008094	0.0002807	0.0035	0.85		2680.73	2680.73		2.34	Si
SLV 6	ini.	755.74	1640	-0.0004844	0.0002807	0.0035	0.85		2675.27	2675.27		3.54	Si
SLV 6	fin.	-1247.64	-2275	-0.0009021	0.0002807	0.0035	0.85		2680.73	2680.73		2.15	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	505.12	974	-0.000304	0.0002807	0.0035	0.85		2675.27	2675.27		5.3	Si
SLV 1	fin.	-908.4	-1738	-0.0006039	0.0002807	0.0035	0.85		2680.73	2680.73		2.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-679.4	3792	0.85	0	2479	6740	5345	2168	7513		1.98	Si
SLD 15	fin.	616.98	1876	0.85	0	2479	6740	5345	2168	7513		4	Si
SLV 2	ini.	694.56	-2790	0.85	0	2479	6740	5345	2168	7513		2.69	Si
SLV 2	fin.	-1147.42	-4472	0.85	0	2479	6740	5345	2168	7513		1.68	Si
SLV 11	ini.	-1058.77	5525	0.85	0	2479	6740	5345	2168	7513		1.36	Si
SLV 11	fin.	1126.41	3818	0.85	0	2479	6740	5345	2168	7513		1.97	Si
SLV 12	ini.	-931.24	4912	0.85	0	2479	6740	5345	2168	7513		1.53	Si
SLV 12	fin.	965.49	3236	0.85	0	2479	6740	5345	2168	7513		2.32	Si
SLD 11	ini.	-692.72	3806	0.85	0	2479	6740	5345	2168	7513		1.97	Si
SLD 11	fin.	647.11	2048	0.85	0	2479	6740	5345	2168	7513		3.67	Si
SLV 5	ini.	628.21	-2388	0.85	0	2479	6740	5345	2168	7513		3.15	Si
SLV 5	fin.	-1086.72	-4358	0.85	0	2479	6740	5345	2168	7513		1.72	Si
SLV 7	ini.	-730.22	3936	0.85	0	2479	6740	5345	2168	7513		1.91	Si
SLV 7	fin.	707.52	2332	0.85	0	2479	6740	5345	2168	7513		3.22	Si
SLV 15	ini.	-997.59	5315	0.85	0	2479	6740	5345	2168	7513		1.41	Si
SLV 15	fin.	1026.19	3351	0.85	0	2479	6740	5345	2168	7513		2.24	Si
SLV 6	ini.	755.74	-3001	0.85	0	2479	6740	5345	2168	7513		2.5	Si
SLV 6	fin.	-1247.64	-4940	0.85	0	2479	6740	5345	2168	7513		1.52	Si
SLV 16	ini.	-808.15	4404	0.85	0	2479	6740	5345	2168	7513		1.71	Si
SLV 16	fin.	787.16	2486	0.85	0	2479	6740	5345	2168	7513		3.02	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.149	SLV 6	Si
V_SLV	1.36	SLV 11	Si
PF_SLU	9.454	SLU 83	Si
V_SLU	2.649	SLU 83	Si

Trave di accoppiamento 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	7.95	8.85	0.9	-2.853	5.951	7.95	8.85	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	88.46	-740	-0.000044	0.0001872	0.0035	0.9		2959	2959	No	33.45	Si
SLU 84	fin.	142.51	-1382	-0.0000717	0.0001872	0.0035	0.9		2959	2959	No	20.76	Si
SLU 40	ini.	51.6	-519	-0.0000255	0.0001872	0.0035	0.9		2959	2959	No	57.34	Si
SLU 40	fin.	142.32	-1215	-0.0000716	0.0001872	0.0035	0.9		2959	2959	No	20.79	Si
SLU 48	ini.	138.98	-892	-0.0000699	0.0001872	0.0035	0.9		2959	2959	No	21.29	Si
SLU 48	fin.	46.4	-931	-0.0000229	0.0001872	0.0035	0.9		2959	2959	No	63.77	Si
SLU 45	ini.	137.48	-868	-0.0000691	0.0001872	0.0035	0.9		2959	2959	No	21.52	Si
SLU 45	fin.	45.6	-893	-0.0000225	0.0001872	0.0035	0.9		2959	2959	No	64.89	Si
SLU 41	ini.	58.92	-564	-0.0000291	0.0001872	0.0035	0.9		2959	2959	No	50.22	Si
SLU 41	fin.	137.33	-1231	-0.000069	0.0001872	0.0035	0.9		2959	2959	No	21.55	Si
SLU 82	ini.	86.96	-716	-0.0000433	0.0001872	0.0035	0.9		2959	2959	No	34.03	Si
SLU 82	fin.	141.71	-1345	-0.0000713	0.0001872	0.0035	0.9		2959	2959	No	20.88	Si
SLU 42	ini.	53.1	-543	-0.0000262	0.0001872	0.0035	0.9		2959	2959	No	55.73	Si
SLU 42	fin.	143.12	-1252	-0.000072	0.0001872	0.0035	0.9		2959	2959	No	20.67	Si
SLU 83	ini.	94.28	-761	-0.000047	0.0001872	0.0035	0.9		2959	2959	No	31.39	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	136.72	-1361	-0.0000687	0.0001872	0.0035	0.9		2959	2959	No	21.64	Si
SLU 50	ini.	140.19	-889	-0.0000705	0.0001872	0.0035	0.9		2959	2959	No	21.11	Si
SLU 50	fin.	42.91	-902	-0.0000212	0.0001872	0.0035	0.9		2959	2959	No	68.96	Si
SLU 43	ini.	137.19	-841	-0.0000689	0.0001872	0.0035	0.9		2959	2959	No	21.57	Si
SLU 43	fin.	41.31	-827	-0.0000204	0.0001872	0.0035	0.9		2959	2959	No	71.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	94.28	-954	0.9	0	1750	7137	3773	2295	6068	No	6.36	Si
SLU 83	fin.	136.72	2364	0.9	0	1750	7137	3773	2295	6068	No	2.57	Si
SLU 75	ini.	96.37	-1005	0.9	0	1750	7137	3773	2295	6068	No	6.04	Si
SLU 75	fin.	129.16	2346	0.9	0	1750	7137	3773	2295	6068	No	2.59	Si
SLU 82	ini.	86.96	-842	0.9	0	1750	7137	3773	2295	6068	No	7.2	Si
SLU 82	fin.	141.71	2271	0.9	0	1750	7137	3773	2295	6068	No	2.67	Si
SLU 79	ini.	104.89	-1110	0.9	0	1750	7137	3773	2295	6068	No	5.47	Si
SLU 79	fin.	120.68	2384	0.9	0	1750	7137	3773	2295	6068	No	2.55	Si
SLU 78	ini.	97.86	-1078	0.9	0	1750	7137	3773	2295	6068	No	5.63	Si
SLU 78	fin.	129.96	2459	0.9	0	1750	7137	3773	2295	6068	No	2.47	Si
SLU 80	ini.	99.07	-1070	0.9	0	1750	7137	3773	2295	6068	No	5.67	Si
SLU 80	fin.	126.46	2404	0.9	0	1750	7137	3773	2295	6068	No	2.52	Si
SLU 84	ini.	88.46	-915	0.9	0	1750	7137	3773	2295	6068	No	6.63	Si
SLU 84	fin.	142.51	2384	0.9	0	1750	7137	3773	2295	6068	No	2.55	Si
SLU 76	ini.	93.69	-971	0.9	0	1750	7137	3773	2295	6068	No	6.25	Si
SLU 76	fin.	129.52	2305	0.9	0	1750	7137	3773	2295	6068	No	2.63	Si
SLU 77	ini.	103.69	-1117	0.9	0	1750	7137	3773	2295	6068	No	5.43	Si
SLU 77	fin.	124.17	2438	0.9	0	1750	7137	3773	2295	6068	No	2.49	Si
SLU 74	ini.	102.19	-1044	0.9	0	1750	7137	3773	2295	6068	No	5.81	Si
SLU 74	fin.	123.37	2325	0.9	0	1750	7137	3773	2295	6068	No	2.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 7	ini.	435.86	-1901	-0.0002285	0.0002807	0.0035	0.9		2989.59	2989.59		6.86	Si
SLD 7	fin.	-250.7	353	-0.0001271	0.0002807	0.0035	0.9		2995.37	2995.37		11.95	Si
SLV 10	ini.	-485.13	1521	-0.0002563	0.0002807	0.0035	0.9		2995.37	2995.37		6.17	Si
SLV 10	fin.	593.38	-2777	-0.0003211	0.0002807	0.0035	0.9		2989.59	2989.59		5.04	Si
SLV 11	ini.	474.94	-2057	-0.0002509	0.0002807	0.0035	0.9		2989.59	2989.59		6.29	Si
SLV 11	fin.	-312.97	486	-0.0001603	0.0002807	0.0035	0.9		2995.37	2995.37		9.57	Si
SLV 6	ini.	-291.44	812	-0.0001487	0.0002807	0.0035	0.9		2995.37	2995.37		10.28	Si
SLV 6	fin.	441.26	-2118	-0.0002316	0.0002807	0.0035	0.9		2989.59	2989.59		6.78	Si
SLV 4	ini.	452.33	-1971	-0.0002379	0.0002807	0.0035	0.9		2989.59	2989.59		6.61	Si
SLV 4	fin.	-241.7	442	-0.0001223	0.0002807	0.0035	0.9		2995.37	2995.37		12.39	Si
SLV 9	ini.	-366.11	1107	-0.0001892	0.0002807	0.0035	0.9		2995.37	2995.37		8.18	Si
SLV 9	fin.	499.67	-2408	-0.0002652	0.0002807	0.0035	0.9		2989.59	2989.59		5.98	Si
SLV 8	ini.	549.62	-2352	-0.0002947	0.0002807	0.0035	0.9		2989.59	2989.59		5.44	Si
SLV 8	fin.	-371.39	776	-0.0001921	0.0002807	0.0035	0.9		2995.37	2995.37		8.07	Si
SLV 7	ini.	668.63	-2766	-0.0003679	0.0002807	0.0035	0.9		2989.59	2989.59		4.47	Si
SLV 7	fin.	-465.09	1144	-0.0002447	0.0002807	0.0035	0.9		2995.37	2995.37		6.44	Si
SLV 14	ini.	-445.61	1340	-0.0002336	0.0002807	0.0035	0.9		2995.37	2995.37		6.72	Si
SLV 14	fin.	509.17	-2623	-0.0002708	0.0002807	0.0035	0.9		2989.59	2989.59		5.87	Si
SLV 3	ini.	629.11	-2585	-0.0003431	0.0002807	0.0035	0.9		2989.59	2989.59		4.75	Si
SLV 3	fin.	-380.88	990	-0.0001973	0.0002807	0.0035	0.9		2995.37	2995.37		7.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	355.93	-3191	0.9	0	2625	7137	5660	2295	7955		2.49	Si
SLV 12	fin.	-219.27	1302	0.9	0	2625	7137	5660	2295	7955		6.11	Si
SLV 3	ini.	629.11	-4087	0.9	0	2625	7137	5660	2295	7955		1.95	Si
SLV 3	fin.	-380.88	-726	0.9	0	2625	7137	5660	2295	7955		10.95	Si
SLV 14	ini.	-445.61	2385	0.9	0	2625	7137	5660	2295	7955		3.34	Si
SLV 14	fin.	509.17	3679	0.9	0	2625	7137	5660	2295	7955		2.16	Si
SLV 10	ini.	-485.13	3214	0.9	0	2625	7137	5660	2295	7955		2.47	Si
SLV 10	fin.	593.38	3099	0.9	0	2625	7137	5660	2295	7955		2.57	Si
SLV 11	ini.	474.94	-3840	0.9	0	2625	7137	5660	2295	7955		2.07	Si
SLV 11	fin.	-312.97	783	0.9	0	2625	7137	5660	2295	7955		10.15	Si
SLD 7	ini.	435.86	-3266	0.9	0	2625	7137	5660	2295	7955		2.44	Si
SLD 7	fin.	-250.7	499	0.9	0	2625	7137	5660	2295	7955		15.94	Si
SLV 8	ini.	549.62	-4267	0.9	0	2625	7137	5660	2295	7955		1.86	Si
SLV 8	fin.	-371.39	373	0.9	0	2625	7137	5660	2295	7955		21.33	Si
SLV 4	ini.	452.33	-3123	0.9	0	2625	7137	5660	2295	7955		2.55	Si
SLV 4	fin.	-241.7	44	0.9	0	2625	7137	5660	2295	7955		181.61	Si
SLV 16	ini.	-193.29	463	0.9	0	2625	7137	5660	2295	7955		17.17	Si
SLV 16	fin.	265.38	3140	0.9	0	2625	7137	5660	2295	7955		2.53	Si
SLV 7	ini.	668.63	-4916	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLV 7	fin.	-465.09	-146	0.9	0	2625	7137	5660	2295	7955		54.66	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.471	SLV 7	Si
V_SLV	1.618	SLV 7	Si
PF_SLU	20.675	SLU 42	Si
V_SLU	2.468	SLU 78	Si

Trave di accoppiamento 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	10.65	11.5	0.85	-2.853	5.951	10.65	11.5	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 41	ini.	-165.19	-967	-0.0000936	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.08	Si
SLU 41	fin.	47.33	-482	-0.0000262	0.0001872	0.0035	0.85		2650.49	2650.49	No	56	Si
SLU 42	ini.	-170.46	-988	-0.0000967	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.58	Si
SLU 42	fin.	51.04	-463	-0.0000282	0.0001872	0.0035	0.85		2650.49	2650.49	No	51.93	Si
SLU 40	ini.	-164.33	-951	-0.0000931	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.16	Si
SLU 40	fin.	48.86	-444	-0.000027	0.0001872	0.0035	0.85		2650.49	2650.49	No	54.25	Si
SLU 83	ini.	-167.86	-1020	-0.0000952	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.82	Si
SLU 83	fin.	35.61	-624	-0.0000196	0.0001872	0.0035	0.85		2650.49	2650.49	No	74.43	Si
SLU 78	ini.	-168.32	-1025	-0.0000955	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.78	Si
SLU 78	fin.	33.39	-639	-0.0000184	0.0001872	0.0035	0.85		2650.49	2650.49	No	79.39	Si
SLU 80	ini.	-162.77	-998	-0.0000922	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.32	Si
SLU 80	fin.	31.28	-635	-0.0000172	0.0001872	0.0035	0.85		2650.49	2650.49	No	84.74	Si
SLU 36	ini.	-165.65	-972	-0.0000939	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.03	Si
SLU 36	fin.	45.11	-497	-0.0000249	0.0001872	0.0035	0.85		2650.49	2650.49	No	58.76	Si
SLU 77	ini.	-163.05	-1004	-0.0000924	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.29	Si
SLU 77	fin.	29.68	-658	-0.0000163	0.0001872	0.0035	0.85		2650.49	2650.49	No	89.31	Si
SLU 84	ini.	-173.13	-1041	-0.0000983	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.34	Si
SLU 84	fin.	39.32	-605	-0.0000217	0.0001872	0.0035	0.85		2650.49	2650.49	No	67.41	Si
SLU 82	ini.	-167.01	-1004	-0.0000947	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.9	Si
SLU 82	fin.	37.14	-586	-0.0000205	0.0001872	0.0035	0.85		2650.49	2650.49	No	71.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-168.32	2361	0.85	0	1653	6740	3563	2168	5731	No	2.43	Si
SLU 78	fin.	33.39	-2136	0.85	0	1653	6740	3563	2168	5731	No	2.68	Si
SLU 77	ini.	-163.05	2332	0.85	0	1653	6740	3563	2168	5731	No	2.46	Si
SLU 77	fin.	29.68	-2166	0.85	0	1653	6740	3563	2168	5731	No	2.65	Si
SLU 82	ini.	-167.01	2276	0.85	0	1653	6740	3563	2168	5731	No	2.52	Si
SLU 82	fin.	37.14	-1971	0.85	0	1653	6740	3563	2168	5731	No	2.91	Si
SLU 75	ini.	-162.19	2266	0.85	0	1653	6740	3563	2168	5731	No	2.53	Si
SLU 75	fin.	31.2	-2051	0.85	0	1653	6740	3563	2168	5731	No	2.79	Si
SLU 76	ini.	-160.16	2237	0.85	0	1653	6740	3563	2168	5731	No	2.56	Si
SLU 76	fin.	31.57	-2007	0.85	0	1653	6740	3563	2168	5731	No	2.86	Si
SLU 80	ini.	-162.77	2312	0.85	0	1653	6740	3563	2168	5731	No	2.48	Si
SLU 80	fin.	31.28	-2112	0.85	0	1653	6740	3563	2168	5731	No	2.71	Si
SLU 84	ini.	-173.13	2371	0.85	0	1653	6740	3563	2168	5731	No	2.42	Si
SLU 84	fin.	39.32	-2055	0.85	0	1653	6740	3563	2168	5731	No	2.79	Si
SLU 79	ini.	-157.5	2283	0.85	0	1653	6740	3563	2168	5731	No	2.51	Si
SLU 79	fin.	27.57	-2143	0.85	0	1653	6740	3563	2168	5731	No	2.67	Si
SLU 81	ini.	-161.74	2246	0.85	0	1653	6740	3563	2168	5731	No	2.55	Si
SLU 81	fin.	33.43	-2001	0.85	0	1653	6740	3563	2168	5731	No	2.86	Si
SLU 83	ini.	-167.86	2341	0.85	0	1653	6740	3563	2168	5731	No	2.45	Si
SLU 83	fin.	35.61	-2086	0.85	0	1653	6740	3563	2168	5731	No	2.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-464.58	-1944	-0.0002764	0.0002807	0.0035	0.85		2680.73	2680.73		5.77	Si
SLV 14	fin.	321.37	1067	-0.0001859	0.0002807	0.0035	0.85		2675.27	2675.27		8.32	Si
SLD 10	ini.	-373.6	-1675	-0.000218	0.0002807	0.0035	0.85		2680.73	2680.73		7.18	Si
SLD 10	fin.	219.3	610	-0.0001245	0.0002807	0.0035	0.85		2675.27	2675.27		12.2	Si
SLV 6	ini.	-456.45	-2048	-0.000271	0.0002807	0.0035	0.85		2680.73	2680.73		5.87	Si
SLV 6	fin.	262.51	868	-0.0001502	0.0002807	0.0035	0.85		2675.27	2675.27		10.19	Si
SLV 7	ini.	406.23	1339	-0.0002391	0.0002807	0.0035	0.85		2675.27	2675.27		6.59	Si
SLV 7	fin.	-365.72	-2328	-0.000213	0.0002807	0.0035	0.85		2680.73	2680.73		7.33	Si
SLV 3	ini.	297.86	836	-0.0001715	0.0002807	0.0035	0.85		2675.27	2675.27		8.98	Si
SLV 3	fin.	-319.03	-2035	-0.0001841	0.0002807	0.0035	0.85		2680.73	2680.73		8.4	Si
SLD 14	ini.	-318.19	-1407	-0.0001836	0.0002807	0.0035	0.85		2680.73	2680.73		8.42	Si
SLD 14	fin.	199.09	471	-0.0001126	0.0002807	0.0035	0.85		2675.27	2675.27		13.44	Si
SLV 5	ini.	-359.17	-1683	-0.0002089	0.0002807	0.0035	0.85		2680.73	2680.73		7.46	Si
SLV 5	fin.	178.05	444	-0.0001003	0.0002807	0.0035	0.85		2675.27	2675.27		15.03	Si
SLV 13	ini.	-320.09	-1402	-0.0001847	0.0002807	0.0035	0.85		2680.73	2680.73		8.37	Si
SLV 13	fin.	195.91	438	-0.0001107	0.0002807	0.0035	0.85		2675.27	2675.27		13.66	Si
SLV 9	ini.	-475.67	-2083	-0.0002837	0.0002807	0.0035	0.85		2680.73	2680.73		5.64	Si
SLV 9	fin.	283.59	936	-0.0001629	0.0002807	0.0035	0.85		2675.27	2675.27		9.43	Si
SLV 10	ini.	-572.95	-2447	-0.0003497	0.0002807	0.0035	0.85		2680.73	2680.73		4.68	Si
SLV 10	fin.	368.05	1360	-0.0002149	0.0002807	0.0035	0.85		2675.27	2675.27		7.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	289.73	-641	0.85	0	2479	6740	5345	2168	7513		11.72	Si
SLV 11	fin.	-260.17	-3700	0.85	0	2479	6740	5345	2168	7513		2.03	Si
SLV 14	ini.	-464.58	3583	0.85	0	2479	6740	5345	2168	7513		2.1	Si
SLV 14	fin.	321.37	814	0.85	0	2479	6740	5345	2168	7513		9.23	Si
SLV 7	ini.	406.23	-1355	0.85	0	2479	6740	5345	2168	7513		5.54	Si
SLV 7	fin.	-365.72	-4378	0.85	0	2479	6740	5345	2168	7513		1.72	Si
SLV 3	ini.	297.86	-914	0.85	0	2479	6740	5345	2168	7513		8.22	Si
SLV 3	fin.	-319.03	-3703	0.85	0	2479	6740	5345	2168	7513		2.03	Si
SLV 8	ini.	308.96	-749	0.85	0	2479	6740	5345	2168	7513		10.02	Si
SLV 8	fin.	-281.25	-3787	0.85	0	2479	6740	5345	2168	7513		1.98	Si
SLV 9	ini.	-475.67	3418	0.85	0	2479	6740	5345	2168	7513		2.2	Si
SLV 9	fin.	283.59	898	0.85	0	2479	6740	5345	2168	7513		8.37	Si
SLD 7	ini.	206.89	-262	0.85	0	2479	6740	5345	2168	7513		28.66	Si
SLD 7	fin.	-216.96	-3184	0.85	0	2479	6740	5345	2168	7513		2.36	Si
SLV 12	ini.	192.46	-35	0.85	0	2479	6740	5345	2168	7513		212.22	Si
SLV 12	fin.	-175.71	-3109	0.85	0	2479	6740	5345	2168	7513		2.42	Si
SLV 10	ini.	-572.95	4023	0.85	0	2479	6740	5345	2168	7513		1.87	Si
SLV 10	fin.	368.05	1489	0.85	0	2479	6740	5345	2168	7513		5.05	Si
SLV 6	ini.	-456.45	3309	0.85	0	2479	6740	5345	2168	7513		2.27	Si
SLV 6	fin.	262.51	811	0.85	0	2479	6740	5345	2168	7513		9.26	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.679	SLV 10	Si
V_SLV	1.716	SLV 7	Si
PF_SLU	15.34	SLU 84	Si
V_SLU	2.417	SLU 84	Si

Trave di accoppiamento 143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	11.5	12.4	0.9	-22.778	5.951	11.5	12.4	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 46	ini.	-0.91	-208	-0.0000004	0.0001872	0.0035	0.9		2964.67	2964.67	No	3268.31	Si
SLU 46	fin.	74.68	-420	-0.0000371	0.0001872	0.0035	0.9		2959	2959	No	39.62	Si
SLU 45	ini.	-6.22	-188	-0.000003	0.0001872	0.0035	0.9		2964.67	2964.67	No	476.51	Si
SLU 45	fin.	79.04	-436	-0.0000393	0.0001872	0.0035	0.9		2959	2959	No	37.44	Si
SLU 51	ini.	0.85	-218	-0.0000004	0.0001872	0.0035	0.9		2959	2959	No	3482.31	Si
SLU 51	fin.	84.8	-472	-0.0000422	0.0001872	0.0035	0.9		2959	2959	No	34.89	Si
SLU 47	ini.	2.03	-206	-0.000001	0.0001872	0.0035	0.9		2959	2959	No	1456.4	Si
SLU 47	fin.	76.01	-425	-0.0000377	0.0001872	0.0035	0.9		2959	2959	No	38.93	Si
SLU 50	ini.	-4.46	-199	-0.0000022	0.0001872	0.0035	0.9		2964.67	2964.67	No	664	Si
SLU 50	fin.	89.16	-488	-0.0000444	0.0001872	0.0035	0.9		2959	2959	No	33.19	Si
SLU 71	ini.	18.87	-289	-0.0000093	0.0001872	0.0035	0.9		2959	2959	No	156.79	Si
SLU 71	fin.	77.92	-439	-0.0000387	0.0001872	0.0035	0.9		2959	2959	No	37.97	Si
SLU 58	ini.	19.88	-261	-0.0000098	0.0001872	0.0035	0.9		2959	2959	No	148.81	Si
SLU 58	fin.	75.25	-416	-0.0000373	0.0001872	0.0035	0.9		2959	2959	No	39.32	Si
SLU 49	ini.	1.45	-234	-0.0000007	0.0001872	0.0035	0.9		2959	2959	No	2035.15	Si
SLU 49	fin.	80.57	-456	-0.00004	0.0001872	0.0035	0.9		2959	2959	No	36.73	Si
SLU 43	ini.	-9.19	-147	-0.0000045	0.0001872	0.0035	0.9		2964.67	2964.67	No	322.71	Si
SLU 43	fin.	77.39	-417	-0.0000384	0.0001872	0.0035	0.9		2959	2959	No	38.24	Si
SLU 48	ini.	-3.86	-214	-0.0000019	0.0001872	0.0035	0.9		2964.67	2964.67	No	767.93	Si
SLU 48	fin.	84.93	-472	-0.0000422	0.0001872	0.0035	0.9		2959	2959	No	34.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 45	ini.	-6.22	-401	0.9	0	1750	7137	3773	2295	6068	No	15.12	Si
SLU 45	fin.	79.04	705	0.9	0	1750	7137	3773	2295	6068	No	8.61	Si
SLU 70	ini.	24.79	-601	0.9	0	1750	7137	3773	2295	6068	No	10.1	Si
SLU 70	fin.	69.33	634	0.9	0	1750	7137	3773	2295	6068	No	9.57	Si
SLU 69	ini.	19.48	-574	0.9	0	1750	7137	3773	2295	6068	No	10.57	Si
SLU 69	fin.	73.69	662	0.9	0	1750	7137	3773	2295	6068	No	9.16	Si
SLU 51	ini.	0.85	-414	0.9	0	1750	7137	3773	2295	6068	No	14.67	Si
SLU 51	fin.	84.8	736	0.9	0	1750	7137	3773	2295	6068	No	8.24	Si
SLU 48	ini.	-3.86	-455	0.9	0	1750	7137	3773	2295	6068	No	13.35	Si
SLU 48	fin.	84.93	778	0.9	0	1750	7137	3773	2295	6068	No	7.8	Si
SLU 46	ini.	-0.91	-428	0.9	0	1750	7137	3773	2295	6068	No	14.18	Si
SLU 46	fin.	74.68	677	0.9	0	1750	7137	3773	2295	6068	No	8.96	Si
SLU 47	ini.	2.03	-378	0.9	0	1750	7137	3773	2295	6068	No	16.05	Si
SLU 47	fin.	76.01	645	0.9	0	1750	7137	3773	2295	6068	No	9.41	Si
SLU 49	ini.	1.45	-481	0.9	0	1750	7137	3773	2295	6068	No	12.61	Si
SLU 49	fin.	80.57	750	0.9	0	1750	7137	3773	2295	6068	No	8.1	Si
SLU 71	ini.	18.87	-507	0.9	0	1750	7137	3773	2295	6068	No	11.98	Si
SLU 71	fin.	77.92	649	0.9	0	1750	7137	3773	2295	6068	No	9.35	Si
SLU 50	ini.	-4.46	-387	0.9	0	1750	7137	3773	2295	6068	No	15.67	Si
SLU 50	fin.	89.16	765	0.9	0	1750	7137	3773	2295	6068	No	7.94	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-509.61	1734	-0.0002705	0.0002807	0.0035	0.9		2995.37	2995.37		5.88	Si
SLV 12	fin.	515.24	-2141	-0.0002744	0.0002807	0.0035	0.9		2989.59	2989.59		5.8	Si
SLV 10	ini.	372.66	-1385	-0.0001932	0.0002807	0.0035	0.9		2989.59	2989.59		8.02	Si
SLV 10	fin.	-313.66	1195	-0.0001606	0.0002807	0.0035	0.9		2995.37	2995.37		9.55	Si
SLV 7	ini.	-347.23	1024	-0.0001788	0.0002807	0.0035	0.9		2995.37	2995.37		8.63	Si
SLV 7	fin.	412.42	-1741	-0.0002153	0.0002807	0.0035	0.9		2989.59	2989.59		7.25	Si
SLV 8	ini.	-445.4	1424	-0.0002335	0.0002807	0.0035	0.9		2995.37	2995.37		6.73	Si
SLV 8	fin.	477.88	-1987	-0.0002526	0.0002807	0.0035	0.9		2989.59	2989.59		6.26	Si
SLV 11	ini.	-411.43	1334	-0.0002143	0.0002807	0.0035	0.9		2995.37	2995.37		7.28	Si
SLV 11	fin.	449.79	-1895	-0.0002365	0.0002807	0.0035	0.9		2989.59	2989.59		6.65	Si
SLV 6	ini.	436.86	-1695	-0.0002291	0.0002807	0.0035	0.9		2989.59	2989.59		6.84	Si
SLV 6	fin.	-351.03	1348	-0.0001809	0.0002807	0.0035	0.9		2995.37	2995.37		8.53	Si
SLD 12	ini.	-295.11	949	-0.0001507	0.0002807	0.0035	0.9		2995.37	2995.37		10.15	Si
SLD 12	fin.	323.15	-1370	-0.0001661	0.0002807	0.0035	0.9		2989.59	2989.59		9.25	Si
SLV 5	ini.	535.03	-2096	-0.000286	0.0002807	0.0035	0.9		2989.59	2989.59		5.59	Si
SLV 5	fin.	-416.48	1594	-0.0002172	0.0002807	0.0035	0.9		2995.37	2995.37		7.19	Si
SLV 9	ini.	470.83	-1786	-0.0002485	0.0002807	0.0035	0.9		2989.59	2989.59		6.35	Si
SLV 9	fin.	-379.12	1440	-0.0001964	0.0002807	0.0035	0.9		2995.37	2995.37		7.9	Si
SLV 1	ini.	324.97	-1463	-0.0001671	0.0002807	0.0035	0.9		2989.59	2989.59		9.2	Si
SLV 1	fin.	-185.85	665	-0.0000932	0.0002807	0.0035	0.9		2995.37	2995.37		16.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	372.66	-2115	0.9	0	2625	7137	5660	2295	7955		3.76	Si
SLV 10	fin.	-313.66	-1978	0.9	0	2625	7137	5660	2295	7955		4.02	Si
SLV 7	ini.	-347.23	1543	0.9	0	2625	7137	5660	2295	7955		5.16	Si
SLV 7	fin.	412.42	2687	0.9	0	2625	7137	5660	2295	7955		2.96	Si
SLV 5	ini.	535.03	-2830	0.9	0	2625	7137	5660	2295	7955		2.81	Si
SLV 5	fin.	-416.48	-2828	0.9	0	2625	7137	5660	2295	7955		2.81	Si
SLV 12	ini.	-509.61	2258	0.9	0	2625	7137	5660	2295	7955		3.52	Si
SLV 12	fin.	515.24	3537	0.9	0	2625	7137	5660	2295	7955		2.25	Si
SLD 12	ini.	-295.11	1212	0.9	0	2625	7137	5660	2295	7955		6.56	Si
SLD 12	fin.	323.15	2228	0.9	0	2625	7137	5660	2295	7955		3.57	Si
SLV 11	ini.	-411.43	1760	0.9	0	2625	7137	5660	2295	7955		4.52	Si
SLV 11	fin.	449.79	3059	0.9	0	2625	7137	5660	2295	7955		2.6	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-299.55	1102	0.9	0	2625	7137	5660	2295	7955		7.22	Si
SLV 16	fin.	284.6	2156	0.9	0	2625	7137	5660	2295	7955		3.69	Si
SLV 9	ini.	470.83	-2613	0.9	0	2625	7137	5660	2295	7955		3.04	Si
SLV 9	fin.	-379.12	-2457	0.9	0	2625	7137	5660	2295	7955		3.24	Si
SLV 8	ini.	-445.4	2041	0.9	0	2625	7137	5660	2295	7955		3.9	Si
SLV 8	fin.	477.88	3166	0.9	0	2625	7137	5660	2295	7955		2.51	Si
SLV 6	ini.	436.86	-2332	0.9	0	2625	7137	5660	2295	7955		3.41	Si
SLV 6	fin.	-351.03	-2349	0.9	0	2625	7137	5660	2295	7955		3.39	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.588	SLV 5	Si
V_SLV	2.249	SLV 12	Si
PF_SLU	33.187	SLU 50	Si
V_SLU	7.802	SLU 48	Si

Trave di accoppiamento 144

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	14.2	14.6	0.4	-22.778	5.951	14.2	14.6	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-55.76	103	-0.000146	0.0001872	0.0035	0.4		588.62	588.62	No	10.56	Si
SLU 77	fin.	-81.47	18	-0.0002208	0.0001872	0.0035	0.4		588.62	588.62	No	7.22	Si
SLU 78	ini.	-52.48	113	-0.0001369	0.0001872	0.0035	0.4		588.62	588.62	No	11.22	Si
SLU 78	fin.	-84.84	7	-0.000231	0.0001872	0.0035	0.4		588.62	588.62	No	6.94	Si
SLU 84	ini.	-33.26	130	-0.0000848	0.0001872	0.0035	0.4		588.62	588.62	No	17.7	Si
SLU 84	fin.	-81.09	-27	-0.0002196	0.0001872	0.0035	0.4		588.62	588.62	No	7.26	Si
SLU 75	ini.	-43.44	126	-0.0001121	0.0001872	0.0035	0.4		588.62	588.62	No	13.55	Si
SLU 75	fin.	-82.19	-1	-0.0002229	0.0001872	0.0035	0.4		588.62	588.62	No	7.16	Si
SLU 36	ini.	-37.53	130	-0.0000962	0.0001872	0.0035	0.4		588.62	588.62	No	15.68	Si
SLU 36	fin.	-86.97	-32	-0.0002375	0.0001872	0.0035	0.4		588.62	588.62	No	6.77	Si
SLU 42	ini.	-18.31	146	-0.000046	0.0001872	0.0035	0.4		588.62	588.62	No	32.15	Si
SLU 42	fin.	-83.22	-66	-0.0002261	0.0001872	0.0035	0.4		588.62	588.62	No	7.07	Si
SLU 32	ini.	-31.77	133	-0.0000809	0.0001872	0.0035	0.4		588.62	588.62	No	18.53	Si
SLU 32	fin.	-80.94	-28	-0.0002192	0.0001872	0.0035	0.4		588.62	588.62	No	7.27	Si
SLU 40	ini.	-9.27	159	-0.0000231	0.0001872	0.0035	0.4		588.62	588.62	No	63.5	Si
SLU 40	fin.	-80.56	-74	-0.000218	0.0001872	0.0035	0.4		588.62	588.62	No	7.31	Si
SLU 35	ini.	-40.81	120	-0.000105	0.0001872	0.0035	0.4		588.62	588.62	No	14.42	Si
SLU 35	fin.	-83.6	-21	-0.0002272	0.0001872	0.0035	0.4		588.62	588.62	No	7.04	Si
SLU 33	ini.	-28.49	143	-0.0000723	0.0001872	0.0035	0.4		588.62	588.62	No	20.66	Si
SLU 33	fin.	-84.31	-40	-0.0002294	0.0001872	0.0035	0.4		588.62	588.62	No	6.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-33.26	273	0.4	0	631	3172	1677	1020	2697	No	9.88	Si
SLU 84	fin.	-81.09	-445	0.4	0	631	3172	1677	1020	2697	No	6.05	Si
SLU 75	ini.	-43.44	322	0.4	0	631	3172	1677	1020	2697	No	8.39	Si
SLU 75	fin.	-82.19	-462	0.4	0	631	3172	1677	1020	2697	No	5.84	Si
SLU 33	ini.	-28.49	243	0.4	0	631	3172	1677	1020	2697	No	11.11	Si
SLU 33	fin.	-84.31	-443	0.4	0	631	3172	1677	1020	2697	No	6.08	Si
SLU 69	ini.	-73.12	436	0.4	0	631	3172	1677	1020	2697	No	6.19	Si
SLU 69	fin.	-63.38	-403	0.4	0	631	3172	1677	1020	2697	No	6.68	Si
SLU 48	ini.	-78.94	439	0.4	0	631	3172	1677	1020	2697	No	6.14	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 48	fin.	-36.11	-289	0.4	0	631	3172	1677	1020	2697	No	9.34	Si
SLU 36	ini.	-37.53	282	0.4	0	631	3172	1677	1020	2697	No	9.56	Si
SLU 36	fin.	-86.97	-461	0.4	0	631	3172	1677	1020	2697	No	5.86	Si
SLU 77	ini.	-55.76	373	0.4	0	631	3172	1677	1020	2697	No	7.23	Si
SLU 77	fin.	-81.47	-467	0.4	0	631	3172	1677	1020	2697	No	5.78	Si
SLU 78	ini.	-52.48	361	0.4	0	631	3172	1677	1020	2697	No	7.47	Si
SLU 78	fin.	-84.84	-479	0.4	0	631	3172	1677	1020	2697	No	5.63	Si
SLU 35	ini.	-40.81	294	0.4	0	631	3172	1677	1020	2697	No	9.17	Si
SLU 35	fin.	-83.6	-449	0.4	0	631	3172	1677	1020	2697	No	6.01	Si
SLU 74	ini.	-46.72	333	0.4	0	631	3172	1677	1020	2697	No	8.09	Si
SLU 74	fin.	-78.82	-450	0.4	0	631	3172	1677	1020	2697	No	6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	196.05	764	-0.0005883	0.0002807	0.0035	0.4		592.15	592.15		3.02	Si
SLV 13	fin.	-278.08	-771	-0.0009101	0.0002807	0.0035	0.4		594.74	594.74		2.14	Si
SLV 7	ini.	-350.12	-976	-0.0012435	0.0002807	0.0035	0.4		594.74	594.74		1.7	Si
SLV 7	fin.	276.66	1062	-0.0009089	0.0002807	0.0035	0.4		592.15	592.15		2.14	Si
SLV 4	ini.	-269.14	-673	-0.0008721	0.0002807	0.0035	0.4		594.74	594.74		2.21	Si
SLV 4	fin.	204	858	-0.0006177	0.0002807	0.0035	0.4		592.15	592.15		2.9	Si
SLV 5	ini.	260.79	1005	-0.0008418	0.0002807	0.0035	0.4		592.15	592.15		2.27	Si
SLV 5	fin.	-335.99	-942	-0.0011738	0.0002807	0.0035	0.4		594.74	594.74		1.77	Si
SLV 11	ini.	-286.61	-782	-0.000947	0.0002807	0.0035	0.4		594.74	594.74		2.08	Si
SLV 11	fin.	210.21	838	-0.0006411	0.0002807	0.0035	0.4		592.15	592.15		2.82	Si
SLV 6	ini.	213.52	873	-0.0006536	0.0002807	0.0035	0.4		592.15	592.15		2.77	Si
SLV 6	fin.	-284.3	-752	-0.0009369	0.0002807	0.0035	0.4		594.74	594.74		2.09	Si
SLV 9	ini.	324.3	1199	-0.0011242	0.0002807	0.0035	0.4		592.15	592.15		1.83	Si
SLV 9	fin.	-402.44	-1166	-0.0015258	0.0002807	0.0035	0.4		594.74	594.74		1.48	Si
SLV 10	ini.	277.03	1067	-0.0009105	0.0002807	0.0035	0.4		592.15	592.15		2.14	Si
SLV 10	fin.	-350.75	-975	-0.0012467	0.0002807	0.0035	0.4		594.74	594.74		1.7	Si
SLV 8	ini.	-397.39	-1108	-0.0014966	0.0002807	0.0035	0.4		594.74	594.74		1.5	Si
SLV 8	fin.	328.36	1252	-0.0011436	0.0002807	0.0035	0.4		592.15	592.15		1.8	Si
SLV 12	ini.	-333.88	-914	-0.0011636	0.0002807	0.0035	0.4		594.74	594.74		1.78	Si
SLV 12	fin.	261.91	1029	-0.0008464	0.0002807	0.0035	0.4		592.15	592.15		2.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	277.03	-879	0.4	0	919	3172	2515	1020	3535		4.02	Si
SLV 10	fin.	-350.75	-1364	0.4	0	919	3172	2515	1020	3535		2.59	Si
SLV 6	ini.	213.52	-646	0.4	0	919	3172	2515	1020	3535		5.47	Si
SLV 6	fin.	-284.3	-1129	0.4	0	919	3172	2515	1020	3535		3.13	Si
SLV 8	ini.	-397.39	1536	0.4	0	919	3172	2515	1020	3535		2.3	Si
SLV 8	fin.	328.36	1055	0.4	0	919	3172	2515	1020	3535		3.35	Si
SLV 5	ini.	260.79	-822	0.4	0	919	3172	2515	1020	3535		4.3	Si
SLV 5	fin.	-335.99	-1307	0.4	0	919	3172	2515	1020	3535		2.7	Si
SLV 13	ini.	196.05	-606	0.4	0	919	3172	2515	1020	3535		5.84	Si
SLV 13	fin.	-278.08	-1095	0.4	0	919	3172	2515	1020	3535		3.23	Si
SLV 11	ini.	-286.61	1128	0.4	0	919	3172	2515	1020	3535		3.14	Si
SLV 11	fin.	210.21	643	0.4	0	919	3172	2515	1020	3535		5.5	Si
SLV 4	ini.	-269.14	1087	0.4	0	919	3172	2515	1020	3535		3.25	Si
SLV 4	fin.	204	608	0.4	0	919	3172	2515	1020	3535		5.81	Si
SLV 12	ini.	-333.88	1303	0.4	0	919	3172	2515	1020	3535		2.71	Si
SLV 12	fin.	261.91	820	0.4	0	919	3172	2515	1020	3535		4.31	Si
SLV 9	ini.	324.3	-1055	0.4	0	919	3172	2515	1020	3535		3.35	Si
SLV 9	fin.	-402.44	-1542	0.4	0	919	3172	2515	1020	3535		2.29	Si
SLV 7	ini.	-350.12	1361	0.4	0	919	3172	2515	1020	3535		2.6	Si
SLV 7	fin.	276.66	878	0.4	0	919	3172	2515	1020	3535		4.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.478	SLV 9	Si
V_SLV	2.293	SLV 9	Si
PF_SLU	6.768	SLU 36	Si
V_SLU	5.632	SLU 78	Si

Trave di accoppiamento 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	11.5	12.4	0.9	-22.478	-3.169	11.5	12.4	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 32	ini.	263.95	-736	-0.0001365	0.0001872	0.0035	0.9		2959	2959	No	11.21	Si
SLU 32	fin.	-62.97	-63	-0.0000311	0.0001872	0.0035	0.9		2964.67	2964.67	No	47.08	Si
SLU 83	ini.	289.11	-838	-0.0001504	0.0001872	0.0035	0.9		2959	2959	No	10.23	Si
SLU 83	fin.	-62.03	-112	-0.0000306	0.0001872	0.0035	0.9		2964.67	2964.67	No	47.79	Si
SLU 81	ini.	310.54	-842	-0.0001624	0.0001872	0.0035	0.9		2959	2959	No	9.53	Si
SLU 81	fin.	-84.87	-27	-0.0000421	0.0001872	0.0035	0.9		2964.67	2964.67	No	34.93	Si
SLU 41	ini.	273.22	-733	-0.0001416	0.0001872	0.0035	0.9		2959	2959	No	10.83	Si
SLU 41	fin.	-74.15	-24	-0.0000367	0.0001872	0.0035	0.9		2964.67	2964.67	No	39.98	Si
SLU 75	ini.	267.98	-830	-0.0001387	0.0001872	0.0035	0.9		2959	2959	No	11.04	Si
SLU 75	fin.	-40.94	-180	-0.0000201	0.0001872	0.0035	0.9		2964.67	2964.67	No	72.41	Si
SLU 40	ini.	282.78	-727	-0.0001469	0.0001872	0.0035	0.9		2959	2959	No	10.46	Si
SLU 40	fin.	-87.08	32	-0.0000432	0.0001872	0.0035	0.9		2964.67	2964.67	No	34.04	Si
SLU 82	ini.	298.68	-832	-0.0001557	0.0001872	0.0035	0.9		2959	2959	No	9.91	Si
SLU 82	fin.	-74.96	-56	-0.0000371	0.0001872	0.0035	0.9		2964.67	2964.67	No	39.55	Si
SLU 84	ini.	277.25	-828	-0.0001438	0.0001872	0.0035	0.9		2959	2959	No	10.67	Si
SLU 84	fin.	-52.13	-141	-0.0000257	0.0001872	0.0035	0.9		2964.67	2964.67	No	56.87	Si
SLU 39	ini.	294.64	-738	-0.0001535	0.0001872	0.0035	0.9		2959	2959	No	10.04	Si
SLU 39	fin.	-96.99	61	-0.0000483	0.0001872	0.0035	0.9		2964.67	2964.67	No	30.57	Si
SLU 74	ini.	279.84	-840	-0.0001452	0.0001872	0.0035	0.9		2959	2959	No	10.57	Si
SLU 74	fin.	-50.85	-151	-0.0000251	0.0001872	0.0035	0.9		2964.67	2964.67	No	58.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	289.11	-820	0.9	0	1750	7137	3773	2295	6068	No	7.4	Si
SLU 83	fin.	-62.03	-423	0.9	0	1750	7137	3773	2295	6068	No	14.33	Si
SLU 39	ini.	294.64	-854	0.9	0	1750	7137	3773	2295	6068	No	7.11	Si
SLU 39	fin.	-96.99	-640	0.9	0	1750	7137	3773	2295	6068	No	9.48	Si
SLU 74	ini.	279.84	-818	0.9	0	1750	7137	3773	2295	6068	No	7.42	Si
SLU 74	fin.	-50.85	-322	0.9	0	1750	7137	3773	2295	6068	No	18.86	Si
SLU 81	ini.	310.54	-891	0.9	0	1750	7137	3773	2295	6068	No	6.81	Si
SLU 81	fin.	-84.87	-562	0.9	0	1750	7137	3773	2295	6068	No	10.79	Si
SLU 32	ini.	263.95	-781	0.9	0	1750	7137	3773	2295	6068	No	7.77	Si
SLU 32	fin.	-62.97	-399	0.9	0	1750	7137	3773	2295	6068	No	15.2	Si
SLU 84	ini.	277.25	-779	0.9	0	1750	7137	3773	2295	6068	No	7.79	Si
SLU 84	fin.	-52.13	-375	0.9	0	1750	7137	3773	2295	6068	No	16.17	Si
SLU 82	ini.	298.68	-849	0.9	0	1750	7137	3773	2295	6068	No	7.14	Si
SLU 82	fin.	-74.96	-514	0.9	0	1750	7137	3773	2295	6068	No	11.8	Si
SLU 75	ini.	267.98	-776	0.9	0	1750	7137	3773	2295	6068	No	7.81	Si
SLU 75	fin.	-40.94	-274	0.9	0	1750	7137	3773	2295	6068	No	22.18	Si
SLU 40	ini.	282.78	-812	0.9	0	1750	7137	3773	2295	6068	No	7.47	Si
SLU 40	fin.	-87.08	-592	0.9	0	1750	7137	3773	2295	6068	No	10.25	Si
SLU 41	ini.	273.22	-783	0.9	0	1750	7137	3773	2295	6068	No	7.75	Si
SLU 41	fin.	-74.15	-501	0.9	0	1750	7137	3773	2295	6068	No	12.11	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	856.43	-1229	-0.000492	0.0002807	0.0035	0.9		2989.59	2989.59		3.49	Si
SLV 4	fin.	-563.82	1430	-0.0003026	0.0002807	0.0035	0.9		2995.37	2995.37		5.31	Si
SLV 10	ini.	-801.67	436	-0.0004538	0.0002807	0.0035	0.9		2995.37	2995.37		3.74	Si
SLV 10	fin.	715.57	-2329	-0.000398	0.0002807	0.0035	0.9		2989.59	2989.59		4.18	Si
SLV 8	ini.	1281.38	-1694	-0.0008097	0.0002807	0.0035	0.9		2989.59	2989.59		2.33	Si
SLV 8	fin.	-858.25	2330	-0.0004921	0.0002807	0.0035	0.9		2995.37	2995.37		3.49	Si
SLV 5	ini.	-760.36	425	-0.0004263	0.0002807	0.0035	0.9		2995.37	2995.37		3.94	Si
SLV 5	fin.	661.6	-2179	-0.0003635	0.0002807	0.0035	0.9		2989.59	2989.59		4.52	Si
SLV 11	ini.	965.58	-1384	-0.0005687	0.0002807	0.0035	0.9		2989.59	2989.59		3.1	Si
SLV 11	fin.	-605.85	1607	-0.0003281	0.0002807	0.0035	0.9		2995.37	2995.37		4.94	Si
SLD 8	ini.	826.34	-1226	-0.0004714	0.0002807	0.0035	0.9		2989.59	2989.59		3.62	Si
SLD 8	fin.	-515.6	1317	-0.000274	0.0002807	0.0035	0.9		2995.37	2995.37		5.81	Si
SLV 12	ini.	1102.82	-1534	-0.0006699	0.0002807	0.0035	0.9		2989.59	2989.59		2.71	Si
SLV 12	fin.	-705.06	1894	-0.0003904	0.0002807	0.0035	0.9		2995.37	2995.37		4.25	Si
SLV 7	ini.	1144.13	-1544	-0.0007014	0.0002807	0.0035	0.9		2989.59	2989.59		2.61	Si
SLV 7	fin.	-759.03	2044	-0.0004254	0.0002807	0.0035	0.9		2995.37	2995.37		3.95	Si
SLV 9	ini.	-938.92	586	-0.0005484	0.0002807	0.0035	0.9		2995.37	2995.37		3.19	Si
SLV 9	fin.	814.78	-2615	-0.0004636	0.0002807	0.0035	0.9		2989.59	2989.59		3.67	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 7	ini.	743.06	-1135	-0.0004159	0.0002807	0.0035	0.9		2989.59	2989.59		4.02	Si
SLD 7	fin.	-455.39	1144	-0.0002392	0.0002807	0.0035	0.9		2995.37	2995.37		6.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	1144.13	-3856	0.9	0	2625	7137	5660	2295	7955		2.06	Si
SLV 7	fin.	-759.03	-3950	0.9	0	2625	7137	5660	2295	7955		2.01	Si
SLD 8	ini.	826.34	-2762	0.9	0	2625	7137	5660	2295	7955		2.88	Si
SLD 8	fin.	-515.6	-2673	0.9	0	2625	7137	5660	2295	7955		2.98	Si
SLV 4	ini.	856.43	-3001	0.9	0	2625	7137	5660	2295	7955		2.65	Si
SLV 4	fin.	-563.82	-2878	0.9	0	2625	7137	5660	2295	7955		2.76	Si
SLV 5	ini.	-760.36	2657	0.9	0	2625	7137	5660	2295	7955		2.99	Si
SLV 5	fin.	661.6	3375	0.9	0	2625	7137	5660	2295	7955		2.36	Si
SLV 10	ini.	-801.67	2881	0.9	0	2625	7137	5660	2295	7955		2.76	Si
SLV 10	fin.	715.57	3661	0.9	0	2625	7137	5660	2295	7955		2.17	Si
SLV 6	ini.	-623.12	2175	0.9	0	2625	7137	5660	2295	7955		3.66	Si
SLV 6	fin.	562.38	2895	0.9	0	2625	7137	5660	2295	7955		2.75	Si
SLV 8	ini.	1281.38	-4339	0.9	0	2625	7137	5660	2295	7955		1.83	Si
SLV 8	fin.	-858.25	-4431	0.9	0	2625	7137	5660	2295	7955		1.8	Si
SLV 12	ini.	1102.82	-3632	0.9	0	2625	7137	5660	2295	7955		2.19	Si
SLV 12	fin.	-705.06	-3665	0.9	0	2625	7137	5660	2295	7955		2.17	Si
SLV 9	ini.	-938.92	3364	0.9	0	2625	7137	5660	2295	7955		2.36	Si
SLV 9	fin.	814.78	4142	0.9	0	2625	7137	5660	2295	7955		1.92	Si
SLV 11	ini.	965.58	-3149	0.9	0	2625	7137	5660	2295	7955		2.53	Si
SLV 11	fin.	-605.85	-3184	0.9	0	2625	7137	5660	2295	7955		2.5	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.333	SLV 8	Si
V_SLV	1.795	SLV 8	Si
PF_SLU	9.529	SLU 81	Si
V_SLU	6.813	SLU 81	Si

Trave di accoppiamento 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	14.2	14.6	0.4	-22.478	-3.169	14.2	14.6	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 32	ini.	34.62	228	-0.0000888	0.0001872	0.0035	0.4		586.12	586.12	No	16.93	Si
SLU 32	fin.	-86	-602	-0.0002346	0.0001872	0.0035	0.4		588.62	588.62	No	6.84	Si
SLU 41	ini.	50.15	258	-0.000131	0.0001872	0.0035	0.4		586.12	586.12	No	11.69	Si
SLU 41	fin.	-87.97	-616	-0.0002406	0.0001872	0.0035	0.4		588.62	588.62	No	6.69	Si
SLU 74	ini.	28.94	219	-0.0000738	0.0001872	0.0035	0.4		586.12	586.12	No	20.25	Si
SLU 74	fin.	-88.79	-624	-0.0002432	0.0001872	0.0035	0.4		588.62	588.62	No	6.63	Si
SLU 75	ini.	24.62	172	-0.0000625	0.0001872	0.0035	0.4		586.12	586.12	No	23.81	Si
SLU 75	fin.	-86.52	-609	-0.0002362	0.0001872	0.0035	0.4		588.62	588.62	No	6.8	Si
SLU 82	ini.	49.58	260	-0.0001294	0.0001872	0.0035	0.4		586.12	586.12	No	11.82	Si
SLU 82	fin.	-95.29	-676	-0.0002635	0.0001872	0.0035	0.4		588.62	588.62	No	6.18	Si
SLU 40	ini.	55.25	269	-0.0001452	0.0001872	0.0035	0.4		586.12	586.12	No	10.61	Si
SLU 40	fin.	-92.5	-654	-0.0002547	0.0001872	0.0035	0.4		588.62	588.62	No	6.36	Si
SLU 39	ini.	59.58	317	-0.0001574	0.0001872	0.0035	0.4		586.12	586.12	No	9.84	Si
SLU 39	fin.	-94.77	-669	-0.0002619	0.0001872	0.0035	0.4		588.62	588.62	No	6.21	Si
SLU 81	ini.	53.9	308	-0.0001414	0.0001872	0.0035	0.4		586.12	586.12	No	10.87	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-97.56	-691	-0.0002707	0.0001872	0.0035	0.4		588.62	588.62	No	6.03	Si
SLU 83	ini.	44.48	249	-0.0001154	0.0001872	0.0035	0.4		586.12	586.12	No	13.18	Si
SLU 83	fin.	-90.77	-638	-0.0002493	0.0001872	0.0035	0.4		588.62	588.62	No	6.48	Si
SLU 84	ini.	40.15	201	-0.0001037	0.0001872	0.0035	0.4		586.12	586.12	No	14.6	Si
SLU 84	fin.	-88.5	-623	-0.0002423	0.0001872	0.0035	0.4		588.62	588.62	No	6.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	40.15	-59	0.4	0	631	3172	1677	1020	2697	No	45.98	Si
SLU 84	fin.	-88.5	-890	0.4	0	631	3172	1677	1020	2697	No	3.03	Si
SLU 76	ini.	24.39	-4	0.4	0	631	3172	1677	1020	2697	No	752.24	Si
SLU 76	fin.	-77.42	-860	0.4	0	631	3172	1677	1020	2697	No	3.14	Si
SLU 78	ini.	15.2	48	0.4	0	631	3172	1677	1020	2697	No	55.62	Si
SLU 78	fin.	-79.72	-908	0.4	0	631	3172	1677	1020	2697	No	2.97	Si
SLU 82	ini.	49.58	-87	0.4	0	631	3172	1677	1020	2697	No	30.93	Si
SLU 82	fin.	-95.29	-917	0.4	0	631	3172	1677	1020	2697	No	2.94	Si
SLU 75	ini.	24.62	20	0.4	0	631	3172	1677	1020	2697	No	135.21	Si
SLU 75	fin.	-86.52	-934	0.4	0	631	3172	1677	1020	2697	No	2.89	Si
SLU 77	ini.	19.52	42	0.4	0	631	3172	1677	1020	2697	No	63.68	Si
SLU 77	fin.	-81.99	-874	0.4	0	631	3172	1677	1020	2697	No	3.09	Si
SLU 33	ini.	30.3	-22	0.4	0	631	3172	1677	1020	2697	No	120.35	Si
SLU 33	fin.	-83.72	-877	0.4	0	631	3172	1677	1020	2697	No	3.08	Si
SLU 81	ini.	53.9	-93	0.4	0	631	3172	1677	1020	2697	No	28.9	Si
SLU 81	fin.	-97.56	-883	0.4	0	631	3172	1677	1020	2697	No	3.06	Si
SLU 74	ini.	28.94	14	0.4	0	631	3172	1677	1020	2697	No	195.23	Si
SLU 74	fin.	-88.79	-900	0.4	0	631	3172	1677	1020	2697	No	2.99	Si
SLU 73	ini.	33.82	-32	0.4	0	631	3172	1677	1020	2697	No	83.95	Si
SLU 73	fin.	-84.22	-886	0.4	0	631	3172	1677	1020	2697	No	3.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-359.25	-1743	-0.0012899	0.0002807	0.0035	0.4		594.74	594.74		1.66	Si
SLV 5	fin.	317.99	1618	-0.0010944	0.0002807	0.0035	0.4		592.15	592.15		1.86	Si
SLV 4	ini.	369.67	1443	-0.0013522	0.0002807	0.0035	0.4		592.15	592.15		1.6	Si
SLV 4	fin.	-221.23	-1743	-0.0006796	0.0002807	0.0035	0.4		594.74	594.74		2.69	Si
SLV 11	ini.	323.41	1742	-0.0011199	0.0002807	0.0035	0.4		592.15	592.15		1.83	Si
SLV 11	fin.	-377.06	-2046	-0.0013836	0.0002807	0.0035	0.4		594.74	594.74		1.58	Si
SLV 9	ini.	-473.41	-2079	-0.0020022	0.0002807	0.0035	0.4		594.74	594.74		1.26	Si
SLV 9	fin.	336.2	1949	-0.0011815	0.0002807	0.0035	0.4		592.15	592.15		1.76	Si
SLV 13	ini.	-342.91	-1194	-0.0012077	0.0002807	0.0035	0.4		594.74	594.74		1.73	Si
SLV 13	fin.	118.42	1011	-0.000325	0.0002807	0.0035	0.4		592.15	592.15		5	Si
SLD 8	ini.	300.71	1421	-0.0010149	0.0002807	0.0035	0.4		592.15	592.15		1.97	Si
SLD 8	fin.	-283.93	-1732	-0.0009353	0.0002807	0.0035	0.4		594.74	594.74		2.09	Si
SLV 12	ini.	386.01	1993	-0.0014413	0.0002807	0.0035	0.4		592.15	592.15		1.53	Si
SLV 12	fin.	-420.81	-2350	-0.0016363	0.0002807	0.0035	0.4		594.74	594.74		1.41	Si
SLV 10	ini.	-410.82	-1828	-0.0015753	0.0002807	0.0035	0.4		594.74	594.74		1.45	Si
SLV 10	fin.	292.44	1645	-0.0009778	0.0002807	0.0035	0.4		592.15	592.15		2.02	Si
SLV 8	ini.	500.17	2328	-0.0022427	0.0002807	0.0035	0.4		592.15	592.15		1.18	Si
SLV 8	fin.	-439.02	-2681	-0.0017536	0.0002807	0.0035	0.4		594.74	594.74		1.35	Si
SLV 7	ini.	437.57	2077	-0.001756	0.0002807	0.0035	0.4		592.15	592.15		1.35	Si
SLV 7	fin.	-395.26	-2377	-0.0014844	0.0002807	0.0035	0.4		594.74	594.74		1.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	300.71	-1096	0.4	0	919	3172	2515	1020	3535		3.23	Si
SLD 8	fin.	-283.93	-1557	0.4	0	919	3172	2515	1020	3535		2.27	Si
SLV 11	ini.	323.41	-1172	0.4	0	919	3172	2515	1020	3535		3.02	Si
SLV 11	fin.	-377.06	-1664	0.4	0	919	3172	2515	1020	3535		2.12	Si
SLV 12	ini.	386.01	-1416	0.4	0	919	3172	2515	1020	3535		2.5	Si
SLV 12	fin.	-420.81	-1918	0.4	0	919	3172	2515	1020	3535		1.84	Si
SLV 5	ini.	-359.25	1487	0.4	0	919	3172	2515	1020	3535		2.38	Si
SLV 5	fin.	317.99	856	0.4	0	919	3172	2515	1020	3535		4.13	Si
SLV 4	ini.	369.67	-1357	0.4	0	919	3172	2515	1020	3535		2.61	Si
SLV 4	fin.	-221.23	-1679	0.4	0	919	3172	2515	1020	3535		2.11	Si
SLV 7	ini.	437.57	-1620	0.4	0	919	3172	2515	1020	3535		2.18	Si
SLV 7	fin.	-395.26	-1984	0.4	0	919	3172	2515	1020	3535		1.78	Si
SLV 13	ini.	-342.91	1429	0.4	0	919	3172	2515	1020	3535		2.47	Si
SLV 13	fin.	118.42	617	0.4	0	919	3172	2515	1020	3535		5.73	Si
SLV 10	ini.	-410.82	1692	0.4	0	919	3172	2515	1020	3535		2.09	Si
SLV 10	fin.	292.44	922	0.4	0	919	3172	2515	1020	3535		3.83	Si
SLV 9	ini.	-473.41	1935	0.4	0	919	3172	2515	1020	3535		1.83	Si
SLV 9	fin.	336.2	1176	0.4	0	919	3172	2515	1020	3535		3.01	Si
SLV 8	ini.	500.17	-1863	0.4	0	919	3172	2515	1020	3535		1.9	Si
SLV 8	fin.	-439.02	-2238	0.4	0	919	3172	2515	1020	3535		1.58	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.184	SLV 8	Si
V_SLV	1.579	SLV 8	Si
PF_SLU	6.033	SLU 81	Si
V_SLU	2.886	SLU 75	Si

Trave di accoppiamento 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	11.5	13.5	2	-19.293	-3.169	11.5	13.5	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 50	ini.	-62.86	-807	-0.0000062	0.0001872	0.0035	2		14357.01	14357.01	No	228.4	Si
SLU 50	fin.	25.44	-1116	-0.0000025	0.0001872	0.0035	2		14344.28	14344.28	No	563.9	Si
SLU 51	ini.	-71.16	-802	-0.0000071	0.0001872	0.0035	2		14357.01	14357.01	No	201.76	Si
SLU 51	fin.	28.31	-1119	-0.0000028	0.0001872	0.0035	2		14344.28	14344.28	No	506.62	Si
SLU 65	ini.	-56.15	-859	-0.0000056	0.0001872	0.0035	2		14357.01	14357.01	No	255.7	Si
SLU 65	fin.	43.41	-1236	-0.0000043	0.0001872	0.0035	2		14344.28	14344.28	No	330.45	Si
SLU 49	ini.	-57.41	-872	-0.0000057	0.0001872	0.0035	2		14357.01	14357.01	No	250.07	Si
SLU 49	fin.	37.54	-1209	-0.0000037	0.0001872	0.0035	2		14344.28	14344.28	No	382.15	Si
SLU 5	ini.	-56.74	-629	-0.0000056	0.0001872	0.0035	2		14357.01	14357.01	No	253.04	Si
SLU 5	fin.	27.88	-893	-0.0000028	0.0001872	0.0035	2		14344.28	14344.28	No	514.57	Si
SLU 43	ini.	-57.61	-791	-0.0000057	0.0001872	0.0035	2		14357.01	14357.01	No	249.22	Si
SLU 43	fin.	32.75	-1116	-0.0000032	0.0001872	0.0035	2		14344.28	14344.28	No	438.03	Si
SLU 72	ini.	-55.87	-879	-0.0000055	0.0001872	0.0035	2		14357.01	14357.01	No	256.99	Si
SLU 72	fin.	34.18	-1235	-0.0000034	0.0001872	0.0035	2		14344.28	14344.28	No	419.66	Si
SLU 47	ini.	-74.07	-791	-0.0000073	0.0001872	0.0035	2		14357.01	14357.01	No	193.84	Si
SLU 47	fin.	33.89	-1120	-0.0000034	0.0001872	0.0035	2		14344.28	14344.28	No	423.31	Si
SLU 68	ini.	-58.77	-867	-0.0000058	0.0001872	0.0035	2		14357.01	14357.01	No	244.28	Si
SLU 68	fin.	39.75	-1237	-0.0000039	0.0001872	0.0035	2		14344.28	14344.28	No	360.83	Si
SLU 44	ini.	-71.44	-782	-0.0000071	0.0001872	0.0035	2		14357.01	14357.01	No	200.96	Si
SLU 44	fin.	37.54	-1120	-0.0000037	0.0001872	0.0035	2		14344.28	14344.28	No	382.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-39.49	459	2	0	3889	3965	8384	5100	7854	No	17.12	Si
SLU 67	fin.	47.06	1554	2	0	3889	3965	8384	5100	7854	No	5.05	Si
SLU 78	ini.	4.11	366	2	0	3889	3965	8384	5100	7854	No	21.46	Si
SLU 78	fin.	28.42	1435	2	0	3889	3965	8384	5100	7854	No	5.47	Si
SLU 66	ini.	-31.19	425	2	0	3889	3965	8384	5100	7854	No	18.49	Si
SLU 66	fin.	44.18	1514	2	0	3889	3965	8384	5100	7854	No	5.19	Si
SLU 69	ini.	-33.82	390	2	0	3889	3965	8384	5100	7854	No	20.16	Si
SLU 69	fin.	40.53	1516	2	0	3889	3965	8384	5100	7854	No	5.18	Si
SLU 72	ini.	-55.87	431	2	0	3889	3965	8384	5100	7854	No	18.22	Si
SLU 72	fin.	34.18	1467	2	0	3889	3965	8384	5100	7854	No	5.35	Si
SLU 46	ini.	-54.79	424	2	0	3889	3965	8384	5100	7854	No	18.53	Si
SLU 46	fin.	41.19	1461	2	0	3889	3965	8384	5100	7854	No	5.38	Si
SLU 49	ini.	-57.41	389	2	0	3889	3965	8384	5100	7854	No	20.2	Si
SLU 49	fin.	37.54	1462	2	0	3889	3965	8384	5100	7854	No	5.37	Si
SLU 65	ini.	-56.15	524	2	0	3889	3965	8384	5100	7854	No	14.99	Si
SLU 65	fin.	43.41	1490	2	0	3889	3965	8384	5100	7854	No	5.27	Si
SLU 68	ini.	-58.77	489	2	0	3889	3965	8384	5100	7854	No	16.06	Si
SLU 68	fin.	39.75	1492	2	0	3889	3965	8384	5100	7854	No	5.26	Si
SLU 70	ini.	-42.12	424	2	0	3889	3965	8384	5100	7854	No	18.54	Si
SLU 70	fin.	43.4	1556	2	0	3889	3965	8384	5100	7854	No	5.05	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	631.79	159	-0.0000637	0.0002807	0.0035	2		14202.07	14202.07		22.48	Si
SLV 12	fin.	-367.59	211	-0.0000367	0.0002807	0.0035	2		14215.41	14215.41		38.67	Si
SLV 5	ini.	-677.19	-1388	-0.0000683	0.0002807	0.0035	2		14215.41	14215.41		20.99	Si
SLV 5	fin.	415.85	-1994	-0.0000416	0.0002807	0.0035	2		14202.07	14202.07		34.15	Si
SLV 9	ini.	-1027.04	-2096	-0.0001047	0.0002807	0.0035	2		14215.41	14215.41		13.84	Si
SLV 9	fin.	542.18	-2784	-0.0000545	0.0002807	0.0035	2		14202.07	14202.07		26.19	Si
SLV 3	ini.	665.96	676	-0.0000672	0.0002807	0.0035	2		14202.07	14202.07		21.33	Si
SLV 3	fin.	-229.99	541	-0.0000229	0.0002807	0.0035	2		14215.41	14215.41		61.81	Si
SLV 8	ini.	981.63	867	-0.0001	0.0002807	0.0035	2		14202.07	14202.07		14.47	Si
SLV 8	fin.	-493.91	1001	-0.0000495	0.0002807	0.0035	2		14215.41	14215.41		28.78	Si
SLV 13	ini.	-949.7	-2284	-0.0000965	0.0002807	0.0035	2		14215.41	14215.41		14.97	Si
SLV 13	fin.	432.81	-2879	-0.0000433	0.0002807	0.0035	2		14202.07	14202.07		32.81	Si
SLV 10	ini.	-866.58	-1841	-0.0000879	0.0002807	0.0035	2		14215.41	14215.41		16.4	Si
SLV 10	fin.	438.13	-2411	-0.0000439	0.0002807	0.0035	2		14202.07	14202.07		32.42	Si
SLV 14	ini.	-711.36	-1905	-0.0000718	0.0002807	0.0035	2		14215.41	14215.41		19.98	Si
SLV 14	fin.	278.25	-2324	-0.0000277	0.0002807	0.0035	2		14202.07	14202.07		51.04	Si
SLV 4	ini.	904.3	1055	-0.0000919	0.0002807	0.0035	2		14202.07	14202.07		15.71	Si
SLV 4	fin.	-384.55	1096	-0.0000384	0.0002807	0.0035	2		14215.41	14215.41		36.97	Si
SLV 7	ini.	821.18	611	-0.0000832	0.0002807	0.0035	2		14202.07	14202.07		17.29	Si
SLV 7	fin.	-389.86	628	-0.000039	0.0002807	0.0035	2		14215.41	14215.41		36.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1027.04	4230	2	0	5833	3965	12577	5100	9798		2.32	Si
SLV 9	fin.	542.18	4979	2	0	5833	3965	12577	5100	9798		1.97	Si
SLV 13	ini.	-949.7	4136	2	0	5833	3965	12577	5100	9798		2.37	Si
SLV 13	fin.	432.81	3925	2	0	5833	3965	12577	5100	9798		2.5	Si
SLV 10	ini.	-866.58	3427	2	0	5833	3965	12577	5100	9798		2.86	Si
SLV 10	fin.	438.13	4279	2	0	5833	3965	12577	5100	9798		2.29	Si
SLV 14	ini.	-711.36	2944	2	0	5833	3965	12577	5100	9798		3.33	Si
SLV 14	fin.	278.25	2885	2	0	5833	3965	12577	5100	9798		3.4	Si
SLD 10	ini.	-523.62	2174	2	0	5833	3965	12577	5100	9798		4.51	Si
SLD 10	fin.	268.23	2950	2	0	5833	3965	12577	5100	9798		3.32	Si
SLV 4	ini.	904.3	-3465	2	0	5833	3965	12577	5100	9798		2.83	Si
SLV 4	fin.	-384.55	-1845	2	0	5833	3965	12577	5100	9798		5.31	Si
SLV 5	ini.	-677.19	2808	2	0	5833	3965	12577	5100	9798		3.49	Si
SLV 5	fin.	415.85	4129	2	0	5833	3965	12577	5100	9798		2.37	Si
SLV 8	ini.	981.63	-3559	2	0	5833	3965	12577	5100	9798		2.75	Si
SLV 8	fin.	-493.91	-2899	2	0	5833	3965	12577	5100	9798		3.38	Si
SLV 6	ini.	-516.74	2005	2	0	5833	3965	12577	5100	9798		4.89	Si
SLV 6	fin.	311.8	3429	2	0	5833	3965	12577	5100	9798		2.86	Si
SLD 9	ini.	-620.99	2661	2	0	5833	3965	12577	5100	9798		3.68	Si
SLD 9	fin.	331.37	3374	2	0	5833	3965	12577	5100	9798		2.9	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	13.841	SLV 9	Si
V_SLV	1.968	SLV 9	Si
PF_SLU	193.841	SLU 47	Si
V_SLU	5.048	SLU 70	Si

Trave di accoppiamento 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	14.3	14.6	0.3	-19.293	-3.169	14.3	14.6	0.3	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 65	ini.	-63.8	-58	-0.000321	0.0001872	0.0035	0.3		333.12	333.12	No	5.22	Si
SLU 65	fin.	64.09	-58	-0.0003248	0.0001872	0.0035	0.3		331.24	331.24	No	5.17	Si
SLU 73	ini.	-62.24	-74	-0.0003119	0.0001872	0.0035	0.3		333.12	333.12	No	5.35	Si
SLU 73	fin.	60.87	-74	-0.0003058	0.0001872	0.0035	0.3		331.24	331.24	No	5.44	Si
SLU 47	ini.	-62.21	-43	-0.0003116	0.0001872	0.0035	0.3		333.12	333.12	No	5.36	Si
SLU 47	fin.	62.56	-43	-0.0003157	0.0001872	0.0035	0.3		331.24	331.24	No	5.29	Si
SLU 44	ini.	-62.98	-40	-0.0003162	0.0001872	0.0035	0.3		333.12	333.12	No	5.29	Si
SLU 44	fin.	63.65	-40	-0.0003221	0.0001872	0.0035	0.3		331.24	331.24	No	5.2	Si
SLU 55	ini.	-60.65	-59	-0.0003026	0.0001872	0.0035	0.3		333.12	333.12	No	5.49	Si
SLU 55	fin.	59.34	-59	-0.0002969	0.0001872	0.0035	0.3		331.24	331.24	No	5.58	Si
SLU 2	ini.	-57.59	-33	-0.000285	0.0001872	0.0035	0.3		333.12	333.12	No	5.78	Si
SLU 2	fin.	58.39	-33	-0.0002915	0.0001872	0.0035	0.3		331.24	331.24	No	5.67	Si
SLU 76	ini.	-61.47	-77	-0.0003074	0.0001872	0.0035	0.3		333.12	333.12	No	5.42	Si
SLU 76	fin.	59.78	-77	-0.0002995	0.0001872	0.0035	0.3		331.24	331.24	No	5.54	Si
SLU 23	ini.	-58.41	-51	-0.0002897	0.0001872	0.0035	0.3		333.12	333.12	No	5.7	Si
SLU 23	fin.	58.84	-51	-0.000294	0.0001872	0.0035	0.3		331.24	331.24	No	5.63	Si
SLU 68	ini.	-63.03	-61	-0.0003164	0.0001872	0.0035	0.3		333.12	333.12	No	5.29	Si
SLU 68	fin.	63	-61	-0.0003183	0.0001872	0.0035	0.3		331.24	331.24	No	5.26	Si
SLU 52	ini.	-61.42	-56	-0.0003071	0.0001872	0.0035	0.3		333.12	333.12	No	5.42	Si
SLU 52	fin.	60.43	-56	-0.0003033	0.0001872	0.0035	0.3		331.24	331.24	No	5.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	-63.03	301	0.3	0	583	2379	1258	765	2023	No	6.72	Si
SLU 68	fin.	63	203	0.3	0	583	2379	1258	765	2023	No	9.97	Si
SLU 47	ini.	-62.21	299	0.3	0	583	2379	1258	765	2023	No	6.77	Si
SLU 47	fin.	62.56	200	0.3	0	583	2379	1258	765	2023	No	10.09	Si
SLU 55	ini.	-60.65	289	0.3	0	583	2379	1258	765	2023	No	7	Si
SLU 55	fin.	59.34	191	0.3	0	583	2379	1258	765	2023	No	10.6	Si
SLU 65	ini.	-63.8	305	0.3	0	583	2379	1258	765	2023	No	6.63	Si
SLU 65	fin.	64.09	207	0.3	0	583	2379	1258	765	2023	No	9.79	Si
SLU 44	ini.	-62.98	302	0.3	0	583	2379	1258	765	2023	No	6.69	Si
SLU 44	fin.	63.65	204	0.3	0	583	2379	1258	765	2023	No	9.91	Si
SLU 23	ini.	-58.41	272	0.3	0	583	2379	1258	765	2023	No	7.43	Si
SLU 23	fin.	58.84	197	0.3	0	583	2379	1258	765	2023	No	10.28	Si
SLU 2	ini.	-57.59	270	0.3	0	583	2379	1258	765	2023	No	7.5	Si
SLU 2	fin.	58.39	194	0.3	0	583	2379	1258	765	2023	No	10.42	Si
SLU 76	ini.	-61.47	292	0.3	0	583	2379	1258	765	2023	No	6.94	Si
SLU 76	fin.	59.78	193	0.3	0	583	2379	1258	765	2023	No	10.46	Si
SLU 52	ini.	-61.42	293	0.3	0	583	2379	1258	765	2023	No	6.91	Si
SLU 52	fin.	60.43	195	0.3	0	583	2379	1258	765	2023	No	10.4	Si
SLU 73	ini.	-62.24	295	0.3	0	583	2379	1258	765	2023	No	6.85	Si
SLU 73	fin.	60.87	197	0.3	0	583	2379	1258	765	2023	No	10.26	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	285.63	-449	-0.0023029	0.0002807	0.0035	0.3		333.9	333.9		1.17	Si
SLV 7	fin.	-328.03	-458	-0.0030874	0.0002807	0.0035	0.3		335.87	335.87		1.02	Si
SLV 12	ini.	337.52	-312	-0.0033357	0.0002807	0.0035	0.3		333.9	333.9		0.99	No
SLV 12	fin.	-372.55	-307	-0.0040029	0.0002807	0.0035	0.3		335.87	335.87		0.9	No
SLV 10	ini.	-323.03	340	-0.0029785	0.0002807	0.0035	0.3		335.87	335.87		1.04	Si
SLV 10	fin.	362.52	350	-0.0038492	0.0002807	0.0035	0.3		333.9	333.9		0.92	No
SLD 5	ini.	-230.31	92	-0.0015589	0.0002807	0.0035	0.3		335.87	335.87		1.46	Si
SLD 5	fin.	248.18	89	-0.0017747	0.0002807	0.0035	0.3		333.9	333.9		1.35	Si
SLV 8	ini.	308.98	-529	-0.0027232	0.0002807	0.0035	0.3		333.9	333.9		1.08	Si
SLV 8	fin.	-359.65	-538	-0.0037544	0.0002807	0.0035	0.3		335.87	335.87		0.93	No
SLV 9	ini.	-346.37	420	-0.0034846	0.0002807	0.0035	0.3		335.87	335.87		0.97	No
SLV 9	fin.	394.14	429	-0.0044365	0.0002807	0.0035	0.3		333.9	333.9		0.85	No
SLD 9	ini.	-211.79	229	-0.001374	0.0002807	0.0035	0.3		335.87	335.87		1.59	Si
SLD 9	fin.	239.8	235	-0.0016767	0.0002807	0.0035	0.3		333.9	333.9		1.39	Si
SLV 11	ini.	314.18	-232	-0.0028283	0.0002807	0.0035	0.3		333.9	333.9		1.06	Si
SLV 11	fin.	-340.93	-227	-0.0033691	0.0002807	0.0035	0.3		335.87	335.87		0.99	No
SLV 5	ini.	-374.92	204	-0.0040473	0.0002807	0.0035	0.3		335.87	335.87		0.9	No
SLV 5	fin.	407.04	199	-0.0046633	0.0002807	0.0035	0.3		333.9	333.9		0.82	No
SLV 6	ini.	-351.57	124	-0.0035921	0.0002807	0.0035	0.3		335.87	335.87		0.96	No
SLV 6	fin.	375.41	119	-0.004095	0.0002807	0.0035	0.3		333.9	333.9		0.89	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-323.03	1438	0.3	0	875	2379	1887	765	2652		1.84	Si
SLV 10	fin.	362.52	1325	0.3	0	875	2379	1887	765	2652		2	Si
SLV 11	ini.	314.18	-1196	0.3	0	875	2379	1887	765	2652		2.22	Si
SLV 11	fin.	-340.93	-1301	0.3	0	875	2379	1887	765	2652		2.04	Si
SLD 9	ini.	-211.79	958	0.3	0	875	2379	1887	765	2652		2.77	Si
SLD 9	fin.	239.8	859	0.3	0	875	2379	1887	765	2652		3.09	Si
SLD 5	ini.	-230.31	945	0.3	0	875	2379	1887	765	2652		2.81	Si
SLD 5	fin.	248.18	888	0.3	0	875	2379	1887	765	2652		2.99	Si
SLV 12	ini.	337.52	-1306	0.3	0	875	2379	1887	765	2652		2.03	Si
SLV 12	fin.	-372.55	-1411	0.3	0	875	2379	1887	765	2652		1.88	Si
SLV 7	ini.	285.63	-1218	0.3	0	875	2379	1887	765	2652		2.18	Si
SLV 7	fin.	-328.03	-1257	0.3	0	875	2379	1887	765	2652		2.11	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-374.92	1525	0.3	0	875	2379	1887	765	2652		1.74	Si
SLV 5	fin.	407.04	1480	0.3	0	875	2379	1887	765	2652		1.79	Si
SLV 9	ini.	-346.37	1548	0.3	0	875	2379	1887	765	2652		1.71	Si
SLV 9	fin.	394.14	1435	0.3	0	875	2379	1887	765	2652		1.85	Si
SLV 8	ini.	308.98	-1328	0.3	0	875	2379	1887	765	2652		2	Si
SLV 8	fin.	-359.65	-1367	0.3	0	875	2379	1887	765	2652		1.94	Si
SLV 6	ini.	-351.57	1415	0.3	0	875	2379	1887	765	2652		1.87	Si
SLV 6	fin.	375.41	1370	0.3	0	875	2379	1887	765	2652		1.94	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.82	SLV 5	No
V_SLV	1.713	SLV 9	Si
PF_SLU	5.168	SLU 65	Si
V_SLU	6.633	SLU 65	Si

Trave di accoppiamento 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	11.5	12.4	0.9	-18.213	-3.169	11.5	12.4	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	ini.	-151.66	-77	-0.0000763	0.0001872	0.0035	0.9		2964.67	2964.67	No	19.55	Si
SLU 64	fin.	104.35	-663	-0.0000521	0.0001872	0.0035	0.9		2959	2959	No	28.36	Si
SLU 68	ini.	-149.59	-87	-0.0000752	0.0001872	0.0035	0.9		2964.67	2964.67	No	19.82	Si
SLU 68	fin.	102.55	-676	-0.0000512	0.0001872	0.0035	0.9		2959	2959	No	28.85	Si
SLU 70	ini.	-139.84	-136	-0.0000702	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.2	Si
SLU 70	fin.	104.42	-716	-0.0000521	0.0001872	0.0035	0.9		2959	2959	No	28.34	Si
SLU 69	ini.	-136.76	-142	-0.0000686	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.68	Si
SLU 69	fin.	104.62	-711	-0.0000522	0.0001872	0.0035	0.9		2959	2959	No	28.28	Si
SLU 44	ini.	-134.08	-91	-0.0000672	0.0001872	0.0035	0.9		2964.67	2964.67	No	22.11	Si
SLU 44	fin.	92.37	-629	-0.000046	0.0001872	0.0035	0.9		2959	2959	No	32.03	Si
SLU 72	ini.	-140.33	-112	-0.0000704	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.13	Si
SLU 72	fin.	101.21	-680	-0.0000505	0.0001872	0.0035	0.9		2959	2959	No	29.24	Si
SLU 65	ini.	-156.8	-67	-0.000079	0.0001872	0.0035	0.9		2964.67	2964.67	No	18.91	Si
SLU 65	fin.	104.02	-670	-0.0000519	0.0001872	0.0035	0.9		2959	2959	No	28.45	Si
SLU 67	ini.	-147.05	-116	-0.0000739	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.16	Si
SLU 67	fin.	105.89	-709	-0.0000529	0.0001872	0.0035	0.9		2959	2959	No	27.94	Si
SLU 71	ini.	-137.25	-118	-0.0000688	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.6	Si
SLU 71	fin.	101.4	-675	-0.0000506	0.0001872	0.0035	0.9		2959	2959	No	29.18	Si
SLU 66	ini.	-143.97	-122	-0.0000723	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.59	Si
SLU 66	fin.	106.09	-705	-0.000053	0.0001872	0.0035	0.9		2959	2959	No	27.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	-149.59	540	0.9	0	1750	7137	3773	2295	6068	No	11.24	Si
SLU 68	fin.	102.55	968	0.9	0	1750	7137	3773	2295	6068	No	6.27	Si
SLU 72	ini.	-140.33	503	0.9	0	1750	7137	3773	2295	6068	No	12.06	Si
SLU 72	fin.	101.21	969	0.9	0	1750	7137	3773	2295	6068	No	6.26	Si
SLU 46	ini.	-124.33	402	0.9	0	1750	7137	3773	2295	6068	No	15.08	Si
SLU 46	fin.	94.24	977	0.9	0	1750	7137	3773	2295	6068	No	6.21	Si
SLU 70	ini.	-139.84	480	0.9	0	1750	7137	3773	2295	6068	No	12.65	Si
SLU 70	fin.	104.42	1027	0.9	0	1750	7137	3773	2295	6068	No	5.91	Si
SLU 45	ini.	-121.24	396	0.9	0	1750	7137	3773	2295	6068	No	15.33	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 45	fin.	94.44	965	0.9	0	1750	7137	3773	2295	6068	No	6.29	Si
SLU 66	ini.	-143.97	506	0.9	0	1750	7137	3773	2295	6068	No	12	Si
SLU 66	fin.	106.09	1006	0.9	0	1750	7137	3773	2295	6068	No	6.03	Si
SLU 67	ini.	-147.05	512	0.9	0	1750	7137	3773	2295	6068	No	11.85	Si
SLU 67	fin.	105.89	1018	0.9	0	1750	7137	3773	2295	6068	No	5.96	Si
SLU 69	ini.	-136.76	473	0.9	0	1750	7137	3773	2295	6068	No	12.82	Si
SLU 69	fin.	104.62	1015	0.9	0	1750	7137	3773	2295	6068	No	5.98	Si
SLU 49	ini.	-117.12	370	0.9	0	1750	7137	3773	2295	6068	No	16.41	Si
SLU 49	fin.	92.77	986	0.9	0	1750	7137	3773	2295	6068	No	6.15	Si
SLU 48	ini.	-114.03	363	0.9	0	1750	7137	3773	2295	6068	No	16.7	Si
SLU 48	fin.	92.97	974	0.9	0	1750	7137	3773	2295	6068	No	6.23	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-718.73	882	-0.0003992	0.0002807	0.0035	0.9		2995.37	2995.37		4.17	Si
SLD 13	fin.	444.24	-1920	-0.0002333	0.0002807	0.0035	0.9		2989.59	2989.59		6.73	Si
SLV 8	ini.	711.78	-1273	-0.0003955	0.0002807	0.0035	0.9		2989.59	2989.59		4.2	Si
SLV 8	fin.	-418.86	1643	-0.0002185	0.0002807	0.0035	0.9		2995.37	2995.37		7.15	Si
SLV 4	ini.	871.07	-1569	-0.000502	0.0002807	0.0035	0.9		2989.59	2989.59		3.43	Si
SLV 4	fin.	-522.29	1865	-0.0002779	0.0002807	0.0035	0.9		2995.37	2995.37		5.74	Si
SLV 10	ini.	-757.13	880	-0.0004242	0.0002807	0.0035	0.9		2995.37	2995.37		3.96	Si
SLV 10	fin.	463.81	-2186	-0.0002445	0.0002807	0.0035	0.9		2989.59	2989.59		6.45	Si
SLD 9	ini.	-595.65	663	-0.0003219	0.0002807	0.0035	0.9		2995.37	2995.37		5.03	Si
SLD 9	fin.	365.25	-1721	-0.0001891	0.0002807	0.0035	0.9		2989.59	2989.59		8.19	Si
SLV 3	ini.	627.39	-1177	-0.0003421	0.0002807	0.0035	0.9		2989.59	2989.59		4.77	Si
SLV 3	fin.	-378.88	1304	-0.0001962	0.0002807	0.0035	0.9		2995.37	2995.37		7.91	Si
SLV 15	ini.	-765.13	988	-0.0004295	0.0002807	0.0035	0.9		2995.37	2995.37		3.91	Si
SLV 15	fin.	475.93	-1927	-0.0002515	0.0002807	0.0035	0.9		2989.59	2989.59		6.28	Si
SLV 14	ini.	-836.79	1047	-0.0004775	0.0002807	0.0035	0.9		2995.37	2995.37		3.58	Si
SLV 14	fin.	520.38	-2225	-0.0002774	0.0002807	0.0035	0.9		2989.59	2989.59		5.75	Si
SLV 13	ini.	-1080.47	1439	-0.0006515	0.0002807	0.0035	0.9		2995.37	2995.37		2.77	Si
SLV 13	fin.	663.8	-2785	-0.0003649	0.0002807	0.0035	0.9		2989.59	2989.59		4.5	Si
SLV 9	ini.	-921.18	1144	-0.0005359	0.0002807	0.0035	0.9		2995.37	2995.37		3.25	Si
SLV 9	fin.	560.36	-2563	-0.0003012	0.0002807	0.0035	0.9		2989.59	2989.59		5.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-836.79	3364	0.9	0	2625	7137	5660	2295	7955		2.36	Si
SLV 14	fin.	520.38	3049	0.9	0	2625	7137	5660	2295	7955		2.61	Si
SLV 8	ini.	711.78	-2680	0.9	0	2625	7137	5660	2295	7955		2.97	Si
SLV 8	fin.	-418.86	-2452	0.9	0	2625	7137	5660	2295	7955		3.24	Si
SLV 4	ini.	871.07	-3541	0.9	0	2625	7137	5660	2295	7955		2.25	Si
SLV 4	fin.	-522.29	-2555	0.9	0	2625	7137	5660	2295	7955		3.11	Si
SLV 10	ini.	-757.13	2818	0.9	0	2625	7137	5660	2295	7955		2.82	Si
SLV 10	fin.	463.81	3210	0.9	0	2625	7137	5660	2295	7955		2.48	Si
SLV 13	ini.	-1080.47	4328	0.9	0	2625	7137	5660	2295	7955		1.84	Si
SLV 13	fin.	663.8	3856	0.9	0	2625	7137	5660	2295	7955		2.06	Si
SLV 15	ini.	-765.13	3199	0.9	0	2625	7137	5660	2295	7955		2.49	Si
SLV 15	fin.	475.93	2544	0.9	0	2625	7137	5660	2295	7955		3.13	Si
SLV 9	ini.	-921.18	3467	0.9	0	2625	7137	5660	2295	7955		2.29	Si
SLV 9	fin.	560.36	3753	0.9	0	2625	7137	5660	2295	7955		2.12	Si
SLV 3	ini.	627.39	-2577	0.9	0	2625	7137	5660	2295	7955		3.09	Si
SLV 3	fin.	-378.88	-1748	0.9	0	2625	7137	5660	2295	7955		4.55	Si
SLD 13	ini.	-718.73	2875	0.9	0	2625	7137	5660	2295	7955		2.77	Si
SLD 13	fin.	444.24	2658	0.9	0	2625	7137	5660	2295	7955		2.99	Si
SLD 9	ini.	-595.65	2246	0.9	0	2625	7137	5660	2295	7955		3.54	Si
SLD 9	fin.	365.25	2506	0.9	0	2625	7137	5660	2295	7955		3.17	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.772	SLV 13	Si
V_SLV	1.838	SLV 13	Si
PF_SLU	18.907	SLU 65	Si
V_SLU	5.91	SLU 70	Si

Trave di accoppiamento 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	14.2	14.6	0.4	-18.213	-3.169	14.2	14.6	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 24	ini.	-21	127	-0.0000529	0.0001872	0.0035	0.4		588.62	588.62	No	28.03	Si
SLU 24	fin.	7.24	-168	-0.0000181	0.0001872	0.0035	0.4		586.12	586.12	No	80.94	Si
SLU 28	ini.	-20.16	136	-0.0000507	0.0001872	0.0035	0.4		588.62	588.62	No	29.19	Si
SLU 28	fin.	4.07	-173	-0.0000101	0.0001872	0.0035	0.4		586.12	586.12	No	143.94	Si
SLU 48	ini.	-20.33	109	-0.0000512	0.0001872	0.0035	0.4		588.62	588.62	No	28.96	Si
SLU 48	fin.	6.88	-158	-0.0000172	0.0001872	0.0035	0.4		586.12	586.12	No	85.14	Si
SLU 67	ini.	-22.47	159	-0.0000567	0.0001872	0.0035	0.4		588.62	588.62	No	26.19	Si
SLU 67	fin.	7.68	-176	-0.0000192	0.0001872	0.0035	0.4		586.12	586.12	No	76.33	Si
SLU 70	ini.	-22.86	154	-0.0000577	0.0001872	0.0035	0.4		588.62	588.62	No	25.75	Si
SLU 70	fin.	6.42	-185	-0.000016	0.0001872	0.0035	0.4		586.12	586.12	No	91.34	Si
SLU 69	ini.	-24.08	138	-0.0000608	0.0001872	0.0035	0.4		588.62	588.62	No	24.45	Si
SLU 69	fin.	8.32	-189	-0.0000208	0.0001872	0.0035	0.4		586.12	586.12	No	70.41	Si
SLU 71	ini.	-20.48	126	-0.0000515	0.0001872	0.0035	0.4		588.62	588.62	No	28.74	Si
SLU 71	fin.	10.72	-140	-0.0000268	0.0001872	0.0035	0.4		586.12	586.12	No	54.67	Si
SLU 45	ini.	-19.94	115	-0.0000502	0.0001872	0.0035	0.4		588.62	588.62	No	29.51	Si
SLU 45	fin.	8.15	-149	-0.0000203	0.0001872	0.0035	0.4		586.12	586.12	No	71.95	Si
SLU 27	ini.	-21.38	121	-0.0000539	0.0001872	0.0035	0.4		588.62	588.62	No	27.53	Si
SLU 27	fin.	5.98	-177	-0.0000149	0.0001872	0.0035	0.4		586.12	586.12	No	98.02	Si
SLU 66	ini.	-23.69	144	-0.0000598	0.0001872	0.0035	0.4		588.62	588.62	No	24.85	Si
SLU 66	fin.	9.59	-180	-0.000024	0.0001872	0.0035	0.4		586.12	586.12	No	61.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-9.71	285	0.4	0	631	3172	1677	1020	2697	No	9.45	Si
SLU 77	fin.	0.93	-702	0.4	0	631	3172	1677	1020	2697	No	3.84	Si
SLU 70	ini.	-22.86	345	0.4	0	631	3172	1677	1020	2697	No	7.82	Si
SLU 70	fin.	6.42	-635	0.4	0	631	3172	1677	1020	2697	No	4.25	Si
SLU 78	ini.	-8.49	288	0.4	0	631	3172	1677	1020	2697	No	9.37	Si
SLU 78	fin.	-0.98	-693	0.4	0	631	3172	1677	1020	2697	No	3.89	Si
SLU 74	ini.	-9.32	286	0.4	0	631	3172	1677	1020	2697	No	9.42	Si
SLU 74	fin.	2.19	-701	0.4	0	631	3172	1677	1020	2697	No	3.85	Si
SLU 66	ini.	-23.69	344	0.4	0	631	3172	1677	1020	2697	No	7.85	Si
SLU 66	fin.	9.59	-643	0.4	0	631	3172	1677	1020	2697	No	4.19	Si
SLU 67	ini.	-22.47	346	0.4	0	631	3172	1677	1020	2697	No	7.8	Si
SLU 67	fin.	7.68	-634	0.4	0	631	3172	1677	1020	2697	No	4.26	Si
SLU 35	ini.	-7.02	241	0.4	0	631	3172	1677	1020	2697	No	11.19	Si
SLU 35	fin.	-1.41	-643	0.4	0	631	3172	1677	1020	2697	No	4.2	Si
SLU 32	ini.	-6.63	242	0.4	0	631	3172	1677	1020	2697	No	11.15	Si
SLU 32	fin.	-0.15	-642	0.4	0	631	3172	1677	1020	2697	No	4.2	Si
SLU 75	ini.	-8.11	289	0.4	0	631	3172	1677	1020	2697	No	9.35	Si
SLU 75	fin.	0.29	-692	0.4	0	631	3172	1677	1020	2697	No	3.9	Si
SLU 69	ini.	-24.08	343	0.4	0	631	3172	1677	1020	2697	No	7.87	Si
SLU 69	fin.	8.32	-644	0.4	0	631	3172	1677	1020	2697	No	4.19	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-214.65	-778	-0.0006546	0.0002807	0.0035	0.4		594.74	594.74		2.77	Si
SLV 9	fin.	197.78	1358	-0.0005946	0.0002807	0.0035	0.4		592.15	592.15		2.99	Si
SLV 10	ini.	-171.33	-569	-0.0004972	0.0002807	0.0035	0.4		594.74	594.74		3.47	Si
SLV 10	fin.	153.85	1066	-0.0004396	0.0002807	0.0035	0.4		592.15	592.15		3.85	Si
SLV 4	ini.	207.11	1098	-0.0006294	0.0002807	0.0035	0.4		592.15	592.15		2.86	Si
SLV 4	fin.	-214.8	-1695	-0.0006551	0.0002807	0.0035	0.4		594.74	594.74		2.77	Si
SLV 3	ini.	142.76	788	-0.0004027	0.0002807	0.0035	0.4		592.15	592.15		4.15	Si
SLV 3	fin.	-149.55	-1261	-0.0004232	0.0002807	0.0035	0.4		594.74	594.74		3.98	Si
SLV 15	ini.	-143.7	-493	-0.0004039	0.0002807	0.0035	0.4		594.74	594.74		4.14	Si
SLV 15	fin.	157.08	893	-0.0004506	0.0002807	0.0035	0.4		592.15	592.15		3.77	Si
SLD 13	ini.	-146.52	-492	-0.0004132	0.0002807	0.0035	0.4		594.74	594.74		4.06	Si
SLD 13	fin.	147.39	897	-0.000418	0.0002807	0.0035	0.4		592.15	592.15		4.02	Si
SLV 7	ini.	150.87	812	-0.0004296	0.0002807	0.0035	0.4		592.15	592.15		3.92	Si
SLV 7	fin.	-138.33	-1273	-0.0003864	0.0002807	0.0035	0.4		594.74	594.74		4.3	Si
SLV 13	ini.	-227.57	-855	-0.0007041	0.0002807	0.0035	0.4		594.74	594.74		2.61	Si
SLV 13	fin.	230.32	1488	-0.0007185	0.0002807	0.0035	0.4		592.15	592.15		2.57	Si
SLV 14	ini.	-163.22	-545	-0.0004692	0.0002807	0.0035	0.4		594.74	594.74		3.64	Si
SLV 14	fin.	165.07	1055	-0.0004779	0.0002807	0.0035	0.4		592.15	592.15		3.59	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	194.19	1021	-0.0005815	0.0002807	0.0035	0.4		592.15	592.15		3.05	Si
SLV 8	fin.	-182.26	-1565	-0.0005356	0.0002807	0.0035	0.4		594.74	594.74		3.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	112.27	-373	0.4	0	919	3172	2515	1020	3535		9.48	Si
SLD 8	fin.	-105.79	-1136	0.4	0	919	3172	2515	1020	3535		3.11	Si
SLV 8	ini.	194.19	-762	0.4	0	919	3172	2515	1020	3535		4.64	Si
SLV 8	fin.	-182.26	-1631	0.4	0	919	3172	2515	1020	3535		2.17	Si
SLV 7	ini.	150.87	-567	0.4	0	919	3172	2515	1020	3535		6.23	Si
SLV 7	fin.	-138.33	-1402	0.4	0	919	3172	2515	1020	3535		2.52	Si
SLV 12	ini.	108.26	-335	0.4	0	919	3172	2515	1020	3535		10.56	Si
SLV 12	fin.	-90.27	-1168	0.4	0	919	3172	2515	1020	3535		3.03	Si
SLV 2	ini.	123.23	-452	0.4	0	919	3172	2515	1020	3535		7.81	Si
SLV 2	fin.	-141.56	-1074	0.4	0	919	3172	2515	1020	3535		3.29	Si
SLV 13	ini.	-227.57	1262	0.4	0	919	3172	2515	1020	3535		2.8	Si
SLV 13	fin.	230.32	809	0.4	0	919	3172	2515	1020	3535		4.37	Si
SLD 4	ini.	126.06	-454	0.4	0	919	3172	2515	1020	3535		7.79	Si
SLD 4	fin.	-131.87	-1154	0.4	0	919	3172	2515	1020	3535		3.06	Si
SLV 4	ini.	207.11	-847	0.4	0	919	3172	2515	1020	3535		4.17	Si
SLV 4	fin.	-214.8	-1606	0.4	0	919	3172	2515	1020	3535		2.2	Si
SLV 9	ini.	-214.65	1176	0.4	0	919	3172	2515	1020	3535		3.01	Si
SLV 9	fin.	197.78	834	0.4	0	919	3172	2515	1020	3535		4.24	Si
SLV 3	ini.	142.76	-558	0.4	0	919	3172	2515	1020	3535		6.34	Si
SLV 3	fin.	-149.55	-1267	0.4	0	919	3172	2515	1020	3535		2.79	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.571	SLV 13	Si
V_SLV	2.168	SLV 8	Si
PF_SLU	24.448	SLU 69	Si
V_SLU	3.84	SLU 77	Si

Trave di accoppiamento 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	13.6	14.6	1	-18.498	0.841	13.6	14.6	1	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-305.49	-850	-0.0001259	0.0002246	0.0035	1		3795.88	3795.88	No	12.43	Si
SLU 79	fin.	-40.28	-241	-0.000016	0.0002246	0.0035	1		3795.88	3795.88	No	94.25	Si
SLU 37	ini.	-308.45	-842	-0.0001272	0.0002246	0.0035	1		3795.88	3795.88	No	12.31	Si
SLU 37	fin.	-35.56	-220	-0.0000141	0.0002246	0.0035	1		3795.88	3795.88	No	106.75	Si
SLU 38	ini.	-313.33	-854	-0.0001293	0.0002246	0.0035	1		3795.88	3795.88	No	12.11	Si
SLU 38	fin.	-35.95	-223	-0.0000143	0.0002246	0.0035	1		3795.88	3795.88	No	105.57	Si
SLU 77	ini.	-318.98	-890	-0.0001318	0.0002246	0.0035	1		3795.88	3795.88	No	11.9	Si
SLU 77	fin.	-43.66	-252	-0.0000173	0.0002246	0.0035	1		3795.88	3795.88	No	86.95	Si
SLU 70	ini.	-290.48	-835	-0.0001195	0.0002246	0.0035	1		3795.88	3795.88	No	13.07	Si
SLU 70	fin.	-50.31	-260	-0.00002	0.0002246	0.0035	1		3795.88	3795.88	No	75.45	Si
SLU 28	ini.	-293.44	-827	-0.0001207	0.0002246	0.0035	1		3795.88	3795.88	No	12.94	Si
SLU 28	fin.	-45.59	-239	-0.0000181	0.0002246	0.0035	1		3795.88	3795.88	No	83.26	Si
SLU 78	ini.	-323.86	-902	-0.0001339	0.0002246	0.0035	1		3795.88	3795.88	No	11.72	Si
SLU 78	fin.	-44.05	-254	-0.0000175	0.0002246	0.0035	1		3795.88	3795.88	No	86.17	Si
SLU 36	ini.	-326.82	-894	-0.0001352	0.0002246	0.0035	1		3795.88	3795.88	No	11.61	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 36	fin.	-39.33	-234	-0.0000156	0.0002246	0.0035	1		3795.88	3795.88	No	96.5	Si
SLU 35	ini.	-321.94	-882	-0.0001331	0.0002246	0.0035	1		3795.88	3795.88	No	11.79	Si
SLU 35	fin.	-38.94	-231	-0.0000154	0.0002246	0.0035	1		3795.88	3795.88	No	97.49	Si
SLU 80	ini.	-310.37	-862	-0.000128	0.0002246	0.0035	1		3795.88	3795.88	No	12.23	Si
SLU 80	fin.	-40.67	-243	-0.0000161	0.0002246	0.0035	1		3795.88	3795.88	No	93.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-285.6	812	1	0	1167	6344	2516	2550	5066	No	6.24	Si
SLU 69	fin.	-49.91	520	1	0	1167	6344	2516	2550	5066	No	9.74	Si
SLU 79	ini.	-305.49	876	1	0	1167	6344	2516	2550	5066	No	5.78	Si
SLU 79	fin.	-40.28	584	1	0	1167	6344	2516	2550	5066	No	8.67	Si
SLU 70	ini.	-290.48	823	1	0	1167	6344	2516	2550	5066	No	6.15	Si
SLU 70	fin.	-50.31	532	1	0	1167	6344	2516	2550	5066	No	9.53	Si
SLU 35	ini.	-321.94	891	1	0	1167	6344	2516	2550	5066	No	5.69	Si
SLU 35	fin.	-38.94	657	1	0	1167	6344	2516	2550	5066	No	7.71	Si
SLU 37	ini.	-308.45	860	1	0	1167	6344	2516	2550	5066	No	5.89	Si
SLU 37	fin.	-35.56	626	1	0	1167	6344	2516	2550	5066	No	8.09	Si
SLU 38	ini.	-313.33	872	1	0	1167	6344	2516	2550	5066	No	5.81	Si
SLU 38	fin.	-35.95	638	1	0	1167	6344	2516	2550	5066	No	7.94	Si
SLU 80	ini.	-310.37	888	1	0	1167	6344	2516	2550	5066	No	5.71	Si
SLU 80	fin.	-40.67	596	1	0	1167	6344	2516	2550	5066	No	8.5	Si
SLU 78	ini.	-323.86	918	1	0	1167	6344	2516	2550	5066	No	5.52	Si
SLU 78	fin.	-44.05	627	1	0	1167	6344	2516	2550	5066	No	8.08	Si
SLU 36	ini.	-326.82	903	1	0	1167	6344	2516	2550	5066	No	5.61	Si
SLU 36	fin.	-39.33	669	1	0	1167	6344	2516	2550	5066	No	7.57	Si
SLU 77	ini.	-318.98	907	1	0	1167	6344	2516	2550	5066	No	5.59	Si
SLU 77	fin.	-43.66	615	1	0	1167	6344	2516	2550	5066	No	8.24	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	588.78	1423	-0.0002487	0.0003369	0.0035	1		3885.58	3885.58		6.6	Si
SLV 11	fin.	351.46	-180	-0.0001442	0.0003369	0.0035	1		3885.58	3885.58		11.06	Si
SLV 9	ini.	-631.65	-1684	-0.0002678	0.0003369	0.0035	1		3892.05	3892.05		6.16	Si
SLV 9	fin.	-405.76	-79	-0.0001672	0.0003369	0.0035	1		3892.05	3892.05		9.59	Si
SLV 2	ini.	-485.29	-1176	-0.0002019	0.0003369	0.0035	1		3892.05	3892.05		8.02	Si
SLV 2	fin.	-100.09	-19	-0.0000399	0.0003369	0.0035	1		3892.05	3892.05		38.88	Si
SLV 7	ini.	480.45	1208	-0.0002002	0.0003369	0.0035	1		3885.58	3885.58		8.09	Si
SLV 7	fin.	371.93	-128	-0.000153	0.0003369	0.0035	1		3885.58	3885.58		10.45	Si
SLV 5	ini.	-739.98	-1898	-0.0003185	0.0003369	0.0035	1		3892.05	3892.05		5.26	Si
SLV 5	fin.	-385.29	-27	-0.0001584	0.0003369	0.0035	1		3892.05	3892.05		10.1	Si
SLV 12	ini.	551.7	1330	-0.0002319	0.0003369	0.0035	1		3885.58	3885.58		7.04	Si
SLV 12	fin.	348.46	-194	-0.0001429	0.0003369	0.0035	1		3885.58	3885.58		11.15	Si
SLD 6	ini.	-498.11	-1290	-0.0002076	0.0003369	0.0035	1		3892.05	3892.05		7.81	Si
SLD 6	fin.	-240.55	-76	-0.0000973	0.0003369	0.0035	1		3892.05	3892.05		16.18	Si
SLV 6	ini.	-777.06	-1991	-0.0003363	0.0003369	0.0035	1		3892.05	3892.05		5.01	Si
SLV 6	fin.	-388.28	-41	-0.0001597	0.0003369	0.0035	1		3892.05	3892.05		10.02	Si
SLD 5	ini.	-475.61	-1233	-0.0001977	0.0003369	0.0035	1		3892.05	3892.05		8.18	Si
SLD 5	fin.	-238.73	-68	-0.0000966	0.0003369	0.0035	1		3892.05	3892.05		16.3	Si
SLV 10	ini.	-668.73	-1777	-0.000285	0.0003369	0.0035	1		3892.05	3892.05		5.82	Si
SLV 10	fin.	-408.76	-93	-0.0001685	0.0003369	0.0035	1		3892.05	3892.05		9.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	480.45	-949	1	0	1750	6344	3773	2550	6323		6.66	Si
SLV 7	fin.	371.93	-1304	1	0	1750	6344	3773	2550	6323		4.85	Si
SLD 6	ini.	-498.11	1263	1	0	1750	6344	3773	2550	6323		5.01	Si
SLD 6	fin.	-240.55	1139	1	0	1750	6344	3773	2550	6323		5.55	Si
SLV 8	ini.	443.37	-857	1	0	1750	6344	3773	2550	6323		7.38	Si
SLV 8	fin.	368.94	-1212	1	0	1750	6344	3773	2550	6323		5.22	Si
SLV 2	ini.	-485.29	1317	1	0	1750	6344	3773	2550	6323		4.8	Si
SLV 2	fin.	-100.09	1162	1	0	1750	6344	3773	2550	6323		5.44	Si
SLV 5	ini.	-739.98	1816	1	0	1750	6344	3773	2550	6323		3.48	Si
SLV 5	fin.	-385.29	1744	1	0	1750	6344	3773	2550	6323		3.63	Si
SLV 12	ini.	551.7	-1161	1	0	1750	6344	3773	2550	6323		5.44	Si
SLV 12	fin.	348.46	-1530	1	0	1750	6344	3773	2550	6323		4.13	Si
SLV 9	ini.	-631.65	1512	1	0	1750	6344	3773	2550	6323		4.18	Si
SLV 9	fin.	-405.76	1427	1	0	1750	6344	3773	2550	6323		4.43	Si
SLV 6	ini.	-777.06	1908	1	0	1750	6344	3773	2550	6323		3.31	Si
SLV 6	fin.	-388.28	1836	1	0	1750	6344	3773	2550	6323		3.44	Si
SLV 11	ini.	588.78	-1253	1	0	1750	6344	3773	2550	6323		5.05	Si
SLV 11	fin.	351.46	-1622	1	0	1750	6344	3773	2550	6323		3.9	Si
SLV 10	ini.	-668.73	1604	1	0	1750	6344	3773	2550	6323		3.94	Si
SLV 10	fin.	-408.76	1518	1	0	1750	6344	3773	2550	6323		4.16	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.009	SLV 6	Si
V_SLV	3.314	SLV 6	Si
PF_SLU	11.615	SLU 36	Si
V_SLU	5.515	SLU 78	Si

Trave di accoppiamento 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.293	-3.169	13.6	14.6	1	-16.193	-3.169	13.6	14.6	1	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-422.73	-1726	-0.0001797	0.0001872	0.0035	1		3678.84	3678.84	No	8.7	Si
SLU 84	fin.	307.69	766	-0.000128	0.0001872	0.0035	1		3672.61	3672.61	No	11.94	Si
SLU 81	ini.	-427.8	-1744	-0.0001821	0.0001872	0.0035	1		3678.84	3678.84	No	8.6	Si
SLU 81	fin.	317.63	792	-0.0001324	0.0001872	0.0035	1		3672.61	3672.61	No	11.56	Si
SLU 76	ini.	-419.58	-1685	-0.0001782	0.0001872	0.0035	1		3678.84	3678.84	No	8.77	Si
SLU 76	fin.	302.98	737	-0.000126	0.0001872	0.0035	1		3672.61	3672.61	No	12.12	Si
SLU 77	ini.	-419.86	-1733	-0.0001784	0.0001872	0.0035	1		3678.84	3678.84	No	8.76	Si
SLU 77	fin.	297.22	684	-0.0001234	0.0001872	0.0035	1		3672.61	3672.61	No	12.36	Si
SLU 67	ini.	-419.54	-1660	-0.0001782	0.0001872	0.0035	1		3678.84	3678.84	No	8.77	Si
SLU 67	fin.	296.95	644	-0.0001233	0.0001872	0.0035	1		3672.61	3672.61	No	12.37	Si
SLU 74	ini.	-429.34	-1764	-0.0001828	0.0001872	0.0035	1		3678.84	3678.84	No	8.57	Si
SLU 74	fin.	308.93	715	-0.0001286	0.0001872	0.0035	1		3672.61	3672.61	No	11.89	Si
SLU 82	ini.	-432.2	-1757	-0.0001841	0.0001872	0.0035	1		3678.84	3678.84	No	8.51	Si
SLU 82	fin.	319.4	797	-0.0001332	0.0001872	0.0035	1		3672.61	3672.61	No	11.5	Si
SLU 78	ini.	-424.26	-1745	-0.0001804	0.0001872	0.0035	1		3678.84	3678.84	No	8.67	Si
SLU 78	fin.	298.99	688	-0.0001242	0.0001872	0.0035	1		3672.61	3672.61	No	12.28	Si
SLU 75	ini.	-433.73	-1776	-0.0001848	0.0001872	0.0035	1		3678.84	3678.84	No	8.48	Si
SLU 75	fin.	310.7	719	-0.0001294	0.0001872	0.0035	1		3672.61	3672.61	No	11.82	Si
SLU 73	ini.	-429.05	-1716	-0.0001826	0.0001872	0.0035	1		3678.84	3678.84	No	8.57	Si
SLU 73	fin.	314.69	768	-0.0001311	0.0001872	0.0035	1		3672.61	3672.61	No	11.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-429.34	2915	1	0	1944	7137	4192	2550	6742	No	2.31	Si
SLU 74	fin.	308.93	1234	1	0	1944	7137	4192	2550	6742	No	5.46	Si
SLU 67	ini.	-419.54	2799	1	0	1944	7137	4192	2550	6742	No	2.41	Si
SLU 67	fin.	296.95	1124	1	0	1944	7137	4192	2550	6742	No	6	Si
SLU 73	ini.	-429.05	2837	1	0	1944	7137	4192	2550	6742	No	2.38	Si
SLU 73	fin.	314.69	1365	1	0	1944	7137	4192	2550	6742	No	4.94	Si
SLU 83	ini.	-418.33	2809	1	0	1944	7137	4192	2550	6742	No	2.4	Si
SLU 83	fin.	305.92	1329	1	0	1944	7137	4192	2550	6742	No	5.07	Si
SLU 84	ini.	-422.73	2825	1	0	1944	7137	4192	2550	6742	No	2.39	Si
SLU 84	fin.	307.69	1348	1	0	1944	7137	4192	2550	6742	No	5	Si
SLU 82	ini.	-432.2	2883	1	0	1944	7137	4192	2550	6742	No	2.34	Si
SLU 82	fin.	319.4	1407	1	0	1944	7137	4192	2550	6742	No	4.79	Si
SLU 81	ini.	-427.8	2866	1	0	1944	7137	4192	2550	6742	No	2.35	Si
SLU 81	fin.	317.63	1388	1	0	1944	7137	4192	2550	6742	No	4.86	Si
SLU 75	ini.	-433.73	2932	1	0	1944	7137	4192	2550	6742	No	2.3	Si
SLU 75	fin.	310.7	1253	1	0	1944	7137	4192	2550	6742	No	5.38	Si
SLU 78	ini.	-424.26	2874	1	0	1944	7137	4192	2550	6742	No	2.35	Si
SLU 78	fin.	298.99	1194	1	0	1944	7137	4192	2550	6742	No	5.65	Si
SLU 77	ini.	-419.86	2857	1	0	1944	7137	4192	2550	6742	No	2.36	Si
SLU 77	fin.	297.22	1175	1	0	1944	7137	4192	2550	6742	No	5.74	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-564.47	-1770	-0.0002396	0.0002807	0.0035	1		3712.06	3712.06		6.58	Si
SLV 16	fin.	618.42	1464	-0.0002652	0.0002807	0.0035	1		3705.31	3705.31		5.99	Si
SLD 9	ini.	-545.39	-2140	-0.0002308	0.0002807	0.0035	1		3712.06	3712.06		6.81	Si
SLD 9	fin.	564.9	1146	-0.0002402	0.0002807	0.0035	1		3705.31	3705.31		6.56	Si
SLV 9	ini.	-706.12	-2785	-0.0003067	0.0002807	0.0035	1		3712.06	3712.06		5.26	Si
SLV 9	fin.	787.07	1542	-0.0003474	0.0002807	0.0035	1		3705.31	3705.31		4.71	Si
SLD 15	ini.	-569.28	-1873	-0.0002418	0.0002807	0.0035	1		3712.06	3712.06		6.52	Si
SLD 15	fin.	599.98	1397	-0.0002566	0.0002807	0.0035	1		3705.31	3705.31		6.18	Si
SLD 13	ini.	-650.39	-2259	-0.0002799	0.0002807	0.0035	1		3712.06	3712.06		5.71	Si
SLD 13	fin.	715.48	1571	-0.0003118	0.0002807	0.0035	1		3705.31	3705.31		5.18	Si
SLV 13	ini.	-854.36	-2900	-0.000381	0.0002807	0.0035	1		3712.06	3712.06		4.34	Si
SLV 13	fin.	1003	2175	-0.0004606	0.0002807	0.0035	1		3705.31	3705.31		3.69	Si
SLD 14	ini.	-554.68	-1962	-0.0002351	0.0002807	0.0035	1		3712.06	3712.06		6.69	Si
SLD 14	fin.	595.49	1306	-0.0002545	0.0002807	0.0035	1		3705.31	3705.31		6.22	Si
SLV 10	ini.	-604.57	-2470	-0.0002582	0.0002807	0.0035	1		3712.06	3712.06		6.14	Si
SLV 10	fin.	659.74	1261	-0.0002848	0.0002807	0.0035	1		3705.31	3705.31		5.62	Si
SLV 14	ini.	-703.5	-2431	-0.0003054	0.0002807	0.0035	1		3712.06	3712.06		5.28	Si
SLV 14	fin.	813.86	1757	-0.0003609	0.0002807	0.0035	1		3705.31	3705.31		4.55	Si
SLV 15	ini.	-715.33	-2238	-0.0003112	0.0002807	0.0035	1		3712.06	3712.06		5.19	Si
SLV 15	fin.	807.55	1881	-0.0003577	0.0002807	0.0035	1		3705.31	3705.31		4.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-706.12	4547	1	0	2917	7137	6288	2550	8838		1.94	Si
SLV 9	fin.	787.07	2746	1	0	2917	7137	6288	2550	8838		3.22	Si
SLV 15	ini.	-715.33	4265	1	0	2917	7137	6288	2550	8838		2.07	Si
SLV 15	fin.	807.55	3348	1	0	2917	7137	6288	2550	8838		2.64	Si
SLV 14	ini.	-703.5	4358	1	0	2917	7137	6288	2550	8838		2.03	Si
SLV 14	fin.	813.86	3010	1	0	2917	7137	6288	2550	8838		2.94	Si
SLD 15	ini.	-569.28	3467	1	0	2917	7137	6288	2550	8838		2.55	Si
SLD 15	fin.	599.98	2484	1	0	2917	7137	6288	2550	8838		3.56	Si
SLD 13	ini.	-650.39	4020	1	0	2917	7137	6288	2550	8838		2.2	Si
SLD 13	fin.	715.48	2782	1	0	2917	7137	6288	2550	8838		3.18	Si
SLV 16	ini.	-564.47	3413	1	0	2917	7137	6288	2550	8838		2.59	Si
SLV 16	fin.	618.42	2491	1	0	2917	7137	6288	2550	8838		3.55	Si
SLD 14	ini.	-554.68	3480	1	0	2917	7137	6288	2550	8838		2.54	Si
SLD 14	fin.	595.49	2238	1	0	2917	7137	6288	2550	8838		3.95	Si
SLV 13	ini.	-854.36	5209	1	0	2917	7137	6288	2550	8838		1.7	Si
SLV 13	fin.	1003	3867	1	0	2917	7137	6288	2550	8838		2.29	Si
SLV 10	ini.	-604.57	3973	1	0	2917	7137	6288	2550	8838		2.22	Si
SLV 10	fin.	659.74	2169	1	0	2917	7137	6288	2550	8838		4.08	Si
SLD 9	ini.	-545.39	3531	1	0	2917	7137	6288	2550	8838		2.5	Si
SLD 9	fin.	564.9	2018	1	0	2917	7137	6288	2550	8838		4.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.694	SLV 13	Si
V_SLV	1.697	SLV 13	Si
PF_SLU	8.482	SLU 75	Si
V_SLU	2.3	SLU 75	Si

Trave di accoppiamento 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	13.6	14.6	1	-15.058	2.206	13.6	14.6	1	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-96.49	-49	-0.0000386	0.0002246	0.0035	1		3795.88	3795.88	No	39.34	Si
SLU 84	fin.	-286.49	-139	-0.0001177	0.0002246	0.0035	1		3795.88	3795.88	No	13.25	Si
SLU 77	ini.	-102.94	-56	-0.0000412	0.0002246	0.0035	1		3795.88	3795.88	No	36.88	Si
SLU 77	fin.	-298.18	-139	-0.0001228	0.0002246	0.0035	1		3795.88	3795.88	No	12.73	Si
SLU 81	ini.	-92.92	-41	-0.0000371	0.0002246	0.0035	1		3795.88	3795.88	No	40.85	Si
SLU 81	fin.	-276.86	-136	-0.0001136	0.0002246	0.0035	1		3795.88	3795.88	No	13.71	Si
SLU 74	ini.	-96.68	-49	-0.0000386	0.0002246	0.0035	1		3795.88	3795.88	No	39.26	Si
SLU 74	fin.	-282.34	-134	-0.000116	0.0002246	0.0035	1		3795.88	3795.88	No	13.44	Si
SLU 80	ini.	-97.25	-58	-0.0000389	0.0002246	0.0035	1		3795.88	3795.88	No	39.03	Si
SLU 80	fin.	-286.95	-139	-0.0001179	0.0002246	0.0035	1		3795.88	3795.88	No	13.23	Si
SLU 78	ini.	-100.25	-56	-0.0000401	0.0002246	0.0035	1		3795.88	3795.88	No	37.87	Si
SLU 78	fin.	-291.97	-137	-0.0001201	0.0002246	0.0035	1		3795.88	3795.88	No	13	Si
SLU 79	ini.	-99.95	-58	-0.00004	0.0002246	0.0035	1		3795.88	3795.88	No	37.98	Si
SLU 79	fin.	-293.16	-140	-0.0001206	0.0002246	0.0035	1		3795.88	3795.88	No	12.95	Si
SLU 82	ini.	-90.23	-41	-0.000036	0.0002246	0.0035	1		3795.88	3795.88	No	42.07	Si
SLU 82	fin.	-270.65	-134	-0.000111	0.0002246	0.0035	1		3795.88	3795.88	No	14.03	Si
SLU 83	ini.	-99.18	-49	-0.0000397	0.0002246	0.0035	1		3795.88	3795.88	No	38.27	Si
SLU 83	fin.	-292.7	-141	-0.0001204	0.0002246	0.0035	1		3795.88	3795.88	No	12.97	Si
SLU 75	ini.	-93.99	-49	-0.0000376	0.0002246	0.0035	1		3795.88	3795.88	No	40.39	Si
SLU 75	fin.	-276.13	-133	-0.0001133	0.0002246	0.0035	1		3795.88	3795.88	No	13.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-102.94	-168	1	0	1167	6344	2516	2550	5066	No	30.17	Si
SLU 77	fin.	-298.18	-454	1	0	1167	6344	2516	2550	5066	No	11.15	Si
SLU 79	ini.	-99.95	-165	1	0	1167	6344	2516	2550	5066	No	30.65	Si
SLU 79	fin.	-293.16	-452	1	0	1167	6344	2516	2550	5066	No	11.22	Si
SLU 84	ini.	-96.49	-166	1	0	1167	6344	2516	2550	5066	No	30.51	Si
SLU 84	fin.	-286.49	-452	1	0	1167	6344	2516	2550	5066	No	11.2	Si
SLU 74	ini.	-96.68	-158	1	0	1167	6344	2516	2550	5066	No	32.15	Si
SLU 74	fin.	-282.34	-444	1	0	1167	6344	2516	2550	5066	No	11.41	Si
SLU 78	ini.	-100.25	-162	1	0	1167	6344	2516	2550	5066	No	31.18	Si
SLU 78	fin.	-291.97	-449	1	0	1167	6344	2516	2550	5066	No	11.29	Si
SLU 75	ini.	-93.99	-152	1	0	1167	6344	2516	2550	5066	No	33.3	Si
SLU 75	fin.	-276.13	-439	1	0	1167	6344	2516	2550	5066	No	11.55	Si
SLU 81	ini.	-92.92	-161	1	0	1167	6344	2516	2550	5066	No	31.43	Si
SLU 81	fin.	-276.86	-448	1	0	1167	6344	2516	2550	5066	No	11.32	Si
SLU 83	ini.	-99.18	-171	1	0	1167	6344	2516	2550	5066	No	29.54	Si
SLU 83	fin.	-292.7	-458	1	0	1167	6344	2516	2550	5066	No	11.06	Si
SLU 82	ini.	-90.23	-156	1	0	1167	6344	2516	2550	5066	No	32.53	Si
SLU 82	fin.	-270.65	-442	1	0	1167	6344	2516	2550	5066	No	11.46	Si
SLU 80	ini.	-97.25	-160	1	0	1167	6344	2516	2550	5066	No	31.69	Si
SLU 80	fin.	-286.95	-446	1	0	1167	6344	2516	2550	5066	No	11.35	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	555.24	168	-0.0002335	0.0003369	0.0035	1		3885.58	3885.58		7	Si
SLV 9	fin.	453.12	410	-0.0001881	0.0003369	0.0035	1		3885.58	3885.58		8.58	Si
SLD 12	ini.	-397.09	-77	-0.0001635	0.0003369	0.0035	1		3892.05	3892.05		9.8	Si
SLD 12	fin.	-580.9	-422	-0.0002447	0.0003369	0.0035	1		3892.05	3892.05		6.7	Si
SLV 8	ini.	-669.68	-238	-0.0002854	0.0003369	0.0035	1		3892.05	3892.05		5.81	Si
SLV 8	fin.	-801.22	-594	-0.0003479	0.0003369	0.0035	1		3892.05	3892.05		4.86	Si
SLV 10	ini.	554.55	168	-0.0002332	0.0003369	0.0035	1		3885.58	3885.58		7.01	Si
SLV 10	fin.	453.51	412	-0.0001883	0.0003369	0.0035	1		3885.58	3885.58		8.57	Si
SLD 7	ini.	-426	-164	-0.000176	0.0003369	0.0035	1		3892.05	3892.05		9.14	Si
SLD 7	fin.	-541.91	-389	-0.0002271	0.0003369	0.0035	1		3892.05	3892.05		7.18	Si
SLV 12	ini.	-624.03	-103	-0.0002643	0.0003369	0.0035	1		3892.05	3892.05		6.24	Si
SLV 12	fin.	-862.58	-647	-0.0003781	0.0003369	0.0035	1		3892.05	3892.05		4.51	Si
SLD 11	ini.	-396.68	-77	-0.0001633	0.0003369	0.0035	1		3892.05	3892.05		9.81	Si
SLD 11	fin.	-581.14	-423	-0.0002448	0.0003369	0.0035	1		3892.05	3892.05		6.7	Si
SLV 11	ini.	-623.34	-103	-0.000264	0.0003369	0.0035	1		3892.05	3892.05		6.24	Si
SLV 11	fin.	-862.98	-650	-0.0003783	0.0003369	0.0035	1		3892.05	3892.05		4.51	Si
SLD 8	ini.	-426.42	-164	-0.0001762	0.0003369	0.0035	1		3892.05	3892.05		9.13	Si
SLD 8	fin.	-541.67	-388	-0.000227	0.0003369	0.0035	1		3892.05	3892.05		7.19	Si
SLV 7	ini.	-668.99	-239	-0.0002851	0.0003369	0.0035	1		3892.05	3892.05		5.82	Si
SLV 7	fin.	-801.61	-596	-0.0003481	0.0003369	0.0035	1		3892.05	3892.05		4.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-668.99	-469	1	0	1750	6344	3773	2550	6323		13.49	Si
SLV 7	fin.	-801.61	-686	1	0	1750	6344	3773	2550	6323		9.22	Si
SLV 12	ini.	-624.03	-527	1	0	1750	6344	3773	2550	6323		12	Si
SLV 12	fin.	-862.58	-722	1	0	1750	6344	3773	2550	6323		8.76	Si
SLD 11	ini.	-396.68	-348	1	0	1750	6344	3773	2550	6323		18.19	Si
SLD 11	fin.	-581.14	-550	1	0	1750	6344	3773	2550	6323		11.5	Si
SLD 12	ini.	-397.09	-346	1	0	1750	6344	3773	2550	6323		18.28	Si
SLD 12	fin.	-580.9	-548	1	0	1750	6344	3773	2550	6323		11.54	Si
SLV 8	ini.	-669.68	-466	1	0	1750	6344	3773	2550	6323		13.57	Si
SLV 8	fin.	-801.22	-683	1	0	1750	6344	3773	2550	6323		9.26	Si
SLV 16	ini.	-158.44	-309	1	0	1750	6344	3773	2550	6323		20.5	Si
SLV 16	fin.	-473.44	-485	1	0	1750	6344	3773	2550	6323		13.03	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-426.42	-307	1	0	1750	6344	3773	2550	6323		20.6	Si
SLD 8	fin.	-541.67	-523	1	0	1750	6344	3773	2550	6323		12.09	Si
SLV 15	ini.	-157.42	-313	1	0	1750	6344	3773	2550	6323		20.22	Si
SLV 15	fin.	-474.03	-490	1	0	1750	6344	3773	2550	6323		12.91	Si
SLD 7	ini.	-426	-309	1	0	1750	6344	3773	2550	6323		20.48	Si
SLD 7	fin.	-541.91	-525	1	0	1750	6344	3773	2550	6323		12.05	Si
SLV 11	ini.	-623.34	-530	1	0	1750	6344	3773	2550	6323		11.94	Si
SLV 11	fin.	-862.98	-725	1	0	1750	6344	3773	2550	6323		8.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.51	SLV 11	Si
V_SLV	8.727	SLV 11	Si
PF_SLU	12.73	SLU 77	Si
V_SLU	11.063	SLU 83	Si

Trave di accoppiamento 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	11.5	12.4	0.9	-16.843	6.661	11.5	12.4	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-71.76	-340	-0.0000355	0.0001872	0.0035	0.9		2964.67	2964.67	No	41.32	Si
SLU 71	fin.	133.62	-881	-0.0000671	0.0001872	0.0035	0.9		2959	2959	No	22.14	Si
SLU 72	ini.	-82.99	-321	-0.0000412	0.0001872	0.0035	0.9		2964.67	2964.67	No	35.72	Si
SLU 72	fin.	137.75	-891	-0.0000692	0.0001872	0.0035	0.9		2959	2959	No	21.48	Si
SLU 69	ini.	-72.14	-352	-0.0000357	0.0001872	0.0035	0.9		2964.67	2964.67	No	41.1	Si
SLU 69	fin.	137.44	-913	-0.0000691	0.0001872	0.0035	0.9		2959	2959	No	21.53	Si
SLU 70	ini.	-83.37	-334	-0.0000414	0.0001872	0.0035	0.9		2964.67	2964.67	No	35.56	Si
SLU 70	fin.	141.57	-923	-0.0000712	0.0001872	0.0035	0.9		2959	2959	No	20.9	Si
SLU 78	ini.	-100.39	-305	-0.00005	0.0001872	0.0035	0.9		2964.67	2964.67	No	29.53	Si
SLU 78	fin.	145.92	-923	-0.0000735	0.0001872	0.0035	0.9		2959	2959	No	20.28	Si
SLU 80	ini.	-100.01	-292	-0.0000498	0.0001872	0.0035	0.9		2964.67	2964.67	No	29.64	Si
SLU 80	fin.	142.11	-892	-0.0000715	0.0001872	0.0035	0.9		2959	2959	No	20.82	Si
SLU 77	ini.	-89.16	-324	-0.0000443	0.0001872	0.0035	0.9		2964.67	2964.67	No	33.25	Si
SLU 77	fin.	141.8	-913	-0.0000713	0.0001872	0.0035	0.9		2959	2959	No	20.87	Si
SLU 79	ini.	-88.77	-311	-0.0000441	0.0001872	0.0035	0.9		2964.67	2964.67	No	33.4	Si
SLU 79	fin.	137.98	-881	-0.0000694	0.0001872	0.0035	0.9		2959	2959	No	21.44	Si
SLU 36	ini.	-106.54	-233	-0.0000531	0.0001872	0.0035	0.9		2964.67	2964.67	No	27.83	Si
SLU 36	fin.	136.09	-824	-0.0000684	0.0001872	0.0035	0.9		2959	2959	No	21.74	Si
SLU 38	ini.	-106.15	-220	-0.0000529	0.0001872	0.0035	0.9		2964.67	2964.67	No	27.93	Si
SLU 38	fin.	132.28	-792	-0.0000664	0.0001872	0.0035	0.9		2959	2959	No	22.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-82.99	273	0.9	0	1750	7137	3773	2295	6068	No	22.24	Si
SLU 72	fin.	137.75	1442	0.9	0	1750	7137	3773	2295	6068	No	4.21	Si
SLU 69	ini.	-72.14	225	0.9	0	1750	7137	3773	2295	6068	No	26.92	Si
SLU 69	fin.	137.44	1480	0.9	0	1750	7137	3773	2295	6068	No	4.1	Si
SLU 49	ini.	-57.42	183	0.9	0	1750	7137	3773	2295	6068	No	33.1	Si
SLU 49	fin.	119.82	1337	0.9	0	1750	7137	3773	2295	6068	No	4.54	Si
SLU 70	ini.	-83.37	260	0.9	0	1750	7137	3773	2295	6068	No	23.38	Si
SLU 70	fin.	141.57	1507	0.9	0	1750	7137	3773	2295	6068	No	4.03	Si
SLU 78	ini.	-100.39	339	0.9	0	1750	7137	3773	2295	6068	No	17.92	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	145.92	1479	0.9	0	1750	7137	3773	2295	6068	No	4.1	Si
SLU 80	ini.	-100.01	352	0.9	0	1750	7137	3773	2295	6068	No	17.25	Si
SLU 80	fin.	142.11	1415	0.9	0	1750	7137	3773	2295	6068	No	4.29	Si
SLU 79	ini.	-88.77	318	0.9	0	1750	7137	3773	2295	6068	No	19.1	Si
SLU 79	fin.	137.98	1387	0.9	0	1750	7137	3773	2295	6068	No	4.37	Si
SLU 77	ini.	-89.16	304	0.9	0	1750	7137	3773	2295	6068	No	19.93	Si
SLU 77	fin.	141.8	1452	0.9	0	1750	7137	3773	2295	6068	No	4.18	Si
SLU 28	ini.	-89.52	262	0.9	0	1750	7137	3773	2295	6068	No	23.2	Si
SLU 28	fin.	131.74	1360	0.9	0	1750	7137	3773	2295	6068	No	4.46	Si
SLU 71	ini.	-71.76	239	0.9	0	1750	7137	3773	2295	6068	No	25.42	Si
SLU 71	fin.	133.62	1415	0.9	0	1750	7137	3773	2295	6068	No	4.29	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	1340.88	-2450	-0.0008585	0.0002807	0.0035	0.9		2989.59	2989.59		2.23	Si
SLV 12	fin.	-455.32	881	-0.0002392	0.0002807	0.0035	0.9		2995.37	2995.37		6.58	Si
SLV 16	ini.	1214.45	-2119	-0.0007562	0.0002807	0.0035	0.9		2989.59	2989.59		2.46	Si
SLV 16	fin.	-437.36	952	-0.0002289	0.0002807	0.0035	0.9		2995.37	2995.37		6.85	Si
SLV 1	ini.	-1257.34	1641	-0.0007885	0.0002807	0.0035	0.9		2995.37	2995.37		2.38	Si
SLV 1	fin.	567.5	-1922	-0.0003055	0.0002807	0.0035	0.9		2989.59	2989.59		5.27	Si
SLV 9	ini.	-912.72	1272	-0.0005299	0.0002807	0.0035	0.9		2995.37	2995.37		3.28	Si
SLV 9	fin.	392.28	-1282	-0.0002041	0.0002807	0.0035	0.9		2989.59	2989.59		7.62	Si
SLV 6	ini.	-1193.52	1711	-0.000738	0.0002807	0.0035	0.9		2995.37	2995.37		2.51	Si
SLV 6	fin.	495.48	-1577	-0.0002628	0.0002807	0.0035	0.9		2989.59	2989.59		6.03	Si
SLV 5	ini.	-1383.78	1972	-0.0008922	0.0002807	0.0035	0.9		2995.37	2995.37		2.16	Si
SLV 5	fin.	585.46	-1851	-0.0003163	0.0002807	0.0035	0.9		2989.59	2989.59		5.11	Si
SLV 15	ini.	931.85	-1732	-0.0005446	0.0002807	0.0035	0.9		2989.59	2989.59		3.21	Si
SLV 15	fin.	-303.71	544	-0.0001553	0.0002807	0.0035	0.9		2995.37	2995.37		9.86	Si
SLV 11	ini.	1150.63	-2189	-0.0007064	0.0002807	0.0035	0.9		2989.59	2989.59		2.6	Si
SLV 11	fin.	-365.34	607	-0.0001888	0.0002807	0.0035	0.9		2995.37	2995.37		8.2	Si
SLV 2	ini.	-974.75	1254	-0.000574	0.0002807	0.0035	0.9		2995.37	2995.37		3.07	Si
SLV 2	fin.	433.85	-1514	-0.0002274	0.0002807	0.0035	0.9		2989.59	2989.59		6.89	Si
SLV 8	ini.	869.82	-1749	-0.0005012	0.0002807	0.0035	0.9		2989.59	2989.59		3.44	Si
SLV 8	fin.	-262.14	312	-0.0001331	0.0002807	0.0035	0.9		2995.37	2995.37		11.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-791.4	2439	0.9	0	2625	7137	5660	2295	7955		3.26	Si
SLD 1	fin.	378.21	2866	0.9	0	2625	7137	5660	2295	7955		2.78	Si
SLV 1	ini.	-1257.34	3840	0.9	0	2625	7137	5660	2295	7955		2.07	Si
SLV 1	fin.	567.5	4160	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLD 5	ini.	-832.94	2584	0.9	0	2625	7137	5660	2295	7955		3.08	Si
SLD 5	fin.	375.42	2806	0.9	0	2625	7137	5660	2295	7955		2.84	Si
SLV 11	ini.	1150.63	-3430	0.9	0	2625	7137	5660	2295	7955		2.32	Si
SLV 11	fin.	-365.34	-2180	0.9	0	2625	7137	5660	2295	7955		3.65	Si
SLV 2	ini.	-974.75	2985	0.9	0	2625	7137	5660	2295	7955		2.66	Si
SLV 2	fin.	433.85	3287	0.9	0	2625	7137	5660	2295	7955		2.42	Si
SLV 9	ini.	-912.72	2847	0.9	0	2625	7137	5660	2295	7955		2.79	Si
SLV 9	fin.	392.28	2867	0.9	0	2625	7137	5660	2295	7955		2.77	Si
SLV 6	ini.	-1193.52	3679	0.9	0	2625	7137	5660	2295	7955		2.16	Si
SLV 6	fin.	495.48	3626	0.9	0	2625	7137	5660	2295	7955		2.19	Si
SLV 12	ini.	1340.88	-4006	0.9	0	2625	7137	5660	2295	7955		1.99	Si
SLV 12	fin.	-455.32	-2768	0.9	0	2625	7137	5660	2295	7955		2.87	Si
SLV 5	ini.	-1383.78	4255	0.9	0	2625	7137	5660	2295	7955		1.87	Si
SLV 5	fin.	585.46	4213	0.9	0	2625	7137	5660	2295	7955		1.89	Si
SLV 16	ini.	1214.45	-3591	0.9	0	2625	7137	5660	2295	7955		2.22	Si
SLV 16	fin.	-437.36	-2714	0.9	0	2625	7137	5660	2295	7955		2.93	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.165	SLV 5	Si
V_SLV	1.869	SLV 5	Si
PF_SLU	20.278	SLU 78	Si
V_SLU	4.027	SLU 70	Si

Trave di accoppiamento 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	14.2	14.6	0.4	-16.843	6.661	14.2	14.6	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 36	ini.	-113.77	24	-0.0003234	0.0001872	0.0035	0.4		588.62	588.62	No	5.17	Si
SLU 36	fin.	-69.12	158	-0.0001841	0.0001872	0.0035	0.4		588.62	588.62	No	8.52	Si
SLU 28	ini.	-110.64	28	-0.000313	0.0001872	0.0035	0.4		588.62	588.62	No	5.32	Si
SLU 28	fin.	-73.34	138	-0.0001964	0.0001872	0.0035	0.4		588.62	588.62	No	8.03	Si
SLU 72	ini.	-112.03	44	-0.0003176	0.0001872	0.0035	0.4		588.62	588.62	No	5.25	Si
SLU 72	fin.	-77.95	141	-0.0002101	0.0001872	0.0035	0.4		588.62	588.62	No	7.55	Si
SLU 70	ini.	-115.3	56	-0.0003285	0.0001872	0.0035	0.4		588.62	588.62	No	5.11	Si
SLU 70	fin.	-86.85	135	-0.0002372	0.0001872	0.0035	0.4		588.62	588.62	No	6.78	Si
SLU 80	ini.	-115.16	40	-0.000328	0.0001872	0.0035	0.4		588.62	588.62	No	5.11	Si
SLU 80	fin.	-73.73	160	-0.0001976	0.0001872	0.0035	0.4		588.62	588.62	No	7.98	Si
SLU 35	ini.	-111.32	30	-0.0003153	0.0001872	0.0035	0.4		588.62	588.62	No	5.29	Si
SLU 35	fin.	-72.04	146	-0.0001926	0.0001872	0.0035	0.4		588.62	588.62	No	8.17	Si
SLU 79	ini.	-112.71	45	-0.0003199	0.0001872	0.0035	0.4		588.62	588.62	No	5.22	Si
SLU 79	fin.	-76.65	148	-0.0002063	0.0001872	0.0035	0.4		588.62	588.62	No	7.68	Si
SLU 77	ini.	-115.97	57	-0.0003307	0.0001872	0.0035	0.4		588.62	588.62	No	5.08	Si
SLU 77	fin.	-85.55	142	-0.0002332	0.0001872	0.0035	0.4		588.62	588.62	No	6.88	Si
SLU 69	ini.	-112.85	62	-0.0003203	0.0001872	0.0035	0.4		588.62	588.62	No	5.22	Si
SLU 69	fin.	-89.76	123	-0.0002462	0.0001872	0.0035	0.4		588.62	588.62	No	6.56	Si
SLU 78	ini.	-118.42	52	-0.0003389	0.0001872	0.0035	0.4		588.62	588.62	No	4.97	Si
SLU 78	fin.	-82.64	154	-0.0002243	0.0001872	0.0035	0.4		588.62	588.62	No	7.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-115.3	636	0.4	0	631	3172	1677	1020	2697	No	4.24	Si
SLU 70	fin.	-86.85	-546	0.4	0	631	3172	1677	1020	2697	No	4.94	Si
SLU 35	ini.	-111.32	595	0.4	0	631	3172	1677	1020	2697	No	4.53	Si
SLU 35	fin.	-72.04	-464	0.4	0	631	3172	1677	1020	2697	No	5.81	Si
SLU 72	ini.	-112.03	614	0.4	0	631	3172	1677	1020	2697	No	4.39	Si
SLU 72	fin.	-77.95	-505	0.4	0	631	3172	1677	1020	2697	No	5.34	Si
SLU 77	ini.	-115.97	639	0.4	0	631	3172	1677	1020	2697	No	4.22	Si
SLU 77	fin.	-85.55	-543	0.4	0	631	3172	1677	1020	2697	No	4.97	Si
SLU 36	ini.	-113.77	604	0.4	0	631	3172	1677	1020	2697	No	4.46	Si
SLU 36	fin.	-69.12	-455	0.4	0	631	3172	1677	1020	2697	No	5.93	Si
SLU 80	ini.	-115.16	627	0.4	0	631	3172	1677	1020	2697	No	4.3	Si
SLU 80	fin.	-73.73	-491	0.4	0	631	3172	1677	1020	2697	No	5.49	Si
SLU 78	ini.	-118.42	649	0.4	0	631	3172	1677	1020	2697	No	4.16	Si
SLU 78	fin.	-82.64	-533	0.4	0	631	3172	1677	1020	2697	No	5.06	Si
SLU 79	ini.	-112.71	618	0.4	0	631	3172	1677	1020	2697	No	4.37	Si
SLU 79	fin.	-76.65	-501	0.4	0	631	3172	1677	1020	2697	No	5.38	Si
SLU 71	ini.	-109.59	605	0.4	0	631	3172	1677	1020	2697	No	4.46	Si
SLU 71	fin.	-80.86	-514	0.4	0	631	3172	1677	1020	2697	No	5.24	Si
SLU 69	ini.	-112.85	626	0.4	0	631	3172	1677	1020	2697	No	4.31	Si
SLU 69	fin.	-89.76	-556	0.4	0	631	3172	1677	1020	2697	No	4.85	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	226.05	751	-0.0007018	0.0002807	0.0035	0.4		592.15	592.15		2.62	Si
SLV 16	fin.	-368.65	-1204	-0.0013388	0.0002807	0.0035	0.4		594.74	594.74		1.61	Si
SLV 1	ini.	-315.05	-586	-0.0010746	0.0002807	0.0035	0.4		594.74	594.74		1.89	Si
SLV 1	fin.	257.46	1279	-0.000828	0.0002807	0.0035	0.4		592.15	592.15		2.3	Si
SLV 15	ini.	144	523	-0.0004068	0.0002807	0.0035	0.4		592.15	592.15		4.11	Si
SLV 15	fin.	-278.79	-873	-0.0009132	0.0002807	0.0035	0.4		594.74	594.74		2.13	Si
SLD 12	ini.	140.89	528	-0.0003966	0.0002807	0.0035	0.4		592.15	592.15		4.2	Si
SLD 12	fin.	-271.22	-823	-0.0008809	0.0002807	0.0035	0.4		594.74	594.74		2.19	Si
SLV 8	ini.	172.16	599	-0.0005025	0.0002807	0.0035	0.4		592.15	592.15		3.44	Si
SLV 8	fin.	-307.19	-964	-0.0010386	0.0002807	0.0035	0.4		594.74	594.74		1.94	Si
SLV 9	ini.	-261.15	-434	-0.0008388	0.0002807	0.0035	0.4		594.74	594.74		2.28	Si
SLV 9	fin.	196.01	1039	-0.0005881	0.0002807	0.0035	0.4		592.15	592.15		3.02	Si
SLV 12	ini.	267.28	832	-0.000869	0.0002807	0.0035	0.4		592.15	592.15		2.22	Si
SLV 12	fin.	-418.23	-1409	-0.0016203	0.0002807	0.0035	0.4		594.74	594.74		1.42	Si
SLV 6	ini.	-301.04	-513	-0.0010108	0.0002807	0.0035	0.4		594.74	594.74		1.98	Si
SLV 6	fin.	246.56	1261	-0.0007833	0.0002807	0.0035	0.4		592.15	592.15		2.4	Si
SLV 5	ini.	-356.28	-667	-0.0012747	0.0002807	0.0035	0.4		594.74	594.74		1.67	Si
SLV 5	fin.	307.05	1484	-0.0010437	0.0002807	0.0035	0.4		592.15	592.15		1.93	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	212.04	678	-0.000648	0.0002807	0.0035	0.4		592.15	592.15		2.79	Si
SLV 11	fin.	-357.74	-1186	-0.0012822	0.0002807	0.0035	0.4		594.74	594.74		1.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	172.16	-541	0.4	0	919	3172	2515	1020	3535		6.53	Si
SLV 8	fin.	-307.19	-1176	0.4	0	919	3172	2515	1020	3535		3.01	Si
SLV 6	ini.	-301.04	1271	0.4	0	919	3172	2515	1020	3535		2.78	Si
SLV 6	fin.	246.56	668	0.4	0	919	3172	2515	1020	3535		5.3	Si
SLV 11	ini.	212.04	-697	0.4	0	919	3172	2515	1020	3535		5.07	Si
SLV 11	fin.	-357.74	-1337	0.4	0	919	3172	2515	1020	3535		2.64	Si
SLV 9	ini.	-261.15	1115	0.4	0	919	3172	2515	1020	3535		3.17	Si
SLV 9	fin.	196.01	506	0.4	0	919	3172	2515	1020	3535		6.98	Si
SLD 12	ini.	140.89	-420	0.4	0	919	3172	2515	1020	3535		8.42	Si
SLD 12	fin.	-271.22	-1054	0.4	0	919	3172	2515	1020	3535		3.35	Si
SLV 12	ini.	267.28	-902	0.4	0	919	3172	2515	1020	3535		3.92	Si
SLV 12	fin.	-418.23	-1545	0.4	0	919	3172	2515	1020	3535		2.29	Si
SLV 5	ini.	-356.28	1476	0.4	0	919	3172	2515	1020	3535		2.39	Si
SLV 5	fin.	307.05	876	0.4	0	919	3172	2515	1020	3535		4.04	Si
SLV 15	ini.	144	-435	0.4	0	919	3172	2515	1020	3535		8.14	Si
SLV 15	fin.	-278.79	-1072	0.4	0	919	3172	2515	1020	3535		3.3	Si
SLV 1	ini.	-315.05	1313	0.4	0	919	3172	2515	1020	3535		2.69	Si
SLV 1	fin.	257.46	712	0.4	0	919	3172	2515	1020	3535		4.97	Si
SLV 16	ini.	226.05	-739	0.4	0	919	3172	2515	1020	3535		4.78	Si
SLV 16	fin.	-368.65	-1381	0.4	0	919	3172	2515	1020	3535		2.56	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.422	SLV 12	Si
V_SLV	2.288	SLV 12	Si
PF_SLU	4.971	SLU 78	Si
V_SLU	4.157	SLU 78	Si

Trave di accoppiamento 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	11.5	12.4	0.9	-11.918	6.661	11.5	12.4	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	86.32	-805	-0.0000429	0.0001872	0.0035	0.9		2959	2959	No	34.28	Si
SLU 79	fin.	252.09	-1160	-0.00013	0.0001872	0.0035	0.9		2959	2959	No	11.74	Si
SLU 70	ini.	101.09	-857	-0.0000504	0.0001872	0.0035	0.9		2959	2959	No	29.27	Si
SLU 70	fin.	254.57	-1189	-0.0001313	0.0001872	0.0035	0.9		2959	2959	No	11.62	Si
SLU 71	ini.	92.31	-812	-0.000046	0.0001872	0.0035	0.9		2959	2959	No	32.05	Si
SLU 71	fin.	246.8	-1144	-0.0001271	0.0001872	0.0035	0.9		2959	2959	No	11.99	Si
SLU 78	ini.	95.1	-850	-0.0000474	0.0001872	0.0035	0.9		2959	2959	No	31.12	Si
SLU 78	fin.	259.86	-1205	-0.0001342	0.0001872	0.0035	0.9		2959	2959	No	11.39	Si
SLU 77	ini.	93.39	-847	-0.0000465	0.0001872	0.0035	0.9		2959	2959	No	31.68	Si
SLU 77	fin.	261.91	-1209	-0.0001353	0.0001872	0.0035	0.9		2959	2959	No	11.3	Si
SLU 80	ini.	88.03	-808	-0.0000438	0.0001872	0.0035	0.9		2959	2959	No	33.61	Si
SLU 80	fin.	250.03	-1156	-0.0001288	0.0001872	0.0035	0.9		2959	2959	No	11.83	Si
SLU 69	ini.	99.38	-854	-0.0000496	0.0001872	0.0035	0.9		2959	2959	No	29.77	Si
SLU 69	fin.	256.63	-1194	-0.0001324	0.0001872	0.0035	0.9		2959	2959	No	11.53	Si
SLU 75	ini.	79.37	-770	-0.0000394	0.0001872	0.0035	0.9		2959	2959	No	37.28	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	fin.	247.95	-1134	-0.0001277	0.0001872	0.0035	0.9		2959	2959	No	11.93	Si
SLU 72	ini.	94.02	-815	-0.0000468	0.0001872	0.0035	0.9		2959	2959	No	31.47	Si
SLU 72	fin.	244.75	-1140	-0.000126	0.0001872	0.0035	0.9		2959	2959	No	12.09	Si
SLU 74	ini.	77.66	-767	-0.0000386	0.0001872	0.0035	0.9		2959	2959	No	38.1	Si
SLU 74	fin.	250.01	-1138	-0.0001288	0.0001872	0.0035	0.9		2959	2959	No	11.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	99.38	-479	0.9	0	1750	7137	3773	2295	6068	No	12.67	Si
SLU 69	fin.	256.63	1068	0.9	0	1750	7137	3773	2295	6068	No	5.68	Si
SLU 77	ini.	93.39	-416	0.9	0	1750	7137	3773	2295	6068	No	14.59	Si
SLU 77	fin.	261.91	1058	0.9	0	1750	7137	3773	2295	6068	No	5.74	Si
SLU 66	ini.	83.65	-391	0.9	0	1750	7137	3773	2295	6068	No	15.52	Si
SLU 66	fin.	244.72	1004	0.9	0	1750	7137	3773	2295	6068	No	6.04	Si
SLU 67	ini.	85.36	-397	0.9	0	1750	7137	3773	2295	6068	No	15.28	Si
SLU 67	fin.	242.66	995	0.9	0	1750	7137	3773	2295	6068	No	6.1	Si
SLU 71	ini.	92.31	-436	0.9	0	1750	7137	3773	2295	6068	No	13.92	Si
SLU 71	fin.	246.8	1015	0.9	0	1750	7137	3773	2295	6068	No	5.98	Si
SLU 78	ini.	95.1	-422	0.9	0	1750	7137	3773	2295	6068	No	14.38	Si
SLU 78	fin.	259.86	1049	0.9	0	1750	7137	3773	2295	6068	No	5.79	Si
SLU 80	ini.	88.03	-379	0.9	0	1750	7137	3773	2295	6068	No	16.02	Si
SLU 80	fin.	250.03	995	0.9	0	1750	7137	3773	2295	6068	No	6.1	Si
SLU 70	ini.	101.09	-485	0.9	0	1750	7137	3773	2295	6068	No	12.51	Si
SLU 70	fin.	254.57	1059	0.9	0	1750	7137	3773	2295	6068	No	5.73	Si
SLU 72	ini.	94.02	-442	0.9	0	1750	7137	3773	2295	6068	No	13.73	Si
SLU 72	fin.	244.75	1006	0.9	0	1750	7137	3773	2295	6068	No	6.03	Si
SLU 79	ini.	86.32	-373	0.9	0	1750	7137	3773	2295	6068	No	16.27	Si
SLU 79	fin.	252.09	1005	0.9	0	1750	7137	3773	2295	6068	No	6.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	808.97	-2082	-0.0004597	0.0002807	0.0035	0.9		2989.59	2989.59		3.7	Si
SLV 14	fin.	-654.58	758	-0.0003583	0.0002807	0.0035	0.9		2995.37	2995.37		4.58	Si
SLV 2	ini.	-464.91	583	-0.0002446	0.0002807	0.0035	0.9		2995.37	2995.37		6.44	Si
SLV 2	fin.	702.6	-1709	-0.0003896	0.0002807	0.0035	0.9		2989.59	2989.59		4.26	Si
SLV 15	ini.	552.35	-1547	-0.0002964	0.0002807	0.0035	0.9		2989.59	2989.59		5.41	Si
SLV 15	fin.	-369.98	216	-0.0001913	0.0002807	0.0035	0.9		2995.37	2995.37		8.1	Si
SLV 16	ini.	768.38	-2001	-0.0004325	0.0002807	0.0035	0.9		2989.59	2989.59		3.89	Si
SLV 16	fin.	-597.22	632	-0.0003228	0.0002807	0.0035	0.9		2995.37	2995.37		5.02	Si
SLD 1	ini.	-417.93	486	-0.000218	0.0002807	0.0035	0.9		2995.37	2995.37		7.17	Si
SLD 1	fin.	653.09	-1625	-0.0003581	0.0002807	0.0035	0.9		2989.59	2989.59		4.58	Si
SLV 3	ini.	-721.53	1118	-0.000401	0.0002807	0.0035	0.9		2995.37	2995.37		4.15	Si
SLV 3	fin.	987.2	-2251	-0.0005842	0.0002807	0.0035	0.9		2989.59	2989.59		3.03	Si
SLD 3	ini.	-442.08	534	-0.0002316	0.0002807	0.0035	0.9		2995.37	2995.37		6.78	Si
SLD 3	fin.	687.05	-1700	-0.0003796	0.0002807	0.0035	0.9		2989.59	2989.59		4.35	Si
SLV 4	ini.	-505.5	664	-0.0002681	0.0002807	0.0035	0.9		2995.37	2995.37		5.93	Si
SLV 4	fin.	759.96	-1836	-0.000427	0.0002807	0.0035	0.9		2989.59	2989.59		3.93	Si
SLV 13	ini.	592.94	-1628	-0.0003209	0.0002807	0.0035	0.9		2989.59	2989.59		5.04	Si
SLV 13	fin.	-427.34	343	-0.0002233	0.0002807	0.0035	0.9		2995.37	2995.37		7.01	Si
SLV 1	ini.	-680.94	1037	-0.000375	0.0002807	0.0035	0.9		2995.37	2995.37		4.4	Si
SLV 1	fin.	929.84	-2124	-0.0005432	0.0002807	0.0035	0.9		2989.59	2989.59		3.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	592.94	-2679	0.9	0	2625	7137	5660	2295	7955		2.97	Si
SLV 13	fin.	-427.34	-1742	0.9	0	2625	7137	5660	2295	7955		4.57	Si
SLV 2	ini.	-464.91	2036	0.9	0	2625	7137	5660	2295	7955		3.91	Si
SLV 2	fin.	702.6	2745	0.9	0	2625	7137	5660	2295	7955		2.9	Si
SLV 1	ini.	-680.94	2987	0.9	0	2625	7137	5660	2295	7955		2.66	Si
SLV 1	fin.	929.84	3653	0.9	0	2625	7137	5660	2295	7955		2.18	Si
SLV 14	ini.	808.97	-3631	0.9	0	2625	7137	5660	2295	7955		2.19	Si
SLV 14	fin.	-654.58	-2649	0.9	0	2625	7137	5660	2295	7955		3	Si
SLV 3	ini.	-721.53	3275	0.9	0	2625	7137	5660	2295	7955		2.43	Si
SLV 3	fin.	987.2	3956	0.9	0	2625	7137	5660	2295	7955		2.01	Si
SLV 15	ini.	552.35	-2392	0.9	0	2625	7137	5660	2295	7955		3.33	Si
SLV 15	fin.	-369.98	-1438	0.9	0	2625	7137	5660	2295	7955		5.53	Si
SLV 4	ini.	-505.5	2323	0.9	0	2625	7137	5660	2295	7955		3.42	Si
SLV 4	fin.	759.96	3049	0.9	0	2625	7137	5660	2295	7955		2.61	Si
SLV 16	ini.	768.38	-3344	0.9	0	2625	7137	5660	2295	7955		2.38	Si
SLV 16	fin.	-597.22	-2346	0.9	0	2625	7137	5660	2295	7955		3.39	Si
SLD 3	ini.	-442.08	2011	0.9	0	2625	7137	5660	2295	7955		3.96	Si
SLD 3	fin.	687.05	2746	0.9	0	2625	7137	5660	2295	7955		2.9	Si
SLD 1	ini.	-417.93	1841	0.9	0	2625	7137	5660	2295	7955		4.32	Si
SLD 1	fin.	653.09	2567	0.9	0	2625	7137	5660	2295	7955		3.1	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.028	SLV 3	Si
V_SLV	2.011	SLV 3	Si
PF_SLU	11.298	SLU 77	Si
V_SLU	5.681	SLU 69	Si

Trave di accoppiamento 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	14.2	14.6	0.4	-11.918	6.661	14.2	14.6	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-145.51	-246	-0.0004327	0.0001872	0.0035	0.4		588.62	588.62	No	4.05	Si
SLU 75	fin.	-41.37	93	-0.0001065	0.0001872	0.0035	0.4		588.62	588.62	No	14.23	Si
SLU 80	ini.	-151.23	-252	-0.0004532	0.0001872	0.0035	0.4		588.62	588.62	No	3.89	Si
SLU 80	fin.	-45.65	91	-0.0001181	0.0001872	0.0035	0.4		588.62	588.62	No	12.89	Si
SLU 77	ini.	-159.7	-262	-0.0004841	0.0001872	0.0035	0.4		588.62	588.62	No	3.69	Si
SLU 77	fin.	-51.33	90	-0.0001337	0.0001872	0.0035	0.4		588.62	588.62	No	11.47	Si
SLU 69	ini.	-156.54	-251	-0.0004725	0.0001872	0.0035	0.4		588.62	588.62	No	3.76	Si
SLU 69	fin.	-54.28	82	-0.0001419	0.0001872	0.0035	0.4		588.62	588.62	No	10.84	Si
SLU 78	ini.	-158.82	-259	-0.0004808	0.0001872	0.0035	0.4		588.62	588.62	No	3.71	Si
SLU 78	fin.	-52.24	87	-0.0001362	0.0001872	0.0035	0.4		588.62	588.62	No	11.27	Si
SLU 79	ini.	-152.12	-255	-0.0004564	0.0001872	0.0035	0.4		588.62	588.62	No	3.87	Si
SLU 79	fin.	-44.74	94	-0.0001156	0.0001872	0.0035	0.4		588.62	588.62	No	13.16	Si
SLU 71	ini.	-148.96	-244	-0.000445	0.0001872	0.0035	0.4		588.62	588.62	No	3.95	Si
SLU 71	fin.	-47.69	86	-0.0001237	0.0001872	0.0035	0.4		588.62	588.62	No	12.34	Si
SLU 74	ini.	-146.4	-249	-0.0004359	0.0001872	0.0035	0.4		588.62	588.62	No	4.02	Si
SLU 74	fin.	-40.45	96	-0.000104	0.0001872	0.0035	0.4		588.62	588.62	No	14.55	Si
SLU 72	ini.	-148.07	-241	-0.0004419	0.0001872	0.0035	0.4		588.62	588.62	No	3.98	Si
SLU 72	fin.	-48.61	83	-0.0001262	0.0001872	0.0035	0.4		588.62	588.62	No	12.11	Si
SLU 70	ini.	-155.66	-248	-0.0004693	0.0001872	0.0035	0.4		588.62	588.62	No	3.78	Si
SLU 70	fin.	-55.19	79	-0.0001444	0.0001872	0.0035	0.4		588.62	588.62	No	10.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-148.07	699	0.4	0	631	3172	1677	1020	2697	No	3.86	Si
SLU 72	fin.	-48.61	-344	0.4	0	631	3172	1677	1020	2697	No	7.84	Si
SLU 75	ini.	-145.51	683	0.4	0	631	3172	1677	1020	2697	No	3.95	Si
SLU 75	fin.	-41.37	-312	0.4	0	631	3172	1677	1020	2697	No	8.65	Si
SLU 70	ini.	-155.66	734	0.4	0	631	3172	1677	1020	2697	No	3.67	Si
SLU 70	fin.	-55.19	-376	0.4	0	631	3172	1677	1020	2697	No	7.18	Si
SLU 77	ini.	-159.7	748	0.4	0	631	3172	1677	1020	2697	No	3.6	Si
SLU 77	fin.	-51.33	-362	0.4	0	631	3172	1677	1020	2697	No	7.46	Si
SLU 71	ini.	-148.96	702	0.4	0	631	3172	1677	1020	2697	No	3.84	Si
SLU 71	fin.	-47.69	-341	0.4	0	631	3172	1677	1020	2697	No	7.92	Si
SLU 74	ini.	-146.4	687	0.4	0	631	3172	1677	1020	2697	No	3.93	Si
SLU 74	fin.	-40.45	-308	0.4	0	631	3172	1677	1020	2697	No	8.74	Si
SLU 79	ini.	-152.12	713	0.4	0	631	3172	1677	1020	2697	No	3.78	Si
SLU 79	fin.	-44.74	-330	0.4	0	631	3172	1677	1020	2697	No	8.18	Si
SLU 80	ini.	-151.23	710	0.4	0	631	3172	1677	1020	2697	No	3.8	Si
SLU 80	fin.	-45.65	-333	0.4	0	631	3172	1677	1020	2697	No	8.1	Si
SLU 78	ini.	-158.82	745	0.4	0	631	3172	1677	1020	2697	No	3.62	Si
SLU 78	fin.	-52.24	-365	0.4	0	631	3172	1677	1020	2697	No	7.39	Si
SLU 69	ini.	-156.54	737	0.4	0	631	3172	1677	1020	2697	No	3.66	Si
SLU 69	fin.	-54.28	-373	0.4	0	631	3172	1677	1020	2697	No	7.24	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-408.49	-1209	-0.0015614	0.0002807	0.0035	0.4		594.74	594.74		1.46	Si
SLV 1	fin.	301.04	1118	-0.0010164	0.0002807	0.0035	0.4		592.15	592.15		1.97	Si
SLV 16	ini.	228.28	883	-0.0007105	0.0002807	0.0035	0.4		592.15	592.15		2.59	Si
SLV 16	fin.	-335.7	-970	-0.0011724	0.0002807	0.0035	0.4		594.74	594.74		1.77	Si
SLV 13	ini.	142.95	603	-0.0004033	0.0002807	0.0035	0.4		592.15	592.15		4.14	Si
SLV 13	fin.	-251.08	-696	-0.0007975	0.0002807	0.0035	0.4		594.74	594.74		2.37	Si
SLD 3	ini.	-307.17	-874	-0.0010385	0.0002807	0.0035	0.4		594.74	594.74		1.94	Si
SLD 3	fin.	200.27	789	-0.0006039	0.0002807	0.0035	0.4		592.15	592.15		2.96	Si
SLV 2	ini.	-298.84	-852	-0.0010009	0.0002807	0.0035	0.4		594.74	594.74		1.99	Si
SLV 2	fin.	191.22	761	-0.0005706	0.0002807	0.0035	0.4		592.15	592.15		3.1	Si
SLV 3	ini.	-432.8	-1285	-0.0017126	0.0002807	0.0035	0.4		594.74	594.74		1.37	Si
SLV 3	fin.	326.25	1203	-0.0011335	0.0002807	0.0035	0.4		592.15	592.15		1.82	Si
SLV 4	ini.	-323.15	-929	-0.0011124	0.0002807	0.0035	0.4		594.74	594.74		1.84	Si
SLV 4	fin.	216.42	845	-0.0006647	0.0002807	0.0035	0.4		592.15	592.15		2.74	Si
SLD 1	ini.	-292.78	-828	-0.000974	0.0002807	0.0035	0.4		594.74	594.74		2.03	Si
SLD 1	fin.	185.36	739	-0.0005494	0.0002807	0.0035	0.4		592.15	592.15		3.19	Si
SLV 14	ini.	252.6	960	-0.0008079	0.0002807	0.0035	0.4		592.15	592.15		2.34	Si
SLV 14	fin.	-360.9	-1054	-0.0012984	0.0002807	0.0035	0.4		594.74	594.74		1.65	Si
SLV 7	ini.	-250.25	-683	-0.0007941	0.0002807	0.0035	0.4		594.74	594.74		2.38	Si
SLV 7	fin.	144.47	607	-0.0004083	0.0002807	0.0035	0.4		592.15	592.15		4.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-298.84	1169	0.4	0	919	3172	2515	1020	3535		3.02	Si
SLV 2	fin.	191.22	576	0.4	0	919	3172	2515	1020	3535		6.14	Si
SLV 16	ini.	228.28	-708	0.4	0	919	3172	2515	1020	3535		5	Si
SLV 16	fin.	-335.7	-1302	0.4	0	919	3172	2515	1020	3535		2.72	Si
SLV 14	ini.	252.6	-795	0.4	0	919	3172	2515	1020	3535		4.45	Si
SLV 14	fin.	-360.9	-1391	0.4	0	919	3172	2515	1020	3535		2.54	Si
SLD 3	ini.	-307.17	1200	0.4	0	919	3172	2515	1020	3535		2.95	Si
SLD 3	fin.	200.27	609	0.4	0	919	3172	2515	1020	3535		5.81	Si
SLV 4	ini.	-323.15	1257	0.4	0	919	3172	2515	1020	3535		2.81	Si
SLV 4	fin.	216.42	665	0.4	0	919	3172	2515	1020	3535		5.31	Si
SLV 3	ini.	-432.8	1648	0.4	0	919	3172	2515	1020	3535		2.15	Si
SLV 3	fin.	326.25	1057	0.4	0	919	3172	2515	1020	3535		3.34	Si
SLV 13	ini.	142.95	-404	0.4	0	919	3172	2515	1020	3535		8.75	Si
SLV 13	fin.	-251.08	-999	0.4	0	919	3172	2515	1020	3535		3.54	Si
SLV 7	ini.	-250.25	999	0.4	0	919	3172	2515	1020	3535		3.54	Si
SLV 7	fin.	144.47	409	0.4	0	919	3172	2515	1020	3535		8.65	Si
SLV 1	ini.	-408.49	1560	0.4	0	919	3172	2515	1020	3535		2.27	Si
SLV 1	fin.	301.04	968	0.4	0	919	3172	2515	1020	3535		3.65	Si
SLD 1	ini.	-292.78	1148	0.4	0	919	3172	2515	1020	3535		3.08	Si
SLD 1	fin.	185.36	556	0.4	0	919	3172	2515	1020	3535		6.36	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.374	SLV 3	Si
V_SLV	2.145	SLV 3	Si
PF_SLU	3.686	SLU 77	Si
V_SLU	3.603	SLU 77	Si

Trave di accoppiamento 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	11.5	12.4	0.9	-7.013	6.661	11.5	12.4	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	70.8	-524	-0.0000351	0.0001872	0.0035	0.9		2959	2959	No	41.79	Si
SLU 78	fin.	-156.87	0	-0.000079	0.0001872	0.0035	0.9		2964.67	2964.67	No	18.9	Si
SLU 79	ini.	63.49	-476	-0.0000314	0.0001872	0.0035	0.9		2959	2959	No	46.61	Si
SLU 79	fin.	-158.64	31	-0.0000799	0.0001872	0.0035	0.9		2964.67	2964.67	No	18.69	Si
SLU 38	ini.	63.21	-425	-0.0000313	0.0001872	0.0035	0.9		2959	2959	No	46.81	Si
SLU 38	fin.	-164.84	84	-0.0000832	0.0001872	0.0035	0.9		2964.67	2964.67	No	17.98	Si
SLU 30	ini.	61.39	-434	-0.0000304	0.0001872	0.0035	0.9		2959	2959	No	48.2	Si
SLU 30	fin.	-155.89	66	-0.0000785	0.0001872	0.0035	0.9		2964.67	2964.67	No	19.02	Si
SLU 37	ini.	61.03	-418	-0.0000302	0.0001872	0.0035	0.9		2959	2959	No	48.48	Si
SLU 37	fin.	-159.57	76	-0.0000804	0.0001872	0.0035	0.9		2964.67	2964.67	No	18.58	Si
SLU 77	ini.	68.62	-517	-0.000034	0.0001872	0.0035	0.9		2959	2959	No	43.12	Si
SLU 77	fin.	-151.59	-8	-0.0000763	0.0001872	0.0035	0.9		2964.67	2964.67	No	19.56	Si
SLU 35	ini.	66.17	-459	-0.0000328	0.0001872	0.0035	0.9		2959	2959	No	44.72	Si
SLU 35	fin.	-152.53	37	-0.0000768	0.0001872	0.0035	0.9		2964.67	2964.67	No	19.44	Si
SLU 36	ini.	68.34	-465	-0.0000339	0.0001872	0.0035	0.9		2959	2959	No	43.3	Si
SLU 36	fin.	-157.8	45	-0.0000795	0.0001872	0.0035	0.9		2964.67	2964.67	No	18.79	Si
SLU 72	ini.	63.84	-492	-0.0000316	0.0001872	0.0035	0.9		2959	2959	No	46.35	Si
SLU 72	fin.	-154.96	21	-0.000078	0.0001872	0.0035	0.9		2964.67	2964.67	No	19.13	Si
SLU 80	ini.	65.66	-483	-0.0000325	0.0001872	0.0035	0.9		2959	2959	No	45.06	Si
SLU 80	fin.	-163.91	39	-0.0000827	0.0001872	0.0035	0.9		2964.67	2964.67	No	18.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	70.8	-1154	0.9	0	1750	7137	3773	2295	6068	No	5.26	Si
SLU 78	fin.	-156.87	-380	0.9	0	1750	7137	3773	2295	6068	No	15.97	Si
SLU 48	ini.	55.4	-1092	0.9	0	1750	7137	3773	2295	6068	No	5.56	Si
SLU 48	fin.	-124.62	-259	0.9	0	1750	7137	3773	2295	6068	No	23.46	Si
SLU 70	ini.	68.98	-1209	0.9	0	1750	7137	3773	2295	6068	No	5.02	Si
SLU 70	fin.	-147.91	-324	0.9	0	1750	7137	3773	2295	6068	No	18.72	Si
SLU 71	ini.	61.67	-1129	0.9	0	1750	7137	3773	2295	6068	No	5.38	Si
SLU 71	fin.	-149.68	-343	0.9	0	1750	7137	3773	2295	6068	No	17.7	Si
SLU 49	ini.	57.57	-1107	0.9	0	1750	7137	3773	2295	6068	No	5.48	Si
SLU 49	fin.	-129.89	-275	0.9	0	1750	7137	3773	2295	6068	No	22.09	Si
SLU 69	ini.	66.8	-1194	0.9	0	1750	7137	3773	2295	6068	No	5.08	Si
SLU 69	fin.	-142.64	-308	0.9	0	1750	7137	3773	2295	6068	No	19.69	Si
SLU 28	ini.	66.52	-1086	0.9	0	1750	7137	3773	2295	6068	No	5.58	Si
SLU 28	fin.	-148.85	-336	0.9	0	1750	7137	3773	2295	6068	No	18.06	Si
SLU 80	ini.	65.66	-1089	0.9	0	1750	7137	3773	2295	6068	No	5.57	Si
SLU 80	fin.	-163.91	-415	0.9	0	1750	7137	3773	2295	6068	No	14.64	Si
SLU 72	ini.	63.84	-1144	0.9	0	1750	7137	3773	2295	6068	No	5.31	Si
SLU 72	fin.	-154.96	-359	0.9	0	1750	7137	3773	2295	6068	No	16.91	Si
SLU 77	ini.	68.62	-1139	0.9	0	1750	7137	3773	2295	6068	No	5.33	Si
SLU 77	fin.	-151.59	-364	0.9	0	1750	7137	3773	2295	6068	No	16.68	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-220.26	460	-0.0001111	0.0002807	0.0035	0.9		2995.37	2995.37		13.6	Si
SLV 7	fin.	669.9	-1254	-0.0003687	0.0002807	0.0035	0.9		2989.59	2989.59		4.46	Si
SLV 13	ini.	239.23	-972	-0.0001213	0.0002807	0.0035	0.9		2989.59	2989.59		12.5	Si
SLV 13	fin.	-629.85	761	-0.0003429	0.0002807	0.0035	0.9		2995.37	2995.37		4.76	Si
SLV 3	ini.	-287.92	752	-0.0001468	0.0002807	0.0035	0.9		2995.37	2995.37		10.4	Si
SLV 3	fin.	788.39	-1311	-0.0004458	0.0002807	0.0035	0.9		2989.59	2989.59		3.79	Si
SLV 9	ini.	203.82	-790	-0.0001027	0.0002807	0.0035	0.9		2989.59	2989.59		14.67	Si
SLV 9	fin.	-579.64	788	-0.0003122	0.0002807	0.0035	0.9		2995.37	2995.37		5.17	Si
SLV 14	ini.	337.93	-1311	-0.0001741	0.0002807	0.0035	0.9		2989.59	2989.59		8.85	Si
SLV 14	fin.	-838.78	1019	-0.0004788	0.0002807	0.0035	0.9		2995.37	2995.37		3.57	Si
SLD 14	ini.	221.1	-927	-0.0001117	0.0002807	0.0035	0.9		2989.59	2989.59		13.52	Si
SLD 14	fin.	-535.71	585	-0.0002859	0.0002807	0.0035	0.9		2995.37	2995.37		5.59	Si
SLV 16	ini.	250.26	-1070	-0.0001271	0.0002807	0.0035	0.9		2989.59	2989.59		11.95	Si
SLV 16	fin.	-567.11	551	-0.0003046	0.0002807	0.0035	0.9		2995.37	2995.37		5.28	Si
SLV 8	ini.	-153.81	231	-0.0000768	0.0002807	0.0035	0.9		2995.37	2995.37		19.47	Si
SLV 8	fin.	529.25	-1080	-0.0002826	0.0002807	0.0035	0.9		2989.59	2989.59		5.65	Si
SLV 10	ini.	270.27	-1019	-0.0001377	0.0002807	0.0035	0.9		2989.59	2989.59		11.06	Si
SLV 10	fin.	-720.3	962	-0.0004002	0.0002807	0.0035	0.9		2995.37	2995.37		4.16	Si
SLV 4	ini.	-189.22	413	-0.000095	0.0002807	0.0035	0.9		2995.37	2995.37		15.83	Si
SLV 4	fin.	579.45	-1053	-0.0003127	0.0002807	0.0035	0.9		2989.59	2989.59		5.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	250.26	-2146	0.9	0	2625	7137	5660	2295	7955		3.71	Si
SLV 16	fin.	-567.11	-1661	0.9	0	2625	7137	5660	2295	7955		4.79	Si
SLV 9	ini.	203.82	-1906	0.9	0	2625	7137	5660	2295	7955		4.17	Si
SLV 9	fin.	-579.64	-1735	0.9	0	2625	7137	5660	2295	7955		4.59	Si
SLV 14	ini.	337.93	-2810	0.9	0	2625	7137	5660	2295	7955		2.83	Si
SLV 14	fin.	-838.78	-2493	0.9	0	2625	7137	5660	2295	7955		3.19	Si
SLV 10	ini.	270.27	-2351	0.9	0	2625	7137	5660	2295	7955		3.38	Si
SLV 10	fin.	-720.3	-2161	0.9	0	2625	7137	5660	2295	7955		3.68	Si
SLV 4	ini.	-189.22	1074	0.9	0	2625	7137	5660	2295	7955		7.41	Si
SLV 4	fin.	579.45	1766	0.9	0	2625	7137	5660	2295	7955		4.5	Si
SLV 8	ini.	-153.81	830	0.9	0	2625	7137	5660	2295	7955		9.58	Si
SLV 8	fin.	529.25	1641	0.9	0	2625	7137	5660	2295	7955		4.85	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	221.1	-1963	0.9	0	2625	7137	5660	2295	7955		4.05	Si
SLD 14	fin.	-535.71	-1581	0.9	0	2625	7137	5660	2295	7955		5.03	Si
SLV 13	ini.	239.23	-2149	0.9	0	2625	7137	5660	2295	7955		3.7	Si
SLV 13	fin.	-629.85	-1860	0.9	0	2625	7137	5660	2295	7955		4.28	Si
SLV 7	ini.	-220.26	1276	0.9	0	2625	7137	5660	2295	7955		6.24	Si
SLV 7	fin.	669.9	2066	0.9	0	2625	7137	5660	2295	7955		3.85	Si
SLV 3	ini.	-287.92	1735	0.9	0	2625	7137	5660	2295	7955		4.58	Si
SLV 3	fin.	788.39	2398	0.9	0	2625	7137	5660	2295	7955		3.32	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.571	SLV 14	Si
V_SLV	2.83	SLV 14	Si
PF_SLU	17.985	SLU 38	Si
V_SLU	5.02	SLU 70	Si

Trave di accoppiamento 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	14.2	14.6	0.4	-7.013	6.661	14.2	14.6	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-99.75	-115	-0.0002777	0.0001872	0.0035	0.4		588.62	588.62	No	5.9	Si
SLU 78	fin.	-2.63	379	-0.0000065	0.0001872	0.0035	0.4		588.62	588.62	No	223.64	Si
SLU 75	ini.	-98.18	-146	-0.0002727	0.0001872	0.0035	0.4		588.62	588.62	No	6	Si
SLU 75	fin.	-0.61	351	-0.0000015	0.0001872	0.0035	0.4		588.62	588.62	No	966.49	Si
SLU 69	ini.	-102.37	-133	-0.0002861	0.0001872	0.0035	0.4		588.62	588.62	No	5.75	Si
SLU 69	fin.	-1.14	382	-0.0000028	0.0001872	0.0035	0.4		588.62	588.62	No	515.68	Si
SLU 71	ini.	-94.08	-116	-0.0002597	0.0001872	0.0035	0.4		588.62	588.62	No	6.26	Si
SLU 71	fin.	4.65	386	-0.0000116	0.0001872	0.0035	0.4		586.12	586.12	No	126.01	Si
SLU 67	ini.	-99.42	-156	-0.0002766	0.0001872	0.0035	0.4		588.62	588.62	No	5.92	Si
SLU 67	fin.	-0.3	349	-0.0000007	0.0001872	0.0035	0.4		588.62	588.62	No	1989.73	Si
SLU 70	ini.	-101	-126	-0.0002817	0.0001872	0.0035	0.4		588.62	588.62	No	5.83	Si
SLU 70	fin.	-2.32	377	-0.0000057	0.0001872	0.0035	0.4		588.62	588.62	No	253.85	Si
SLU 77	ini.	-101.12	-123	-0.0002821	0.0001872	0.0035	0.4		588.62	588.62	No	5.82	Si
SLU 77	fin.	-1.45	385	-0.0000036	0.0001872	0.0035	0.4		588.62	588.62	No	404.65	Si
SLU 66	ini.	-100.79	-164	-0.000281	0.0001872	0.0035	0.4		588.62	588.62	No	5.84	Si
SLU 66	fin.	0.88	354	-0.0000022	0.0001872	0.0035	0.4		586.12	586.12	No	664.89	Si
SLU 74	ini.	-99.55	-154	-0.000277	0.0001872	0.0035	0.4		588.62	588.62	No	5.91	Si
SLU 74	fin.	0.57	357	-0.0000014	0.0001872	0.0035	0.4		586.12	586.12	No	1031.31	Si
SLU 79	ini.	-92.84	-105	-0.0002558	0.0001872	0.0035	0.4		588.62	588.62	No	6.34	Si
SLU 79	fin.	4.34	389	-0.0000108	0.0001872	0.0035	0.4		586.12	586.12	No	135.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-99.75	728	0.4	0	631	3172	1677	1020	2697	No	3.7	Si
SLU 78	fin.	-2.63	-288	0.4	0	631	3172	1677	1020	2697	No	9.36	Si
SLU 79	ini.	-92.84	679	0.4	0	631	3172	1677	1020	2697	No	3.97	Si
SLU 79	fin.	4.34	-239	0.4	0	631	3172	1677	1020	2697	No	11.3	Si
SLU 75	ini.	-98.18	699	0.4	0	631	3172	1677	1020	2697	No	3.86	Si
SLU 75	fin.	-0.61	-257	0.4	0	631	3172	1677	1020	2697	No	10.51	Si
SLU 66	ini.	-100.79	708	0.4	0	631	3172	1677	1020	2697	No	3.81	Si
SLU 66	fin.	0.88	-247	0.4	0	631	3172	1677	1020	2697	No	10.9	Si
SLU 71	ini.	-94.08	683	0.4	0	631	3172	1677	1020	2697	No	3.95	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	fin.	4.65	-235	0.4	0	631	3172	1677	1020	2697	No	11.47	Si
SLU 69	ini.	-102.37	738	0.4	0	631	3172	1677	1020	2697	No	3.66	Si
SLU 69	fin.	-1.14	-279	0.4	0	631	3172	1677	1020	2697	No	9.67	Si
SLU 70	ini.	-101	732	0.4	0	631	3172	1677	1020	2697	No	3.68	Si
SLU 70	fin.	-2.32	-285	0.4	0	631	3172	1677	1020	2697	No	9.47	Si
SLU 74	ini.	-99.55	704	0.4	0	631	3172	1677	1020	2697	No	3.83	Si
SLU 74	fin.	0.57	-251	0.4	0	631	3172	1677	1020	2697	No	10.75	Si
SLU 67	ini.	-99.42	702	0.4	0	631	3172	1677	1020	2697	No	3.84	Si
SLU 67	fin.	-0.3	-253	0.4	0	631	3172	1677	1020	2697	No	10.65	Si
SLU 77	ini.	-101.12	734	0.4	0	631	3172	1677	1020	2697	No	3.67	Si
SLU 77	fin.	-1.45	-282	0.4	0	631	3172	1677	1020	2697	No	9.55	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-166.35	-717	-0.00048	0.0002807	0.0035	0.4		594.74	594.74		3.58	Si
SLD 3	fin.	89.05	609	-0.0002371	0.0002807	0.0035	0.4		592.15	592.15		6.65	Si
SLV 1	ini.	-166.17	-702	-0.0004793	0.0002807	0.0035	0.4		594.74	594.74		3.58	Si
SLV 1	fin.	98.16	612	-0.0002637	0.0002807	0.0035	0.4		592.15	592.15		6.03	Si
SLD 8	ini.	-133.71	-543	-0.0003715	0.0002807	0.0035	0.4		594.74	594.74		4.45	Si
SLD 8	fin.	52.78	479	-0.0001361	0.0002807	0.0035	0.4		592.15	592.15		11.22	Si
SLV 8	ini.	-179.06	-823	-0.0005243	0.0002807	0.0035	0.4		594.74	594.74		3.32	Si
SLV 8	fin.	83.01	636	-0.0002198	0.0002807	0.0035	0.4		592.15	592.15		7.13	Si
SLV 7	ini.	-216.33	-1026	-0.0006609	0.0002807	0.0035	0.4		594.74	594.74		2.75	Si
SLV 7	fin.	116.9	794	-0.0003203	0.0002807	0.0035	0.4		592.15	592.15		5.07	Si
SLV 4	ini.	-171.03	-767	-0.0004961	0.0002807	0.0035	0.4		594.74	594.74		3.48	Si
SLV 4	fin.	87.71	592	-0.0002333	0.0002807	0.0035	0.4		592.15	592.15		6.75	Si
SLD 7	ini.	-156.33	-667	-0.0004458	0.0002807	0.0035	0.4		594.74	594.74		3.8	Si
SLD 7	fin.	73.35	576	-0.0001925	0.0002807	0.0035	0.4		592.15	592.15		8.07	Si
SLV 11	ini.	-155.26	-664	-0.0004422	0.0002807	0.0035	0.4		594.74	594.74		3.83	Si
SLV 11	fin.	65.94	583	-0.0001719	0.0002807	0.0035	0.4		592.15	592.15		8.98	Si
SLD 4	ini.	-131.24	-525	-0.0003637	0.0002807	0.0035	0.4		594.74	594.74		4.53	Si
SLD 4	fin.	57.12	459	-0.0001478	0.0002807	0.0035	0.4		592.15	592.15		10.37	Si
SLV 3	ini.	-226.38	-1069	-0.0006995	0.0002807	0.0035	0.4		594.74	594.74		2.63	Si
SLV 3	fin.	138.05	827	-0.0003873	0.0002807	0.0035	0.4		592.15	592.15		4.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 7	ini.	-156.33	833	0.4	0	919	3172	2515	1020	3535		4.24	Si
SLD 7	fin.	73.35	244	0.4	0	919	3172	2515	1020	3535		14.47	Si
SLD 3	ini.	-166.35	878	0.4	0	919	3172	2515	1020	3535		4.03	Si
SLD 3	fin.	89.05	289	0.4	0	919	3172	2515	1020	3535		12.24	Si
SLV 11	ini.	-155.26	828	0.4	0	919	3172	2515	1020	3535		4.27	Si
SLV 11	fin.	65.94	239	0.4	0	919	3172	2515	1020	3535		14.77	Si
SLV 1	ini.	-166.17	882	0.4	0	919	3172	2515	1020	3535		4.01	Si
SLV 1	fin.	98.16	294	0.4	0	919	3172	2515	1020	3535		12.02	Si
SLV 14	ini.	92.74	-214	0.4	0	919	3172	2515	1020	3535		16.53	Si
SLV 14	fin.	-122.05	-775	0.4	0	919	3172	2515	1020	3535		4.56	Si
SLV 3	ini.	-226.38	1131	0.4	0	919	3172	2515	1020	3535		3.13	Si
SLV 3	fin.	138.05	536	0.4	0	919	3172	2515	1020	3535		6.6	Si
SLV 8	ini.	-179.06	921	0.4	0	919	3172	2515	1020	3535		3.84	Si
SLV 8	fin.	83.01	327	0.4	0	919	3172	2515	1020	3535		10.81	Si
SLV 7	ini.	-216.33	1084	0.4	0	919	3172	2515	1020	3535		3.26	Si
SLV 7	fin.	116.9	488	0.4	0	919	3172	2515	1020	3535		7.24	Si
SLD 8	ini.	-133.71	734	0.4	0	919	3172	2515	1020	3535		4.82	Si
SLD 8	fin.	52.78	146	0.4	0	919	3172	2515	1020	3535		24.14	Si
SLV 4	ini.	-171.03	889	0.4	0	919	3172	2515	1020	3535		3.98	Si
SLV 4	fin.	87.71	296	0.4	0	919	3172	2515	1020	3535		11.93	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.627	SLV 3	Si
V_SLV	3.125	SLV 3	Si
PF_SLU	5.75	SLU 69	Si
V_SLU	3.656	SLU 69	Si

Trave di accoppiamento 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.623	1.141	13.6	14.6	1	-19.423	1.141	13.6	14.6	1	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	46.31	-895	-0.0000184	0.0002246	0.0035	1		3743.39	3743.39	No	80.84	Si
SLU 74	fin.	-188.6	-1577	-0.0000764	0.0002246	0.0035	1		3749.66	3749.66	No	19.88	Si
SLU 79	ini.	89.35	-867	-0.0000357	0.0002246	0.0035	1		3743.39	3743.39	No	41.9	Si
SLU 79	fin.	-200.99	-1691	-0.0000815	0.0002246	0.0035	1		3749.66	3749.66	No	18.66	Si
SLU 78	ini.	68.04	-967	-0.0000271	0.0002246	0.0035	1		3743.39	3743.39	No	55.02	Si
SLU 78	fin.	-203.48	-1750	-0.0000826	0.0002246	0.0035	1		3749.66	3749.66	No	18.43	Si
SLU 36	ini.	87.5	-792	-0.000035	0.0002246	0.0035	1		3743.39	3743.39	No	42.78	Si
SLU 36	fin.	-190.58	-1584	-0.0000772	0.0002246	0.0035	1		3749.66	3749.66	No	19.67	Si
SLU 83	ini.	77.12	-769	-0.0000308	0.0002246	0.0035	1		3743.39	3743.39	No	48.54	Si
SLU 83	fin.	-188.74	-1524	-0.0000764	0.0002246	0.0035	1		3749.66	3749.66	No	19.87	Si
SLU 77	ini.	79.82	-942	-0.0000319	0.0002246	0.0035	1		3743.39	3743.39	No	46.9	Si
SLU 77	fin.	-211.88	-1776	-0.0000861	0.0002246	0.0035	1		3749.66	3749.66	No	17.7	Si
SLU 80	ini.	77.57	-892	-0.000031	0.0002246	0.0035	1		3743.39	3743.39	No	48.26	Si
SLU 80	fin.	-192.59	-1665	-0.000078	0.0002246	0.0035	1		3749.66	3749.66	No	19.47	Si
SLU 35	ini.	99.28	-766	-0.0000398	0.0002246	0.0035	1		3743.39	3743.39	No	37.71	Si
SLU 35	fin.	-198.98	-1610	-0.0000807	0.0002246	0.0035	1		3749.66	3749.66	No	18.84	Si
SLU 37	ini.	108.81	-692	-0.0000436	0.0002246	0.0035	1		3743.39	3743.39	No	34.4	Si
SLU 37	fin.	-188.09	-1525	-0.0000762	0.0002246	0.0035	1		3749.66	3749.66	No	19.93	Si
SLU 69	ini.	30.14	-1063	-0.000012	0.0002246	0.0035	1		3743.39	3743.39	No	124.18	Si
SLU 69	fin.	-186.15	-1702	-0.0000754	0.0002246	0.0035	1		3749.66	3749.66	No	20.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 72	ini.	27.89	2028	1	0	2333	6344	5031	2550	7581	No	3.74	Si
SLU 72	fin.	-166.87	-3821	1	0	2333	6344	5031	2550	7581	No	1.98	Si
SLU 36	ini.	87.5	1539	1	0	2333	6344	5031	2550	7581	No	4.92	Si
SLU 36	fin.	-190.58	-3809	1	0	2333	6344	5031	2550	7581	No	1.99	Si
SLU 80	ini.	77.57	1815	1	0	2333	6344	5031	2550	7581	No	4.18	Si
SLU 80	fin.	-192.59	-4073	1	0	2333	6344	5031	2550	7581	No	1.86	Si
SLU 71	ini.	39.67	1974	1	0	2333	6344	5031	2550	7581	No	3.84	Si
SLU 71	fin.	-175.27	-3890	1	0	2333	6344	5031	2550	7581	No	1.95	Si
SLU 69	ini.	30.14	2031	1	0	2333	6344	5031	2550	7581	No	3.73	Si
SLU 69	fin.	-186.15	-3977	1	0	2333	6344	5031	2550	7581	No	1.91	Si
SLU 70	ini.	18.36	2085	1	0	2333	6344	5031	2550	7581	No	3.64	Si
SLU 70	fin.	-177.76	-3908	1	0	2333	6344	5031	2550	7581	No	1.94	Si
SLU 79	ini.	89.35	1761	1	0	2333	6344	5031	2550	7581	No	4.3	Si
SLU 79	fin.	-200.99	-4142	1	0	2333	6344	5031	2550	7581	No	1.83	Si
SLU 77	ini.	79.82	1818	1	0	2333	6344	5031	2550	7581	No	4.17	Si
SLU 77	fin.	-211.88	-4229	1	0	2333	6344	5031	2550	7581	No	1.79	Si
SLU 35	ini.	99.28	1486	1	0	2333	6344	5031	2550	7581	No	5.1	Si
SLU 35	fin.	-198.98	-3879	1	0	2333	6344	5031	2550	7581	No	1.95	Si
SLU 78	ini.	68.04	1872	1	0	2333	6344	5031	2550	7581	No	4.05	Si
SLU 78	fin.	-203.48	-4160	1	0	2333	6344	5031	2550	7581	No	1.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1031.42	-2816	-0.0004646	0.0003369	0.0035	1		3691.28	3691.28		3.58	Si
SLV 9	fin.	639.51	1370	-0.0002719	0.0003369	0.0035	1		3684.51	3684.51		5.76	Si
SLV 6	ini.	-858.13	-2481	-0.0003759	0.0003369	0.0035	1		3691.28	3691.28		4.3	Si
SLV 6	fin.	474.91	917	-0.0001977	0.0003369	0.0035	1		3684.51	3684.51		7.76	Si
SLV 11	ini.	832.74	1201	-0.000364	0.0003369	0.0035	1		3684.51	3684.51		4.42	Si
SLV 11	fin.	-672.68	-2732	-0.0002868	0.0003369	0.0035	1		3691.28	3691.28		5.49	Si
SLV 7	ini.	1016.79	1560	-0.0004578	0.0003369	0.0035	1		3684.51	3684.51		3.62	Si
SLV 7	fin.	-845.76	-3214	-0.0003698	0.0003369	0.0035	1		3691.28	3691.28		4.36	Si
SLD 9	ini.	-613.28	-1922	-0.0002594	0.0003369	0.0035	1		3691.28	3691.28		6.02	Si
SLD 9	fin.	337.49	437	-0.0001382	0.0003369	0.0035	1		3684.51	3684.51		10.92	Si
SLV 10	ini.	-1042.17	-2840	-0.0004703	0.0003369	0.0035	1		3691.28	3691.28		3.54	Si
SLV 10	fin.	647.99	1399	-0.0002759	0.0003369	0.0035	1		3684.51	3684.51		5.69	Si
SLD 10	ini.	-619.8	-1937	-0.0002624	0.0003369	0.0035	1		3691.28	3691.28		5.96	Si
SLD 10	fin.	342.64	454	-0.0001404	0.0003369	0.0035	1		3684.51	3684.51		10.75	Si
SLV 8	ini.	1006.04	1536	-0.0004521	0.0003369	0.0035	1		3684.51	3684.51		3.66	Si
SLV 8	fin.	-837.28	-3185	-0.0003656	0.0003369	0.0035	1		3691.28	3691.28		4.41	Si
SLV 5	ini.	-847.38	-2457	-0.0003706	0.0003369	0.0035	1		3691.28	3691.28		4.36	Si
SLV 5	fin.	466.42	888	-0.000194	0.0003369	0.0035	1		3684.51	3684.51		7.9	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	821.99	1177	-0.0003587	0.0003369	0.0035	1		3684.51	3684.51		4.48	Si
SLV 12	fin.	-664.2	-2703	-0.0002829	0.0003369	0.0035	1		3691.28	3691.28		5.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	821.99	-2552	1	0	3500	6344	7547	2550	9844		3.86	Si
SLV 12	fin.	-664.2	-7026	1	0	3500	6344	7547	2550	9844		1.4	Si
SLV 4	ini.	565.69	-1641	1	0	3500	6344	7547	2550	9844		6	Si
SLV 4	fin.	-577.88	-5301	1	0	3500	6344	7547	2550	9844		1.86	Si
SLV 11	ini.	832.74	-2611	1	0	3500	6344	7547	2550	9844		3.77	Si
SLV 11	fin.	-672.68	-7092	1	0	3500	6344	7547	2550	9844		1.39	Si
SLV 10	ini.	-1042.17	5898	1	0	3500	6344	7547	2550	9844		1.67	Si
SLV 10	fin.	647.99	4076	1	0	3500	6344	7547	2550	9844		2.41	Si
SLD 7	ini.	594.42	-1624	1	0	3500	6344	7547	2550	9844		6.06	Si
SLD 7	fin.	-540.41	-5596	1	0	3500	6344	7547	2550	9844		1.76	Si
SLV 9	ini.	-1031.42	5840	1	0	3500	6344	7547	2550	9844		1.69	Si
SLV 9	fin.	639.51	4011	1	0	3500	6344	7547	2550	9844		2.45	Si
SLV 3	ini.	581.66	-1728	1	0	3500	6344	7547	2550	9844		5.7	Si
SLV 3	fin.	-590.49	-5399	1	0	3500	6344	7547	2550	9844		1.82	Si
SLV 8	ini.	1006.04	-3504	1	0	3500	6344	7547	2550	9844		2.81	Si
SLV 8	fin.	-837.28	-8030	1	0	3500	6344	7547	2550	9844		1.23	Si
SLD 8	ini.	587.89	-1589	1	0	3500	6344	7547	2550	9844		6.19	Si
SLD 8	fin.	-535.26	-5556	1	0	3500	6344	7547	2550	9844		1.77	Si
SLV 7	ini.	1016.79	-3562	1	0	3500	6344	7547	2550	9844		2.76	Si
SLV 7	fin.	-845.76	-8096	1	0	3500	6344	7547	2550	9844		1.22	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.542	SLV 10	Si
V_SLV	1.216	SLV 7	Si
PF_SLU	17.697	SLU 77	Si
V_SLU	1.792	SLU 77	Si

Trave di accoppiamento 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	14	14.6	0.6	-12.263	1.141	14	14.6	0.6	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-329.79	-844	-0.0004244	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.1	Si
SLU 78	fin.	-191.17	-156	-0.0002272	0.0002246	0.0035	0.6		1352.1	1352.1	No	7.07	Si
SLU 70	ini.	-307.07	-804	-0.00039	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.4	Si
SLU 70	fin.	-233.77	-279	-0.0002845	0.0002246	0.0035	0.6		1352.1	1352.1	No	5.78	Si
SLU 79	ini.	-323.52	-823	-0.0004148	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.18	Si
SLU 79	fin.	-173.94	-122	-0.0002049	0.0002246	0.0035	0.6		1352.1	1352.1	No	7.77	Si
SLU 83	ini.	-314.47	-797	-0.0004011	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.3	Si
SLU 83	fin.	-123.05	-16	-0.0001415	0.0002246	0.0035	0.6		1352.1	1352.1	No	10.99	Si
SLU 84	ini.	-310.02	-792	-0.0003944	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.36	Si
SLU 84	fin.	-132.18	-44	-0.0001526	0.0002246	0.0035	0.6		1352.1	1352.1	No	10.23	Si
SLU 75	ini.	-311	-801	-0.0003959	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.35	Si
SLU 75	fin.	-158.54	-103	-0.0001853	0.0002246	0.0035	0.6		1352.1	1352.1	No	8.53	Si
SLU 69	ini.	-311.52	-810	-0.0003967	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.34	Si
SLU 69	fin.	-224.65	-252	-0.000272	0.0002246	0.0035	0.6		1352.1	1352.1	No	6.02	Si
SLU 80	ini.	-319.07	-818	-0.0004081	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.24	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-183.06	-150	-0.0002166	0.0002246	0.0035	0.6		1352.1	1352.1	No	7.39	Si
SLU 74	ini.	-315.46	-806	-0.0004026	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.29	Si
SLU 74	fin.	-149.42	-75	-0.0001739	0.0002246	0.0035	0.6		1352.1	1352.1	No	9.05	Si
SLU 77	ini.	-334.25	-849	-0.0004312	0.0002246	0.0035	0.6		1352.1	1352.1	No	4.05	Si
SLU 77	fin.	-182.04	-128	-0.0002153	0.0002246	0.0035	0.6		1352.1	1352.1	No	7.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-300.79	2100	0.6	0	1236	4758	3019	1530	4549	No	2.17	Si
SLU 71	fin.	-216.54	-1158	0.6	0	1236	4758	3019	1530	4549	No	3.93	Si
SLU 77	ini.	-334.25	2273	0.6	0	1236	4758	3019	1530	4549	No	2	Si
SLU 77	fin.	-182.04	-1074	0.6	0	1236	4758	3019	1530	4549	No	4.23	Si
SLU 75	ini.	-311	2100	0.6	0	1236	4758	3019	1530	4549	No	2.17	Si
SLU 75	fin.	-158.54	-958	0.6	0	1236	4758	3019	1530	4549	No	4.75	Si
SLU 70	ini.	-307.07	2162	0.6	0	1236	4758	3019	1530	4549	No	2.1	Si
SLU 70	fin.	-233.77	-1230	0.6	0	1236	4758	3019	1530	4549	No	3.7	Si
SLU 69	ini.	-311.52	2180	0.6	0	1236	4758	3019	1530	4549	No	2.09	Si
SLU 69	fin.	-224.65	-1203	0.6	0	1236	4758	3019	1530	4549	No	3.78	Si
SLU 74	ini.	-315.46	2118	0.6	0	1236	4758	3019	1530	4549	No	2.15	Si
SLU 74	fin.	-149.42	-931	0.6	0	1236	4758	3019	1530	4549	No	4.89	Si
SLU 78	ini.	-329.79	2255	0.6	0	1236	4758	3019	1530	4549	No	2.02	Si
SLU 78	fin.	-191.17	-1102	0.6	0	1236	4758	3019	1530	4549	No	4.13	Si
SLU 79	ini.	-323.52	2194	0.6	0	1236	4758	3019	1530	4549	No	2.07	Si
SLU 79	fin.	-173.94	-1029	0.6	0	1236	4758	3019	1530	4549	No	4.42	Si
SLU 80	ini.	-319.07	2176	0.6	0	1236	4758	3019	1530	4549	No	2.09	Si
SLU 80	fin.	-183.06	-1057	0.6	0	1236	4758	3019	1530	4549	No	4.3	Si
SLU 72	ini.	-296.34	2082	0.6	0	1236	4758	3019	1530	4549	No	2.18	Si
SLU 72	fin.	-225.66	-1186	0.6	0	1236	4758	3019	1530	4549	No	3.84	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-677.33	-1016	-0.0009778	0.0003369	0.0035	0.6		1336.38	1336.38		1.97	Si
SLV 12	fin.	920.81	3032	-0.0015146	0.0003369	0.0035	0.6		1332.37	1332.37		1.45	Si
SLD 1	ini.	126.04	-246	-0.0001435	0.0003369	0.0035	0.6		1332.37	1332.37		10.57	Si
SLD 1	fin.	-817.56	-2265	-0.0012656	0.0003369	0.0035	0.6		1336.38	1336.38		1.63	Si
SLV 15	ini.	-729.4	-985	-0.00108	0.0003369	0.0035	0.6		1336.38	1336.38		1.83	Si
SLV 15	fin.	1059.7	3477	-0.0019096	0.0003369	0.0035	0.6		1332.37	1332.37		1.26	Si
SLV 5	ini.	278.75	-26	-0.0003353	0.0003369	0.0035	0.6		1332.37	1332.37		4.78	Si
SLV 5	fin.	-1125.04	-3181	-0.0021233	0.0003369	0.0035	0.6		1336.38	1336.38		1.19	Si
SLV 11	ini.	-686.02	-1033	-0.0009945	0.0003369	0.0035	0.6		1336.38	1336.38		1.95	Si
SLV 11	fin.	937.27	3079	-0.0015567	0.0003369	0.0035	0.6		1332.37	1332.37		1.42	Si
SLV 2	ini.	330.82	-57	-0.0004069	0.0003369	0.0035	0.6		1332.37	1332.37		4.03	Si
SLV 2	fin.	-1263.92	-3626	-0.0027046	0.0003369	0.0035	0.6		1336.38	1336.38		1.06	Si
SLV 6	ini.	287.44	-9	-0.000347	0.0003369	0.0035	0.6		1332.37	1332.37		4.64	Si
SLV 6	fin.	-1141.49	-3228	-0.0021842	0.0003369	0.0035	0.6		1336.38	1336.38		1.17	Si
SLV 16	ini.	-716.48	-960	-0.0010542	0.0003369	0.0035	0.6		1336.38	1336.38		1.87	Si
SLV 16	fin.	1035.25	3407	-0.0018326	0.0003369	0.0035	0.6		1332.37	1332.37		1.29	Si
SLD 2	ini.	134.23	-230	-0.0001533	0.0003369	0.0035	0.6		1332.37	1332.37		9.93	Si
SLD 2	fin.	-833.07	-2309	-0.0013002	0.0003369	0.0035	0.6		1336.38	1336.38		1.6	Si
SLV 1	ini.	317.9	-82	-0.0003888	0.0003369	0.0035	0.6		1332.37	1332.37		4.19	Si
SLV 1	fin.	-1239.47	-3556	-0.0025905	0.0003369	0.0035	0.6		1336.38	1336.38		1.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-686.02	3198	0.6	0	1449	4758	4528	1530	6058		1.89	Si
SLV 11	fin.	937.27	2514	0.6	0	1449	4758	4528	1530	6058		2.41	Si
SLV 16	ini.	-716.48	3132	0.6	0	1449	4758	4528	1530	6058		1.93	Si
SLV 16	fin.	1035.25	2749	0.6	0	1449	4758	4528	1530	6058		2.2	Si
SLV 1	ini.	317.9	-449	0.6	0	1449	4758	4528	1530	6058		13.48	Si
SLV 1	fin.	-1239.47	-3980	0.6	0	1449	4758	4528	1530	6058		1.52	Si
SLV 12	ini.	-677.33	3163	0.6	0	1449	4758	4528	1530	6058		1.92	Si
SLV 12	fin.	920.81	2463	0.6	0	1449	4758	4528	1530	6058		2.46	Si
SLV 2	ini.	330.82	-502	0.6	0	1449	4758	4528	1530	6058		12.07	Si
SLV 2	fin.	-1263.92	-4055	0.6	0	1449	4758	4528	1530	6058		1.49	Si
SLD 1	ini.	126.04	219	0.6	0	1449	4758	4528	1530	6058		27.69	Si
SLD 1	fin.	-817.56	-2731	0.6	0	1449	4758	4528	1530	6058		2.22	Si
SLV 6	ini.	287.44	-515	0.6	0	1449	4758	4528	1530	6058		11.76	Si
SLV 6	fin.	-1141.49	-3744	0.6	0	1449	4758	4528	1530	6058		1.62	Si
SLV 15	ini.	-729.4	3185	0.6	0	1449	4758	4528	1530	6058		1.9	Si
SLV 15	fin.	1059.7	2824	0.6	0	1449	4758	4528	1530	6058		2.14	Si
SLD 2	ini.	134.23	185	0.6	0	1449	4758	4528	1530	6058		32.69	Si
SLD 2	fin.	-833.07	-2779	0.6	0	1449	4758	4528	1530	6058		2.18	Si
SLV 5	ini.	278.75	-480	0.6	0	1449	4758	4528	1530	6058		12.63	Si
SLV 5	fin.	-1125.04	-3694	0.6	0	1449	4758	4528	1530	6058		1.64	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.057	SLV 2	Si
V_SLV	1.494	SLV 2	Si
PF_SLU	4.045	SLU 77	Si
V_SLU	2.001	SLU 77	Si

Trave di accoppiamento 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	14	14.6	0.6	-10.466	1.141	14	14.6	0.6	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-73.33	-1427	-0.0000825	0.0002246	0.0035	0.6		1352.1	1352.1	No	18.44	Si
SLU 84	fin.	121.81	-777	-0.0001404	0.0002246	0.0035	0.6		1348.35	1348.35	No	11.07	Si
SLU 42	ini.	-54.54	-1221	-0.0000609	0.0002246	0.0035	0.6		1352.1	1352.1	No	24.79	Si
SLU 42	fin.	118.23	-661	-0.000136	0.0002246	0.0035	0.6		1348.35	1348.35	No	11.4	Si
SLU 35	ini.	-74.76	-1412	-0.0000842	0.0002246	0.0035	0.6		1352.1	1352.1	No	18.09	Si
SLU 35	fin.	118.45	-762	-0.0001363	0.0002246	0.0035	0.6		1348.35	1348.35	No	11.38	Si
SLU 41	ini.	-59.12	-1258	-0.0000662	0.0002246	0.0035	0.6		1352.1	1352.1	No	22.87	Si
SLU 41	fin.	128.28	-657	-0.0001483	0.0002246	0.0035	0.6		1348.35	1348.35	No	10.51	Si
SLU 81	ini.	-65.53	-1317	-0.0000735	0.0002246	0.0035	0.6		1352.1	1352.1	No	20.63	Si
SLU 81	fin.	120.36	-718	-0.0001386	0.0002246	0.0035	0.6		1348.35	1348.35	No	11.2	Si
SLU 37	ini.	-70.51	-1360	-0.0000793	0.0002246	0.0035	0.6		1352.1	1352.1	No	19.18	Si
SLU 37	fin.	118.9	-722	-0.0001368	0.0002246	0.0035	0.6		1348.35	1348.35	No	11.34	Si
SLU 79	ini.	-89.3	-1566	-0.0001012	0.0002246	0.0035	0.6		1352.1	1352.1	No	15.14	Si
SLU 79	fin.	122.48	-838	-0.0001412	0.0002246	0.0035	0.6		1348.35	1348.35	No	11.01	Si
SLU 83	ini.	-77.91	-1464	-0.0000879	0.0002246	0.0035	0.6		1352.1	1352.1	No	17.35	Si
SLU 83	fin.	131.86	-773	-0.0001527	0.0002246	0.0035	0.6		1348.35	1348.35	No	10.23	Si
SLU 77	ini.	-93.55	-1618	-0.0001062	0.0002246	0.0035	0.6		1352.1	1352.1	No	14.45	Si
SLU 77	fin.	122.02	-878	-0.0001406	0.0002246	0.0035	0.6		1348.35	1348.35	No	11.05	Si
SLU 39	ini.	-46.74	-1111	-0.0000521	0.0002246	0.0035	0.6		1352.1	1352.1	No	28.93	Si
SLU 39	fin.	116.79	-602	-0.0001343	0.0002246	0.0035	0.6		1348.35	1348.35	No	11.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-89.3	-1506	0.6	0	1281	4758	3019	1530	4549	No	3.02	Si
SLU 79	fin.	122.48	77	0.6	0	1281	4758	3019	1530	4549	No	58.78	Si
SLU 81	ini.	-65.53	-1478	0.6	0	1281	4758	3019	1530	4549	No	3.08	Si
SLU 81	fin.	120.36	139	0.6	0	1281	4758	3019	1530	4549	No	32.73	Si
SLU 80	ini.	-84.72	-1500	0.6	0	1281	4758	3019	1530	4549	No	3.03	Si
SLU 80	fin.	112.43	42	0.6	0	1281	4758	3019	1530	4549	No	108.35	Si
SLU 75	ini.	-76.59	-1478	0.6	0	1281	4758	3019	1530	4549	No	3.08	Si
SLU 75	fin.	100.47	33	0.6	0	1281	4758	3019	1530	4549	No	138.27	Si
SLU 74	ini.	-81.17	-1484	0.6	0	1281	4758	3019	1530	4549	No	3.07	Si
SLU 74	fin.	110.52	68	0.6	0	1281	4758	3019	1530	4549	No	66.59	Si
SLU 77	ini.	-93.55	-1538	0.6	0	1281	4758	3019	1530	4549	No	2.96	Si
SLU 77	fin.	122.02	74	0.6	0	1281	4758	3019	1530	4549	No	61.76	Si
SLU 84	ini.	-73.33	-1527	0.6	0	1281	4758	3019	1530	4549	No	2.98	Si
SLU 84	fin.	121.81	109	0.6	0	1281	4758	3019	1530	4549	No	41.77	Si
SLU 83	ini.	-77.91	-1532	0.6	0	1281	4758	3019	1530	4549	No	2.97	Si
SLU 83	fin.	131.86	144	0.6	0	1281	4758	3019	1530	4549	No	31.52	Si
SLU 78	ini.	-88.97	-1532	0.6	0	1281	4758	3019	1530	4549	No	2.97	Si
SLU 78	fin.	111.97	38	0.6	0	1281	4758	3019	1530	4549	No	118.96	Si
SLU 82	ini.	-60.95	-1473	0.6	0	1281	4758	3019	1530	4549	No	3.09	Si
SLU 82	fin.	110.31	104	0.6	0	1281	4758	3019	1530	4549	No	43.93	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-822.85	-4893	-0.0012773	0.0003369	0.0035	0.6		1336.38	1336.38		1.62	Si
SLV 16	fin.	844.89	149	-0.0013322	0.0003369	0.0035	0.6		1332.37	1332.37		1.58	Si
SLV 6	ini.	503.77	3002	-0.0006718	0.0003369	0.0035	0.6		1332.37	1332.37		2.64	Si
SLV 6	fin.	-919.65	-946	-0.0015053	0.0003369	0.0035	0.6		1336.38	1336.38		1.45	Si
SLV 7	ini.	-200.75	-2904	-0.0002338	0.0003369	0.0035	0.6		1336.38	1336.38		6.66	Si
SLV 7	fin.	676.54	-521	-0.0009799	0.0003369	0.0035	0.6		1332.37	1332.37		1.97	Si
SLV 15	ini.	-833.82	-4982	-0.0013018	0.0003369	0.0035	0.6		1336.38	1336.38		1.6	Si
SLV 15	fin.	867.46	151	-0.0013845	0.0003369	0.0035	0.6		1332.37	1332.37		1.54	Si
SLV 11	ini.	-604.72	-4801	-0.0008432	0.0003369	0.0035	0.6		1336.38	1336.38		2.21	Si
SLV 11	fin.	1018.35	-142	-0.0017814	0.0003369	0.0035	0.6		1332.37	1332.37		1.31	Si
SLV 1	ini.	721.89	3094	-0.001069	0.0003369	0.0035	0.6		1332.37	1332.37		1.85	Si
SLV 1	fin.	-746.19	-1237	-0.0011141	0.0003369	0.0035	0.6		1336.38	1336.38		1.79	Si
SLV 12	ini.	-597.34	-4741	-0.0008299	0.0003369	0.0035	0.6		1336.38	1336.38		2.24	Si
SLV 12	fin.	1003.15	-144	-0.0017368	0.0003369	0.0035	0.6		1332.37	1332.37		1.33	Si
SLV 2	ini.	732.86	3183	-0.0010911	0.0003369	0.0035	0.6		1332.37	1332.37		1.82	Si
SLV 2	fin.	-768.76	-1240	-0.0011608	0.0003369	0.0035	0.6		1336.38	1336.38		1.74	Si
SLV 8	ini.	-193.37	-2844	-0.0002246	0.0003369	0.0035	0.6		1336.38	1336.38		6.91	Si
SLV 8	fin.	661.35	-523	-0.0009509	0.0003369	0.0035	0.6		1332.37	1332.37		2.01	Si
SLV 5	ini.	496.38	2942	-0.0006596	0.0003369	0.0035	0.6		1332.37	1332.37		2.68	Si
SLV 5	fin.	-904.45	-944	-0.0014676	0.0003369	0.0035	0.6		1336.38	1336.38		1.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	496.38	-1194	0.6	0	1502	4758	4528	1530	6058		5.07	Si
SLV 5	fin.	-904.45	-3406	0.6	0	1502	4758	4528	1530	6058		1.78	Si
SLV 3	ini.	512.75	-3610	0.6	0	1502	4758	4528	1530	6058		1.68	Si
SLV 3	fin.	-271.89	-1120	0.6	0	1502	4758	4528	1530	6058		5.41	Si
SLV 6	ini.	503.77	-1185	0.6	0	1502	4758	4528	1530	6058		5.11	Si
SLV 6	fin.	-919.65	-3461	0.6	0	1502	4758	4528	1530	6058		1.75	Si
SLV 4	ini.	523.72	-3597	0.6	0	1502	4758	4528	1530	6058		1.68	Si
SLV 4	fin.	-294.46	-1201	0.6	0	1502	4758	4528	1530	6058		5.04	Si
SLV 16	ini.	-822.85	1500	0.6	0	1502	4758	4528	1530	6058		4.04	Si
SLV 16	fin.	844.89	2729	0.6	0	1502	4758	4528	1530	6058		2.22	Si
SLV 11	ini.	-604.72	-635	0.6	0	1502	4758	4528	1530	6058		9.55	Si
SLV 11	fin.	1018.35	3386	0.6	0	1502	4758	4528	1530	6058		1.79	Si
SLV 15	ini.	-833.82	1487	0.6	0	1502	4758	4528	1530	6058		4.08	Si
SLV 15	fin.	867.46	2810	0.6	0	1502	4758	4528	1530	6058		2.16	Si
SLV 12	ini.	-597.34	-626	0.6	0	1502	4758	4528	1530	6058		9.68	Si
SLV 12	fin.	1003.15	3331	0.6	0	1502	4758	4528	1530	6058		1.82	Si
SLV 2	ini.	732.86	-3306	0.6	0	1502	4758	4528	1530	6058		1.83	Si
SLV 2	fin.	-768.76	-2886	0.6	0	1502	4758	4528	1530	6058		2.1	Si
SLV 1	ini.	721.89	-3319	0.6	0	1502	4758	4528	1530	6058		1.83	Si
SLV 1	fin.	-746.19	-2804	0.6	0	1502	4758	4528	1530	6058		2.16	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.308	SLV 11	Si
V_SLV	1.678	SLV 3	Si
PF_SLU	10.226	SLU 83	Si
V_SLU	2.958	SLU 77	Si

Trave di accoppiamento 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	13.6	14.6	1	-7.443	1.141	13.6	14.6	1	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	ini.	-131.66	-1174	-0.0000529	0.0002246	0.0035	1		3749.66	3749.66	No	28.48	Si
SLU 49	fin.	-257.83	-1614	-0.0001055	0.0002246	0.0035	1		3749.66	3749.66	No	14.54	Si
SLU 50	ini.	-116.36	-1103	-0.0000466	0.0002246	0.0035	1		3749.66	3749.66	No	32.23	Si
SLU 50	fin.	-264.22	-1604	-0.0001082	0.0002246	0.0035	1		3749.66	3749.66	No	14.19	Si
SLU 69	ini.	-159.2	-1337	-0.0000642	0.0002246	0.0035	1		3749.66	3749.66	No	23.55	Si
SLU 69	fin.	-268.26	-1737	-0.0001099	0.0002246	0.0035	1		3749.66	3749.66	No	13.98	Si
SLU 72	ini.	-144.01	-1259	-0.0000579	0.0002246	0.0035	1		3749.66	3749.66	No	26.04	Si
SLU 72	fin.	-266.91	-1689	-0.0001094	0.0002246	0.0035	1		3749.66	3749.66	No	14.05	Si
SLU 79	ini.	-165.56	-1320	-0.0000668	0.0002246	0.0035	1		3749.66	3749.66	No	22.65	Si
SLU 79	fin.	-253.83	-1668	-0.0001038	0.0002246	0.0035	1		3749.66	3749.66	No	14.77	Si
SLU 66	ini.	-132.15	-1175	-0.0000531	0.0002246	0.0035	1		3749.66	3749.66	No	28.37	Si
SLU 66	fin.	-257.01	-1611	-0.0001051	0.0002246	0.0035	1		3749.66	3749.66	No	14.59	Si
SLU 71	ini.	-143.95	-1262	-0.0000579	0.0002246	0.0035	1		3749.66	3749.66	No	26.05	Si
SLU 71	fin.	-270.78	-1708	-0.000111	0.0002246	0.0035	1		3749.66	3749.66	No	13.85	Si
SLU 51	ini.	-116.42	-1099	-0.0000467	0.0002246	0.0035	1		3749.66	3749.66	No	32.21	Si
SLU 51	fin.	-260.35	-1585	-0.0001066	0.0002246	0.0035	1		3749.66	3749.66	No	14.4	Si
SLU 48	ini.	-131.6	-1177	-0.0000529	0.0002246	0.0035	1		3749.66	3749.66	No	28.49	Si
SLU 48	fin.	-261.7	-1633	-0.0001071	0.0002246	0.0035	1		3749.66	3749.66	No	14.33	Si
SLU 70	ini.	-159.26	-1333	-0.0000642	0.0002246	0.0035	1		3749.66	3749.66	No	23.54	Si
SLU 70	fin.	-264.39	-1718	-0.0001083	0.0002246	0.0035	1		3749.66	3749.66	No	14.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-165.56	2302	1	0	2333	7930	5031	2550	7581	No	3.29	Si
SLU 79	fin.	-253.83	-3225	1	0	2333	7930	5031	2550	7581	No	2.35	Si
SLU 78	ini.	-180.87	2468	1	0	2333	7930	5031	2550	7581	No	3.07	Si
SLU 78	fin.	-247.44	-3289	1	0	2333	7930	5031	2550	7581	No	2.3	Si
SLU 77	ini.	-180.81	2456	1	0	2333	7930	5031	2550	7581	No	3.09	Si
SLU 77	fin.	-251.31	-3306	1	0	2333	7930	5031	2550	7581	No	2.29	Si
SLU 71	ini.	-143.95	2215	1	0	2333	7930	5031	2550	7581	No	3.42	Si
SLU 71	fin.	-270.78	-3332	1	0	2333	7930	5031	2550	7581	No	2.28	Si
SLU 66	ini.	-132.15	2070	1	0	2333	7930	5031	2550	7581	No	3.66	Si
SLU 66	fin.	-257.01	-3165	1	0	2333	7930	5031	2550	7581	No	2.4	Si
SLU 80	ini.	-165.62	2314	1	0	2333	7930	5031	2550	7581	No	3.28	Si
SLU 80	fin.	-249.96	-3208	1	0	2333	7930	5031	2550	7581	No	2.36	Si
SLU 72	ini.	-144.01	2227	1	0	2333	7930	5031	2550	7581	No	3.4	Si
SLU 72	fin.	-266.91	-3315	1	0	2333	7930	5031	2550	7581	No	2.29	Si
SLU 69	ini.	-159.2	2369	1	0	2333	7930	5031	2550	7581	No	3.2	Si
SLU 69	fin.	-268.26	-3414	1	0	2333	7930	5031	2550	7581	No	2.22	Si
SLU 48	ini.	-131.6	2039	1	0	2333	7930	5031	2550	7581	No	3.72	Si
SLU 48	fin.	-261.7	-3165	1	0	2333	7930	5031	2550	7581	No	2.4	Si
SLU 70	ini.	-159.26	2381	1	0	2333	7930	5031	2550	7581	No	3.18	Si
SLU 70	fin.	-264.39	-3397	1	0	2333	7930	5031	2550	7581	No	2.23	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	734.92	1586	-0.0003167	0.0003369	0.0035	1		3684.51	3684.51		5.01	Si
SLV 1	fin.	-683.28	-1819	-0.0002918	0.0003369	0.0035	1		3691.28	3691.28		5.4	Si
SLV 2	ini.	737.04	1608	-0.0003177	0.0003369	0.0035	1		3684.51	3684.51		5	Si
SLV 2	fin.	-673.23	-1767	-0.0002871	0.0003369	0.0035	1		3691.28	3691.28		5.48	Si
SLV 13	ini.	-926.77	-3024	-0.0004104	0.0003369	0.0035	1		3691.28	3691.28		3.98	Si
SLV 13	fin.	490.81	366	-0.0002047	0.0003369	0.0035	1		3684.51	3684.51		7.51	Si
SLV 3	ini.	786.19	1596	-0.0003413	0.0003369	0.0035	1		3684.51	3684.51		4.69	Si
SLV 3	fin.	-870.24	-2588	-0.0003819	0.0003369	0.0035	1		3691.28	3691.28		4.24	Si
SLV 8	ini.	266.19	13	-0.0001082	0.0003369	0.0035	1		3684.51	3684.51		13.84	Si
SLV 8	fin.	-669.03	-2677	-0.0002851	0.0003369	0.0035	1		3691.28	3691.28		5.52	Si
SLV 16	ini.	-873.38	-2992	-0.0003835	0.0003369	0.0035	1		3691.28	3691.28		4.23	Si
SLV 16	fin.	313.9	-352	-0.0001282	0.0003369	0.0035	1		3684.51	3684.51		11.74	Si
SLV 14	ini.	-924.65	-3002	-0.0004093	0.0003369	0.0035	1		3691.28	3691.28		3.99	Si
SLV 14	fin.	500.86	417	-0.0002092	0.0003369	0.0035	1		3684.51	3684.51		7.36	Si
SLV 4	ini.	788.31	1618	-0.0003423	0.0003369	0.0035	1		3684.51	3684.51		4.67	Si
SLV 4	fin.	-860.19	-2536	-0.0003769	0.0003369	0.0035	1		3691.28	3691.28		4.29	Si
SLV 7	ini.	264.76	-2	-0.0001076	0.0003369	0.0035	1		3684.51	3684.51		13.92	Si
SLV 7	fin.	-675.79	-2712	-0.0002883	0.0003369	0.0035	1		3691.28	3691.28		5.46	Si
SLV 15	ini.	-875.5	-3014	-0.0003845	0.0003369	0.0035	1		3691.28	3691.28		4.22	Si
SLV 15	fin.	303.85	-403	-0.000124	0.0003369	0.0035	1		3684.51	3684.51		12.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	734.92	-2105	1	0	3023	7930	7547	2550	10097		4.8	Si
SLV 1	fin.	-683.28	-4741	1	0	3023	7930	7547	2550	10097		2.13	Si
SLV 16	ini.	-873.38	4498	1	0	3023	7930	7547	2550	10097		2.24	Si
SLV 16	fin.	313.9	550	1	0	3023	7930	7547	2550	10097		18.37	Si
SLV 13	ini.	-926.77	5080	1	0	3023	7930	7547	2550	10097		1.99	Si
SLV 13	fin.	490.81	1231	1	0	3023	7930	7547	2550	10097		8.21	Si
SLV 7	ini.	264.76	-838	1	0	3023	7930	7547	2550	10097		12.05	Si
SLV 7	fin.	-675.79	-4232	1	0	3023	7930	7547	2550	10097		2.39	Si
SLV 15	ini.	-875.5	4504	1	0	3023	7930	7547	2550	10097		2.24	Si
SLV 15	fin.	303.85	497	1	0	3023	7930	7547	2550	10097		20.33	Si
SLV 3	ini.	786.19	-2680	1	0	3023	7930	7547	2550	10097		3.77	Si
SLV 3	fin.	-870.24	-5474	1	0	3023	7930	7547	2550	10097		1.84	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-924.65	5074	1	0	3023	7930	7547	2550	10097		1.99	Si
SLV 14	fin.	500.86	1283	1	0	3023	7930	7547	2550	10097		7.87	Si
SLV 4	ini.	788.31	-2686	1	0	3023	7930	7547	2550	10097		3.76	Si
SLV 4	fin.	-860.19	-5422	1	0	3023	7930	7547	2550	10097		1.86	Si
SLD 3	ini.	476.72	-1269	1	0	3023	7930	7547	2550	10097		7.96	Si
SLD 3	fin.	-617.61	-4236	1	0	3023	7930	7547	2550	10097		2.38	Si
SLV 2	ini.	737.04	-2111	1	0	3023	7930	7547	2550	10097		4.78	Si
SLV 2	fin.	-673.23	-4688	1	0	3023	7930	7547	2550	10097		2.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.983	SLV 13	Si
V_SLV	1.844	SLV 3	Si
PF_SLU	13.848	SLU 71	Si
V_SLU	2.221	SLU 69	Si

Trave di accoppiamento 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	13.6	14.6	1	-4.893	1.141	13.6	14.6	1	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti_3

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	19.66	-956	-0.0000078	0.0002246	0.0035	1		3743.39	3743.39	No	190.38	Si
SLU 80	fin.	-275.05	-1824	-0.0001128	0.0002246	0.0035	1		3749.66	3749.66	No	13.63	Si
SLU 77	ini.	10.87	-1016	-0.0000043	0.0002246	0.0035	1		3743.39	3743.39	No	344.25	Si
SLU 77	fin.	-281.21	-1894	-0.0001155	0.0002246	0.0035	1		3749.66	3749.66	No	13.33	Si
SLU 48	ini.	48.53	-840	-0.0000193	0.0002246	0.0035	1		3743.39	3743.39	No	77.14	Si
SLU 48	fin.	-275.77	-1725	-0.0001131	0.0002246	0.0035	1		3749.66	3749.66	No	13.6	Si
SLU 70	ini.	28.18	-986	-0.0000112	0.0002246	0.0035	1		3743.39	3743.39	No	132.82	Si
SLU 70	fin.	-290.9	-1903	-0.0001196	0.0002246	0.0035	1		3749.66	3749.66	No	12.89	Si
SLU 78	ini.	10.76	-1018	-0.0000043	0.0002246	0.0035	1		3743.39	3743.39	No	347.9	Si
SLU 78	fin.	-281.99	-1899	-0.0001158	0.0002246	0.0035	1		3749.66	3749.66	No	13.3	Si
SLU 79	ini.	19.78	-954	-0.0000078	0.0002246	0.0035	1		3743.39	3743.39	No	189.28	Si
SLU 79	fin.	-274.27	-1820	-0.0001125	0.0002246	0.0035	1		3749.66	3749.66	No	13.67	Si
SLU 69	ini.	28.3	-984	-0.0000112	0.0002246	0.0035	1		3743.39	3743.39	No	132.29	Si
SLU 69	fin.	-290.12	-1899	-0.0001193	0.0002246	0.0035	1		3749.66	3749.66	No	12.92	Si
SLU 49	ini.	48.41	-842	-0.0000193	0.0002246	0.0035	1		3743.39	3743.39	No	77.33	Si
SLU 49	fin.	-276.55	-1730	-0.0001135	0.0002246	0.0035	1		3749.66	3749.66	No	13.56	Si
SLU 71	ini.	37.2	-922	-0.0000148	0.0002246	0.0035	1		3743.39	3743.39	No	100.63	Si
SLU 71	fin.	-283.18	-1824	-0.0001163	0.0002246	0.0035	1		3749.66	3749.66	No	13.24	Si
SLU 72	ini.	37.09	-924	-0.0000147	0.0002246	0.0035	1		3743.39	3743.39	No	100.94	Si
SLU 72	fin.	-283.96	-1829	-0.0001167	0.0002246	0.0035	1		3749.66	3749.66	No	13.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	10.87	800	1	0	2333	6344	5031	2550	7581	No	9.48	Si
SLU 77	fin.	-281.21	-3468	1	0	2333	6344	5031	2550	7581	No	2.19	Si
SLU 72	ini.	37.09	690	1	0	2333	6344	5031	2550	7581	No	10.98	Si
SLU 72	fin.	-283.96	-3419	1	0	2333	6344	5031	2550	7581	No	2.22	Si
SLU 48	ini.	48.53	594	1	0	2333	6344	5031	2550	7581	No	12.76	Si
SLU 48	fin.	-275.77	-3238	1	0	2333	6344	5031	2550	7581	No	2.34	Si
SLU 49	ini.	48.41	593	1	0	2333	6344	5031	2550	7581	No	12.79	Si
SLU 49	fin.	-276.55	-3241	1	0	2333	6344	5031	2550	7581	No	2.34	Si
SLU 78	ini.	10.76	798	1	0	2333	6344	5031	2550	7581	No	9.49	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-281.99	-3471	1	0	2333	6344	5031	2550	7581	No	2.18	Si
SLU 79	ini.	19.78	741	1	0	2333	6344	5031	2550	7581	No	10.23	Si
SLU 79	fin.	-274.27	-3357	1	0	2333	6344	5031	2550	7581	No	2.26	Si
SLU 71	ini.	37.2	691	1	0	2333	6344	5031	2550	7581	No	10.96	Si
SLU 71	fin.	-283.18	-3416	1	0	2333	6344	5031	2550	7581	No	2.22	Si
SLU 80	ini.	19.66	740	1	0	2333	6344	5031	2550	7581	No	10.25	Si
SLU 80	fin.	-275.05	-3360	1	0	2333	6344	5031	2550	7581	No	2.26	Si
SLU 69	ini.	28.3	750	1	0	2333	6344	5031	2550	7581	No	10.11	Si
SLU 69	fin.	-290.12	-3527	1	0	2333	6344	5031	2550	7581	No	2.15	Si
SLU 70	ini.	28.18	749	1	0	2333	6344	5031	2550	7581	No	10.13	Si
SLU 70	fin.	-290.9	-3530	1	0	2333	6344	5031	2550	7581	No	2.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	610.64	1126	-0.0002587	0.0003369	0.0035	1		3684.51	3684.51		6.03	Si
SLV 3	fin.	-262.67	-252	-0.0001065	0.0003369	0.0035	1		3691.28	3691.28		14.05	Si
SLD 1	ini.	396.11	436	-0.0001634	0.0003369	0.0035	1		3684.51	3684.51		9.3	Si
SLD 1	fin.	-236.93	-695	-0.0000958	0.0003369	0.0035	1		3691.28	3691.28		15.58	Si
SLV 13	ini.	-506.13	-2061	-0.0002112	0.0003369	0.0035	1		3691.28	3691.28		7.29	Si
SLV 13	fin.	-102.16	-1905	-0.0000407	0.0003369	0.0035	1		3691.28	3691.28		36.13	Si
SLD 3	ini.	402.67	540	-0.0001662	0.0003369	0.0035	1		3684.51	3684.51		9.15	Si
SLD 3	fin.	-229.1	-545	-0.0000926	0.0003369	0.0035	1		3691.28	3691.28		16.11	Si
SLV 4	ini.	591.75	1098	-0.00025	0.0003369	0.0035	1		3684.51	3684.51		6.23	Si
SLV 4	fin.	-249.89	-218	-0.0001012	0.0003369	0.0035	1		3691.28	3691.28		14.77	Si
SLV 15	ini.	-494.93	-1884	-0.0002062	0.0003369	0.0035	1		3691.28	3691.28		7.46	Si
SLV 15	fin.	-88.77	-1647	-0.0000353	0.0003369	0.0035	1		3691.28	3691.28		41.58	Si
SLV 14	ini.	-525.03	-2089	-0.0002196	0.0003369	0.0035	1		3691.28	3691.28		7.03	Si
SLV 14	fin.	-89.38	-1871	-0.0000356	0.0003369	0.0035	1		3691.28	3691.28		41.3	Si
SLV 16	ini.	-513.82	-1911	-0.0002146	0.0003369	0.0035	1		3691.28	3691.28		7.18	Si
SLV 16	fin.	-75.98	-1614	-0.0000302	0.0003369	0.0035	1		3691.28	3691.28		48.58	Si
SLV 2	ini.	580.54	921	-0.0002449	0.0003369	0.0035	1		3684.51	3684.51		6.35	Si
SLV 2	fin.	-263.28	-476	-0.0001068	0.0003369	0.0035	1		3691.28	3691.28		14.02	Si
SLV 1	ini.	599.44	949	-0.0002535	0.0003369	0.0035	1		3684.51	3684.51		6.15	Si
SLV 1	fin.	-276.07	-510	-0.0001121	0.0003369	0.0035	1		3691.28	3691.28		13.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	402.67	-619	1	0	3500	6344	7547	2550	9844		15.91	Si
SLD 3	fin.	-229.1	-2620	1	0	3500	6344	7547	2550	9844		3.76	Si
SLV 3	ini.	610.64	-1174	1	0	3500	6344	7547	2550	9844		8.38	Si
SLV 3	fin.	-262.67	-2964	1	0	3500	6344	7547	2550	9844		3.32	Si
SLV 5	ini.	196.33	-32	1	0	3500	6344	7547	2550	9844		305.55	Si
SLV 5	fin.	-228.74	-2380	1	0	3500	6344	7547	2550	9844		4.14	Si
SLD 2	ini.	384.12	-533	1	0	3500	6344	7547	2550	9844		18.47	Si
SLD 2	fin.	-228.82	-2592	1	0	3500	6344	7547	2550	9844		3.8	Si
SLV 4	ini.	591.75	-1088	1	0	3500	6344	7547	2550	9844		9.05	Si
SLV 4	fin.	-249.89	-2899	1	0	3500	6344	7547	2550	9844		3.4	Si
SLV 2	ini.	580.54	-1035	1	0	3500	6344	7547	2550	9844		9.51	Si
SLV 2	fin.	-263.28	-2923	1	0	3500	6344	7547	2550	9844		3.37	Si
SLD 4	ini.	390.68	-564	1	0	3500	6344	7547	2550	9844		17.45	Si
SLD 4	fin.	-220.99	-2578	1	0	3500	6344	7547	2550	9844		3.82	Si
SLV 1	ini.	599.44	-1121	1	0	3500	6344	7547	2550	9844		8.78	Si
SLV 1	fin.	-276.07	-2988	1	0	3500	6344	7547	2550	9844		3.29	Si
SLD 1	ini.	396.11	-588	1	0	3500	6344	7547	2550	9844		16.75	Si
SLD 1	fin.	-236.93	-2634	1	0	3500	6344	7547	2550	9844		3.74	Si
SLV 6	ini.	183.61	26	1	0	3500	6344	7547	2550	9844		380.9	Si
SLV 6	fin.	-220.13	-2337	1	0	3500	6344	7547	2550	9844		4.21	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.034	SLV 3	Si
V_SLV	3.295	SLV 1	Si
PF_SLU	12.89	SLU 70	Si
V_SLU	2.148	SLU 70	Si

Trave di accoppiamento 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	13.6	14.6	1	-9.443	-3.169	13.6	14.6	1	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	489.25	1183	-0.0002114	0.0001872	0.0035	1		3672.61	3672.61	No	7.51	Si
SLU 81	fin.	-626.66	-2487	-0.0002792	0.0001872	0.0035	1		3678.84	3678.84	No	5.87	Si
SLU 78	ini.	484.44	1110	-0.0002091	0.0001872	0.0035	1		3672.61	3672.61	No	7.58	Si
SLU 78	fin.	-637.27	-2546	-0.0002847	0.0001872	0.0035	1		3678.84	3678.84	No	5.77	Si
SLU 82	ini.	501.92	1212	-0.0002175	0.0001872	0.0035	1		3672.61	3672.61	No	7.32	Si
SLU 82	fin.	-640.95	-2533	-0.0002866	0.0001872	0.0035	1		3678.84	3678.84	No	5.74	Si
SLU 74	ini.	480.77	1109	-0.0002074	0.0001872	0.0035	1		3672.61	3672.61	No	7.64	Si
SLU 74	fin.	-628.12	-2515	-0.00028	0.0001872	0.0035	1		3678.84	3678.84	No	5.86	Si
SLU 84	ini.	492.93	1185	-0.0002132	0.0001872	0.0035	1		3672.61	3672.61	No	7.45	Si
SLU 84	fin.	-635.81	-2518	-0.0002839	0.0001872	0.0035	1		3678.84	3678.84	No	5.79	Si
SLU 76	ini.	486.53	1156	-0.0002101	0.0001872	0.0035	1		3672.61	3672.61	No	7.55	Si
SLU 76	fin.	-628.43	-2468	-0.0002801	0.0001872	0.0035	1		3678.84	3678.84	No	5.85	Si
SLU 75	ini.	493.43	1137	-0.0002134	0.0001872	0.0035	1		3672.61	3672.61	No	7.44	Si
SLU 75	fin.	-642.41	-2561	-0.0002873	0.0001872	0.0035	1		3678.84	3678.84	No	5.73	Si
SLU 83	ini.	480.27	1157	-0.0002071	0.0001872	0.0035	1		3672.61	3672.61	No	7.65	Si
SLU 83	fin.	-621.52	-2472	-0.0002766	0.0001872	0.0035	1		3678.84	3678.84	No	5.92	Si
SLU 77	ini.	471.78	1082	-0.0002031	0.0001872	0.0035	1		3672.61	3672.61	No	7.78	Si
SLU 77	fin.	-622.98	-2500	-0.0002773	0.0001872	0.0035	1		3678.84	3678.84	No	5.91	Si
SLU 73	ini.	495.51	1183	-0.0002145	0.0001872	0.0035	1		3672.61	3672.61	No	7.41	Si
SLU 73	fin.	-633.57	-2483	-0.0002828	0.0001872	0.0035	1		3678.84	3678.84	No	5.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	471.78	-2263	1	0	1944	7137	4192	2550	6742	No	2.98	Si
SLU 77	fin.	-622.98	-3863	1	0	1944	7137	4192	2550	6742	No	1.75	Si
SLU 82	ini.	501.92	-2523	1	0	1944	7137	4192	2550	6742	No	2.67	Si
SLU 82	fin.	-640.95	-3927	1	0	1944	7137	4192	2550	6742	No	1.72	Si
SLU 74	ini.	480.77	-2303	1	0	1944	7137	4192	2550	6742	No	2.93	Si
SLU 74	fin.	-628.12	-3902	1	0	1944	7137	4192	2550	6742	No	1.73	Si
SLU 81	ini.	489.25	-2449	1	0	1944	7137	4192	2550	6742	No	2.75	Si
SLU 81	fin.	-626.66	-3857	1	0	1944	7137	4192	2550	6742	No	1.75	Si
SLU 76	ini.	486.53	-2428	1	0	1944	7137	4192	2550	6742	No	2.78	Si
SLU 76	fin.	-628.43	-3830	1	0	1944	7137	4192	2550	6742	No	1.76	Si
SLU 75	ini.	493.43	-2377	1	0	1944	7137	4192	2550	6742	No	2.84	Si
SLU 75	fin.	-642.41	-3973	1	0	1944	7137	4192	2550	6742	No	1.7	Si
SLU 78	ini.	484.44	-2337	1	0	1944	7137	4192	2550	6742	No	2.88	Si
SLU 78	fin.	-637.27	-3933	1	0	1944	7137	4192	2550	6742	No	1.71	Si
SLU 84	ini.	492.93	-2483	1	0	1944	7137	4192	2550	6742	No	2.71	Si
SLU 84	fin.	-635.81	-3888	1	0	1944	7137	4192	2550	6742	No	1.73	Si
SLU 83	ini.	480.27	-2409	1	0	1944	7137	4192	2550	6742	No	2.8	Si
SLU 83	fin.	-621.52	-3817	1	0	1944	7137	4192	2550	6742	No	1.77	Si
SLU 73	ini.	495.51	-2467	1	0	1944	7137	4192	2550	6742	No	2.73	Si
SLU 73	fin.	-633.57	-3870	1	0	1944	7137	4192	2550	6742	No	1.74	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1644.9	3732	-0.0008486	0.0002807	0.0035	1		3705.31	3705.31		2.25	Si
SLV 1	fin.	-1485.9	-5164	-0.0007436	0.0002807	0.0035	1		3712.06	3712.06		2.5	Si
SLV 2	ini.	1853.35	4226	-0.0009923	0.0002807	0.0035	1		3705.31	3705.31		2	Si
SLV 2	fin.	-1660.14	-5736	-0.000857	0.0002807	0.0035	1		3712.06	3712.06		2.24	Si
SLV 11	ini.	-1198.26	-2402	-0.0005693	0.0002807	0.0035	1		3712.06	3712.06		3.1	Si
SLV 11	fin.	868.9	2982	-0.0003892	0.0002807	0.0035	1		3705.31	3705.31		4.26	Si
SLD 6	ini.	1236.29	2670	-0.0005927	0.0002807	0.0035	1		3705.31	3705.31		3	Si
SLD 6	fin.	-1193.74	-4409	-0.0005667	0.0002807	0.0035	1		3712.06	3712.06		3.11	Si
SLV 5	ini.	1706.57	3606	-0.0008901	0.0002807	0.0035	1		3705.31	3705.31		2.17	Si
SLV 5	fin.	-1595.64	-5894	-0.0008143	0.0002807	0.0035	1		3712.06	3712.06		2.33	Si
SLV 15	ini.	-1204.71	-2690	-0.0005731	0.0002807	0.0035	1		3712.06	3712.06		3.08	Si
SLV 15	fin.	816.1	2439	-0.0003621	0.0002807	0.0035	1		3705.31	3705.31		4.54	Si
SLV 4	ini.	1177.55	2880	-0.0005585	0.0002807	0.0035	1		3705.31	3705.31		3.15	Si
SLV 4	fin.	-1075.32	-3562	-0.0004995	0.0002807	0.0035	1		3712.06	3712.06		3.45	Si
SLV 10	ini.	1194.77	2415	-0.0005684	0.0002807	0.0035	1		3705.31	3705.31		3.1	Si
SLV 10	fin.	-1197.79	-4651	-0.000569	0.0002807	0.0035	1		3712.06	3712.06		3.1	Si
SLD 2	ini.	1284.24	2943	-0.0006211	0.0002807	0.0035	1		3705.31	3705.31		2.89	Si
SLD 2	fin.	-1198.17	-4204	-0.0005693	0.0002807	0.0035	1		3712.06	3712.06		3.1	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1846.91	3938	-0.0009877	0.0002807	0.0035	1		3705.31	3705.31		2.01	Si
SLV 6	fin.	-1712.95	-6280	-0.0008925	0.0002807	0.0035	1		3712.06	3712.06		2.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	1284.24	-5909	1	0	2917	7137	6288	2550	8838		1.5	Si
SLD 2	fin.	-1198.17	-7019	1	0	2917	7137	6288	2550	8838		1.26	Si
SLV 10	ini.	1194.77	-5542	1	0	2917	7137	6288	2550	8838		1.59	Si
SLV 10	fin.	-1197.79	-7065	1	0	2917	7137	6288	2550	8838		1.25	Si
SLD 1	ini.	1151.99	-5274	1	0	2917	7137	6288	2550	8838		1.68	Si
SLD 1	fin.	-1087.63	-6387	1	0	2917	7137	6288	2550	8838		1.38	Si
SLD 6	ini.	1236.29	-5702	1	0	2917	7137	6288	2550	8838		1.55	Si
SLD 6	fin.	-1193.74	-7015	1	0	2917	7137	6288	2550	8838		1.26	Si
SLV 6	ini.	1846.91	-8471	1	0	2917	7137	6288	2550	8838		1.04	Si
SLV 6	fin.	-1712.95	-9990	1	0	2917	7137	6288	2550	8838		0.88	No
SLV 1	ini.	1644.9	-7482	1	0	2917	7137	6288	2550	8838		1.18	Si
SLV 1	fin.	-1485.9	-8655	1	0	2917	7137	6288	2550	8838		1.02	Si
SLV 2	ini.	1853.35	-8482	1	0	2917	7137	6288	2550	8838		1.04	Si
SLV 2	fin.	-1660.14	-9651	1	0	2917	7137	6288	2550	8838		0.92	No
SLV 9	ini.	1054.43	-4868	1	0	2917	7137	6288	2550	8838		1.82	Si
SLV 9	fin.	-1080.49	-6394	1	0	2917	7137	6288	2550	8838		1.38	Si
SLD 5	ini.	1151.12	-5293	1	0	2917	7137	6288	2550	8838		1.67	Si
SLD 5	fin.	-1122.56	-6607	1	0	2917	7137	6288	2550	8838		1.34	Si
SLV 5	ini.	1706.57	-7798	1	0	2917	7137	6288	2550	8838		1.13	Si
SLV 5	fin.	-1595.64	-9319	1	0	2917	7137	6288	2550	8838		0.95	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.999	SLV 2	Si
V_SLV	0.885	SLV 6	No
PF_SLU	5.727	SLU 75	Si
V_SLU	1.697	SLU 75	Si

Trave di accoppiamento 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	11.5	13.5	2	-5.158	6.521	11.5	13.5	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	175.48	-323	-0.0000175	0.0001872	0.0035	2		14344.28	14344.28	No	81.74	Si
SLU 83	fin.	-206.81	-217	-0.0000206	0.0001872	0.0035	2		14357.01	14357.01	No	69.42	Si
SLU 72	ini.	208.1	-327	-0.0000208	0.0001872	0.0035	2		14344.28	14344.28	No	68.93	Si
SLU 72	fin.	-211.38	-222	-0.0000211	0.0001872	0.0035	2		14357.01	14357.01	No	67.92	Si
SLU 77	ini.	210.95	-346	-0.000021	0.0001872	0.0035	2		14344.28	14344.28	No	68	Si
SLU 77	fin.	-221.68	-233	-0.0000221	0.0001872	0.0035	2		14357.01	14357.01	No	64.76	Si
SLU 78	ini.	211.95	-348	-0.0000211	0.0001872	0.0035	2		14344.28	14344.28	No	67.68	Si
SLU 78	fin.	-223.05	-234	-0.0000222	0.0001872	0.0035	2		14357.01	14357.01	No	64.37	Si
SLU 79	ini.	216.54	-342	-0.0000216	0.0001872	0.0035	2		14344.28	14344.28	No	66.24	Si
SLU 79	fin.	-220.28	-232	-0.000022	0.0001872	0.0035	2		14357.01	14357.01	No	65.18	Si
SLU 84	ini.	176.48	-325	-0.0000176	0.0001872	0.0035	2		14344.28	14344.28	No	81.28	Si
SLU 84	fin.	-208.18	-219	-0.0000207	0.0001872	0.0035	2		14357.01	14357.01	No	68.97	Si
SLU 71	ini.	207.1	-325	-0.0000207	0.0001872	0.0035	2		14344.28	14344.28	No	69.26	Si
SLU 71	fin.	-210.01	-221	-0.0000209	0.0001872	0.0035	2		14357.01	14357.01	No	68.36	Si
SLU 69	ini.	201.51	-330	-0.0000201	0.0001872	0.0035	2		14344.28	14344.28	No	71.18	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	fin.	-211.41	-222	-0.0000211	0.0001872	0.0035	2		14357.01	14357.01	No	67.91	Si
SLU 80	ini.	217.54	-344	-0.0000217	0.0001872	0.0035	2		14344.28	14344.28	No	65.94	Si
SLU 80	fin.	-221.65	-233	-0.0000221	0.0001872	0.0035	2		14357.01	14357.01	No	64.77	Si
SLU 70	ini.	202.51	-332	-0.0000202	0.0001872	0.0035	2		14344.28	14344.28	No	70.83	Si
SLU 70	fin.	-212.78	-224	-0.0000212	0.0001872	0.0035	2		14357.01	14357.01	No	67.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	201.51	-1952	2	0	3889	3964	8384	5100	7853	No	4.02	Si
SLU 69	fin.	-211.41	-847	2	0	3889	3964	8384	5100	7853	No	9.27	Si
SLU 78	ini.	211.95	-2053	2	0	3889	3964	8384	5100	7853	No	3.83	Si
SLU 78	fin.	-223.05	-884	2	0	3889	3964	8384	5100	7853	No	8.88	Si
SLU 80	ini.	217.54	-2058	2	0	3889	3964	8384	5100	7853	No	3.82	Si
SLU 80	fin.	-221.65	-885	2	0	3889	3964	8384	5100	7853	No	8.87	Si
SLU 38	ini.	200.89	-1840	2	0	3889	3964	8384	5100	7853	No	4.27	Si
SLU 38	fin.	-193.29	-769	2	0	3889	3964	8384	5100	7853	No	10.22	Si
SLU 70	ini.	202.51	-1960	2	0	3889	3964	8384	5100	7853	No	4.01	Si
SLU 70	fin.	-212.78	-851	2	0	3889	3964	8384	5100	7853	No	9.22	Si
SLU 77	ini.	210.95	-2044	2	0	3889	3964	8384	5100	7853	No	3.84	Si
SLU 77	fin.	-221.68	-880	2	0	3889	3964	8384	5100	7853	No	8.93	Si
SLU 71	ini.	207.1	-1957	2	0	3889	3964	8384	5100	7853	No	4.01	Si
SLU 71	fin.	-210.01	-848	2	0	3889	3964	8384	5100	7853	No	9.26	Si
SLU 79	ini.	216.54	-2050	2	0	3889	3964	8384	5100	7853	No	3.83	Si
SLU 79	fin.	-220.28	-880	2	0	3889	3964	8384	5100	7853	No	8.92	Si
SLU 84	ini.	176.48	-1839	2	0	3889	3964	8384	5100	7853	No	4.27	Si
SLU 84	fin.	-208.18	-812	2	0	3889	3964	8384	5100	7853	No	9.67	Si
SLU 72	ini.	208.1	-1966	2	0	3889	3964	8384	5100	7853	No	3.99	Si
SLU 72	fin.	-211.38	-852	2	0	3889	3964	8384	5100	7853	No	9.21	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	129.78	-278	-0.0000129	0.0002807	0.0035	2		14202.07	14202.07		109.43	Si
SLD 8	fin.	-153.08	-155	-0.0000152	0.0002807	0.0035	2		14215.41	14215.41		92.86	Si
SLV 8	ini.	160.81	-328	-0.000016	0.0002807	0.0035	2		14202.07	14202.07		88.32	Si
SLV 8	fin.	-168	-168	-0.0000167	0.0002807	0.0035	2		14215.41	14215.41		84.62	Si
SLV 7	ini.	159.82	-313	-0.0000159	0.0002807	0.0035	2		14202.07	14202.07		88.86	Si
SLV 7	fin.	-160.71	-160	-0.000016	0.0002807	0.0035	2		14215.41	14215.41		88.45	Si
SLD 16	ini.	132.63	-233	-0.0000132	0.0002807	0.0035	2		14202.07	14202.07		107.08	Si
SLD 16	fin.	-151.3	-158	-0.000015	0.0002807	0.0035	2		14215.41	14215.41		93.96	Si
SLD 11	ini.	146.63	-268	-0.0000146	0.0002807	0.0035	2		14202.07	14202.07		96.86	Si
SLD 11	fin.	-154.38	-157	-0.0000153	0.0002807	0.0035	2		14215.41	14215.41		92.08	Si
SLV 15	ini.	158.41	-229	-0.0000157	0.0002807	0.0035	2		14202.07	14202.07		89.65	Si
SLV 15	fin.	-155.03	-157	-0.0000154	0.0002807	0.0035	2		14215.41	14215.41		91.7	Si
SLV 11	ini.	187.03	-313	-0.0000186	0.0002807	0.0035	2		14202.07	14202.07		75.93	Si
SLV 11	fin.	-171.13	-169	-0.000017	0.0002807	0.0035	2		14215.41	14215.41		83.07	Si
SLD 12	ini.	147.23	-278	-0.0000146	0.0002807	0.0035	2		14202.07	14202.07		96.46	Si
SLD 12	fin.	-158.81	-162	-0.0000158	0.0002807	0.0035	2		14215.41	14215.41		89.51	Si
SLV 12	ini.	188.03	-328	-0.0000187	0.0002807	0.0035	2		14202.07	14202.07		75.53	Si
SLV 12	fin.	-178.43	-177	-0.0000177	0.0002807	0.0035	2		14215.41	14215.41		79.67	Si
SLV 16	ini.	159.89	-251	-0.0000159	0.0002807	0.0035	2		14202.07	14202.07		88.83	Si
SLV 16	fin.	-165.86	-168	-0.0000165	0.0002807	0.0035	2		14215.41	14215.41		85.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	187.03	-1716	2	0	5833	3964	12577	5100	9797		5.71	Si
SLV 11	fin.	-171.13	-766	2	0	5833	3964	12577	5100	9797		12.8	Si
SLD 12	ini.	147.23	-1493	2	0	5833	3964	12577	5100	9797		6.56	Si
SLD 12	fin.	-158.81	-672	2	0	5833	3964	12577	5100	9797		14.58	Si
SLV 16	ini.	159.89	-1547	2	0	5833	3964	12577	5100	9797		6.33	Si
SLV 16	fin.	-165.86	-654	2	0	5833	3964	12577	5100	9797		14.98	Si
SLD 11	ini.	146.63	-1456	2	0	5833	3964	12577	5100	9797		6.73	Si
SLD 11	fin.	-154.38	-661	2	0	5833	3964	12577	5100	9797		14.83	Si
SLD 8	ini.	129.78	-1400	2	0	5833	3964	12577	5100	9797		7	Si
SLD 8	fin.	-153.08	-651	2	0	5833	3964	12577	5100	9797		15.05	Si
SLV 15	ini.	158.41	-1458	2	0	5833	3964	12577	5100	9797		6.72	Si
SLV 15	fin.	-155.03	-625	2	0	5833	3964	12577	5100	9797		15.67	Si
SLV 12	ini.	188.03	-1776	2	0	5833	3964	12577	5100	9797		5.52	Si
SLV 12	fin.	-178.43	-785	2	0	5833	3964	12577	5100	9797		12.48	Si
SLD 16	ini.	132.63	-1370	2	0	5833	3964	12577	5100	9797		7.15	Si
SLD 16	fin.	-151.3	-599	2	0	5833	3964	12577	5100	9797		16.37	Si
SLV 7	ini.	159.82	-1570	2	0	5833	3964	12577	5100	9797		6.24	Si
SLV 7	fin.	-160.71	-733	2	0	5833	3964	12577	5100	9797		13.37	Si
SLV 8	ini.	160.81	-1631	2	0	5833	3964	12577	5100	9797		6.01	Si
SLV 8	fin.	-168	-752	2	0	5833	3964	12577	5100	9797		13.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	75.532	SLV 12	Si
V_SLV	5.516	SLV 12	Si
PF_SLU	64.366	SLU 78	Si
V_SLU	3.815	SLU 80	Si

Trave di accoppiamento 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	14.3	14.6	0.3	-5.158	6.521	14.3	14.6	0.3	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	75.34	1969	-0.0003929	0.0001872	0.0035	0.3		331.24	331.24	No	4.4	Si
SLU 71	fin.	-150.17	2785	-0.0009168	0.0001872	0.0035	0.3		333.12	333.12	No	2.22	Si
SLU 29	ini.	67.75	1749	-0.0003466	0.0001872	0.0035	0.3		331.24	331.24	No	4.89	Si
SLU 29	fin.	-133.47	2486	-0.0007876	0.0001872	0.0035	0.3		333.12	333.12	No	2.5	Si
SLU 72	ini.	68.95	1913	-0.0003538	0.0001872	0.0035	0.3		331.24	331.24	No	4.8	Si
SLU 72	fin.	-145.47	2752	-0.0008797	0.0001872	0.0035	0.3		333.12	333.12	No	2.29	Si
SLU 51	ini.	103.77	2120	-0.0005788	0.0001872	0.0035	0.3		331.24	331.24	No	3.19	Si
SLU 51	fin.	-167.75	2796	-0.0010613	0.0001872	0.0035	0.3		333.12	333.12	No	1.99	Si
SLU 48	ini.	89.08	1967	-0.0004804	0.0001872	0.0035	0.3		331.24	331.24	No	3.72	Si
SLU 48	fin.	-153.8	2641	-0.0009459	0.0001872	0.0035	0.3		333.12	333.12	No	2.17	Si
SLU 49	ini.	82.69	1912	-0.0004392	0.0001872	0.0035	0.3		331.24	331.24	No	4.01	Si
SLU 49	fin.	-149.1	2607	-0.0009083	0.0001872	0.0035	0.3		333.12	333.12	No	2.23	Si
SLU 9	ini.	96.18	1900	-0.0005273	0.0001872	0.0035	0.3		331.24	331.24	No	3.44	Si
SLU 9	fin.	-151.05	2497	-0.0009238	0.0001872	0.0035	0.3		333.12	333.12	No	2.21	Si
SLU 6	ini.	81.49	1748	-0.0004315	0.0001872	0.0035	0.3		331.24	331.24	No	4.06	Si
SLU 6	fin.	-137.1	2341	-0.000815	0.0001872	0.0035	0.3		333.12	333.12	No	2.43	Si
SLU 50	ini.	110.16	2175	-0.0006231	0.0001872	0.0035	0.3		331.24	331.24	No	3.01	Si
SLU 50	fin.	-172.44	2829	-0.0011016	0.0001872	0.0035	0.3		333.12	333.12	No	1.93	Si
SLU 8	ini.	102.57	1955	-0.0005705	0.0001872	0.0035	0.3		331.24	331.24	No	3.23	Si
SLU 8	fin.	-155.75	2530	-0.0009617	0.0001872	0.0035	0.3		333.12	333.12	No	2.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-64.83	1762	0.3	0	583	2379	1258	765	2023	No	1.15	Si
SLU 75	fin.	-21.16	287	0.3	0	583	2379	1258	765	2023	No	7.05	Si
SLU 82	ini.	-125.5	1814	0.3	0	583	2379	1258	765	2023	No	1.12	Si
SLU 82	fin.	41.35	489	0.3	0	583	2379	1258	765	2023	No	4.13	Si
SLU 81	ini.	-119.12	1779	0.3	0	583	2379	1258	765	2023	No	1.14	Si
SLU 81	fin.	36.65	464	0.3	0	583	2379	1258	765	2023	No	4.35	Si
SLU 74	ini.	-58.45	1727	0.3	0	583	2379	1258	765	2023	No	1.17	Si
SLU 74	fin.	-25.86	262	0.3	0	583	2379	1258	765	2023	No	7.71	Si
SLU 78	ini.	-6.31	1779	0.3	0	583	2379	1258	765	2023	No	1.14	Si
SLU 78	fin.	-83.93	103	0.3	0	583	2379	1258	765	2023	No	19.68	Si
SLU 76	ini.	-48.01	1718	0.3	0	583	2379	1258	765	2023	No	1.18	Si
SLU 76	fin.	-36.67	235	0.3	0	583	2379	1258	765	2023	No	8.59	Si
SLU 77	ini.	0.08	1744	0.3	0	583	2379	1258	765	2023	No	1.16	Si
SLU 77	fin.	-88.63	78	0.3	0	583	2379	1258	765	2023	No	25.93	Si
SLU 80	ini.	14.77	1711	0.3	0	583	2379	1258	765	2023	No	1.18	Si
SLU 80	fin.	-102.58	35	0.3	0	583	2379	1258	765	2023	No	58.29	Si
SLU 84	ini.	-66.98	1830	0.3	0	583	2379	1258	765	2023	No	1.11	Si
SLU 84	fin.	-21.43	305	0.3	0	583	2379	1258	765	2023	No	6.63	Si
SLU 83	ini.	-60.59	1795	0.3	0	583	2379	1258	765	2023	No	1.13	Si
SLU 83	fin.	-26.12	280	0.3	0	583	2379	1258	765	2023	No	7.22	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-459.91	-3448	-0.0055068	0.0002807	0.0035	0.3		335.87	335.87		0.73	No
SLD 14	fin.	346.45	-1669	-0.0035258	0.0002807	0.0035	0.3		333.9	333.9		0.96	No
SLV 6	ini.	-473.58	-2959	-0.0057259	0.0002807	0.0035	0.3		335.87	335.87		0.71	No
SLV 6	fin.	264.43	-1159	-0.0019843	0.0002807	0.0035	0.3		333.9	333.9		1.26	Si
SLV 10	ini.	-740.52	-5443	-0.009736	0.0002807	0.0035	0.3		335.87	335.87		0.45	No
SLV 10	fin.	505.64	-2844	-0.0062768	0.0002807	0.0035	0.3		333.9	333.9		0.66	No
SLV 8	ini.	569.69	5225	-0.007267	0.0002807	0.0035	0.3		333.9	333.9		0.59	No
SLV 8	fin.	-446.33	3961	-0.005286	0.0002807	0.0035	0.3		335.87	335.87		0.75	No
SLV 3	ini.	629.07	6295	-0.00816	0.0002807	0.0035	0.3		333.9	333.9		0.53	No
SLV 3	fin.	-581.47	4856	-0.0073979	0.0002807	0.0035	0.3		335.87	335.87		0.58	No
SLV 9	ini.	-649.52	-4608	-0.0084107	0.0002807	0.0035	0.3		335.87	335.87		0.52	No
SLV 9	fin.	423.17	-2264	-0.00494	0.0002807	0.0035	0.3		333.9	333.9		0.79	No
SLV 7	ini.	660.69	6060	-0.0086282	0.0002807	0.0035	0.3		333.9	333.9		0.51	No
SLV 7	fin.	-528.8	4541	-0.0065941	0.0002807	0.0035	0.3		335.87	335.87		0.64	No
SLV 13	ini.	-573.73	-4439	-0.0072807	0.0002807	0.0035	0.3		335.87	335.87		0.59	No
SLV 13	fin.	435.81	-2298	-0.0051521	0.0002807	0.0035	0.3		333.9	333.9		0.77	No
SLV 4	ini.	493.9	5056	-0.0060904	0.0002807	0.0035	0.3		333.9	333.9		0.68	No
SLV 4	fin.	-458.96	3995	-0.0054915	0.0002807	0.0035	0.3		335.87	335.87		0.73	No
SLV 14	ini.	-708.9	-5678	-0.0092781	0.0002807	0.0035	0.3		335.87	335.87		0.47	No
SLV 14	fin.	558.31	-3159	-0.0070935	0.0002807	0.0035	0.3		333.9	333.9		0.6	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-395.92	3326	0.3	0	875	2379	1887	765	2652		0.8	No
SLV 16	fin.	345.08	1801	0.3	0	875	2379	1887	765	2652		1.47	Si
SLV 6	ini.	-473.58	3264	0.3	0	875	2379	1887	765	2652		0.81	No
SLV 6	fin.	264.43	1654	0.3	0	875	2379	1887	765	2652		1.6	Si
SLD 9	ini.	-403.01	3112	0.3	0	875	2379	1887	765	2652		0.85	No
SLD 9	fin.	248.1	1494	0.3	0	875	2379	1887	765	2652		1.78	Si
SLD 10	ini.	-458.23	3379	0.3	0	875	2379	1887	765	2652		0.78	No
SLD 10	fin.	298.15	1737	0.3	0	875	2379	1887	765	2652		1.53	Si
SLV 13	ini.	-573.73	4380	0.3	0	875	2379	1887	765	2652		0.61	No
SLV 13	fin.	435.81	2322	0.3	0	875	2379	1887	765	2652		1.14	Si
SLV 14	ini.	-708.9	5034	0.3	0	875	2379	1887	765	2652		0.53	No
SLV 14	fin.	558.31	2917	0.3	0	875	2379	1887	765	2652		0.91	No
SLD 14	ini.	-459.91	3541	0.3	0	875	2379	1887	765	2652		0.75	No
SLD 14	fin.	346.45	1891	0.3	0	875	2379	1887	765	2652		1.4	Si
SLV 10	ini.	-740.52	4951	0.3	0	875	2379	1887	765	2652		0.54	No
SLV 10	fin.	505.64	2793	0.3	0	875	2379	1887	765	2652		0.95	No
SLV 9	ini.	-649.52	4511	0.3	0	875	2379	1887	765	2652		0.59	No
SLV 9	fin.	423.17	2393	0.3	0	875	2379	1887	765	2652		1.11	Si
SLD 13	ini.	-374.15	3126	0.3	0	875	2379	1887	765	2652		0.85	No
SLD 13	fin.	268.73	1514	0.3	0	875	2379	1887	765	2652		1.75	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.454	SLV 10	No
V_SLV	0.527	SLV 14	No
PF_SLU	1.932	SLU 50	Si
V_SLU	1.105	SLU 84	Si

Trave di accoppiamento 168

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	11.5	12.4	0.9	-7.403	-3.169	11.5	12.4	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	140.22	-794	-0.0000705	0.0001872	0.0035	0.9		2959	2959	No	21.1	Si
SLU 76	fin.	-284.75	262	-0.0001477	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.41	Si
SLU 78	ini.	141.29	-829	-0.0000711	0.0001872	0.0035	0.9		2959	2959	No	20.94	Si
SLU 78	fin.	-275.11	222	-0.0001423	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.78	Si
SLU 73	ini.	139.21	-781	-0.00007	0.0001872	0.0035	0.9		2959	2959	No	21.26	Si
SLU 73	fin.	-288.71	276	-0.0001499	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.27	Si
SLU 82	ini.	127.86	-714	-0.0000641	0.0001872	0.0035	0.9		2959	2959	No	23.14	Si
SLU 82	fin.	-277.29	268	-0.0001435	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.69	Si
SLU 70	ini.	154.63	-925	-0.000078	0.0001872	0.0035	0.9		2959	2959	No	19.14	Si
SLU 70	fin.	-276.16	200	-0.0001429	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.74	Si
SLU 75	ini.	140.28	-816	-0.0000705	0.0001872	0.0035	0.9		2959	2959	No	21.09	Si
SLU 75	fin.	-279.07	236	-0.0001445	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.62	Si
SLU 84	ini.	128.87	-728	-0.0000647	0.0001872	0.0035	0.9		2959	2959	No	22.96	Si
SLU 84	fin.	-273.33	254	-0.0001413	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.85	Si
SLU 65	ini.	152.55	-877	-0.0000769	0.0001872	0.0035	0.9		2959	2959	No	19.4	Si
SLU 65	fin.	-289.76	253	-0.0001504	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.23	Si
SLU 68	ini.	153.56	-890	-0.0000774	0.0001872	0.0035	0.9		2959	2959	No	19.27	Si
SLU 68	fin.	-285.8	239	-0.0001482	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.37	Si
SLU 67	ini.	153.62	-912	-0.0000775	0.0001872	0.0035	0.9		2959	2959	No	19.26	Si
SLU 67	fin.	-280.12	214	-0.0001451	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 67	ini.	153.62	-1432	0.9	0	1750	7137	3773	2295	6068	No	4.24	Si
SLU 67	fin.	-280.12	-1135	0.9	0	1750	7137	3773	2295	6068	No	5.35	Si
SLU 65	ini.	152.55	-1373	0.9	0	1750	7137	3773	2295	6068	No	4.42	Si
SLU 65	fin.	-289.76	-1187	0.9	0	1750	7137	3773	2295	6068	No	5.11	Si
SLU 66	ini.	145.18	-1373	0.9	0	1750	7137	3773	2295	6068	No	4.42	Si
SLU 66	fin.	-263.65	-1074	0.9	0	1750	7137	3773	2295	6068	No	5.65	Si
SLU 71	ini.	140.5	-1313	0.9	0	1750	7137	3773	2295	6068	No	4.62	Si
SLU 71	fin.	-254.4	-1053	0.9	0	1750	7137	3773	2295	6068	No	5.76	Si
SLU 68	ini.	153.56	-1392	0.9	0	1750	7137	3773	2295	6068	No	4.36	Si
SLU 68	fin.	-285.8	-1171	0.9	0	1750	7137	3773	2295	6068	No	5.18	Si
SLU 70	ini.	154.63	-1451	0.9	0	1750	7137	3773	2295	6068	No	4.18	Si
SLU 70	fin.	-276.16	-1119	0.9	0	1750	7137	3773	2295	6068	No	5.42	Si
SLU 72	ini.	148.94	-1372	0.9	0	1750	7137	3773	2295	6068	No	4.42	Si
SLU 72	fin.	-270.86	-1114	0.9	0	1750	7137	3773	2295	6068	No	5.45	Si
SLU 69	ini.	146.19	-1392	0.9	0	1750	7137	3773	2295	6068	No	4.36	Si
SLU 69	fin.	-259.69	-1058	0.9	0	1750	7137	3773	2295	6068	No	5.74	Si
SLU 75	ini.	140.28	-1278	0.9	0	1750	7137	3773	2295	6068	No	4.75	Si
SLU 75	fin.	-279.07	-1159	0.9	0	1750	7137	3773	2295	6068	No	5.24	Si
SLU 78	ini.	141.29	-1297	0.9	0	1750	7137	3773	2295	6068	No	4.68	Si
SLU 78	fin.	-275.11	-1143	0.9	0	1750	7137	3773	2295	6068	No	5.31	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	873.66	-3853	-0.0005038	0.0002807	0.0035	0.9		2989.59	2989.59		3.42	Si
SLV 10	fin.	-1418.14	1936	-0.0009213	0.0002807	0.0035	0.9		2995.37	2995.37		2.11	Si
SLV 12	ini.	-977.54	3777	-0.000576	0.0002807	0.0035	0.9		2995.37	2995.37		3.06	Si
SLV 12	fin.	1568.89	-2492	-0.0010564	0.0002807	0.0035	0.9		2989.59	2989.59		1.91	Si
SLV 15	ini.	-885.69	3157	-0.0005111	0.0002807	0.0035	0.9		2995.37	2995.37		3.38	Si
SLV 15	fin.	1524.61	-2573	-0.0010165	0.0002807	0.0035	0.9		2989.59	2989.59		1.96	Si
SLV 6	ini.	1255.65	-5251	-0.000789	0.0002807	0.0035	0.9		2989.59	2989.59		2.38	Si
SLV 6	fin.	-2102.12	3045	-0.0016071	0.0002807	0.0035	0.9		2995.37	2995.37		1.42	Si
SLV 1	ini.	942.97	-3792	-0.0005525	0.0002807	0.0035	0.9		2989.59	2989.59		3.17	Si
SLV 1	fin.	-1651.45	2453	-0.00113	0.0002807	0.0035	0.9		2995.37	2995.37		1.81	Si
SLV 5	ini.	1166.8	-4913	-0.0007189	0.0002807	0.0035	0.9		2989.59	2989.59		2.56	Si
SLV 5	fin.	-1938.61	2775	-0.0014198	0.0002807	0.0035	0.9		2995.37	2995.37		1.55	Si
SLV 11	ini.	-1066.39	4115	-0.000641	0.0002807	0.0035	0.9		2995.37	2995.37		2.81	Si
SLV 11	fin.	1732.4	-2762	-0.0012107	0.0002807	0.0035	0.9		2989.59	2989.59		1.73	Si
SLV 16	ini.	-753.71	2655	-0.0004219	0.0002807	0.0035	0.9		2995.37	2995.37		3.97	Si
SLV 16	fin.	1281.72	-2171	-0.00081	0.0002807	0.0035	0.9		2989.59	2989.59		2.33	Si
SLV 2	ini.	1074.95	-4293	-0.0006489	0.0002807	0.0035	0.9		2989.59	2989.59		2.78	Si
SLV 2	fin.	-1894.33	2855	-0.0013722	0.0002807	0.0035	0.9		2995.37	2995.37		1.58	Si
SLD 6	ini.	785.75	-3351	-0.0004441	0.0002807	0.0035	0.9		2989.59	2989.59		3.8	Si
SLD 6	fin.	-1327.63	1874	-0.0008455	0.0002807	0.0035	0.9		2995.37	2995.37		2.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	942.97	-5404	0.9	0	2625	7137	5660	2295	7955		1.47	Si
SLV 1	fin.	-1651.45	-6708	0.9	0	2625	7137	5660	2295	7955		1.19	Si
SLV 12	ini.	-977.54	5280	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLV 12	fin.	1568.89	6141	0.9	0	2625	7137	5660	2295	7955		1.3	Si
SLV 11	ini.	-1066.39	5780	0.9	0	2625	7137	5660	2295	7955		1.38	Si
SLV 11	fin.	1732.4	6785	0.9	0	2625	7137	5660	2295	7955		1.17	Si
SLD 6	ini.	785.75	-4860	0.9	0	2625	7137	5660	2295	7955		1.64	Si
SLD 6	fin.	-1327.63	-5279	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLV 16	ini.	-753.71	3615	0.9	0	2625	7137	5660	2295	7955		2.2	Si
SLV 16	fin.	1281.72	5163	0.9	0	2625	7137	5660	2295	7955		1.54	Si
SLV 15	ini.	-885.69	4358	0.9	0	2625	7137	5660	2295	7955		1.83	Si
SLV 15	fin.	1524.61	6119	0.9	0	2625	7137	5660	2295	7955		1.3	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	1166.8	-7069	0.9	0	2625	7137	5660	2295	7955		1.13	Si
SLV 5	fin.	-1938.61	-7686	0.9	0	2625	7137	5660	2295	7955		1.03	Si
SLV 2	ini.	1074.95	-6146	0.9	0	2625	7137	5660	2295	7955		1.29	Si
SLV 2	fin.	-1894.33	-7663	0.9	0	2625	7137	5660	2295	7955		1.04	Si
SLV 6	ini.	1255.65	-7569	0.9	0	2625	7137	5660	2295	7955		1.05	Si
SLV 6	fin.	-2102.12	-8329	0.9	0	2625	7137	5660	2295	7955		0.96	No
SLV 10	ini.	873.66	-5621	0.9	0	2625	7137	5660	2295	7955		1.42	Si
SLV 10	fin.	-1418.14	-5532	0.9	0	2625	7137	5660	2295	7955		1.44	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.425	SLV 6	Si
V_SLV	0.955	SLV 6	No
PF_SLU	10.232	SLU 65	Si
V_SLU	4.183	SLU 70	Si

Trave di accoppiamento 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	14.2	14.6	0.4	-7.403	-3.169	14.2	14.6	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 28	ini.	26.9	88	-0.0000684	0.0001872	0.0035	0.4		586.12	586.12	No	21.79	Si
SLU 28	fin.	-38.51	36	-0.0000988	0.0001872	0.0035	0.4		588.62	588.62	No	15.29	Si
SLU 68	ini.	32.71	132	-0.0000838	0.0001872	0.0035	0.4		586.12	586.12	No	17.92	Si
SLU 68	fin.	-35.14	64	-0.0000898	0.0001872	0.0035	0.4		588.62	588.62	No	16.75	Si
SLU 72	ini.	30.93	114	-0.000079	0.0001872	0.0035	0.4		586.12	586.12	No	18.95	Si
SLU 72	fin.	-34.95	57	-0.0000893	0.0001872	0.0035	0.4		588.62	588.62	No	16.84	Si
SLU 24	ini.	26.25	58	-0.0000668	0.0001872	0.0035	0.4		586.12	586.12	No	22.32	Si
SLU 24	fin.	-35.47	45	-0.0000907	0.0001872	0.0035	0.4		588.62	588.62	No	16.6	Si
SLU 67	ini.	29.53	77	-0.0000753	0.0001872	0.0035	0.4		586.12	586.12	No	19.85	Si
SLU 67	fin.	-38.44	67	-0.0000986	0.0001872	0.0035	0.4		588.62	588.62	No	15.31	Si
SLU 70	ini.	28.71	78	-0.0000732	0.0001872	0.0035	0.4		586.12	586.12	No	20.41	Si
SLU 70	fin.	-39.53	60	-0.0001015	0.0001872	0.0035	0.4		588.62	588.62	No	14.89	Si
SLU 69	ini.	27.26	49	-0.0000694	0.0001872	0.0035	0.4		586.12	586.12	No	21.5	Si
SLU 69	fin.	-37.59	61	-0.0000964	0.0001872	0.0035	0.4		588.62	588.62	No	15.66	Si
SLU 25	ini.	27.71	87	-0.0000706	0.0001872	0.0035	0.4		586.12	586.12	No	21.15	Si
SLU 25	fin.	-37.41	44	-0.0000959	0.0001872	0.0035	0.4		588.62	588.62	No	15.74	Si
SLU 66	ini.	28.07	48	-0.0000715	0.0001872	0.0035	0.4		586.12	586.12	No	20.88	Si
SLU 66	fin.	-36.5	68	-0.0000934	0.0001872	0.0035	0.4		588.62	588.62	No	16.13	Si
SLU 27	ini.	25.44	60	-0.0000646	0.0001872	0.0035	0.4		586.12	586.12	No	23.04	Si
SLU 27	fin.	-36.56	38	-0.0000936	0.0001872	0.0035	0.4		588.62	588.62	No	16.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	24.31	542	0.4	0	631	3172	1677	1020	2697	No	4.98	Si
SLU 77	fin.	-28.19	-499	0.4	0	631	3172	1677	1020	2697	No	5.41	Si
SLU 75	ini.	26.58	519	0.4	0	631	3172	1677	1020	2697	No	5.2	Si
SLU 75	fin.	-29.03	-514	0.4	0	631	3172	1677	1020	2697	No	5.24	Si
SLU 74	ini.	25.12	545	0.4	0	631	3172	1677	1020	2697	No	4.95	Si
SLU 74	fin.	-27.09	-494	0.4	0	631	3172	1677	1020	2697	No	5.46	Si
SLU 66	ini.	28.07	508	0.4	0	631	3172	1677	1020	2697	No	5.31	Si
SLU 66	fin.	-36.5	-527	0.4	0	631	3172	1677	1020	2697	No	5.11	Si
SLU 69	ini.	27.26	505	0.4	0	631	3172	1677	1020	2697	No	5.34	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	fin.	-37.59	-532	0.4	0	631	3172	1677	1020	2697	No	5.07	Si
SLU 70	ini.	28.71	479	0.4	0	631	3172	1677	1020	2697	No	5.63	Si
SLU 70	fin.	-39.53	-552	0.4	0	631	3172	1677	1020	2697	No	4.88	Si
SLU 67	ini.	29.53	482	0.4	0	631	3172	1677	1020	2697	No	5.59	Si
SLU 67	fin.	-38.44	-548	0.4	0	631	3172	1677	1020	2697	No	4.92	Si
SLU 78	ini.	25.77	516	0.4	0	631	3172	1677	1020	2697	No	5.22	Si
SLU 78	fin.	-30.13	-519	0.4	0	631	3172	1677	1020	2697	No	5.2	Si
SLU 65	ini.	33.53	369	0.4	0	631	3172	1677	1020	2697	No	7.31	Si
SLU 65	fin.	-34.04	-503	0.4	0	631	3172	1677	1020	2697	No	5.37	Si
SLU 68	ini.	32.71	366	0.4	0	631	3172	1677	1020	2697	No	7.37	Si
SLU 68	fin.	-35.14	-507	0.4	0	631	3172	1677	1020	2697	No	5.32	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	281.98	2090	-0.0009319	0.0002807	0.0035	0.4		592.15	592.15		2.1	Si
SLD 6	fin.	-269.19	-1225	-0.0008724	0.0002807	0.0035	0.4		594.74	594.74		2.21	Si
SLV 12	ini.	-376.68	-3121	-0.0013816	0.0002807	0.0035	0.4		594.74	594.74		1.58	Si
SLV 12	fin.	368.97	2072	-0.0013485	0.0002807	0.0035	0.4		592.15	592.15		1.6	Si
SLV 10	ini.	304.44	2422	-0.0010318	0.0002807	0.0035	0.4		592.15	592.15		1.95	Si
SLV 10	fin.	-317.76	-1473	-0.0010872	0.0002807	0.0035	0.4		594.74	594.74		1.87	Si
SLV 16	ini.	-309.7	-2353	-0.00105	0.0002807	0.0035	0.4		594.74	594.74		1.92	Si
SLV 16	fin.	263.65	1534	-0.0008537	0.0002807	0.0035	0.4		592.15	592.15		2.25	Si
SLV 5	ini.	418.09	3209	-0.00163	0.0002807	0.0035	0.4		592.15	592.15		1.42	Si
SLV 5	fin.	-405.59	-1913	-0.0015442	0.0002807	0.0035	0.4		594.74	594.74		1.47	Si
SLV 1	ini.	351.1	2441	-0.0012557	0.0002807	0.0035	0.4		592.15	592.15		1.69	Si
SLV 1	fin.	-300.27	-1375	-0.0010073	0.0002807	0.0035	0.4		594.74	594.74		1.98	Si
SLV 6	ini.	460.11	3484	-0.0019154	0.0002807	0.0035	0.4		592.15	592.15		1.29	Si
SLV 6	fin.	-440.83	-2117	-0.0017658	0.0002807	0.0035	0.4		594.74	594.74		1.35	Si
SLV 15	ini.	-372.11	-2761	-0.0013572	0.0002807	0.0035	0.4		594.74	594.74		1.6	Si
SLV 15	fin.	316	1836	-0.0010851	0.0002807	0.0035	0.4		592.15	592.15		1.87	Si
SLV 2	ini.	413.52	2849	-0.0016019	0.0002807	0.0035	0.4		592.15	592.15		1.43	Si
SLV 2	fin.	-352.62	-1678	-0.0012561	0.0002807	0.0035	0.4		594.74	594.74		1.69	Si
SLV 11	ini.	-418.71	-3396	-0.0016232	0.0002807	0.0035	0.4		594.74	594.74		1.42	Si
SLV 11	fin.	404.21	2276	-0.0015459	0.0002807	0.0035	0.4		592.15	592.15		1.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-376.68	2584	0.4	0	919	3172	2515	1020	3535		1.37	Si
SLV 12	fin.	368.97	1729	0.4	0	919	3172	2515	1020	3535		2.05	Si
SLV 16	ini.	-309.7	1960	0.4	0	919	3172	2515	1020	3535		1.8	Si
SLV 16	fin.	263.65	1144	0.4	0	919	3172	2515	1020	3535		3.09	Si
SLV 11	ini.	-418.71	2792	0.4	0	919	3172	2515	1020	3535		1.27	Si
SLV 11	fin.	404.21	1908	0.4	0	919	3172	2515	1020	3535		1.85	Si
SLV 5	ini.	418.09	-1961	0.4	0	919	3172	2515	1020	3535		1.8	Si
SLV 5	fin.	-405.59	-2379	0.4	0	919	3172	2515	1020	3535		1.49	Si
SLV 15	ini.	-372.11	2269	0.4	0	919	3172	2515	1020	3535		1.56	Si
SLV 15	fin.	316	1411	0.4	0	919	3172	2515	1020	3535		2.5	Si
SLV 10	ini.	304.44	-1451	0.4	0	919	3172	2515	1020	3535		2.44	Si
SLV 10	fin.	-317.76	-1926	0.4	0	919	3172	2515	1020	3535		1.84	Si
SLV 2	ini.	413.52	-1646	0.4	0	919	3172	2515	1020	3535		2.15	Si
SLV 2	fin.	-352.62	-2062	0.4	0	919	3172	2515	1020	3535		1.71	Si
SLV 7	ini.	-263.04	2074	0.4	0	919	3172	2515	1020	3535		1.7	Si
SLV 7	fin.	281.14	1275	0.4	0	919	3172	2515	1020	3535		2.77	Si
SLV 8	ini.	-221.02	1865	0.4	0	919	3172	2515	1020	3535		1.9	Si
SLV 8	fin.	245.89	1096	0.4	0	919	3172	2515	1020	3535		3.23	Si
SLV 6	ini.	460.11	-2169	0.4	0	919	3172	2515	1020	3535		1.63	Si
SLV 6	fin.	-440.83	-2559	0.4	0	919	3172	2515	1020	3535		1.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.287	SLV 6	Si
V_SLV	1.266	SLV 11	Si
PF_SLU	14.889	SLU 70	Si
V_SLU	4.884	SLU 70	Si

Trave di accoppiamento 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	11.5	13.5	2	-5.938	-3.169	11.5	13.5	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 68	ini.	51.94	-1414	-0.0000051	0.0001872	0.0035	2		14344.28	14344.28	No	276.19	Si
SLU 68	fin.	-148.56	-1041	-0.0000148	0.0001872	0.0035	2		14357.01	14357.01	No	96.64	Si
SLU 30	ini.	26.25	-1161	-0.0000026	0.0001872	0.0035	2		14344.28	14344.28	No	546.35	Si
SLU 30	fin.	-120.84	-898	-0.000012	0.0001872	0.0035	2		14357.01	14357.01	No	118.81	Si
SLU 44	ini.	57.08	-1235	-0.0000057	0.0001872	0.0035	2		14344.28	14344.28	No	251.29	Si
SLU 44	fin.	-127.95	-860	-0.0000127	0.0001872	0.0035	2		14357.01	14357.01	No	112.21	Si
SLU 65	ini.	67.32	-1425	-0.0000067	0.0001872	0.0035	2		14344.28	14344.28	No	213.06	Si
SLU 65	fin.	-145.8	-1020	-0.0000145	0.0001872	0.0035	2		14357.01	14357.01	No	98.47	Si
SLU 23	ini.	56.61	-1199	-0.0000056	0.0001872	0.0035	2		14344.28	14344.28	No	253.4	Si
SLU 23	fin.	-128.72	-873	-0.0000128	0.0001872	0.0035	2		14357.01	14357.01	No	111.54	Si
SLU 70	ini.	47.58	-1488	-0.0000047	0.0001872	0.0035	2		14344.28	14344.28	No	301.45	Si
SLU 70	fin.	-129.4	-1121	-0.0000129	0.0001872	0.0035	2		14357.01	14357.01	No	110.95	Si
SLU 47	ini.	41.69	-1223	-0.0000041	0.0001872	0.0035	2		14344.28	14344.28	No	344.03	Si
SLU 47	fin.	-130.72	-881	-0.000013	0.0001872	0.0035	2		14357.01	14357.01	No	109.83	Si
SLU 26	ini.	41.22	-1188	-0.0000041	0.0001872	0.0035	2		14344.28	14344.28	No	347.99	Si
SLU 26	fin.	-131.48	-894	-0.0000131	0.0001872	0.0035	2		14357.01	14357.01	No	109.19	Si
SLU 72	ini.	36.97	-1388	-0.0000037	0.0001872	0.0035	2		14344.28	14344.28	No	387.99	Si
SLU 72	fin.	-137.92	-1045	-0.0000137	0.0001872	0.0035	2		14357.01	14357.01	No	104.1	Si
SLU 67	ini.	62.97	-1500	-0.0000062	0.0001872	0.0035	2		14344.28	14344.28	No	227.79	Si
SLU 67	fin.	-126.63	-1100	-0.0000126	0.0001872	0.0035	2		14357.01	14357.01	No	113.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 66	ini.	63.61	-1742	2	0	3889	3965	8384	5100	7854	No	4.51	Si
SLU 66	fin.	-106.51	-687	2	0	3889	3965	8384	5100	7854	No	11.43	Si
SLU 65	ini.	67.32	-1765	2	0	3889	3965	8384	5100	7854	No	4.45	Si
SLU 65	fin.	-145.8	-836	2	0	3889	3965	8384	5100	7854	No	9.4	Si
SLU 67	ini.	62.97	-1776	2	0	3889	3965	8384	5100	7854	No	4.42	Si
SLU 67	fin.	-126.63	-720	2	0	3889	3965	8384	5100	7854	No	10.91	Si
SLU 70	ini.	47.58	-1704	2	0	3889	3965	8384	5100	7854	No	4.61	Si
SLU 70	fin.	-129.4	-616	2	0	3889	3965	8384	5100	7854	No	12.76	Si
SLU 64	ini.	68.38	-1708	2	0	3889	3965	8384	5100	7854	No	4.6	Si
SLU 64	fin.	-112.27	-780	2	0	3889	3965	8384	5100	7854	No	10.06	Si
SLU 74	ini.	56.82	-1665	2	0	3889	3965	8384	5100	7854	No	4.72	Si
SLU 74	fin.	-73.94	-680	2	0	3889	3965	8384	5100	7854	No	11.56	Si
SLU 68	ini.	51.94	-1693	2	0	3889	3965	8384	5100	7854	No	4.64	Si
SLU 68	fin.	-148.56	-731	2	0	3889	3965	8384	5100	7854	No	10.74	Si
SLU 69	ini.	48.22	-1671	2	0	3889	3965	8384	5100	7854	No	4.7	Si
SLU 69	fin.	-109.28	-583	2	0	3889	3965	8384	5100	7854	No	13.48	Si
SLU 75	ini.	56.19	-1699	2	0	3889	3965	8384	5100	7854	No	4.62	Si
SLU 75	fin.	-94.05	-713	2	0	3889	3965	8384	5100	7854	No	11.02	Si
SLU 73	ini.	60.54	-1687	2	0	3889	3965	8384	5100	7854	No	4.66	Si
SLU 73	fin.	-113.22	-828	2	0	3889	3965	8384	5100	7854	No	9.48	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-303.37	2442	-0.0000302	0.0002807	0.0035	2		14215.41	14215.41		46.86	Si
SLV 11	fin.	1730.95	3117	-0.0001807	0.0002807	0.0035	2		14202.07	14202.07		8.2	Si
SLV 6	ini.	400.19	-4456	-0.00004	0.0002807	0.0035	2		14202.07	14202.07		35.49	Si
SLV 6	fin.	-1877.22	-4502	-0.0001968	0.0002807	0.0035	2		14215.41	14215.41		7.57	Si
SLV 2	ini.	500.98	-3934	-0.0000503	0.0002807	0.0035	2		14202.07	14202.07		28.35	Si
SLV 2	fin.	-1474.62	-3544	-0.0001525	0.0002807	0.0035	2		14215.41	14215.41		9.64	Si
SLV 7	ini.	-113.67	1331	-0.0000113	0.0002807	0.0035	2		14215.41	14215.41		125.05	Si
SLV 7	fin.	1221.03	2079	-0.0001253	0.0002807	0.0035	2		14202.07	14202.07		11.63	Si
SLV 10	ini.	210.5	-3345	-0.0000209	0.0002807	0.0035	2		14202.07	14202.07		67.47	Si
SLV 10	fin.	-1367.29	-3464	-0.0001409	0.0002807	0.0035	2		14215.41	14215.41		10.4	Si
SLV 9	ini.	110.38	-2997	-0.000011	0.0002807	0.0035	2		14202.07	14202.07		128.67	Si
SLV 9	fin.	-1220.7	-3238	-0.0001252	0.0002807	0.0035	2		14215.41	14215.41		11.65	Si
SLV 15	ini.	-404.16	1920	-0.0000404	0.0002807	0.0035	2		14215.41	14215.41		35.17	Si
SLV 15	fin.	1328.36	2159	-0.0001368	0.0002807	0.0035	2		14202.07	14202.07		10.69	Si
SLV 5	ini.	300.07	-4108	-0.0000299	0.0002807	0.0035	2		14202.07	14202.07		47.33	Si
SLV 5	fin.	-1730.63	-4277	-0.0001805	0.0002807	0.0035	2		14215.41	14215.41		8.21	Si
SLV 1	ini.	352.27	-3417	-0.0000352	0.0002807	0.0035	2		14202.07	14202.07		40.32	Si
SLV 1	fin.	-1256.88	-3209	-0.000129	0.0002807	0.0035	2		14215.41	14215.41		11.31	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-203.25	2094	-0.0000202	0.0002807	0.0035	2		14215.41	14215.41		69.94	Si
SLV 12	fin.	1584.36	2892	-0.0001646	0.0002807	0.0035	2		14202.07	14202.07		8.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	500.98	-4694	2	0	5833	3965	12577	5100	9798		2.09	Si
SLV 2	fin.	-1474.62	-5378	2	0	5833	3965	12577	5100	9798		1.82	Si
SLV 11	ini.	-303.37	2091	2	0	5833	3965	12577	5100	9798		4.68	Si
SLV 11	fin.	1730.95	3355	2	0	5833	3965	12577	5100	9798		2.92	Si
SLV 15	ini.	-404.16	2171	2	0	5833	3965	12577	5100	9798		4.51	Si
SLV 15	fin.	1328.36	4226	2	0	5833	3965	12577	5100	9798		2.32	Si
SLV 10	ini.	210.5	-3277	2	0	5833	3965	12577	5100	9798		2.99	Si
SLV 10	fin.	-1367.29	-2429	2	0	5833	3965	12577	5100	9798		4.03	Si
SLV 4	ini.	376.86	-3285	2	0	5833	3965	12577	5100	9798		2.98	Si
SLV 4	fin.	-589.13	-3881	2	0	5833	3965	12577	5100	9798		2.52	Si
SLV 1	ini.	352.27	-3695	2	0	5833	3965	12577	5100	9798		2.65	Si
SLV 1	fin.	-1256.88	-4199	2	0	5833	3965	12577	5100	9798		2.33	Si
SLD 6	ini.	260.08	-3266	2	0	5833	3965	12577	5100	9798		3	Si
SLD 6	fin.	-1144.25	-2941	2	0	5833	3965	12577	5100	9798		3.33	Si
SLV 5	ini.	300.07	-3942	2	0	5833	3965	12577	5100	9798		2.49	Si
SLV 5	fin.	-1730.63	-3713	2	0	5833	3965	12577	5100	9798		2.64	Si
SLV 6	ini.	400.19	-4615	2	0	5833	3965	12577	5100	9798		2.12	Si
SLV 6	fin.	-1877.22	-4507	2	0	5833	3965	12577	5100	9798		2.17	Si
SLD 2	ini.	332.65	-3409	2	0	5833	3965	12577	5100	9798		2.87	Si
SLD 2	fin.	-943.57	-3598	2	0	5833	3965	12577	5100	9798		2.72	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.573	SLV 6	Si
V_SLV	1.822	SLV 2	Si
PF_SLU	96.638	SLU 68	Si
V_SLU	4.422	SLU 67	Si

Trave di accoppiamento 171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	14.3	14.6	0.3	-5.938	-3.169	14.3	14.6	0.3	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	66.12	0	-0.0003368	0.0001872	0.0035	0.3		331.24	331.24	No	5.01	Si
SLU 76	fin.	-59.75	0	-0.0002974	0.0001872	0.0035	0.3		333.12	333.12	No	5.58	Si
SLU 73	ini.	70.86	0	-0.0003654	0.0001872	0.0035	0.3		331.24	331.24	No	4.67	Si
SLU 73	fin.	-64.47	0	-0.0003249	0.0001872	0.0035	0.3		333.12	333.12	No	5.17	Si
SLU 23	ini.	65.81	16	-0.0003349	0.0001872	0.0035	0.3		331.24	331.24	No	5.03	Si
SLU 23	fin.	-58.35	16	-0.0002894	0.0001872	0.0035	0.3		333.12	333.12	No	5.71	Si
SLU 68	ini.	68.49	9	-0.0003511	0.0001872	0.0035	0.3		331.24	331.24	No	4.84	Si
SLU 68	fin.	-61.16	9	-0.0003056	0.0001872	0.0035	0.3		333.12	333.12	No	5.45	Si
SLU 47	ini.	68.64	5	-0.000352	0.0001872	0.0035	0.3		331.24	331.24	No	4.83	Si
SLU 47	fin.	-63.23	5	-0.0003176	0.0001872	0.0035	0.3		333.12	333.12	No	5.27	Si
SLU 65	ini.	73.23	10	-0.0003799	0.0001872	0.0035	0.3		331.24	331.24	No	4.52	Si
SLU 65	fin.	-65.88	10	-0.0003332	0.0001872	0.0035	0.3		333.12	333.12	No	5.06	Si
SLU 52	ini.	71.01	-4	-0.0003663	0.0001872	0.0035	0.3		331.24	331.24	No	4.66	Si
SLU 52	fin.	-66.54	-4	-0.0003371	0.0001872	0.0035	0.3		333.12	333.12	No	5.01	Si
SLU 55	ini.	66.27	-4	-0.0003377	0.0001872	0.0035	0.3		331.24	331.24	No	5	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 55	fin.	-61.82	-4	-0.0003094	0.0001872	0.0035	0.3		333.12	333.12	No	5.39	Si
SLU 2	ini.	65.95	12	-0.0003358	0.0001872	0.0035	0.3		331.24	331.24	No	5.02	Si
SLU 2	fin.	-60.42	12	-0.0003013	0.0001872	0.0035	0.3		333.12	333.12	No	5.51	Si
SLU 44	ini.	73.38	5	-0.0003808	0.0001872	0.0035	0.3		331.24	331.24	No	4.51	Si
SLU 44	fin.	-67.95	5	-0.0003455	0.0001872	0.0035	0.3		333.12	333.12	No	4.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	66.12	-203	0.3	0	583	2379	1258	765	2023	No	9.98	Si
SLU 76	fin.	-59.75	-301	0.3	0	583	2379	1258	765	2023	No	6.72	Si
SLU 73	ini.	70.86	-222	0.3	0	583	2379	1258	765	2023	No	9.13	Si
SLU 73	fin.	-64.47	-320	0.3	0	583	2379	1258	765	2023	No	6.32	Si
SLU 65	ini.	73.23	-229	0.3	0	583	2379	1258	765	2023	No	8.83	Si
SLU 65	fin.	-65.88	-327	0.3	0	583	2379	1258	765	2023	No	6.18	Si
SLU 68	ini.	68.49	-210	0.3	0	583	2379	1258	765	2023	No	9.62	Si
SLU 68	fin.	-61.16	-308	0.3	0	583	2379	1258	765	2023	No	6.56	Si
SLU 52	ini.	71.01	-226	0.3	0	583	2379	1258	765	2023	No	8.95	Si
SLU 52	fin.	-66.54	-324	0.3	0	583	2379	1258	765	2023	No	6.24	Si
SLU 55	ini.	66.27	-207	0.3	0	583	2379	1258	765	2023	No	9.77	Si
SLU 55	fin.	-61.82	-305	0.3	0	583	2379	1258	765	2023	No	6.62	Si
SLU 44	ini.	73.38	-234	0.3	0	583	2379	1258	765	2023	No	8.66	Si
SLU 44	fin.	-67.95	-332	0.3	0	583	2379	1258	765	2023	No	6.1	Si
SLU 47	ini.	68.64	-215	0.3	0	583	2379	1258	765	2023	No	9.43	Si
SLU 47	fin.	-63.23	-313	0.3	0	583	2379	1258	765	2023	No	6.46	Si
SLU 23	ini.	65.81	-211	0.3	0	583	2379	1258	765	2023	No	9.61	Si
SLU 23	fin.	-58.35	-286	0.3	0	583	2379	1258	765	2023	No	7.07	Si
SLU 2	ini.	65.95	-215	0.3	0	583	2379	1258	765	2023	No	9.41	Si
SLU 2	fin.	-60.42	-291	0.3	0	583	2379	1258	765	2023	No	6.96	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	204.46	423	-0.0013158	0.0002807	0.0035	0.3		333.9	333.9		1.63	Si
SLD 10	fin.	-152.67	424	-0.0008779	0.0002807	0.0035	0.3		335.87	335.87		2.2	Si
SLV 11	ini.	-278.09	-1122	-0.0021599	0.0002807	0.0035	0.3		335.87	335.87		1.21	Si
SLV 11	fin.	163.78	-1120	-0.0009697	0.0002807	0.0035	0.3		333.9	333.9		2.04	Si
SLV 12	ini.	-245.61	-1038	-0.0017283	0.0002807	0.0035	0.3		335.87	335.87		1.37	Si
SLV 12	fin.	140.02	-1036	-0.0007909	0.0002807	0.0035	0.3		333.9	333.9		2.38	Si
SLV 10	ini.	327.75	748	-0.0031206	0.0002807	0.0035	0.3		333.9	333.9		1.02	Si
SLV 10	fin.	-240.01	751	-0.0016643	0.0002807	0.0035	0.3		335.87	335.87		1.4	Si
SLV 6	ini.	325.8	1085	-0.0030776	0.0002807	0.0035	0.3		333.9	333.9		1.02	Si
SLV 6	fin.	-207.23	1083	-0.0013311	0.0002807	0.0035	0.3		335.87	335.87		1.62	Si
SLD 6	ini.	203.12	637	-0.0013035	0.0002807	0.0035	0.3		333.9	333.9		1.64	Si
SLD 6	fin.	-131.55	636	-0.0007257	0.0002807	0.0035	0.3		335.87	335.87		2.55	Si
SLV 7	ini.	-280.04	-786	-0.0021896	0.0002807	0.0035	0.3		335.87	335.87		1.2	Si
SLV 7	fin.	196.56	-789	-0.0012439	0.0002807	0.0035	0.3		333.9	333.9		1.7	Si
SLV 9	ini.	295.27	664	-0.0024668	0.0002807	0.0035	0.3		333.9	333.9		1.13	Si
SLV 9	fin.	-216.25	667	-0.0014168	0.0002807	0.0035	0.3		335.87	335.87		1.55	Si
SLV 8	ini.	-247.56	-701	-0.0017512	0.0002807	0.0035	0.3		335.87	335.87		1.36	Si
SLV 8	fin.	172.8	-705	-0.0010416	0.0002807	0.0035	0.3		333.9	333.9		1.93	Si
SLV 5	ini.	293.32	1001	-0.0024326	0.0002807	0.0035	0.3		333.9	333.9		1.14	Si
SLV 5	fin.	-183.47	999	-0.0011215	0.0002807	0.0035	0.3		335.87	335.87		1.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-278.09	944	0.3	0	875	2379	1887	765	2652		2.81	Si
SLV 11	fin.	163.78	933	0.3	0	875	2379	1887	765	2652		2.84	Si
SLV 5	ini.	293.32	-939	0.3	0	875	2379	1887	765	2652		2.83	Si
SLV 5	fin.	-183.47	-1078	0.3	0	875	2379	1887	765	2652		2.46	Si
SLV 9	ini.	295.27	-982	0.3	0	875	2379	1887	765	2652		2.7	Si
SLV 9	fin.	-216.25	-1039	0.3	0	875	2379	1887	765	2652		2.55	Si
SLD 6	ini.	203.12	-645	0.3	0	875	2379	1887	765	2652		4.11	Si
SLD 6	fin.	-131.55	-762	0.3	0	875	2379	1887	765	2652		3.48	Si
SLD 10	ini.	204.46	-673	0.3	0	875	2379	1887	765	2652		3.94	Si
SLD 10	fin.	-152.67	-738	0.3	0	875	2379	1887	765	2652		3.59	Si
SLV 8	ini.	-247.56	876	0.3	0	875	2379	1887	765	2652		3.03	Si
SLV 8	fin.	172.8	781	0.3	0	875	2379	1887	765	2652		3.4	Si
SLV 10	ini.	327.75	-1095	0.3	0	875	2379	1887	765	2652		2.42	Si
SLV 10	fin.	-240.01	-1151	0.3	0	875	2379	1887	765	2652		2.3	Si
SLV 6	ini.	325.8	-1051	0.3	0	875	2379	1887	765	2652		2.52	Si
SLV 6	fin.	-207.23	-1190	0.3	0	875	2379	1887	765	2652		2.23	Si
SLV 12	ini.	-245.61	832	0.3	0	875	2379	1887	765	2652		3.19	Si
SLV 12	fin.	140.02	820	0.3	0	875	2379	1887	765	2652		3.23	Si
SLV 7	ini.	-280.04	988	0.3	0	875	2379	1887	765	2652		2.68	Si
SLV 7	fin.	196.56	893	0.3	0	875	2379	1887	765	2652		2.97	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.019	SLV 10	Si
V_SLV	2.227	SLV 6	Si
PF_SLU	4.514	SLU 44	Si
V_SLU	6.096	SLU 44	Si

Trave di accoppiamento 172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	11.5	12.4	0.9	-3.113	-3.169	11.5	12.4	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-74.74	-119	-0.000037	0.0001872	0.0035	0.9		2964.67	2964.67	No	39.67	Si
SLU 82	fin.	256.65	-804	-0.0001325	0.0001872	0.0035	0.9		2959	2959	No	11.53	Si
SLU 77	ini.	-72.91	-134	-0.0000361	0.0001872	0.0035	0.9		2964.67	2964.67	No	40.66	Si
SLU 77	fin.	261.11	-825	-0.0001349	0.0001872	0.0035	0.9		2959	2959	No	11.33	Si
SLU 83	ini.	-87.43	-89	-0.0000434	0.0001872	0.0035	0.9		2964.67	2964.67	No	33.91	Si
SLU 83	fin.	269.38	-819	-0.0001394	0.0001872	0.0035	0.9		2959	2959	No	10.98	Si
SLU 81	ini.	-85.22	-93	-0.0000423	0.0001872	0.0035	0.9		2964.67	2964.67	No	34.79	Si
SLU 81	fin.	266.18	-813	-0.0001377	0.0001872	0.0035	0.9		2959	2959	No	11.12	Si
SLU 39	ini.	-101.22	-2	-0.0000504	0.0001872	0.0035	0.9		2964.67	2964.67	No	29.29	Si
SLU 39	fin.	255.97	-722	-0.0001321	0.0001872	0.0035	0.9		2959	2959	No	11.56	Si
SLU 78	ini.	-62.43	-160	-0.0000309	0.0001872	0.0035	0.9		2964.67	2964.67	No	47.48	Si
SLU 78	fin.	251.59	-816	-0.0001297	0.0001872	0.0035	0.9		2959	2959	No	11.76	Si
SLU 84	ini.	-76.95	-116	-0.0000381	0.0001872	0.0035	0.9		2964.67	2964.67	No	38.52	Si
SLU 84	fin.	259.86	-811	-0.0001342	0.0001872	0.0035	0.9		2959	2959	No	11.39	Si
SLU 41	ini.	-103.44	2	-0.0000515	0.0001872	0.0035	0.9		2964.67	2964.67	No	28.66	Si
SLU 41	fin.	259.18	-728	-0.0001338	0.0001872	0.0035	0.9		2959	2959	No	11.42	Si
SLU 35	ini.	-88.92	-43	-0.0000442	0.0001872	0.0035	0.9		2964.67	2964.67	No	33.34	Si
SLU 35	fin.	250.91	-734	-0.0001293	0.0001872	0.0035	0.9		2959	2959	No	11.79	Si
SLU 74	ini.	-70.7	-137	-0.000035	0.0001872	0.0035	0.9		2964.67	2964.67	No	41.93	Si
SLU 74	fin.	257.91	-818	-0.0001331	0.0001872	0.0035	0.9		2959	2959	No	11.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-88.92	491	0.9	0	1750	7137	3773	2295	6068	No	12.35	Si
SLU 35	fin.	250.91	794	0.9	0	1750	7137	3773	2295	6068	No	7.64	Si
SLU 74	ini.	-70.7	407	0.9	0	1750	7137	3773	2295	6068	No	14.9	Si
SLU 74	fin.	257.91	797	0.9	0	1750	7137	3773	2295	6068	No	7.61	Si
SLU 39	ini.	-101.22	598	0.9	0	1750	7137	3773	2295	6068	No	10.14	Si
SLU 39	fin.	255.97	771	0.9	0	1750	7137	3773	2295	6068	No	7.87	Si
SLU 81	ini.	-85.22	518	0.9	0	1750	7137	3773	2295	6068	No	11.71	Si
SLU 81	fin.	266.18	790	0.9	0	1750	7137	3773	2295	6068	No	7.68	Si
SLU 78	ini.	-62.43	369	0.9	0	1750	7137	3773	2295	6068	No	16.44	Si
SLU 78	fin.	251.59	776	0.9	0	1750	7137	3773	2295	6068	No	7.82	Si
SLU 32	ini.	-86.7	487	0.9	0	1750	7137	3773	2295	6068	No	12.46	Si
SLU 32	fin.	247.7	778	0.9	0	1750	7137	3773	2295	6068	No	7.8	Si
SLU 41	ini.	-103.44	603	0.9	0	1750	7137	3773	2295	6068	No	10.07	Si
SLU 41	fin.	259.18	787	0.9	0	1750	7137	3773	2295	6068	No	7.71	Si
SLU 84	ini.	-76.95	480	0.9	0	1750	7137	3773	2295	6068	No	12.64	Si
SLU 84	fin.	259.86	769	0.9	0	1750	7137	3773	2295	6068	No	7.89	Si
SLU 83	ini.	-87.43	523	0.9	0	1750	7137	3773	2295	6068	No	11.61	Si
SLU 83	fin.	269.38	806	0.9	0	1750	7137	3773	2295	6068	No	7.53	Si
SLU 77	ini.	-72.91	412	0.9	0	1750	7137	3773	2295	6068	No	14.75	Si
SLU 77	fin.	261.11	814	0.9	0	1750	7137	3773	2295	6068	No	7.46	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-622.99	1303	-0.0003387	0.0002807	0.0035	0.9		2995.37	2995.37		4.81	Si
SLV 7	fin.	795.34	-1317	-0.0004505	0.0002807	0.0035	0.9		2989.59	2989.59		3.76	Si
SLV 15	ini.	-643.9	1390	-0.0003516	0.0002807	0.0035	0.9		2995.37	2995.37		4.65	Si
SLV 15	fin.	813.59	-1323	-0.0004628	0.0002807	0.0035	0.9		2989.59	2989.59		3.67	Si
SLV 11	ini.	-831.32	1834	-0.0004738	0.0002807	0.0035	0.9		2995.37	2995.37		3.6	Si
SLV 11	fin.	1014.06	-1568	-0.0006038	0.0002807	0.0035	0.9		2989.59	2989.59		2.95	Si
SLV 16	ini.	-479.68	1003	-0.0002531	0.0002807	0.0035	0.9		2995.37	2995.37		6.24	Si
SLV 16	fin.	621.62	-1057	-0.0003385	0.0002807	0.0035	0.9		2989.59	2989.59		4.81	Si
SLV 8	ini.	-512.43	1042	-0.0002722	0.0002807	0.0035	0.9		2995.37	2995.37		5.85	Si
SLV 8	fin.	666.11	-1138	-0.0003663	0.0002807	0.0035	0.9		2989.59	2989.59		4.49	Si
SLD 11	ini.	-500.76	1018	-0.0002653	0.0002807	0.0035	0.9		2995.37	2995.37		5.98	Si
SLD 11	fin.	660.47	-1143	-0.0003628	0.0002807	0.0035	0.9		2989.59	2989.59		4.53	Si
SLV 6	ini.	794.16	-2179	-0.0004497	0.0002807	0.0035	0.9		2989.59	2989.59		3.76	Si
SLV 6	fin.	-725.37	521	-0.0004035	0.0002807	0.0035	0.9		2995.37	2995.37		4.13	Si
SLV 12	ini.	-720.76	1574	-0.0004005	0.0002807	0.0035	0.9		2995.37	2995.37		4.16	Si
SLV 12	fin.	884.83	-1389	-0.0005116	0.0002807	0.0035	0.9		2989.59	2989.59		3.38	Si
SLV 2	ini.	606.74	-1734	-0.0003293	0.0002807	0.0035	0.9		2989.59	2989.59		4.93	Si
SLV 2	fin.	-524.89	276	-0.0002795	0.0002807	0.0035	0.9		2995.37	2995.37		5.71	Si
SLV 5	ini.	683.6	-1918	-0.0003774	0.0002807	0.0035	0.9		2989.59	2989.59		4.37	Si
SLV 5	fin.	-596.13	342	-0.0003222	0.0002807	0.0035	0.9		2995.37	2995.37		5.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	683.6	-2863	0.9	0	2625	7137	5660	2295	7955		2.78	Si
SLV 5	fin.	-596.13	-2406	0.9	0	2625	7137	5660	2295	7955		3.31	Si
SLV 2	ini.	606.74	-2430	0.9	0	2625	7137	5660	2295	7955		3.27	Si
SLV 2	fin.	-524.89	-2252	0.9	0	2625	7137	5660	2295	7955		3.53	Si
SLV 6	ini.	794.16	-3328	0.9	0	2625	7137	5660	2295	7955		2.39	Si
SLV 6	fin.	-725.37	-2903	0.9	0	2625	7137	5660	2295	7955		2.74	Si
SLV 7	ini.	-622.99	2771	0.9	0	2625	7137	5660	2295	7955		2.87	Si
SLV 7	fin.	795.34	2837	0.9	0	2625	7137	5660	2295	7955		2.8	Si
SLV 12	ini.	-720.76	3130	0.9	0	2625	7137	5660	2295	7955		2.54	Si
SLV 12	fin.	884.83	3253	0.9	0	2625	7137	5660	2295	7955		2.44	Si
SLV 11	ini.	-831.32	3595	0.9	0	2625	7137	5660	2295	7955		2.21	Si
SLV 11	fin.	1014.06	3750	0.9	0	2625	7137	5660	2295	7955		2.12	Si
SLD 11	ini.	-500.76	2185	0.9	0	2625	7137	5660	2295	7955		3.64	Si
SLD 11	fin.	660.47	2399	0.9	0	2625	7137	5660	2295	7955		3.32	Si
SLV 10	ini.	585.83	-2504	0.9	0	2625	7137	5660	2295	7955		3.18	Si
SLV 10	fin.	-506.64	-1990	0.9	0	2625	7137	5660	2295	7955		4	Si
SLV 16	ini.	-479.68	2006	0.9	0	2625	7137	5660	2295	7955		3.97	Si
SLV 16	fin.	621.62	2362	0.9	0	2625	7137	5660	2295	7955		3.37	Si
SLV 15	ini.	-643.9	2697	0.9	0	2625	7137	5660	2295	7955		2.95	Si
SLV 15	fin.	813.59	3100	0.9	0	2625	7137	5660	2295	7955		2.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.948	SLV 11	Si
V_SLV	2.121	SLV 11	Si
PF_SLU	10.984	SLU 83	Si
V_SLU	7.458	SLU 77	Si

Trave di accoppiamento 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	14.2	14.6	0.4	-3.113	-3.169	14.2	14.6	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-131.63	-287	-0.0003839	0.0001872	0.0035	0.4		588.62	588.62	No	4.47	Si
SLU 78	fin.	16.73	45	-0.0000421	0.0001872	0.0035	0.4		586.12	586.12	No	35.03	Si
SLU 36	ini.	-129.26	-300	-0.0003757	0.0001872	0.0035	0.4		588.62	588.62	No	4.55	Si
SLU 36	fin.	21.47	86	-0.0000543	0.0001872	0.0035	0.4		586.12	586.12	No	27.29	Si
SLU 77	ini.	-127.47	-289	-0.0003696	0.0001872	0.0035	0.4		588.62	588.62	No	4.62	Si
SLU 77	fin.	22.1	96	-0.0000559	0.0001872	0.0035	0.4		586.12	586.12	No	26.52	Si
SLU 40	ini.	-126.83	-329	-0.0003674	0.0001872	0.0035	0.4		588.62	588.62	No	4.64	Si
SLU 40	fin.	31.15	149	-0.0000796	0.0001872	0.0035	0.4		586.12	586.12	No	18.82	Si
SLU 42	ini.	-128.12	-333	-0.0003718	0.0001872	0.0035	0.4		588.62	588.62	No	4.59	Si
SLU 42	fin.	32.21	157	-0.0000824	0.0001872	0.0035	0.4		586.12	586.12	No	18.2	Si
SLU 83	ini.	-126.33	-322	-0.0003657	0.0001872	0.0035	0.4		588.62	588.62	No	4.66	Si
SLU 83	fin.	32.83	166	-0.0000841	0.0001872	0.0035	0.4		586.12	586.12	No	17.85	Si
SLU 82	ini.	-129.21	-316	-0.0003756	0.0001872	0.0035	0.4		588.62	588.62	No	4.56	Si
SLU 82	fin.	26.4	108	-0.0000671	0.0001872	0.0035	0.4		586.12	586.12	No	22.2	Si
SLU 33	ini.	-127.97	-295	-0.0003713	0.0001872	0.0035	0.4		588.62	588.62	No	4.6	Si
SLU 33	fin.	20.41	78	-0.0000516	0.0001872	0.0035	0.4		586.12	586.12	No	28.71	Si
SLU 84	ini.	-130.5	-321	-0.00038	0.0001872	0.0035	0.4		588.62	588.62	No	4.51	Si
SLU 84	fin.	27.47	116	-0.0000699	0.0001872	0.0035	0.4		586.12	586.12	No	21.34	Si
SLU 75	ini.	-130.34	-283	-0.0003795	0.0001872	0.0035	0.4		588.62	588.62	No	4.52	Si
SLU 75	fin.	15.67	37	-0.0000394	0.0001872	0.0035	0.4		586.12	586.12	No	37.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-126.18	658	0.4	0	631	3172	1677	1020	2697	No	4.1	Si
SLU 74	fin.	21.04	-312	0.4	0	631	3172	1677	1020	2697	No	8.64	Si
SLU 84	ini.	-130.5	666	0.4	0	631	3172	1677	1020	2697	No	4.05	Si
SLU 84	fin.	27.47	-206	0.4	0	631	3172	1677	1020	2697	No	13.07	Si
SLU 83	ini.	-126.33	648	0.4	0	631	3172	1677	1020	2697	No	4.16	Si
SLU 83	fin.	32.83	-185	0.4	0	631	3172	1677	1020	2697	No	14.58	Si
SLU 77	ini.	-127.47	663	0.4	0	631	3172	1677	1020	2697	No	4.07	Si
SLU 77	fin.	22.1	-307	0.4	0	631	3172	1677	1020	2697	No	8.8	Si
SLU 82	ini.	-129.21	661	0.4	0	631	3172	1677	1020	2697	No	4.08	Si
SLU 82	fin.	26.4	-212	0.4	0	631	3172	1677	1020	2697	No	12.74	Si
SLU 36	ini.	-129.26	640	0.4	0	631	3172	1677	1020	2697	No	4.21	Si
SLU 36	fin.	21.47	-255	0.4	0	631	3172	1677	1020	2697	No	10.58	Si
SLU 33	ini.	-127.97	635	0.4	0	631	3172	1677	1020	2697	No	4.25	Si
SLU 33	fin.	20.41	-260	0.4	0	631	3172	1677	1020	2697	No	10.35	Si
SLU 78	ini.	-131.63	682	0.4	0	631	3172	1677	1020	2697	No	3.96	Si
SLU 78	fin.	16.73	-328	0.4	0	631	3172	1677	1020	2697	No	8.22	Si
SLU 75	ini.	-130.34	676	0.4	0	631	3172	1677	1020	2697	No	3.99	Si
SLU 75	fin.	15.67	-333	0.4	0	631	3172	1677	1020	2697	No	8.09	Si
SLU 81	ini.	-125.04	643	0.4	0	631	3172	1677	1020	2697	No	4.2	Si
SLU 81	fin.	31.77	-190	0.4	0	631	3172	1677	1020	2697	No	14.16	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-245.41	-1288	-0.0007746	0.0002807	0.0035	0.4		594.74	594.74		2.42	Si
SLV 7	fin.	371.97	1996	-0.0013646	0.0002807	0.0035	0.4		592.15	592.15		1.59	Si
SLV 10	ini.	112.24	1021	-0.000306	0.0002807	0.0035	0.4		592.15	592.15		5.28	Si
SLV 10	fin.	-360.25	-1995	-0.0012951	0.0002807	0.0035	0.4		594.74	594.74		1.65	Si
SLV 12	ini.	-323.93	-1378	-0.0011161	0.0002807	0.0035	0.4		594.74	594.74		1.84	Si
SLV 12	fin.	320.89	2145	-0.001108	0.0002807	0.0035	0.4		592.15	592.15		1.85	Si
SLV 8	ini.	-186.42	-1059	-0.0005505	0.0002807	0.0035	0.4		594.74	594.74		3.19	Si
SLV 8	fin.	326.05	1685	-0.0011325	0.0002807	0.0035	0.4		592.15	592.15		1.82	Si
SLV 9	ini.	53.25	792	-0.0001374	0.0002807	0.0035	0.4		592.15	592.15		11.12	Si
SLV 9	fin.	-314.33	-1683	-0.0010713	0.0002807	0.0035	0.4		594.74	594.74		1.89	Si
SLV 5	ini.	190.76	1111	-0.000569	0.0002807	0.0035	0.4		592.15	592.15		3.1	Si
SLV 5	fin.	-309.17	-2144	-0.0010476	0.0002807	0.0035	0.4		594.74	594.74		1.92	Si
SLV 11	ini.	-382.92	-1607	-0.0014155	0.0002807	0.0035	0.4		594.74	594.74		1.55	Si
SLV 11	fin.	366.82	2457	-0.0013371	0.0002807	0.0035	0.4		592.15	592.15		1.61	Si
SLV 6	ini.	249.75	1340	-0.0007963	0.0002807	0.0035	0.4		592.15	592.15		2.37	Si
SLV 6	fin.	-355.1	-2455	-0.0012687	0.0002807	0.0035	0.4		594.74	594.74		1.67	Si
SLV 15	ini.	-405	-1195	-0.0015408	0.0002807	0.0035	0.4		594.74	594.74		1.47	Si
SLV 15	fin.	133.54	1621	-0.0003727	0.0002807	0.0035	0.4		592.15	592.15		4.43	Si
SLV 16	ini.	-317.38	-855	-0.0010854	0.0002807	0.0035	0.4		594.74	594.74		1.87	Si
SLV 16	fin.	65.33	1158	-0.0001702	0.0002807	0.0035	0.4		592.15	592.15		9.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	184.21	-856	0.4	0	919	3172	2515	1020	3535		4.13	Si
SLV 1	fin.	-53.61	-1427	0.4	0	919	3172	2515	1020	3535		2.48	Si
SLV 11	ini.	-382.92	1827	0.4	0	919	3172	2515	1020	3535		1.94	Si
SLV 11	fin.	366.82	1731	0.4	0	919	3172	2515	1020	3535		2.04	Si
SLV 10	ini.	112.24	-407	0.4	0	919	3172	2515	1020	3535		8.68	Si
SLV 10	fin.	-360.25	-1650	0.4	0	919	3172	2515	1020	3535		2.14	Si
SLD 6	ini.	119.67	-492	0.4	0	919	3172	2515	1020	3535		7.18	Si
SLD 6	fin.	-209.28	-1405	0.4	0	919	3172	2515	1020	3535		2.52	Si
SLV 2	ini.	271.84	-1195	0.4	0	919	3172	2515	1020	3535		2.96	Si
SLV 2	fin.	-121.82	-1792	0.4	0	919	3172	2515	1020	3535		1.97	Si
SLV 12	ini.	-323.93	1598	0.4	0	919	3172	2515	1020	3535		2.21	Si
SLV 12	fin.	320.89	1485	0.4	0	919	3172	2515	1020	3535		2.38	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	190.76	-841	0.4	0	919	3172	2515	1020	3535		4.21	Si
SLV 5	fin.	-309.17	-1949	0.4	0	919	3172	2515	1020	3535		1.81	Si
SLV 15	ini.	-405	1953	0.4	0	919	3172	2515	1020	3535		1.81	Si
SLV 15	fin.	133.54	1328	0.4	0	919	3172	2515	1020	3535		2.66	Si
SLV 16	ini.	-317.38	1613	0.4	0	919	3172	2515	1020	3535		2.19	Si
SLV 16	fin.	65.33	963	0.4	0	919	3172	2515	1020	3535		3.67	Si
SLV 6	ini.	249.75	-1069	0.4	0	919	3172	2515	1020	3535		3.31	Si
SLV 6	fin.	-355.1	-2195	0.4	0	919	3172	2515	1020	3535		1.61	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.468	SLV 15	Si
V_SLV	1.611	SLV 6	Si
PF_SLU	4.472	SLU 78	Si
V_SLU	3.957	SLU 78	Si

Trave di accoppiamento 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	11.5	12.4	0.9	-2.853	5.951	11.5	12.4	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-29.62	-106	-0.0000145	0.0001872	0.0035	0.9		2964.67	2964.67	No	100.09	Si
SLU 77	fin.	158.08	-1021	-0.0000798	0.0001872	0.0035	0.9		2959	2959	No	18.72	Si
SLU 80	ini.	-26.99	-116	-0.0000132	0.0001872	0.0035	0.9		2964.67	2964.67	No	109.84	Si
SLU 80	fin.	160.39	-1021	-0.000081	0.0001872	0.0035	0.9		2959	2959	No	18.45	Si
SLU 41	ini.	-52.33	34	-0.0000258	0.0001872	0.0035	0.9		2964.67	2964.67	No	56.65	Si
SLU 41	fin.	159.49	-895	-0.0000805	0.0001872	0.0035	0.9		2959	2959	No	18.55	Si
SLU 82	ini.	-44.39	-16	-0.0000219	0.0001872	0.0035	0.9		2964.67	2964.67	No	66.79	Si
SLU 82	fin.	158.04	-905	-0.0000798	0.0001872	0.0035	0.9		2959	2959	No	18.72	Si
SLU 42	ini.	-56.62	47	-0.0000279	0.0001872	0.0035	0.9		2964.67	2964.67	No	52.36	Si
SLU 42	fin.	163.93	-914	-0.0000828	0.0001872	0.0035	0.9		2959	2959	No	18.05	Si
SLU 83	ini.	-37.45	-56	-0.0000184	0.0001872	0.0035	0.9		2964.67	2964.67	No	79.15	Si
SLU 83	fin.	162.62	-970	-0.0000822	0.0001872	0.0035	0.9		2959	2959	No	18.2	Si
SLU 84	ini.	-41.75	-43	-0.0000205	0.0001872	0.0035	0.9		2964.67	2964.67	No	71.01	Si
SLU 84	fin.	167.06	-989	-0.0000845	0.0001872	0.0035	0.9		2959	2959	No	17.71	Si
SLU 78	ini.	-33.91	-93	-0.0000167	0.0001872	0.0035	0.9		2964.67	2964.67	No	87.42	Si
SLU 78	fin.	162.52	-1040	-0.0000821	0.0001872	0.0035	0.9		2959	2959	No	18.21	Si
SLU 36	ini.	-48.79	-3	-0.000024	0.0001872	0.0035	0.9		2964.67	2964.67	No	60.76	Si
SLU 36	fin.	159.38	-966	-0.0000805	0.0001872	0.0035	0.9		2959	2959	No	18.57	Si
SLU 38	ini.	-41.87	-26	-0.0000206	0.0001872	0.0035	0.9		2964.67	2964.67	No	70.81	Si
SLU 38	fin.	157.26	-947	-0.0000794	0.0001872	0.0035	0.9		2959	2959	No	18.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-29.62	157	0.9	0	1750	7137	3773	2295	6068	No	38.74	Si
SLU 77	fin.	158.08	1499	0.9	0	1750	7137	3773	2295	6068	No	4.05	Si
SLU 36	ini.	-48.79	299	0.9	0	1750	7137	3773	2295	6068	No	20.31	Si
SLU 36	fin.	159.38	1394	0.9	0	1750	7137	3773	2295	6068	No	4.35	Si
SLU 78	ini.	-33.91	181	0.9	0	1750	7137	3773	2295	6068	No	33.46	Si
SLU 78	fin.	162.52	1523	0.9	0	1750	7137	3773	2295	6068	No	3.99	Si
SLU 72	ini.	1.3	-97	0.9	0	1750	7137	3773	2295	6068	No	62.55	Si
SLU 72	fin.	123.78	1368	0.9	0	1750	7137	3773	2295	6068	No	4.44	Si
SLU 70	ini.	-5.63	-96	0.9	0	1750	7137	3773	2295	6068	No	63.45	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	fin.	125.91	1442	0.9	0	1750	7137	3773	2295	6068	No	4.21	Si
SLU 80	ini.	-26.99	180	0.9	0	1750	7137	3773	2295	6068	No	33.72	Si
SLU 80	fin.	160.39	1449	0.9	0	1750	7137	3773	2295	6068	No	4.19	Si
SLU 75	ini.	-36.55	223	0.9	0	1750	7137	3773	2295	6068	No	27.22	Si
SLU 75	fin.	153.5	1384	0.9	0	1750	7137	3773	2295	6068	No	4.38	Si
SLU 69	ini.	-1.33	-120	0.9	0	1750	7137	3773	2295	6068	No	50.42	Si
SLU 69	fin.	121.48	1418	0.9	0	1750	7137	3773	2295	6068	No	4.28	Si
SLU 35	ini.	-44.49	274	0.9	0	1750	7137	3773	2295	6068	No	22.14	Si
SLU 35	fin.	154.95	1370	0.9	0	1750	7137	3773	2295	6068	No	4.43	Si
SLU 79	ini.	-22.69	155	0.9	0	1750	7137	3773	2295	6068	No	39.09	Si
SLU 79	fin.	155.95	1425	0.9	0	1750	7137	3773	2295	6068	No	4.26	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-355.57	1023	-0.0001834	0.0002807	0.0035	0.9		2995.37	2995.37		8.42	Si
SLV 6	fin.	426.27	-1956	-0.0002231	0.0002807	0.0035	0.9		2989.59	2989.59		7.01	Si
SLV 8	ini.	332.06	-1213	-0.0001709	0.0002807	0.0035	0.9		2989.59	2989.59		9	Si
SLV 8	fin.	-251.3	826	-0.0001274	0.0002807	0.0035	0.9		2995.37	2995.37		11.92	Si
SLV 14	ini.	-236.94	593	-0.0001198	0.0002807	0.0035	0.9		2995.37	2995.37		12.64	Si
SLV 14	fin.	360.24	-1844	-0.0001863	0.0002807	0.0035	0.9		2989.59	2989.59		8.3	Si
SLV 5	ini.	-286.04	812	-0.0001458	0.0002807	0.0035	0.9		2995.37	2995.37		10.47	Si
SLV 5	fin.	340.68	-1560	-0.0001756	0.0002807	0.0035	0.9		2989.59	2989.59		8.78	Si
SLV 10	ini.	-404.11	1162	-0.0002103	0.0002807	0.0035	0.9		2995.37	2995.37		7.41	Si
SLV 10	fin.	495.66	-2309	-0.0002629	0.0002807	0.0035	0.9		2989.59	2989.59		6.03	Si
SLD 10	ini.	-238.21	629	-0.0001205	0.0002807	0.0035	0.9		2995.37	2995.37		12.57	Si
SLD 10	fin.	325.12	-1588	-0.0001671	0.0002807	0.0035	0.9		2989.59	2989.59		9.2	Si
SLV 11	ini.	353.05	-1286	-0.0001824	0.0002807	0.0035	0.9		2989.59	2989.59		8.47	Si
SLV 11	fin.	-267.49	869	-0.0001359	0.0002807	0.0035	0.9		2995.37	2995.37		11.2	Si
SLV 12	ini.	283.52	-1075	-0.0001447	0.0002807	0.0035	0.9		2989.59	2989.59		10.54	Si
SLV 12	fin.	-181.9	473	-0.0000912	0.0002807	0.0035	0.9		2995.37	2995.37		16.47	Si
SLV 7	ini.	401.59	-1425	-0.0002093	0.0002807	0.0035	0.9		2989.59	2989.59		7.44	Si
SLV 7	fin.	-336.88	1223	-0.0001732	0.0002807	0.0035	0.9		2995.37	2995.37		8.89	Si
SLV 9	ini.	-334.58	951	-0.000172	0.0002807	0.0035	0.9		2995.37	2995.37		8.95	Si
SLV 9	fin.	410.08	-1913	-0.000214	0.0002807	0.0035	0.9		2989.59	2989.59		7.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-286.04	1655	0.9	0	2625	7137	5660	2295	7955		4.81	Si
SLV 5	fin.	340.68	2190	0.9	0	2625	7137	5660	2295	7955		3.63	Si
SLD 9	ini.	-196.01	1210	0.9	0	2625	7137	5660	2295	7955		6.57	Si
SLD 9	fin.	273.19	1879	0.9	0	2625	7137	5660	2295	7955		4.23	Si
SLV 7	ini.	401.59	-2506	0.9	0	2625	7137	5660	2295	7955		3.17	Si
SLV 7	fin.	-336.88	-1520	0.9	0	2625	7137	5660	2295	7955		5.23	Si
SLV 9	ini.	-334.58	2064	0.9	0	2625	7137	5660	2295	7955		3.85	Si
SLV 9	fin.	410.08	2644	0.9	0	2625	7137	5660	2295	7955		3.01	Si
SLV 14	ini.	-236.94	1636	0.9	0	2625	7137	5660	2295	7955		4.86	Si
SLV 14	fin.	360.24	2446	0.9	0	2625	7137	5660	2295	7955		3.25	Si
SLD 10	ini.	-238.21	1480	0.9	0	2625	7137	5660	2295	7955		5.37	Si
SLD 10	fin.	325.12	2158	0.9	0	2625	7137	5660	2295	7955		3.69	Si
SLV 11	ini.	353.05	-2098	0.9	0	2625	7137	5660	2295	7955		3.79	Si
SLV 11	fin.	-267.49	-1066	0.9	0	2625	7137	5660	2295	7955		7.46	Si
SLV 8	ini.	332.06	-2061	0.9	0	2625	7137	5660	2295	7955		3.86	Si
SLV 8	fin.	-251.3	-1061	0.9	0	2625	7137	5660	2295	7955		7.5	Si
SLV 6	ini.	-355.57	2100	0.9	0	2625	7137	5660	2295	7955		3.79	Si
SLV 6	fin.	426.27	2650	0.9	0	2625	7137	5660	2295	7955		3	Si
SLV 10	ini.	-404.11	2508	0.9	0	2625	7137	5660	2295	7955		3.17	Si
SLV 10	fin.	495.66	3103	0.9	0	2625	7137	5660	2295	7955		2.56	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.032	SLV 10	Si
V_SLV	2.563	SLV 10	Si
PF_SLU	17.712	SLU 84	Si
V_SLU	3.985	SLU 78	Si

Trave di accoppiamento 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	14.2	14.6	0.4	-2.853	5.951	14.2	14.6	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-143.36	-216	-0.000425	0.0001872	0.0035	0.4		588.62	588.62	No	4.11	Si
SLU 84	fin.	-2.84	242	-0.000007	0.0001872	0.0035	0.4		588.62	588.62	No	207.28	Si
SLU 74	ini.	-139.15	-173	-0.0004102	0.0001872	0.0035	0.4		588.62	588.62	No	4.23	Si
SLU 74	fin.	-16.61	226	-0.0000416	0.0001872	0.0035	0.4		588.62	588.62	No	35.45	Si
SLU 78	ini.	-148.39	-173	-0.000443	0.0001872	0.0035	0.4		588.62	588.62	No	3.97	Si
SLU 78	fin.	-28.62	217	-0.0000726	0.0001872	0.0035	0.4		588.62	588.62	No	20.57	Si
SLU 77	ini.	-145.3	-163	-0.0004319	0.0001872	0.0035	0.4		588.62	588.62	No	4.05	Si
SLU 77	fin.	-31.61	208	-0.0000805	0.0001872	0.0035	0.4		588.62	588.62	No	18.62	Si
SLU 83	ini.	-140.26	-205	-0.0004141	0.0001872	0.0035	0.4		588.62	588.62	No	4.2	Si
SLU 83	fin.	-5.84	233	-0.0000145	0.0001872	0.0035	0.4		588.62	588.62	No	100.84	Si
SLU 36	ini.	-144.57	-193	-0.0004294	0.0001872	0.0035	0.4		588.62	588.62	No	4.07	Si
SLU 36	fin.	-16.34	225	-0.0000409	0.0001872	0.0035	0.4		588.62	588.62	No	36.03	Si
SLU 80	ini.	-138.54	-167	-0.000408	0.0001872	0.0035	0.4		588.62	588.62	No	4.25	Si
SLU 80	fin.	-28.33	192	-0.0000719	0.0001872	0.0035	0.4		588.62	588.62	No	20.78	Si
SLU 35	ini.	-141.48	-182	-0.0004184	0.0001872	0.0035	0.4		588.62	588.62	No	4.16	Si
SLU 35	fin.	-19.34	216	-0.0000486	0.0001872	0.0035	0.4		588.62	588.62	No	30.44	Si
SLU 75	ini.	-142.24	-184	-0.0004211	0.0001872	0.0035	0.4		588.62	588.62	No	4.14	Si
SLU 75	fin.	-13.61	236	-0.000034	0.0001872	0.0035	0.4		588.62	588.62	No	43.25	Si
SLU 42	ini.	-139.54	-235	-0.0004115	0.0001872	0.0035	0.4		588.62	588.62	No	4.22	Si
SLU 42	fin.	9.44	250	-0.0000236	0.0001872	0.0035	0.4		586.12	586.12	No	62.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-138.54	675	0.4	0	631	3172	1677	1020	2697	No	4	Si
SLU 80	fin.	-28.33	-281	0.4	0	631	3172	1677	1020	2697	No	9.59	Si
SLU 75	ini.	-142.24	685	0.4	0	631	3172	1677	1020	2697	No	3.94	Si
SLU 75	fin.	-13.61	-225	0.4	0	631	3172	1677	1020	2697	No	11.98	Si
SLU 36	ini.	-144.57	681	0.4	0	631	3172	1677	1020	2697	No	3.96	Si
SLU 36	fin.	-16.34	-223	0.4	0	631	3172	1677	1020	2697	No	12.1	Si
SLU 35	ini.	-141.48	670	0.4	0	631	3172	1677	1020	2697	No	4.03	Si
SLU 35	fin.	-19.34	-234	0.4	0	631	3172	1677	1020	2697	No	11.54	Si
SLU 83	ini.	-140.26	666	0.4	0	631	3172	1677	1020	2697	No	4.05	Si
SLU 83	fin.	-5.84	-186	0.4	0	631	3172	1677	1020	2697	No	14.48	Si
SLU 84	ini.	-143.36	677	0.4	0	631	3172	1677	1020	2697	No	3.98	Si
SLU 84	fin.	-2.84	-175	0.4	0	631	3172	1677	1020	2697	No	15.38	Si
SLU 77	ini.	-145.3	710	0.4	0	631	3172	1677	1020	2697	No	3.8	Si
SLU 77	fin.	-31.61	-304	0.4	0	631	3172	1677	1020	2697	No	8.88	Si
SLU 78	ini.	-148.39	721	0.4	0	631	3172	1677	1020	2697	No	3.74	Si
SLU 78	fin.	-28.62	-293	0.4	0	631	3172	1677	1020	2697	No	9.21	Si
SLU 79	ini.	-135.44	664	0.4	0	631	3172	1677	1020	2697	No	4.06	Si
SLU 79	fin.	-31.33	-292	0.4	0	631	3172	1677	1020	2697	No	9.23	Si
SLU 74	ini.	-139.15	674	0.4	0	631	3172	1677	1020	2697	No	4	Si
SLU 74	fin.	-16.61	-236	0.4	0	631	3172	1677	1020	2697	No	11.43	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	177.62	785	-0.0005218	0.0002807	0.0035	0.4		592.15	592.15		3.33	Si
SLV 7	fin.	-260	-642	-0.000834	0.0002807	0.0035	0.4		594.74	594.74		2.29	Si
SLV 11	ini.	231.54	955	-0.0007233	0.0002807	0.0035	0.4		592.15	592.15		2.56	Si
SLV 11	fin.	-313.56	-814	-0.0010677	0.0002807	0.0035	0.4		594.74	594.74		1.9	Si
SLV 9	ini.	-277.77	-759	-0.0009088	0.0002807	0.0035	0.4		594.74	594.74		2.14	Si
SLV 9	fin.	185.05	750	-0.0005483	0.0002807	0.0035	0.4		592.15	592.15		3.2	Si
SLD 6	ini.	-254.85	-685	-0.0008128	0.0002807	0.0035	0.4		594.74	594.74		2.33	Si
SLD 6	fin.	160.63	664	-0.0004627	0.0002807	0.0035	0.4		592.15	592.15		3.69	Si
SLV 10	ini.	-325.7	-937	-0.0011245	0.0002807	0.0035	0.4		594.74	594.74		1.83	Si
SLV 10	fin.	228.69	871	-0.0007121	0.0002807	0.0035	0.4		592.15	592.15		2.59	Si
SLV 5	ini.	-331.68	-928	-0.001153	0.0002807	0.0035	0.4		594.74	594.74		1.79	Si
SLV 5	fin.	238.61	922	-0.0007513	0.0002807	0.0035	0.4		592.15	592.15		2.48	Si
SLD 5	ini.	-225.76	-577	-0.0006971	0.0002807	0.0035	0.4		594.74	594.74		2.63	Si
SLD 5	fin.	134.15	591	-0.0003747	0.0002807	0.0035	0.4		592.15	592.15		4.41	Si
SLV 12	ini.	183.61	776	-0.0005431	0.0002807	0.0035	0.4		592.15	592.15		3.23	Si
SLV 12	fin.	-269.92	-693	-0.0008754	0.0002807	0.0035	0.4		594.74	594.74		2.2	Si
SLV 2	ini.	-275.89	-747	-0.0009007	0.0002807	0.0035	0.4		594.74	594.74		2.16	Si
SLV 2	fin.	180.82	725	-0.0005331	0.0002807	0.0035	0.4		592.15	592.15		3.27	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-379.61	-1106	-0.0013975	0.0002807	0.0035	0.4		594.74	594.74		1.57	Si
SLV 6	fin.	282.25	1043	-0.0009331	0.0002807	0.0035	0.4		592.15	592.15		2.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 5	ini.	-225.76	916	0.4	0	919	3172	2515	1020	3535		3.86	Si
SLD 5	fin.	134.15	368	0.4	0	919	3172	2515	1020	3535		9.6	Si
SLV 10	ini.	-325.7	1264	0.4	0	919	3172	2515	1020	3535		2.8	Si
SLV 10	fin.	228.69	714	0.4	0	919	3172	2515	1020	3535		4.95	Si
SLV 7	ini.	177.62	-508	0.4	0	919	3172	2515	1020	3535		6.96	Si
SLV 7	fin.	-260	-1053	0.4	0	919	3172	2515	1020	3535		3.36	Si
SLD 6	ini.	-254.85	1016	0.4	0	919	3172	2515	1020	3535		3.48	Si
SLD 6	fin.	160.63	467	0.4	0	919	3172	2515	1020	3535		7.57	Si
SLV 5	ini.	-331.68	1291	0.4	0	919	3172	2515	1020	3535		2.74	Si
SLV 5	fin.	238.61	743	0.4	0	919	3172	2515	1020	3535		4.76	Si
SLV 6	ini.	-379.61	1455	0.4	0	919	3172	2515	1020	3535		2.43	Si
SLV 6	fin.	282.25	906	0.4	0	919	3172	2515	1020	3535		3.9	Si
SLV 2	ini.	-275.89	1090	0.4	0	919	3172	2515	1020	3535		3.24	Si
SLV 2	fin.	180.82	541	0.4	0	919	3172	2515	1020	3535		6.53	Si
SLV 9	ini.	-277.77	1099	0.4	0	919	3172	2515	1020	3535		3.22	Si
SLV 9	fin.	185.05	551	0.4	0	919	3172	2515	1020	3535		6.42	Si
SLV 12	ini.	183.61	-535	0.4	0	919	3172	2515	1020	3535		6.61	Si
SLV 12	fin.	-269.92	-1082	0.4	0	919	3172	2515	1020	3535		3.27	Si
SLV 11	ini.	231.54	-699	0.4	0	919	3172	2515	1020	3535		5.05	Si
SLV 11	fin.	-313.56	-1245	0.4	0	919	3172	2515	1020	3535		2.84	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.567	SLV 6	Si
V_SLV	2.429	SLV 6	Si
PF_SLU	3.967	SLU 78	Si
V_SLU	3.743	SLU 78	Si

Trave di accoppiamento 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	2.75	3.7	0.95	-11.868	-4.685	2.75	3.7	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	1067.03	-3564	-0.0005972	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.08	Si
SLU 81	fin.	-254.57	-1334	-0.0001168	0.0001872	0.0035	0.95		3287.74	3287.74	No	12.92	Si
SLU 83	ini.	1085.59	-3621	-0.0006101	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.02	Si
SLU 83	fin.	-261.29	-1343	-0.00012	0.0001872	0.0035	0.95		3287.74	3287.74	No	12.58	Si
SLU 75	ini.	1044.83	-3496	-0.0005819	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.14	Si
SLU 75	fin.	-253.62	-1293	-0.0001163	0.0001872	0.0035	0.95		3287.74	3287.74	No	12.96	Si
SLU 84	ini.	1091.67	-3646	-0.0006143	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.01	Si
SLU 84	fin.	-265.25	-1344	-0.0001219	0.0001872	0.0035	0.95		3287.74	3287.74	No	12.39	Si
SLU 80	ini.	1056.18	-3535	-0.0005897	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.11	Si
SLU 80	fin.	-255.05	-1306	-0.000117	0.0001872	0.0035	0.95		3287.74	3287.74	No	12.89	Si
SLU 77	ini.	1057.31	-3529	-0.0005905	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.1	Si
SLU 77	fin.	-256.39	-1302	-0.0001176	0.0001872	0.0035	0.95		3287.74	3287.74	No	12.82	Si
SLU 76	ini.	1041.68	-3494	-0.0005798	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.15	Si
SLU 76	fin.	-250.96	-1298	-0.000115	0.0001872	0.0035	0.95		3287.74	3287.74	No	13.1	Si
SLU 78	ini.	1063.39	-3554	-0.0005947	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.09	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-260.35	-1302	-0.0001196	0.0001872	0.0035	0.95		3287.74	3287.74	No	12.63	Si
SLU 79	ini.	1050.1	-3511	-0.0005856	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.13	Si
SLU 79	fin.	-251.09	-1306	-0.0001151	0.0001872	0.0035	0.95		3287.74	3287.74	No	13.09	Si
SLU 82	ini.	1073.11	-3588	-0.0006014	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.06	Si
SLU 82	fin.	-258.53	-1334	-0.0001187	0.0001872	0.0035	0.95		3287.74	3287.74	No	12.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	1073.11	-2720	0.95	0	1979	7533	4267	2423	6690	No	2.46	Si
SLU 82	fin.	-258.53	-1840	0.95	0	1979	7533	4267	2423	6690	No	3.64	Si
SLU 79	ini.	1050.1	-2701	0.95	0	1979	7533	4267	2423	6690	No	2.48	Si
SLU 79	fin.	-251.09	-1776	0.95	0	1979	7533	4267	2423	6690	No	3.77	Si
SLU 75	ini.	1044.83	-2709	0.95	0	1979	7533	4267	2423	6690	No	2.47	Si
SLU 75	fin.	-253.62	-1769	0.95	0	1979	7533	4267	2423	6690	No	3.78	Si
SLU 76	ini.	1041.68	-2701	0.95	0	1979	7533	4267	2423	6690	No	2.48	Si
SLU 76	fin.	-250.96	-1762	0.95	0	1979	7533	4267	2423	6690	No	3.8	Si
SLU 80	ini.	1056.18	-2736	0.95	0	1979	7533	4267	2423	6690	No	2.44	Si
SLU 80	fin.	-255.05	-1787	0.95	0	1979	7533	4267	2423	6690	No	3.74	Si
SLU 78	ini.	1063.39	-2767	0.95	0	1979	7533	4267	2423	6690	No	2.42	Si
SLU 78	fin.	-260.35	-1802	0.95	0	1979	7533	4267	2423	6690	No	3.71	Si
SLU 77	ini.	1057.31	-2732	0.95	0	1979	7533	4267	2423	6690	No	2.45	Si
SLU 77	fin.	-256.39	-1791	0.95	0	1979	7533	4267	2423	6690	No	3.73	Si
SLU 81	ini.	1067.03	-2685	0.95	0	1979	7533	4267	2423	6690	No	2.49	Si
SLU 81	fin.	-254.57	-1830	0.95	0	1979	7533	4267	2423	6690	No	3.66	Si
SLU 84	ini.	1091.67	-2779	0.95	0	1979	7533	4267	2423	6690	No	2.41	Si
SLU 84	fin.	-265.25	-1872	0.95	0	1979	7533	4267	2423	6690	No	3.57	Si
SLU 83	ini.	1085.59	-2744	0.95	0	1979	7533	4267	2423	6690	No	2.44	Si
SLU 83	fin.	-261.29	-1862	0.95	0	1979	7533	4267	2423	6690	No	3.59	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	1753.41	-5207	-0.0010589	0.0002807	0.0035	0.95		3302.53	3302.53		1.88	Si
SLV 9	fin.	-1050.09	239	-0.0005501	0.0002807	0.0035	0.95		3308.64	3308.64		3.15	Si
SLV 16	ini.	1783.86	-4298	-0.0010839	0.0002807	0.0035	0.95		3302.53	3302.53		1.85	Si
SLV 16	fin.	-1405.08	2141	-0.0007902	0.0002807	0.0035	0.95		3308.64	3308.64		2.35	Si
SLV 10	ini.	1598.8	-4890	-0.0009363	0.0002807	0.0035	0.95		3302.53	3302.53		2.07	Si
SLV 10	fin.	-883.01	-131	-0.000447	0.0002807	0.0035	0.95		3308.64	3308.64		3.75	Si
SLV 15	ini.	2013.51	-4769	-0.0012828	0.0002807	0.0035	0.95		3302.53	3302.53		1.64	Si
SLV 15	fin.	-1653.26	2691	-0.0009764	0.0002807	0.0035	0.95		3308.64	3308.64		2	Si
SLD 13	ini.	1747.14	-4586	-0.0010538	0.0002807	0.0035	0.95		3302.53	3302.53		1.89	Si
SLD 13	fin.	-1248.1	1380	-0.0006804	0.0002807	0.0035	0.95		3308.64	3308.64		2.65	Si
SLD 14	ini.	1601.44	-4288	-0.0009383	0.0002807	0.0035	0.95		3302.53	3302.53		2.06	Si
SLD 14	fin.	-1090.65	1031	-0.000576	0.0002807	0.0035	0.95		3308.64	3308.64		3.03	Si
SLV 14	ini.	2127.74	-5433	-0.0013895	0.0002807	0.0035	0.95		3302.53	3302.53		1.55	Si
SLV 14	fin.	-1625.16	2124	-0.0009545	0.0002807	0.0035	0.95		3308.64	3308.64		2.04	Si
SLV 4	ini.	-980.83	1252	-0.0005066	0.0002807	0.0035	0.95		3308.64	3308.64		3.37	Si
SLV 4	fin.	1564.79	-4501	-0.0009102	0.0002807	0.0035	0.95		3302.53	3302.53		2.11	Si
SLD 15	ini.	1545.56	-3921	-0.0008957	0.0002807	0.0035	0.95		3302.53	3302.53		2.14	Si
SLD 15	fin.	-1118.81	1389	-0.0005943	0.0002807	0.0035	0.95		3308.64	3308.64		2.96	Si
SLV 13	ini.	2357.39	-5903	-0.0016249	0.0002807	0.0035	0.95		3302.53	3302.53		1.4	Si
SLV 13	fin.	-1873.34	2674	-0.0011563	0.0002807	0.0035	0.95		3308.64	3308.64		1.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1783.86	-6170	0.95	0	2790	7533	6401	2423	8823		1.43	Si
SLV 16	fin.	-1405.08	-4892	0.95	0	2790	7533	6401	2423	8823		1.8	Si
SLV 9	ini.	1753.41	-6532	0.95	0	2790	7533	6401	2423	8823		1.35	Si
SLV 9	fin.	-1050.09	-3704	0.95	0	2790	7533	6401	2423	8823		2.38	Si
SLV 13	ini.	2357.39	-8746	0.95	0	2790	7533	6401	2423	8823		1.01	Si
SLV 13	fin.	-1873.34	-6245	0.95	0	2790	7533	6401	2423	8823		1.41	Si
SLV 14	ini.	2127.74	-7807	0.95	0	2790	7533	6401	2423	8823		1.13	Si
SLV 14	fin.	-1625.16	-5481	0.95	0	2790	7533	6401	2423	8823		1.61	Si
SLD 14	ini.	1601.44	-5601	0.95	0	2790	7533	6401	2423	8823		1.58	Si
SLD 14	fin.	-1090.65	-3902	0.95	0	2790	7533	6401	2423	8823		2.26	Si
SLV 10	ini.	1598.8	-5900	0.95	0	2790	7533	6401	2423	8823		1.5	Si
SLV 10	fin.	-883.01	-3191	0.95	0	2790	7533	6401	2423	8823		2.77	Si
SLD 15	ini.	1545.56	-5236	0.95	0	2790	7533	6401	2423	8823		1.69	Si
SLD 15	fin.	-1118.81	-4040	0.95	0	2790	7533	6401	2423	8823		2.18	Si
SLV 4	ini.	-980.83	5175	0.95	0	2790	7533	6401	2423	8823		1.7	Si
SLV 4	fin.	1564.79	3976	0.95	0	2790	7533	6401	2423	8823		2.22	Si
SLV 15	ini.	2013.51	-7108	0.95	0	2790	7533	6401	2423	8823		1.24	Si
SLV 15	fin.	-1653.26	-5655	0.95	0	2790	7533	6401	2423	8823		1.56	Si
SLD 13	ini.	1747.14	-6196	0.95	0	2790	7533	6401	2423	8823		1.42	Si
SLD 13	fin.	-1248.1	-4386	0.95	0	2790	7533	6401	2423	8823		2.01	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.401	SLV 13	Si
V_SLV	1.009	SLV 13	Si
PF_SLU	3.006	SLU 84	Si
V_SLU	2.407	SLU 84	Si

Trave di accoppiamento 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	5.7	6.18	0.48	-11.868	-4.685	5.7	6.18	0.48	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	58.09	865	-0.0001041	0.0001872	0.0035	0.48		836.77	836.77	No	14.4	Si
SLU 79	fin.	-558.27	-1677	-0.0015483	0.0001872	0.0035	0.48		839.86	839.86	No	1.5	Si
SLU 80	ini.	60.35	873	-0.0001084	0.0001872	0.0035	0.48		836.77	836.77	No	13.87	Si
SLU 80	fin.	-563.13	-1698	-0.0015691	0.0001872	0.0035	0.48		839.86	839.86	No	1.49	Si
SLU 76	ini.	57.4	851	-0.0001028	0.0001872	0.0035	0.48		836.77	836.77	No	14.58	Si
SLU 76	fin.	-555.35	-1676	-0.0015359	0.0001872	0.0035	0.48		839.86	839.86	No	1.51	Si
SLU 83	ini.	62.59	916	-0.0001126	0.0001872	0.0035	0.48		836.77	836.77	No	13.37	Si
SLU 83	fin.	-579.8	-1733	-0.0016421	0.0001872	0.0035	0.48		839.86	839.86	No	1.45	Si
SLU 81	ini.	58.14	889	-0.0001042	0.0001872	0.0035	0.48		836.77	836.77	No	14.39	Si
SLU 81	fin.	-568.77	-1696	-0.0015934	0.0001872	0.0035	0.48		839.86	839.86	No	1.48	Si
SLU 82	ini.	60.39	896	-0.0001084	0.0001872	0.0035	0.48		836.77	836.77	No	13.86	Si
SLU 82	fin.	-573.64	-1718	-0.0016148	0.0001872	0.0035	0.48		839.86	839.86	No	1.46	Si
SLU 77	ini.	60.07	876	-0.0001078	0.0001872	0.0035	0.48		836.77	836.77	No	13.93	Si
SLU 77	fin.	-563.72	-1697	-0.0015716	0.0001872	0.0035	0.48		839.86	839.86	No	1.49	Si
SLU 75	ini.	57.87	856	-0.0001037	0.0001872	0.0035	0.48		836.77	836.77	No	14.46	Si
SLU 75	fin.	-557.56	-1682	-0.0015453	0.0001872	0.0035	0.48		839.86	839.86	No	1.51	Si
SLU 84	ini.	64.85	923	-0.0001169	0.0001872	0.0035	0.48		836.77	836.77	No	12.9	Si
SLU 84	fin.	-584.67	-1755	-0.0016641	0.0001872	0.0035	0.48		839.86	839.86	No	1.44	Si
SLU 78	ini.	62.33	883	-0.0001121	0.0001872	0.0035	0.48		836.77	836.77	No	13.43	Si
SLU 78	fin.	-568.58	-1719	-0.0015926	0.0001872	0.0035	0.48		839.86	839.86	No	1.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	57.4	340	0.48	0	877	3806	2156	1224	3380	No	9.93	Si
SLU 76	fin.	-555.35	-2992	0.48	0	877	3806	2156	1224	3380	No	1.13	Si
SLU 80	ini.	60.35	336	0.48	0	877	3806	2156	1224	3380	No	10.07	Si
SLU 80	fin.	-563.13	-3033	0.48	0	877	3806	2156	1224	3380	No	1.11	Si
SLU 75	ini.	57.87	341	0.48	0	877	3806	2156	1224	3380	No	9.9	Si
SLU 75	fin.	-557.56	-3004	0.48	0	877	3806	2156	1224	3380	No	1.13	Si
SLU 83	ini.	62.59	351	0.48	0	877	3806	2156	1224	3380	No	9.63	Si
SLU 83	fin.	-579.8	-3130	0.48	0	877	3806	2156	1224	3380	No	1.08	Si
SLU 81	ini.	58.14	362	0.48	0	877	3806	2156	1224	3380	No	9.33	Si
SLU 81	fin.	-568.77	-3076	0.48	0	877	3806	2156	1224	3380	No	1.1	Si
SLU 79	ini.	58.09	345	0.48	0	877	3806	2156	1224	3380	No	9.78	Si
SLU 79	fin.	-558.27	-3012	0.48	0	877	3806	2156	1224	3380	No	1.12	Si
SLU 78	ini.	62.33	330	0.48	0	877	3806	2156	1224	3380	No	10.25	Si
SLU 78	fin.	-568.58	-3059	0.48	0	877	3806	2156	1224	3380	No	1.1	Si
SLU 77	ini.	60.07	340	0.48	0	877	3806	2156	1224	3380	No	9.95	Si
SLU 77	fin.	-563.72	-3038	0.48	0	877	3806	2156	1224	3380	No	1.11	Si
SLU 82	ini.	60.39	352	0.48	0	877	3806	2156	1224	3380	No	9.59	Si
SLU 82	fin.	-573.64	-3096	0.48	0	877	3806	2156	1224	3380	No	1.09	Si
SLU 84	ini.	64.85	341	0.48	0	877	3806	2156	1224	3380	No	9.92	Si
SLU 84	fin.	-584.67	-3151	0.48	0	877	3806	2156	1224	3380	No	1.07	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	1120.2	5056	-0.0051932	0.0002807	0.0035	0.48		846.58	846.58		0.76	No
SLV 13	fin.	-1582.28	-6080	-0.0079792	0.0002807	0.0035	0.48		849.71	849.71		0.54	No
SLV 14	ini.	967.71	4429	-0.0041547	0.0002807	0.0035	0.48		846.58	846.58		0.87	No
SLV 14	fin.	-1421.89	-5419	-0.0070343	0.0002807	0.0035	0.48		849.71	849.71		0.6	No
SLD 13	ini.	722.4	3405	-0.0022545	0.0002807	0.0035	0.48		846.58	846.58		1.17	Si
SLD 13	fin.	-1135.93	-4253	-0.0052699	0.0002807	0.0035	0.48		849.71	849.71		0.75	No
SLV 15	ini.	1007.42	4545	-0.0044368	0.0002807	0.0035	0.48		846.58	846.58		0.84	No
SLV 15	fin.	-1348.92	-5171	-0.0065949	0.0002807	0.0035	0.48		849.71	849.71		0.63	No
SLV 16	ini.	854.94	3918	-0.0032696	0.0002807	0.0035	0.48		846.58	846.58		0.99	No
SLV 16	fin.	-1188.53	-4510	-0.0056044	0.0002807	0.0035	0.48		849.71	849.71		0.71	No
SLD 14	ini.	625.66	3007	-0.0017344	0.0002807	0.0035	0.48		846.58	846.58		1.35	Si
SLD 14	fin.	-1034.18	-3834	-0.0045973	0.0002807	0.0035	0.48		849.71	849.71		0.82	No
SLD 15	ini.	656.08	3104	-0.0018812	0.0002807	0.0035	0.48		846.58	846.58		1.29	Si
SLD 15	fin.	-999.1	-3720	-0.0043545	0.0002807	0.0035	0.48		849.71	849.71		0.85	No
SLV 4	ini.	-1075.67	-4053	-0.0048764	0.0002807	0.0035	0.48		849.71	849.71		0.79	No
SLV 4	fin.	865.15	3941	-0.0033567	0.0002807	0.0035	0.48		846.58	846.58		0.98	No
SLV 10	ini.	448.48	2338	-0.0010634	0.0002807	0.0035	0.48		846.58	846.58		1.89	Si
SLV 10	fin.	-1001.56	-3629	-0.0043718	0.0002807	0.0035	0.48		849.71	849.71		0.85	No
SLV 9	ini.	551.14	2760	-0.0014224	0.0002807	0.0035	0.48		846.58	846.58		1.54	Si
SLV 9	fin.	-1109.53	-4074	-0.0050991	0.0002807	0.0035	0.48		849.71	849.71		0.77	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1075.67	4965	0.48	0	1145	3806	3234	1224	4458		0.9	No
SLV 4	fin.	865.15	3358	0.48	0	1145	3806	3234	1224	4458		1.33	Si
SLD 13	ini.	722.4	-2674	0.48	0	1145	3806	3234	1224	4458		1.67	Si
SLD 13	fin.	-1135.93	-5323	0.48	0	1145	3806	3234	1224	4458		0.84	No
SLV 13	ini.	1120.2	-4362	0.48	0	1145	3806	3234	1224	4458		1.02	Si
SLV 13	fin.	-1582.28	-7263	0.48	0	1145	3806	3234	1224	4458		0.61	No
SLV 10	ini.	448.48	-1427	0.48	0	1145	3806	3234	1224	4458		3.12	Si
SLV 10	fin.	-1001.56	-4873	0.48	0	1145	3806	3234	1224	4458		0.91	No
SLV 14	ini.	967.71	-3710	0.48	0	1145	3806	3234	1224	4458		1.2	Si
SLV 14	fin.	-1421.89	-6575	0.48	0	1145	3806	3234	1224	4458		0.68	No
SLV 15	ini.	1007.42	-3935	0.48	0	1145	3806	3234	1224	4458		1.13	Si
SLV 15	fin.	-1348.92	-6167	0.48	0	1145	3806	3234	1224	4458		0.72	No
SLV 9	ini.	551.14	-1866	0.48	0	1145	3806	3234	1224	4458		2.39	Si
SLV 9	fin.	-1109.53	-5336	0.48	0	1145	3806	3234	1224	4458		0.84	No
SLD 15	ini.	656.08	-2422	0.48	0	1145	3806	3234	1224	4458		1.84	Si
SLD 15	fin.	-999.1	-4681	0.48	0	1145	3806	3234	1224	4458		0.95	No
SLV 16	ini.	854.94	-3283	0.48	0	1145	3806	3234	1224	4458		1.36	Si
SLV 16	fin.	-1188.53	-5479	0.48	0	1145	3806	3234	1224	4458		0.81	No
SLD 14	ini.	625.66	-2260	0.48	0	1145	3806	3234	1224	4458		1.97	Si
SLD 14	fin.	-1034.18	-4887	0.48	0	1145	3806	3234	1224	4458		0.91	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.537	SLV 13	No
V_SLV	0.614	SLV 13	No
PF_SLU	1.436	SLU 84	Si
V_SLU	1.073	SLU 84	Si

Trave di accoppiamento 183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	6.18	7.13	0.95	-11.868	-4.685	6.18	7.13	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	854.82	-2747	-0.0004557	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.84	Si
SLU 82	fin.	-415.85	-1174	-0.0001978	0.0001872	0.0035	0.95		3287.74	3287.74	No	7.91	Si
SLU 83	ini.	873.83	-2808	-0.000468	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.76	Si
SLU 83	fin.	-418.08	-1207	-0.0001989	0.0001872	0.0035	0.95		3287.74	3287.74	No	7.86	Si
SLU 79	ini.	842.08	-2725	-0.0004476	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.9	Si
SLU 79	fin.	-391.91	-1195	-0.0001853	0.0001872	0.0035	0.95		3287.74	3287.74	No	8.39	Si
SLU 80	ini.	849.87	-2733	-0.0004525	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.86	Si
SLU 80	fin.	-401.54	-1181	-0.0001903	0.0001872	0.0035	0.95		3287.74	3287.74	No	8.19	Si
SLU 75	ini.	829.42	-2673	-0.0004395	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.96	Si
SLU 75	fin.	-398.58	-1151	-0.0001887	0.0001872	0.0035	0.95		3287.74	3287.74	No	8.25	Si
SLU 81	ini.	847.03	-2739	-0.0004507	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.87	Si
SLU 81	fin.	-406.23	-1188	-0.0001927	0.0001872	0.0035	0.95		3287.74	3287.74	No	8.09	Si
SLU 76	ini.	828.26	-2669	-0.0004388	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.96	Si
SLU 76	fin.	-396.11	-1152	-0.0001875	0.0001872	0.0035	0.95		3287.74	3287.74	No	8.3	Si
SLU 78	ini.	856.22	-2743	-0.0004566	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.83	Si
SLU 78	fin.	-410.43	-1170	-0.0001949	0.0001872	0.0035	0.95		3287.74	3287.74	No	8.01	Si
SLU 84	ini.	881.62	-2817	-0.000473	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.72	Si
SLU 84	fin.	-427.7	-1193	-0.000204	0.0001872	0.0035	0.95		3287.74	3287.74	No	7.69	Si
SLU 77	ini.	848.43	-2735	-0.0004516	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.87	Si
SLU 77	fin.	-400.81	-1185	-0.0001899	0.0001872	0.0035	0.95		3287.74	3287.74	No	8.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	873.83	-2802	0.95	0	1979	7533	4267	2422	6690	No	2.39	Si
SLU 83	fin.	-418.08	-1213	0.95	0	1979	7533	4267	2422	6690	No	5.51	Si
SLU 75	ini.	829.42	-2721	0.95	0	1979	7533	4267	2422	6690	No	2.46	Si
SLU 75	fin.	-398.58	-1100	0.95	0	1979	7533	4267	2422	6690	No	6.08	Si
SLU 77	ini.	848.43	-2770	0.95	0	1979	7533	4267	2422	6690	No	2.41	Si
SLU 77	fin.	-400.81	-1117	0.95	0	1979	7533	4267	2422	6690	No	5.99	Si
SLU 78	ini.	856.22	-2803	0.95	0	1979	7533	4267	2422	6690	No	2.39	Si
SLU 78	fin.	-410.43	-1139	0.95	0	1979	7533	4267	2422	6690	No	5.87	Si
SLU 84	ini.	881.62	-2834	0.95	0	1979	7533	4267	2422	6690	No	2.36	Si
SLU 84	fin.	-427.7	-1235	0.95	0	1979	7533	4267	2422	6690	No	5.42	Si
SLU 81	ini.	847.03	-2720	0.95	0	1979	7533	4267	2422	6690	No	2.46	Si
SLU 81	fin.	-406.23	-1174	0.95	0	1979	7533	4267	2422	6690	No	5.7	Si
SLU 82	ini.	854.82	-2752	0.95	0	1979	7533	4267	2422	6690	No	2.43	Si
SLU 82	fin.	-415.85	-1196	0.95	0	1979	7533	4267	2422	6690	No	5.59	Si
SLU 80	ini.	849.87	-2769	0.95	0	1979	7533	4267	2422	6690	No	2.42	Si
SLU 80	fin.	-401.54	-1126	0.95	0	1979	7533	4267	2422	6690	No	5.94	Si
SLU 76	ini.	828.26	-2709	0.95	0	1979	7533	4267	2422	6690	No	2.47	Si
SLU 76	fin.	-396.11	-1101	0.95	0	1979	7533	4267	2422	6690	No	6.07	Si
SLU 79	ini.	842.08	-2736	0.95	0	1979	7533	4267	2422	6690	No	2.44	Si
SLU 79	fin.	-391.91	-1104	0.95	0	1979	7533	4267	2422	6690	No	6.06	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1774.07	1328	-0.0010732	0.0002807	0.0035	0.95		3308.64	3308.64		1.87	Si
SLV 2	fin.	1982.14	-3832	-0.0012544	0.0002807	0.0035	0.95		3302.53	3302.53		1.67	Si
SLV 14	ini.	2804.48	-4778	-0.0022091	0.0002807	0.0035	0.95		3302.53	3302.53		1.18	Si
SLV 14	fin.	-2562.46	2379	-0.0018617	0.0002807	0.0035	0.95		3308.64	3308.64		1.29	Si
SLD 14	ini.	1970.5	-3673	-0.001244	0.0002807	0.0035	0.95		3302.53	3302.53		1.68	Si
SLD 14	fin.	-1709.4	1206	-0.0010208	0.0002807	0.0035	0.95		3308.64	3308.64		1.94	Si
SLV 3	ini.	-1786.54	1311	-0.0010835	0.0002807	0.0035	0.95		3308.64	3308.64		1.85	Si
SLV 3	fin.	2118.41	-4051	-0.0013806	0.0002807	0.0035	0.95		3302.53	3302.53		1.56	Si
SLV 16	ini.	2429.25	-4307	-0.0017057	0.0002807	0.0035	0.95		3302.53	3302.53		1.36	Si
SLV 16	fin.	-2067.07	1666	-0.0013287	0.0002807	0.0035	0.95		3308.64	3308.64		1.6	Si
SLD 13	ini.	2200.64	-3983	-0.001461	0.0002807	0.0035	0.95		3302.53	3302.53		1.5	Si
SLD 13	fin.	-1937.23	1519	-0.0012116	0.0002807	0.0035	0.95		3308.64	3308.64		1.71	Si
SLV 4	ini.	-2149.3	1799	-0.0014068	0.0002807	0.0035	0.95		3308.64	3308.64		1.54	Si
SLV 4	fin.	2477.53	-4544	-0.0017624	0.0002807	0.0035	0.95		3302.53	3302.53		1.33	Si
SLV 15	ini.	2792.02	-4796	-0.0021898	0.0002807	0.0035	0.95		3302.53	3302.53		1.18	Si
SLV 15	fin.	-2426.19	2159	-0.0016974	0.0002807	0.0035	0.95		3308.64	3308.64		1.36	Si
SLD 15	ini.	1980.43	-3707	-0.0012529	0.0002807	0.0035	0.95		3302.53	3302.53		1.67	Si
SLD 15	fin.	-1646.57	1100	-0.0009711	0.0002807	0.0035	0.95		3308.64	3308.64		2.01	Si
SLV 13	ini.	3167.24	-5267	-0.0028651	0.0002807	0.0035	0.95		3302.53	3302.53		1.04	Si
SLV 13	fin.	-2921.58	2872	-0.0023916	0.0002807	0.0035	0.95		3308.64	3308.64		1.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1786.54	5911	0.95	0	2790	7533	6401	2422	8823		1.49	Si
SLV 3	fin.	2118.41	6395	0.95	0	2790	7533	6401	2422	8823		1.38	Si
SLV 9	ini.	1943.25	-7088	0.95	0	2790	7533	6401	2422	8823		1.24	Si
SLV 9	fin.	-1850.24	-4648	0.95	0	2790	7533	6401	2422	8823		1.9	Si
SLD 13	ini.	2200.64	-7283	0.95	0	2790	7533	6401	2422	8823		1.21	Si
SLD 13	fin.	-1937.23	-5728	0.95	0	2790	7533	6401	2422	8823		1.54	Si
SLV 15	ini.	2792.02	-8820	0.95	0	2790	7533	6401	2422	8823		1	Si
SLV 15	fin.	-2426.19	-7715	0.95	0	2790	7533	6401	2422	8823		1.14	Si
SLD 14	ini.	1970.5	-6548	0.95	0	2790	7533	6401	2422	8823		1.35	Si
SLD 14	fin.	-1709.4	-5015	0.95	0	2790	7533	6401	2422	8823		1.76	Si
SLV 13	ini.	3167.24	-10487	0.95	0	2790	7533	6401	2422	8823		0.84	No
SLV 13	fin.	-2921.58	-8663	0.95	0	2790	7533	6401	2422	8823		1.02	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	2429.25	-7662	0.95	0	2790	7533	6401	2422	8823		1.15	Si
SLV 16	fin.	-2067.07	-6592	0.95	0	2790	7533	6401	2422	8823		1.34	Si
SLV 2	ini.	-1774.07	5402	0.95	0	2790	7533	6401	2422	8823		1.63	Si
SLV 2	fin.	1982.14	6569	0.95	0	2790	7533	6401	2422	8823		1.34	Si
SLV 4	ini.	-2149.3	7069	0.95	0	2790	7533	6401	2422	8823		1.25	Si
SLV 4	fin.	2477.53	7518	0.95	0	2790	7533	6401	2422	8823		1.17	Si
SLV 14	ini.	2804.48	-9329	0.95	0	2790	7533	6401	2422	8823		0.95	No
SLV 14	fin.	-2562.46	-7541	0.95	0	2790	7533	6401	2422	8823		1.17	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.043	SLV 13	Si
V_SLV	0.841	SLV 13	No
PF_SLU	3.722	SLU 84	Si
V_SLU	2.36	SLU 84	Si

Trave di accoppiamento 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	9.13	9.66	0.53	-11.868	-4.685	9.13	9.66	0.53	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	111.79	897	-0.0001686	0.0001872	0.0035	0.53		1027.07	1027.07	No	9.19	Si
SLU 80	fin.	-426.12	-1131	-0.0008123	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.42	Si
SLU 75	ini.	110.68	875	-0.0001668	0.0001872	0.0035	0.53		1027.07	1027.07	No	9.28	Si
SLU 75	fin.	-418.39	-1119	-0.0007935	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.46	Si
SLU 77	ini.	111.61	900	-0.0001683	0.0001872	0.0035	0.53		1027.07	1027.07	No	9.2	Si
SLU 77	fin.	-427.47	-1132	-0.0008156	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.41	Si
SLU 79	ini.	108.54	889	-0.0001633	0.0001872	0.0035	0.53		1027.07	1027.07	No	9.46	Si
SLU 79	fin.	-422.72	-1113	-0.000804	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.44	Si
SLU 83	ini.	118.64	930	-0.0001799	0.0001872	0.0035	0.53		1027.07	1027.07	No	8.66	Si
SLU 83	fin.	-435.09	-1157	-0.0008343	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.37	Si
SLU 82	ini.	117.72	905	-0.0001784	0.0001872	0.0035	0.53		1027.07	1027.07	No	8.72	Si
SLU 82	fin.	-426.02	-1145	-0.0008121	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.42	Si
SLU 81	ini.	114.46	897	-0.000173	0.0001872	0.0035	0.53		1027.07	1027.07	No	8.97	Si
SLU 81	fin.	-422.62	-1127	-0.0008038	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.44	Si
SLU 84	ini.	121.9	937	-0.0001853	0.0001872	0.0035	0.53		1027.07	1027.07	No	8.43	Si
SLU 84	fin.	-438.49	-1175	-0.0008427	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.35	Si
SLU 76	ini.	109.78	869	-0.0001653	0.0001872	0.0035	0.53		1027.07	1027.07	No	9.36	Si
SLU 76	fin.	-415.91	-1112	-0.0007875	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.48	Si
SLU 78	ini.	114.86	907	-0.0001736	0.0001872	0.0035	0.53		1027.07	1027.07	No	8.94	Si
SLU 78	fin.	-430.87	-1149	-0.0008239	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	121.9	-12	0.53	0	1053	4203	2381	1352	3732	No	316.63	Si
SLU 84	fin.	-438.49	-2402	0.53	0	1053	4203	2381	1352	3732	No	1.55	Si
SLU 81	ini.	114.46	8	0.53	0	1053	4203	2381	1352	3732	No	445.96	Si
SLU 81	fin.	-422.62	-2322	0.53	0	1053	4203	2381	1352	3732	No	1.61	Si
SLU 74	ini.	107.43	37	0.53	0	1053	4203	2381	1352	3732	No	101.14	Si
SLU 74	fin.	-414.99	-2287	0.53	0	1053	4203	2381	1352	3732	No	1.63	Si
SLU 75	ini.	110.68	19	0.53	0	1053	4203	2381	1352	3732	No	192.8	Si
SLU 75	fin.	-418.39	-2298	0.53	0	1053	4203	2381	1352	3732	No	1.62	Si
SLU 79	ini.	108.54	47	0.53	0	1053	4203	2381	1352	3732	No	79.21	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-422.72	-2335	0.53	0	1053	4203	2381	1352	3732	No	1.6	Si
SLU 78	ini.	114.86	17	0.53	0	1053	4203	2381	1352	3732	No	222.88	Si
SLU 78	fin.	-430.87	-2367	0.53	0	1053	4203	2381	1352	3732	No	1.58	Si
SLU 83	ini.	118.64	6	0.53	0	1053	4203	2381	1352	3732	No	648.28	Si
SLU 83	fin.	-435.09	-2391	0.53	0	1053	4203	2381	1352	3732	No	1.56	Si
SLU 77	ini.	111.61	34	0.53	0	1053	4203	2381	1352	3732	No	108.84	Si
SLU 77	fin.	-427.47	-2355	0.53	0	1053	4203	2381	1352	3732	No	1.58	Si
SLU 80	ini.	111.79	30	0.53	0	1053	4203	2381	1352	3732	No	126.21	Si
SLU 80	fin.	-426.12	-2346	0.53	0	1053	4203	2381	1352	3732	No	1.59	Si
SLU 82	ini.	117.72	-9	0.53	0	1053	4203	2381	1352	3732	No	406.76	Si
SLU 82	fin.	-426.02	-2333	0.53	0	1053	4203	2381	1352	3732	No	1.6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	631.96	2719	-0.001296	0.0002807	0.0035	0.53		1031.9	1031.9		1.63	Si
SLD 14	fin.	-826.66	-2792	-0.001976	0.0002807	0.0035	0.53		1035.34	1035.34		1.25	Si
SLD 13	ini.	724.89	3075	-0.0015911	0.0002807	0.0035	0.53		1031.9	1031.9		1.42	Si
SLD 13	fin.	-916.39	-3124	-0.0024178	0.0002807	0.0035	0.53		1035.34	1035.34		1.13	Si
SLV 4	ini.	-1003.15	-3511	-0.0029544	0.0002807	0.0035	0.53		1035.34	1035.34		1.03	Si
SLV 4	fin.	764.15	3169	-0.0017325	0.0002807	0.0035	0.53		1031.9	1031.9		1.35	Si
SLV 9	ini.	657.21	2696	-0.0013717	0.0002807	0.0035	0.53		1031.9	1031.9		1.57	Si
SLV 9	fin.	-860.5	-3024	-0.0021307	0.0002807	0.0035	0.53		1035.34	1035.34		1.2	Si
SLV 15	ini.	938.62	3967	-0.0025611	0.0002807	0.0035	0.53		1031.9	1031.9		1.1	Si
SLV 15	fin.	-1117.97	-3809	-0.0037366	0.0002807	0.0035	0.53		1035.34	1035.34		0.93	No
SLV 14	ini.	963.31	3978	-0.0027117	0.0002807	0.0035	0.53		1031.9	1031.9		1.07	Si
SLV 14	fin.	-1149.55	-4005	-0.0039335	0.0002807	0.0035	0.53		1035.34	1035.34		0.9	No
SLV 3	ini.	-856.67	-2949	-0.0021124	0.0002807	0.0035	0.53		1035.34	1035.34		1.21	Si
SLV 3	fin.	622.71	2646	-0.001269	0.0002807	0.0035	0.53		1031.9	1031.9		1.66	Si
SLV 2	ini.	-831.98	-2938	-0.0019995	0.0002807	0.0035	0.53		1035.34	1035.34		1.24	Si
SLV 2	fin.	591.13	2449	-0.0011795	0.0002807	0.0035	0.53		1031.9	1031.9		1.75	Si
SLV 16	ini.	792.13	3405	-0.0018416	0.0002807	0.0035	0.53		1031.9	1031.9		1.3	Si
SLV 16	fin.	-976.52	-3285	-0.0027768	0.0002807	0.0035	0.53		1035.34	1035.34		1.06	Si
SLV 13	ini.	1109.79	4540	-0.0037064	0.0002807	0.0035	0.53		1031.9	1031.9		0.93	No
SLV 13	fin.	-1290.99	-4529	-0.0047496	0.0002807	0.0035	0.53		1035.34	1035.34		0.8	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	792.13	-3023	0.53	0	1320	4203	3571	1352	4922		1.63	Si
SLV 16	fin.	-976.52	-4563	0.53	0	1320	4203	3571	1352	4922		1.08	Si
SLV 13	ini.	1109.79	-4433	0.53	0	1320	4203	3571	1352	4922		1.11	Si
SLV 13	fin.	-1290.99	-5874	0.53	0	1320	4203	3571	1352	4922		0.84	No
SLD 14	ini.	631.96	-2377	0.53	0	1320	4203	3571	1352	4922		2.07	Si
SLD 14	fin.	-826.66	-3888	0.53	0	1320	4203	3571	1352	4922		1.27	Si
SLV 15	ini.	938.62	-3651	0.53	0	1320	4203	3571	1352	4922		1.35	Si
SLV 15	fin.	-1117.97	-5170	0.53	0	1320	4203	3571	1352	4922		0.95	No
SLV 2	ini.	-831.98	3878	0.53	0	1320	4203	3571	1352	4922		1.27	Si
SLV 2	fin.	591.13	2212	0.53	0	1320	4203	3571	1352	4922		2.23	Si
SLV 14	ini.	963.31	-3806	0.53	0	1320	4203	3571	1352	4922		1.29	Si
SLV 14	fin.	-1149.55	-5268	0.53	0	1320	4203	3571	1352	4922		0.93	No
SLV 3	ini.	-856.67	4033	0.53	0	1320	4203	3571	1352	4922		1.22	Si
SLV 3	fin.	622.71	2310	0.53	0	1320	4203	3571	1352	4922		2.13	Si
SLV 9	ini.	657.21	-2554	0.53	0	1320	4203	3571	1352	4922		1.93	Si
SLV 9	fin.	-860.5	-3980	0.53	0	1320	4203	3571	1352	4922		1.24	Si
SLV 4	ini.	-1003.15	4660	0.53	0	1320	4203	3571	1352	4922		1.06	Si
SLV 4	fin.	764.15	2916	0.53	0	1320	4203	3571	1352	4922		1.69	Si
SLD 13	ini.	724.89	-2775	0.53	0	1320	4203	3571	1352	4922		1.77	Si
SLD 13	fin.	-916.39	-4273	0.53	0	1320	4203	3571	1352	4922		1.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.802	SLV 13	No
V_SLV	0.838	SLV 13	No
PF_SLU	2.35	SLU 84	Si
V_SLU	1.554	SLU 84	Si

Trave di accoppiamento 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	9.66	10.61	0.95	-11.868	-4.685	9.66	10.61	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	765.46	-2231	-0.0003993	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.29	Si
SLU 78	fin.	-348.84	-862	-0.0001633	0.0001872	0.0035	0.95		3287.74	3287.74	No	9.42	Si
SLU 82	ini.	738.77	-2105	-0.0003828	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.44	Si
SLU 82	fin.	-368.65	-748	-0.0001733	0.0001872	0.0035	0.95		3287.74	3287.74	No	8.92	Si
SLU 80	ini.	761.11	-2241	-0.0003966	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.31	Si
SLU 80	fin.	-335.16	-892	-0.0001564	0.0001872	0.0035	0.95		3287.74	3287.74	No	9.81	Si
SLU 83	ini.	769.55	-2230	-0.0004018	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.26	Si
SLU 83	fin.	-358.49	-845	-0.0001682	0.0001872	0.0035	0.95		3287.74	3287.74	No	9.17	Si
SLU 84	ini.	774.35	-2221	-0.0004048	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.24	Si
SLU 84	fin.	-370.98	-816	-0.0001745	0.0001872	0.0035	0.95		3287.74	3287.74	No	8.86	Si
SLU 79	ini.	756.32	-2250	-0.0003936	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.34	Si
SLU 79	fin.	-322.66	-921	-0.0001501	0.0001872	0.0035	0.95		3287.74	3287.74	No	10.19	Si
SLU 75	ini.	729.88	-2116	-0.0003773	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.5	Si
SLU 75	fin.	-346.51	-794	-0.0001621	0.0001872	0.0035	0.95		3287.74	3287.74	No	9.49	Si
SLU 77	ini.	760.67	-2241	-0.0003963	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.31	Si
SLU 77	fin.	-336.35	-890	-0.000157	0.0001872	0.0035	0.95		3287.74	3287.74	No	9.77	Si
SLU 76	ini.	728.73	-2119	-0.0003766	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.5	Si
SLU 76	fin.	-341.15	-805	-0.0001594	0.0001872	0.0035	0.95		3287.74	3287.74	No	9.64	Si
SLU 81	ini.	733.97	-2114	-0.0003798	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.47	Si
SLU 81	fin.	-356.16	-777	-0.000167	0.0001872	0.0035	0.95		3287.74	3287.74	No	9.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	774.35	-2199	0.95	0	1979	7533	4267	2423	6690	No	3.04	Si
SLU 84	fin.	-370.98	-1381	0.95	0	1979	7533	4267	2423	6690	No	4.84	Si
SLU 81	ini.	733.97	-2085	0.95	0	1979	7533	4267	2423	6690	No	3.21	Si
SLU 81	fin.	-356.16	-1327	0.95	0	1979	7533	4267	2423	6690	No	5.04	Si
SLU 80	ini.	761.11	-2162	0.95	0	1979	7533	4267	2423	6690	No	3.09	Si
SLU 80	fin.	-335.16	-1274	0.95	0	1979	7533	4267	2423	6690	No	5.25	Si
SLU 76	ini.	728.73	-2086	0.95	0	1979	7533	4267	2423	6690	No	3.21	Si
SLU 76	fin.	-341.15	-1267	0.95	0	1979	7533	4267	2423	6690	No	5.28	Si
SLU 77	ini.	760.67	-2171	0.95	0	1979	7533	4267	2423	6690	No	3.08	Si
SLU 77	fin.	-336.35	-1268	0.95	0	1979	7533	4267	2423	6690	No	5.28	Si
SLU 75	ini.	729.88	-2102	0.95	0	1979	7533	4267	2423	6690	No	3.18	Si
SLU 75	fin.	-346.51	-1272	0.95	0	1979	7533	4267	2423	6690	No	5.26	Si
SLU 82	ini.	738.77	-2108	0.95	0	1979	7533	4267	2423	6690	No	3.17	Si
SLU 82	fin.	-368.65	-1356	0.95	0	1979	7533	4267	2423	6690	No	4.93	Si
SLU 83	ini.	769.55	-2177	0.95	0	1979	7533	4267	2423	6690	No	3.07	Si
SLU 83	fin.	-358.49	-1352	0.95	0	1979	7533	4267	2423	6690	No	4.95	Si
SLU 79	ini.	756.32	-2140	0.95	0	1979	7533	4267	2423	6690	No	3.13	Si
SLU 79	fin.	-322.66	-1245	0.95	0	1979	7533	4267	2423	6690	No	5.37	Si
SLU 78	ini.	765.46	-2193	0.95	0	1979	7533	4267	2423	6690	No	3.05	Si
SLU 78	fin.	-348.84	-1297	0.95	0	1979	7533	4267	2423	6690	No	5.16	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1772.49	1047	-0.0010719	0.0002807	0.0035	0.95		3308.64	3308.64		1.87	Si
SLV 4	fin.	2205.76	-3747	-0.0014661	0.0002807	0.0035	0.95		3302.53	3302.53		1.5	Si
SLV 14	ini.	2342.52	-3420	-0.0016086	0.0002807	0.0035	0.95		3302.53	3302.53		1.41	Si
SLV 14	fin.	-2253.02	2145	-0.00151	0.0002807	0.0035	0.95		3308.64	3308.64		1.47	Si
SLV 16	ini.	2069.86	-3659	-0.0013347	0.0002807	0.0035	0.95		3302.53	3302.53		1.6	Si
SLV 16	fin.	-1676	933	-0.0009943	0.0002807	0.0035	0.95		3308.64	3308.64		1.97	Si
SLD 13	ini.	1853.32	-2946	-0.001142	0.0002807	0.0035	0.95		3302.53	3302.53		1.78	Si
SLD 13	fin.	-1693.97	1363	-0.0010085	0.0002807	0.0035	0.95		3308.64	3308.64		1.95	Si
SLV 15	ini.	2385.45	-4053	-0.0016559	0.0002807	0.0035	0.95		3302.53	3302.53		1.38	Si
SLV 15	fin.	-1991.98	1312	-0.0012601	0.0002807	0.0035	0.95		3308.64	3308.64		1.66	Si
SLD 15	ini.	1693.19	-3085	-0.0010103	0.0002807	0.0035	0.95		3302.53	3302.53		1.95	Si
SLD 15	fin.	-1355.64	652	-0.000755	0.0002807	0.0035	0.95		3308.64	3308.64		2.44	Si
SLD 14	ini.	1653.11	-2696	-0.0009786	0.0002807	0.0035	0.95		3302.53	3302.53		2	Si
SLD 14	fin.	-1493.51	1122	-0.0008547	0.0002807	0.0035	0.95		3308.64	3308.64		2.22	Si
SLV 3	ini.	-1456.9	652	-0.0008278	0.0002807	0.0035	0.95		3308.64	3308.64		2.27	Si
SLV 3	fin.	1889.78	-3367	-0.0011732	0.0002807	0.0035	0.95		3302.53	3302.53		1.75	Si
SLV 13	ini.	2658.11	-3814	-0.0019944	0.0002807	0.0035	0.95		3302.53	3302.53		1.24	Si
SLV 13	fin.	-2569	2525	-0.00187	0.0002807	0.0035	0.95		3308.64	3308.64		1.29	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	1579.82	-1824	-0.0009217	0.0002807	0.0035	0.95		3302.53	3302.53		2.09	Si
SLV 9	fin.	-1831.95	2239	-0.0011213	0.0002807	0.0035	0.95		3308.64	3308.64		1.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	1853.32	-5656	0.95	0	2790	7533	6401	2423	8823		1.56	Si
SLD 13	fin.	-1693.97	-5194	0.95	0	2790	7533	6401	2423	8823		1.7	Si
SLV 3	ini.	-1456.9	4686	0.95	0	2790	7533	6401	2423	8823		1.88	Si
SLV 3	fin.	1889.78	5375	0.95	0	2790	7533	6401	2423	8823		1.64	Si
SLV 4	ini.	-1772.49	5633	0.95	0	2790	7533	6401	2423	8823		1.57	Si
SLV 4	fin.	2205.76	6343	0.95	0	2790	7533	6401	2423	8823		1.39	Si
SLV 16	ini.	2069.86	-6020	0.95	0	2790	7533	6401	2423	8823		1.47	Si
SLV 16	fin.	-1676	-5512	0.95	0	2790	7533	6401	2423	8823		1.6	Si
SLV 9	ini.	1579.82	-5347	0.95	0	2790	7533	6401	2423	8823		1.65	Si
SLV 9	fin.	-1831.95	-4965	0.95	0	2790	7533	6401	2423	8823		1.78	Si
SLV 15	ini.	2385.45	-6967	0.95	0	2790	7533	6401	2423	8823		1.27	Si
SLV 15	fin.	-1991.98	-6480	0.95	0	2790	7533	6401	2423	8823		1.36	Si
SLV 14	ini.	2342.52	-7226	0.95	0	2790	7533	6401	2423	8823		1.22	Si
SLV 14	fin.	-2253.02	-6801	0.95	0	2790	7533	6401	2423	8823		1.3	Si
SLV 2	ini.	-1499.83	4427	0.95	0	2790	7533	6401	2423	8823		1.99	Si
SLV 2	fin.	1628.74	5054	0.95	0	2790	7533	6401	2423	8823		1.75	Si
SLD 14	ini.	1653.11	-5055	0.95	0	2790	7533	6401	2423	8823		1.75	Si
SLD 14	fin.	-1493.51	-4580	0.95	0	2790	7533	6401	2423	8823		1.93	Si
SLV 13	ini.	2658.11	-8173	0.95	0	2790	7533	6401	2423	8823		1.08	Si
SLV 13	fin.	-2569	-7769	0.95	0	2790	7533	6401	2423	8823		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.242	SLV 13	Si
V_SLV	1.079	SLV 13	Si
PF_SLU	4.238	SLU 84	Si
V_SLU	3.042	SLU 84	Si

Trave di accoppiamento 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	12.61	13.972	1.362	-11.868	-4.685	12.61	13.971	1.361	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	177.73	319	-0.0000385	0.0001872	0.0035	1.362		6694.47	6694.47	No	37.67	Si
SLU 83	fin.	-813.37	-881	-0.0001873	0.0001872	0.0035	1.3612		6715.09	6715.09	No	8.26	Si
SLU 70	ini.	37.05	93	-0.0000079	0.0001872	0.0035	1.362		6694.47	6694.47	No	180.68	Si
SLU 70	fin.	-776.27	-890	-0.000178	0.0001872	0.0035	1.3612		6715.09	6715.09	No	8.65	Si
SLU 80	ini.	113.71	195	-0.0000245	0.0001872	0.0035	1.362		6694.47	6694.47	No	58.88	Si
SLU 80	fin.	-852.09	-970	-0.0001971	0.0001872	0.0035	1.3612		6715.09	6715.09	No	7.88	Si
SLU 75	ini.	162.11	262	-0.000035	0.0001872	0.0035	1.362		6694.47	6694.47	No	41.3	Si
SLU 75	fin.	-784.78	-884	-0.0001802	0.0001872	0.0035	1.3612		6715.09	6715.09	No	8.56	Si
SLU 77	ini.	118.79	236	-0.0000256	0.0001872	0.0035	1.362		6694.47	6694.47	No	56.36	Si
SLU 77	fin.	-851.53	-936	-0.000197	0.0001872	0.0035	1.3612		6715.09	6715.09	No	7.89	Si
SLU 78	ini.	127.91	213	-0.0000276	0.0001872	0.0035	1.362		6694.47	6694.47	No	52.34	Si
SLU 78	fin.	-854.22	-972	-0.0001977	0.0001872	0.0035	1.3612		6715.09	6715.09	No	7.86	Si
SLU 76	ini.	153.99	229	-0.0000332	0.0001872	0.0035	1.362		6694.47	6694.47	No	43.47	Si
SLU 76	fin.	-784.45	-907	-0.0001801	0.0001872	0.0035	1.3612		6715.09	6715.09	No	8.56	Si
SLU 74	ini.	152.99	285	-0.000033	0.0001872	0.0035	1.362		6694.47	6694.47	No	43.76	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-782.09	-847	-0.0001795	0.0001872	0.0035	1.3612		6715.09	6715.09	No	8.59	Si
SLU 79	ini.	104.59	218	-0.0000225	0.0001872	0.0035	1.362		6694.47	6694.47	No	64.01	Si
SLU 79	fin.	-849.4	-933	-0.0001965	0.0001872	0.0035	1.3612		6715.09	6715.09	No	7.91	Si
SLU 84	ini.	186.85	296	-0.0000405	0.0001872	0.0035	1.362		6694.47	6694.47	No	35.83	Si
SLU 84	fin.	-816.06	-918	-0.000188	0.0001872	0.0035	1.3612		6715.09	6715.09	No	8.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	177.73	-824	1.362	0	2838	7930	6118	3473	9591	No	11.64	Si
SLU 83	fin.	-813.37	-2673	1.3612	0	2836	7930	6114	3471	9585	No	3.59	Si
SLU 79	ini.	104.59	-600	1.362	0	2838	7930	6118	3473	9591	No	15.98	Si
SLU 79	fin.	-849.4	-2755	1.3612	0	2836	7930	6114	3471	9585	No	3.48	Si
SLU 76	ini.	153.99	-730	1.362	0	2838	7930	6118	3473	9591	No	13.14	Si
SLU 76	fin.	-784.45	-2580	1.3612	0	2836	7930	6114	3471	9585	No	3.71	Si
SLU 36	ini.	147.82	-702	1.362	0	2838	7930	6118	3473	9591	No	13.67	Si
SLU 36	fin.	-764.56	-2509	1.3612	0	2836	7930	6114	3471	9585	No	3.82	Si
SLU 84	ini.	186.85	-844	1.362	0	2838	7930	6118	3473	9591	No	11.36	Si
SLU 84	fin.	-816.06	-2695	1.3612	0	2836	7930	6114	3471	9585	No	3.56	Si
SLU 74	ini.	152.99	-751	1.362	0	2838	7930	6118	3473	9591	No	12.77	Si
SLU 74	fin.	-782.09	-2549	1.3612	0	2836	7930	6114	3471	9585	No	3.76	Si
SLU 78	ini.	127.91	-676	1.362	0	2838	7930	6118	3473	9591	No	14.19	Si
SLU 78	fin.	-854.22	-2781	1.3612	0	2836	7930	6114	3471	9585	No	3.45	Si
SLU 75	ini.	162.11	-772	1.362	0	2838	7930	6118	3473	9591	No	12.43	Si
SLU 75	fin.	-784.78	-2570	1.3612	0	2836	7930	6114	3471	9585	No	3.73	Si
SLU 77	ini.	118.79	-656	1.362	0	2838	7930	6118	3473	9591	No	14.63	Si
SLU 77	fin.	-851.53	-2759	1.3612	0	2836	7930	6114	3471	9585	No	3.47	Si
SLU 80	ini.	113.71	-620	1.362	0	2838	7930	6118	3473	9591	No	15.46	Si
SLU 80	fin.	-852.09	-2776	1.3612	0	2836	7930	6114	3471	9585	No	3.45	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	1609.96	2349	-0.0003889	0.0002807	0.0035	1.362		6732.6	6732.6		4.18	Si
SLV 15	fin.	-2111.27	-2042	-0.0005358	0.0002807	0.0035	1.3612		6706.52	6706.52		3.18	Si
SLV 13	ini.	2009.9	2133	-0.0005053	0.0002807	0.0035	1.362		6732.6	6732.6		3.35	Si
SLV 13	fin.	-2380.15	-3049	-0.0006203	0.0002807	0.0035	1.3612		6706.52	6706.52		2.82	Si
SLV 16	ini.	1398.08	2090	-0.0003308	0.0002807	0.0035	1.362		6732.6	6732.6		4.82	Si
SLV 16	fin.	-1896.77	-1801	-0.0004712	0.0002807	0.0035	1.3612		6706.52	6706.52		3.54	Si
SLD 13	ini.	1300.68	1425	-0.000305	0.0002807	0.0035	1.362		6732.6	6732.6		5.18	Si
SLD 13	fin.	-1689.37	-2111	-0.000411	0.0002807	0.0035	1.3612		6706.52	6706.52		3.97	Si
SLV 14	ini.	1798.02	1873	-0.0004425	0.0002807	0.0035	1.362		6732.6	6732.6		3.74	Si
SLV 14	fin.	-2165.66	-2808	-0.0005526	0.0002807	0.0035	1.3612		6706.52	6706.52		3.1	Si
SLD 14	ini.	1166.26	1261	-0.0002702	0.0002807	0.0035	1.362		6732.6	6732.6		5.77	Si
SLD 14	fin.	-1553.3	-1958	-0.0003729	0.0002807	0.0035	1.3612		6706.52	6706.52		4.32	Si
SLV 4	ini.	-1866.17	-1825	-0.0004618	0.0002807	0.0035	1.362		6741.85	6741.85		3.61	Si
SLV 4	fin.	1412.47	2005	-0.0003349	0.0002807	0.0035	1.3612		6697.25	6697.25		4.74	Si
SLV 9	ini.	1299.4	467	-0.0003047	0.0002807	0.0035	1.362		6732.6	6732.6		5.18	Si
SLV 9	fin.	-1500.56	-2852	-0.0003584	0.0002807	0.0035	1.3612		6706.52	6706.52		4.47	Si
SLD 15	ini.	1066.04	1552	-0.0002449	0.0002807	0.0035	1.362		6732.6	6732.6		6.32	Si
SLD 15	fin.	-1531.68	-1521	-0.0003669	0.0002807	0.0035	1.3612		6706.52	6706.52		4.38	Si
SLV 3	ini.	-1654.28	-1565	-0.0004008	0.0002807	0.0035	1.362		6741.85	6741.85		4.08	Si
SLV 3	fin.	1197.98	1764	-0.0002785	0.0002807	0.0035	1.3612		6697.25	6697.25		5.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	2009.9	-7025	1.362	0	4232	7930	9177	3473	12162		1.73	Si
SLV 13	fin.	-2380.15	-8185	1.3612	0	4230	7930	9171	3471	12159		1.49	Si
SLV 14	ini.	1798.02	-6277	1.362	0	4232	7930	9177	3473	12162		1.94	Si
SLV 14	fin.	-2165.66	-7437	1.3612	0	4230	7930	9171	3471	12159		1.63	Si
SLV 15	ini.	1609.96	-5852	1.362	0	4232	7930	9177	3473	12162		2.08	Si
SLV 15	fin.	-2111.27	-6997	1.3612	0	4230	7930	9171	3471	12159		1.74	Si
SLD 14	ini.	1166.26	-4132	1.362	0	4232	7930	9177	3473	12162		2.94	Si
SLD 14	fin.	-1553.3	-5291	1.3612	0	4230	7930	9171	3471	12159		2.3	Si
SLV 4	ini.	-1866.17	6220	1.362	0	4232	7930	9177	3473	12162		1.96	Si
SLV 4	fin.	1412.47	5061	1.3612	0	4230	7930	9171	3471	12159		2.4	Si
SLV 9	ini.	1299.4	-4309	1.362	0	4232	7930	9177	3473	12162		2.82	Si
SLV 9	fin.	-1500.56	-5490	1.3612	0	4230	7930	9171	3471	12159		2.21	Si
SLV 16	ini.	1398.08	-5103	1.362	0	4232	7930	9177	3473	12162		2.38	Si
SLV 16	fin.	-1896.77	-6249	1.3612	0	4230	7930	9171	3471	12159		1.95	Si
SLD 15	ini.	1066.04	-3919	1.362	0	4232	7930	9177	3473	12162		3.1	Si
SLD 15	fin.	-1531.68	-5069	1.3612	0	4230	7930	9171	3471	12159		2.4	Si
SLD 13	ini.	1300.68	-4607	1.362	0	4232	7930	9177	3473	12162		2.64	Si
SLD 13	fin.	-1689.37	-5766	1.3612	0	4230	7930	9171	3471	12159		2.11	Si
SLV 3	ini.	-1654.28	5472	1.362	0	4232	7930	9177	3473	12162		2.22	Si
SLV 3	fin.	1197.98	4313	1.3612	0	4230	7930	9171	3471	12159		2.82	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.818	SLV 13	Si
V_SLV	1.486	SLV 13	Si
PF_SLU	7.861	SLU 78	Si
V_SLU	3.447	SLU 78	Si